

Milestone Systems

XProtect® Smart Client 2014

User's Manual



The Open Platform Company



Contents

COPYRIGHT, TRADEMARKS AND DISCLAIMER	11
TARGET AUDIENCE FOR THIS MANUAL	12
MINIMUM SYSTEM REQUIREMENTS	13
THE MAIN WINDOW	14
THE XPROTECT SMART CLIENT WINDOW	14
Panels	15
Tabs	15
Views	15
Task buttons	16
Application buttons.....	16
FIRST TIME USE	17
INSTALL XPROTECT SMART CLIENT	17
Install from the management server	17
Install from a DVD	17
THE LOGIN PROCESS	18
About the Login window	18
About login authorization.....	20
About login to access control systems	20
Log in and out.....	20
Troubleshooting.....	21
QUICK GUIDE TO XPROTECT SMART CLIENT	24
THE PLAYBACK/SEQUENCE EXPLORER TAB	24
CURRENT VIEW	24
TIMELINE	24



PLAYBACK	25
CHANGE TIMELINE SPAN	25
COPY/PRINT IMAGE	25
ZOOM	25
FULL SCREEN	25
GET TO KNOW THE XPROTECT SMART CLIENT	26
USER RIGHTS DETERMINE THE WAY YOU WORK	26
View version and plug-in information	26
ABOUT LIVE VIDEO	27
MANUAL RECORDING OF VIDEO	28
ABOUT RECORDED VIDEO	28
ENTER SETUP MODE	30
SELECT A VIEW	30
VIEW IN FULL SCREEN	31
COPY SINGLE IMAGES	31
THE BASICS	32
THE LIVE TAB	32
THE PLAYBACK TAB	33
SETUP MODE	34
THE CAMERA TOOLBAR	34
KEYBOARD SHORTCUTS	35
SERVER STATUS AND INTERCONNECTED HARDWARE RETRIEVAL JOBS	36
THE SYSTEM MONITOR TAB	37
MILESTONE FEDERATED ARCHITECTURE	38



SURVEILLANCE SYSTEM DIFFERENCES.....	38
DEFINING YOUR VIEWS	39
VIEWS.....	39
About views	39
Private and shared views	39
Add content to views	40
Create and manage views	43
Search for views and cameras.....	46
Send video between views.....	48
Change cameras in views	48
Swap cameras	49
Frequently asked questions: views.....	49
CAMERAS	51
Add a camera to a view	51
Camera names and colored indicators	52
Virtual joystick and PTZ overlay button.....	53
Camera settings	53
Keyboard shortcuts and overlay buttons	59
Sound notifications.....	59
Frequently asked questions: cameras.....	59
AUDIO.....	60
About audio	60
Audio settings	60
Talk to an audience	62
Frequently asked questions: audio.....	62
MAPS	63
Introduction to maps.....	63
Map settings	67
The toolbox	69



- The right-click menu70
- The Map Overview window71
- Working with maps71
- Frequently asked questions: maps78
- THE CAMERA NAVIGATOR 78**
 - About the camera navigator.....79
 - Camera navigator settings79
 - Using the camera navigator80
- HOTSPOTS 81**
 - About hotspots81
 - Add a hotspot to a view81
 - Hotspot settings81
- XPROTECT SMART WALL 82**
 - About XProtect Smart Wall82
 - View XProtect Smart Wall content.....82
 - Add a Smart Wall setup to a view83
 - Drag cameras into XProtect Smart Wall setups.....83
 - Send content from a view to a Smart Wall setup84
 - Send video from a Smart Wall to a view84
 - Change the layout of a Smart Wall monitor.....85
 - Remove content from Smart Wall setups86
- CAROUSELS 87**
 - About carousels87
 - Add a carousel to a view87
 - Carousel settings88
- MULTIPLE WINDOWS 88**
 - Send a view between displays90
 - Frequently asked questions: multiple windows90
- MATRIX..... 91**



About Matrix	91
Settings	91
Add Matrix content to a view	92
Manually send video to a Matrix recipient	92
OPTIONS WINDOW	92
Application options	93
Panes options	96
Functions options	96
Timeline options	98
Export options	98
Keyboard options	99
Joystick options	100
Access control options	102
Alarm options	102
Advanced options	102
Language options	105
USE AN HTML PAGE FOR NAVIGATION	105
VIEWING	109
DIGITAL ZOOM	109
About digital zoom	109
Use digital zoom	109
Frequently asked questions: digital zoom	110
PTZ AND 360° LENS IMAGES	111
360° lens images	111
PTZ images	112
BOOKMARKS	114
About bookmarks	114
The Bookmark window	114
Add or edit bookmarks	115



MANUALLY ACTIVATE OUTPUT	115
PRIVACY MASKS	116
BOUNDING BOXES.....	117
VIEW RECORDED VIDEO USING INDEPENDENT PLAYBACK.....	117
INVESTIGATING INCIDENTS	119
TIME NAVIGATION	119
The timeline buttons and controls	119
The timeline	120
Playback date and time	121
Date and time navigation.....	121
Time selection	121
Playback Speed	121
Playback buttons.....	121
Navigation buttons.....	122
Time span.....	122
Bookmarks in the timeline	122
RETRIEVE DATA FROM MILESTONE INTERCONNECT	122
SEQUENCE EXPLORER	123
About the Sequence Explorer	123
The timeline	130
Navigating sequences	130
PRINT EVIDENCE	132
TAKE A SNAPSHOT.....	133
SEARCH RECORDED VIDEO	134
Search using the Recording Search pane	134
Search using the Smart Search pane.....	135
EVIDENCE LOCK	137



About evidence locks	137
Create evidence locks.....	137
View existing evidence locks	138
Edit evidence locks	138
Play back video with evidence locks	139
Export evidence locks	139
Delete evidence locks	139
Evidence lock settings	140
Evidence lock filters.....	141
Evidence lock status messages	142
EXPORTING EVIDENCE.....	143
THE EXPORT WINDOW	143
XProtect format settings	144
Media player format settings	145
Still images settings.....	146
ABOUT EXPORTING STORYBOARDS	147
EXPORT A VIDEO CLIP, AUDIO, XPROTECT DATA OR A STILL IMAGE	147
Export items directly from the Export window	148
Export a storyboard	148
FREQUENTLY ASKED QUESTIONS: EXPORTING	149
EVENTS AND ALARMS.....	151
ALARMS.....	151
About alarms	151
The Alarm Manager tab	151
Filter alarms	155
Alarms on maps	155
EVENTS	156
Manually activate an event.....	156



WORKING WITH ALARMS	157
View and edit details of an alarm.....	157
Acknowledge an alarm	157
Disable an alarm.....	158
Ignore an alarm.....	158
Print a report with alarm information	158
View alarm reports	158
Filter alarms	159
XPROTECT SMART CLIENT – PLAYER	160
ABOUT THE XPROTECT SMART CLIENT – PLAYER	160
QUICK GUIDE TO THE XPROTECT SMART CLIENT – PLAYER	160
WORK WITH VIEWS IN THE XPROTECT SMART CLIENT – PLAYER	161
OPEN DATABASE WIZARD	162
VERIFY SIGNATURES	162
XPROTECT ACCESS CONTROL MODULE	163
ABOUT ACCESS CONTROL INTEGRATION	163
ABOUT ACCESS CONTROL ON THE LIVE TAB	163
ABOUT THE ACCESS CONTROL TAB	164
ABOUT THE ACCESS REQUEST NOTIFICATIONS	166
XPROTECT LPR	168
LPR ON THE LIVE TAB	168
Add LPR cameras to views	168
Adjust LPR view settings	168
Enable LPR server status on maps	169
LPR TAB	169
About the LPR event list.....	169



- About filtering LPR events 170
- Edit license plate match lists 170
- Import/export license plate match lists..... 171
- Export LPR events as a report..... 172

- LPR ON THE ALARM MANAGER TAB 172**
 - Enable LPR-specific elements 172
 - Configure Alarms list 174

- SCRIPTING 175**
 - STARTUP SCRIPTING 175

- GLOSSARY OF TERMS..... 178**

- INDEX..... 183**



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All names of people and organizations used in the examples in this text are fictitious. Any resemblance to any actual organization or person, living or dead, is purely coincidental and unintended.

This product may make use of third party software for which specific terms and conditions may apply. When that is the case, you can find more information in the file

3rd_party_software_terms_and_conditions.txt located in your Milestone surveillance system installation folder.



Target audience for this manual

The following documentation is aimed at users of XProtect Smart Client and provides detailed descriptions of the XProtect Smart Client installation, configuration and use. It also provides a number of targeted “how-to” examples, guiding users through completing common tasks in XProtect Smart Client .

Depending on the type of Milestone surveillance system you connect to, depending on your user rights, and depending on your role in your organization, some features in XProtect Smart Client may not be available to you. Ask your system administrator if in doubt.

References made to the positioning of user interface elements presume that you are using a visual left-to-right interface. For some languages, you can change this to a visual right-to-left interface. If you set the interface to right-to-left, buttons, toolbars, and panes may be reversed compared to where its position is described in this documentation.

If you know that your surveillance system administrator has already configured the necessary views for you, you may skip parts of this manual. After installing and logging in to XProtect Smart Client, you can proceed straight to this manual's chapters about viewing live and recorded video. Consult your surveillance system administrator if in doubt.

Information for XProtect Transact users

If your organization uses the XProtect Transact add-on solution for handling loss prevention through video evidence combined with PoS or ATM transaction data, you can view video together with time-linked transaction data in the XProtect Smart Client. Viewing of such transaction data in XProtect Smart Client is not covered in this manual. For more information, see the separate documentation for XProtect Transact, available from <http://www.milestonesys.com>.

Information for XProtect LPR users

If your organization uses the XProtect LPR solution, which provides an intelligent solution for video content analysis of license plates for recognition, you can view video together with LPR data in XProtect Smart Client. Viewing of such analytics data in XProtect Smart Client is not covered in this manual. For more information, see the separate documentation for XProtect Analytics, available from <http://www.milestonesys.com>.



Minimum system requirements

For information about the **minimum** system requirements to the various components of your system, go to the Milestone website <http://www.milestonesys.com/SystemRequirements>.

To see which DirectX version you have installed:

- Click **Start**, select **Run...** and type **dxdiag**. When you click **OK**, the **DirectX Diagnostic Tool** window opens.

The version information is displayed near the bottom of its **System** tab. Should the server require a DirectX update, the latest versions of DirectX are available from <http://www.microsoft.com/downloads/>



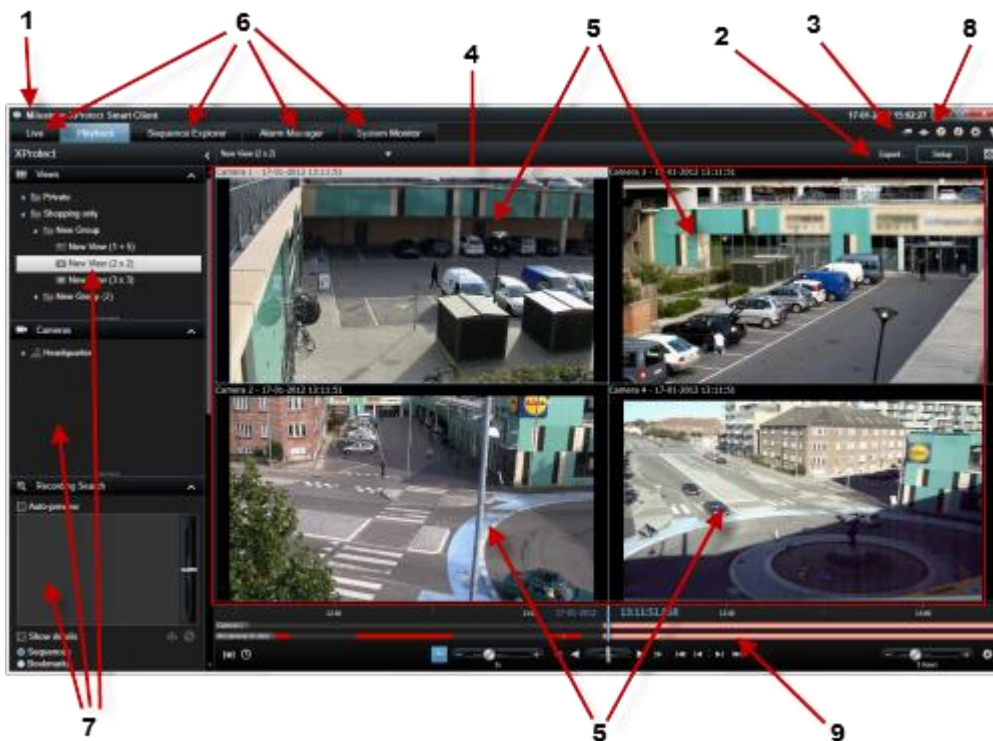
The main window

The XProtect Smart Client provides you with access to surveillance systems. The XProtect Smart Client must be installed locally on your computer.

In the XProtect Smart Client window (on page 14), you view live video on the **Live** tab of the XProtect Smart Client, and recorded video on the **Playback** tab. When you select the **Live** tab, your XProtect Smart Client connects to the surveillance system server, and displays live video from cameras in the selected view.

If your computer has more than one physical display attached, you can send individual views to separate windows (see "Multiple windows" on page 88) letting you watch more than one view at a time.

The XProtect Smart Client window






- | | | |
|----------------------------------|--|--|
| 1. Title bar | 2. Workspace toolbar (see "Task buttons" on page 16) | 3. Application toolbar |
| 4. View (see "Views" on page 15) | 5. View item (see "Views" on page 15) | 6. Tabs (on page 15) |
| 7. Panes (on page 15) | 8. Application buttons (on page 16) | 9. Timeline (see "The timeline" on page 120) |

Panes

Panes give you access to the majority of the XProtect Smart Client features. The panes you see depend on your XProtect Smart Client configuration and on your task.

Panes can be minimized to save space and to give a better overview of the panes you use. Click the **Minimize/expand** icon  on the title bar of the pane to minimize or expand it.

Tabs

The XProtect Smart Client has the following main areas:

- The **Live** tab (on page 32) for viewing live video
- The **Playback** tab (on page 33) for viewing recorded video
- The **Sequence Explorer** tab (see "Sequence Explorer" on page 123) for navigating video sequences and bookmarks
- The **Alarm Manager** tab (on page 151) for investigating incidents and alarms
- The **System Monitor** tab (on page 37) for viewing system information

If some of the tabs are unavailable, it is because you do not have the rights required to access all the areas.

Views

About views

The way in which video is displayed in the XProtect Smart Client is called a view. A view can contain video from up to 100 cameras, depending on your surveillance system. Your XProtect Smart Client can handle an unlimited number of views, allowing you to switch between video from various groups of cameras. Each view's layout can be customized to fit its content. To help you maintain an overview, all views are placed in folders called **groups**. A group can contain any number of views and, if required, subgroups.

Views can be private or shared with other users (see "Private and shared views" on page 39).



In addition to video, views can display web pages and still images (for example, mugshots). For some surveillance systems, views can even display data from other applications (such as receipts from a cash register) alongside video.


Your user settings, including information about your views, are stored centrally on the surveillance system server, so you can use your views, private as well as shared, on any computer that has a XProtect Smart Client installed, provided you log in with your own user name and password.



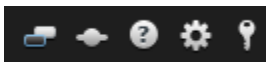
Example: XProtect Smart Client displaying a view with video from four different cameras (a 2x2 view)

Task buttons

These are on the XProtect Smart Client toolbar and depend on which tab you are on, for example, **Setup** is not available on all tabs. Examples of task buttons:

- **Setup**: click to enter setup mode (see "Enter setup mode" on page 30)
- **Export**: click to export video (see "XProtect format settings" on page 144)
- **Toggle full screen** : click to toggle between full screen (see "View in full screen" on page 31) and a smaller window that you can drag to the size you want.

Application buttons



With the application buttons in the toolbar, you can select basic XProtect Smart Client actions:

- **Toggle Theme**: switch the XProtect Smart Client theme to dark or light
- **Status**: access to the **Status** (see "**Server status and interconnected hardware retrieval jobs**" on page 36) window
- **Help**: access the help system, play online video tutorials or view version number and plug-in information (see "View version and plug-in information" on page 26)
- **Options**: configure XProtect Smart Client settings and behavior (see "Options window" on page 92), joysticks, keyboard shortcuts, and language
- **Log Out**: log out (see "The login process" on page 18) of the XProtect Smart Client



First time use

Install XProtect Smart Client

You must install XProtect Smart Client on your computer before you can use it. You download XProtect Smart Client from the surveillance system server and install it on your computer or install directly from a DVD.

Install from the management server

Before you begin, verify that your computer meets the XProtect Smart Client's minimum system requirements.

1. Open Internet Explorer (version 6.0 or later) and connect to the management server using the URL or IP address of that server.
2. On the Welcome page, click **Language** and select the language you want to use.
3. The **XProtect Smart Client setup** wizard starts. In the wizard, follow the installation instructions.

The wizard suggests an installation path. Normally, you can use the suggested installation path. However, if you have previously used add-on products, this path might not be valid anymore (see "MIP Plug-ins" on page 17).

Install from a DVD

1. Verify that your computer meets the XProtect Smart Client's minimum system requirements.
2. Insert the surveillance system software DVD, select the required language, and then click **Install XProtect Smart Client**.
3. If you receive a security warning (**Do you want to run or save this file?**, **Do you want to run this software?** or similar), accept this (by clicking **Run** or similar—the exact name depends on your browser version).
4. The **XProtect Smart Client installation** wizard starts. In the wizard, follow the installation instructions.

MIP Plug-ins

Your XProtect Smart Client may contain a **MIP Plug-ins** pane. The pane is used for handling plug-in functionality, typically for third-party applications, which can be controlled through XProtect Smart Client. On some surveillance systems, you can add more types of content to views in XProtect Smart Client. This may be the case if your organization uses add-on products for increasing the capabilities of its surveillance system.



The login process

About the Login window

The first time you log in, you need to determine whether any views exist. Views determine how video is displayed and are required in order to be able to use the XProtect Smart Client. One or more views may already have been created for you, or you may need to create views yourself. Read more about views—including how to determine if views have already been created for you—in Views (on page 15).

Your user settings (including views) are stored centrally on the surveillance system. This means that your login can be used on any computer that has a XProtect Smart Client installed and that you can restore views from your last log-in.

If you encounter a second dialog during login, you need additional login authorization (see "About login authorization" on page 20) to get access to the XProtect Smart Client.

Log-in settings



Name	Description
Computer	Select the computer running the surveillance system server.
Authentication	<p>There are three methods of authentication (the process that verifies that you are who you claim to be):</p> <p>Not all surveillance systems (see "Surveillance system differences" on page 38) support the use of all three authentication methods.</p> <ul style="list-style-type: none"> • Windows authentication (current user): you are authenticated through your current Windows login, and you do not have to specify any user name or password. This is the default authentication method. • Windows authentication: you are authenticated through your Windows login, but you need to enter your Windows user name and password. • Basic authentication: you need to be setup in the surveillance system with a user name and password.
User name	Only required if the authentication method Windows authentication or Basic authentication is selected. If using Windows authentication , type your Windows user name. If using Basic authentication , type the user name supplied by your surveillance system administrator. The user name is case-sensitive; there is a difference between typing, for example, "amanda" and "Amanda."
Password	Only required if the authentication method Windows authentication or Basic authentication is selected. If using Windows authentication , type your Windows password. If using Basic authentication , type the password supplied by your surveillance system administrator.
Remember password	<p>Available when using Windows authentication or Basic authentication. Lets you store your password so you only need to click Connect the next time you log in.</p> <p>Security restrictions may apply. If in doubt, consult your surveillance system administrator.</p>
Auto-login	<p>Restores the default export settings assigned to your profile. If selected, you will automatically be logged in to the XProtect Smart Client with your credentials from your last log-in, when you log in to Windows. If using Windows authentication, you must select Remember password for the auto-login feature to be available.</p> <p>Security restrictions may apply. If in doubt, consult your surveillance system administrator.</p>



About login authorization

When you log into the XProtect Smart Client, you may be asked for additional authorization of your login. You need your supervisor, system administrator or someone else who has the rights to authorize you to enter their credentials along with yours in the login form. After that, you are good to go.

If you do not know who can authorize you, ask your supervisor or system administrator.



About login to access control systems

When you log into XProtect Smart Client, you may be asked for additional logins to the access control systems, if they are configured to do so.

Your login controls the parts of an access control integration, for example doors, that you can manage and operate.

If you do not know your login credentials for an access control system, ask your system administrator.

The system remembers your login credentials, so you only need to fill out your credentials the first time you log in or if the login has failed.

Log in and out

1. Open the XProtect Smart Client.



2. A splash screen appears for a few seconds while the XProtect Smart Client loads and then the XProtect Smart Client login dialog appears.



3. Specify your login information, and click **Connect**. If a problem occurs during login, you may receive an error message (see "Troubleshooting" on page 21).
4. If you have logged in before, you can restore the views you last used. Depending on configuration, the XProtect Smart Client may ask you if you want to restore the view(s) you last used. Your options are:
 - **Main view:** If you select this, the view you last used in the XProtect Smart Client 's main window is restored.
 - **Detached views:** Only available when connecting to selected Milestone surveillance systems (see "Surveillance system differences" on page 38), and if you used views in detached windows (see "Multiple windows" on page 88) in your last login. Select this if you want to restore the views you last used in detached windows.
5. After a short wait, the XProtect Smart Client window opens.
6. To log out of the XProtect Smart Client, simply click the **Log Out** button in the XProtect Smart Client title bar.



If you encounter a second dialog during login, you need additional login authorization (see "About login authorization" on page 20) to get access to the XProtect Smart Client.

Troubleshooting

If a problem or other issue occurs during login to XProtect Smart Client, you will see one of the following error messages:



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

Issue: You have tried to log in at a time when your user rights do not allow you to log in.

What to do: Wait until you are permitted to log in. Consult your surveillance system administrator if in doubt about your user rights.

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

Issue: You currently have no access rights to any part of the XProtect Smart Client, and therefore you cannot log in.

What to do: Consult your surveillance system administrator, who will be able to change your access rights if required.

Authorization failed: You cannot authorize yourself.

Issue: You have entered your own credentials in the **Authorized by:** field. You cannot authorize yourself.

What to do: You must contact the person who has authorization rights. This could be your supervisor or your system administrator. This person must enter his or her credentials to authorize your login.

Authorization failed: You do not have permission to authorize.

Issue: You have tried to authorize a user but you do not have the rights to do so.

What to do: Ask your system administrator to check that you have the necessary rights to authorize other users or ask someone else with sufficient rights to authorize the user.

Failed to connect. Check the server address.

Issue: It was not possible to connect to the surveillance system server at the specified server address.

What to do: Verify that you have typed the correct server address. Note that the **http://** prefix as well as a port number is required as part of the server address (example: **http://123.123.123.123:80**, where **:80** indicates the port number). Consult your surveillance system administrator if in doubt.

Failed to connect. Check the user name and password.

Issue: It was not possible to log in with the specified user name and/or password.

What to do: Verify that you have typed your user name correctly, then re-type your password to ensure it does not contain errors. User names as well as passwords are case sensitive (for example, there may be a difference between typing "Amanda" and "amanda").

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

Issue: The maximum number of clients allowed to connect to the surveillance system server simultaneously has been reached.

What to do: Wait for a while before connecting again. If access to the surveillance system is urgent, contact your surveillance system administrator, who may be able to extend the number of simultaneously connected clients.



New Client available. Upgrade is recommended/required. The new version can be downloaded from.

Issue: A new version of the XProtect Smart Client is available. This message is typically accompanied by information about whether an update is recommended or whether it is a requirement (for example because important new features will not work in your current XProtect Smart Client version). The message will typically also contain information about where to download the new version from.

What to do: Follow the advice given in the message. Consult your surveillance system administrator if in doubt.

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 very rare scenario, where a backed-up configuration from one surveillance system is mistakenly used without any modification on another surveillance system. This can cause different cameras to "fight" over the same identity, and that can in turn block your XProtect Smart Client's access to the surveillance system. If you see such a message, you cannot correct the problem. Instead, contact your surveillance system administrator, who will be able to handle the issue.

Some messages will appear in an orange ribbon above your views:

You no longer have permission to do this

Occurs if your time-dependent user rights no longer allow you to do something that you have previously been able to do. This is because—when connected to certain types of surveillance system (see "Surveillance system differences" on page 38)—your user rights may vary depending on time of day, day of week, etc. Therefore, you may well be able to perform the action again at a later stage.

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

Occurs if your current XProtect Smart Client session is about to end. When connected to certain types of surveillance system (see "Surveillance system differences" on page 38), your rights to use the XProtect Smart Client may 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; the exact number of minutes/seconds is defined on the surveillance system server.

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

Occurs if you have not used your XProtect Smart Client for a while (the exact time is defined on the surveillance system server), in which case your XProtect Smart Client session will be closed for security reasons.

When that is the case, this message will typically be presented a number of minutes or seconds before your session will be closed; the exact number of minutes/seconds is defined on the surveillance system server.

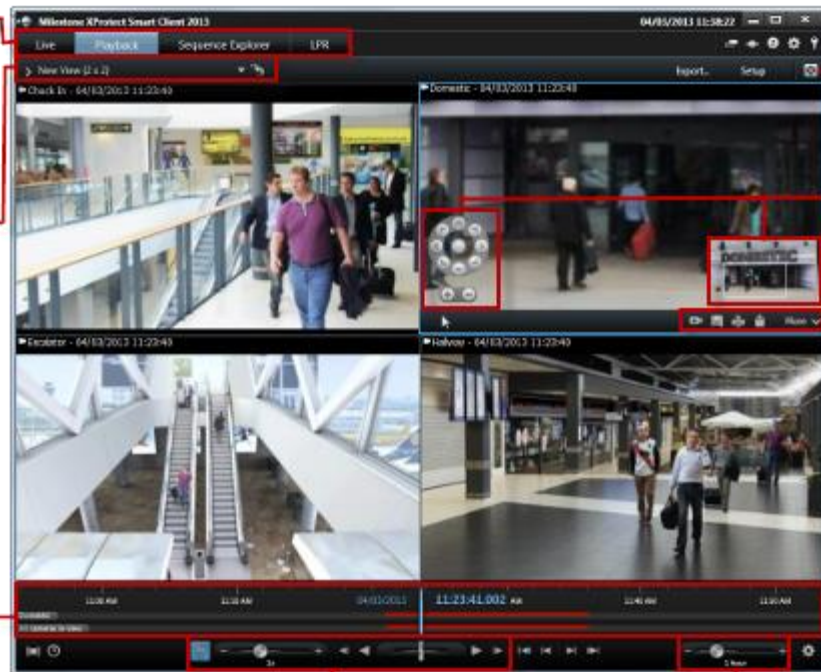


Quick guide to XProtect Smart Client

The Playback/
Sequence
Explorer tab

Current view
(on page 24)

Timeline (on
page 24)



Full screen
(on page 25)

Zoom (on
page 25)

Copy/print
image (on
page 25)

Playback (on
page 25)


Change timeline
span (on page
25)

The Playback/Sequence Explorer tab

The **Playback** tab: search for recorded video from multiple cameras simultaneously.

The **Sequence Explorer** tab: search for particular sequences and play them one at a time.

Current view

To access the pane with more advanced features, click the icon: . The selected camera is indicated by a blue border.



Timeline

The upper timeline shows activity for the selected camera (indicated by a blue border). The lower timeline shows the activity for all the cameras in the view.





- **Gray:** No recordings
- **Pink:** Recordings
- **Red:** Recordings with motion

Playback

To play, click the **Play Forward** button: . When you play recordings, the play button changes to a pause button: .

You can also:

- Move the playback speed slider to adjust the motion speed. Depending on your language settings, moving the slider the one side or the other makes the recorded video move in slow or fast motion.
- Click 1x for normal speed.
- Use the additional buttons to go to the previous or next image:  .
- Drag the shuttle slider to change the speed while you are playing the recording. Let go to pause.

Change timeline span

The label shows you the current timeline span, for example, 1 hour. You can decrease the span to see more details or you can increase it to get more of an overview of the videos you are watching.

Copy/print image

You can copy or print the current image from the camera toolbar. The toolbar also gives you access to more advanced features.

Zoom

Use the zoom buttons to zoom in on a particular area of an image. The zoom indicator (in the lower right corner) shows which part of the image that you are zoomed in on. You can drag the zoom indicator to navigate to other parts of the image.

Full screen

Click to view in full screen mode. Press the Esc key to return to normal view. To view a camera in full screen, double-click the camera. Double-click again to go back to normal view.



Get to know the XProtect Smart Client

User rights determine the way you work

Your user rights are specified centrally by your surveillance system administrator and these determine your ability to use particular XProtect Smart Client features.

Basically, your system administrator can restrict your rights to:

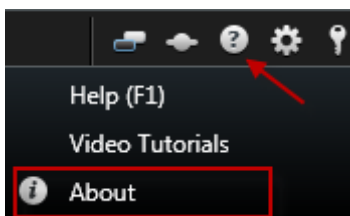
- Access the XProtect Smart Client
- Access each of the tabs: **Live**, **Playback**, **Alarm Manager**, and **Sequence Explorer**
- Use specific features
- Create views (views determine the way in which video from one or more cameras is displayed)
- View video from specific cameras

The ability to use features of the XProtect Smart Client can vary considerably from user to user. Note that when connected to certain surveillance systems (see "Surveillance system differences" on page 38), user rights may even vary depending on time of day, day of week, etc. For example, you may only be able to view video from a particular camera during certain hours Monday-Friday, but not outside these hours.

View version and plug-in information

Knowing the exact version of your XProtect Smart Client can be important if you require support or want to upgrade. In such cases, you also need to know which plug-ins your XProtect Smart Client is using.

- To view this information, on the XProtect Smart Client toolbar, click **Help > About**.

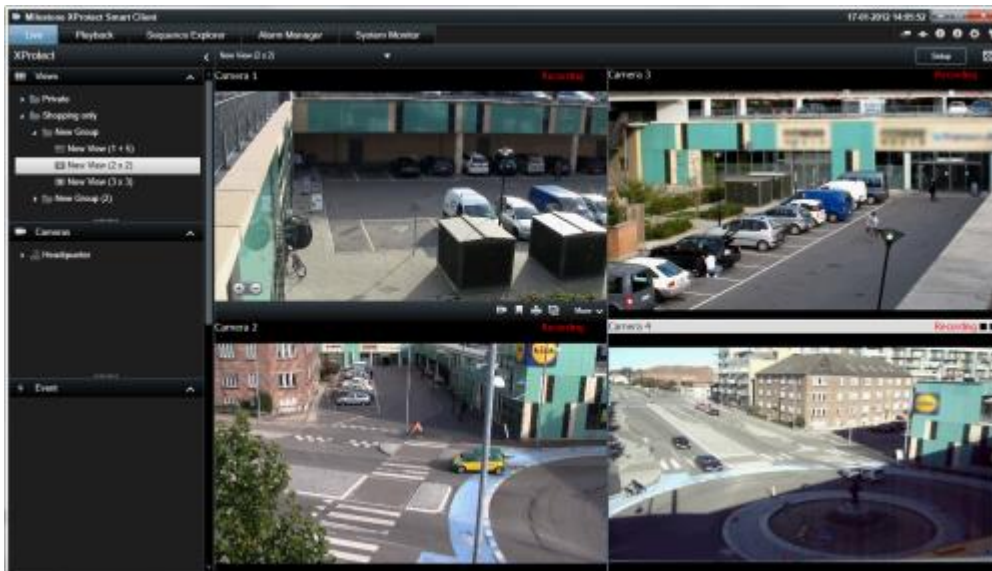


The version of your XProtect Smart Client affects which XProtect server version it is compatible with. The latest XProtect Smart Client is compatible with the latest server version and the previous server version. For example, XProtect Smart Client 6.0 is compatible with XProtect Enterprise 8.0, XProtect Enterprise 7.0, XProtect Corporate 4.0, and XProtect Corporate 3.1. However, an older version of the XProtect Smart Client is not compatible with the latest server version, for example, XProtect Smart Client 5.5 is not compatible with XProtect Enterprise 8.0.



About live video

Particular user rights may be required in order to access the **Live** tab. To view live video in the XProtect Smart Client, the surveillance system's recording server must be running. Depending on your user rights, access to viewing live video from some cameras may be restricted.



Example: Live tab displaying video from four cameras

The **Live** tab (see "The Live tab" on page 32) offers you numerous features, including audio (on page 60), carousels (on page 87), hotspots (on page 81), Matrix, camera shortcut menus, pan-tilt-zoom (PTZ) (see "PTZ and 360° lens images" on page 111) control, digital zoom, events activation, output activation, quick playback, and more.

Even though you can see live video from a camera on the **Live** tab, the video stream from the camera is not necessarily being recorded. Video is normally recorded as defined by the surveillance system server. Typically, recording takes place according to a schedule (for example, every morning from 10.00 to 11.30) and/or whenever the surveillance system detects special events (for example, motion generated by a person entering a room, a sensor registering that a window is being opened, or manually activating an event in your XProtect Smart Client). Typically, you view recorded video on the **Playback** tab, but you can also view it on the **Live** tab (see "View recorded video using independent playback" on page 117).

If title bars have been enabled in the camera properties (see "Camera settings" on page 53) in setup mode, the title bar above the camera's image displays **Recording** if video is being recorded.

Tip: To maximize video from a particular view item, double-click the camera position. To return to normal view, double-click the camera position again.

You may notice that sometimes the camera is recording for short periods only. This is because the surveillance system server may have been configured to only record the video stream from a camera when there is motion, when a door is open, or similar, which can lead to many short periods of recordings.


You can therefore still select **Start Recording for # Minutes** even though the video stream from a camera is already being recorded; this way you can make sure that the video stream from the camera will be recorded without interruption for the specified number of minutes.



If multiple streams have been set up on the server, you can temporarily view a different stream by selecting this from the camera toolbar. On the camera toolbar, click **More** and then select a stream from the available list.


Manual recording of video

The functionality of the manual recording feature depends on the surveillance system you are connected to and on your user rights. Recording while watching live video is useful if you see something of interest. On the camera toolbar for the position in the view you want to record, select:

-  Start recording for # Minutes

Once started, recording will continue for the number of minutes determined by your surveillance system administrator. You cannot change this, and you cannot stop recording before the specified number of minutes has passed.

-  Start manual recording

Once started, recording will continue for the number of minutes determined by your surveillance system administrator or you can click the icon again  to stop manual recording.

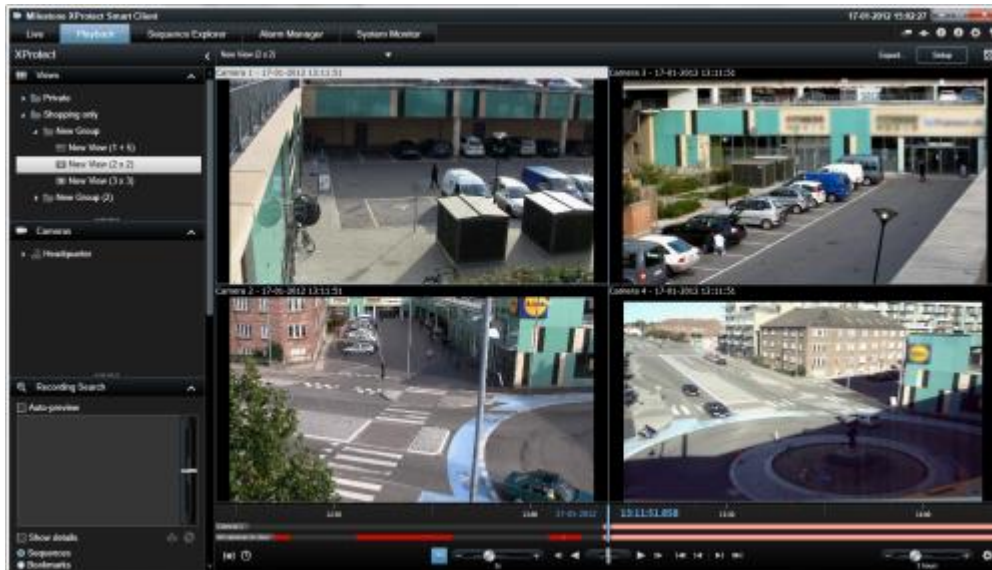
Tip: You can start recording the video stream from more than one camera simultaneously, although you must select them one by one.

About recorded video

You view recorded video on the **Playback** tab of the XProtect Smart Client. When you select the **Playback** tab, the XProtect Smart Client connects to the surveillance system server and displays recorded video from the cameras in the selected view. In this way, you can play back recorded video.



Particular user rights may be required in order to access the **Playback** tab, and, depending on your user rights, access to browsing video from some cameras may be restricted.



The **Playback** tab offers you numerous advanced features for browsing recorded video, including the timeline (see "Time navigation" on page 119), smart search (which lets you search for motion in selected areas of recordings from a particular camera), and two types of sequences browsing (either through a simple list with a preview option or through the Sequence Explorer (on page 123)'s thumbnail view of multiple sequences).

In addition to the video browsing features, the **Playback** tab also lets you listen to audio (when connected to selected Milestone surveillance systems only), use hotspots, use digital zoom (on page 109), navigate 360° lens images (see "PTZ and 360° lens images" on page 111), print images (see "Print evidence" on page 132), and export video evidence (see "XProtect format settings" on page 144) as AVIs (movie clips), JPEGs (still images) as well as XProtect format.

Tip: To maximize video from a particular position in a view, double-click the camera position. To return to normal view, simply double-click the camera position again.

On the **Playback** tab, all cameras in a view display recordings from the same point in time (the master time) by default. However, you can view and navigate recordings from individual cameras independently of the master time (if this is enabled in the **Options** (see "**Functions options**" on page 96) window).

You can use independent playback to view recorded video from the **Live** tab or to view video independently of the master time.

View recorded video using independent playback

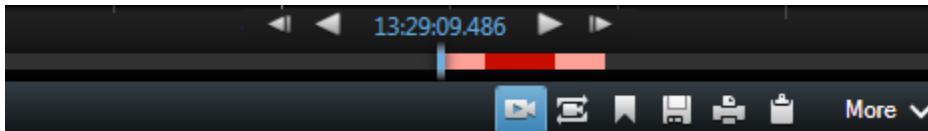
You can only use this feature for ordinary single-camera positions, not for hotspots, carousels, or Matrix positions.




1. Move your mouse across the camera that you want to view recorded video for. On the toolbar that appears, click the **Independent Playback** button.



The independent playback timeline appears:



2. Drag the timeline (see "The timeline" on page 120) to select the time containing the video that you want to view.
3. If you want to view recorded video for the selected time on all the cameras in your view at once, on the toolbar, click the **View recordings from selected time on Playback tab** button: . This displays the **Playback** tab with all cameras synchronized to the time you have selected.

Enter setup mode

- To enter setup mode, on the XProtect Smart Client toolbar, click **Setup**.

In setup mode, the **Setup** button and panes (such as the **Properties** (see "Camera settings" on page 53) pane) are highlighted in orange in the left side pane.



To return to the default view, click the **Setup** button again.

Select a view

You can select a view from the **Views** pane on the **Live** and **Playback** tab.


- In the **Views** pane, select either **Private** or **Shared** views, and in the relevant view group, select one of the available views.

If neither the pane nor the shortcut is available, check the pane's availability in the Options (see "Panels options" on page 96) window.

If views have been assigned shortcut numbers (see "Assign a shortcut number to a view" on page 46), you will also be able to select a view by using keyboard shortcuts (see "Keyboard shortcuts" on page 35).



View in full screen

- To view your XProtect Smart Client in full screen mode, on the XProtect Smart Client toolbar, click the **Full Screen**  button (or press F11 on your keyboard).

When you change to full screen mode, the toolbars and panes are hidden. To display them, move your mouse to the top of the screen.

To return to the default view, press ESC or F11 on your keyboard.

Copy single images

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** icon to copy an image.





The basics

The Live tab

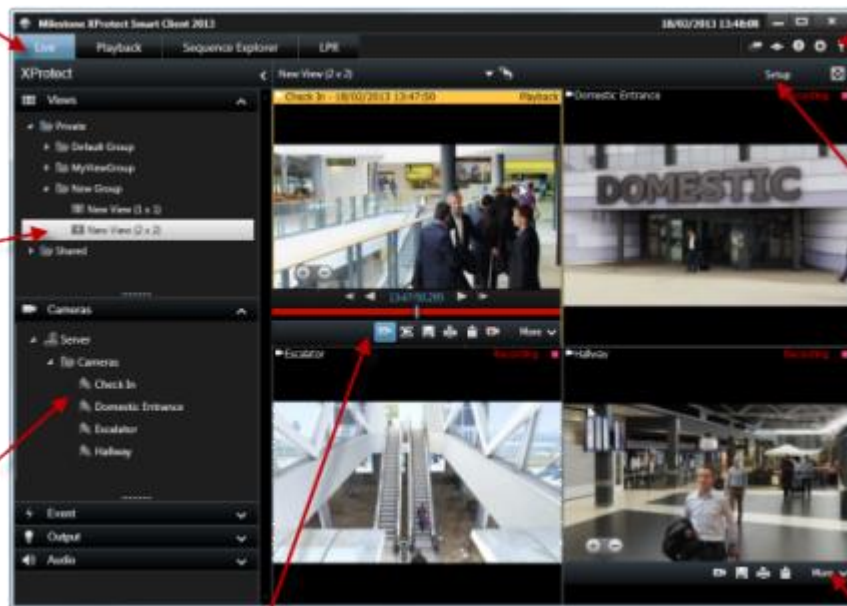
The tab

The **Live** tab offers you numerous features, including audio (on page 60), carousels (on page 87), hotspots (on page 81), Matrix, camera shortcut menus, pan-tilt-zoom (PTZ (see "PTZ and 360° lens images" on page 111)) control, digital zoom, events activation, output activation, quick playback, and more.

The different work areas (see "Tabs" on page 15)

Select a view (on page 30)

Change cameras in views (on page 48)



Application Buttons (on page 16)

Enter setup mode (on page 30)

View recorded video using independent playback (on page 117)

The camera toolbar (on page 34)

Typical tasks from the Live tab

Send video between views (on page 48)

Take a snapshot (on page 133)

Copy single images (on page 31)

Record video (see "Manual recording of video" on page 28)

Use digital zoom (on page 109)

Create PTZ presets (see "Manage PTZ presets" on page 113)

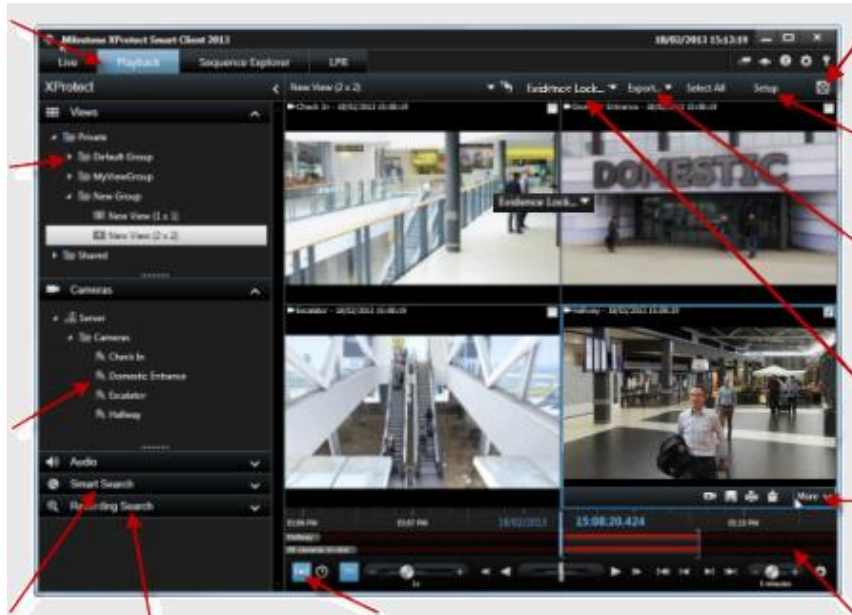


The Playback tab

About recorded video (on page 28)

Select a view (on page 30)

Change cameras in views (on page 48)



View in full screen (on page 31)

Enter setup mode (on page 30)

Export a video clip, audio, data or still image (see "Export a video clip, audio, XProtect data or a still image" on page 147)

About evidence locks (on page 137)

The camera toolbar (on page 34)

The timeline (on page 120)

Search using the Smart Search pane (on page 135)

Search using the Smart Recording Search pane

Time selection (on page 121) for exporting video

Typical tasks from the Playback tab

View recorded video using independent playback (on page 117)

Print evidence (on page 132)

Add or edit bookmarks (on page 115)

Search recorded video (on page 134)

Take a snapshot (on page 133)

Create evidence locks (on page 137)



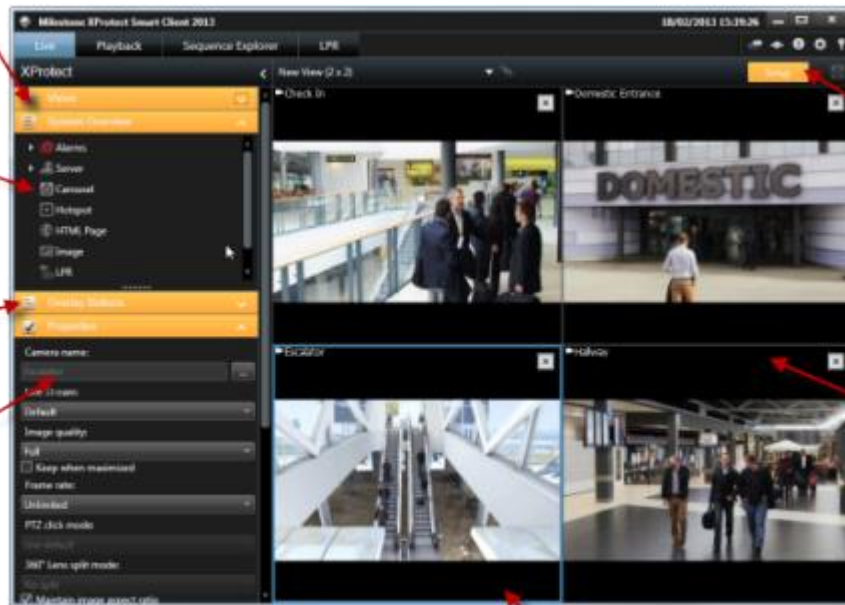
Setup mode

Create a view
(on page 44)

Add content
to views (on
page 40)

Keyboard
shortcuts and
overlay
buttons (on
page 59)

The
Properties
pane (see
"Camera
settings" on
page 53)



Exit setup
mode (see
"Enter setup
mode" on
page 30)

Add a
camera to a
view (on
page 51)

Create and manage views (on page
43)

Typical tasks in setup mode

Add a map to a view (on page 72)

Add the camera navigator to a view (on page 80)

Add Matrix content to a view (on page 92)

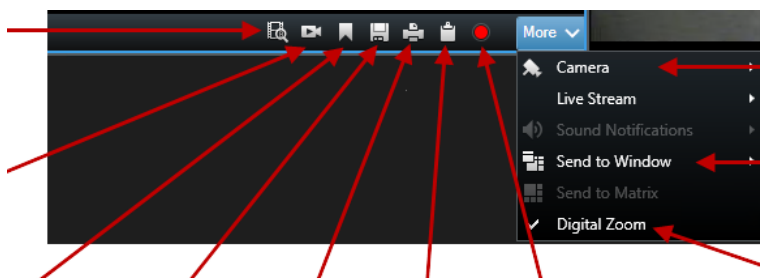
Add a Smart Wall to a view (see "Add a Smart Wall setup to a view" on page 83)

Add content to views (on page 40)

The camera toolbar

Smart search
(on page 126)

View recorded
video using
independent
playback (on
page 117)



Change
cameras in
views (on page
48)

Send video
between views
(on page 48)



Bookmark
(see "About
bookmarks" on
page 114)

Take a
snapshot
(on page
133)

Print
evidence
(on page
132)

Copy
single
images
(on page
31)

Manual
recording
of video
(on page
28)

Use digital zoom
(on page 109)

Keyboard shortcuts

When you work on the **Live** and **Playback** tabs, a number of simple keyboard shortcuts are available.

The PLUS SIGN in the following shortcuts does not indicate the key but the combination of pressing two or more keys. For example, the keyboard shortcut /+ENTER indicates that you press the slash (/) key and then the ENTER key.

These shortcuts cannot be used for positions in views containing Matrix content or static images.



Press these keys	To do this
ENTER	Toggle maximized/regular display of the selected position in the view.
ALT	Select a specific view item. When using ALT, you can navigate to a view item by typing the numbers displayed on the screen. When a view item is in focus, it is marked with a blue frame. If you are using a PTZ (on page 181) camera or a hotspot (see "Hotspots" on page 81), this allows you to control cameras with a joystick or to send the view item directly to the hotspot without using the mouse.
/+<camera shortcut number>+ENTER	Change the camera in the selected view item to the camera with the matching shortcut number. Example: if the required camera has the shortcut number 6 , press /+ 6+ENTER . Camera shortcut numbers may not necessarily be in use on your surveillance system. Camera shortcut numbers are defined on the server.
/+ENTER	Change the camera in the selected view item to the default camera.
/+/+ENTER	Change the cameras in all view items to the default cameras.
*+<view shortcut number>+ENTER	Change the selected view to the view with the matching shortcut number. Example: if the required view has the shortcut number 8 , press *+ 8+ENTER . View shortcut numbers may not necessarily be used. If view shortcut numbers are used, you can see them on the Live tab in the Views pane, where they appear in parentheses before the views' names. View shortcut numbers are defined on the Live tab in setup mode.
6 (numeric keypad only)	Move the view position selection one step to the right.
4 (numeric keypad only)	Move the view position selection one step to the left.
8 (numeric keypad only)	Move the view position selection one step up.
2 (numeric keypad only)	Move the view position selection one step down.

You can also assign your own custom shortcut key combinations (see "Keyboard options" on page 99) for particular actions in XProtect Smart Client.

Server status and interconnected hardware retrieval jobs

Login information

The **Login information** tab of the **Status** window lets you view the status of the surveillance servers your XProtect Smart Client is connected to. The dialog is useful if you are connected to a surveillance system that supports Milestone Federated Architecture. Milestone Federated Architecture is a



parent/child setup of related but physically separate surveillance systems. Such a setup can be relevant for, for example, chains of shops with many separate—but related—surveillance systems.

To open the **Status** window, click the **Status** button in the application toolbar:



Tip: If the button flashes red, one of more servers are unavailable. When you have viewed the status, the button will stop flashing red even if the server(s) are still unavailable.

If servers are available, they will be displayed in blue:



If servers are not available at the time you log in, you cannot use cameras or features belonging to those servers. Unavailable servers are displayed in red:



The number of servers you see reflects the number of servers retrievable from the surveillance system at the time you logged in. Particularly if you connect to large hierarchies of servers, more servers may occasionally 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 click it. To attempt to connect to the server, click the **Load Server** button. The server status for that server will then be updated. If a server continues to be unavailable for longer periods of time, contact your surveillance system administrator for advice.

Jobs

If your XProtect Smart Client is part of a Milestone Interconnect system and you have sufficient rights to retrieve data from interconnected hardware devices or cameras that support edge storage, you can view the jobs created for each data retrieval request for these devices .

Each camera where retrieval has been requested is displayed as a separate job. You can view the progress of the running jobs and you can stop the jobs from here. Related audio will automatically be retrieved, but these jobs will not show up anywhere. Once a job has completed, the timeline (see "The timeline" on page 120) for the device is automatically updated.

If you would like to only see the jobs you have requested, click the **Only show my jobs** filter.

The System Monitor tab

Use the <, > and home icons to navigate the System Monitor.

From here you can view system information and create reports on:

- **Management server:** shows data on **your management server**
- **Recording servers:** shows data on **any number of recording servers** in your surveillance setup, which can be viewed per:
 - **Disks**
 - **Storage**



- **Network**
- **Cameras**
- **Failover recording servers:** shows data on **any number of failover recording servers** in your surveillance setup
- **Additional servers:** shows data on **log servers, event servers etc.** in your surveillance setup
- **Cameras:** shows data **on any camera in any camera group** in your surveillance setup.

Each of these corresponds to a clickable, expandable area, most of which contains sub-areas. Each sub-area represents a server. When clicked, they provide relevant dynamic data on this server.

The **Cameras** bar however, contains a list of camera-groups to select from. Once a group is selected, you can select a specific camera and see dynamic data for it.

All servers display **CPU usage** and **available memory** information. Furthermore, recording servers also display **connection status** information.

Within each view, you can find a **History** link. Click it to view historic data and reports (to view reports on a camera, click the name of the camera). For each historic report, you can view data for the last 24 hours, 7 days or 30 days.

If you want to save and/or print reports, click the **Send to PDF** icon.

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 and the other 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.

Surveillance system differences

Most of the features available in XProtect Smart Client are available in all versions of the XProtect products, but some features work differently depending on what XProtect product you connect to. If in doubt, ask your surveillance system administrator about which type of XProtect surveillance system you connect to. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.

In general, Milestone recommends that you always use the latest version of the XProtect Smart Client to ensure that you have access to all the new features and functions included in your XProtect surveillance system.



Defining your views

Views

About views

The way in which video is displayed in the XProtect Smart Client is called a view. A view can contain video from up to 100 cameras, depending on your surveillance system. Your XProtect Smart Client can handle an unlimited number of views, allowing you to switch between video from various groups of cameras. Each view's layout can be customized to fit its content. To help you maintain an overview, all views are placed in folders called **groups**. A group can contain any number of views and, if required, subgroups.

Views can be private or shared with other users (see "Private and shared views" on page 39).

In addition to video, views can display web pages and still images (for example, mugshots). For some surveillance systems, views can even display data from other applications (such as receipts from a cash register) alongside video.

Your user settings, including information about your views, are stored centrally on the surveillance system server, so you can use your views, private as well as shared, on any computer that has a XProtect Smart Client installed, provided you log in with your own user name and password.



Example: XProtect Smart Client displaying a view with video from four different cameras (a 2x2 view)

Private and shared views

Views can be private or shared:


- **Private** views can only be accessed by the user who created them.
- **Shared** views allow many XProtect Smart Client users to share the same views. This is possible because all views are stored on the surveillance system server. Depending on your type of surveillance system (see "Surveillance system differences" on page 38), shared views can be shared by all XProtect Smart Client users, or access to selected shared views can be given to certain XProtect Smart Client users.



Typically, only a few people in an organization can create and edit shared views. For example, the surveillance system administrator may create and maintain a number of shared views, so users do not need to create their own views.

Add content to views

Add a camera to a view

1. In setup mode, select the view you want to add a camera to.
2. In the **Overview** pane, expand the required server  to view a list of available cameras from that server.

Often, you only see a single server, but if you are connected to a large surveillance system, you may see a hierarchy of several servers. If a server is listed with a red icon, it is unavailable, in which case you cannot view cameras from that server.

3. Select the camera from the list and drag it to the position in the view. An image from the camera may appear in the selected position if a connection is established. If a connection cannot be established, just the camera name is displayed. If parts of images are black, it is because privacy masks (on page 116) are in use.

You can specify the camera properties (such as quality, frame rate and more) in the **Properties** pane (see "Camera settings" on page 53). Repeat for each camera required in the view.

If you want to add multiple cameras to a view in one go (for example all of the cameras from a camera folder under a server), simply drag the folder to the view. This automatically adds all the folder's cameras in the view from the selected position onwards. Make sure a sufficient number of positions are available in the view.

You can easily change which cameras are included in your view by dragging a different camera to the position.



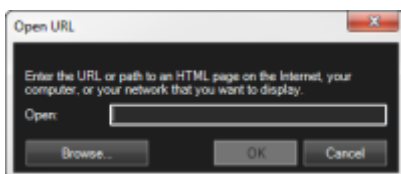
Add an HTML page to a view

Use HTML Pages in views for a variety of purposes: company web pages, Internet map services, collection of links, e-learning pages, and so on.



Example: A company web page inserted in a view

1. In setup mode, in the **System Overview** pane, click and drag the **HTML Page** item to the view.
2. The **Open URL** window opens.



3. In the **Open URL** window's **Open** field, enter the location of the required HTML page (example: <http://www.mywebsite.com/mywebpage.htm>).

- or -

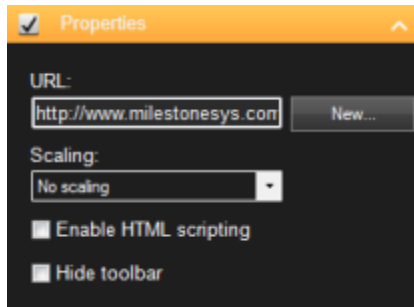
If the HTML page is stored locally on your computer, specify its location on your computer (example: <C:\myfiles\mywebpage.htm>), or click **Browse...** to browse for the required HTML page.

4. Click **OK**.

Once an HTML page is added to a view, you can change its properties:



1. In setup mode, select the imported HTML page in the view. In the **Properties** pane, change the necessary properties.



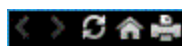
- **URL:** Click **New** to specify a new URL or location of the HTML page.
- **Scaling:** Select the scaling of the HTML page. The optimal scaling depends entirely on the content of the imported HTML page and how you want to display it.

As a rule, with a high scaling value, e.g. 1280×1024, text on the HTML page will appear relatively small, and a considerable amount of content will be visible without the need for scrolling. With a low scaling value, e.g. 320×200, text on the HTML page will appear relatively large, and a relatively small amount of content can be displayed without the need for scrolling.

- **Enable HTML scripting:** Only select this feature if the HTML page is a custom-made HTML page for navigating or triggering features inside the XProtect Smart Client itself (see examples of custom-made HTML pages in Use an HTML Page for Navigation (on page 105)).

If selected, a client script required for navigating and controlling a number of features inside the XProtect Smart Client will be added to the HTML page. For HTML pages which are not going to be used for such purposes, the client script cannot be used, and may even cause the HTML page to malfunction.

- **Hide toolbar:** By default, a simple navigation bar is inserted above each imported HTML page. The navigation bar has the following five buttons: **Back**, **Forward**, **Refresh**, **Home** and **Print**:



If you do not want the navigation bar, you can hide it by selecting **Hide toolbar**.

When an imported HTML page contains links, we recommend that the links have the `target='blank'` attribute (example: `Link`). This makes the links open in separate windows, which will help you avoid losing view of the XProtect Smart Client window when a link opens a web page in the same browser as the XProtect Smart Client .

Add a static image to a view

Use static images in views for company logos, for including photos of wanted persons, and so on.

- In setup mode, in the **System Overview** pane, drag the **Image** link to the required position in the view and select the static image file.



When you add an image to a view, the proportions of the image are not kept. If you want to ensure that the image is displayed without distortion, in the **Properties** pane for images, select the **Maintain image aspect ratio** check box.

To include floor plans or maps in a view, consider the Map feature (see "Maps" on page 63). The Map feature is available when connected to certain surveillance systems (see "Surveillance system differences" on page 38) only.

Add an overlay button to a view

You can activate speakers, events, output, and more through overlay buttons which appear when you move your mouse over individual camera positions in views on the **Live** tab.

You can add as many buttons as needed.

1. In setup mode, in the **Overlay Buttons** pane, select and drag the action onto the camera position.
2. When you release the mouse, the overlay button appears. To resize the button, drag the handles that appear.



3. If you want to change the text of the overlay button, double-click the text, overwrite it, and then press **ENTER**. The text scales to the largest possible size on the button.

In addition to activating speakers, events, you can also use overlay buttons for activating many camera features, such as focus, iris, auxiliary commands, which in previous versions you could only activate through custom keyboard shortcuts.

Create and manage views

Certain user rights are required in order to create views.

In setup mode, you can create groups and views, and specify which cameras should be included in each view. If a top-level folder has a red background, it is protected:





You can still access any views under the protected top-level folder, but you cannot create new views or edit existing views under it.

Your ability to edit views and groups depends on your user rights. Basically, if you can create the view or group, you can also edit it. Consult your surveillance system administrator if in doubt.

To create a view, you must first have a group to add it to. You can either create a new view in an existing group or create a new group for the view. To create a view under a shared top-level folder, you must first create a group within this shared folder.

A group can contain an unlimited number of views. You can also create any number of subgroups if required.

Create a view group


1. In setup mode, in the **Views** pane, select the **Private** or **Shared** top-level folder you want to add a group to.
2. Click **Create New Group**:



A new group is created named **New Group**.

3. Select and click the **New Group** to overwrite the name.
4. You can now create views within this group.

Create a view

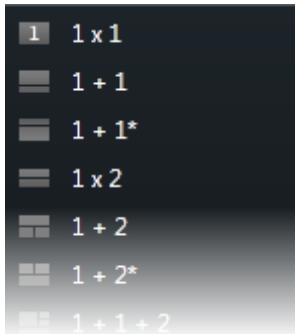
Not all users may have access to all cameras on the surveillance system and some of the features you include in your shared view may not be supported in earlier versions of the XProtect Smart Client. Therefore, always make sure that the users you want to share with have the necessary rights and are running the same XProtect Smart Client version as yourself. To check your XProtect Smart Client version, click  in the top right corner of the XProtect Smart Client window.

1. In setup mode, in the **Views** pane, select the group in which you want to create the view.
2. Click the **Create New View** button:





3. Select a layout for your new view. You can select layouts for displaying up to 100 (10x10) cameras in a single view. Available layouts are grouped according to their aspect ratio (height/width relationship: 4:3 or 16:9), and according to whether they are optimized for regular content or content in portrait mode (where the height is greater than the width).



4. Enter a name for the view by overwriting the default **New View** name.

Copy, rename, or delete a view or group

Important: Views can only be copied within the same session; you cannot copy views from one XProtect Smart Client to another.

If you have a view and you want to reuse it, you can copy it. You can also copy a group of views or a private view to a shared view.

1. In setup mode, in the navigation pane, select the view.
2. Click **Copy**.



Or press CTRL+C.

3. Browse to where you want to copy the view, select **Paste**.



Or press CTRL+V.

Tip: Alternatively, you can select and drag the view to another folder.

4. The copied view is by default named the same as the original followed by (2). To change the name, click **Rename**.



Or right-click and select **Rename**.

- To delete a view, select the relevant view, and either click **Delete**.



Or right-click and select **Delete**.



Important: Deleting a group will delete all views and any subgroups within the group as well.

Assign a shortcut number to a view

In setup mode, you can assign shortcut numbers to views to let users select views using standard keyboard shortcuts (see "Keyboard shortcuts" on page 35).

1. In setup mode, in the **Views** pane, select the view you want to assign a shortcut to.
2. In the **Shortcut** field, specify a shortcut number, and then press ENTER. The shortcut number appears in parentheses in front of the view's name.
3. Repeat as necessary for other views.

Search for views and cameras

With the search function for views and cameras you can search directly for available views and cameras. Not only by searching for names, but also by searching for description, type and keywords.

You can find an overview of common keywords if you click  next to the search field.

You can see matching results for views and cameras while you type.

Views and view groups

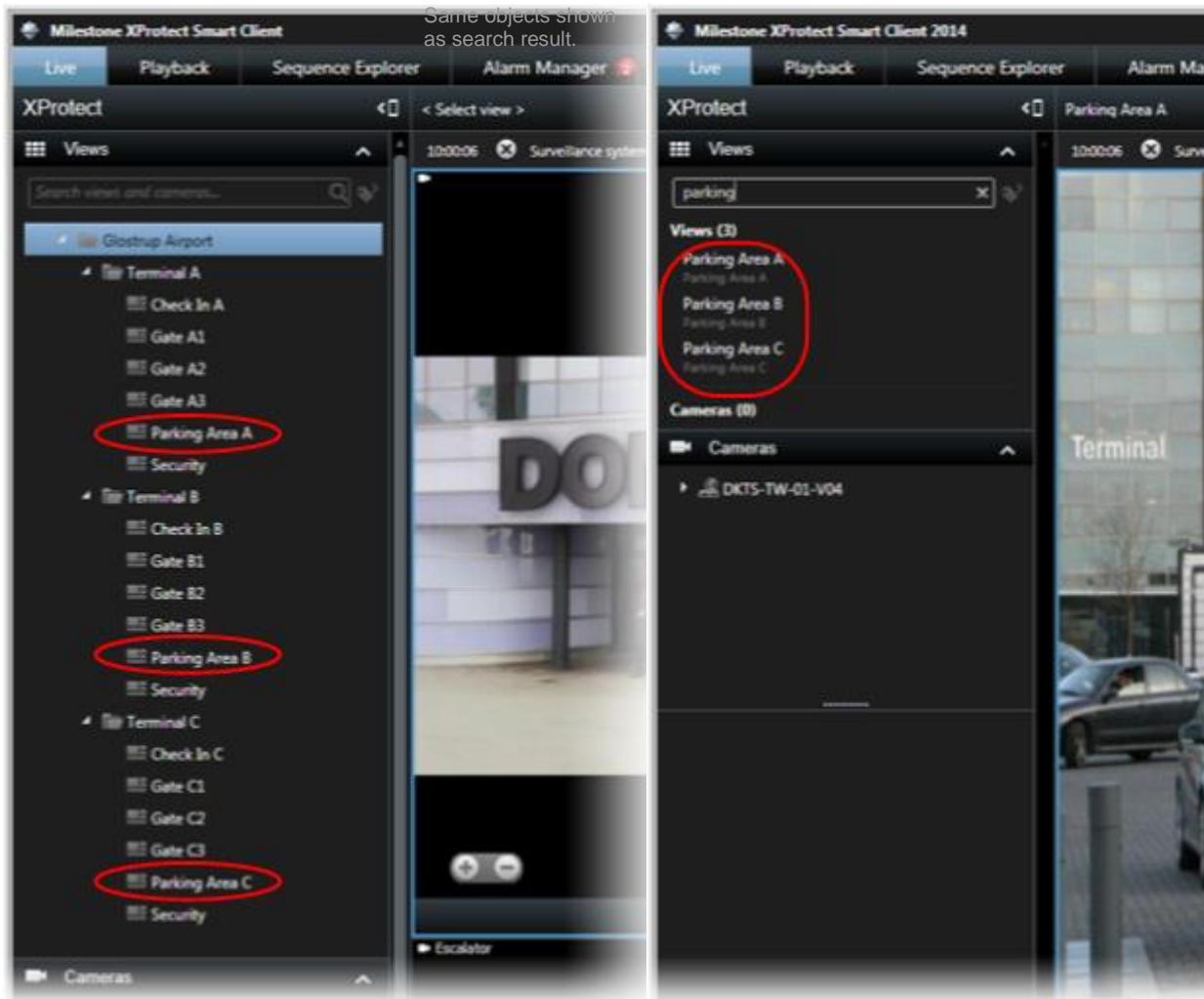
If you have a large or complex hierarchy of view groups, the search function does not only ease the navigation. It also adds the ability to search across the existing structure. How well this goes, depends on your organization having worked out a well considered and consistent naming convention for views and cameras.

The example below shows the benefit of searching instead of navigating through a complex hierarchy when you need to get an overview of related views:



Objects shown in view group hierarchy.

Same objects shown as search result.



You can search for views that contain specific cameras or view item types. For example, if you want to see all views that contain PTZ cameras, cameras from a certain manufacturer or views that contain these view item types:

- Map
- Alarm
- LPR
- Access Control
- Matrix
- HTML
- Name of camera in view

Finally, you can search for keywords.



Views and view groups

When you search for cameras in live and playback mode, you can view the cameras in a temporary view that is optimized for the amount of cameras you select.

You can click a single camera to view it in a 1:1 view, or you can click the heading of the camera results to view all discovered cameras (or the first 25). You can also select cameras manually if you press either **CTRL** or **Shift** while clicking one or more cameras. Press **Enter** to view the cameras.

You cannot create new views based on temporary views.

You can search for these camera characteristics:

- Name
- Description
- Capability:
 - PTZ
 - Audio
 - Input
 - Output
- Views containing a specific camera
- Recording Server name or address (shows connected cameras)

TIP: Your system administrator can add free text tags in the camera description field on the surveillance server to make it possible to group cameras and search for these tags. An example could be that all outdoor cameras use the tag "Outdoor" in the description field. In that case, all cameras of this type can easily be found.

Send video between views

You can send video from a selected camera position to another single-camera position in a view, including any views you may have in floating windows or on secondary displays. This feature is not available for hotspots (on page 81), carousels (on page 87), or Matrix (on page 91) positions.

- On the camera toolbar, click **More > Send Camera**, select the destination view, and then select the position in the view where you want the video for that camera to display.


If some of the camera positions are not selectable, they might be unavailable or used for hotspots, carousels, or Matrix content.

You can also send video content to separate windows (see "Multiple windows" on page 88) or displays.

Change cameras in views

You can temporarily change the cameras that are displayed in a view. However, this feature is for provisionally switching cameras; it does not permanently change the view. To restore your original



view, click the reload view button on the workspace toolbar: . If you want to permanently change the content of a view (see "Add a camera to a view" on page 40), you must be in setup mode.


You cannot change cameras if the view contains a hotspot (see "Hotspots" on page 81), carousel (see "Carousels" on page 87), or Matrix (on page 91) content. If used from the **Cameras** pane, the feature works with Smart Wall (see "XProtect Smart Wall" on page 82) positions as well.

This method can also be used for dragging cameras onto Smart Wall positions, but only if used on the **Live** tab.

1. Select the relevant position in the view.
2. In the **Cameras** pane, drag the relevant camera into the position in the view.

Alternatively, on the camera toolbar, click **More > Camera**, and then select the relevant server and camera.

The original camera is listed at the top of the right-click sub-menu and named (default). This lets you quickly switch back to your original view.


In the **Cameras** pane, the list of cameras is grouped by server . If a server is listed with a red icon, it is unavailable, in which case you will not be able to select cameras from that server.

Tip: If camera shortcut numbers have been defined, you can use keyboard shortcuts (on page 35) to switch between cameras. If a camera shortcut number has been assigned, it appears in parentheses in front of the camera name.

Swap cameras (on page 49)

Swap cameras

You can temporarily swap two cameras in a view by dragging one of the cameras to a different position. The camera in that position then exchanges places with the one you swap it with. You can only swap cameras with other cameras. This can be useful, for example, if you want to keep all your most important cameras in a certain position in your view. If you want to make permanent changes to your view, you must first be in setup mode.

- To swap cameras, click the relevant camera title bar and drag it to the relevant position.
- To restore the original view, click the reload view button on the workspace toolbar: .

Switch cameras in views (see "Change cameras in views" on page 48)

Frequently asked questions: views

Can I view video immediately without setting up views?

Yes. Many XProtect Smart Client users can view video in their XProtect Smart Client immediately, without the need to set up views first.

Private views: If connected to certain types of surveillance system (see "Surveillance system differences" on page 38)—primarily small surveillance systems with few cameras—the surveillance system server can automatically generate a single private view with all the system's cameras. Such a view is called a **default view**. If you have access to a default view, you can begin viewing video in your XProtect Smart Client immediately because the default view will automatically be displayed the first time you log in to your XProtect Smart Client.



Shared views: Shared views may already have been created by the surveillance system administrator or by some of your colleagues. If shared views already exist, and you have access to them and the cameras they contain, you can begin viewing video in your XProtect Smart Client immediately.

Why do I need to recreate my views?

From time to time your surveillance system administrator may make changes to camera or user properties on the surveillance system. Such changes take effect in the XProtect Smart Client when you log in for the first time after the changes were made, and they may occasionally require you to re-create your views.

What if I cannot create private or shared views?

Typically only a few people in an organization are able to create and edit shared views. Your surveillance system administrator may create and maintain a number of shared views. When you log in, the shared views will automatically be available to you, so you will not need to create further views.

How can I see which views I have access to?

Typically, your surveillance system administrator will have told you if you have access to shared views. If not, you can quickly determine if any shared views are available to you.

On the **Live** or **Playback** tab, the Views pane will always contain a top-level folder called Private. The Private top-level folder is for accessing private views, and its content depends upon which views—if any—you have created for yourself.

Any other top-level folders in the Views pane are for accessing shared views. The names of these top-level folders depend on what has been configured.

The fact that the Views pane contains one or more top-level folders for accessing shared views does not in itself guarantee that shared views are actually available. To verify if any shared views are available under the top-level folders, expand the folders.

How can I see which views I can edit?

If a folder has a padlock icon, it is protected and you cannot create new views or edit existing views to it.

Can I see my views on different computers?

Your user settings, including information about your views, are stored centrally on the surveillance system server. This means that you can use your views, private as well as shared, on any computer that has a XProtect Smart Client installed, provided you log in to the XProtect Smart Client with your own user name and password.

Can I add an overlay button for an action if I do not have rights to perform the action myself?

Yes. This enables you to make buttons available on shared views, where colleagues with the necessary rights will be able to use the buttons, even if you do not have rights to use them yourself.

When you add a button for an action you do not have rights for, the button will appear dimmed in setup mode and will not appear when you use the **Live** tab. Colleagues with the necessary rights will be able to use the button on the **Live** tab.

What if my rights change after I have added an overlay button?

Changes to your rights will affect the way you can use any buttons and they will either appear dimmed or available depending on whether or not you have user rights for those actions. For example, if you add a button for an action you do not have rights to perform and then your user rights change so that you do have the necessary rights, the button will change to available.

How do I delete an overlay button?



In setup mode, right-click the button, and select **Delete**.


Will overlay buttons appear in exported video?

No, if you export (see "The XProtect Smart Client window" on page 14) video, overlay buttons are not included in the export.

Cameras

Some of the following features are only available in certain surveillance systems (see "Surveillance system differences" on page 38).

Add a camera to a view

1. In setup mode, select the view you want to add a camera to.
2. In the **Overview** pane, expand the required server  to view a list of available cameras from that server.

Often, you will only see a single server, but if you are connected to a large surveillance system, you may see a hierarchy of several servers. If a server is listed with a red icon, it is unavailable, in which case you will not be able to view cameras from that server.

3. Select the camera from the list and drag it to the position in the view.

An image from the camera will—provided a connection can be established—appear in the selected position. If a connection cannot be established, just the camera name will be displayed.

Tip: If parts of images are black, it is because privacy masks (on page 116) are in use.

You can specify the camera properties (such as quality, frame rate, etc.) in the **Properties** pane (see "Camera settings" on page 53).

Repeat for each camera required in the view.

Tip: If you want to add multiple cameras to a view in one go (for example all of the cameras from a camera folder under a server), simply drag the folder to the view. This automatically adds all the folder's cameras in the view from the selected position onwards. Make sure a sufficient number of positions are available in the view.

Tip: You can easily change which cameras are included in your view by dragging a different camera to the position.



Camera names and colored indicators

If configured (in setup mode, in the Properties pane (see "Camera settings" on page 53)), the camera title bar displays the name of the camera. When video is displayed from the **Playback** tab, the bar shows the date and time of the displayed video. When you select a camera in a view, the camera title bar changes color.



The camera title bar displays **Live** when live video is displayed, **Recording** if video from the camera in question is being recorded, and **Stopped** if there is no camera feed and live viewing is not possible. A camera may stop working for various reasons, for example, if it has been configured only to be available during certain hours of the day, or because of camera or network maintenance, or a change in configuration on the surveillance system server. If all cameras display **Stopped**, connection to the surveillance system server may be lost.

Each title bar displays up to three colored indicators:

The title bar and indicators can be configured (see "Application options" on page 93) in the **Options** window.

- **Event indicator** (the yellow indicator ■): Lights up when specific events occur—defined by the surveillance system administrator. Click inside the image to reset the event indicator. The indicator may appear black if event indication has not been specified for the camera, or if no specified events have occurred.

Note: This feature is only available in certain surveillance systems (see "Surveillance system differences" on page 38) and requires that notifications on events have been configured on the server.

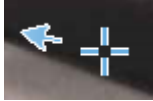
- **Motion indicator** (the red indicator ■): Lights up when motion is detected. Click inside the image to reset the motion indicator. This indicator may appear black if no motion has been detected.
- **Video indicator** (the flashing green indicator ■): Changes every time a new image is received from the camera. This indicator can be turned off.

Tip: Event (■) and motion (■) indications can be accompanied by sound notifications (on page 59).



Virtual joystick and PTZ overlay button

If your views include 360° cameras or lenses, or PTZ devices (see "PTZ and 360° lens images" on page 111), you can navigate the images by clicking either the arrow mouse pointer (the virtual joystick) or the PTZ navigation buttons that appear inside the image.



The virtual joystick



PTZ overlay

Tip: If you don't want the camera toolbar to pop up when you move your mouse over the view, press and hold the CTRL key while moving the mouse.

Camera settings

In **Setup** mode, in the **Properties** pane, you can view and edit properties for the selected camera (the selected camera is indicated by a bold border in the view).



Name	Description
Camera name	<p>Displays the name of the selected camera.</p> <p>To change the camera, click the ellipsis button to open the Select Camera dialog and select a different camera. This can be useful if you want to change the camera but keep the settings.</p>
Live Stream	<p>If available, select the live stream that you want to display in the view. If multiple streams have been set up on the server, you can select either Default or one of the available stream options. If you select another option than Default, you will not be able to edit Image quality or Frame rate settings.</p>
Image quality	<p>Determines the quality of video when viewed, but 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 side by selecting Low or Medium.</p> <p>When selecting a reduced image quality, images from the selected camera are re-encoded to a JPEG format on the surveillance system server before being sent to the XProtect Smart Client. Re-encoding takes place along the following lines:</p> <p>Full: The default setting, providing the full quality of the original video.</p> <p>Super high (for megapixel): Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.</p> <p>High: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.</p> <p>Medium: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.</p> <p>Low: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.</p> <p>Height will scale according to the width and the aspect ratio of the original video.</p> <p>Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.</p> <p>While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.</p> <p>Tip: You can quickly reduce the bandwidth usage for all cameras in the view by reducing the image quality for a single camera, then clicking the Apply To All button.</p>



Name	Description
Keep when maximized	<p>When you view live or recorded video, you can double-click a particular camera position in a view to maximize it. When you do this, video from the camera is by default displayed in full quality, regardless of your image quality selection.</p> <p>If you want to make sure that the selected image quality also applies when video is enlarged, select the Keep when maximized box, located immediately below the Image quality setting.</p>
Frame rate	<p>Select a frame rate for the selected camera. Select between Unlimited (default), Medium, or Low. The combination of the frame rate you select and the way your surveillance system is set up (see "About frame rate effect" on page 58) affects the quality of your video.</p>
PTZ click mode	<p>Select 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.</p>
Fisheye split mode	<p>Available only if the selected camera is a fisheye camera. Fisheye technology allows the creation and viewing of 360° panoramic images. The XProtect Smart Client supports up to four different viewpoints from a single fisheye camera. The Fisheye split mode list lets you select the required split mode:</p> <p>No split lets you view a single viewpoint.</p> <p>Two by two lets you view four different viewpoints at a time.</p> <p>When viewed on any of the XProtect Smart Client's tabs, the fisheye camera will appear as specified, with either one or four viewpoints from the same image.</p> <p>Tip: When you view different viewpoints from a fisheye camera, you can navigate each viewpoint independently by clicking inside each viewpoint, or by using the PTZ presets menu on the camera toolbar.</p>
Maintain Image Aspect Ratio	<p>If selected, video will not be stretched to fit the size of the camera position. Rather, video will be displayed with the aspect ratio (height/width relationship) with which it has been recorded.</p> <p>This may result in horizontal or vertical black bars appearing around the images from some cameras.</p> <p>If check box is cleared, video will be stretched to fit the position in the view; this may lead to slightly distorted video, but you will avoid any black bars appearing around the video.</p>



Name	Description
<p>Update on motion</p>	<p>If selected, video from the selected camera will only be updated on the XProtect Smart Client's Live tab when motion is detected. Depending on the motion detection sensitivity configured for the camera on the surveillance system server this can help reduce CPU usage significantly.</p> <p>When video is only updated on motion, users will see the message No motion together with a still image in the camera's position in the view until motion is detected. The still image will have a gray overlay, making it easy to identify which cameras have no motion.</p>
<p>Sound on motion detection</p>	<p>When video from the camera is viewed on the Live tab, it is possible to get a simple sound notification when motion is detected.</p> <p>Sound notifications only work if video from the camera is actually displayed in your XProtect Smart Client. Sound notifications will therefore not work if you minimize the window containing the camera in question. Likewise, if you maximize a camera in a view so only that camera is displayed, it will not be possible to hear sound notifications regarding other cameras.</p> <p>Always off: Do not use sound notifications on detected motion.</p> <p>Always on: Play a sound notification each time motion is detected on the camera.</p>
<p>Sound on event</p>	<p>This feature is only available with certain surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: http://www.milestonesys.com.</p> <p>Being able to use this feature requires that notifications on events have been configured on the surveillance system server.</p> <p>Sound notifications only work if video from the camera is actually displayed in your XProtect Smart Client. Sound notifications will thus not work if you minimize the window containing the camera in question. Likewise, if you maximize a camera in a view so only that camera is displayed, it will not be possible to hear sound notifications regarding other cameras.</p> <p>When video from the camera is viewed on the Live tab, it is possible to get a simple sound alert when events related to the selected camera occur.</p> <p>Always off: Do not use sound alerts when events related to the camera occur.</p> <p>Always on: Play a sound alert each time an event related to the camera occurs.</p>



Name	Description
<p>Display settings</p>	<p>Use default display settings: Use default settings, as defined in the Options dialog, for showing title bar and video indicator for the selected camera. If you want a non-default behavior for the selected camera, clear the check box and select whether you want title bar and/or video indicator.</p> <p>Show title bar: Displays a title bar at the top of each camera position. The title bar helps users quickly identify cameras. When displayed on the Live tab, the title bar displays information about detected motion and events, whether the camera is recording, etc. See Camera names and colored indicators (on page 52).</p> <p>Note: If you choose not to display the title bar, you will not be able to see the visual indicators for motion and events. As an alternative, you can use sound notification.</p> <p>Show video indicator: Requires that Show title bar is selected. Displays a flashing green indicator in the title bar when displayed on the Live tab. The indicator changes state every time a new image is received from the camera, an effect which makes it easy to see that video is live. Often, it is evident from the video itself that it is live, but the video indicator can be advantageous at times when not much is happening in the camera's area of view.</p> <p>Show bounding box layer: Displays bounding boxes on individual cameras. Open the Bounding Box Providers (see "About Bounding Box Providers" on page 59) dialog box to specify the metadata devices to provide data to the camera.</p>



Name	Description
Video buffering	<p>This part of the Properties pane may not be visible. To view it, go to the Options window's (see "Options window" on page 92) Functions tab, and ensure that Setup > Edit video buffering is set to Available.</p> <p>If you require very smooth display of live video, without any jitter, it is possible to build up a video buffer.</p> <p>If possible, avoid using video buffering. 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> <p>When live video is stored in a buffer, it will display smoothly without any jitter, but the building up of the buffer will lead to a small delay in the display of live video. Such a delay is often not a problem for the person viewing the video. However, the delay may become very evident if the camera is a pan-tilt-zoom (PTZ) camera, and especially if you use a joystick to operate the camera.</p> <p>Being able to control the amount of video buffering lets you decide whether you want to prioritize smoothly displayed live video (requires buffering and leads to a small delay) or instant PTZ and joystick operation (requires no buffer, but may—due to the lack of a buffer—lead to a slight jitter in live video).</p> <p>To use video buffering, select Use default video buffer, then select the required buffer, from 2 frames to 2 seconds.</p>
Apply to All	<p>The Apply to All button lets you quickly apply the camera settings for the selected camera to all cameras in the view.</p>

About frame rate effect

The effect of the **Frame Rate** selection can be illustrated as follows:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame) H.264	Send all frames	Send all frames	Send all frames
MPEG (P-frame) H.264	Send all frames	Do not send any frames Do not send all frames	Do not send any frames Do not send all frames

Example:

If you set the **Frame rate** option to **Low** in your XProtect Smart Client, and your system administrator has configured the camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera. If your system administrator then configures the camera with a feed as low as 4 frames per second, you will experience an average of 0,2 frames per second when viewing video from the camera.



About Bounding Box Providers

Requires that **Show bounding box layer** is selected. In the dialog box, enable the metadata devices that you want to provide data for the bounding boxes in videos from this camera. The list of devices is defined by your system administrator.

Keyboard shortcuts and overlay buttons

Depending on your surveillance system (see "Surveillance system differences" on page 38), you can assign custom keyboard shortcuts (see "Options window" on page 92) and overlay buttons (see "Views" on page 39) to trigger auxiliary commands (commands defined by the camera) to the camera positions in the view. Auxiliary commands differ from camera to camera; for details, see the documentation for the camera.

Sound notifications

Your XProtect Smart Client may have been configured to notify you with a sound notification when:

- motion is detected on one or more specific cameras
 - and/or -
- events (on page 156) related to one or more specific cameras occur

When you hear a sound notification, special attention may be required. If in doubt about whether or how sound notifications are used in your organization, consult your surveillance system administrator.

You can temporarily mute sound notifications for a specific camera: on the camera toolbar, click **More > Sound Notifications > Mute**.

When you minimize the XProtect Smart Client window, sound notification is disabled.

To turn on sound notifications for the camera again, click **More > Sound Notifications > Mute** again.

The ability to mute sound notifications is not available for hotspots (on page 81), carousels (on page 87), or Matrix (on page 91) positions.

Frequently asked questions: cameras

Will I receive lots of sound notifications?

If you select **Always on**, the number of motion-related sound notifications will depend on the motion detection sensitivity of the camera. If motion detection for the camera is highly sensitive, you may receive very frequent sound notifications. The camera's motion detection sensitivity is configured on the surveillance system server. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the cameras' motion detection sensitivity.

What is jitter?

Jitter is small variations in the video which can be perceived by the viewer as irregular movement, for example when viewing a person walking.

What is an event?



An event is a predefined incident occurring on the surveillance system. Depending on the surveillance system's configuration, events may be caused by input from external sensors connected to cameras, by detected motion, by data received from other applications, or manually through user input. Events are used by the surveillance system for triggering **actions**. Typically, most events on the surveillance system are generated automatically. For example, detected motion can be defined as an event which in turn triggers an action, for example, recording.

Can I change the notification sound?

By default, the XProtect Smart Client uses a simple sound file for its sound notifications. The sound file, called **Notification.wav**, is located in the XProtect Smart Client installation folder, typically **C:\Program Files\Milestone\Milestone XProtect Smart Client**. If you want to use another .wav file as your notification sound, simply name the file **Notification.wav** and place it in the XProtect Smart Client installation folder instead of the original file. The file **Notification.wav** is used for event- as well as motion-detection notifications. You cannot use different sound files for different cameras or to distinguish between event- and motion-detection notifications.

Audio

Support for specific audio features may vary from system to system (see "Surveillance system differences" on page 38). Access to recorded audio, or certain recorded audio features, may be restricted depending on your user rights. Consult your surveillance system administrator if in doubt.

About audio

The XProtect Smart Client supports both incoming and outgoing audio. You can listen to live recordings from microphones attached to cameras as well as use loudspeakers connected to cameras to talk to audiences. When you play back recorded video, you can hear the corresponding audio if the cameras have microphones and/or speakers attached. When you select a camera or view, the corresponding microphone and/or speaker is also selected by default.

Tip: If your views contain maps, these maps may contain microphones and/or speakers. When this is the case, you can listen to audio by clicking the relevant microphone or speaker element. Click and hold down the mouse button for as long you want to listen or talk.

Audio settings

Tip: You can listen to recorded audio independently of the views/cameras you are watching. You must specify a time in the **Playback** tab's navigation feature to determine what recorded audio to hear.



Name	Description
Microphones	<p>Select the microphone you want to listen to audio from.</p> <p>If the Microphones list displays No microphone hardware, your computer does not have the required hardware for playing audio from the surveillance system. Typically, this occurs because your computer does not have an audio card installed. If the list displays No microphone sources, no microphones attached to cameras are available.</p>
Mute	<p>Select to mute either microphones or speakers (muting speakers is only available on the Playback tab).</p>
Speakers	<p>Select the speaker you want to talk through.</p> <p>If the Speakers list displays No speaker hardware, your computer does not have the required hardware for playing audio from the surveillance system. Typically, this occurs because your computer does not have an audio card installed. If the list displays No speaker sources, no speakers attached to cameras are available.</p> <p>If your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you can talk through all the speakers simultaneously by selecting All speakers from the Speakers list.</p>
Talk	<p>Click and hold down the mouse button for as long as you want to talk.</p>
Level Meter	<p>The Level Meter indicates the level of your voice. If the level is very low, you may need to move closer to your microphone or adjust your audio settings in Windows. If the Level Meter shows no level at all, check that the microphone is connected and correctly set up.</p>
Lock to selected audio devices	<p>When you select a camera or view, the corresponding microphone and/or speaker is also selected by default. However, if you want audio for a specific camera regardless of the ones you are viewing, you can select Lock to selected audio devices.</p> <p>Example: You need to listen and talk to a crime victim through microphones and speakers attached to camera A, but you also urgently need to view cameras X, Y and Z, some of which are displayed in different positions in the view. By selecting Lock to selected audio devices, you can communicate with the victim on camera A while viewing the other cameras at the same time.</p>
List only devices from current view	<p>If your surveillance system contains large numbers of microphones and/or speakers, the lists from which you select microphones and speakers in the Audio pane can be very long. To avoid this, you can limit the lists to only contain microphones and speakers relevant to your current view by selecting List only devices from current view.</p> <p>Note that in this context, current view also includes any views you have open as floating views and on primary and secondary displays (see "Multiple windows" on page 88).</p>



Talk to an audience

IMPORTANT: The surveillance system can record incoming audio from microphones attached to cameras, even if no video is being recorded. However, outgoing audio transmitted through speakers attached to cameras is only recorded on some surveillance systems (see "Surveillance system differences" on page 38).

There are three ways of talking to audiences through speakers attached to cameras, either by using the **Audio** pane, by using overlay buttons, or by using speaker functionality on maps.

Talk through speakers

1. On the **Live** tab, in the **Audio** pane, under **Speakers**, select the relevant speakers from the **Talk to:** list. See Audio settings (on page 60) for specific information about speaker settings.

If your surveillance system has speakers attached to multiple cameras (and you have the necessary rights), you can talk through all the speakers simultaneously by selecting **All speakers**.

Alternatively, if a position in a view has an overlay button or a map with speaker elements, you can click these.

2. Click and hold down the **Talk** button while you talk. Keeping the button pressed down when you speak gives you full control over what is actually transmitted through the speakers.

Frequently asked questions: audio

Why is the Speakers list not available?

Some surveillance systems do not support two-way audio. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.

Can I adjust the recording volume of a microphone connected to a camera?

This feature does not exist in the XProtect Smart Client. However, you may be able to adjust the recording volume either on the microphone or through the configuration interface of the camera device that has the microphone attached. Consult your surveillance system administrator if in doubt.

Can I adjust the output volume of speakers connected to a camera?

This feature does not exist in the XProtect Smart Client. However, the **Level Meter** in the **Audio** pane gives an indication of the input level which, in turn, gives an idea of the output level.

You may be able to adjust the output volume either on the speakers or through the configuration interface of the camera device that has the speakers attached. You can also adjust your audio settings in Windows. Consult your surveillance system administrator if in doubt.

Will other XProtect Smart Client users be able to hear what I say through speakers?

As a rule, other XProtect Smart Client users cannot hear what you say. However, if microphones are located near the speakers you are talking through, it may be possible to hear you.



Can I talk through multiple speakers at the same time?

Yes, if your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you can talk through all the speakers at once. In the **Audio** pane, in the **Speakers** list, select **All speakers**, then click and hold the **Talk** button when you talk.

If you have selected List only devices from current view in the Audio pane, you will not see all speakers.

Will audio from microphones attached to cameras be recorded?

Incoming audio, from microphones attached to cameras, is recorded, even when no video is being recorded.

Will what I say through speakers be recorded?

The surveillance system can record incoming audio from microphones, even when no video is being recorded. However, outgoing audio transmitted through speakers can only be recorded, played back, and exported on some surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.

Depending on your surveillance system, recordings can be used, for example, to prove that a XProtect Smart Client operator gave an audience specific instructions through speakers.

Do I get an indication of my voice level when I talk through speakers?

Yes, in the **Audio** pane, the **Level Meter** indicates the level of your voice. If the level is very low, you may need to move closer to the microphone. If the Level Meter shows no level at all, verify that the microphone is connected and correctly set up.

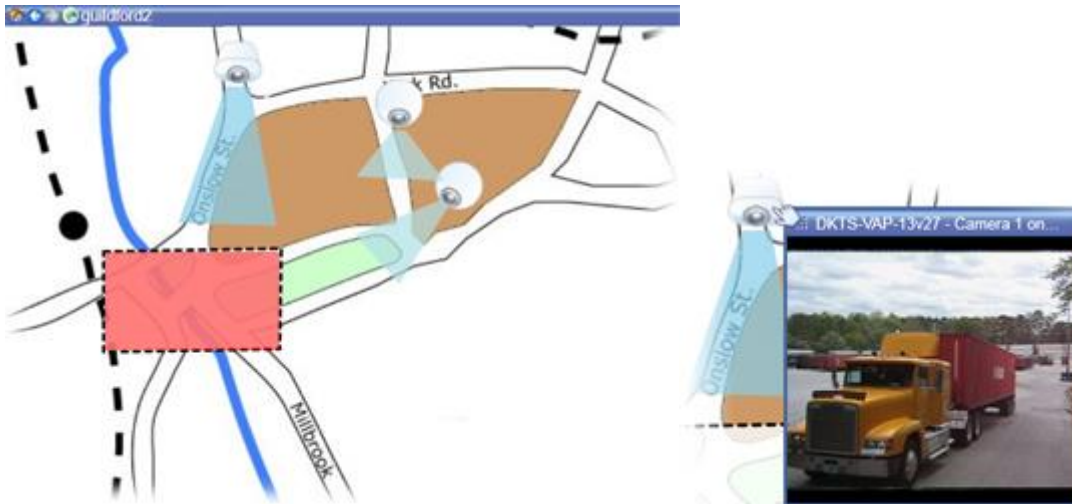
Maps

Introduction to maps

The map feature is only available for selected surveillance systems (see "Surveillance system differences" on page 38). A map position does not display live video, a map is always a still image.

With a map, you get a physical overview of your surveillance system. You can instantly see which cameras are placed where, and in what direction they are pointing. You can use maps for navigation. Maps can be grouped into hierarchies, so you can drill down through hot zones, from large perspectives to detailed perspectives, for example, from city level to street level, or from building level to room level.

Maps may contain elements representing cameras, microphones and similar technology. You can view recorded video from cameras (see "View recorded video from cameras on a map" on page 73) 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.



Map with camera elements and hot zone

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.

How elements interact with maps

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

Cameras

Place your mouse pointer over a camera on a map to see a live preview from the camera. Click 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 rights 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 presets 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 click the preset on the map. This works in the floating preview window, on the map itself, as well as in hotspot positions (see "Hotspots" on page 81). 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 cannot 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 cannot use speakers in map views in playback mode.

Events

Click an event on the map (see "Alarms" on page 151) to activate it, or right-click the event and select **Activate Event**. When left-clicking an event, the mouse pointer briefly changes to a lightning symbol to indicate that the event is being activated.

Alarms

Click an alarm on the map (see "Alarms" on page 151) to view it, or right-click the alarm and select **Activate Alarm**. Right-click to acknowledge the alarm.

Output

Click an output on the map to activate it, or right-click the output and select **Activate Output**. When you click an output, the mouse pointer 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. Click 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 surveillance systems, maps from several different servers may be in a map hierarchy. This can mean that when you click 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 surveillance system administrator if the problem persists.

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

Plug-ins

Plug-in elements are available only if used on your surveillance 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 may often see error statuses on the interconnected hardware element on a map.



Status visualization

Status visualization is a feature that graphically displays the status of elements added to a map. When a map is fully operational and in the normal state, no visual status indication is presented. The **Status Visualization** window lets you define the visual appearance of maps' status indication.

	<p>Attention needed—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.</p>
	<p>Not operational—when there is an error on the element, for example if a server cannot connect to a microphone or speaker. The default display color is orange.</p>
	<p>Alarms—when an element has an alarm attached to it. The default display color is red.</p>
	<p>Disabled/status unknown—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.</p>
	<p>Ignore status—when an element has a status that does not need attention, for example, if you are already aware of what the issue is. The default color is blue.</p>

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**.

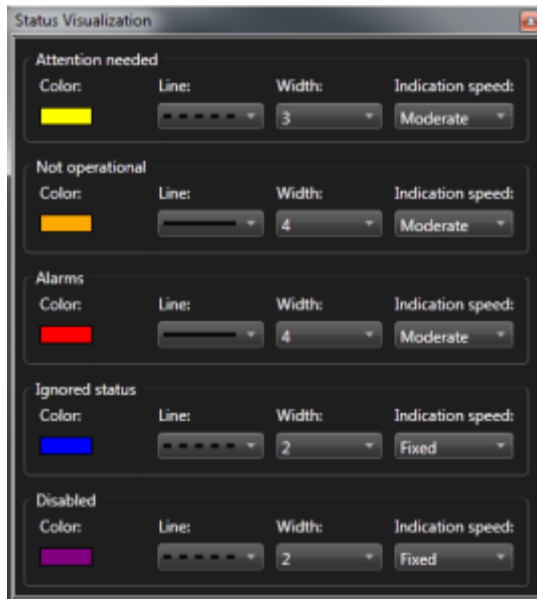


Example of map with status visualization

Change the appearance of status visualization



1. In setup mode, select the map. Right-click the map and select **Status Visualization**.



2. In the **Status Visualization** window, click the **Color** box to launch the **Color Selection** tool, and select a color for the status visualization line, then click the **Color** box again to fill the **Color** box with the selected color.
3. Select a line format from the **Line** list.
4. Select line thickness from the **Width** list.
5. To define how fast the status visualization flashes, select a speed from the **Indication Speed** list.
6. In the **Properties** pane, select **Status Visualization** to enable showing status visualization in live mode.


Tip: The status visualization applies to all maps, you do not need to define the status visualization appearance for each individual map.

Your status visualization settings may take some time to load and display correctly if you connect to a very large surveillance system with many maps. On complex systems, it can take 30 seconds or longer to correctly update status visualization.

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 Map Setup window.
Change Background	Change the map, but keep the elements on the map in their relative positions to each other.
Rename Map	Edit the name of your map.
Icon size	The Icon size drop-down list lets you select the size of new elements added to the map, ranging from Tiny to Very large . You can re-size icons on the map by pulling the sizing handles in the corners of the icons.
Show name	The Name check box lets you enable/disable whether names of elements are displayed when adding new elements. Tip: 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 Name . If you do not want the element name displayed, right-click the name and select Delete Text . Icon size drop-down list lets you select the size of new elements added to the map, ranging from Tiny to Very large . You can re-size icons on the map by pulling the sizing handles in the corners of the icons.
Allow pan & zoom	Select to allow pan and zoom on the map in live mode.
Auto maximize map	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 Timeout . The maximum number of timeout seconds is 99999.
On mouse over	Select to display a live video preview when you move the mouse over a camera.
Use default display settings	Select to define that the preview window looks the same as your other views. Clearing this check box lets you define the Title bar and Video indicator settings for previews. Title bar: select to display a title bar with the name of the camera. Video indicator: select to display the video indicator (see "Camera names and colored indicators" on page 52), which flashes green when the image is updated. You can only select Video indicator if you have also selected Title bar .
Status visualization	Select to graphically display the status of the elements (see "Status visualization" on page 66) added to a map.
Enable status details support	When selected, you can see status details on cameras and servers in live and playback mode.
Automatically change map on alarm	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
Only show on hover	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.

The 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.

Toolbox icons



	Camera	
	Server	
	Microphone	Selecting either Camera, Server, Microphone, Speaker, Event, Interconnected hardware or Output opens the Element Selector with a list of cameras, servers, microphones, speakers, events, or output, allowing you to place these elements on the map.
	Speaker	
	Event	
	Output	
	Interconnected hardware	
	Hot Zone	Activates the hot zone drawing tool, allowing you to place hot zones on the map.
	Text	Opens the text tool, allowing you to place editable text boxes on the map.
	Plug-in	Opens the Element Selector with a list of plug-ins (if used in your organization), allowing you to place a plug-in element on the map.
	Color Picker	Opens the color selection tool, and activates the color picker, allowing you to use a color already existing on the map.
	Color Fill	Opens the color selection tool, allowing you to change the color of texts, backgrounds, hot zones, etc.
	Selector	Activates the selector tool, allowing you to select elements on the map and pan and zoom the map.
	Map Overview	Opens the Map Overview , allowing you to navigate between different maps.

The right-click menu

By right-clicking maps or map elements on the **Setup** tab, you get access to a shortcut menu.

The right-click commands

The content of the shortcut menu differs depending on which map element you right-click. Different features are available from shortcut menus when maps are viewed in setup mode.

- **Remove [...]:** Lets you remove the selected element or map.
- **Center Map Here:** Centers the map around the clicked position
- **Zoom In**
- **Zoom Out**



- **Zoom to Standard Size:** Zooms the map to the standard size it was set up with
- **Home:** Lets you quickly jump to your home map
- **Back:** Lets you quickly return to the previous map
- **Forward:** Lets you quickly go to a map you have viewed earlier in this session
- **(From a PTZ camera preset) Go to Preset [preset]:** Lets you direct the camera to an predefined preset.
- **(From a camera) Live Preview:** Lets you see a live preview from the selected camera.
- **(From a camera) View Zone:** Lets you toggle on and off a fixed camera's view zone that shows the camera's angle of view.


The shortcut menu that appears when you right-click the map also displays other features, such as **Home Map Setup**, **Toolbox**, **Map Overview**, **Element Selector**, **Font Selection**, **Color Selection**, and **Status Visualization**.

Shortcut menus for individual elements (see "How elements interact with maps" on page 64) may have other content.

In addition to the common right-click menu items, the right-click menus of events and output also feature **Select Icon Type**, which lets you select whether the event icon or output should be displayed as a lamp, a door, a gate or a switch. Changing the event/output icon to something more adequate to the actual event/output helps end users more quickly get an overview of the actual contents of the map.

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

The Map Overview window

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 click 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. Clicking 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 are connected to a very large surveillance system with many maps.

Working with maps

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. Milestone Federated Architecture is a system setup with related but physically separate surveillance systems. Such a setup can be relevant for, for example, chains of shops with many separate—but related—surveillance systems.

See the XProtect Comparison Chart on <http://www.milestonesys.com> for information about which surveillance systems support Milestone Federated Architecture.



Add a map to a view

You can add existing maps or create new ones.

1. In setup mode, in the **System Overview** pane, drag the **Map** item to the required position in the view.
2. In the **Map Setup** window that appears, select either **Create new map** or **Use existing map**.

A triangle next to a map name indicates that the map could have one or more sub-maps and all related sub-map(s) with all added elements will automatically be included.


3. In the **Name** field, enter a name for the map. The name will be displayed in the map position's title bar.

Tip: If you leave the **Name** field blank and click **Browse...**, the **Name** field will automatically be filled out with the image file name when you select an image file.

4. Click **Browse...** to browse for the image file to be used as a map.
5. Click **Open** to select image file.
6. Click **OK**.

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. On the Live tab or the Playback tab, select the map that contains the cameras you want to view in a floating window.
2. At the top of the map title bar, click the **Send all cameras to floating window** icon: .

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

If you have more than 25 cameras on a map, when you click this button, it will not always be the same cameras you see.

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 rights). 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: type 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.

Tip: You can use the selector tool from the toolbox to select and move elements on a map, or to pan the map.

Removing elements

To remove an element, right-click the unwanted element (camera, hot zone, server, event, output, microphone, or speaker) and select Remove [element].

Move elements

To move an element, click and drag it to a new position on the map.

Rotate elements

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.



Tip: 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.



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 click the More button and select digital zoom or use the PTZ



(see "PTZ images" on page 112) controls that appear. If you have PTZ presets set up for a particular camera, you can activate the preset 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, when you click this button it will not always be the same cameras you see.

Add a hot zone to a map

1. In setup mode, right-click the map and select **Toolbox** (see "The toolbox" on page 69).
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.

Tip: 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 "Surveillance system differences" on page 38), for technical and performance reasons, a maximum of 20 hot zones on a single map can point to maps from other surveillance system servers than the one to which you are logged in. There is no such limit for hot zones pointing to maps belonging on the server to which you are logged in. Milestone Federated Architecture is a parent/child setup of related but physically separate surveillance systems. Such a setup can be relevant for, for example, chains of shops with many separate—but related—surveillance systems.



Change the appearance of map elements

1. You can change the color of texts, backgrounds, hot zones, etc. on maps to differentiate map elements from each other. 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.
Tip: 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.



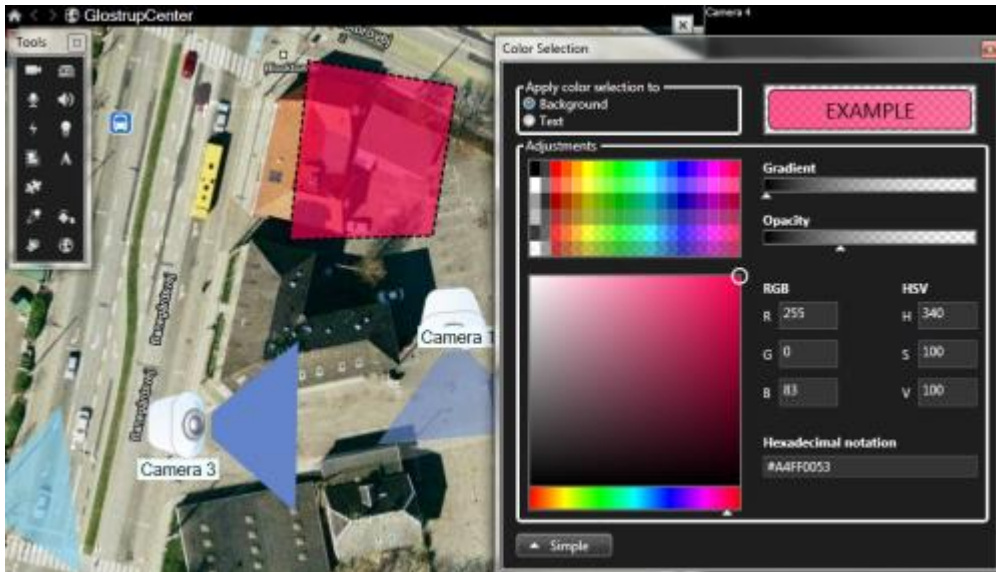
Adjusting Opacity

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.

Use the color slider to select the main color shade, then drag the color circle to select the required tone.

- or -

Type 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 typing in 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 67).



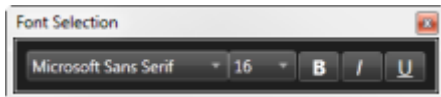
Add/edit text on a map

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.



Tip: 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. Type your text. Press ENTER on your keyboard to make the text box expand downwards.

Tip: You can use the color fill tool to change the text color and background.

Tip: You can move the text box around; select the selector tool, grab the text box on the map and move the text box.

View status details

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 the error message "Event Server has insufficient access rights 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 surveillance system. The Event Server service is managed on the surveillance system server. Contact your surveillance system administrator, who will be able to handle the issue.

Zoom and auto maximize

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 clicking 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.

Tip: 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.

Frequently asked questions: 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 rights). 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.

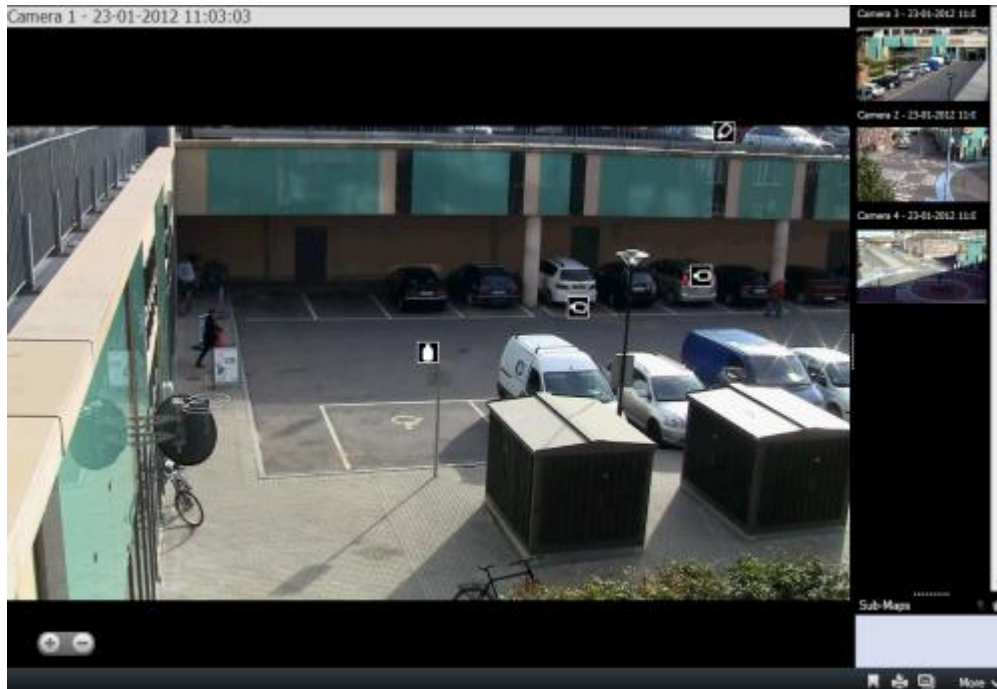
The camera navigator

This feature is only available for selected surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.



About the camera navigator

The camera navigator allows you to see several cameras in relation to each other, for example, as they are laid out according to a floor plan. This can be useful if you would like to follow someone or something from one camera to another, for example, to follow suspects as they move around a building. By setting up your cameras according to their location on a map or floor plan, you can navigate from one camera to the next from a single view.



On the **Live** and **Playback** tabs, you can see the video from the current camera in the camera navigator view, with thumbnail views of all the nearby cameras sorted according to proximity on the pane on the right. When you point to any of the other cameras, either in the main view or the pane on the right, the camera is shown highlighted in red. You can click directly on the camera icons or in the pane on the right to change from one camera to the next.



You can base your views on several maps that link to each other through hot zones, allowing you to follow movement from a camera on one map to another camera on a sub-map, just as you would a person moving from one floor to another or outside your building. The **Sub-Maps** pane gives you access to the cameras set up on maps that are linked via hot zones on a map.

When you click from one camera to the next, a **Back** button appears next to the **Home** button above the camera preview pane. This lets you click back through your camera selection or home to your default camera view. In the **Sub-Maps** view, you can also click **Up** to a previous map or **Home** to your default view.

Camera navigator settings

In the **Properties** (see "**Camera settings**" on page 53) pane, you can specify these settings for the camera navigator.



Name	Description
Home map and camera	Displays the map and default camera that your camera navigator is based on. You can change these settings, by clicking the  button to open the Select Home Map and Camera window.
Maximum camera indicators	Select the maximum number of cameras that you want to include in your main view. Each camera is shown with a camera icon  . You can display an unlimited number of cameras.
Camera indicator orientation	<p>Select Relative to selected camera if you want to display the location and orientation of the cameras as seen from the camera's perspective</p> <p>or</p> <p>Select Relative to map if you want the location and orientation of the cameras to always reflect the layout of the map as seen from above.</p> <p>The selected camera is always the centered one.</p>
Maximum preview cameras	<p>Select the maximum number of cameras that you want to display in your preview pane. Only the cameras that are visible on the screen will use your system's resources. The maximum number of cameras that you can display is 20.</p> <p>Note that the more cameras that you preview, the more of your system resources they will take up.</p>

Using the camera navigator

Before you can use the camera navigator, you must set up a map (see "Add a map to a view" on page 72) and add cameras to it. When you have added the camera navigator to a view (see "Add the camera navigator to a view" on page 80), you can define properties (see "Camera navigator settings" on page 79) for how you want the camera navigator to display the views.

Add the camera navigator to a view

1. In setup mode, set up a new view.

To get the most out of the camera navigator and to be able to see the camera views in the pane on the right, select a 1 x 1 view.
2. In the **System Overview** pane, select and drag the **Camera Navigator** onto your view.
3. In the **Select Home Map and Camera** window that appears, select the map that you want to base your navigation on.
4. Click the camera that you want to select as the default camera whenever you open the **Camera Navigator**, and then click **OK**.




Hotspots

About hotspots


A hotspot lets you view magnified and/or higher quality video from a selected camera in a dedicated position in a view. Hotspots are useful because you can use a low image quality and/or frame rate for cameras in the view's regular positions and a high image quality and/or frame rate for the hotspot. This saves bandwidth on your remote connections.

There are two types of hotspots:

- Global hotspots, which display the selected camera regardless of whether the camera is in the main window or in a secondary display
- Local hotspots, which only display the selected camera of the local display

It is a good idea to have a hotspot in one of the view's larger positions, for example, the large position in a 1+7 view: .

If a position in one of your views contains a hotspot:

- When you click a camera in a view, the hotspot position updates with that camera's feed
- The title bar displays the hotspot icon: 

When you view live or recorded video, you can double-click a hotspot (or any other camera position in a view) to maximize it. When you do this, the video in the hotspot is displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when maximized, in **Setup** mode, in the **Properties** pane, select **Keep when maximized**.

Add a hotspot to a view

1. In setup mode, in the **System Overview** pane, click and drag the **Hotspot** item to the required position in the view.

Tip: Note that the position now displays a hotspot icon:  to indicate that it is a hotspot.

2. Specify the properties for the hotspot (see "Hotspot settings" on page 81) in the **Properties** pane. To save bandwidth, you can specify a low image quality for the other positions in your view and a high quality for the hotspot.

Hotspot settings

In the **Properties** (see "**Camera settings**" on page 53) pane, you can specify the settings for the hotspot. The **Live Stream**, **Image Quality**, **Frame Rate**, and **Maintain Image Aspect Ratio** settings apply to all cameras in the hotspot.



XProtect Smart Wall

About XProtect Smart Wall

This is an add-on product. It is only available for selected surveillance systems (see "Surveillance system differences" on page 38). Your user rights may restrict your access to certain features.

XProtect Smart Wall is a software feature in XProtect Smart Client that allows you to control and send views to collections of wall-mounted monitors (monitor walls or video walls), used by command centers, city surveillance operators, traffic control centers. Such collections of wall-mounted monitors are known as physical video walls as opposed to XProtect Smart Wall which is the software that controls what is shown on the physical video wall.

Use the XProtect Smart Wall functionality on shared monitors to provide an excellent overview for areas in which you monitor a large number of cameras. With XProtect Smart Wall, you can quickly share important video from your view to your organization's video wall by dragging your entire view (or a camera from a map) directly onto the XProtect Smart Wall display.



Example of a physical video wall setup using XProtect Smart Wall.

Events defined on the server can also trigger that one or more cameras configured in your system appear on the physical video wall. For example, if someone opens a door, you can configure XProtect Smart Wall to display the nearest cameras on the physical video wall. You do not need to set up or configure XProtect Smart Wall, it is available from the **Live** and **Playback** tabs (depending on your user rights).

View XProtect Smart Wall content

You can view XProtect Smart Wall content on the **Live** and **Playback** tabs.

The XProtect Smart Wall monitor only displays live video, even if you are viewing recorded video in XProtect Smart Client. Similarly, if you drag XProtect Smart Client views or cameras from maps onto a graphical representation of a Smart Wall, the actual Smart Wall monitors also only display live video, not recorded video.



- In the **Views** pane, expand **Smart Walls**, expand the required Smart Wall folder, then select the relevant monitor.

User rights may in some cases prevent one or more cameras from being displayed on video walls or in your XProtect Smart Client.

Note: If your organization uses XProtect Smart Wall, your XProtect Smart Client views may contain positions in the view with graphical representations of your video walls. Such positions have a number of advantages, such as the ability quickly to display important video on your organization's video walls by dragging entire XProtect Smart Client views, or single cameras from maps, directly onto the graphical representations of Smart Wall setups.

Add a Smart Wall setup to a view

1. In setup mode, select a new or existing view. Wide layouts are especially suitable for displaying XProtect Smart Wall content.
2. In the **System Overview** pane, drag the **Smart Wall** link to the relevant position in the view.
3. The position in the view now contains a graphical representation of the XProtect Smart Wall setup.

If your organization has more than one Smart Wall setup, select the relevant Smart Wall setup from the Smart Wall menu that appears at the top of the graphical representation.

If the relevant Smart Wall setup has several presets (predefined settings determining which cameras are displayed as well as how content is structured on each monitor on the video wall), select the relevant preset in the **Preset** menu.

The Smart Wall and **Preset** menus also appear on the **Live** and **Playback** tabs, so users can afterwards select different Smart Walls and/or presets if required.

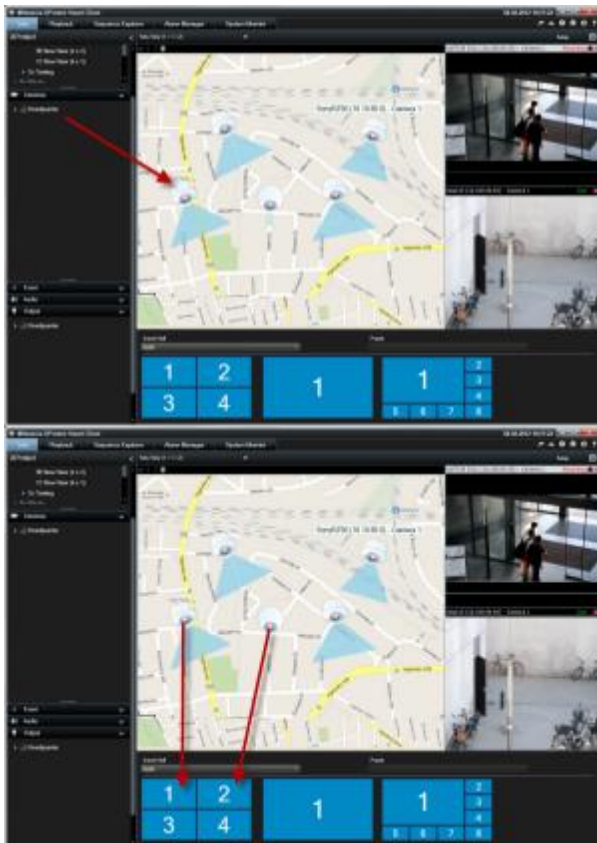
If the **Preset** menu shows **Select Preset...** after you have made a selection, your setting is applied. However, other users may have changed the preset manually or predefined rules on the surveillance system may have changed it automatically.



The bottom of the 1+1+2 view provides a wide position ideal for displaying XProtect Smart Wall content. The 1x3 view can graphically represent three different Smart Wall setups at the same time.

Drag cameras into XProtect Smart Wall setups

- To display relevant cameras on your Smart Wall setup, drag (click and hold down the mouse button) the camera from the **Live** tab, in the **Cameras** pane onto a monitor in your XProtect Smart Wall setup.

If your organization uses the Map feature, you can display relevant cameras on your organization's Smart Wall setups by dragging the cameras from the map onto the graphical representation of the Smart Wall setup. You can also drag cameras from maps in other views, such as floating views or views on secondary displays.



In the **Cameras** pane, the list of cameras is grouped by server . If a server is listed with a red icon  it is unavailable, in which case you cannot select cameras from that server.

Send content from a view to a Smart Wall setup

- On the camera toolbar, click **More > Send to Smart Wall**, select the Smart Wall setup, select the monitor, and then select the position on the monitor.

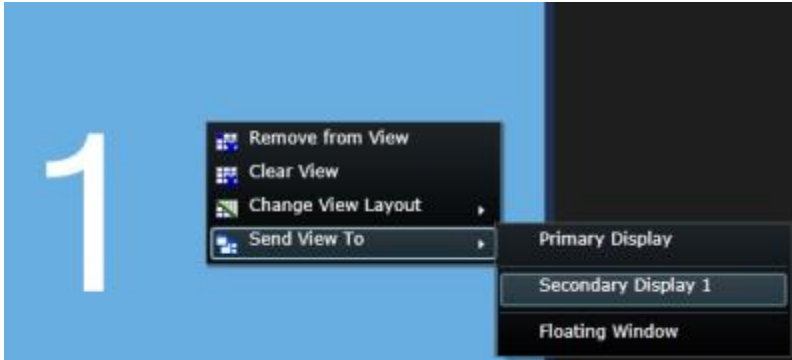


Send video from a Smart Wall to a view

Just as you can send video between views in the XProtect Smart Client (see "Send video between views" on page 48), you can also send video from individual monitors in a Smart Wall setup to views in your XProtect Smart Client.



- In the graphical representation of XProtect Smart Wall, right-click the relevant monitor, select **Send View To**, and then select the destination (**Primary Display**, **Secondary Display**, or **Floating Window**).



Change the layout of a Smart Wall monitor

There are several ways you can change the content and layout of monitors in XProtect Smart Wall:

- You can send a camera from an existing XProtect Smart Client view, private as well as shared, to a Smart Wall setup. Right-click the camera in the view, select **Send to Smart Wall**, the Smart Wall setup, the monitor, and then the relevant position in the view.





- You can quickly display an existing view (private or shared) from your XProtect Smart Client on a monitor on the XProtect Smart Wall setup by dragging the view from the **Views** pane directly onto the monitor in the graphical representation of the XProtect Smart Wall.



- In the graphical representation of the XProtect Smart Wall, right-click the relevant monitor, select **Change View Layout**, select the display format (4:3 or 16:9), and then select the view layout.
- Select a different preset for the Smart Wall setup (note that this may affect all monitors in the XProtect Smart Wall setup.)

Remove content from Smart Wall setups

You can quickly remove video (the entire monitor content or individual positions in a view) displayed on XProtect Smart Wall monitors, for example, video containing sensitive information from the XProtect Smart Wall setup.

Remove the entire content of a monitor

- In the graphical representation of XProtect Smart Wall, right-click the monitor and select **Clear View**. This removes all video from the monitor while keeping the monitor's layout.

Remove video from a view item

- In the graphical representation of XProtect Smart Wall, right-click the view item on the monitor and select **Remove from View**. This removes video from the view item while keeping the monitor's other video content and layout.


Other users may manually alter the content displayed on the graphical representation of XProtect Smart Wall. Predefined rules in the surveillance system may do the same automatically. So, even though you can manually remove content from the XProtect Smart Wall setup, the content may reappear on the Smart Wall later. Contact your administrator if



you want to prevent certain content from appearing on XProtect Smart Wall-controlled video walls.

Carousels

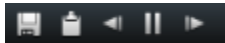
About carousels

A carousel is used for displaying video from several cameras, one after the other, in a single position in a view. You can specify which cameras to include in the carousel as well as the interval between camera changes. Carousels are displayed with the carousel icon on the toolbar: .

360° lens cameras cannot be included in a carousel.


You can maximize a carousel by double-clicking the carousel position. When you do this, video from cameras included in the carousel is by default displayed in full quality, regardless of your image quality selection. This default cannot be overridden for carousels.


Place your mouse over the carousel toolbar to access the carousel buttons that let you copy the current carousel image to your clipboard, take a snapshot, pause or play the carousel, or step forward or backward in the camera sequence.



You can use digital zoom and PTZ controls from a carousel if the camera supports this. When you use the PTZ (see "PTZ images" on page 112) or digital zoom controls that appear, the carousel pauses automatically.

Add a carousel to a view

1. In setup mode, in the **System Overview** pane, click and drag the **Carousel** item to the position in the view.
2. In the **Carousel Setup** window, on the left, click to expand the servers  and then click to select the camera you want to include in the carousel. Click Add. Repeat for each camera you want to include in the carousel.

If a server has a red icon , it is unavailable, in which case you will not be able to view a list of cameras from that server.

3. To determine the sequence the cameras appear in the carousel, in the **Selected cameras** list, select the camera and move up or down .
4. Enter the number of seconds each camera appears in the carousel, either with a common default or individually for each camera.
5. Click **OK** to close the **Carousel Setup** window.

If you want to adjust your carousel settings, click **Setup**, and in the **Properties** pane on the left, click **Carousel Setup** to open the **Carousel Setup** window and make the necessary changes to your settings.



Carousel settings

In the **Properties** (see "**Camera settings**" on page 53) pane, you can specify the settings for the carousel. The **Live Stream**, **Image Quality**, **Frame Rate**, and **Maintain Image Aspect Ratio** settings apply to all cameras in the carousel.


Multiple windows


This feature is only available for selected surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.

You can send individual views to separate windows or displays, while keeping the main window of the XProtect Smart Client in the background, so you can watch several views simultaneously. The selected camera or item is always displayed with a blue border.

You can send any view to:

- A primary display to show the view in a separate full-screen window on your computer's main display with the main window hiding behind it.
- A secondary display to show the view in a full-screen window on another monitor (if available).
- A floating window to show the view in a small separate window. You can use any number of floating windows and you can resize these to suit your needs.

The primary and secondary display show the window in full screen with the tabs and controls hidden. To display the tabs and controls, click the **Full screen** icon: .

The floating window shows the selected view, with the **Live** and **Playback** tabs. You can select a new view from the toolbar by clicking the dropdown button. You can toggle between displaying the floating window as a full-screen with no tabs and as a smaller floating window with tabs by clicking the **Full screen** icon: . You can also choose to link the floating window to the main window to synchronize time or to follow the **Live** or **Playback** tab.

Your view setup is stored in the XProtect Smart Client, so next time you log in, you can reuse it. However, this only applies to the computer on which you set it up. If you want to use multiple windows with the XProtect Smart Client on more than one computer, you must configure your multiple window setup on each computer.



Primary display



Example of a view sent to the **Primary display**. While you are viewing the separate full screen window, the main XProtect Smart Client window is hidden behind it.

Secondary display



Example of an 8x8 view sent to a **Secondary display**. In this example, the main XProtect Smart Client window is available on the left display.

Floating window

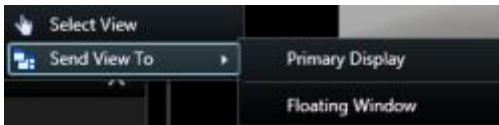


Example of a view sent to a **Floating window**. The main XProtect Smart Client window is immediately available behind the floating window.



Send a view between displays

1. In the **Views** pane, right-click the relevant view (or in the **Cameras** pane, the camera in the view).
2. Click **Send View To** and then select where you want your view to display.



If more secondary displays are available, they will be numbered.

3. Click **Link window** to synchronize your view in the floating window with that of your main view. If you link the floating window, the corresponding timeline is not displayed in your floating window but is included in the timeline on the main window.
4. To close a separate view window, click the **Close** button in the right corner of the window:



If a view is sent to Primary Display or a Secondary Display the title bar is hidden. To display the title bar and get access to the Close button, move your mouse to the top of the view.

Any hotspots, carousels, Matrix positions, still images or HTML pages included in the view will work as usual in a floating window.

Frequently asked questions: multiple windows

How many secondary displays can I use?

In the XProtect Smart Client there is no limitation. However, the number of secondary displays you can use depends on your hardware (display adapters, etc.) and your Windows version.

I want to close a view sent to Primary Display or a Secondary Display; where is the Close button?

In order to allow the maximum possible viewing area, the title bar of a view sent to primary display or a secondary display is hidden. To show the title bar, and get access to the Close button, move your mouse pointer to the top of the view.

I watch the same carousel in two different windows; why are they out of sync?

A carousel changes cameras at a specific interval, configured in setup mode. Example: With an interval of 10 seconds, the carousel will show Camera 1 for 10 seconds, then Camera 2 for 10 seconds, etc. The timing begins when you start watching a view containing the carousel. When you later begin watching the same carousel in another view, perhaps even in another window or another display, the timing for that instance of the carousel begins. This is why the carousel appears to be out of sync: in reality, you are watching two separate instances of the carousel. For more information, see [Carousel properties](#) (see "Carousel settings" on page 88).



Matrix


The ability to add Matrix content to views is only available when connecting to selected surveillance systems (see "Surveillance system differences" on page 38). Matrix is only available if Matrix has been configured on your surveillance system, and you have the required user rights.

About Matrix

Matrix is a feature that lets you send or receive video from any surveillance system camera to any monitor (known as a Matrix-recipient) on a network. A typical Matrix configuration automatically presents live video on the required Matrix-recipient when a defined event occurs, for example, when motion is detected or when another user wants to share important live video. Provided Matrix has been configured on the surveillance system server, you can include Matrix content in your XProtect Smart Client views. When a particular event occurs, or another user wants to share video with you, live video will automatically appear in your Matrix views.

Viewing Matrix content

The event or the camera used in the Matrix setup depends entirely on the Matrix configuration on the surveillance system server or on what other users want to share with you. You cannot control this in XProtect Smart Client. However, you can add Matrix content to as many positions in the view as required, so you can watch live video from several Matrix-triggered sources at the same time.

A Matrix position is displayed with a Matrix icon on the toolbar: . You can maximize a Matrix by double-clicking it.

A view can contain several Matrix positions. This lets you watch live video from several Matrix-triggered sources at the same time. If your view contains several Matrix positions, the positions are always ranked—one of the positions will be the primary Matrix position, another the secondary, and so on. When the first Matrix-triggered live video stream is received, it is automatically presented in the primary Matrix position. When the next Matrix-triggered video stream is received, a first-in-first-out principle applies: the previously received video stream is transferred to your view's secondary Matrix position, and the newest video stream is presented in your primary Matrix position, and so on. The Matrix positions' ranking is applied automatically: the first Matrix position you add is the primary Matrix position, the next one you add is the secondary one, and so on. You can change this ranking in setup mode, see Matrix properties (see "Settings" on page 91).

On the **Playback** tab, Matrix positions display video from the cameras with which the Matrix positions were last used on the **Live** tab. You can, of course, play back this video using the **Playback** tab's navigation features.

Settings

In setup mode, in the **Properties** (see "Camera settings" on page 53) pane, you can specify the settings for Matrix positions.



Name	Description
Window index	Change the Matrix position's ranking by choosing a different number. You can only choose a number in the range that corresponds to the number of Matrix positions in your view. 1 is the primary position in which video from the newest event is always shown, 2 displays video from the previously detected event, 3 displays video from the event detected before the event in position 2 , and so on.
Connection Settings...	Lets you specify the TCP port and Password for transferring Matrix-triggered video from the surveillance server to the XProtect Smart Client view. This is only available when Matrix position 1 is selected; other Matrix positions inherit the connection settings specified for position 1 . By default, the TCP port used for Matrix is 12345. Consult your surveillance system administrator about which port number or password to use.

Add Matrix content to a view

1. In setup mode, in the **System Overview** pane, drag the **Matrix** item to the position in the view where you want to add Matrix content. A blue border appears indicating that the position in the view has Matrix content.
2. When you select a Matrix position, you can specify its properties in the **Properties** pane.

When viewing live or recorded video, you can double-click a Matrix position (or any other camera position in a view) to maximize it. When maximized, video from cameras in the Matrix position is displayed in full quality by default, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when maximized, select **Keep when maximized**.

3. Repeat for each Matrix position you want to add.

Manually send video to a Matrix recipient

You cannot send video to a hotspot (see "About hotspots" on page 81) or carousel (see "About carousels" on page 87).

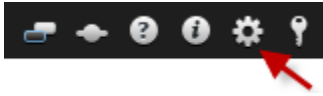
1. Select the view.
2. On the camera toolbar, click **More > Matrix**, and then select the relevant Matrix recipient.

Options window

The **Options** 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 XProtect Smart Client tabs. For languages where you normally read and write from right to left, you can choose to enforce a visual left-to-right interface if needed.



Open the **Options** window by clicking the **Options** button in the application toolbar:




Application options

Application options 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 server's recommended settings. Certain settings are server-controlled, in which case, configuration on the server decides whether you can override the settings.



Name	Description
<p>Application maximization</p>	<p>Select how the XProtect Smart Client reacts when you maximize it by clicking the Maximize/Restore button in the application toolbar. If you select Maximize to full screen, the XProtect Smart Client will cover any Windows task bar on your screen when maximized.</p>  <p>Maximization is not the same as full screen viewing (see "View in full screen" on page 31).</p>
<p>Camera error messages</p>	<p>Select how the XProtect Smart Client displays camera-related message texts. These can be displayed as an overlay on top of the camera image or on a black background. You can also choose to hide such messages completely.</p>
<p>Server error messages</p>	<p>Select how the XProtect Smart Client displays server-related message texts. These can be displayed as an overlay or hidden completely.</p>
<p>Default for video indicator</p>	<p>Select whether to show or hide the flashing green video indicator on the camera title bar. The indicator changes state every time a new image is received from the camera, which makes it easy to see that video is live.</p> <p>You can override this setting on individual cameras by adjusting camera properties (see "Camera settings" on page 53) for the camera(s) in setup mode.</p>
<p>Default for camera title bar</p>	<p>Select whether to show or hide the camera title bar. The title bar displays the name of the camera and the colored indicators (see "Camera names and colored indicators" on page 52) signifying events, detected motion, and video.</p> <p>You can override this setting on individual cameras by adjusting camera properties (see "Camera settings" on page 53) for the camera(s) in setup mode.</p>
<p>Show current time in title bar</p>	<p>Select whether to show or hide the current time and date (of the computer running the XProtect Smart Client) in the title bar.</p>
<p>Show in empty view positions</p>	<p>Select what to show if there are empty positions in views, for example, you can select a logo or have just a black background displayed.</p>
<p>View grid spacer</p>	<p>Select the thickness of the border between camera positions in views.</p>



Name	Description
Default image quality	<p>Select a default for the quality of video viewed in the XProtect Smart Client. 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 Low or Medium.</p> <p>You can override this setting on individual cameras by adjusting camera properties (see "Camera settings" on page 53) for the camera(s) in setup mode.</p>
Default frame rate	<p>Select a default frame rate for video viewed in the XProtect Smart Client.</p> <p>You can override this setting on individual cameras by adjusting camera properties (see "Camera settings" on page 53) for the camera(s) in setup mode.</p>
PTZ click mode	<p>Select 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.</p>
Start mode	<p>Select how the XProtect Smart Client opens after you have logged in. Options are full-screen mode, window mode or your last used mode.</p>
Start view	<p>Select whether the XProtect Smart Client displays a view immediately after you have logged in. Options are: the view you last used, no view, or that you decide after you have logged in.</p>
Hide mouse pointer	<p>Lets you select 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"> • Never • After 5 seconds • After 10 seconds • After 20 seconds • After 30 seconds <p>If you move the mouse after a period of inactivity, it is enabled immediately.</p>
Snapshot	<p>Specify whether you want the snapshot feature to be available or unavailable. A snapshot is an instant capture of a frame of video from a camera at a given time.</p>
Path to snapshots	<p>Specify the path indicating where you want your snapshots to be saved to.</p>



Panes options

The **Panes** options 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 rights or the surveillance system (see "Surveillance system differences" on page 38) 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 server's recommended settings. Certain settings may already be server-controlled, in which case configuration on the server decides whether you can override the settings.

Functions options

The **Functions** options let you specify the functions (for example, playback on the **Live** tab) 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 server's recommended settings. Certain settings are server-controlled, in which case configuration on the server decides whether or not you can override the settings.

Functions:



Name	Description
Live > Camera playback	The ability to play back recorded video from individual cameras on the Live tab.
Live > Overlay buttons	The ability to view and use overlay buttons on the Live tab for activating speakers, events, output, moving PTZ cameras, clearing indicators from cameras, etc.
Live & Playback > Bookmark overlay button & view position toolbar	<p>Select whether you want to add quick or detailed bookmarks (see "About bookmarks" on page 114) from the view position toolbar or through ready-made overlay buttons on the Live and/or the Playback tab. Note that enabling/disabling this option on the Playback tab will control whether or not the corresponding button is enabled on the Sequence Explorer tab.</p> <p>The bookmark feature is only available if connected to certain surveillance systems (see "Surveillance system differences" on page 38). Depending on your user rights, access to adding bookmarks from some cameras may be restricted. Note that you may be able to view bookmarks even though you may not be able to add them, and vice versa.</p>
Live & Playback > Print	The ability to print from the Live and Playback tab. Note that enabling/disabling this option on the Playback tab will control whether or not the corresponding button is enabled on the Sequence Explorer tab.
Live & Playback > Bounding boxes	<p>The ability to show bounding boxes on live video on the Live tab or on recorded video on the Playback tab on all cameras. Bounding boxes are used for, for example, tracking objects.</p> <p>The bounding box feature is only available if connected to certain surveillance systems (see "Surveillance system differences" on page 38) and to cameras that support metadata. Depending on your user rights, access to bounding boxes from some cameras may be restricted.</p>
Playback > Independent playback	The ability to play back recorded video from individual cameras independently on the Playback tab, where all cameras in a view otherwise by default display recordings from the same point in time (the playback time).
Setup > Edit overlay buttons	The ability to add new or edit existing overlay buttons in setup mode. Note that in order to add overlay buttons, the Setup tab's Overlay Buttons pane must also be made available (you manage this on the Options dialog's Panes tab).
Setup > Edit video buffering	The ability to edit video buffering as part of the camera properties (see "Camera settings" on page 53) in setup mode. Note that in order to edit video buffering, the Setup tab's Properties pane must also be made available (you manage this on the Options dialog's Panes tab).



Timeline options

The **Timeline** options let you specify your general timeline settings.

If available, the **Follow Server** column lets you specify that you want your XProtect Smart Client to follow the server's recommended settings. Certain settings are server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
Incoming audio	Select to show or hide incoming audio on the timeline
Outgoing audio	Select to show or hide outgoing audio on the timeline.
Bookmarks	Select whether to show or hide bookmarks on the timeline.
Motion indication	Select whether to show or hide motion indication on the timeline.
All cameras timeline	Select whether to show or hide the timeline for all cameras.
Playback	Select whether or not to skip gaps during playback.

Export options

The Export options let you specify general export settings.

If available, the Follow Server column lets you specify that you want your XProtect Smart Client to follow the server's recommended settings. 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 you want to export to.
Privacy mask	Select whether or not privacy masks are available on export.
Media player format	Select whether or not you can export in media player format.
Media player format - video texts	Select whether you want video texts to be optional, required or unavailable when you export in media player format.
XProtect format	Select whether or not you can export in XProtect format.
XProtect format - project comments	Select whether you want project comments to be optional, required or unavailable when you export in XProtect format.
XProtect format - device comments	Select whether you want device comments to be optional, required or unavailable when you export in XProtect format.
Still image export	Select whether or not you can export still images.

Keyboard options

Keyboard options 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 standard keyboard shortcuts (see "Keyboard shortcuts" on page 35), immediately ready for use.



Name	Description
Press shortcut key	Enter the key combination you want to use as a shortcut to a particular action.
Use new shortcut in	Select to define how you want to apply the shortcut: <ul style="list-style-type: none"> • Global: On all of the XProtect Smart Client tabs. • Playback mode: Only on the Playback tab. • Live mode: Only on the Live tab. • Setup mode: Only in setup mode.
Categories	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 Views.All category. 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.
Parameter	If relevant, specify a parameter for the command or action. For example, if you want to specify the window and view position for the Copy the selected camera view item parameter, enter 2;1 to have the camera copied to the floating window (window 2), in the first view position (view position 1).

Joystick options

Even though joystick control is supported for a large number of PTZ cameras, not all PTZ cameras may be joystick-controlled.

When a new joystick is detected by the XProtect Smart Client, a default pan-tilt-zoom (PTZ) configuration for the joystick is added automatically. However, the Joystick options let you customize the setup for all your XProtect Smart Client joysticks.



Name	Description
Select joystick	Select from the list of available joysticks.
Axis setup: Name	<p>There are three axes:</p> <ul style="list-style-type: none"> • X-axis (horizontal) • Y-axis (vertical) • Z-axis (the depth or zoom level).
Axis setup: Invert	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.
Axis setup: Absolute	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).
Axis setup: Action	Select the function for an axis: Camera PTZ Pan, Camera PTZ Tilt, Camera PTZ Zoom, or No action.
Axis setup: Preview	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.
Dead zone setup: Pan/Tilt	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 Axis setup preview to test the effect of your dead zone settings.
Dead zone setup: Zoom	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 Axis setup preview to test the effect of your dead zone settings.
Button setup: Name	The name of the button.
Button setup: Action	Select one of the available actions for the required joystick button.
Button setup: Parameter	If relevant, specify a parameter for the command or action. For example, if you want to specify the window and view position for the Copy the selected camera view item parameter, enter 2;1 to have the camera copied to the floating window (window 2), in the first view position (view position 1).
Button setup: Preview	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.



Access control options

Select whether or not you want access request notifications to pop up in XProtect Smart Client.

Alarm options

Select whether or not you want alarms to play sound notifications.

Advanced options

The **Advanced** options let you customize advanced XProtect Smart Client options. If you are not familiar with the advanced options and how they work, just keep their default settings. If connected to certain types of surveillance systems (see "Surveillance system differences" on page 38), you will see a **Follow Server** column, which you can use for making your XProtect Smart Client follow the surveillance system server's recommended settings. 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.

Advanced options:



Name	Description
<p>Maximum decoding threads</p>	<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—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 type of computer you use, the number of cameras you need to view, and on their resolution and frame rate.</p> <p>Normal means that no matter how many cores your computer has, it will only use one core per camera position.</p> <p>Auto is the default setting. Auto means means that the computer uses as many threads per camera position 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> <p>This setting affects all camera positions, in all views, in live as well as playback mode. You cannot specify the setting for individual camera positions or views. Because this setting may not be equally ideal for all of your camera positions 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>



Name	Description
<p>Deinterlacing</p>	<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>No filter 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>Vertical stretch top field: 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 No filter option because only half the number of lines will need post-processing.</p> <p>Vertical stretch bottom field: 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 No filter option because only half the number of lines will need post-processing.</p> <p>Content adaptive: 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 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 No filter option because the total CPU cost per decoded and rendered frame is increased by around 10%.</p>
<p>Time zone</p>	<p>Select a predefined time zone or a custom time zone. The available options are:</p> <p>Local: the time zone of the computer running the XProtect Smart Client</p> <p>Master Server's time zone: the time zone of the server</p> <p>UTC</p> <p>Custom time zone: if you want a particular time zone, select this option and then select from the list of available time zones in the Custom time zone field.</p>



Name	Description
Custom time zone	If you have selected Custom in the Time zone 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.
PDF report format	Select A4 or letter format for your PDF reports. You can create reports of events from, for example, XProtect Access Control Module.
PDF report font	Select a font to be used in your PDF reports.

Language options

Specify the language version of your XProtect Smart Client. Select from the list of available languages and then restart the XProtect Smart Client for the change to take effect.

Use an HTML page for navigation

In addition to displaying video, the XProtect Smart Client is able to display static images and HTML pages. Such HTML pages may be used for intuitively switching between different views in the XProtect Smart Client.

For example, you may insert a clickable floor plan of a building, and you would be able to simply click a part of the floor plan to instantly switch to a view displaying video from the required part of the building.

In the following, you will see examples of HTML pages for XProtect Smart Client navigation: a simple HTML page with buttons, and a more advanced HTML page with a clickable image map. For surveillance system administrators wishing to create and distribute such HTML pages to XProtect Smart Client users, a check list outlining the tasks involved is also provided.

Tip: The XProtect Smart Client is highly flexible when it comes to customizing navigation and other features. For advanced users it is possible to create approximately 100 different function calls in the XProtect Smart Client.

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 tabs: Live and Playback**

Bear in mind that, depending on their user rights, some users may not be able to access all tabs.

Required HTML syntax:

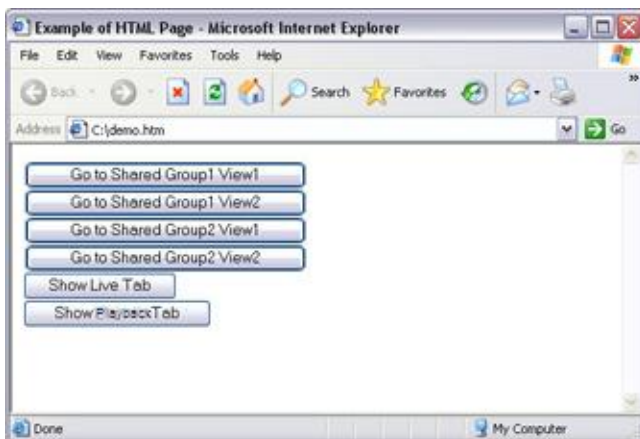
Live tab: `<input type="button" value="Buttontext"
onclick="SCS.Application.ShowLive();">`

Playback tab: `<input type="button" value="Buttontext"
onclick="SCS.Application.ShowPlayback();">`

Tip: 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. See [Scripting](#) for more information.

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 two of the XProtect Smart Client's tabs, **Live** and **Playback**. When viewed in a browser, our HTML page looks like this:



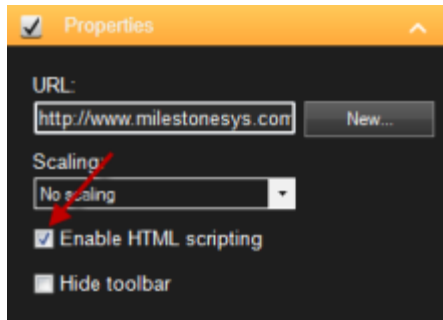
HTML page with buttons for navigating between views and tabs

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 because of security features in Internet Explorer.

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. When importing the HTML page, we made sure to select **Enable HTML scripting** in the HTML page's **Properties** in setup mode.

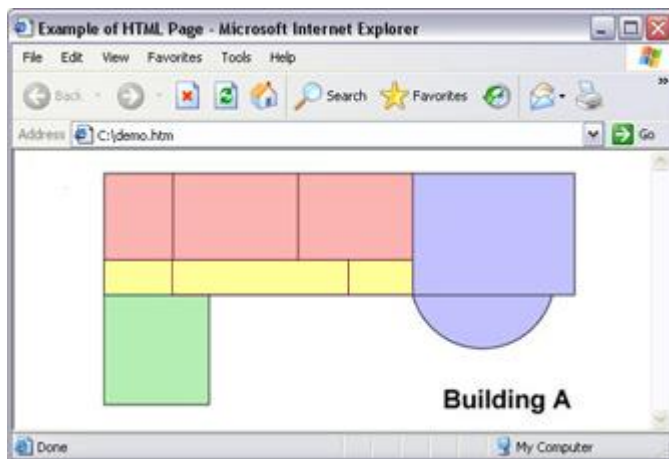


Selecting **Enable HTML scripting** ensures that the scripting required for the buttons to work is automatically inserted in the HTML page.

Example of an HTML page with image map navigation

You can also 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 . The two important things to remember are:

- The HTML page should be stored locally on the user's PC



- You should make sure HTML scripting is enabled on the HTML page when importing it

To import the HTML page:

1. In setup mode, in the **System Overview** pane, drag the **HTML Page** item to the required position in the required view.
2. In the **Open URL** window, specify the HTML page.
3. Select the position in the view, and in the **Properties** pane, select **Enable HTML scripting**.

Selecting **Enable HTML scripting** ensures that the scripting required for your buttons or other navigation features to work is automatically inserted in the HTML page.

4. Depending on the navigation features you have included on your HTML page, you may often want to import the HTML page into several views in order for the navigation to fully work.

System administrator's check list

Surveillance system administrators wanting to create and distribute navigation HTML pages to XProtect Smart Client users, 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 Clients. 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 XProtect Smart Client views in which it will be used. Having imported the HTML page, select its position in the view, go to the **Setup** tab's **Properties** pane, and verify that **Enable HTML Scripting** is selected.
4. **Test** that the navigation controls on the imported HTML page work as intended.
5. **Enjoy** simple and intuitive XProtect Smart Client navigation, tailored to meet your organization's needs.

Troubleshooting

If your HTML navigation page does not work as intended, consider the following:

- Have you used the correct syntax in your HTML?
- Have you selected **Enable HTML Scripting** after importing the HTML page?
- Does the intended audience have the rights to required benefit from the HTML navigation page? Bear in mind that depending on their user rights, some users may not have access to certain cameras, views, features or tabs in their XProtect Smart Client.



Viewing

Digital zoom

About digital zoom

Digital zoom lets you magnify a portion of a given image so you are able to have a closer look at it. Digital zoom is therefore a useful feature for cameras that do not have their own optical zoom capabilities. Your use of digital zoom will not affect any recording of the video; any recording will still take place in the camera's regular format. If you later wish to play back the recordings, you can use digital zoom on the **Playback** tab as well.

For non-PTZ cameras, digital zoom is enabled by default. If you enable or disable digital zoom on one camera, all cameras in your view are affected. For PTZ cameras, this setting only applies to one camera at a time.

When you export evidence (see "XProtect format settings" on page 144), you can choose to export the regular images or the digitally zoomed images in AVI or JPEG formats. When you export to database format, this is unavailable, because the recipient can use digital zoom on the exported recordings. If you print (see "Print evidence" on page 132) an image on which you have used digital zoom, the digitally zoomed area of the image will be printed.

Use digital zoom

1. On the **Live** or **Playback** tab, in a carousel or in a map preview, on the camera toolbar, click **More > Digital zoom** to enable it.



Tip: If you don't want the camera toolbar to pop up when you move your mouse over the view, press and hold the CTRL key while moving the mouse.

A small overview frame (the zoom indicator) appears in the bottom right corner of the view, providing an overview of the full image when you zoom in on an area.





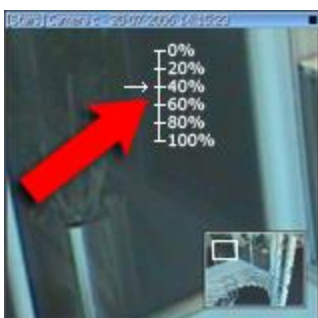
2. Click and hold down the mouse button inside the image to zoom. The area you select is highlighted by a white border. When you release the mouse button, the zoom will take effect.



3. If you want to move to other areas of the image while maintaining your zoom level, in the overview frame, drag the highlighted area to the required position.



4. To adjust the zoom level using the zoom level slider, press and hold down the SHIFT key, click inside the image and while holding both down, move your mouse up or down the zoom level slider.



5. Selecting a zoom level of **0%** lets you view the full image again.

Tip: If your mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the full image again.

Frequently asked questions: digital zoom

What is the difference between optical and digital zoom?

With optical zoom, a camera's lens physically moves to provide the required angle of view without loss of image quality. 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. Digital zoom simulates optical zoom, but the digitally zoomed portion will have a lower quality than the original image.

Is digital zoom relevant for PTZ cameras?

When viewing live video from a pan-tilt-zoom (PTZ) camera, you can use the PTZ camera's own optical zoom features, so digital zoom is not highly relevant for PTZ cameras. You can, however, use the digital zoom feature if, for example, your user rights do not allow you to use the PTZ camera's own optical zoom features.

Why can't I see any navigation buttons?

If the camera you are viewing video for is not a PTZ camera, you will only be able to zoom in on an area of the image and you will only see the zoom buttons. Once you have zoomed in on an area of the image, you will have access to the PTZ navigation buttons, which let you navigate within this zoomed area.

PTZ and 360° lens images

Use of 360° cameras is not supported by all surveillance systems and some 360° cameras are not supported by the 64-bit version of Microsoft Windows. Depending on your user rights, access to PTZ controls from some cameras may be restricted. PTZ features may be limited when connecting to selected surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.

360° lens images

If your views include 360° cameras or lenses, you can navigate 360° cameras images by clicking either the arrow mouse pointer (the virtual joystick) or the PTZ navigation buttons that appear inside the image (some types of 360° cameras have their own zoom buttons). The PTZ middle navigation button lets you quickly move the camera to its default position. Zoom in and out using the **plus** and **minus** buttons. If your mouse has a scroll wheel, you can use scroll to zoom in and out; click the scroll wheel or middle mouse button to return to the default view.



The PTZ navigation buttons and the virtual joystick mouse pointer



On individual mice, the scroll wheel may have been reserved for special purposes, in which case zooming may not be possible. Refer to your mouse configuration manual.

You cannot use presets (see "Select a PTZ preset" on page 112) for navigating 360° lens images but you can save a favorite position.

Define a favorite 360° lens position

You can only save positions for 360° lens cameras.

1. Navigate to the position in the 360° lens image that you want to save.
2. On the camera toolbar, click **More > Save 360° Lens Positions** to save the position.



3. When you want to return to the 360° lens position, on the camera toolbar, click **More > Load 360° Lens Positions**.

PTZ images

If your views (including those in a carousel or a map preview) contain pan-tilt-zoom (PTZ) camera images, you can control the PTZ cameras using the overlay PTZ navigation button. In setup mode, in the **Properties** pane, you can define whether you want PTZ click mode for the position in the view to be default, click-to-center, or virtual joystick. Your XProtect Smart Client options (see "Options window" on page 92) define whether your default is virtual joystick or click-to-center.

Tip: You may be able to use a joystick for controlling your PTZ cameras. Joystick control can be customized (see "Joystick options" on page 100). Even though joystick and point-and-click control is supported for a large number of PTZ cameras, not all PTZ cameras may be controlled this way.

Many PTZ cameras can be controlled simply by pointing and clicking inside the images from the camera. If you see a set of cross hairs when placing your mouse pointer over the images from a PTZ camera, point-and-click control is supported for the camera.



Cross hairs indicate point-and-click control. For some cameras, cross hairs may look different.

For some cameras, cross hairs surrounded by a square may be displayed. When this is the case, you can zoom in on an area by dragging a square around the area in the image you want to magnify. For such cameras, zoom level is controlled by holding down the SHIFT key on your keyboard while moving the mouse up or down; this will display a zoom level slider inside the image.

Select a PTZ preset

To make the PTZ camera move to a predefined position, you select a preset from the list of available positions defined for the PTZ camera.

1. On the **Live** tab, on the camera toolbar, click the PTZ icon to open PTZ preset menu.





2. Select a preset in the menu to move the camera to the required position.

Selecting the preset **Home** will move the camera to its default position.

Manage PTZ presets

Important: You can use the Manage PTZ presets functionality with the following XProtect product versions: XProtect Enterprise 2013+, XProtect Professional 2013+, XProtect Express 2013+, XProtect Essential 2013+ and XProtect Go 2013+.

1. In the view, select the relevant PTZ camera where you want to add a new PTZ preset.
2. On the camera toolbar, use the PTZ buttons to navigate to the required position. Alternatively, you can use the image preview in the **Manage PTZ Presets** dialog to navigate in the image.
3. On the camera toolbar, click **PTZ presets**.
4. Click **Manage PTZ presets** to open the **Manage PTZ Presets** dialog.
5. Click **Add**. A new preset entry with the default name **New Preset** is added to the bottom of the preset list.
6. Ensure the preset name is highlighted and type a new, meaningful name for the preset. You can always rename the preset at a later date in the same way.
7. Press ENTER.
8. Move the preset to the required position in the list using the up and down arrows.

To delete a preset, in the **Manage PTZ Presets** dialog, click **Delete**.

Edit PTZ presets

Depending on your surveillance system (see "Surveillance system differences" on page 38), you can make changes to existing PTZ presets:

1. In the view, select the PTZ camera with the PTZ preset you want to modify.
2. On the camera toolbar, click **PTZ presets**.
3. Click **Manage PTZ presets** and in the dialog, select the PTZ preset.
4. To edit the name of the preset, ensure the name of the PTZ preset is highlighted. Click the text and overwrite the existing name.
5. To move the position of the preset, in the image preview, use the PTZ buttons to navigate to the required position and then click **Update preset** to save.
6. To change the order in which the PTZ presets appear on the list, use the up or down arrows to move the PTZ presets in the list.

Stop PTZ Patrolling

A PTZ camera can continuously move between a number of presets according to a schedule, but you can stop PTZ patrolling.



Only stop PTZ patrolling when there is an important reason to do so; PTZ patrolling schedules are normally carefully planned to meet your organization's surveillance needs.

1. On the **Live** tab, select the required view.
2. On the camera toolbar, click **More > PTZ Control > PTZ Presets > Stop PTZ Patrolling**.
3. To resume patrolling, either select the command again or close the view.

Bookmarks

About bookmarks

The bookmark feature is only available for selected surveillance systems (see "Surveillance system differences" on page 38). Depending on your user rights, the ability to add bookmarks from some cameras may be restricted. You may be able to view bookmarks even if you cannot add them, and vice versa.

You can bookmark incidents in live or recorded video. A bookmark is essentially a small video clip. When you bookmark an incident, the program automatically assigns it an ID and the user who created it. Bookmarks are searchable, so you and other users can easily find them later. A bookmark video clip typically contains video from a few seconds before and a few seconds after the bookmarked incident (specified by the surveillance system administrator) to ensure that the incident is recorded, regardless of any delays.

You can find and edit bookmarked video by using:

- The **Playback** tab's Recording Search (see "Search recorded video" on page 134) pane
- The Sequence Explorer (see "About the Sequence Explorer" on page 123)
- The Timeline (see "Bookmarks in the timeline" on page 122)

If you cannot find a particular bookmark, it can be because:


- Your user rights do not allow you to view it.
- The bookmark has been deleted (users with sufficient rights can delete bookmarks from the **Playback** tab's Recording Search (see "Search using the Recording Search pane" on page 134) pane or the **Sequence Explorer**).
- The bookmarked video no longer exists on the surveillance system.

The Bookmark window


To add details to bookmarks, you must first specify this for both the Live and the **Playback** tab in the **Options** window, under **Functions** (see "**Functions options**" on page 96). If you have not specified this, you will only be able to create quick bookmarks.

When you create a detailed bookmark, or when you edit a bookmark, there are a number of settings you can specify.



Name	Description
<p>The timeline</p>	<p>Although the bookmark time and the clip start and end time are specified by the surveillance system administrator, you can change these settings. To change the time, drag the indicators on the timeline (see "Time navigation" on page 119) to the required time.</p>  <p>Clip start time: The suggested start time of the bookmark clip (a certain number of seconds before the bookmark time), specified by the surveillance system administrator.</p> <p>Bookmark time: The time in the video clip that you bookmarked.</p> <p>Clip end time: The suggested end time of the bookmark clip (a certain number of seconds after the bookmark time), specified by the surveillance system administrator.</p>
<p>Headline</p>	<p>Lets you specify a headline containing a maximum of 50 characters.</p>
<p>Description</p>	<p>Lets you specify a description.</p>

Add or edit bookmarks

1. Select the required camera in the view.
2. Click the bookmark icon . If you have specified that you can add details in the **Options** (see "**Functions options**" on page 96) window, the Bookmark window appears where you can add a detailed description of the incident. The length of a bookmark clip is determined on the surveillance system server, but you can change this by dragging the timeline indicators.



Tip: Do not worry if it takes you a while to enter the details for your bookmark; the XProtect Smart Client remembers your bookmarks until you click Save (unless it takes several days to create the bookmark and the video no longer exists on the surveillance system).

3. Click **OK**.

Manually activate output

If external output has been defined on your surveillance system, for example, switching on lights or sounding a siren, this can be activated from the **Live** tab. Note that, depending on your user rights, access to activating output may be restricted.

There are two ways of manually activating output, either by using the **Output** pane or by clicking the overlay button if this is available (if an overlay button is available, it appears when you move your mouse over the view).

- On the **Live** tab, in the **Output** pane select the required output, and then click **Activate**. The list of selectable output is grouped by server  in some surveillance systems, while in others, they are grouped by cameras. If a server is listed with a red icon , it is unavailable, in which case you cannot activate output on that server.



If activation fails, a message appears.

Privacy masks

Privacy masks protect sensitive information by blocking out certain areas in a camera's angle of view. In the XProtect Smart Client, a privacy mask is displayed as a black area in video. For example, if a camera overlooks the windows of a resident's kitchen and living room, these windows can be blocked with privacy masks to ensure privacy.



You cannot remove privacy masks; they are defined entirely by the surveillance system administrator.

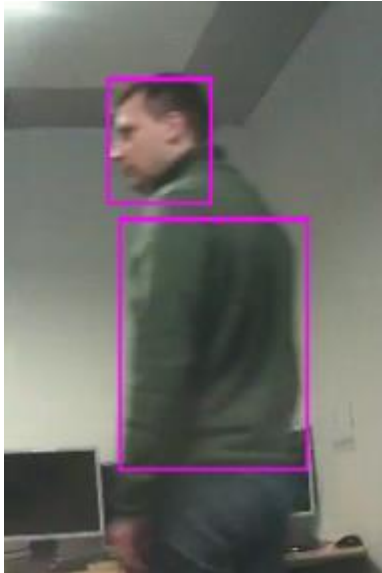
If privacy masks are used, they appear in all viewing contexts—also when you export (see "XProtect format settings" on page 144) video or print (see "Print evidence" on page 132) still images.

If you export video containing privacy masks, the export process may take significantly longer and the export file size may be larger than usual, particularly if you export in XProtect format.



Bounding boxes

A bounding box is the rectangular border that encloses, for example, an object in a camera image. In the XProtect Smart Client, a bounding box displays as a pink border in video.



You can show/hide bounding boxes from individual cameras in **Display Settings** in the camera properties.

If bounding boxes are displayed on your screen, they also appear when you export (see "XProtect format settings" on page 144) video in the XProtect format or print (see "Print evidence" on page 132) still images.

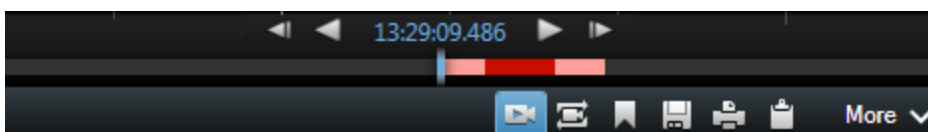
View recorded video using independent playback

You can only use this feature for ordinary single-camera positions, not for hotspots, carousels, or Matrix positions.

1. Move your mouse across the camera that you want to view recorded video for. On the toolbar that appears, click the **Independent Playback** button.




The independent playback timeline appears:



2. Drag the timeline (see "The timeline" on page 120) to select the time containing the video that you want to view.



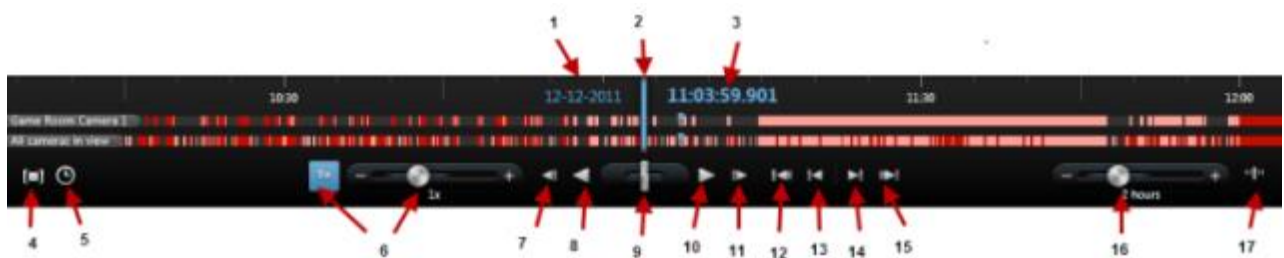
3. If you want to view recorded video for the selected time on all the cameras in your view at once, on the toolbar, click the **View recordings from selected time on Playback tab** button: . This displays the **Playback** tab with all cameras synchronized to the time you have selected.



Investigating incidents

Time navigation

The timeline buttons and controls



- 1: Playback date
- 2: Timeline time
- 3: Playback time
- 4: Time selection mode
- 5: Set start/end time
- 6: Playback speed and playback speed slider

Play buttons:

- 7: Previous image
- 8: Play backward
- 9: Shuttle slider
- 10: Play forward
- 11: Next image

Navigation buttons:

- 12: First sequence
- 13: Previous sequence
- 14: Next sequence
- 15: Last sequence
- 16: Time span slider
- 17: Toggle between simple and advanced timeline



The timeline

The timeline displays an overview of periods with recordings from all cameras displayed in your current view. For example, the timeline is displayed on the **Playback** and **Sequence Explorer** tabs, in independent playback mode, and when you add or edit bookmarks.

Two timelines are displayed in the timeline area (see "The timeline buttons and controls" on page 119). The upper timeline shows the selected camera's recording periods and the lower one is for all the cameras in the view including the selected camera. If you have linked floating windows, these will also be included on the lower timeline.

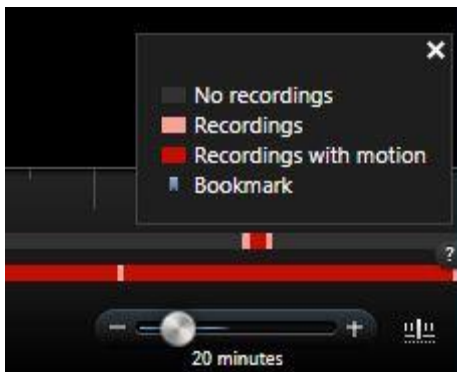
Drag the timeline to the right to move backward in time; drag to the left to move forward in time. You can also use the scroll wheel of your mouse to move the timeline backward and forward. To zoom the range of the timeline so it increases or decreases the units of time, press CTRL and use the scroll wheel at the same time.

The timeline is displayed in light-red to indicate recording, red for motion, light-green for incoming audio, and green for outgoing audio. The **Timeline time** is indicated by a blue vertical line.

You can switch between a simple and an advanced timeline by toggling the **Simple/Advanced Timeline** button in the bottom right corner. If you select the simple timeline, you only see the shuttle slider, the time span slider, the **Play Backward** and **Play Forward** buttons and the **Next Image** and **Previous Image** buttons.

The first time you open the XProtect Smart Client – Player, it opens in simple timeline mode.

On the timeline, to the far right, click the small question mark for a legend of color codes.



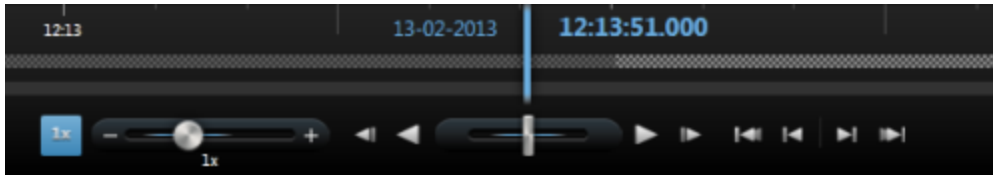
The timeline and Milestone Interconnect

If the selected camera is part of a Milestone Interconnect setup, and it is an interconnected device, the timeline for the selected camera displays the retrieval data. Retrievals that have taken place are displayed as recordings. On the timeline, shading lets you quickly identify which periods contain recordings and which periods you need to request a retrieval (see "Retrieve data from Milestone Interconnect" on page 122) for.

- Dark gray indicates that there are no recordings for the time.
- A dark checkerboard pattern indicates that no recordings have been requested and therefore it is unknown whether there are recordings.
- Red shading indicates that there is a recording.



- A light checkerboard pattern indicates that data has been requested for retrieval.



The timeline with dark checkerboard pattern where no recordings have been requested and therefore it is not known whether there are recordings and the lighter checkerboard pattern where video has been requested for retrieval



Playback date and time

The area in the upper part of the timeline shows the playback time and date of the recordings in blue. The playback time is the time to which all the cameras are tied (except if you are in independent playback mode). When you play back recordings, all video in the view will be from the same time. Some cameras, however, may only record if motion is detected. Also, there may be no recorded video from one or more cameras in the view matching the specified point in time. When this is the case, the last image in the camera's database prior to the specified point in time will be displayed in the view, and the image will be dimmed.

Date and time navigation

Click the **Playback Date** or **Playback Time** to open the **Go to** window, where you can select the date and time that you want to go to. Double-clicking anywhere on the timeline moves it to that particular time.

Time selection

Click **Set Start/End Time**  to jump to a specific point in time, by specifying the date and time. Clicking **Time selection mode**  lets you select a period of time by dragging the start and end time indicators on the timeline (typically when you are exporting video (see "XProtect format settings" on page 144)). Click again to see the timeline with no time selected.

Playback Speed

The playback speed slider lets you change the current playback speed. Move the slider to the left, for slow motion, and to the right for fast motion. Click 1x for normal speed.

Playback buttons

Use the playback buttons to play back recordings:



Previous image: Moves to the image just before the one currently viewed



Play backward in time



Play forward in time



Next image: Moves to the image just after the one currently viewed

When you click either **Play backward in time** or **Play forward in time**, the button turns into a pause button. This lets you pause playback without having to move your mouse pointer.



Pause

Quickly dragging the **Shuttle slider** to the left also pauses playback.

Navigation buttons

Use the navigation buttons to navigate through recording sequences.



First sequence: Moves to the first image in the database for the selected camera



Previous sequence: Moves to the first image in the previous sequence



Next sequence: Moves to the first image in the following sequence



Last sequence: Moves to the last image in the database for the selected camera




Time span slider: Lets you specify the time span of playback in the timeline

Time span

The time span slider lets you specify the time span of playback, independent playback, and sequences (for example, 1 hour, 2 hours, or up to 4 weeks) of your recordings in the timeline.

Bookmarks in the timeline


Bookmarks in the timeline are indicated with a blue bookmark icon: . To view the bookmarked video, place your mouse over the icon.

Retrieve data from Milestone Interconnect

Milestone Interconnect allows you to integrate a number of independent surveillance systems, for example, mobile installations on ships or busses, with a central site.



If your XProtect Smart Client is part of a Milestone Interconnect setup and at least one of your cameras supports edge storage and you have the necessary user rights, you might need to retrieve data from one or more interconnected devices.

1. On the Playback tab, in the timeline, click the **Time Selection Mode**  button to select the start and end time (see "Time selection" on page 121) of the sequence you want to retrieve data for.
2. On the XProtect Smart Client toolbar, click **Retrieve...** to open the **Retrieval** window.
3. Select the relevant camera(s) and then click **Start Retrieval**.

You can view the progress of your retrieval jobs in the Status window (see "Server status and interconnected hardware retrieval jobs" on page 36) by clicking the **Status** button on the Application toolbar.

- To stop a retrieval job that is in progress, either click **Stop** in the notification area at the top of the workspace area, or in the **Status** window, next to the job that is in progress.

Sequence Explorer

About the Sequence Explorer

The **Sequence Explorer** tab lets you navigate through thumbnails of recorded video. You can easily find relevant video and play it immediately.

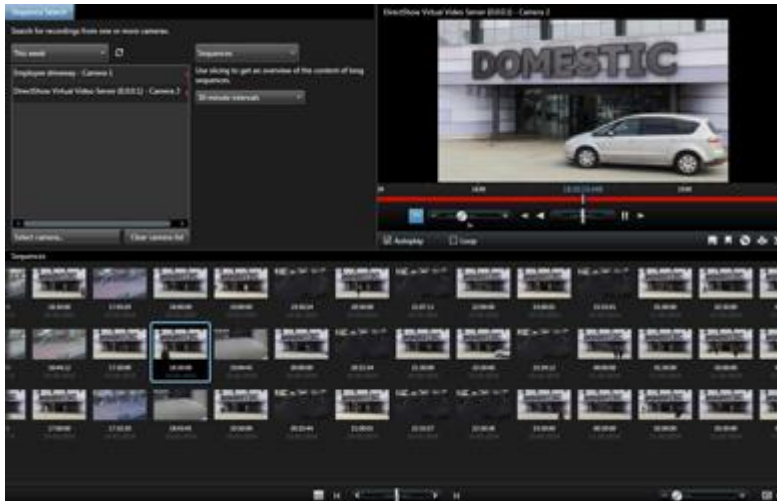
The Sequence Explorer offers two ways of searching in recorded video:

- **Sequence Search**
Search in recording sequences on one or more cameras based on motion detection, events or bookmarks.
- **Smart Search**
Search for motion only in selected areas on a single camera.

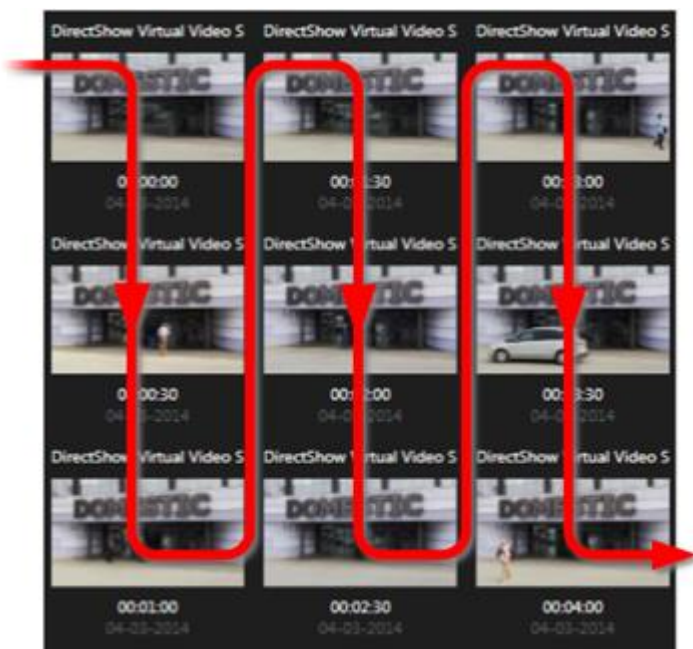


Sequence Search

With Sequence Search you can easily investigate recordings from selected cameras. The recorded video is shown in a thumbnail overview from where you can browse recordings and play them instantly in the player window.



The thumbnail overview display content chronologically from left to right, with the most recent thumbnails towards the bottom right part of the view:



You can adjust the size of the thumbnails by dragging the **Size Slider** below the thumbnail overview:



The thumbnails can relate to an individual selected camera or several selected cameras in a view. The fact that you can compare the thumbnails side-by-side, while navigating in time by dragging the



thumbnail overview, enables you to look at large amounts of recorded video and identify the most relevant video, which you can then immediately play back.

To view video associated with a particular thumbnail, click the thumbnail. When you click a thumbnail, it becomes highlighted and (provided **Autoplay** is selected) the associated sequence is played back in the right side of the Sequence Explorer.



Tip: If you have clicked a thumbnail, and then navigated away from it by dragging the thumbnail overview left or right, you can quickly return to the selected thumbnail by clicking the refresh button.

The thumbnail overview only shows recording within the time interval you have specified. Unless you have selected to view all sequences, you can navigate the timespan backward or forward by placing the mouse in the left or right side of the thumbnail overview.

Thumbnail overview navigation

You can navigate forward and backward in time by dragging the thumbnail overview left or right, or you can use the navigation controls below the thumbnail overview.

Click the **Calendar** icon below the thumbnails to access a calendar where you can specify a date and time. Click the arrows to go backward and forward in time. Click **Go To** to see thumbnails for the new date and time.

The thumbnail overview only shows recordings within the specified time interval. Unless you have selected to view all sequences, you can expand the timespan backward or forward by using the buttons in the left and right side of the thumbnail overview.



Go to earliest sequences.



Go to latest sequences.



Expand time interval to show earlier sequences.



Expand time interval to show later sequences.



End of database. No more sequences available.

Define search

1. On the **Sequence Explorer** tab, select **Sequence Search**.
2. In the **Select camera...** menu, find the camera that you want to view sequences for. You can add up to 100 cameras in a sequence search:



- Use the search field to search for a camera name or description, or
 - Navigate to the camera in the list
3. Click the camera to add it to the view.

Search for sequences



1. Select **Sequences** in the menu.
2. Use the slicing functionality to display thumbnails for specific intervals of time. For example, one thumbnail for every 30 seconds. You can also specify your own intervals with **Custom slicing interval...** If you have continuous recordings, or recordings of long duration, it is especially useful to use slicing to divide the thumbnails into shorter sequences.
3. Watch the list of thumbnails update. The list is now ready for you to view the selected sequences.

Search for bookmarks

The bookmark feature is only available when connecting to selected surveillance systems; see Surveillance system differences (on page 38). Depending on your user rights, access to viewing bookmarks from some cameras may be restricted. Note that you may be able to view bookmarks even though you may not be able to add them, and vice versa.

1. Select **Bookmarks** in the menu.
2. Use the search field to search for bookmark headlines or descriptions. Matching results are shown instantly in the thumbnail overview.
3. Select **My bookmarks only** if you only want to see bookmarks created by you. When you place your mouse over a thumbnail, details about the bookmark are displayed in a pop-up window.

To the right of the preview you can see details about the selected bookmark. Depending on your user rights, you may be able to edit, delete, print, or export the bookmark:

- To edit a bookmark's time settings, headline or description, click 
- To delete a bookmark, click 

When you delete a bookmark, the bookmark is deleted not only from the thumbnail overview but from the entire surveillance system. You will be asked to confirm that you really want to delete the selected bookmark.

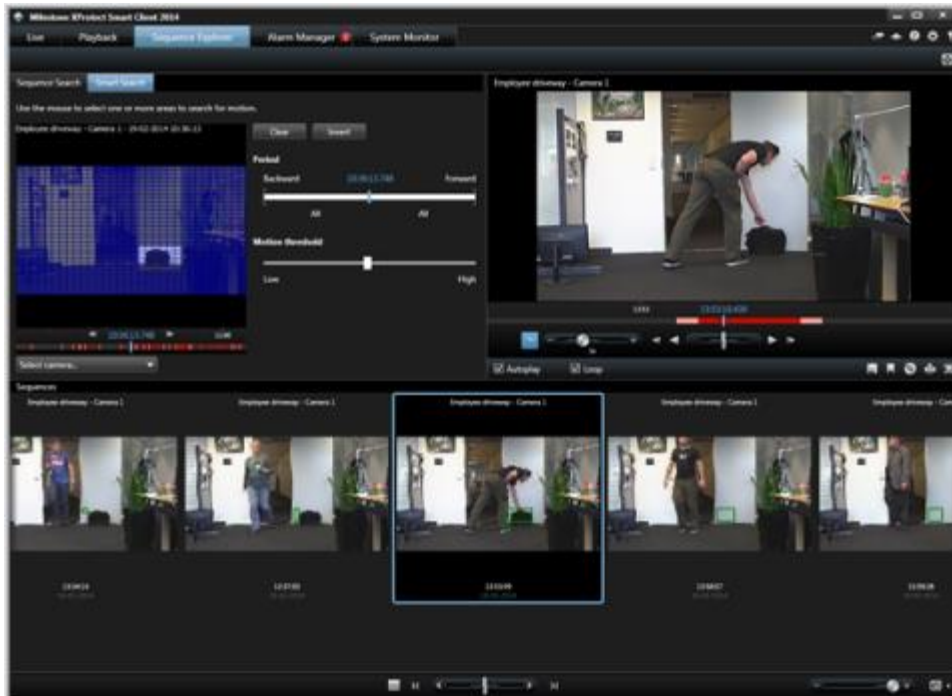
Smart Search

The smart search feature is only available for selected surveillance systems (see "Surveillance system differences" on page 38). Depending on your user rights, the ability to search from some cameras may be restricted.



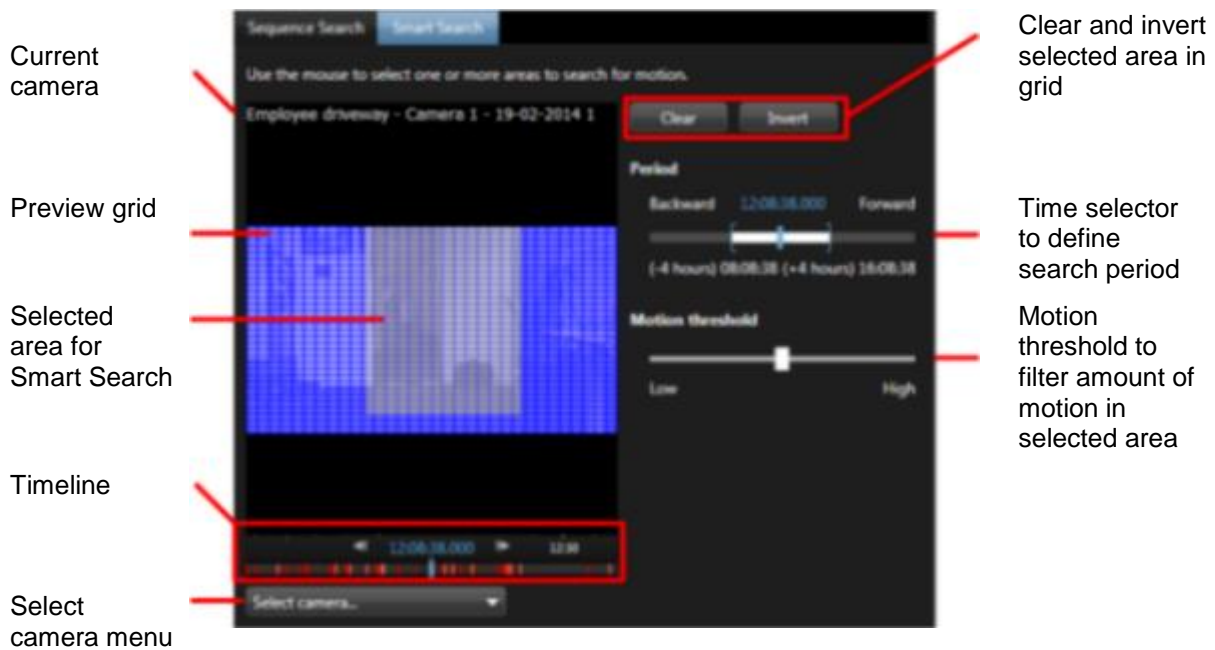
With Smart Search you can search for motion in selected areas of a single camera. For example, if you know in which area of the image an incident took place, you can specify only to search for motion in that area.

To make it easier for you to find and play back incidents, the search results are displayed as thumbnail sequences with green boxes around areas with motion.



Smart Search is based on motion metadata that is generated along with the motion-recorded video. Your system administrator can enable or disable Smart Search on the server. If you are unable to get any search result, Smart Search might be disabled for the current camera. Contact your system administrator for more information.

Define search



To perform a smart search, you really only need to select a camera and mark an area of the grid. However, if you make your search more granular, it becomes easier for you to find the right incident:

1. On the **Sequence Explorer** tab, select **Smart Search**
2. In the **Select camera...** menu, find the camera you want to use for Smart Search:
 - Use the search field to search for a camera name or description, or
 - Navigate to the camera in the list
 - When you select a camera, a preview is shown in the grid view.
3. Use the mouse to select the area where you want to search for motion. You can select more than one area:
 - Click a single field in the grid to include it.
 - Click and drag inside the image to select the area in which you want to use smart search.
 - Press CTRL-key while dragging to exclude already marked areas
 - Use the **Clear** button to reset the current grid
 - Use the **Invert** button to toggle between including and excluding selected areas.



When you have selected an area, the Smart Search results are shown instantly as thumbnails below. The green bounding boxes indicate motion found by Smart Search.

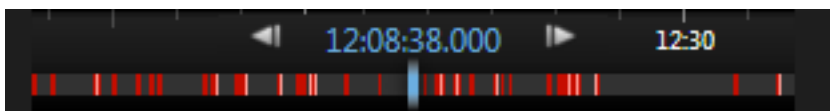


Adjust time

You can set the time that you want Smart Search to search from. The preview image is shown from the selected time.

You can also define a period to search within. The period is always based on the start time that you have selected. To select a start time, you have two options:

- Drag the timeline below the preview grid left or right to set the start time. Available recordings are indicated with colors. You can also use the arrows to go to previous or next frame.
- Click the current time to access a calendar where you can specify a date and time. Click **Go To** to set this time as start time.



Define a period

With the time selector, you can define the period in which you want to search for motion. Use the mouse to select a backward and a forward time according to the start time that you have chosen.

About motion threshold

The motion threshold allows you to define the smart search sensitivity.

The **higher** the threshold you select, the more motion you need in the selected areas before the motion is detected by Smart Search.

The **lower** the threshold you select, the less motion you need in the selected areas before the motion is detected by Smart Search.

A low threshold does not necessarily give more results. A high threshold does not necessarily give less results.



The timeline

The timeline on the Sequence Explorer (see "The timeline" on page 120) lets you navigate through video content.

Navigating sequences

You have several options for navigating the thumbnails.

Click and drag


Click and drag the thumbnail overview to the left (backward in time) or right (forward in time) inside the thumbnail overview.

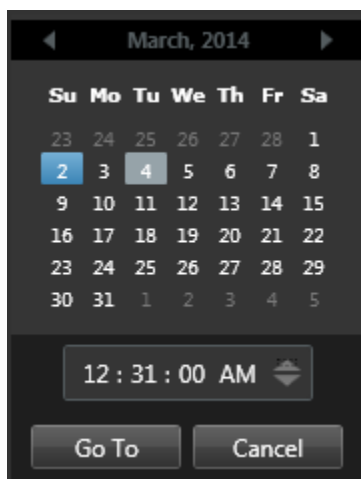
The sequence slider

Drag the sequence slider, located below the thumbnail overview, to the left (backward in time) or right (forward in time).



Date and time

Click the **Calendar** icon  below the thumbnail overview to access a calendar where you can specify a date and time. Click **Go To** to see thumbnails for the new date and time.



Tip: In the calendar, a blue background  indicates the selected date. A gray background indicates the current date.



Thumbnails with exclamation point

Depending on your navigation method, you may occasionally see placeholder thumbnails with exclamation points if there is no recorded image from a specific point in time:



These appear when the Sequence Explorer cannot retrieve a proper thumbnail, for example, because of a server communication error, a decoding error, or similar. However, placeholder thumbnails may also appear when thumbnails retrieved from the surveillance system do not exactly match requested points in time. This is because deviating thumbnails could otherwise cause confusion.

If you have selected slicing in Sequence Search, a placeholder thumbnail appears if the retrieved thumbnail is outside of the requested time interval. Example: You request a time interval of 12:00:00, 12:00:30, and the first available thumbnail is at 12:00:33. If there are no recording sequences that cover this interval, the system makes no attempt to retrieve a thumbnail and the next thumbnail displayed is from the next interval (12:00:30-12:01:00). If there are recording sequences that cover this interval, a placeholder thumbnail will appear instead.

In Sequence Search, a placeholder thumbnail appears if the retrieved thumbnail is more than three seconds off compared with the requested time, for example the time when recording of the sequence in question was triggered on the surveillance system.

You can still click a placeholder thumbnail to view video; it will take you to the first available recording **after** the point in time represented by the placeholder thumbnail.





Print evidence

You can print single still images or whole views from recorded video in several ways. When you print, the image is automatically included in a surveillance report, in which you can include notes about the recorded incident.



You can also print information about alarms (on page 151) if your organization uses the alarm handling features.

Print a surveillance report

1. Select the relevant camera, view, or bookmark that you want to print as part of a surveillance report.
2. Browse to the relevant time or sequence.
3. Move your mouse over the image and in the menu that appears on the camera's toolbar, click the **Print** icon . If you want to print a bookmark, on the **Sequence Explorer** tab, in the preview toolbar for the bookmark, click the **Print** icon .

The **Surveillance Report** appears displaying a preview of the image as well as information about:

- Camera name
- Image capture time
- Print time
- Name of the user



For bookmarks:

- the bookmark ID
- time details
- bookmark headline
- bookmark description (if available).

In **User's Note**:, you can include a description of the incident.

Tip: If you used digital zoom on the image, only the area on which you have zoomed in will be printed.

Optional: If you want to change or verify paper size, source and orientation for the printout, in the **Surveillance Report** window, click **Page Setup** to open the **Page Setup** window.




When ready, click **OK** to return to the XProtect Smart Client **Surveillance Report** window. If you want to preview the report, click **Preview**.

4. Click **Print** to print the image and associated details.

Take a snapshot

As an alternative to exporting video evidence, you can take a quick snapshot of an image if you want to save or share a still image. You can take a snapshot from the Live, Playback or Sequence Explorer tab, or from a carousel, hotspot or the camera navigator.

- To take a snapshot, on the camera toolbar of a selected camera, click the snapshot icon: . When a snapshot is taken, the snapshot icon momentarily turns green.

You can view your snapshot, by browsing to the snapshot file location. Snapshot files are saved in the default file location specified in Application options (see "Options window" on page 92).

If the image contains a privacy mask, this privacy mask is also applied to the snapshot image.



Search recorded video

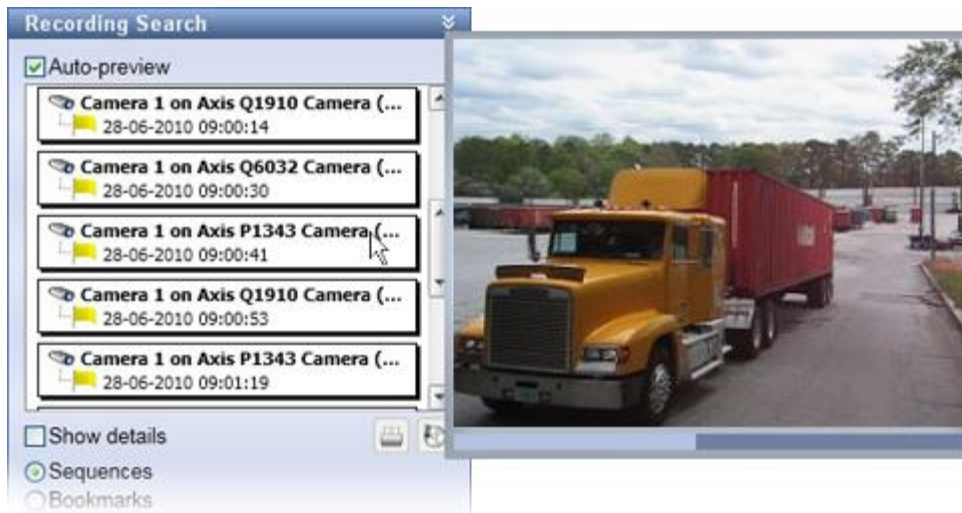
You can search recorded video using the Sequence Explorer, the **Recording Search** (see "**Search using the Recording Search pane**" on page 134) pane, or **Smart Search** (see "**Search using the Smart Search pane**" on page 135) pane.

On the **Playback** tab, you can use the **Recording Search** pane to quickly search for recorded sequences or bookmarks for a single selected camera or for all cameras in a view. Alternatively, you can use the **Smart Search** pane to search for motion in one or more selected areas of recordings from a particular camera.

Smart search cannot be used for video from 360° lens cameras. Depending on your user rights, access to smart search may be restricted.

Search using the Recording Search pane

1. On the **Playback** tab, in the **Recording Search** pane, select either **Sequences** or **Bookmarks**.
2. For bookmarks, select the search criteria you are interested in, for example, time, your bookmarks only, or content from the bookmark's Bookmark ID, Headline and Description fields.
3. Select whether you want the search to include only the selected camera or all cameras in the view.
4. Click **Search**. This will retrieve a list of results. The sequence closest to the time you have selected for the view appears in the middle of the list. Sequences or bookmarks from before the time you have selected appear above, and ones from after, below. Each sequence is listed with camera information, date, and time. Selecting a sequence in the list moves all video in the view to the time of the selected sequence.
5. To display more details about each sequence or bookmark in the list, select **Show details**. For sequences, this displays the date and time of the first image in the sequence (green flag), the last image (checkered flag), and the motion detection, event, that triggered the recording (yellow flag). For bookmarks, **Show details**, displays additional information, consisting of an image from the bookmark time as well as a detailed description (if one is available).
6. To quickly preview the video when you place your mouse over the bookmark or sequence in the list, select **Auto-preview**.

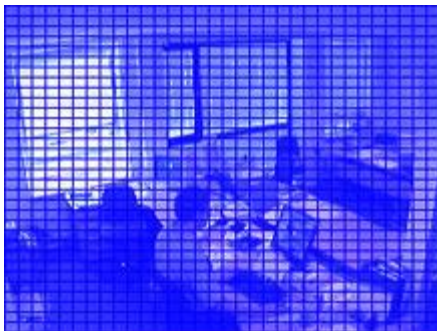


7. When you have selected a sequence or bookmark in the list, you can generate a printed report or export it. For a bookmark (depending on your user rights), you can also edit or delete it. For more information, see [Add and edit bookmarks](#), [Print evidence](#) (on page 132) and [Exporting](#) (see "XProtect format settings" on page 144).

Search using the Smart Search pane

The Smart Search pane is not supported on all XProtect products, but is located on the Sequence Explorer (see "About the Sequence Explorer" on page 123) tab on newer versions.

1. On the **Playback** tab, in the **Smart Search** pane, expand the Search area and select **Show grid**.
2. Select the camera in the view. A blue grid overlay appears.



Tip: For a better view, double-click the image to enlarge it.

3. Click and drag inside the image to select the area in which you want to use smart search. You can select more than one area.



The areas you select will become visible through the blue overlay. The blue overlay indicates the areas that are excluded from the smart search.



You can toggle between including or excluding the areas that you select by clicking **Include** or **Exclude** options. Alternatively you can invert your selection to include or exclude everything you have selected. With the **Smart Search** pane's **Include** and **Exclude** options, you can toggle between including/excluding areas when you drag.



Example of inverted selection

Tip: As an alternative to clicking **Invert**, press the SHIFT key while clicking/dragging to select an area.

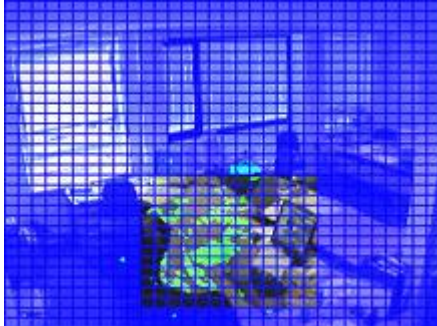
4. Click **Save** to save your search area settings.

Tip: If you want to experiment with further changes to the search area, you can return to your saved search area settings by clicking **Load**.

5. In the **Sensitivity** list, select the search sensitivity, and in the **Interval** list, select the image interval. If you select **All images**, all images will be analyzed. If you select e.g. 10 seconds, only one image per ten seconds of recordings will be analyzed. Selecting a long interval will greatly reduce the search time. However, with a long interval, the search may not find motion sequences that are shorter than the specified interval.
6. Click the **Next** (to move forward in time) or **Previous** (to move back in time) to search through sequences with motion detected in the selected areas.



When a sequence with motion inside the selected area(s) is found, it is displayed with the motion highlighted.



Tip: The **Playback** tab's **timeline displays** the corresponding time information.

7. If required, click the **Next** or **Previous** to continue the smart search.

Evidence lock

About evidence locks

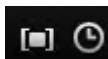
With the evidence lock functionality, you can protect video sequences from being deleted, for example while an investigation or trial is ongoing. This protection also covers audio and other data from devices related to the selected cameras.

Once an evidence lock is in place, the system protects the data from being deleted. This means that neither you nor other XProtect Smart Client users can delete the data until a user with sufficient user rights unlocks the evidence. With an evidence lock, the data is also protected from automatic deletion that would otherwise take place based on the system's default retention time.

Depending on your user rights defined by your system administrator, you may or may not be able to create, view, edit and delete evidence locks.

Create evidence locks

1. Select the **Playback** tab.
2. In the timeline, click the **Time Selection Mode** or the **Set Start/End Time** button.



3. Select the start and end time for the video sequences you want to protect from deletion.
4. Select one or more cameras that have video sequences and data from related devices that you want to protect.
5. In the workspace toolbar, click **Evidence lock** and select **Create**.
6. In the **Create Evidence lock** window, give the evidence lock a headline and optionally add a description.




7. Click **Select camera** to add more cameras to the evidence lock.
8. Click **Remove** or **Remove All** to remove cameras from the evidence lock.
9. You can adjust the time interval and define for how long you want to keep the evidence protected. See Evidence lock settings (on page 140) for more information.
10. Click **Create**.
11. A window shows if your evidence lock was created successfully. Click **Details** to see what went well and what did not. See Evidence lock status messages (on page 142) for more information.

View existing evidence locks

1. Select the **Playback** tab.
2. In the workspace toolbar, click **Evidence lock** and select **View**.

If you want to stay on the **Live** tab instead of selecting the **Playback** tab:

1. Click the **Status** button  on the application toolbar and select **Evidence Lock List**. A list appears with the existing evidence locks with devices you have user rights to.
2. 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. See Filter evidence locks (see "Evidence lock filters" on page 141) for more information.
3. Select an evidence lock and click **Details** to see the cameras included in the evidence lock and other information. See Evidence lock settings (on page 140) for more information.

Edit evidence locks

1. Select the **Playback** tab.
2. In the workspace toolbar, click **Evidence lock** and select **View**.

If you want to stay on the **Live** tab instead of selecting the **Playback** tab:

Click the **Status** button  on the application toolbar and select **Evidence Lock List**.

1. Select an evidence lock and click **Details**. A window with the same options as when you create a new evidence lock opens. See Evidence lock settings (on page 140) for more information.
2. Depending on your user rights, you can make the interval of the evidence lock longer or shorter, keep the evidence locked for a longer or shorter period and add or remove cameras.
3. When done, click **Update**.



4. A window shows if the update was successful. Click **Details** to see what went well and what did not. See Evidence lock status messages (on page 142) for more information.

Play back video with evidence locks

You can always play back video on the **Playback** tab 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. Select the **Playback** tab.
2. In the workspace toolbar, click **Evidence lock** and select **View**.

If you want to stay on the **Live** tab instead of selecting the **Playback** tab:


Click the **Status** button  on the application toolbar and select **Evidence Lock List**.

1. 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.
2. Use one of the timeline features to go to a specific time or simply click **Play Forward**.

Export evidence locks

1. Select the **Playback** tab.
2. In the workspace toolbar, click **Evidence lock** and select **View**.

If you want to stay on the **Live** tab instead of selecting the **Playback** tab:

1. Click the **Status** button  on the application toolbar and select **Evidence Lock List**.
2. Select an evidence lock and click **Export**.
3. The **Export** window opens. Define your settings. See The Export window (on page 143) for more information.

See also If I export an evidence lock, what is included in the export?.


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 select to keep the evidence lock to prevent that the video sequences are automatically deleted by the system after the removal of the protection.

1. Select the **Playback** tab.
2. In the workspace toolbar, click **Evidence lock** and select **View**.



If you want to stay on the **Live** tab instead of selecting the **Playback** tab:

Click the **Status** button  on the application toolbar and select **Evidence Lock List**.

1. Select one or more evidence locks and click **Delete**.
2. A window shows if the deletion was successful. Click **Details** to see what went well and what did not. See Evidence lock status messages (on page 142) for more information.

Evidence lock settings

Name	Description
Headline	The headline of the evidence lock.
Description	A description of the evidence lock.
Evidence lock interval start	Adjust the start date and time for the video sequences you want to protect.
Evidence lock interval end	Adjust the end date and time for the video sequences you want to protect.
Keep evidence lock for	Specify for how long you want to keep the evidence protected. Depending on you user rights, you can have the following options: hour(s), day(s), week(s), month(s), year(s), indefinite or user-defined. If you select User-defined , click the calendar button to select a date and then adjust the time manually. When done, the date and time for when the evidence lock expires is shown.
Select camera	Click to select more cameras to include in the evidence lock.
Remove/Remove All	Click to remove one selected camera or all cameras from the evidence lock.



Evidence lock filters

Name	Description
Lock interval	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.
Created	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.
Expiry date	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.
Users	Filter for evidence locks created by all users or just by you.
Cameras	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
Succeeded	<p>All went well.</p> <p>Result:</p> <p>The evidence lock is created/updated/deleted.</p>	
Only partially successful	<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 Details to see what went wrong.</p> <p>Result:</p> <p>The evidence lock is created/updated/deleted but without including some of the selected cameras and/or their related devices.</p>	<p>Scenarios:</p> <ul style="list-style-type: none"> ▶ Some of the recording servers with devices included in the evidence lock are offline. ▶ Your system administrator has changed your evidence lock user rights after you logged into XProtect Smart Client. <p>Solution:</p> <p>Depending on scenario. Try again later or contact your system administrator.</p>
Failed	<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 Details to see what went wrong.</p> <p>Result:</p> <p>The evidence lock is not created/updated/deleted.</p>	<p>Scenarios:</p> <ul style="list-style-type: none"> ▶ All the recording servers with devices included in the evidence lock are offline. ▶ The management server is offline. ▶ Only for update and deletion: You do not have user rights to one or more devices in the evidence lock. <p>Solution:</p> <p>Depending on scenario. Try again later or contact your system administrator.</p>



Exporting evidence

The Export window

Depending on your user rights, type of server, and what has been set up on the server, certain export settings may be restricted and unavailable.

With the XProtect Smart Client you can quickly export recorded evidence in movie clip, audio, still images, or in the XProtect format. The export can be either a single sequence or a storyboard (see "About exporting storyboards" on page 147). The format and settings you choose are stored and displayed next time you export.



General export settings

Name	Description
Export name	The program automatically fills this in with the local date and time, but you can rename it. The folder or disk that you save or burn to inherits the export name.
Item	<p>Lists the items selected for export, for example video sequences.</p> <p>For each item, you can change the time and date. If you click the date, a calendar opens. Here, you can select a new date to view. Click Go To to change date. You can change the start and stop time of the item by using the time indicator underneath the calendar.</p> <p>Click an item to see a preview of the export clip in the preview pane to the right of the Item list. If you select more items by holding down the SHIFT or CTRL button and clicking extra items, you get access to multiple previews. You can adjust the start and stop time on the timeline for each preview.</p> <p>You can delete an item from the Item list by clicking the red x next to it. The red x appears when you hover over the item with your mouse. If you want to split the item into two, click the split icon. In the preview pane, you can edit the start and end time of each item.</p> <p>Use the Add item... button to select other items that you want to include in the list for exporting. Use the Delete All... button to clear the list in the Item window.</p>
Export destination	<p>Path - You can specify a path yourself (the field may suggest a path for you). When you specify a path this way, the folders you specify do not have to be existing ones. If they do not already exist, they are created automatically.</p> <p>Media burner - Select a burner. 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>
Privacy mask	Click to set a privacy mask on the camera. This covers the area that you select in a black area of solid color, so those parts of the image are not viewable. You cannot remove existing privacy masks, you can only add new ones.

XProtect format settings

Export in the XProtect format is available when connected to selected surveillance systems (see "Surveillance system differences" on page 38) only. Depending on your user rights, access to exporting evidence from some or all cameras may be restricted.



Name	Description
Include XProtect Smart Client – Player	Select to include the XProtect Smart Client – Player application with the exported data. The XProtect format can only be viewed with the XProtect Smart Client – Player.
Prevent re-export	Select that you do not want to allow the video or audio to be re-exported—your recipients will not be able to export in any format.
Password protect	Select the strength of the encryption you want to apply to the exported data. When you click Start Export , the system asks you for a password that must contain at least eight characters.
Include digital signature	<p>Select to 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 the recipient opens the exported files, he/she can verify the signature (see "Verify signatures" on page 162) in the XProtect Smart Client – Player.</p> <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> <p>There are two scenarios where digital signatures are excluded during the export process:</p> <ul style="list-style-type: none"> - If a privacy mask has been added, no digital signatures for the recording server will be included 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. In this case, only part of the export will have digital signatures added. <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>
Comments	Click to open the Add Comments to Export window, where you can add comments to individual cameras or to the project as a whole.

Media player format settings

The media player format allows you to export a standard video clip and/or audio clip that can be viewed and/or listened to from computers that have a standard media player installed. The computer must also have the codec installed that you use for the export.



Name	Description
Select content	Select if you want to export video only, audio only, or both video and audio.
Select format	Select if you want to export video in AVI format or MKV format. You cannot use MKV format in XProtect Go.
Codec	A video codec is a particular compression/decompression technology used when generating video files. Your choice of codec will affect the quality and size of the AVI file. The list contains the video codecs available on your PC. You can change the codec, but we recommend that you keep the default codec settings, unless you have a good reason to change these. The codec that you use must be similar on the computer that you play the video clip from.
Include timestamps	Select if you want to add the date and time from the surveillance system to the exported images. The timestamp will be displayed at the top of the exported video.
Reduce frame rate	Select to reduce the frame rate for the export; every second image will be included, yet still play back in real-time.
Video texts	Click to open the Video Texts window where you can create pre- and post-texts for the AVI file. These texts will be added to all cameras for the export and displayed as still images before (Pre-slides) and/or after (Post-slides) the video.

Important: When you perform an export in MKV format: if you have not used privacy masking in video recorded in H.264, JPEG or MPEG-4 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 masking or have recorded video using any other codec (for example MxPEG or MPEG-4 short header mode), recorded video is transcoded into JPEG in the export.

Still images settings

If you want to export single video frames, you can export these as still images.

Name	Description
Include timestamps	Select if you want to add the date and time from the surveillance system to the exported images. The timestamp will be displayed at the top of the exported video.



About exporting 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.

When you select the video sequences that make up the storyboard (see "Export a storyboard" on page 148), you can work from the **Playback** tab in time selection mode. Here you can use the **Export > Add to export list** function to store multiple sequences in a list without opening the **Export** window. When you have built the entire list, you can then export the collection of sequences, the storyboard, in one go. You can also export items directly from the Export window (on page 148).

Export a video clip, audio, XProtect data or a still image

1. On the **Playback** tab, in the timeline, click the **Time Selection Mode** button to select the start and end time (see "Time selection" on page 121) of the sequence you want to export.

If you want to export a storyboard (on page 148), you can select multiple sequences that you set individual start and end time on.

If you want to export items directly from the **Export** window (see "Export items directly from the Export window" on page 148), you can skip time selection mode.

2. On the XProtect Smart Client toolbar, click **Export > Export...** to open the **Export** window.

If you want to add additional items to the one you have selected and they contain relevant video data, you can include these in the export by using the **Add item...** button to select them. You can also change your selection in the **Export** window.

3. In the **Export name** field, enter a name for the export. The system automatically creates a name with the current date and time. You can change the name.
4. Specify a path and/or media burner for the destination of the export.
5. Click the relevant tab to select one or more of the following formats to export to:
 - **XProtect format.** Export in a Milestone XProtect database format, with the option of including the XProtect Smart Client – Player, to let your recipients view exported video data. This format can only be viewed in the XProtect Smart Client – Player application.
 - **Media player format.** Export in a format that can be played from most computers.
 - **Still images.** Export as a still image file for each frame for the selected period.
6. Specify the necessary settings (see "The Export window" on page 143) for the format you have chosen. Based on these settings, the program estimates the size of the export and displays this in the bar at the bottom of the window.
7. Click **Start Export** to export your evidence.



If you want to make changes or add more items later, click **Cancel**. When asked if you want to remove the selected export items, click **No**. This ensures that your list of export items is available in the **Export** window when you open it again.

Export items directly from the Export window

If you want to export items by adding them directly in the **Export** window, follow these instructions:

1. On the Playback tab, on the XProtect Smart Client toolbar, click **Export > Export...** to open the **Export** window with an empty **Item** list.
2. Click **Add item...** to add the items, for example cameras, that you want to add to the export list.
3. Click each export item and then specify its start and end time in the preview pane to the right of the list. Repeat for all items in the list.
4. In the **Export name** field, enter a name for the export. The program automatically creates a name with the current date and time. You can change the name.
5. Specify a path and/or media burner for the destination of the export.
6. Click the relevant tab to select a format to export to.
7. Specify the necessary settings (see "The Export window" on page 143) for the format you have chosen. Based on these settings, the program estimates the size of the export and displays this in the bar at the bottom of the window.
8. Click **Start Export** to export your evidence.

If you want to make changes or add more items later, click **Cancel**. When asked if you want to remove the selected export items, click **No**. This ensures that your list of export items is available in the Export window when you open it again.

Export a storyboard

If you want to export a number of items that make up a storyboard (see "About exporting storyboards" on page 147), follow these instructions:

1. On the **Playback** tab, in the timeline, click the **Time Selection Mode** button.
2. For each item that you want to export, select the start and end time (see "Time selection" on page 121) and then click **Export > Add to export list**. This adds each item to the list of exports without opening the **Export** window. Repeat until you have added all items that you need for your storyboard.
3. On the XProtect Smart Client toolbar, click **Export > Export...** to open the **Export** window. All selected items are displayed in the **Item** list, ready for export.

Click **Add item...** to add additional items. Click **Delete All** to clear the list.

4. In the **Export name** field, enter a name for the export. The program automatically creates a name with the current date and time. You can change the name.
5. Specify a path and/or media burner for the destination of the export.



6. Click the relevant tab to select a format to export to.
7. Specify the necessary settings (see "The Export window" on page 143) for the format you have chosen. Based on these settings, the program estimates the size of the export and displays this in the bar at the bottom of the window.
8. Click **Start Export** to export your evidence.

If you want to make changes or add more items later, click **Cancel**. When asked if you want to remove the selected export items, click **No**. This ensures that your list of export items is available in the Export window when you open it again.

Frequently asked questions: exporting

Can I export audio too?

When exporting in the media player and XProtect formats, you can—if your surveillance system supports this—include recorded audio in the export. Export in the database format is only available if connected to selected surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>. When exporting in the JPEG (still image) format, you cannot include audio.

If I export a bookmark video clip, what is included in the export?

The entire bookmark video clip (see "Bookmarks" on page 114) is included, from the specified clip start time to the specified clip end time.

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 is included.

If I export 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 images of the selected interval to the last images of the selected interval.

Can I export digitally zoomed images?

Yes. If you used digital zoom prior to exporting, you will, when exporting in the media player or still image formats, be able to export the regular images or the digitally zoomed images. When exporting in the XProtect format, making this selection is not necessary because recipients will be able to use digital zoom on the exported recordings.

Can I export 360° 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).

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 (see "Surveillance system differences" on page 38), the surveillance system server may control the export path setting and you cannot specify your own path.

Why have digital signatures been removed in my exported video?

There are two scenarios where digital signatures are excluded during the export process:

- If a privacy mask has been added, no digital signatures for the recording server will be included 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. In this case, only part of the export will have digital signatures added.

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.

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 select to prevent your recipients from re-exporting (see "XProtect format settings" on page 144) the material, to protect the exported evidence with a password (see "XProtect format settings" on page 144), and to add a signature (see "XProtect format settings" on page 144) to the exported material.



Events and alarms

Alarms


About alarms

The Alarm and Map features are only available when connected to certain types of surveillance system (see "Surveillance system differences" on page 38). Particular user rights may be required.

On the surveillance server, virtually any kind of incident or technical problem (events) can be set up to trigger an alarm. These can all be viewed from the **Alarm Manager** tab, which provides a central overview of your surveillance system incidents, status, and possible technical problems.

The **Alarm Manager** tab is either displayed or hidden depending on the settings defined by your surveillance system setup.

You cannot set up alarm triggers in the XProtect Smart Client, this is done by the surveillance system administrator as part of the surveillance system configuration.

The **Alarm Manager** tab provides a dedicated view for your alarm or event handling. The tab itself displays the number of active alarms (up to nine—more alarms than this are shown with a 9+) . The **Alarm Manager** tab includes an alarm list, an alarm preview (for previewing video associated with individual alarms or events), and, if available, a map position (for geographical display of alarm indicators). Click the **Report** button, to display relevant reports on the incidents (see "View alarm reports" on page 158).

The Alarm Manager tab

The **Alarm Manager** tab is either displayed or hidden depending on the settings defined by your surveillance system setup.

The alarm preview


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 (see "Enter setup mode" on page 30).



Alarm preview settings

Name	Description
Show duplicate cameras	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 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.
Show event source cameras	Select to display video (if any) from the camera for which the alarm or event has been set up on the surveillance system server. We do not recommend clearing this field.
Show related cameras	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.
Show overlay	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 standard functionality in the XProtect Smart Client.

The Alarm list

The Alarm list displays incoming alarms by default, with the most recent alarms at the top of the list. Alternatively, the alarm list can display a list of MIP plug-in and analytic events, for example, access control or license plate recognition. To see a list of events, in setup mode, define that the alarm list displays events (see "Alarm list settings" on page 153). Alarms or events that have video associated with them are listed with an icon . To preview a still image from the time of the alarm or event, place your mouse over the icon. To view recorded video from the camera(s) associated with the alarm or event, select the alarm or event in the list to display it in the **Alarm** preview.

You can decide how you want the list to display, you can filter the columns, you can drag the columns to different positions, and you can 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 3 seconds.

Alarm	Row (Filter Applied)	Priority Level	Priority Name	ID	State Level	State Name	Time	Device	Name	Device	Message
Quick Filters		30	Kaliforniaske Hög	491545	1	New	16:20:17 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491544	1	New	16:20:43 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
▼ In progress (588)		30	Kaliforniaske Hög	491543	1	New	16:24:04 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
▼ On hold (0)		30	Kaliforniaske Hög	491542	1	New	16:21:37 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
▼ Closed (0)		30	Kaliforniaske Hög	491541	1	New	16:21:28 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491540	1	New	16:20:25 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491539	1	New	16:19:42 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491538	1	New	16:19:33 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491537	1	New	16:18:49 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
Servers		30	Kaliforniaske Hög	491536	1	New	16:16:03 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
DLT-PC1-01		30	Kaliforniaske Hög	491535	1	New	16:15:00 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491534	1	New	16:14:35 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491533	1	New	16:14:29 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491532	1	New	16:12:59 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491531	1	New	16:10:53 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491530	1	New	16:08:22 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491529	1	New	16:07:38 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad
		30	Kaliforniaske Hög	491528	1	New	16:04:29 13-01-2012	PairHCE (10.180.53.23)	AlarmMotion	Prioritet	Motion Detekterad

Tip: You can select multiple alarms or events in one go, in which case video from up to 16 cameras associated with the selected alarms or events will be displayed in the alarm preview position.


To allow for optimum performance, the list by default displays a maximum of 100 alarms or events at a time. To browse to the previous/next alarms or events, simply use the buttons in the top right part of the alarm list position.







Alarm list settings

In setup mode (see "Enter setup mode" on page 30), 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
Show navigation tree	Select to display the navigation tree on the left of the alarm list. We recommend that you keep this option selected, because the navigation tree provides an overview of alarm priorities and states, and—not least—the number of alarms in each priority and state.
Max. rows to fetch	<p>Controls the maximum number of lines to fetch and display in the alarm list. By default, the alarm list displays up to 100 lines, that is up to 100 alarms or events at a time. This provides a good response time, since fetching and displaying larger numbers of alarms or events can take time. There can of course easily be more than 100 alarms or events, and if you want to view more than the first 100 alarms or events, you simply use the buttons in the top right part of the alarm list to browse to the next alarms or events, which will then be fetched and displayed.</p>  <p>In the field, you can set the maximum numbers of rows from 1 to 999, but remember that the more alarms or events in the list, the longer it takes to display the list. If you change the number, note that the number of rows in the list will not be updated until you select another element than the Max. rows to fetch field, for example a row in the alarm list.</p>
Data Source	<p>Select whether you want to display a list of alarms or events in the Alarm List.</p> <p>The event list does not display system- or user-generated events, such as motion detection or archive failure.</p>

Filters

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** column. The **Filters** pane, lets you filter according to certain criteria (see "Filter alarms" on page 155). Initially, all alarms will be in the New state, but once an alarm is being handled, its state is updated.



Servers

On the left side of the alarm list, alarms are grouped by the surveillance system server  they originate from. Many surveillance systems only have a single server, but some systems may consist of several servers in a hierarchy. All the servers you have access to are listed. Each item is clickable, allowing you to quickly filter the alarm list by server, all priorities, high priority, etc.

The number displayed for each item represents the number of alarms with the relevant priority or state. Note, however, that the number shown for servers only represents the number of alarms in the New state. If a server is listed with a red icon , it is unavailable, in which case you will not be able to view alarms from that server. Alarms can be one of the following priorities: **High** , **Medium** , or **Low** . You can see the priority of each alarm in the alarm list's first column. To quickly view all alarms with a certain priority, select the required priority in the tree structure in the left side of the alarm list.



Failure to connect

If your XProtect Smart Client loses connection to the event server, the surveillance system server component dealing with alarms, the alarm list will notify you of this by switching the color of its top bar from blue  to red . This is important since you will not be able to receive new alarms as long as the connection is broken. Loss of connection can, for example, happen because of network problems; contact your surveillance system administrator if the problem persists. As soon as the connection is re-established, the top bar will switch back to blue again.





okts-vap-13v27 - Failed to connect to Event Server

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; you can click an element on a map to see only alarms associated with that element, you can click a predefined filter in the Filter pane, or you can define your own custom filters.

- To filter the alarm list's content, in the **Alarm List** toolbar, click **Filter** to open the **Filter** pane above the alarm list. Enter 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 will only display alarms assigned to that particular user.

You can combine filters (for example, for a location on a certain date). When you apply a filter, the filter section will change background color from blue  to orange . To return to the unfiltered alarm list, click the **Clear filter** link in the Alarm List toolbar.

Tip: In fields where you type your filtering criteria, typing the first few characters of the required name, location or similar is often enough.

Having entered filtering criteria, note that the alarm list will not be updated until you move the insertion point to another filter field.

Tip: If your alarm handling views contain map content, you can also filter the alarm list by right-clicking an element (camera, server, or similar) on the map, then selecting **Show Alarms**. This will make the alarm list show only alarms from the selected element.

- To sort the alarm list's content, in the **Alarm** list, click the  button at the top of the column.

Alarms on maps

If your alarm handling view contains one or more map (see "Maps" on page 63) positions, you can view alarms on the maps too. Maps display alarms based on the geographical location of the camera, 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.

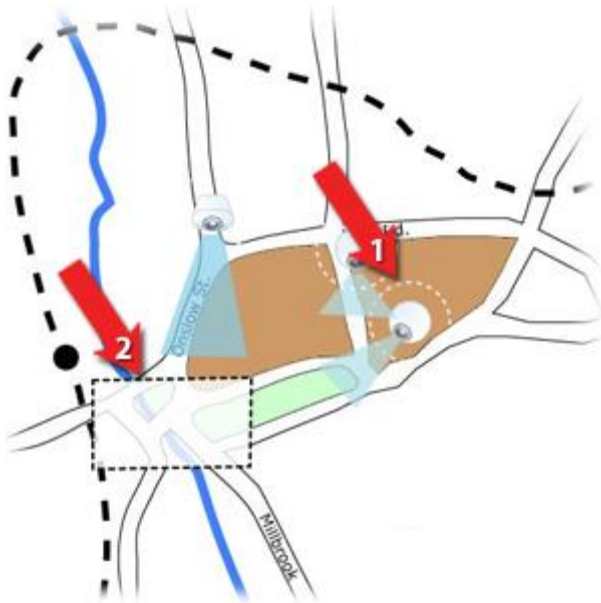
Camera elements display video in thumbnail format when you move your mouse over it. When used together with alarms, the graphical elements on maps display white circles around them if alarms occur. For example, if an alarm associated with a particular camera occurs, the graphical element representing that camera will immediately get a white circle around it (1 in the following illustration), 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.

Tip: If white 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 white (2 in the following illustration), 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 server, priority or state in the alarm list.

Events


An event is a predefined incident on the surveillance system that can be set up to trigger an alarm. Events are either predefined system incidents or user-specified events (for example, analytics events, generic events, or user-specified). Events are not necessarily linked to an alarm, but they can be.

Typically, events are activated automatically and in the background (for example, as a result of input from external sensors, detected motion or by data from other applications), but can also be manually activated. Events are used by the surveillance system 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 surveillance system, for example recording on a particular camera with a particular frame rate for a particular period of time as well as sending of a mobile phone text message with a predefined incident description to a particular security officer.

Your surveillance system administrator determines what happens when you manually activate an event. Your surveillance system administrator may use the terms event buttons, user-defined events or custom events for manually activated events.

Manually activate an event

- On the **Live** tab, in the **Event** pane, select the relevant event and click **Activate**.

The list of selectable events is grouped by server, and the camera/device with which the event is associated. Hierarchically, global events will appear under the relevant server. If a server is listed with a red icon , it is unavailable and you cannot activate events on it.



Alternatively, if available for the camera, click the overlay button that appears when you move your mouse over the image.

There is no confirmation once you have activated an output.

Working with alarms

From the alarm list, you are able to acknowledge alarms, edit details of alarms, or print reports with information about alarms.

View and edit details of an alarm

Double click on an alarm to open the window for the alarm. The window shows a preview of the alarm incident and live video. You can manage the alarm in the following way:

- **State:** Lets you change the state of the alarm. Typically, you would change state from **New** to **In progress**, and then later to **On hold** or **Closed**; but if required you can also change state from, for example, **On hold** to **New**.
- **Priority:** Lets you change the priority of the alarm.
- **Assigned to:** Lets you assign the alarm to a user in your organization, including yourself if required. The person to whom you assign the alarm will then become the owner of the alarm, and will be listed in the alarm list's **Owner** column.
- **Comment:** Write comments and remarks, which will be added to the alarm history. Comments typically relate to the actions you have taken. Examples: "Suspect detained by Security," "Suspect handed over to Police," "False alarm," etc.
- **Alarm History:** The alarm history is a summary of how you have handled the alarm. Any changes you or your colleagues make to alarm state or priority, any reassigning of alarms between users as well as any comments added will automatically be included in the alarm history. To view the alarm history, click the button in the bottom left side of the edit dialog.

Depending on surveillance system server configuration, the alarm history may contain instructions about what to do when handling the alarm. The instructions are defined on the server side as part of the alarm definition. When that is the case, the alarm history is automatically displayed when you edit the alarm.

- **Print:** Lets you print a report with information about the alarm, including the alarm history and, if available, a still image from the time of the alarm.

Acknowledge an alarm

- To record that you have received an alarm, and that you will do something about it, right-click the alarm and select **Acknowledge**. This will change the state of the alarm from **New** to **In progress**. You can only acknowledge new alarms.

You can acknowledge multiple alarms simultaneously; press and hold down the CTRL key, and then select the alarms you want to acknowledge.



Disable an alarm

If you know that certain activity is causing false alarms, you may want to disable alarms on this type of activity for a period of time. This can make it hard for you to see the real alarms that you need to address. For example, if there is a lot of movement around a particular camera and this is generating several false alarms, you can disable alarms on motion detection for this camera for 10 minutes.

1. In the **Alarm list**, select the alarm.
2. Right-click it and select **Disable new alarms**.
3. In the **Disable alarms** window, specify how long you want to disable the alarm.

Ignore an alarm

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.

Print a report with alarm information

From the alarm list, 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, right-click the alarm in question and select **Print**. You cannot use the print feature if you have selected multiple alarms in the alarm list.

View alarm reports

- Click the **Report** button to open the **Alarm Report** window, where you can view two graphs representing one of the following predefined reports:
 - Category
 - State
 - Priority
 - Reasons for closing
 - Site
 - Response time

You can filter the interval of the report, so it displays alarms over a period of 24 hours, 7 days, 30 days, 6 months, or a year.



Select the categories, states, priorities, reasons for closing, sites, or response times to display in each of the two graphs so you can compare these side by side. The graphs display the number of alarms on the vertical axis and the time frame on the horizontal axis.



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; you can click an element on a map to see only alarms associated with that element, you can click a predefined filter in the Filter pane, or you can define your own custom filters.

- To filter the alarm list's content, in the **Alarm List** toolbar, click **Filter** to open the **Filter** pane above the alarm list. Enter 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 will only display alarms assigned to that particular user.

You can combine filters (for example, for a location on a certain date). When you apply a filter, the filter section will change background color from blue  to orange . To return to the unfiltered alarm list, click the **Clear filter** link in the Alarm List toolbar.

Tip: In fields where you type your filtering criteria, typing the first few characters of the required name, location or similar is often enough.

Having entered filtering criteria, note that the alarm list will not be updated until you move the insertion point to another filter field.

Tip: If your alarm handling views contain map content, you can also filter the alarm list by right-clicking an element (camera, server, or similar) on the map, then selecting **Show Alarms**. This will make the alarm list show only alarms from the selected element.

- To sort the alarm list's content, in the **Alarm** list, click the  button at the top of the column.



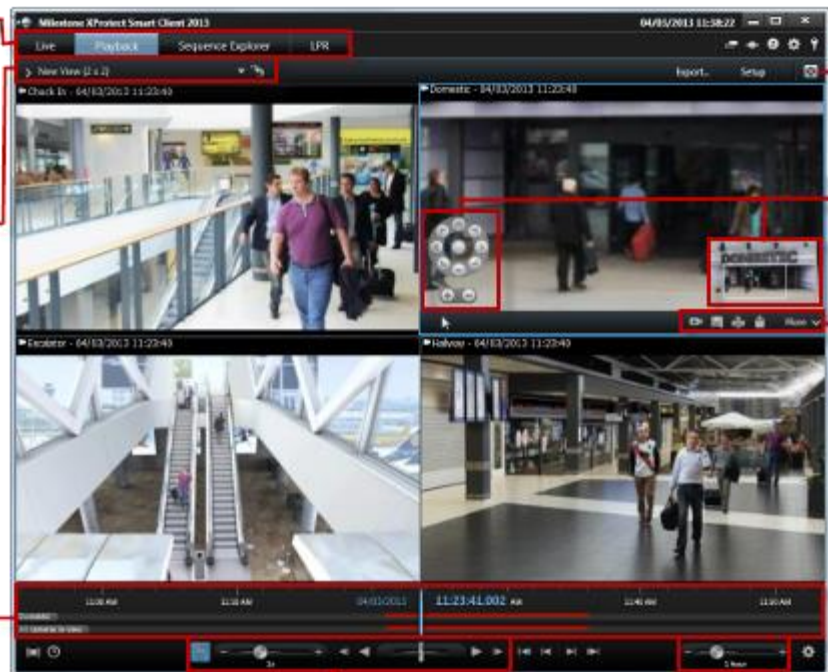
XProtect Smart Client – Player

About the XProtect Smart Client – Player

The XProtect Smart Client – Player is a version of the XProtect Smart Client that can be included with exported video data, letting the recipient view the exported files without having surveillance software installed. An XProtect Smart Client – Player is also automatically included in video archives and recording database folders to ensure availability of recordings if the disk with the recordings is removed. You can use the XProtect Smart Client – Player to view video data and archives and to repair corrupted databases. The application has many of the features of the XProtect Smart Client and looks similar.

Quick guide to the XProtect Smart Client – Player

The
Playback/Se
quence
Explorer tab
(on page 24)
Current view
(on page 24)



Full screen
(on page 25)

Zoom (on
page 25)

Copy/print
image (on
page 25)

Timeline (on
page 24)

Playback (on
page 25)

Change timeline
span (on page
25)



Work with views in the XProtect Smart Client – Player

You create and manage views by clicking **Setup** on the XProtect Smart Client – Player toolbar.

The Project pane

A project in XProtect Smart Client – Player is a collection of files that are created when video is exported in database format from XProtect Smart Client.

- Click **Setup** to make changes to a view or your application settings and save these to your project.

Your user settings, including information about your views, are stored as part of a project.

Passwords

You can assign passwords to a project, for example, so only people with permission can view a video. You can also assign passwords to devices when you export them. To avoid having to keep track of several database passwords, you can assign a single password to the overall project. If you do not assign an overall password and you have databases with passwords added to your project, you will be asked to enter a password for each database when you open the project. If you assign a password to a project, you cannot delete it. However, you can change the password or create a new identical project in the **Project** pane:

- Click **New Project** and then click **Open Database**  to start the **Open Database** wizard and add the relevant devices.

The Views pane

In the **Views** pane you can add, create, edit, or delete views. For more information on what you can do with views, see Views (see "About views" on page 39).

The Overview pane


The **Overview** pane displays the cameras, microphones, speakers, HTML, images, and plug-ins assigned to the project.

- Click **Open Database** , to open the **Open Database wizard**. You can rename and delete devices from a project by clicking **Rename**  or **Delete** .

When you delete a device, this does not delete the actual database files associated with the device, it just removes them from the project.


Link Audio

You can link audio to a device:

- Click **Link Audio to Camera**  to have associated audio automatically selected when you view recorded video for a particular camera.



Open Database wizard

The Open Database wizard lets you open a database from an archive or previously exported material. You can use this wizard to open a database and add it to your project, for example, if you want to view an archived database or previously exported material. The Open Database wizard also repairs corrupted databases automatically. To start the Open Database wizard, on the XProtect Smart Client toolbar, click Setup, and in the Overview pane, click Open Database: .

WARNING: Do not attempt to open a live database or live archive—this can damage your system.

Select the folder containing the relevant files. When you select a database, the name of the device appears next to the **Camera**, **Microphone**, or **Speaker** field. If the system cannot identify a camera, for example, if you open archived recordings, the name will be **Unknown** and all three types of devices will be added as Unknown devices (even if they don't exist) with the database file name assigned. If there is no device, the field contains **N/A**.

You can also see whether or not the database contains signatures. You can verify the database when it is added to the project (see the following section).

If the database you are trying to open is corrupted, the wizard can repair it.

Verify signatures

If the exported material you are viewing has a signature assigned to it, you can verify this manually.

1. On the XProtect Smart Client – Player toolbar, click the **Verify Signatures** button to open the **Manual verification** window. Here you can see the devices and whether they have been modified (tampered with) on the recording server and/or after the export process. A database can be verified, partially verified (if some of the files have not had signatures attached), or not signed.
2. Click **Verify** to start the verification process, in which all the files are checked and verified.

There are two scenarios where digital signatures are excluded during the export process:

- If a privacy mask has been added, no digital signatures for the recording server will be included 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. In this case, only part of the export will have digital signatures added.

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.



XProtect Access Control Module

About access control integration

The use of XProtect Access Control Module requires that you have purchased a license that allows you to access this feature.

You can use XProtect Access Control Module with access control systems from vendors that have a vendor-specific plug-in for XProtect Access Control Module.

Access control in XProtect Smart Client integrates events from the access control system with the features of the XProtect video management software. The information from the access control system generates events in the XProtect system. On the **Live** tab, you can monitor access control events in real time, and on the **Access Control** tab, you can view and investigate particular events and door states.

The **Live** tab lets you view video from the cameras associated with a door, giving you a full overview of the live access control events associated with these cameras. In setup mode, you can customize your **Access Monitor** view items with overlay buttons and map integration.

When a person requests access, 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 of doors.

The **Access Control** tab provides a dedicated view of all your access control events and a view of the current door states. You can easily search events and review any related footage. The filter option lets you view events from a particular time, door or cardholder. You can create a report of the events for exporting.

The door view includes a list of the doors and their current state. When you select a door, all the associated cameras show live video on the right-hand side of the screen together with detailed information.

About access control on the Live tab

On the **Live** tab, you can view video of access control events from the cameras associated with access control sources, displayed as a list of events on the right of the video.

When you click any of the events in the list, the live video automatically pauses and changes to independent playback of the event. To go back to viewing live video, either click the event again or click the **Independent playback** icon on the camera toolbar.

If the system and the event hold cardholder information, you can click the search icon next to the cardholder name on a selected event to jump to the **Access Control** tab and view all events associated with this person.

Add Access Monitors to Views

1. On the **Live** tab, in setup mode, select the view you want to add an access control camera to.



2. In the **System Overview** pane, click **Access Monitor** and drag it to the relevant position in the view.
3. In the **Access Monitor Settings** dialog that appears, specify the door and camera, and the appearance of the view item.

You can specify how you want to display access control events on the **Live** tab in the **Properties** pane.

Access Monitor Settings

- Specify the door you want to view and the associated camera. If a door has multiple access points and associated cameras, you can set up a view for each of the access points.
- Specify which events you want to view. You can, for example, set up view items for different event types: one for system events and one for access requests.
- Specify the commands that you want to have available.
- Specify the display order of the event list in the **Access Monitor** view item.

Overlay Buttons

You can add access control overlay command buttons to a view item from a list of commands configured for the doors or access points.

Map Integration

If you use the map functionality to support your surveillance and access control, you can add access control units to a map. From the map toolbox, select access control units, for example a door. Since the state of the access control units are always visible, a map used in this way is a quick way to get a graphical overview of the states of the access control units for the area or building you are monitoring.

About the Access Control tab

Access control related events and state of the doors are displayed on the **Access Control** tab. You can investigate logged events, view current door status and perform certain commands.

To allow for optimum performance, the lists only display a maximum of 100 rows at a time. To browse to the previous/next 100 rows, use the arrow buttons in the top right of the list: **< 101 - 200 >**.

You can change how the list displays data, sort columns and drag the columns to different positions. You can also use the filters at the top of the list to filter.



You can only filter and sort on access control systems if your XProtect system integrates with multiple access control systems.

You can drag the Access Control tab to separate windows, while you keep the main window in the background to watch several views simultaneously.

Lists

You can filter, sort and review data related to:



- Events:** Events are logged with a time stamp, event type, the associated door or access control unit, and cardholder name if available. When you select an event, the preview on the right lets you view the related video sequence for the event. The preview camera title bar shows the camera related to the unit that triggered the event. If you have multiple cameras associated with a door, they all appear in the preview. Standard playback options are available from the toolbar. Related cardholder information appears below the video preview together with details about the selected event. Click  to view live video or play back recorded video in a floating window.
- Doors:** Lists the doors, access points and other access control units in each access control system, and their current state. When you select a door, the associated camera shows live video on the right-hand side of the screen together with detailed information. If you have multiple cameras associated with a door, they all appear in the preview. Standard independent playback options are available from the toolbar. Action buttons allow you to perform certain commands related to that door, for example lock/unlock door. Available commands depend on your system configuration. Information related to the selected door appears below the live video preview. Click  to view live video or play back recorded video in a floating window.

Filtering and Searching

There are several ways you can filter the event or door status lists, so it displays the data that you are interested in. Click any of the filters at the top of the list to see only data associated with that filter. Any filters you apply are immediately reflected in the list.

Events list:

<p>Time</p>	<p>Select one of the available time periods to see data for that particular period. For example, click Today to see only events that took place today or use the custom interval to specify a particular time period.</p> <p>If you select Live update, the list of events is updated instantly if new events occur that meet the filter criterion. The list displays maximum 100 events. You cannot search for cardholders when you use live update.</p>
<p>Event</p>	<p>Select one or more of the available event types directly from the list of event categories and uncategorized events or select between specific access control events.</p>
<p>Source</p>	<p>Select one or more of the available sources directly from the list of doors or select between other sources (for example access points or controllers from the access control system) to view only events for those units.</p>
<p>Cardholder</p>	<p>Select one or more of the available cardholders.</p>

Doors list:



Name	Select one or more of the available doors, access points and uncategorized types or select between other access control units to view only states of those selected.
State	Select one or more of the available states directly from the list of state categories and uncategorized states or select between specific access control states.

You can combine filters (for example, for a particular cardholder on a certain date). You can also right-click any value in a column and you immediately filter data by that value.

You can use the **Search** field to search for a particular cardholder in the event list and for a unit name in the doors list.

Unless you select **Live Update**, the list only displays data from the time you searched or filtered. If you want to see the latest data, click the Refresh button.

Export an access report

Except in live update mode, you can export a report of the event list to a PDF file. Click the

Access Report

button. The report contains:


- Report name
- Report destination
- A list of the applied filters
- A comment field
- An option to include snapshots

If the event count is very high, you will receive a recommendation to refine the search and thereby reduce the number of search results.

Access Control System Applications

Depending on your system, you may be able to connect to the access control system applications via **Access Control Administration**, for example, to Access Management or Cardholder Management.

About the access request notifications

Your organization may have chosen that only security personnel must open the doors, when people want to enter your building. If such conditions apply, you may, for example, receive access request notifications when a person wants to enter one or more areas. All conditions that trigger an access request notification have to be specified in the video management system. The notification displays video related to the access request, allowing you to see the person who is requesting access. The name of the door that should open is shown as a headline, indicating, for example, **Access Request - Front door**. The door state (for example open, closed or forced open) also appears. If you have multiple cameras associated with a door, they appear below each other. Click  to view video in a floating window.





Access request notifications are temporary. When you close an access request notification, the access request is no longer present in your system. If you close XProtect Smart Client while an access request notification is shown, the access request is not restored when you restart.

Access requests stack up on each other in the access request notification window so that you can handle all incoming access request notifications from the same notification window. You can also drag the notification to the other side of the screen. If needed, you can minimize the access request notification window to allow the functionality to continue in the background. The minimized notification window blinks to indicate that you have new notifications.


Access Request Notification Functionality

Access request notifications allow you to speak and listen to the person who wants to enter, if a speaker and/or microphone is attached to the relevant camera that shows the access request notification:

- To listen to what the person requesting access is saying, click the  button.
- To speak to the person requesting access, for example to give instructions on how to proceed or behave in the area, click and hold the  button.

To the right of the **Listen to** and **Speak** buttons, you find buttons that allow you to carry out certain actions. The most typical action is to unlock a door for a person requesting access, but could also be to turn on the lights in the area close to the relevant entry.

Cardholder information may be available if your access control system provides the XProtect system with such information. Cardholder information may be the cardholder's ID number, name, department, manager, phone number and access level.

You can turn off access request handling, for example in cases where only one person should handle access requests. Click the **Options** icon  and select **Access Control** to turn off access request notifications. If you later need to handle access requests again, turn on access request notifications.



XProtect LPR

License plate recognition (LPR) recognizes characters and numbers on images to read vehicle license plates and to extract the alphanumerics of the license plates and store these as records in the system. The recognitions can generate LPR events in the system. You can:

- Monitor LPR events as they happen in the system on the **Live** tab (see "LPR on the Live tab" on page 168).
- View and investigate particular LPR events on the **LPR** tab (see "LPR tab" on page 169) and export LPR events as a report.
- View and investigate particular LPR alarms on the **Alarm Manager** tab (see "LPR on the Alarm Manager tab" on page 172).

LPR on the Live tab

On the **Live** tab, you can view live video from your LPR cameras. You can view video from several LPR cameras in a view at the same time. On the right side of the view item, the LPR events appear whenever there is a match. In setup mode, you can change the settings that define how the list of license plate numbers displays.

When you click a license plate in the LPR event list, the live video automatically pauses and changes to independent playback. To go back to viewing live video, either click the license plate again or click the **Independent playback** icon on the camera toolbar.

Add LPR cameras to views

1. On the **Live** tab, in **Setup** mode, select the view you want to add an LPR camera to.
2. In the **System overview** pane, click **LPR** and drag it to the relevant view item.
3. In the **Select LPR Camera** dialog box, expand the required server to view a list of available LPR cameras from that server.

You can specify how you want to display LPR camera events on the **Live** tab in the **Properties** pane (see "Adjust LPR view settings" on page 168).

Adjust LPR view settings

1. On the **Live** tab, click **Setup**.
2. In **Properties**, next to **LPR camera**, click the browse button to open the **Select LPR Camera** dialog box and select another LPR camera.
3. Choose the order of LPR events in your lists on the right side of the preview:
 - **Newest on top**: Display the newest LPR events at the top of the list.



- **Newest on bottom:** Display the newest LPR events at the bottom of the list.
4. If you want to display the list of license plates from one camera but want to view video from another, select a different camera in the **Camera name** field.

Enable LPR server status on maps

It is possible to visualize LPR servers on maps and have their current status shown on the maps. To enable the LPR server status on maps:

1. On the **Live** tab, click **Setup**.
2. In **Views**, select the relevant map.
3. Right-click the map and select **Toolbox**.
4. In the toolbox, click the **Add Plug-In Element** icon to open the **Element Selector** window.



Add Plug-In Element icon

5. Select the relevant LPR server and drag it onto the map.
6. On the map, right-click the LPR server icon and select **Status Details** to get live status on the LPR server and the LPR cameras related to the server.

You can associate the LPR specific map with your Alarms list by adding the map on the **Alarm Manager** tab.

LPR tab

The **LPR** tab lets you investigate LPR events from all your LPR cameras. The tab includes an LPR event list, and an LPR camera preview for previewing video associated with individual LPR events. Below the preview, information about the license plate appears together with details from the license plate match list it is associated with.

You can filter (see "About filtering LPR events" on page 170) the event list according to the period, country module, LPR camera, or license plate match list. Use the **Search** field to search for a particular license plate number. By default this list shows LPR events from the last hour.

You can specify and export a report of relevant events as PDF (see "Export LPR events as a report" on page 172).

You can make updates to the existing match lists by using the **License Plate Match List** (see "Edit license plate match lists" on page 170) function.

Use the **Refresh** button to update the event list with the latest events.

About the LPR event list

The LPR event list displays all LPR events. By default the list displays LPR events from the last hour and with the newest at the top, but your system administrator can change this.



When you select an LPR event from the list, you can see a preview to the right with the related video sequence for the event. The title bar of the preview shows the name of the LPR camera from where the LPR event was triggered. You also see the license number, country module, time of the event and the match list that triggered the event.

You can change how the LPR event list displays events; you can sort the columns and you can drag them to different positions. You can use the filters at the top of the list to filter LPR events (see "About filtering LPR events" on page 170) or use the Search field to search.

The LPR event list only displays LPR events from the time of your search or filter. If you want to see the latest LPR events, click the **Refresh** button.

To allow for optimum performance, the list only displays a maximum of 100 LPR events at a time. To browse to the previous/next 100 LPR events, use the buttons in the top right of the LPR event list:

< 101 - 200 >

About filtering LPR events

There are several ways you can filter the LPR event list, so it displays just the LPR events that you are interested in; you can click any of the filters at the top of the list to see only LPR events associated with that filter. Any filters you apply are immediately reflected in the list.

- **Period:** Select one of the available periods to see LPR events within that particular time.
- **Country module:** Clear or select country modules to view only LPR events linked to a license plate from a particular country, state or region.
- **LPR camera:** Select one or more of the available LPR cameras to view only LPR events for those cameras.
- **License plate match list:** Select one or more license plate lists to view only LPR events generated by those lists.

You can combine the filters, for example, for a particular country module on a certain date.

You can also use the **Search** field to search for a particular license plate. Enter a combination of characters to find results with combinations of those characters. For example, if you enter the characters **XY 12** you will get license plates that have both XY and 12 in their number. If you enter **XY12** you will only get license plates that have XY12 in their number.

Edit license plate match lists

You can add and delete license plates from license plate match lists:

1. On the **LPR** tab, at the top right of the window, click **License Plate Match Lists** to open the **License Plate Match Lists** dialog box.
2. In **Select license plate match list**, select the list you want to edit.
3. To add a license plate, click **Add**. Enter relevant information and click **OK**.
4. To edit an existing license plate, you can use the search function to find the relevant license plate.



5. Double-click a single row to edit or select multiple rows and click **Edit**.
6. In the dialog box, enter information and click **OK**. If the match list contains multiple columns, you can edit the information in all fields.
7. To remove a license plate, you can use the search function to find the relevant license plate.
8. Select multiple rows if needed and click **Delete**.
9. Click **Close**.

Alternatively, you can add a license plate to a license plate match list by right-clicking an unlisted LPR event and select **Add to list**. You can also remove a license plate by selecting the relevant LPR event, and on the right, below the preview, click the **Remove from list** icon.

Import/export license plate match lists

You can import a file with a list of license plates that you want to use in a license plate match list. You have the following import options:

- Add license plates to the existing list.
- Replace the existing list.

This is useful if, for example, the lists are managed from a central location. Then they can keep all local installations updated by distributing a file.

Similarly you can export the complete list of license plates from a match list to an external location.

Supported formats are .txt or .csv.

To import:

1. On the **LPR** tab, at the top right of the window, click **License Plate Match Lists** to open the **License Plate Match Lists** dialog box.
2. Select the relevant list.
3. To import a file, click **Import**.
4. In the dialog box, specify the location of the import file and the import type. Click **Next**.
5. Await the confirmation and click **Close**.

To export:

1. To export a file, click **Export**.
2. In the dialog box, specify the location of the export file and click **Next**.
3. Click **Close**.
4. You can open and edit the exported file in, for example, Microsoft Excel.



Export LPR events as a report

You can export a report of LPR events to a PDF file.

If you want to change the paper format or fonts, select **Options** -> **Advanced** and change:

- PDF report format.
- PDF report font.

1. On the **LPR** tab, filter or search for the events you want to include in the report.

If the number of found events is very high, you will receive a recommendation to refine the search and thereby reduce the number of search results.

2. Click the **LPR Report** button.
3. Specify the following values and click **OK**:

- Report name
- Report destination
- A comment field
- An option to include snapshots

A progress bar appears at the top right of the XProtect Smart Client window.

4. Click **Details** to view the report.

LPR on the Alarm Manager tab

On the **Alarm Manager** tab, you can view and investigate alarms related to LPR. Some customization is required before you can view the information:


- Enable LPR-specific elements (on page 172)
- Alarms list must be in Event mode (see "Configure Alarms list" on page 174)

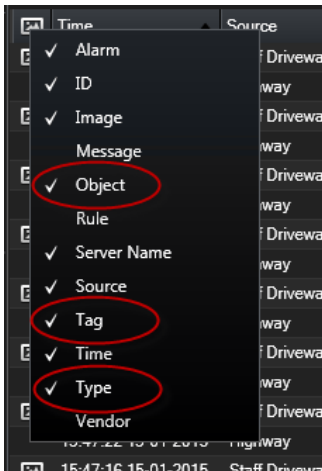
In general, read the sections about alarm management for more details on XProtect Smart Client functionality.

Enable LPR-specific elements

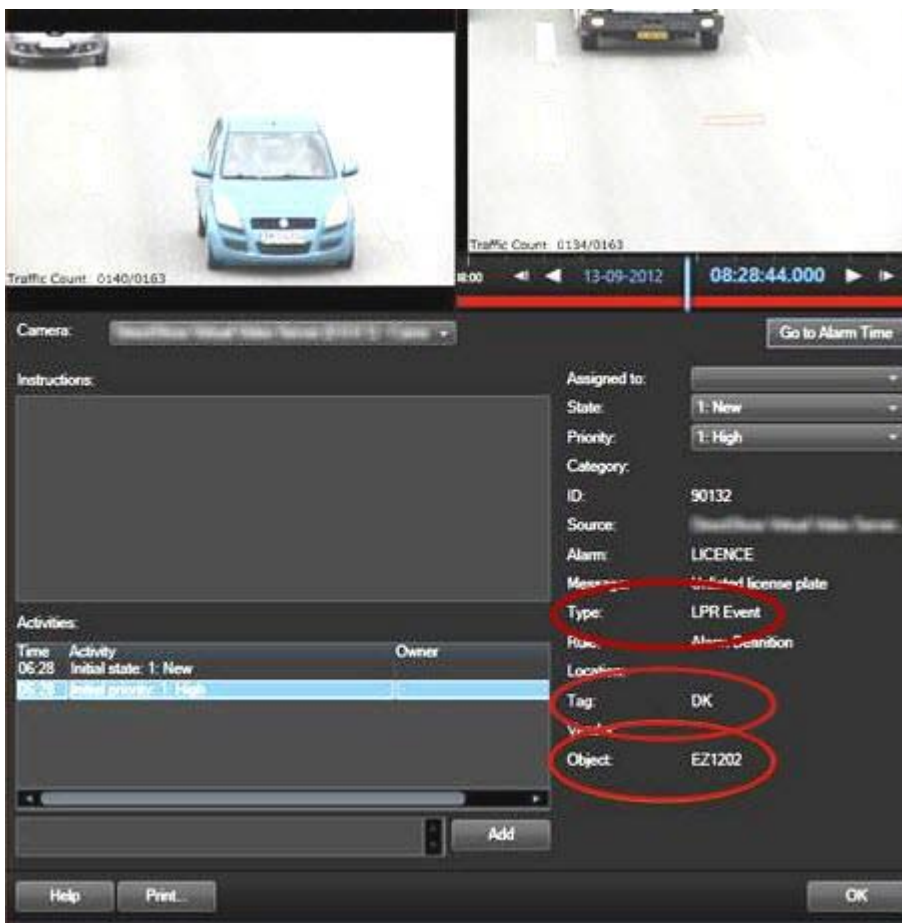
To be able to see all relevant information regarding LPR recognitions in your XProtect Smart Client, on the **Alarm Manager** tab, do the following:



1. On the **Alarm Manager** tab, in the **Alarms** list, right-click the **Image** icon  next to the **Quick Filters** column. From the menu, select: **Object**, **Tag**, and **Type**.



2. Now **Type** displays all events related to LPR, **Tag** displays their country codes, and **Object** displays license plate numbers of the registered vehicles.





Configure Alarms list

If you want to view all LPR recognitions in the **Alarm Manager**, the **Alarms** list must be in **Event** mode. Do the following:

- On the **Alarm Manager** tab, click **Setup** and select **Event** as data source.

If you view LPR recognitions in the **Alarms** list in **Alarm** mode, you only see LPR recognitions associated with an alarm.

For a more customized view of incoming LPR events and alarms, you can use the filtering functions available in the **Alarm Manager**. If you want to see alarms from LPR events, filter on LPR in the **Type** field.

A screenshot of a software interface showing a 'Custom (Filter Applied)' dialog box. The dialog has a dark background with white text and input fields. It contains four rows of labels and input boxes: 'Source:' with an empty box, 'ID:' with an empty box, 'Event:' with an empty box, and 'Type:' with a box containing the text 'LPR'. To the right of these are two more labels and boxes: 'Tag:' with an empty box and 'Object:' with an empty box.



Scripting

Startup scripting

You can use scripting to control parts or all of the XProtect Smart Client login procedure.

Examples:

- 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.

Some authentication methods are only available if the XProtect Smart Client user logs in to certain Milestone surveillance systems. For a detailed outline of the features available on your particular system, see the XProtect Product Comparison Chart on: <http://www.milestonesys.com>.

Parameters

You can use the following parameters:

ServerAddress

Refers to the URL of the server to which the XProtect Smart Client connects.

For XProtect Corporate or XProtect Expert, this is the URL of the management server.

For XProtect Enterprise, XProtect Professional, XProtect Express, or XProtect Essential it is the URL of the image server.

The following example shows the XProtect Smart Client's login window with **http://ourserver** in the **Server address** field:

```
Client.exe -ServerAddress="http://ourserver"
```

The XProtect Smart Client's 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'
```



Glossary of Terms

Symbols & Numeric

360° Lens

A lens that allows the creation and viewing of 360° panoramic images.

A

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

Camera Navigator

A feature that allows you to see all your cameras in relation to each other, for example, as they are laid out according to a floor plan. Using the Camera Navigator, you can navigate from one camera to the next from a single view.

Carousel

A particular position for viewing video from several cameras, one after the other, in a view (on page 182) in XProtect Smart Client.

Codec

A technology for compressing and decompressing audio and video data, for example in an exported AVI (on page 178) file.

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 (on page 181) 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.

F

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 (on page 179) (Frames Per second).

G

GOP

Group Of Pictures; individual frames grouped together, forming a video motion sequence.

H

H.264

A compression standard for digital video.

Like MPEG (on page 180), the standard uses lossy compression as it stores 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. Together with a very large degree of compression, this helps greatly reduce the size of video in the H.264 format. The very large degree of compression in H.264, however, can use considerable resources on the devices involved in the data communication.

For example, the computer running XProtect Smart Client should be able to use considerable resources on decompressing H.264 video when it receives it from the surveillance system.

Hexadecimal

A numeral system with a base of 16, meaning that it uses 16 distinct symbols. Here used for defining color nuances in the map view's color tool.

Host

A computer connected to a TCP/IP network. A host has its own IP address, but may—depending on network configuration—furthermore have a name (host name) in order to make it easily identifiable.

Host Name

A name by which a particular computer on a network is identified. Host names are often easier to remember than IP addresses.

Hotspot

A particular position for viewing magnified and/or high quality camera images in XProtect Smart Client views (see "View" on page 182).

I

I/O

Short for Input/Output.



I-Frame

Short name for intraframe. Used in the MPEG (on page 180) 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.

IPIX

A technology that allows creation and viewing of 360° panoramic images.

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.

JPG

See JPEG.

K

Keyframe

Used in the standard for digital video compression, such as MPEG (on page 180), 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 (on page 179).

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 (on page 182).

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 (see "Matrix Recipient" on page 180).

Matrix Recipient

Computer on which you can view Matrix-triggered video.

Monitor

An individual monitor in XProtect Smart Wall.

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



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 camera positions in views on the **Live** tab. Use overlay buttons to activate speakers, events, output, move PTZ (on page 181) cameras, start recording, clear signals from cameras.

P

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's features. Exactly which panes you see depends on your configuration and on your task, for example on whether you are viewing live video on the **Live** tab or recorded video on the **Playback** tab.

P-Frame

Short name for predictive frame. The MPEG (on page 180) standard for digital video compression uses P-frames together with I-frames (see "I-Frame" on page 179). 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.

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.

Preset

A predefined layout for an individual monitor in a Smart Wall (a.k.a. monitor wall or video wall).

PTZ

Pan/Tilt/Zoom; a highly movable and flexible type of camera.

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.

Speakers

In the context of XProtect Smart Client: Loudspeakers attached to a camera that allows XProtect Smart Client users to talk to audiences at the physical location of a camera.

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.

Transact

Product available as an add-on to surveillance systems. With Transact, it is possible to combine video with time-linked PoS or ATM transaction data.

U

URL

Uniform Resource Locator; an address of a resource on the world wide web. The first part of a URL specifies which protocol (i.e. data communication standard) to use when accessing the resource, whereas the second part of the URL specifies the domain or IP address at which the resource is located. Example: <http://www.myorganization.org>.

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 static 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.



Index

3

360° Lens • 172

360° lens images • 108

A

About access control integration • 157

About access control on the Live tab • 157

About alarms • 145

About audio • 60

About bookmarks • 35, 95, 111

About Bounding Box Providers • 57, 59

About carousels • 86, 91

About digital zoom • 106

About evidence locks • 33, 133

About exporting storyboards • 138, 141, 142

About filtering LPR events • 163, 164

About frame rate effect • 54, 58

About hotspots • 80, 91

About live video • 27

About login authorization • 18, 19, 21

About login to access control systems • 20

About Matrix • 90

About motion threshold • 126

About recorded video • 28, 33

About the Access Control tab • 158

About the access request notifications • 160

About the camera navigator • 78

About the Login window • 18

About the LPR event list • 163

About the Sequence Explorer • 111, 120, 131

About the XProtect Smart Client – Player • 154

About views • 39, 155

About XProtect Smart Wall • 81

Access control options • 99

Acknowledge an alarm • 151

Add a camera to a view • 34, 40, 49, 51

Add a carousel to a view • 86

Add a hot zone to a map • 73

Add a hotspot to a view • 80

Add a map to a view • 34, 71, 79

Add a Smart Wall setup to a view • 34, 82

Add a static image to a view • 42

Add an HTML page to a view • 41

Add an overlay button to a view • 43

Add and remove elements from maps • 72

Add content to views • 34, 40

Add LPR cameras to views • 162

Add Matrix content to a view • 34, 91

Add or edit bookmarks • 33, 112

Add the camera navigator to a view • 34, 79

Add/edit text on a map • 76

Adjust LPR view settings • 162

Adjust time • 125



- Advanced options • 99
- Alarm • 172
- Alarm list settings • 146, 147
- Alarm options • 99
- Alarms • 65, 128, 145
- Alarms on maps • 149
- Application buttons • 15, 16, 32
- Application options • 52, 92
- Archiving • 172
- Aspect Ratio • 172
- Assign a shortcut number to a view • 30, 46
- Audio • 27, 32, 60
- Audio settings • 60, 62
- AVI • 172
- B**
- Bookmark • 172
- Bookmarks • 111, 143
- Bookmarks in the timeline • 111, 119
- Bounding boxes • 114
- C**
- Camera names and colored indicators • 52, 57, 68, 92
- Camera Navigator • 172
- Camera navigator settings • 79
- Camera settings • 27, 30, 34, 40, 51, 52, 53, 79, 81, 87, 90, 92, 93, 95
- Cameras • 51
- Carousel • 172
- Carousel settings • 87, 89
- Carousels • 27, 32, 48, 49, 59, 86
- Change cameras in views • 32, 33, 34, 48, 49
- Change the appearance of map elements • 74
- Change the background of a map • 72
- Change the layout of a Smart Wall monitor • 84
- Change timeline span • 24, 25, 154
- Codec • 172
- Configure Alarms list • 166, 168
- Copy single images • 31, 32, 35
- Copy, rename, or delete a view or group • 45
- Copy/print image • 24, 25, 154
- Copyright, trademarks and disclaimer • 11
- Create a view • 34, 44
- Create a view group • 44
- Create and manage views • 34, 43
- Create evidence locks • 33, 133
- Current view • 24, 154
- D**
- Date and time navigation • 118
- Deadzone • 172
- Define a favorite 360° lens position • 109
- Define a period • 126
- Define search • 122, 124
- Defining your views • 39
- Delete evidence locks • 135
- Digital zoom • 106



DirectX • 172

Disable an alarm • 151

Drag cameras into XProtect Smart Wall setups
• 82

E

Edit and rotate labels on a map • 76

Edit evidence locks • 134

Edit license plate match lists • 163, 164

Edit PTZ presets • 110

Enable LPR server status on maps • 163

Enable LPR-specific elements • 166

Enter setup mode • 16, 30, 32, 33, 34, 145,
147

Event • 172

Events • 59, 150

Events and alarms • 145

Evidence lock • 133

Evidence lock filters • 134, 136

Evidence lock settings • 134, 136

Evidence lock status messages • 134, 135,
136, 137

Export a storyboard • 141, 142

Export a video clip, audio, XProtect data or a
still image • 33, 141

Export evidence locks • 135

Export items directly from the Export window •
141, 142

Export LPR events as a report • 163, 166

Export options • 96

Exporting evidence • 138

F

Failure to connect • 148

Filter alarms • 148, 152

Filters • 148

First time use • 17

FPS • 173

Frame rate • 173

Frequently asked questions

audio • 62

cameras • 59

digital zoom • 107

exporting • 143

maps • 77

multiple windows • 89

views • 49

Full screen • 24, 25, 154

Functions options • 29, 94, 111, 112

G

Get to know the XProtect Smart Client • 26

GOP • 173

H

H.264 • 173

Hexadecimal • 173

Host • 173

Host Name • 173

Hotspot • 173

Hotspot settings • 80, 81



Hotspots • 27, 32, 35, 48, 49, 59, 64, 80

How elements interact with maps • 64, 70

I

I/O • 173

I-Frame • 174, 175

Ignore an alarm • 151

Import/export license plate match lists • 165

Install from a DVD • 17

Install from the management server • 17

Install XProtect Smart Client • 17

Introduction to maps • 63

Investigating incidents • 116

IPIX • 174

J

Joystick options • 97, 109

JPEG • 174

JPG • 174

K

Keyboard options • 36, 97

Keyboard shortcuts • 30, 35, 46, 49, 97

Keyboard shortcuts and overlay buttons • 34,
59

Keyframe • 174

L

Language options • 102

Log in and out • 20

LPR on the Alarm Manager tab • 162, 166

LPR on the Live tab • 162

LPR tab • 162, 163

M

MAC Address • 174

Manage PTZ presets • 32, 110

Manual recording of video • 28, 32, 35

Manually activate an event • 150

Manually activate output • 112

Manually send video to a Matrix recipient • 91

Map • 174

Map settings • 67, 76

Maps • 43, 63, 149

Matrix • 48, 49, 59, 90, 174

Matrix Recipient • 174

Media player format settings • 140

Milestone Federated Architecture • 37

Minimum system requirements • 13

MIP Plug-ins • 17

Monitor • 174

MPEG • 173, 174, 175

Multiple windows • 14, 20, 48, 61, 87

N

Navigating sequences • 126

Navigation buttons • 119

O

Open Database wizard • 156

Options window • 16, 58, 59, 91, 109, 130

Output • 175

Overlay button • 175



P

- Pane • 175
- Panes • 15
- Panes options • 30, 94
- P-Frame • 175
- Play back video with evidence locks • 135
- Playback • 24, 25, 154
- Playback buttons • 118
- Playback date and time • 118
- Playback Speed • 118
- Port • 175
- Preset • 175
- Print a report with alarm information • 152
- Print evidence • 29, 33, 35, 106, 113, 114, 128, 131
- Privacy masks • 40, 51, 113
- Private and shared views • 15, 39
- PTZ • 35, 172, 175
- PTZ and 360° lens images • 27, 29, 32, 53, 108
- PTZ images • 73, 86, 109

Q

- Quick guide to the XProtect Smart Client – Player • 154
- Quick guide to XProtect Smart Client • 24

R

- Recording • 175
- Remove content from Smart Wall setups • 85

- Remove the map • 72

- Retrieve data from Milestone Interconnect • 117, 119

S

- Scripting • 169
- SCS • 175
- Search for bookmarks • 122
- Search for sequences • 122
- Search for views and cameras • 46
- Search recorded video • 33, 111, 130
- Search using the Recording Search pane • 111, 130
- Search using the Smart Search pane • 33, 130, 131
- Select a PTZ preset • 109
- Select a view • 30, 32, 33
- Send a view between displays • 89
- Send cameras from a map to a floating window • 71
- Send content from a view to a Smart Wall setup • 83
- Send video between views • 32, 34, 48, 84
- Send video from a Smart Wall to a view • 84
- Sequence Explorer • 15, 29, 120, 175
- Sequence Search • 120
- Server status and interconnected hardware retrieval jobs • 16, 36, 120
- Servers • 148
- Settings • 90



- Setup mode • 34
- Smart Search • 34, 123
- Sound notifications • 52, 59
- Speakers • 176
- Startup scripting • 169
- Status visualization • 66, 68
- Still images settings • 140
- Stop PTZ Patrolling • 110
- Surveillance system differences • 18, 20, 22, 23, 26, 38, 39, 43, 49, 51, 52, 59, 60, 62, 63, 74, 81, 90, 94, 95, 99, 110, 111, 122, 123, 139, 144, 145
- Swap cameras • 49
- T**
- Tabs • 14, 15, 32
- Take a snapshot • 32, 33, 35, 129
- Talk to an audience • 62
- Target audience for this manual • 12
- Task buttons • 14, 16
- TCP • 176
- TCP/IP • 176
- The Alarm list • 146
- The Alarm Manager tab • 15, 145
- The alarm preview • 145
- The basics • 32
- The Bookmark window • 111
- The camera navigator • 78
- The camera toolbar • 32, 33, 34
- The Export window • 135, 138, 142, 143
- The Live tab • 15, 27, 32
- The login process • 16, 18
- The main window • 14
- The Map Overview window • 70
- The Playback tab • 15, 33
- The Playback/Sequence Explorer tab • 24, 154
- The right-click menu • 69
- The System Monitor tab • 15, 37
- The timeline • 15, 30, 33, 37, 114, 117, 126
- The timeline buttons and controls • 116, 117
- The toolbox • 69, 73
- The XProtect Smart Client window • 14, 51
- Thumbnail overview navigation • 121
- Time navigation • 29, 112, 116
- Time selection • 33, 118, 119, 141, 142
- Time span • 119
- Timeline • 24, 154
- Timeline options • 96
- Transact • 176
- Troubleshooting • 20, 21
- U**
- URL • 176
- Use an HTML page for navigation • 42, 102
- Use digital zoom • 29, 32, 35, 106
- User rights determine the way you work • 26
- Using the camera navigator • 79



V

- Verify signatures • 139, 156
- View • 172, 173, 174, 176
- View alarm reports • 145, 152
- View and edit details of an alarm • 150
- View existing evidence locks • 134
- View in full screen • 16, 31, 33, 92
- View recorded video from cameras on a map • 63, 73
- View recorded video using independent playback • 27, 32, 33, 34, 114
- View status details • 77
- View version and plug-in information • 16, 26
- View XProtect Smart Wall content • 82
- Viewing • 106
- Views • 14, 15, 18, 39, 59
- Views and view groups • 46, 48
- Virtual joystick and PTZ overlay button • 53
- VMD • 176

W

- Work with views in the XProtect Smart Client – Player • 155
- Working with alarms • 150
- Working with maps • 71

X

- XProtect Access Control Module • 157
- XProtect format settings • 16, 29, 106, 113, 114, 118, 131, 139, 144
- XProtect LPR • 162

XProtect Smart Client – Player • 154

XProtect Smart Wall • 49, 81

Z

- Zoom • 24, 25, 154
- Zoom and auto maximize • 77



About Milestone Systems

Founded in 1998, Milestone Systems is the global industry leader in open platform IP video management software. The XProtect platform delivers powerful surveillance that is easy to manage, reliable and proven in thousands of customer installations around the world. With support for the widest choice in network hardware and integration with other systems, XProtect provides best-in-class solutions to video enable organizations – managing risks, protecting people and assets, optimizing processes and reducing costs. Milestone software is sold through authorized and certified partners. For more information, visit:

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