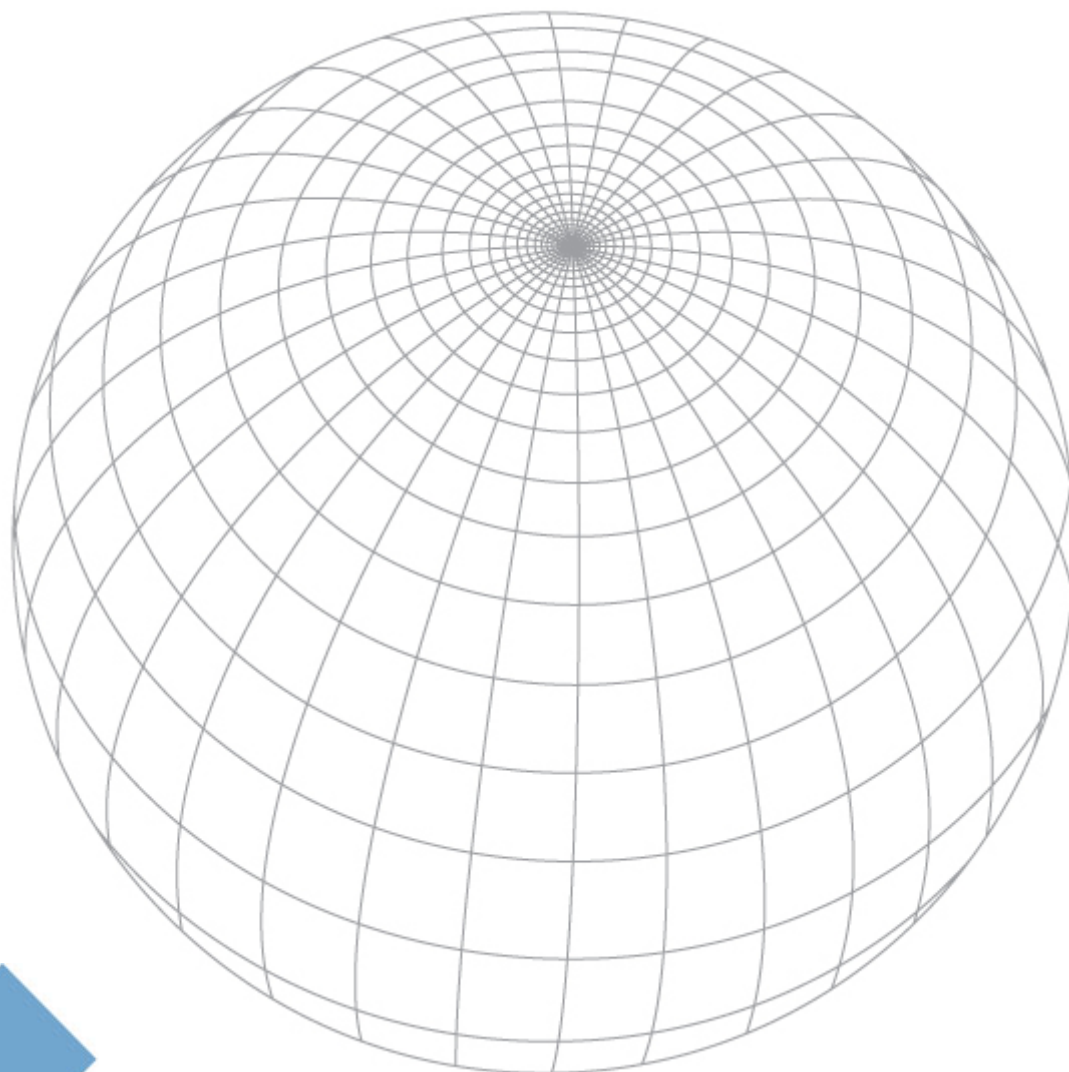


milestone
XProtect

Smart Client 3.6
User's Manual





Target Audience for this Document

This document is aimed at users of Milestone XProtect Smart Client.

This document provides detailed descriptions of Milestone XProtect Smart Client installation, configuration, and use. It furthermore provides a number of targeted “how-to” examples, guiding users through completing common tasks in Milestone XProtect Smart Client.

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

i **Tip:** 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 (page 12) and logging in to your Smart Client (page 14), you can proceed straight to this manual's chapters about viewing live and recorded video (on page 54 and 71 respectively). Consult your surveillance system administrator if in doubt.

Information for Milestone XProtect Transact Users

If your organization uses the Milestone XProtect Transact add-on solution for handling loss prevention through video evidence combined with PoS or ATM transaction data, it will be possible to view video together with time-linked transaction data in the Smart Client.

Viewing of transaction data in the Smart Client is not covered in this manual. If you require such information, please refer to the separate documentation for Milestone XProtect Transact available from www.milestonesys.com.



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



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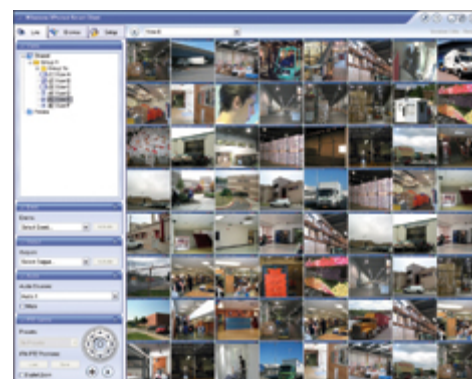
Introduction

The Smart Client provides remote users with extremely feature-rich access to the surveillance system.

The Smart Client must be installed locally on the remote user's computer.

What Can You Do with Your Smart Client?

With the Smart Client, you are able to:



- View live videos from cameras on the surveillance system.
- Browse recordings from cameras on the surveillance system with a selection of advanced navigation tools, including a highly intuitive timeline browser.
- Use two-way audio: From the Smart Client you can listen to live recordings from microphones attached to cameras, and talk live to audiences through loudspeakers connected to cameras. This way you can interact directly with your audiences. You can of course also listen to audio recordings when browsing recorded video. Note that audio is only available when connecting to selected Milestone surveillance systems; see *Surveillance System Differences* on page 100 for more information.
- Create and switch between an unlimited number of views, each able to display images from up to 64 cameras from multiple servers at a time (depending on the type of Milestone surveillance system you connect to). Views can be placed in *private* groups (only accessible by the user who created them) or in groups shared with other users.
- Use views, private as well as shared, on any computer that has a Smart Client installed.
- Create special views for widescreen monitors.
- Use multiple screens as well as floating windows for displaying different views simultaneously.
- Quickly substitute one or more of a view's cameras with other cameras.
- View images from several cameras, one after the other, in a single camera position (a so-called carousel).
- View images from selected cameras in greater magnification and/or higher quality in a designated hotspot.
- Receive and send images through Milestone XProtect Matrix.
- Include HTML pages and static images (e.g. maps or photos) in views.
- Control PTZ (Pan/Tilt/Zoom) and fisheye (360° view) cameras.



- Use digital zoom on live as well as recorded images.
- Manually activate triggered events.
- Manually activate external outputs (e.g. sirens or lights).
- Use sound notifications for attracting attention to detected motion or events.
- Get quick overviews of sequences with detected motion.
- Get quick overviews of detected alerts or system events.
- Quickly search selected areas of camera images for motion (also known as *Smart Search*).
- Skip gaps during playback of recordings.
- Configure and use several different joysticks.
- Print images, with optional comments.
- Copy images for subsequent pasting into word processors, e-mail, etc.
- Export recordings (e.g. for use as evidence) in AVI (movie clip), JPEG (still image) and Milestone surveillance system database formats. The AVI and database formats can include audio.
- Use pre-configured as well as customizable keyboard shortcuts to speed up common actions.
- Select between a number of language versions, independent of language used on main surveillance system.

Note: Some of the above features may require certain user rights. Some of the above features may only be available if supported by the surveillance system; see *Surveillance System Differences* on page 100 for more information.

How Can User Rights Affect Your Use of the Smart Client?

The rights of individual users are specified centrally by the surveillance system administrator. The rights of an individual user will determine the user's ability to use the Smart Client's features.

Basically, the surveillance system administrator is able to restrict a user's rights to the following:


- Access to the Smart Client
- Access to each of the Smart Client's tabs: *Live*, *Browse*, and *Setup*
- Ability to use features on the Smart Client's tabs
- Ability to create views (views determine the way in which images from one or more cameras are displayed)
- Ability to view images from specific cameras



The ability to use various features of the Smart Client may therefore vary considerably from user to user. Ask your surveillance system administrator if in doubt about your user rights.

System Requirements

Operating System	Microsoft® Windows® 2008 Server (32 bit or 64 bit*), Windows Server 2003 (32 and 64* bit), Windows Vista® Business (32 bit or 64* bit), Windows Vista Enterprise (32 bit or 64* bit) or Windows Vista Ultimate (32 bit or 64* bit), Windows XP Professional (32 bit or 64 bit*). * Running as a 32 bit application.
CPU	Intel® Core2™ Duo, minimum 2.4 GHz.
RAM	Minimum 512 MB (1 GB recommended for large views, 1 GB recommended on Microsoft Windows Vista).
Network	Ethernet, 100 Mbit or higher recommended.
Graphics Adapter	AGP or PCI-Express, minimum 1024×768 (1280×1024 recommended), 16 bit colors.
Hard Disk Space	100 MB free.
Software	Microsoft .NET 2.0 Framework, and DirectX 9.0 or newer.

 **Tip:** To check which DirectX version is installed on a computer, click *Start*, select *Run...*, and type *dxdiag*. When you click *OK*, the *DirectX Diagnostic Tool* window will open; version information is displayed near the bottom of its *System* tab. If your computer requires a DirectX update, the latest versions of DirectX are available from <http://www.microsoft.com/downloads/>.

Installing the Smart Client

The Smart Client must be installed on your computer before you are able to use it.

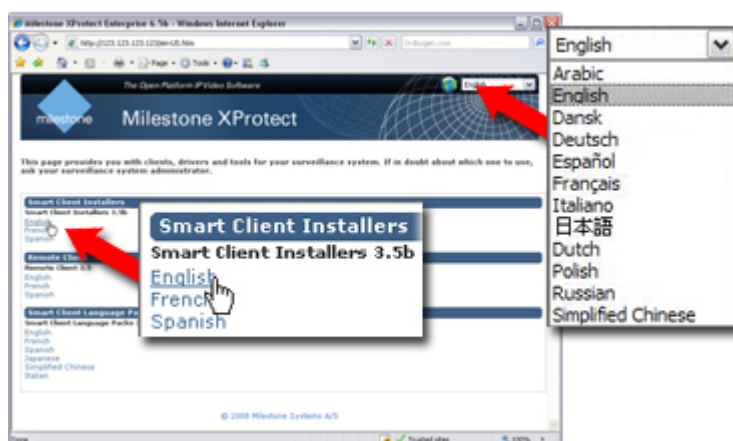
Typically, you download the Smart Client from the surveillance system server, then install it on your computer. Alternatively, your surveillance system administrator may ask you to install the Smart Client from a CD (see page 13).

In some organizations, your surveillance system administrator will be able to install the Smart Client on your computer through the network, in which case you will not have to perform any installation yourself.

Download and Installation from Server

To download and install the Smart Client from the surveillance system server, do the following:

1. Verify that your computer meets the Smart Client's system requirements (see page 11).
2. Open an Internet Explorer browser (version 6.0 or later), and connect to the surveillance system server at the URL or IP address specified by your system administrator. When you are connected to the surveillance system server, you will see a welcome page.
3. On the welcome page, select your required language in the menu in the top right corner. Then go to the welcome page's Smart Client *Installers* section, and click the required Smart Client language version link.



Example: Selecting welcome page language and required Smart Client language version. Number of available languages may be different in your organization.

? My welcome page is different, why? The illustration shows the type of welcome page that most users are likely to see. Other versions of the welcome page also exist:



If you see this type of welcome page, go to the welcome page's *XProtect Smart Client* section, and click the *Download and Install XProtect Smart Client Locally* link.



If you see this type of welcome page, click the *Install the XProtect Smart Client* link.



4. Depending on your security settings, you may receive one or more security warnings when clicking the link (*Do you want to run or save this file?*, *Do you want to run this software?* or similar; exact wording depends on your browser version). When this is the case, accept the security warnings (by clicking the *Run* button or similar; exact button names depend on your browser version).
5. The Smart Client setup wizard begins. In the wizard, click *Next*, and follow the installation instructions.

Installation from CD

To install the Smart Client from a CD, do the following:

1. Verify that your computer meets the Smart Client's system requirements (see page 11).
2. Insert the surveillance system software CD, wait for a short while, select required language, then click the *Install Milestone XProtect Smart Client* link.

i **Tip:** Depending on your security settings, you may receive one or more security warnings when clicking the link (*Do you want to run or save this file?*, *Do you want to run this software?* or similar; exact wording depends on your browser version). When this is the case, accept the security warnings (by clicking the *Run* button or similar; exact button names depend on your browser version).

3. When the installation wizard starts, click *Next* to continue the installation and follow the steps in the installation wizard.

For System Administrators Only: Silent Installation

For surveillance system administrators, it is possible to deploy the Smart Client to users' computers using tools such as Microsoft Systems Management Server (SMS).

Such tools let administrators build up databases of hardware and software on local networks. The databases can then—among other things—be used for distributing and installing software applications, such as the Smart Client, over local networks.

For more information of silent installation (when available), see the separate documentation for your surveillance system server software.



Logging In to the Smart Client

Logging in to the Smart Client is very straightforward. So is the initial configuration of the Smart Client upon your first login; in fact, configuration may in some cases not be required at all.

To log in to the Smart Client, do the following:

1. Double-click the Smart Client shortcut on your desktop.


If no Smart Client desktop shortcut is available, select the Smart Client from Windows' *Start* menu (exactly how you do this is determined by where and how you have installed the Smart Client on your computer, but you would typically select *Start > All Programs > Milestone XProtect Smart Client > Smart Client*).

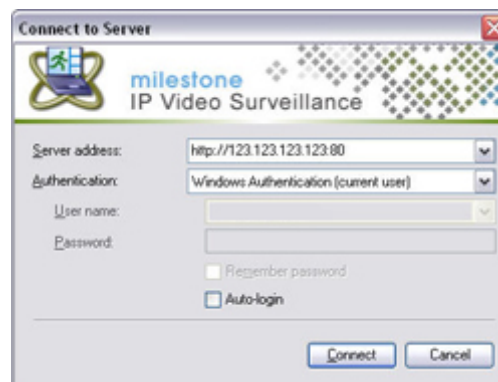


2. A splash screen is displayed while the Smart Client loads; this typically takes a few seconds only.
3. The Smart Client login window appears:
4. Specify your login information in the following fields:

- **Server address:** Type the URL or IP address specified by your surveillance system administrator.

Internet connections may use different ports for different purposes. Therefore, the URL or IP address may include a port number (example: 123.123.123.123:80, where :80 indicates the port number).

 **Tip:** If you have logged in before, you may simply select the required server from the *Server address* list.



- **Authentication:** Select between different methods of authentication (i.e. the process of verifying that you are who you claim you are).

Note: Not all Milestone surveillance systems support the use of all three authentication methods; see *Surveillance System Differences* on page 100 for more information. Consult your surveillance system administrator if in doubt about which authentication method to use.

- **Windows authentication (current user)** with which you will be authenticated through your current Windows login, and do not have to specify any user name or password. This is the Smart Client's default authentication method, i.e. the method which is automatically used unless you select another method.
- **Windows authentication** with which you will be authenticated through your Windows login, but you will need to type your Windows user name and password.
- **Basic authentication**, with which you must specify a special user name and password for accessing the surveillance system. This method can only be used with selected Milestone surveillance systems.



- **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 your surveillance system user name as specified by your surveillance system administrator. The user name is case-sensitive, i.e. 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 your surveillance system password exactly as specified by your surveillance system administrator.
- **Remember password:** When using *Windows authentication* or *Basic authentication*, you have the option of selecting *Remember password*, in which case you can simply click *Connect* the next time you want to log in.

Note: Depending on your type of organization and work environment, security restrictions may apply. Consult your surveillance system administrator if in doubt about whether it is safe to use this feature.

- **Auto-login:** If selected, you will automatically be logged in to the Smart Client, when you log in to Windows. For some authentication methods, the *Remember password* check box must be selected in order for the auto-login feature to be available.

Note: Depending on your type of organization and work environment, security restrictions may apply. Consult your surveillance system administrator if in doubt about whether it is safe to use this feature.

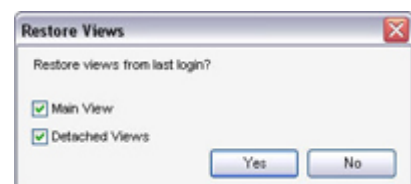
When ready, click *Connect*.

i **Tip:** If a problem or other issue occurs during login, you will receive an error message; see *Login Error Messages* on page 16 for more information.

5. **Only relevant if you have logged in before; if logging in for the first time, move to step 6.** The Smart Client will ask you if you want to keep the view(s) you last used.

Your options are:

- **Main View:** If the check box is selected, the view you last used in the Smart Client's main window will be restored. If you clear this check box, no view will initially be displayed, in which case you must select the required view yourself.
- **Detached Views:** Available when connecting to selected Milestone surveillance systems only, and only if you used views in detached windows the last time you were logged in on the computer in question (see *Using Multiple Windows* on page 94 for more information). If you select this check box is selected, the views you last sent to *Primary Display*, secondary displays and floating windows will be restored.



6. After a short wait, the Smart Client window will open. The Smart Client window has three tabs: *Live*, *Browse* and *Setup*.



The *Live* tab is used for viewing live video, the *Browse* tab is used for browsing recorded video, and the *Setup* tab is used for configuring the Smart Client. Depending on your user rights, you may not be able to access all three tabs.



If you have logged in for the first time, you need to determine whether any *views* exist. Views determine how video from cameras are displayed in the Smart Client, and are thus required in order to be able to use the 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 any views have already been created for you, in *Views* on page 20.

Logging In on Different Computers

Your user settings are stored centrally on the surveillance system server. This means that your login can be used on any computer that has a Smart Client installed.

If You Get a Login Error Message

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

Error Message	Description
<i>You do not have access to any part of the application (live, browse or setup). Please contact the system administrator.</i>	<p>Issue: You currently have no access rights to any part of the Smart Client, therefore you cannot log in to the Smart Client.</p> <p>What to do: Consult your surveillance system administrator, who will be able to change your access rights if required.</p>
<i>Failed to connect. Maximum number of clients are already connected.</i>	<p>Issue: The maximum number of remote access clients allowed to connect to the surveillance system server simultaneously has been reached.</p> <p>What to do: If possible, 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 allowed number of simultaneously connected clients.</p>
<i>Failed to connect. Please check the server address.</i>	<p>Issue: It was not possible to connect to the surveillance system server at the specified server address.</p> <p>What to do: Verify that you have typed the correct server address. Bear in mind that the <i>http://</i> prefix as well as a port number is typically required as part of the server address (example: <i>http://123.123.123.123:80</i>, where :80 indicates the port number). Consult your surveillance system administrator if in doubt.</p>
<i>Failed to connect. Please check the username and password.</i>	<p>Issue: It was not possible to log in to the Smart Client with the specified user name and/or password.</p> <p>What to do: Verify that you have typed your user name correctly, then re-type your password to ensure it does not contain errors. Bear in mind that user names as well as passwords may be case sensitive (i.e. there is a difference</p>

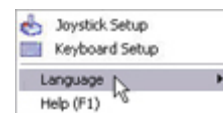


	<p>between typing <i>Amanda</i> and <i>amanda</i>). Consult your surveillance system administrator if in doubt.</p>
<p><i>New Client Available.</i></p> <p><i>Update is recommended / Update is required.</i></p> <p><i>The new version can be downloaded from ...</i></p>	<p>Issue: A new version of the Smart Client is available.</p> <p>This message is typically accompanied by information about whether an update is recommended or whether it is a requirement (for example due to recently introduced features not working in your current Smart Client version).</p> <p>The message will typically also contain information about where to download the new version from.</p> <p>What to do: Follow the advice given in the message. Consult your surveillance system administrator if in doubt.</p>

Selecting Language



1. Click the *Show Application Menu* button in the right side of the Smart Client's top bar.
2. From the menu, select *Language*, then the required language.



i Tip: If the language you require is not available, you may be able to install a language pack; see Getting Further Language Versions below.

3. The Smart Client must be restarted in order for the change to take effect. Close your Smart Client, then log in again to use the new language version.

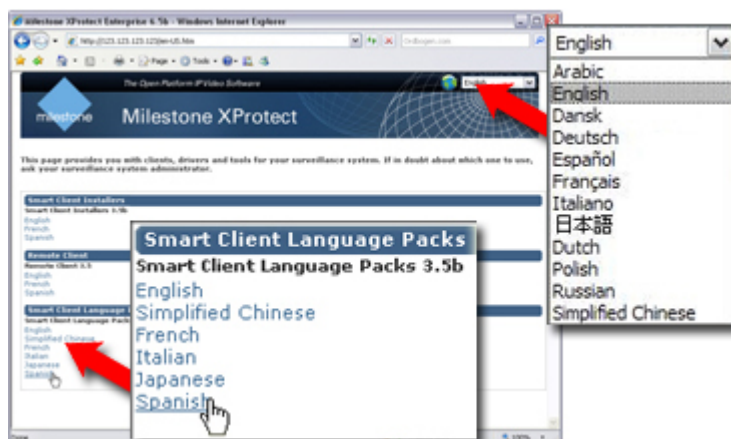
Getting Further Language Versions

If you would like to be able to select from more language versions in your Smart Client, you will often be able to install so-called language packs. Example: You have an English-language version of the Smart Client, but you would like to be able to view your Smart Client in Spanish as well. To allow this, you install a Spanish language pack on your computer. Typically, you download language packs from the surveillance system server, and then install them on your computer. Alternatively, your surveillance system administrator may ask you to install language packs from a CD.

Note: The language packs option is only available when connecting to selected surveillance systems; see Surveillance System Differences on page 100. Even for surveillance systems which support language packs, the choice of downloadable language packs may vary from organization to organization; some organizations may not provide any language packs for download. Consult your surveillance system administrator if in doubt.

How to Download and Install a Language Pack

1. Open an Internet Explorer browser (version 6.0 or later), and connect to the surveillance system server at the URL or IP address specified by your system administrator. When you are connected to the surveillance system server, you will see a welcome page..
2. On the welcome page, select your required language in the menu in the top right corner. Then go to the welcome page's *Smart Client Language Packs* section, and click the required language pack link.

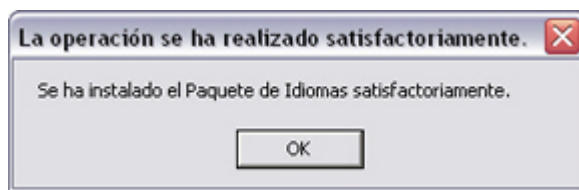


Example: Selecting welcome page language and required language pack. The number of available languages may be different in your organization.

? **My welcome page is different, why?** If your organization uses certain surveillance system versions, the welcome page looks differently (see small examples to the right). In that case, language packs are not available.



3. Depending on your security settings, you may receive one or more security warnings (*Do you want to run or save this file?*, *Do you want to run this software?* or similar; exact wording depends on your browser version). When this is the case, accept the security warnings (by clicking *Run* or similar; exact button names depend on your browser version).
4. The language pack is self-extracting: Once the language pack is downloaded, it will extract and install itself on your computer. When ready, you will see a confirmation dialog in the required language. In this example, we installed a Spanish language pack:



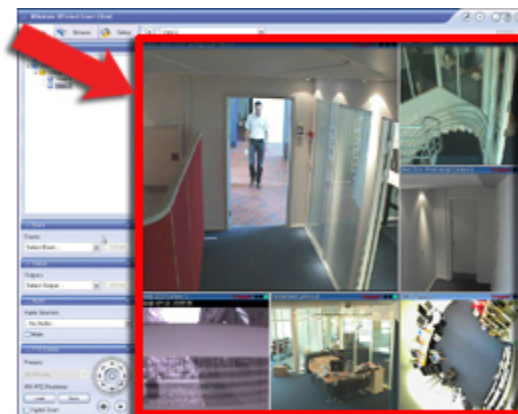
You can now select the new language in your Smart Client as described on page 18.

Views Explained

The way in which images from one or more cameras are displayed in the Smart Client is called a *view*.

A view may contain video from up to 64 cameras, depending on the surveillance system to which you connect. A Smart Client can handle an unlimited number of views, allowing you to switch between video from various collections of cameras.

The illustration to the right provides an example of a Smart Client displaying a view, in this case with video from six different cameras (view is highlighted in red frame).



In order to help you maintain an easy overview when you navigate between various views in your Smart Client, all views are placed in folders called *groups*. A group can contain any number of views and, if required, subgroups.

Difference between 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 Smart Client users to share the same views. This is possible since all views are stored on the surveillance system server. Depending on the type of surveillance system you connect to, shared views can simply be shared by all Smart Client users, or access to selected shared views can be given to selected groups of Smart Client users.

Before you create any views, it is important that you are sure about the difference between private and shared views—not least because a number of shared views may already exist for Smart Client users in your organization.

If you already know that shared views exist, and that you have access to them, you can start using your Smart Client straight away. See *Viewing Live Video* on page 54 and *Viewing Recorded Video* on page 71 for more information.

When you have access to shared views, creating further views in your Smart Client will not be necessary unless you want to supplement the shared views with private views of your own.

If you want to create views yourself, for example if no shared views are available in your organization, the Smart Client's *Setup* tab lets you create groups and views, and specify which cameras should be included in each view. See *Setup of Views* on page 22 for more information.

Note: The way shared views work varies slightly depending upon which type of *Milestone* surveillance system you connect to; see *Surveillance System Differences* on page 100 for details.

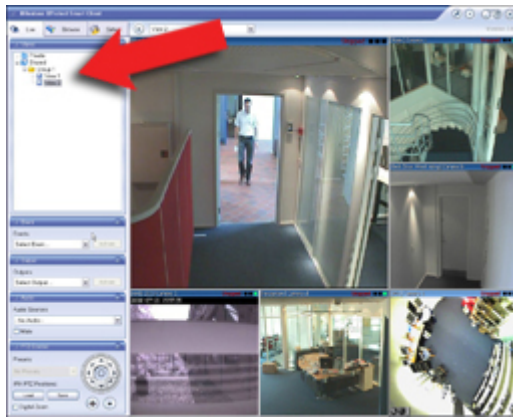
Tip: You can use your views, private as well as shared, on any computer that has a Smart Client installed. This is because information about your views is stored centrally on the surveillance system server, as part of your user login information.

How to Check if Views Are Already Available

Typically, your surveillance system administrator will have told you if you have access to shared views. Alternatively, to quickly determine whether any shared views are available, do the following:

Note: This method requires that your user rights permit you to access the Smart Client's *Live* tab and/or *Browse* tab. Most users will have access to at least one of these tabs.

1. Go to the Smart Client's *Live* or *Browse* tab.
2. On the *Live* or *Browse* tab, look at the *Views* section:



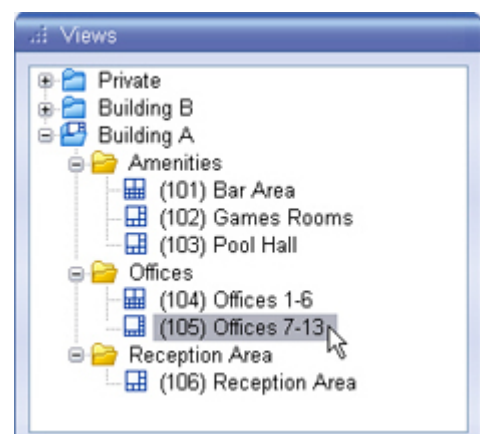
Example only; arrow indicates location of *Views* section

3. The *Views* section will always contain a top-level folder called *Private*. The *Private* top-level folder is for accessing private views; its content depends entirely upon which views—if any—you have created for yourself.

Any other top-level folders in the *Views* section are for accessing shared views. The names of such other top-level folders depend entirely upon what has been configured on the surveillance system server.

The fact that the *Views* section 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 like in the example to the right.

In the example there is a *Private* top-level folder as well as two top-level folders (called *Building A* and *Building B*) for accessing shared views. One of these, the *Building A* folder, has been expanded to reveal that six shared views are available. Note that the six shared views have been grouped into three logical groups.



Setup of Views

You create and manage views on the Smart Client's *Setup* tab. Depending on your user rights, you may be able to create and edit the following types of views:

- Private and shared
- Private, but not shared
- Shared, but not private
- Neither private, nor shared (in which case you simply rely on shared views created by others)

Typically only a few people in an organization are able to create and edit shared views.

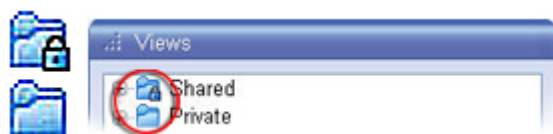
For example, the surveillance system administrator may create and maintain a number of shared views: When relevant Smart Client users log in, the shared views will automatically be available to them, and they will basically not need to create further views unless they want their own private views.

Checking which Views You Are Able to Create and Edit

To quickly determine which types of views your user rights permit you to create and edit, do the following:

1. Select any of the Smart Client's tabs.
2. Look at the *Views* section: You are able to create and edit views under the top-level folders (*Shared* and *Private*) if the top-level folders are **not** marked by a padlock icon.

If a top-level folder is marked by a padlock icon, it is protected: You can still use any views under the top-level folder, but you cannot create new views or edit existing views under it.



Example only; folders may have different names in your version.

Consult your surveillance system administrator if in doubt about your user rights.

Creating Private Views

Note: Views are created on the Smart Client's *Setup* tab. Particular user rights may be required in order to access the *Setup* tab.

To create your first private view, you first create a group under the *Setup* tab's *Private* top-level folder, then create the required view within the group.

If you have created private views before, you may create the new view in an existing group, or you may create a new group for the view.

Creating a Group

To create a group under the *Private* top-level folder, do the following on the *Setup* tab:

1. In the *Setup* tab's *Views* section, select the *Private* top-level folder.



2. Click the *Create New Group* button:



3. A new group is created. The new group is simply named *New Group*.



4. Overwrite the default name *New Group* with a group name of your choice.



You are now able to create a view within the group.

Creating a View within the Group

To create a view in a group, do the following:

1. In the *Setup* tab's *Views* section, make sure the group in which you want to create the view is selected.



2. Click the *Create New View* button:



3. Select the required layout for your new view.

You are able to select layouts for displaying up to 64 (8×8) cameras in a single view.

Tip: Some of the selectable view layouts are marked *Wide*. These view layouts are especially suitable for widescreen monitors.



- A new view is created under the group you selected. The new view carries the default name *New View* plus an indication of the selected layout:



- Overwrite the default name with a view name of your choice.



You are now able to add cameras to the view.

i Tip: For information about adding content (cameras, etc.) to views, see *How to Add Content to Views* on page 27.

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

Creating Shared Views

Note: Views are created on the Smart Client's *setup* tab. Particular user rights may be required in order to access the *Setup* tab and in order to be able to create shared views. When creating a shared view, bear in mind that depending on their user rights not all users may have access to all cameras on the surveillance system.

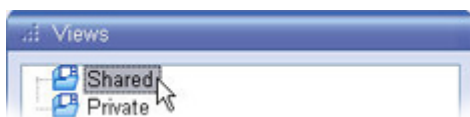
Note: Due to the large amount of new features in recent Smart Client versions, views created in Smart Client version 3.0 or later will not work in previous versions of the Smart Client. If creating shared views, it is thus important that the users with whom you wish to share the views also use Smart Client version 3.0 or later.

To create your first shared view, you first create a group under the required shared top-level folder, then create the required view within the group. If you have created shared views before, you may create the new view in an existing group, or you may create a new group for the view.

Creating a Group

To create a group under a shared top-level folder, do the following on the *Setup* tab:

- In the *Setup* tab's *Views* section, select the *Shared* top-level folder (in this example, the required folder is simply called *Shared*).



2. Click the *Create New Group* button: 

3. A new group is created. The new group is simply named *New Group*.



4. Overwrite the default name *New Group* with a group name of your choice.



You are now able to create a view within the group.

Creating a View within the Group

To create a view in a group, do the following:

1. In the *Setup* tab's *Views* section, make sure the group in which you want to create the view is selected.



2. Click the *Create New View* button: 

3. Select the required layout for your new view.

You are able to select layouts for displaying up to 64 (8x8) cameras in a single view.

Tip: Some of the selectable view layouts are marked *Wide*. These view layouts are especially suitable for widescreen monitors.

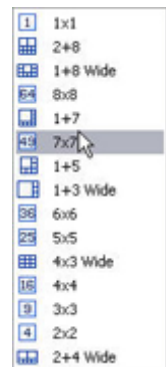
4. A new view is created under the group you selected.

The new view carries the default name *New View* plus an indication of the selected layout:



5. Overwrite the default name with a view name of your choice.

You are now able to add cameras to the view.



Tip: For information about adding content (cameras, etc.) to views, see *How to Add Content to Views* on page 27.

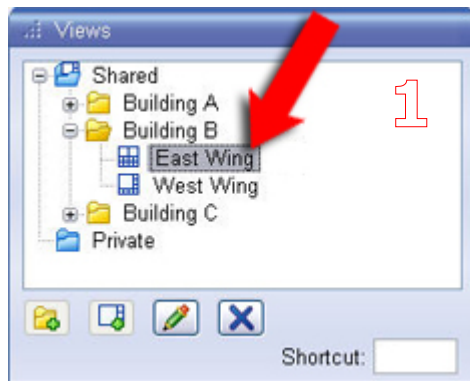
Tip: A group can contain an unlimited number of views. You may also create any number of subgroups if required.

Assigning Shortcut Numbers to Views

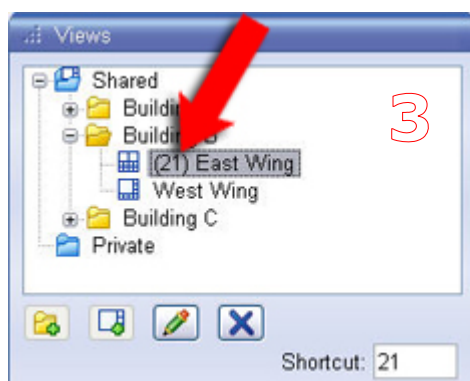
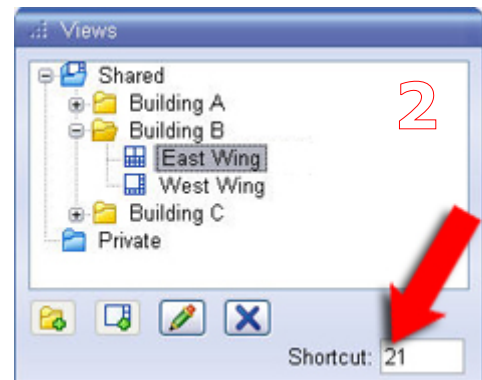
On the *Setup* tab, you are able to assign shortcut numbers to views. Shortcut numbers allow users to select views using the Smart Client's standard keyboard shortcuts (see page 97). To assign a shortcut number to a view, do the following:

Note: Illustrations used in the following are examples only; top-level folders may have different names in your version.

1. In the *Setup* tab's *Views* section, select the required view:



2. Specify the required shortcut number in the *Shortcut* field, and press ENTER on your keyboard:
3. The specified shortcut number will now appear in brackets in front of the view's name:




This will also be the case on the *Live* and *Browse* tabs, allowing users to quickly find a view's shortcut number.

4. Repeat as necessary for other views.

Renaming Views or Groups


To rename a view or group, do the following on the *Setup* tab:

1. Select the required view or group in the *Views* section.
2. Click the *Rename* button: 
3. Overwrite the existing group name with a new name of your choice.

Deleting Views or Groups

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

To delete a view or group, do the following on the *Setup* tab:

1. Select the required view or group in the *Views* section.
2. Click the *Delete* button: 

You will be asked to confirm that you want to delete the selected view or group.

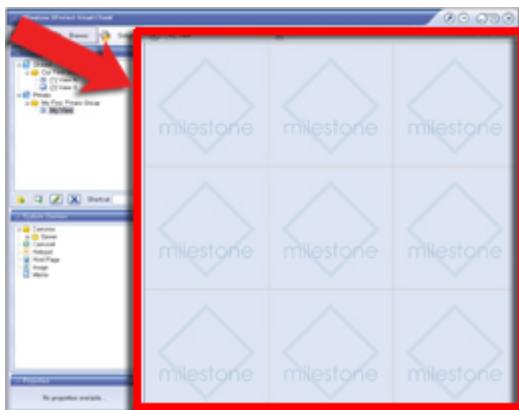
How to Add Content to Views

Once you have created views (see page 22), you are able to add content to the views. Content can be video from individual cameras, *carousels* for viewing images from alternating cameras in a single view position, a *hotspot* for viewing selected camera images in high quality, static images (such as .gif, .jpeg, etc.), HTML pages, or Milestone XProtect Matrix-triggered video.

Adding Individual Cameras

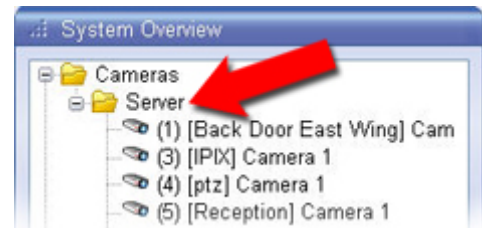
To add a camera to a view, do the following:

1. In the *Setup* tab's *Views* section, select the required view. When you select a view, the layout of the selected view is outlined in the main section of the Smart Client window.



Layout of selected view is outlined in main section (indicated in red frame in this example)

- In the *Setup* tab's *System Overview* section, click the plus sign \oplus next to *Cameras*, then the plus sign \oplus next to the required server to view a list of available cameras.
- Select the required camera from the list, and drag the camera to the required position in the view.



When you have dragged a camera to a 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, for example if the surveillance system's recording server is not running, the name of the camera will be displayed in the selected position.

When the camera position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section; see *Adjusting Camera Properties* on page 36 for detailed information.

- Repeat for each camera required in the view.

i Tip: If you want to use all of the cameras under a server, you may simply drag the required server link to the view; this will automatically place all of the server's cameras in the view *from the selected position onwards*. Make sure a sufficient number of positions are available in the view.

i Tip: You can easily change which cameras are included in your view: Either clear an individual camera position by clicking the clear button \square , then drag another camera to the cleared position, or simply overwrite a position by dragging a different camera to the position.

Adding Carousels

A carousel is used for displaying images from several cameras, one after the other, in a single view position. You are able to specify which cameras to include in the carousel as well as the interval between camera changes.

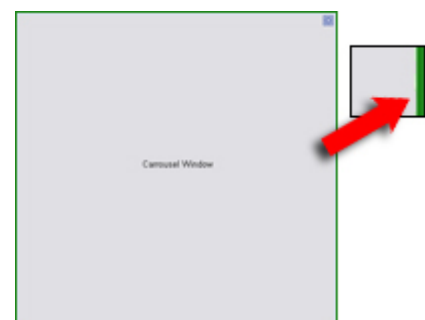
Note: Fisheye cameras (special 360° view cameras) cannot be included in a carousel.

To add a carousel to a view, do the following on the *Setup* tab:

- Drag the *System Overview* section's *Carousel* link to the required position in the view. When you release the mouse button over the required position, the *Carousel Setup* window opens.

i Tip: Note that the position gets a thin green border. The green border indicates that the position is used for a carousel; the green border will also be evident when using the view on the *Browse* and *Live* tabs.

- In the *Carousel Setup* window, specify which cameras to include in the carousel by selecting required cameras in the left part of the window, then clicking the *Add* button to add the selected cameras to the list in the right part of the window.



3. If required, move cameras up and down in the list to determine the sequence in which cameras will appear in the carousel.
4. Define the amount of time for which each camera should be displayed in the carousel; either with a common default, or individually for each camera.
5. Click *OK* to close the *Carousel Setup* window.
6. Make sure that the required position in the view is selected, then go to the *Properties* section in the left part of the *Setup* tab.



In the *Properties* section, specify the following settings for the carousel:

- **Image Quality:** The setting—which will apply for all cameras included in the carousel—determines the quality of the images when viewed, but also affects bandwidth usage. If your 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 e.g. *Low* or *Medium*.

When selecting a reduced image quality, images are re-encoded on the server to a JPEG format along the following lines:

- *Full:* The default setting, providing the full quality of the original image.
- *SuperHigh (for megapixel):* Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- *High:* Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- *Medium:* Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.
- *Low:* Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

Image height will scale according to the width and the aspect ratio of the original image.

Your image quality selection will apply for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded.

Note: When viewing live video, you can double-click a carousel (or any other camera position in a view) to enlarge it (see page 58 or 72). 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.



Note: 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.

- **Frame Rate:** Lets you select a frame rate for the carousel. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the carousel. The effect of your selection can be illustrated by the following table:

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

Example: If you set the *Frame Rate* option to *Low* in your Smart Client, and your surveillance system administrator has configured a 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 in the carousel. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your Smart Client, experience an average of 0,2 frames per second when viewing video from the camera in the carousel.

- **Maintain Image Aspect Ratio:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images.


If check box is cleared, images will be stretched to fit the carousel; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. The setting will apply for all cameras included in the carousel.

i Tip: If you later want to edit settings in the *Carousel Setup* window, select the required carousel position in the view, then click the *Properties* section's *Carousel Setup* button.

i Tip: You are able to use several carousels in a single view.

Adding Hotspots

With a hotspot, users will be able to select a camera in the view, and view enlarged and/or higher quality images from the selected camera in the view's hotspot.

For the hotspot you would usually select a one of the view's larger positions, for example the large position in a *1+7* view: 

The fact that you can view enlarged images in the hotspot is not in itself what makes the hotspot useful; you can enlarge any image in a view by double-clicking the image. What makes the hotspot useful is that with a hot spot 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 hot spot.

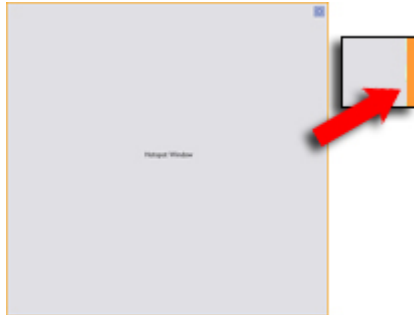
Then, only when users select a camera for viewing in the hotspot will it be displayed in high quality and/or high frame rate. This can really help you save bandwidth on the remote connection.

To add a hotspot to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Hotspot* link to the required position in the view.

2. Release the mouse button over the required position.

i Tip: Note that the position gets a thin orange border. The orange border indicates that the position is used for a hotspot; the orange border will also be evident when using the view on the *Browse* and *Live* tabs.



Thin orange border indicates hotspot

3. When the hotspot position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

- **Image Quality:** The setting determines the quality of the images when viewed, but also affects bandwidth usage. If your 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 e.g. *Low* or *Medium*.

When selecting a reduced image quality, images are re-encoded on the server to a JPEG format along the following lines:

- *Full:* The default setting, providing the full quality of the original image.
- *SuperHigh (for megapixel):* Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- *High:* Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- *Medium:* Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.
- *Low:* Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

Image height will scale according to the width and the aspect ratio of the original image.

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 images will be re-encoded when viewing recorded video.

Note: When viewing live video, you can double-click a carousel (or any other camera position in a view) to enlarge it (see page 58 or 72). When you do this, video from cameras included in the carousel is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Note: 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.

- **Frame Rate:** Lets you select a frame rate for the hotspot. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the carousel. The effect of your selection can be illustrated by the following table:

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

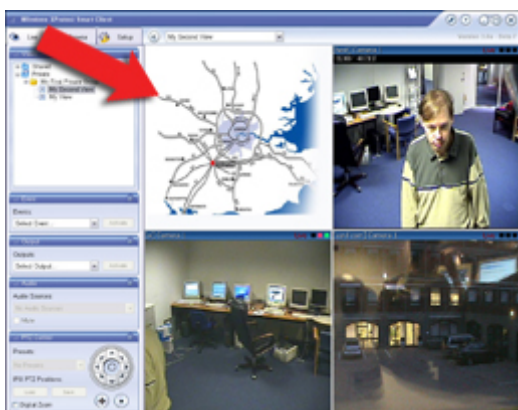
Example: If you set the *Frame Rate* option to *Low* in your Smart Client, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the hotspot.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

- **Maintain Image Aspect Ratio:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images.

If check box is cleared, images will be stretched to fit the hotspot; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. The setting will apply for all cameras displayed in the hotspot.

Adding Static Images

Static images can be used in views for a variety of purposes: for company logos, for including floor plans or maps in the view, for including photos of wanted persons, etc.



The illustration to the left provides an example of a map graphic inserted into a view.

To add a static image to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Image* link to the required position in the view.
2. Release the mouse button over the required position.

When you release the mouse button, you are able to select the required static image file.

Adding HTML Pages

Static images can be used in views for a variety of purposes: for including company web pages, navigation pages, online map services, link collections, e-learning pages, etc.

The illustration to the right provides an example of a company web page inserted into a view.

i Tip: When an imported HTML page contains links, it is highly recommended that the links have the `target='blank'` attribute (example: `Link`). This will make the links open in separate windows, which will help you avoid losing view of the Smart Client window itself due to a link opening a web page in the same browser window as the Smart Client.

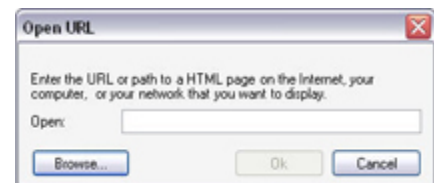
To add an HTML page to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *HTML Page* link to the required position in the view. When you release the mouse button over the required position, the *Open URL* window opens.
2. In the *Open URL* window's *Open* field, type the URL 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 the *Browse...* button to browse for the required HTML page.

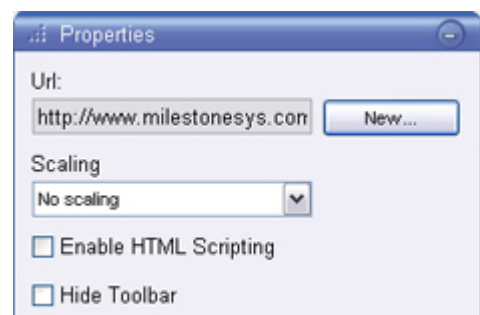
3. Click the *OK* button.



Changing the Properties of an HTML Page

Once an HTML page is added to a view, you are able to change its properties by doing the following:

1. On the *Setup* tab, select the imported HTML page in the view. Properties of the selected HTML page will appear in the *Setup* tab's *Properties* section.
2. Change the required property:
 - **Url:** Click the *New* button to specify a new URL or location of the required HTML page.
 - **Scaling:** Select the required 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 of thumb, 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.



Examples of the same HTML page viewed with different scaling values

- **Enable HTML scripting:** Select *only* if the HTML page is a custom-made HTML page to be used for navigating or triggering features inside the Smart Client itself (see examples of such custom-made HTML pages in *Using an HTML Page for Smart Client Navigation* on page 46).

If selected, a client script required for navigating and controlling a number of features inside the 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 with is inserted above each imported HTML page. The navigation bar has four buttons; from left to right the buttons are *Back*, *Forward*, *Refresh* and *Home*. If you do not want the navigation bar, you can hide it by selecting *Hide toolbar*.



Adding Matrix Content

Note: The ability to add Matrix content to views is available when connecting to selected Milestone surveillance systems only; see *Surveillance System Differences* on page 100 for more information.

Milestone XProtect Matrix is an integrated product that allows distributed viewing of live video from any camera on any monitor on a network operating with selected Milestone surveillance systems. With a typical Matrix configuration, live images are automatically presented on the required monitor when defined events occur, for example when movement is detected, or when another user wishes to share important live images.

Provided Matrix has been configured on the surveillance system server, you are able to include Matrix content in your Smart Client views. Thus, when particular events occur, or another user wishes to share important occurrences with you, live images from particular cameras will automatically appear in your views' Matrix positions.

Which events or cameras are used in the Matrix setup depends entirely on the surveillance system server's Matrix configuration, or on what other users wish to share with you; you are not able to control this in the Smart Client. However, you are able to add Matrix content to as many view positions as required. This way you are able to watch live video from several Matrix-triggered sources at the same time.

If you create a view with several Matrix positions, the positions are always ranked. When the first image stream is received, Matrix automatically presents the image stream in the primary Matrix position in your view. When the next image stream is received, a first-in-first-out principle begins to apply: Matrix quickly transfers the previously received image stream to your view's secondary Matrix position, and presents the latest image stream in your view's primary Matrix position, and so on. This way, you can always watch the latest image stream, while maintaining the last few previously received image streams in your view as well.

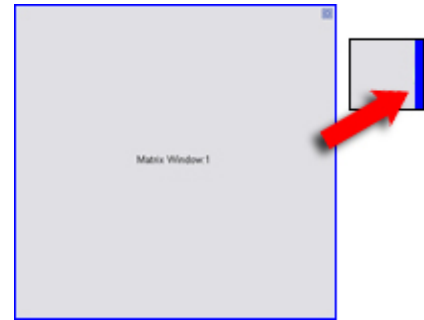
The positions' ranking is applied automatically: the first Matrix position you add to the view will automatically be the view's primary Matrix position, the next one you add will automatically be the

secondary one, etc. If required, you can manually change the Matrix positions' ranking in the *Setup* tab's *Properties* section.

To add Matrix content to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Matrix* link to the required position in the view.
2. Release the mouse button over the required position. Note that the position gets a thin blue border. The blue border indicates that the position is used for Matrix content; the blue border will also be evident when using the view on the *Browse* and *Live* tabs.
3. When the Matrix position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

- **Image Quality:** The setting determines the quality of the images when viewed, but also affects bandwidth usage.



If your 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 e.g. *Low* or *Medium*.

When selecting a reduced image quality, images are re-encoded on the server to a JPEG format along the following lines:

- *Full:* The default setting, providing the full quality of the original image.
- *SuperHigh (for megapixel):* Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- *High:* Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- *Medium:* Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.
- *Low:* Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

Image height will scale according to the width and the aspect ratio of the original image.

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 images will be re-encoded when viewing recorded video.

Note: When viewing live video, you can double-click a carousel (or any other camera position in a view) to enlarge it (see page 58 or 72). When you do this, video from cameras included in the carousel is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Note: 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.



- **Frame Rate:** Lets you select a frame rate for the Matrix position. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the Matrix position. The effect of your selection can be illustrated by the following table:

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

Example: If you set the *Frame Rate* option to *Low* in your Smart Client, and your surveillance system administrator has configured a 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 in the Matrix position. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your Smart Client, experience an average of 0,2 frames per second when viewing video from the camera in the Matrix position.

- **Maintain Image Aspect Ratio:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images.

If check box is cleared, images will be stretched to fit the Matrix position; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. This setting will apply for all cameras displayed in the selected Matrix position.

- **Matrix Window:** Lets you change the Matrix position's ranking. 1 is the primary position in which images from the latest event are always shown, 2 is the secondary position in which images from the previously detected event are always shown, 3 is the tertiary position in which images from the event detected before the event in position 2 are always shown, and so on.

The selected number cannot be higher than the total number of Matrix positions in the view: If the view only contains one Matrix position, the position must have number 1; if the view contains, for example, four Matrix positions, they must be numbered from 1 to 4.

- **Connection Settings...:** Button only available when the view's Matrix position 1 is selected; other Matrix positions in the view inherit the connection settings specified for position 1. Clicking the *Connection Settings...* button lets you specify the *TCP Port* and *Password* used when transferring Matrix-triggered images from the surveillance server to the Smart Client view.

By default, the TCP port used for Matrix is 12345; consult your surveillance system administrator if in doubt about which port number or password to use.

4. Repeat if more Matrix positions are required in the view.

Adding Other Content

On some surveillance systems, you may be able to add more types of content to views in your Smart Client. This may be the case if your organization uses add-on products for increasing the capabilities of its surveillance system. One example of an add-on product is Milestone XProtect Transact, which is used for tracking transactions from cash registers, ATMs, etc. linked with video

recordings. Information about how to add such special content to views in your Smart Client will be available in the documentation for the add-on product. Consult your surveillance system administrator if in doubt

Adjusting Camera Properties

In the *Setup* tab's *Properties* section, you are able to adjust a number of settings for individual cameras. To adjust a camera's properties, select the required camera in the view (the selected position will be indicated by a bold border), then make the adjustments in the *Properties* section.

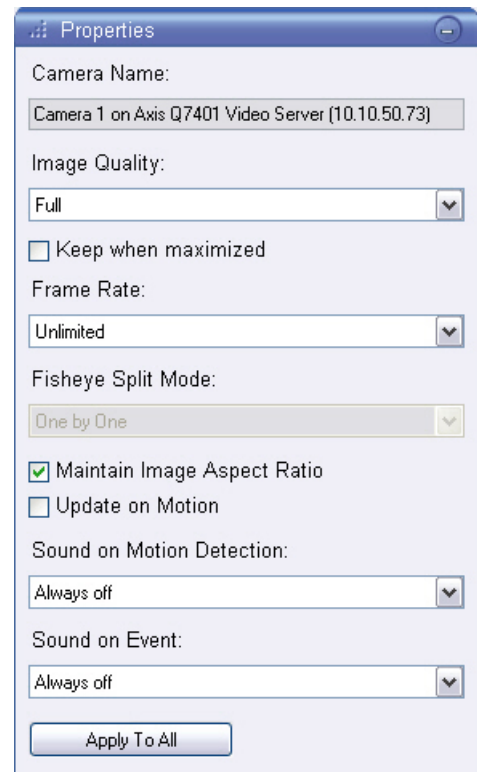
Camera Name

The *Camera Name* field displays the name of the selected camera. The field is read-only.

Image Quality & Keep When Maximized

The setting determines the quality of the images when viewed, but also affects bandwidth usage.

If your 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 e.g. *Low* or *Medium*.



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 Smart Client. Re-encoding takes place along the following lines:

- **Full:** The default setting, providing the full quality of the original image.
- **SuperHigh (for megapixel):** Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- **High:** Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- **Medium:** Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.
- **Low:** Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

Height will scale according to the width and the aspect ratio of the original image.

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 images will be re-encoded when viewing recorded video.

Note: 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.

i **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.

Keep When Maximized

When viewing live or recorded video, you can double-click a particular camera position in a view to enlarge it (see page 58 or 72). When you do this, video from the camera is by default displayed in full quality, regardless of your image quality selection.

If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Frame Rate

Lets you select a frame rate for the camera. Select between *Unlimited* (default), *Medium*, or *Low*. The effect of your selection can be illustrated by the following table:

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

Example: If you set the *Frame Rate* option to *Low* in your Smart Client, and your surveillance 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 on your Smart Client's *Live* tab. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your Smart Client, experience an average of 0,2 frames per second when viewing video from the camera on your Smart Client's *Live* tab.

Fisheye Split Mode

Available only if the selected camera is a fisheye camera. Fisheye is a technology that allows creation and viewing of 360-degree panoramic images.

The 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:

- ***One by One*** lets you view a single viewpoint.
- ***Two by Two*** lets you view four different viewpoints at a time.



When viewed on any of the Smart Client's tabs, the fisheye camera will appear as specified, with either one or four viewpoints from the same image. The illustration provides an example of *Two by Two*: The *Live* tab displays four different viewpoints from a single fisheye camera. In the example, the fisheye camera's four viewpoints are enlarged for clarity.

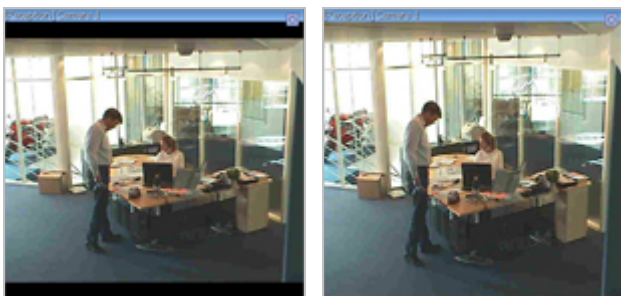
i **Tip:** When viewing different viewpoints from a fisheye camera on the *Live* or *Browse* tabs, you are able to navigate each viewpoint independently by clicking inside each viewpoint, or by using the buttons in the *Live* or *Browse* tabs' *PTZ Control* sections.

Maintain Image Aspect Ratio

If the check box is selected, images will not be stretched to fit the size of the camera position. Rather, images will be displayed with the aspect ratio (height/width relationship) with which they have been recorded.

When viewing images with their original aspect ratio, you may see horizontal or vertical black bars appearing around the images from some cameras.

If the check box is cleared, images will be stretched to fit the position in the view; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images.



Example: The same image viewed with *Maintain Image Aspect Ratio* selected (left) and cleared (right)

Update on Motion

If selected, the camera's images will only be updated on the Smart Client's *Live* tab when motion is detected.

Depending on the camera's motion detection sensitivity (configured on the surveillance system server) this can help reduce CPU usage significantly.

If the camera's images are only updated on motion, users will see the message *No motion* together with a still image in the camera's view position until motion is detected.

Sound on Motion Detection

When images from the camera are viewed on the *Live* tab, it is possible to get a simple sound notification when motion is detected.

- **Always off:** Do not use sound notifications on detected motion.
- **Always on:** Play a sound notification each time motion is detected on the camera.

? Will I receive lots of sound notifications? If you select *Always on*, the amount of motion-related sound notifications you are likely to receive will depend on the motion detection sensitivity of the camera in question. If motion detection for the camera is highly sensitive, you may at times receive very frequent sound notifications. The camera's motion detection sensitivity is configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the cameras' motion detection sensitivity.



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

Sound on Event

When images from the camera are viewed on the *Live* tab, it is possible to get a simple sound alert when events related to the selected camera occur.

Note: This feature is only available if using your Smart Client with certain Milestone surveillance systems; see *Surveillance System Differences* on page 100. Even when using your Smart Client with a surveillance system supporting this feature, being able to use this feature requires that notifications on events have been configured on the surveillance system server. Consult your surveillance system administrator if in doubt.

- **Always off:** Do not use sound alerts when events related to the camera occur.
- **Always on:** Play a sound alert each time an event related to the camera occurs.

? **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, such as recording on a camera.

? **Will I receive lots of sound notifications?** If you select *Always on*, the amount of event-related sound notifications you are likely to receive will depend on the nature and number of events related to the camera in question. Events are configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the surveillance system's event configuration.

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

Apply to All

The *Apply To All* button lets you quickly apply the camera settings for the selected camera to all cameras in the view.



Using Your Views on Different Computers

Your user settings, including information about your views, are stored centrally on the surveillance system server.

This means that you are able to use your views, private as well as shared, on any computer that has a Smart Client installed, provided you log in to the Smart Client with your own user name and password.

System Changes May Affect Views

From time to time your system administrator may make changes to camera or user properties on the surveillance system server. When this is the case, such changes will take effect in the Smart Client the first time you log in after the changes were made.


Such changes may occasionally require you to re-create your views. Ask your system administrator if in doubt.

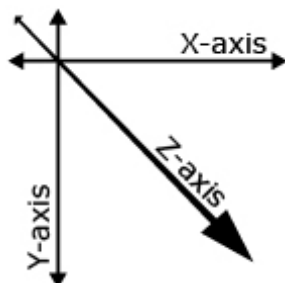
Further Configuration

Customizing Joystick Setup

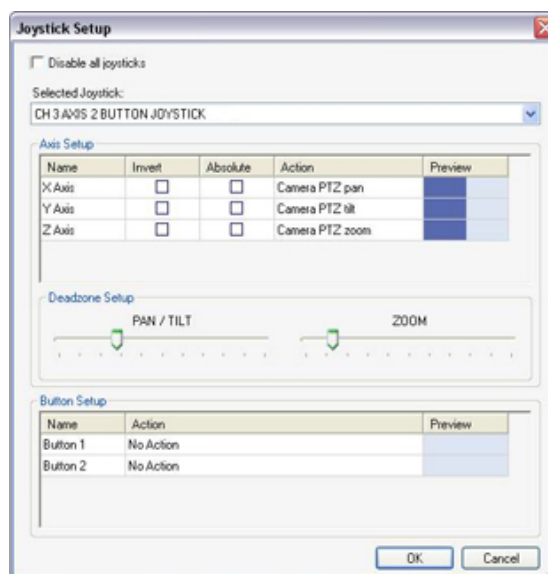
Note: Even though joystick control is supported for a large number of PTZ cameras, not all PTZ cameras may be joystick-controlled. Refer to the release note for information about joystick support for cameras.

When a new joystick is detected by the Smart Client, a default PTZ (Pan/Tilt/Zoom) configuration for the joystick is added automatically. However, you are able to customize the setup for all joysticks attached to the computer running the Smart Client.

1. Click the *Show Application Menu* button in the right side of the Smart Client's top bar. 
2. From the menu that appears, select *Joystick Setup*. The *Joystick Setup* window appears.
3. Select the required joystick in the *Selected Joystick* list. The axes and buttons available on the selected joystick will be listed in the *Axis Setup* and *Button Setup* sections respectively.
4. In the *Axis Setup* section, specify settings for the available axes. With a joystick, you are typically able to navigate camera images three-dimensionally, along three axes: an X-axis, a Y-axis, and a Z-axis, where the Z-axis refers to the depth (zoom) level.

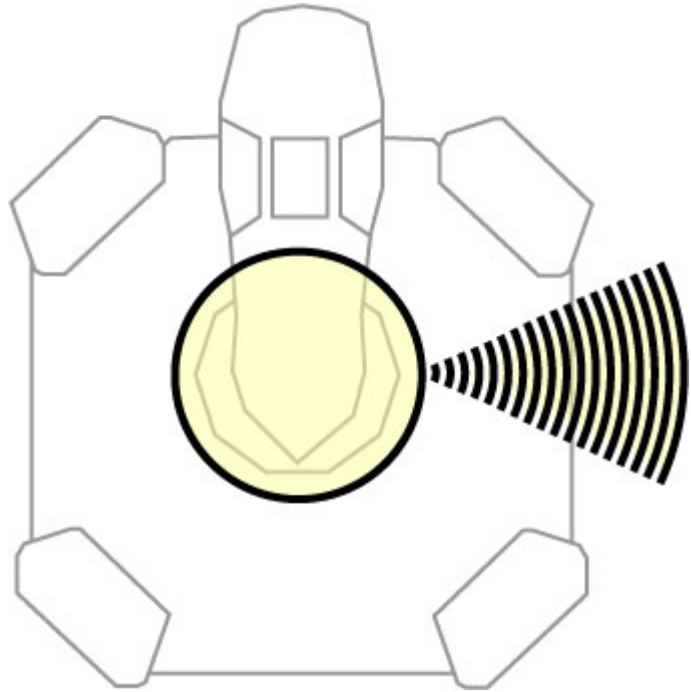


- **Invert:** By default, a PTZ camera will move to the right when you move the joystick to the right along the X-axis, move up when you move the joystick towards you along the Y-axis, etc. By selecting *Invert*, you are able to change this to the opposite. You are thus able to freely determine whether the camera should, for example, move up or down when you move the joystick towards you and away from you respectively.
- **Absolute:** By default, joystick control takes place based on a relative positioning scheme. This means that moving a joystick will move the joystick-controlled object based on the object's current position rather than based on any fixed position. By selecting *Absolute*, you are able to change this and use an absolute rather than a relative positioning scheme.
- **Action:** Lets you select the required action for an axis: *Camera PTZ Pan*, *Camera PTZ Tilt*, *Camera PTZ Zoom*, or *No action*.
- **Preview:** Lets you quickly test the effect of your selections. When you have selected an action for the axis you want to test, simply move the joystick along the required axis to view the effect, indicated by a movement of the dark blue bar.



When previewing your selections, consider adjusting the joystick's deadzones. Deadzones determine how much the joystick handle should be allowed to move before information is sent to the camera. Ideally, a joystick handle should be completely vertical when not used, but many joystick handles lean at a slight angle. Without a deadzone, the slight slant could cause cameras to move when it is not required.

- PAN / TILT:** Lets you specify required deadzone for the joystick's pan and tilt functions. The further you drag the slider to the right, the larger the deadzone becomes, and the more you will have to move the joystick handle before information is sent to the camera. Dragging the slider to its leftmost position will effectively disable the deadzone; typically recommended for high-precision joysticks only. Use the preview to test the effect of your deadzone settings.
- ZOOM:** Lets you specify required deadzone for the joystick's zoom function. Works similarly to the *PAN / TILT* deadzone control.



Example of deadzone: When you move the joystick handle outside the deadzone, the PTZ camera will begin to move. The further out you move the handle, the quicker the camera typically moves.

- In the *Button Setup* section, specify an action for each required joystick button. You select the required action in the *Action* column.

i Tip: To quickly verify that you are configuring the required button, simply press the required button on the joystick. When the button is pressed, a dark blue color will appear in the *Button Setup* section's *Preview* column for the button in question.

Disabling Joystick Use


To disable the use of joysticks on your Smart Client, select the *Joystick Setup* window's *Disable all joysticks* check box.

Joystick Setup Tied to User Login on Particular Computer

Unlike your views, which are simply tied to your user login and can therefore be used on any computer with a Smart Client, your joystick setup will be tied to your user login *as well as* to the specific computer on which you configured the joystick setup. This means that your joystick setup will only work on the computer on which it has been configured. The simple reason for this is that different computers are likely to have different joysticks attached. If you want to use a joystick with the Smart Client on more than one computer, you must configure the Smart Client's joystick setup on each computer.

Assigning Custom Keyboard Shortcuts


The Smart Client also features a small number of standard keyboard shortcuts, immediately ready for use (see *Using Standard Keyboard Shortcuts* on page 97 for more information). In addition to the standard keyboard shortcuts, you are able to assign shortcut key combinations to particular actions in your Smart Client.

1. Click the *Show Application Menu* button in the Smart Client's top bar. 
2. From the menu that appears, select *Keyboard Setup*. The *Keyboard Setup* window will appear.
3. When the *Keyboard Setup* window appears, click inside the *Press shortcut key* field, then press the required key combination. This will display the pressed key combination in the *Press shortcut key* field. Now you need to specify which command you want to associate with the key combination.

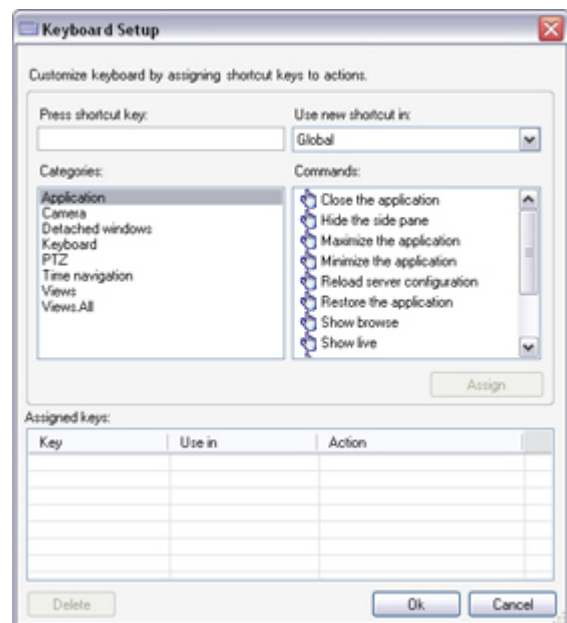
Note: Key combinations must begin with CTRL or ALT. Example: CTRL + B (i.e. first pressing the CTRL key, then—while still pressing the CTRL key—pressing the B key).

4. In the *Categories* list, select the required category of commands. Based on your selection, relevant commands will be displayed in the *Commands* list in the right part of the window.

For example, selecting *Application* will give you access to commands related to the behavior of Smart Client application, such as commands for minimizing and maximizing the Smart Client window.

 **Tip:** The *Categories* list contains a category called *Views.All*. When you select this category, all your views will be listed in the *Commands* list. This allows you create very useful keyboard shortcuts for quickly accessing individual views.

5. In the *Commands* list, select the required command for the shortcut key combination.



Note: Some commands will 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.

6. In the *Use new shortcut in* list, select when the shortcut key combination should apply:
 - **Global:** When working on any of the Smart Client's three tabs (*Live*, *Browse* and *Setup*).
 - **Browse Mode:** When working on the Smart Client's *Browse* tab only.
 - **Live Mode:** When working on the Smart Client's *Live* tab only.
 - **Setup Mode:** When working on the Smart Client's *Setup* tab only.

- Click the *Assign* button. This will add the specified shortcut key combination to the *Assigned keys* list. Example:
- Click *OK*.

Key	Use in	Action
B, Control	Browse Mode	Browse Next Image
D, Control	Global	Toggle Side Pane
Delete, Alt	Global	Show keyboard setup
Q, Alt	Global	Close the application
Z, Control, Alt	Live Mode	Camera PTZ Zoom In

Tip: Your keyboard shortcuts are kept as part of your user settings on the surveillance system server. This means that you will be able to use your keyboard shortcuts on any computer that has a Smart Client installed, provided you log in to the Smart Client with your own user name and password.

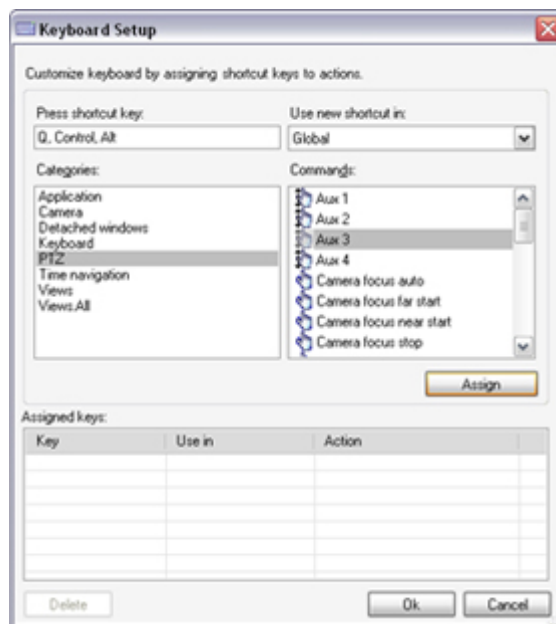
Custom Keyboard Shortcuts for Auxiliary Commands

Note: This feature is only available if using your Smart Client with certain Milestone surveillance systems; see *Surveillance System Differences* on page 100.

If using custom keyboard shortcuts with particular cameras, it is possible to assign keyboard shortcuts to trigger auxiliary commands on the cameras.

Whether auxiliary commands can be used, and how they can be used, differs from camera to camera; for details, see the documentation for the camera. In the following example, an auxiliary command is used for activating a wash & wipe feature for cleaning the camera's lens.

- Access the *Keyboard setup* window, as described in *Assigning Custom Keyboard Shortcuts* in the previous.
- Click inside the *Press shortcut key* field, then press the required key combination.
- Select the required category and command (in this case the camera is a PTZ camera, and the wash & wipe feature is controlled by *Aux 3*).
- Click the *Assign* button, and then *OK*.



Deleting a Shortcut Key Combination

To delete an existing keyboard shortcut from the *Assigned keys* list, simply select the required row in the list, then click the *Delete* button.

Selecting Language

The Smart Client lets you select between different language versions. See page 18 for more information.

Using an HTML Page for Smart Client Navigation

In addition to displaying images from cameras, the 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 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 images from the required part of the building.

In the following, you will see examples of HTML pages for 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 Smart Client users, a check list outlining the tasks involved is also provided.

i Tip: The Smart Client is highly flexible when it comes to customizing navigation and other features. For advanced users it is possible to create more than 100 different function calls in the Smart Client. See *Smart Client Scripting* on page 50 for more information

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 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 the Smart Client's three tabs: *Live*, *Browse* and *Setup***

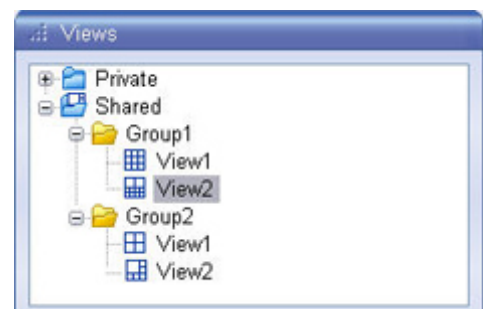
Bear in mind that, depending on their user rights, some users may not be able to access all three tabs. Required HTML syntax:

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

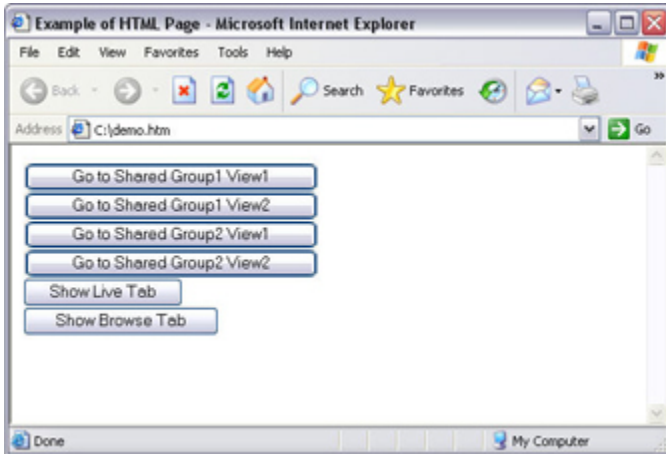
Browse tab: `<input type="button" value="Buttontext" onclick="SCS.Application.ShowBrowse();">`

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

In the following we have created two shared groups in the Smart Client. We have called them *Group1* and *Group2*. Each group contains two views, called *View1* and *View2*:



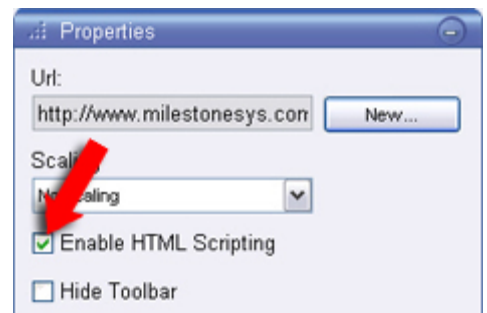
We have also created an HTML page with buttons allowing users to switch between our four different views as well as between two of the Smart Client's tabs, *Live* and *Browse*. When viewed in a browser, our HTML page looks like this:



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.

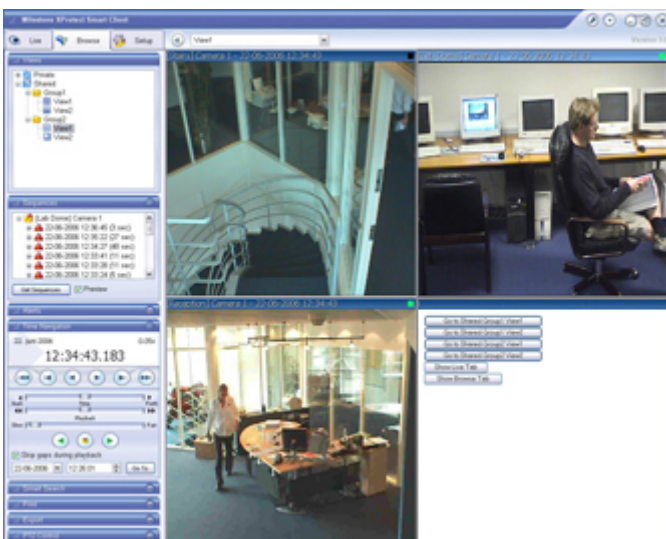
When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: C:\myfolder\file.htm). Saving the HTML page on the user's desktop or in the user's *My Documents* folder will not work properly due to the way Windows constructs the path to such locations.

We then imported the HTML page into the required Smart Client views. When importing the HTML page, we made sure to select *Enable HTML scripting* in the HTML page's *Properties* on the *Setup* tab.



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

When imported into one of our views, our HTML page looks like this:



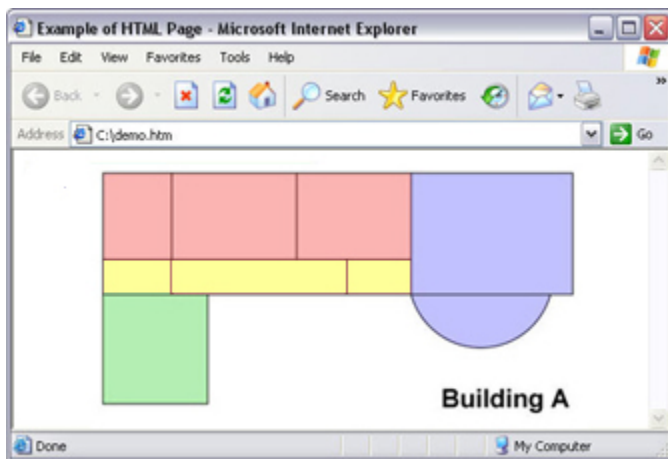
Example of an HTML Page with Image Map Navigation

You may also create an HTML page with more advanced content, for example an image map allowing users to switch between views.

Note: How you structure and create an image map is highly individual. Providing sample HTML for you to work with would not be useful because the HTML page, the images, the coordinates, and the actions to take when users click the various areas of an image map are likely to be completely different for every implementation. This example thus outlines the use of image maps in general terms.

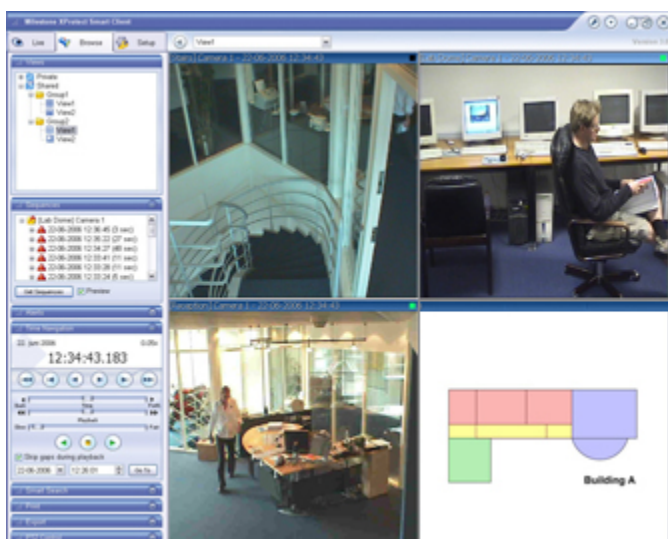
In the following example we have kept the two groups and two views from the previous example. Instead of using buttons, we have created an HTML page with an image of a floor plan, and created an image map based on the floor plan.

Viewed in a browser, our HTML page looks like this:



How you structure and create an image map is of course highly individual. For this example, we divided the floor plan into four colored zones, and defined an image map area for each zone. This way, users will be able to simply click a zone in order 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: When clicking inside the red zone, users will go to View2 in Group2. When imported into one of our views, the HTML page looks like this:



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 Smart Client.

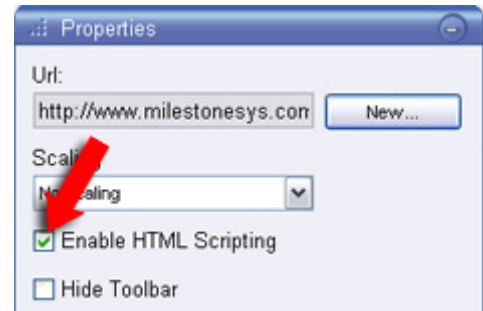
The two important things to remember are:

- 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, do the following:

1. Go to the Smart Client's *Setup* tab.
2. From the *Setup* tab's *System Overview* section, drag the *HTML Page* link to the required position in the required view.
3. This will open the *Open URL* dialog, in which you specify the required HTML page.
4. Having imported the HTML page, select its position in the view, and go to the *Setup* tab's *Properties* section.
5. In the *Properties* section, 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.



6. 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 wishing to create and distribute navigation HTML pages to 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 their Smart Clients. For example, in order for a button leading to View1 to work, a view called View1 must exist in users' 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 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* section, 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 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 Smart Clients.

Smart Client Scripting

For advanced users it is possible to create function calls in the Smart Client. Note that the use of scripting will require some familiarity with programming.

Viewing a List of Possible Function Calls

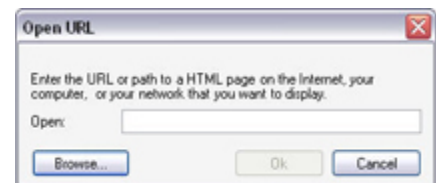
To view a list of the approximately 100 different function calls you are able to use in the Smart Client, do the following on the Smart Client's *Setup* tab:

1. Drag the *System Overview* section's *HTML Page* link to a position in a view. When you release the mouse button over the required position, the *Open URL* window opens.

i Tip: Preferably use a 1×1 view; this will give you the best possible overview of the list's content.

2. In the *Open URL* window's *Open* field, type *about:script* and click *OK*. This will display the list of function calls.

Each function call will be listed with a short description of its purpose; and you will be able to try out many of the function calls straight from the list.



Startup Scripting

It is possible to use scripting to control parts or all of the Smart Client login procedure. Examples:

- If using the authentication methods *Basic authentication* or *Windows authentication*, you can make the Smart Client login dialog open with pre-filled *Server address* and *User name* fields, in which case the user merely has to enter a password in order to log in.
- If using the authentication method *Windows authentication (current user)*, you can make the Smart Client connect to the surveillance system automatically, based on the user's current Windows login.

Note: Some authentication methods are only available if the Smart Client user logs in to certain Milestone surveillance systems; see Surveillance System Differences on page 100 for more information.

Parameters

You are able to use the following parameters:

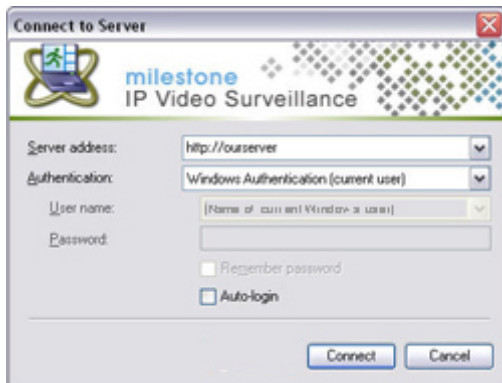
ServerAddress

Refers to the URL of the server to which the Smart Client should connect (if connecting to a Milestone XProtect Corporate system, this would be the URL of the Management Server; if connecting to a Milestone XProtect Enterprise, XProtect Professional or XProtect Basis+ system, it would be the URL of the Image Server).

The following example would show the Smart Client's login dialog with *http://ourserver* in the dialog's *Server address* field:

```
Client.exe -ServerAddress="http://ourserver"
```

Keep in mind that the Smart Client's default authentication type is *Windows authentication (current user)*. Unless you change this, through using the *AuthenticationType* parameter (described in the following), the login dialog will look like this from the user's point of view, i.e. automatically displaying the name of the current Windows user in the *User name* field:



UserName

Refers to a specific user name. The following example would show the Smart Client's login dialog with *http://ourserver* in the dialog's *Server address* field, and *Tommy* in the dialog's *User name* field:

```
Client.exe -ServerAddress="http://ourserver" -UserName "Tommy"
```

Note: The *UserName* parameter is relevant only for the authentication methods *Windows authentication* and *Basic authentication*. You use the *AuthenticationType* parameter (described in the following) to control which authentication method to use.

Password

Refers to a specific password. The following example would show the Smart Client's login dialog with *http://ourserver* in the dialog's *Server address* field, *Tommy* in the dialog's *User name* field, and *TomMy5Pa55w0rD* in the dialog's *Password* field:

```
Client.exe -ServerAddress="http://ourserver" -UserName "Tommy" -Password "TomMy5Pa55w0rD"
```

Note: The *Password* parameter is only relevant if using the authentication methods *Windows authentication* and *Basic authentication*. You use the *AuthenticationType* parameter (described in the following) to control which authentication method to use.

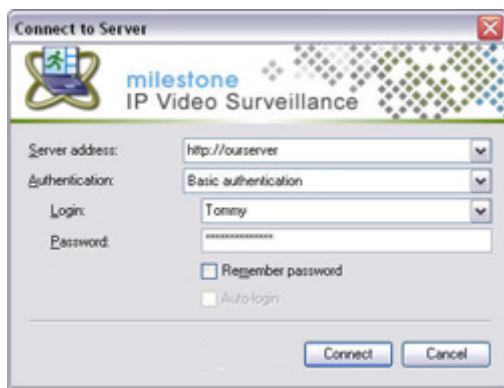
AuthenticationType

Refers to one of 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 would show the Smart Client's login dialog with *http://ourserver* in the dialog's *Server address* field, *Basic authentication* selected in the dialog's *Authentication* field, *Tommy* in the dialog's *User name* field, and *T0mMy5Pa55w0rD* (masked by asterisks) in the dialog's *Password* field:

```
Client.exe -ServerAddress="http://ourserver" -UserName "Tommy" -Password
"T0mMy5Pa55w0rD" -AuthenticationType Simple
```

From the user's point of view, the login dialog would look like this:



If we were to use *Windows authentication*, the example would be:

```
Client.exe -ServerAddress="http://ourserver" -UserName "Tommy" -Password
"T0mMy5Pa55w0rD" -AuthenticationType Windows
```

If we were to use *Windows authentication (current user)*, the *UserName* and *Password* parameters would not be necessary, and the example would look 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 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 are able to use many of the Smart Client's function calls (see *Viewing a List of Possible Function Calls* elsewhere in this topic) 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 log in to *http://ourserver* with the current Windows user, then minimize the 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`
```

Viewing Live Video

You view live video on the Smart Client's *Live* tab.

When you select the Smart Client's *Live* tab, the Smart Client will connect to the surveillance system server, and display live images from the cameras in the selected view.

Note: Particular user rights may be required in order to access the *Live* tab. In order to view live images in the Smart Client, the surveillance system's recording server must be running; consult your surveillance system administrator if in doubt. Depending on your user rights, access to viewing live images from some cameras may be restricted.



i Tip: The Smart Client supports use of multiple windows. This is especially useful if your computer has more than one physical display attached, but from the *Live* and *Browse* tabs you can send individual views to separate windows as well. This way, you can watch more than one view at a time. See *Using Multiple Windows* on page 94 for more information."

Live Video Is Not Necessarily Recorded

Even though you can see live video from a given camera, the video stream from the camera is not necessarily being recorded.

This is actually one of the benefits of an IP-based digital surveillance system: Unlike old-style analog surveillance systems, where everything was usually recorded on a tape regardless whether it was relevant or not, an IP-based digital surveillance system allows much more targeted recording.

Start Recording Yourself

You can (provided you have the necessary user rights) start recording while viewing live video. See page 61 for more information.

Targeted recording frees security personnel, investigators, etc. from having to go through seemingly endless amounts of recordings in order to find a particular incident. Instead, the reduced amount of recordings, combined with the Smart Client's advanced browsing and search features, allows recordings of particular incidents to be found quickly and effortlessly.

Basically, live video streams from cameras pass through the surveillance system server. When required, the video stream is saved (recorded) on the server; when not required, the video stream is simply discarded. Video streams are typically saved on the server (recorded) either

- according to a schedule (example: every morning from 10.00 to 11.30)
- or/and -
- whenever the surveillance system detects special events (examples: motion generated by a person entering a room; a sensor registering that a window is being opened; input from users).

The surveillance system server's recording settings are determined by your surveillance system administrator. However, as a Smart Client user, you can also (provided you have the necessary user rights) start recording while viewing live video. See page 61 for more information.

i Tip: When viewing live video on the Smart Client's *Live* tab, you can quickly verify whether the video stream from a camera is being recorded: Look at the blue bar immediately above the camera's images. If the video stream from the camera is being recorded, the bar will display **REC**. Note that you may occasionally see the **REC** letters for short periods only. This is because cameras may have been configured to record only when there is motion, when a door is open, or similar, which can lead to many short periods of recordings.

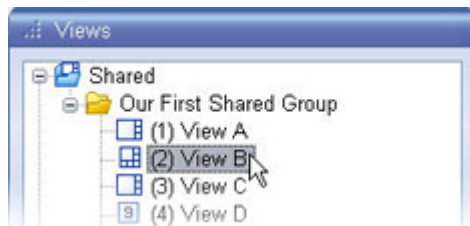
Views and their Content

Selecting a View

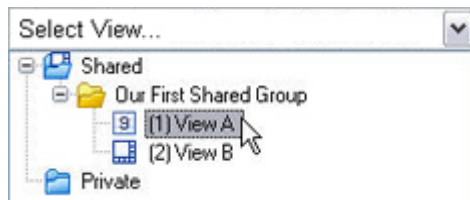
You are basically able to select a view for display on the *Live* tab in two ways:

Note: Illustrations used in the following are examples only; folders and views may have different names in your version.

- By selecting the required view in the *Live* tab's *Views* section:



- By selecting the required view from the *Views* list located in the upper part of the window:

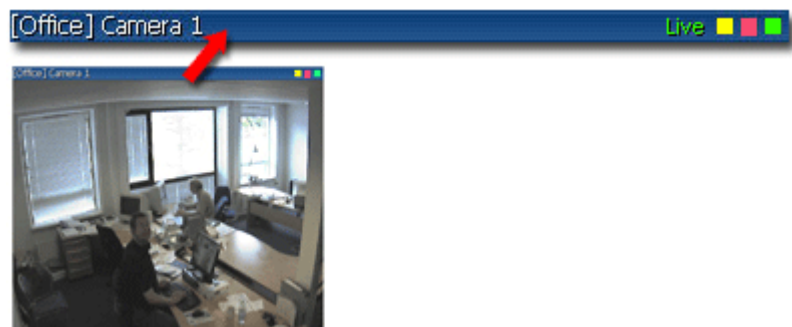


i Tip: If views have been assigned shortcut numbers (see *Assigning Shortcut Numbers to Views* on page 26), you will also be able to select a view by using keyboard shortcuts (see *Using Standard Keyboard Shortcuts* on page 97).

Camera Names and Colored Indicators

Each camera position in the view is identified by a bar, located in the top of each camera position.

The bar displays the name of the camera as well as the name of the device to which the camera is connected. The device name is displayed first, in square brackets, followed by the camera name.




Each bar will display **Live** when live images are displayed, **REC** if video from the camera in question is being recorded, and **Stopped** if the camera is stopped and live viewing is not possible. A camera may be stopped for various reasons: Typically it is because the camera has been configured to only be available during certain hours of the day; other reasons may be camera or network maintenance, a change in configuration on the surveillance system server or similar. If all cameras display *Stopped*, it may indicate that the connection to the surveillance system server is lost. Consult your surveillance system administrator if in doubt.

The bar is dark blue. When you select a particular camera in the view, the bar of the selected camera position becomes a lighter blue.






Colored Indicators

Each bar features three colored indicators:

- **Event indicator** (the leftmost of the three indicators, solid yellow 


Note: This feature is only available if using your Smart Client with certain Milestone surveillance systems; see Surveillance System Differences on page 100 for more information. Even when using your Smart Client with a surveillance system supporting this feature, being able to use the feature requires that notifications on events have been configured on the surveillance system server. Consult your surveillance system administrator if in doubt.

- **Motion indicator** (the indicator in the middle, solid red 

i Tip: If configured (as part of individual cameras' properties on the Smart Client's *Setup* tab), event () and motion () indications can be accompanied by sound notifications. See *Sound on Motion Detection* (page 40) and *Sound on Event* (page 39) for more information.

Hotspot Positions

If a view contains a hotspot, you are able to select a camera in the view itself, or any other view you may have open, and view enlarged and/or higher quality images from the selected camera in the hotspot.

When a view contains a hotspot, the hotspot is usually, but not always, located 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, you will be able to recognize it by the following characteristics:

- When you select camera positions in the view, your selection is reflected in the hotspot



- It is surrounded by a thin orange border

How to Use a Hotspot

Note: To use the hotspot functionality, at least one of the views you are using must have a hotspot. If in doubt, look for the orange border indicating a hotspot position.

To use a hotspot, simply select a camera position in a view to automatically view the camera's images in the hotspot.

Advantages of Using a Hotspot

The fact that you can often view enlarged images in the hotspot is not in itself what makes the hotspot useful; you can enlarge any image in a view by double-clicking the image.

What makes the hotspot useful is that with a hot spot it is possible to 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. Then, only when you select a camera for viewing in the hotspot will it be displayed in high quality and/or high frame rate. This can really help save bandwidth on the remote connection.

Hotspots are configured on the Smart Client's *Setup* tab.

Carousel Positions

A carousel is used for displaying images from several cameras, one after the other, in a single view position.

If a position in one of your views contains a carousel, you will be able to recognize it by the following characteristics:

- It displays images from different cameras, one after the other
- It is surrounded by a thin green border

You can enlarge a carousel by double-clicking the blue bar at the top of the carousel position.



Placing your mouse pointer over the blue bar at the top of a carousel position gives you access to buttons which let you pause the carousel as well as change the carousel's rotation direction:



Example: A carousel has been configured to display camera A, then camera B, then camera C, and so forth. By changing the direction, you can make the carousel display camera C, then camera B, then camera A, etc.

Carousels are configured on the Smart Client's *Setup* tab.

Matrix Positions

Note: The ability to use Matrix content in views is available when connecting to selected Milestone surveillance systems only; see Surveillance System Differences on page 100 for more information.

Matrix is an integrated product that allows distributed viewing of live video from any camera on any monitor on a network operating with selected Milestone surveillance systems. With a typical Matrix configuration, live images are automatically presented on the required monitor when defined

events occur, for example when movement is detected, or when another user wishes to share important live images.

Provided Matrix has been configured on the surveillance system server, and one or more special Matrix positions have been defined for your view, you are able to watch Matrix-triggered live video on the Smart Client's *Live* tab: When particular events occur, or when other users wish to share important live images with you, live images from particular cameras will automatically appear in your views' Matrix positions.

Which events or cameras are used in the Matrix setup depends entirely on the surveillance system server's Matrix configuration and on what other users wish to share with you; you are not able to control this in the Smart Client.

If a position in one of your views contains Matrix content, you will be able to recognize it by the following characteristics:

- It automatically displays live images when predefined events occur, or when other users wish to share important live images with you
- It may display images from different cameras, depending on which events have occurred or what other users wish to share with you
- It is surrounded by a thin blue border



You can enlarge a Matrix position by double-clicking the blue image bar above the image.

A view may contain several Matrix positions. This way you are able to watch live video from more than one Matrix-triggered source 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 will be the secondary Matrix position, and so on. When the first live image stream is received, Matrix automatically presents the stream in the primary Matrix position in your view.

When the next image stream is received, a first-in-first-out principle begins to apply: Matrix quickly transfers the previously received image stream to your view's secondary Matrix position, and presents the latest image stream in your view's primary Matrix position, and so on.

This way, you can always watch the latest image stream, while maintaining the last few previously received image streams in your view as well.

Which of a view's positions should be primary, secondary, etc. is determined on the Smart Client's *Setup* tab.

Enlarging Camera Positions

To enlarge images from a particular camera in a view, double-click the camera position's blue image bar.

To return to normal view, simply double-click the blue image bar again.

i Tip: Depending on configuration, images from the camera may be displayed in full quality when enlarged, even if reduced image quality has been selected for the camera on the *Setup* tab.



Camera Shortcut Menus

By right-clicking inside one of a view's camera positions, you get access to a shortcut menu.

Note: Some of the following features may only be available when connecting to selected Milestone surveillance systems; see Surveillance System Differences on page 100 for more information.

Some of the shortcut menu's content may vary from camera to camera, depending on the configuration of the selected camera:

- **Start Recording for # Minutes:** Lets you record video from the selected camera. Once started recording will continue for a number of minutes. Available for all cameras. See Starting Recording when Viewing Live Video on page 61 for more details.
- **Copy:** Lets you copy the displayed image (as a single bitmap image) to your clipboard. The copied image can then be pasted into other applications, such as word processors, etc. Available for all cameras. See Copying Single Images on page 70 for more details.
- **Camera:** Lets you select another camera for display in the view position. This way you are able to switch between viewing video from different cameras in the same view position. Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. See page 60 for more details.
- **Sound Notifications:** Lets you temporarily mute sound notifications. Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. Only available if sound notifications (audible notifications triggered when events and/or motion occur) are configured for the camera on the Smart Client's *Setup* tab. See Handling Sound Notifications on page 62 for more details.
- **PTZ Presets:** Lets you move a PTZ camera between its preset positions. Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. Only available if the selected camera is a PTZ (Pan/Tilt/Zoom) camera. See Using PTZ on page 67 for more details.
- **Matrix:** Lets you send video from the selected camera to a particular Matrix recipient. Only available for single-camera view positions, not for hotspots or carousels. Only available if Milestone XProtect Matrix (an integrated product for distributed viewing of live video streams) has been configured on your surveillance system. See Sending Video to Matrix Recipients on page 70 for details.
- **Send Camera:** Lets you send video from the selected camera position to another single-camera position in an open view, including any views you may have open in floating windows or on secondary displays. Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. See Sending Video between Views on page 60 for more details.

Camera Messages

Message texts may under particular circumstances appear in white letters across one or more of a view's camera positions.

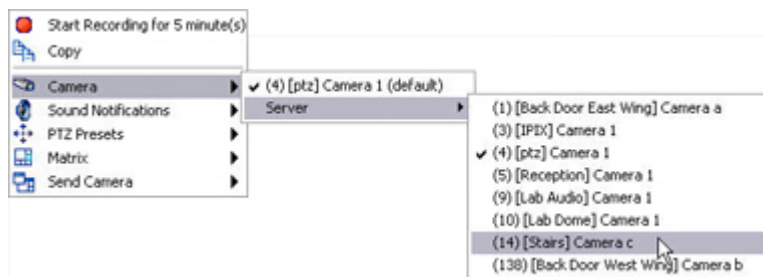
See page 86 for a complete overview of the message texts and advice about what to do when you see them.

Switching Cameras in Camera Positions

You are able to change the cameras displayed in a view's camera positions. This way you are able to switch between viewing video from different cameras in the same camera position in a view. This feature is only available for single-camera positions; not for hotspots, carousels, or Matrix positions.

To switch cameras in a position, do the following:

1. Select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, first select *Camera*. Next, select the required server in the first submenu (the Smart Client supports viewing of cameras from several servers), then select the required camera in the second submenu.



Example: Selecting another camera for display in the view position. In this case all cameras are connected to a single server; your surveillance system may have several servers.

Tip: The camera originally displayed in the view position will be listed at the top of the first submenu, with the word *(default)* after the camera name. This helps you quickly switch back to viewing the original camera.

Tip: If camera shortcut numbers have been defined on the surveillance system server, you are also able to use keyboard shortcuts for switching between cameras; see Using Standard Keyboard Shortcuts on page 97 for more information. If such camera shortcut numbers have been defined, they will appear in brackets before camera names in the shortcut menu, as it the case in the example illustration.

Sending Video between Views

You are able to send video from a selected camera position to another single-camera position in an open view, including any views you may have open in floating windows or on secondary displays. This feature is only available for single-camera positions; not for hotspots, carousels, or Matrix positions.

To send video to another camera position in an open view, do the following:

1. Select the view that includes the camera from which you want to send video.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, first select *Send Camera*. Next, select the required destination view in the first submenu, then select the required camera position in the second submenu.



Example: Sending a camera's images to another camera position

If some of the camera positions listed on the second submenu are not selectable (as is the case in our example illustration), it is because the positions are either not in use or used for hotspots, carousels, or Matrix content.

Starting Recording when Viewing Live Video

Note: This feature is only available when connecting to selected surveillance systems; see Surveillance System Differences on page 100 for more information. Use of this feature may require particular user rights; consult your surveillance system administrator if in doubt.

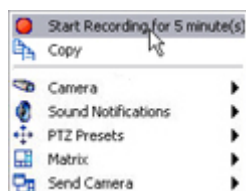
You are able to record video from a selected camera in a view on the *Live* tab.

Even though you can see live video from a camera, the video stream from the camera is not necessarily being recorded. Video is normally recorded as defined on the surveillance system server. Typically, recording takes place according to a schedule (example: every morning from 10.00 to 11.30) and/or whenever the surveillance system detects special events (examples: motion generated by a person entering a room; a sensor registering that a window is being opened; user input, such as you manually triggering an event (see page 69) in your Smart Client).

The ability to start recording is therefore highly useful if you see something of interest while watching live video.

How to Start Recording

1. On the *Live* tab, select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *Start recording for # Minutes*:



Example: Starting recording, in this case for five minutes

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

Starting Recording on More than One Camera

You can start recording of the video stream from more than one camera, although you must select them one by one. Note that the number of minutes for which to record may vary from camera to camera.

How Do I Know if a Camera Is Already Recording?

To verify whether the video stream from a camera is currently being recorded, look at the blue bar immediately above the camera's images. If the video stream from the camera is already being recorded, the bar will display **REC**.

Note that you may occasionally see the **REC** letters 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.

Handling Sound Notifications

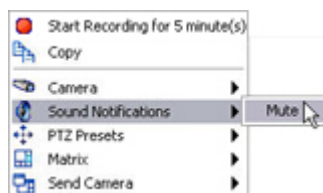
Your Smart Client may have been configured to notify you with a sound notification when:

- motion is detected on one or more specific cameras
 - and/or -
- events 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.

If required, you can temporarily mute sound notifications for a specific camera by doing the following:

1. On the *Live* tab, select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *Sound Notifications > Mute*.



Example: Muting sound notifications through the shortcut menu

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



The ability to mute sound notifications is only available for single-camera positions; not for hotspots, carousels, or Matrix positions.

Audio (Microphones & Speakers)

Note: Audio is not supported by all Milestone surveillance systems; see Surveillance System Differences on page 100 for more information. Even on systems supporting audio, support for specific features may vary from system to system. Also, access to live audio, or certain live audio features, may be restricted depending on your user rights. Consult your surveillance system administrator if in doubt.

The Smart Client supports both incoming and outgoing audio: From the Smart Client you can listen to live recordings from microphones attached to cameras, and talk live to audiences through loudspeakers connected to cameras.

If required, you can listen and talk simultaneously. This way you can interact directly with your audiences.

Such two-way interaction requires that the involved cameras have microphones as well as speakers attached.

You can of course also use audio in cases where only microphones or speakers are attached to cameras. You handle audio in the Live tab's *Audio* section.

Listening

To listen to live audio, select the required microphone from the *Microphones* list.

i Tip: You can listen to audio independently of the views/cameras you are watching.

Note: If the *Microphones* list displays *No microphone hardware*, your computer lacks the hardware required to play audio from the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No microphone sources*, your computer is able to play audio, but no microphones attached to cameras are available.

To temporarily mute the live audio, simply select *Mute*.



Talking

To talk to audiences through speakers attached to cameras, do the following:

1. Select the required speakers from the *Speakers* list.

Note: If the *Speakers* list displays *No speaker hardware*, your computer lacks the hardware required to use speakers on the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No speaker sources*, your computer is able to use speakers, but no speakers attached to cameras are available.

2. Click the *Talk* button and keep it depressed whenever you need to talk. The fact that the button must be depressed—not unlike when using a walkie-talkie—gives you full control

over what is actually transmitted through the speakers.

i Tip: When you talk, the level meter next to the *Talk* button will indicate the level of your voice. If deflection is very low, you may need to move closer to your microphone.



Example: Deflection on level meter

If the level meter shows no deflection at all, even when you move close to your microphone, verify that the microphone attached to your computer is correctly set up and connected.

Note: The surveillance system records incoming audio from microphones attached to cameras, even if no video is being recorded. However, outgoing audio transmitted through the camera's speakers is not recorded. Recordings therefore cannot be used to, for example, prove that a Smart Client operator gave an audience specific instructions through speakers.

Lock to Selected Speaker

If you select another camera or another view, your speaker selection will by default mirror this. This has the benefit that if you select another camera, which has speakers attached, you will immediately be able to talk through the new camera's speakers, without having to make a selection in the *Speakers* list.

However, if you want to talk through a particular camera's speakers even though you have selected another camera or another view, select *Lock to selected speaker*.

Example: You need to talk reassuringly to a crime victim through speakers attached to camera A, but you also need to watch cameras X, Y and Z, some of which are displayed in different views. By selecting *Lock to selected speaker*, you are able to talk to the victim on camera A while watching the other cameras.

Talking through Multiple Speakers Simultaneously

If your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you are able to talk through all the speakers simultaneously:

From the *Speakers* list select *All speakers*, then click the *Talk* button and keep it depressed whenever you need to talk.

Frequently Asked Questions about Live Audio

? **Can I talk through multiple speakers simultaneously?** Yes, if your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you are able to talk through all the speakers simultaneously: From the *Speakers* list select *All speakers*, then click the *Talk* button and keep it depressed whenever you need to talk.

? **Can I adjust the recording volume of a microphone connected to a camera?** The Smart Client has no such feature, but it is very likely that you can adjust the recording volume either on



the microphone itself or through the configuration interface of the camera device to which the microphone is attached. Consult your surveillance system administrator if in doubt.

? **Can I adjust the output volume of speakers connected to a camera?** The Smart Client has no such feature, although the Smart Client's level meter—available when the *Talk* button is depressed—gives you an indication of the input level, which may in turn provide you with an idea of the output level. It is very likely that you can adjust the output volume either on the speakers themselves or through the configuration interface of the camera device to which the speakers are attached. Consult your surveillance system administrator if in doubt.

? **Will other Smart Client users be able to hear what I say through speakers?** Under normal circumstances other Smart Client users will not be able to hear what you say. However, depending on the environment in which your organization operates, other users may be able to hear what you say if they listen to microphones which are physically located near the speakers through which you talk.

? **Will audio from microphones attached to cameras be recorded?** The surveillance system records incoming audio from microphones attached to cameras, even if no video is being recorded.

? **Will what I say through speakers be recorded?** The surveillance system can record incoming audio from microphones even if no video is being recorded. However, outgoing audio transmitted through speakers can only be recorded on some surveillance systems, and cannot be played back or exported. Recordings therefore cannot be used to, for example, prove that a Smart Client operator gave an audience specific instructions through speakers.

Digital Zoom

The *Live* tab's *PTZ Control* section lets you use digital zoom on images from any camera displayed in the view.

Your use of digital zoom will not affect any recording of the images; any recording will still take place in the camera's regular format.

If you later wish to browse the recordings, you can use digital zoom on the Smart Client's *Browse* tab as well.

Enabling & Disabling Digital Zoom

To enable digital zoom on the *Live* tab, select the *PTZ Control* section's *Digital Zoom* check box.

To disable digital zoom, simply clear the *Digital Zoom* check box.



Digital Zoom Features

When digital zoom is enabled, you will see a small overview frame in the bottom right corner of each of the view's camera positions.

Once you zoom in on an area of an image, the overview frame will help you maintain an overview of the complete image:



Overview frame inside image

To zoom in, click inside the required image and drag around the area you want to zoom in on. The area you select will be highlighted by a white border. When you release the mouse button, the zoom will take effect:



White border around zoom area

Even when you have zoomed in on an area, you are able to move to other areas of the image while maintaining your zoom level: simply drag the highlighted area in the overview frame to the required position:

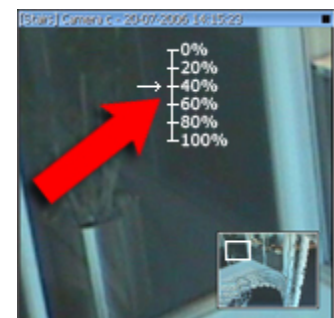


Zoom area highlighted in overview frame

To get access to a slider for adjusting the zoom level, click inside the required image and move your mouse pointer up or down while pressing the SHIFT key on your keyboard:

Selecting a zoom level of 0% lets you view the whole image again.

i 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 whole image again.



Using PTZ

If your views contain PTZ (Pan/Tilt/Zoom) cameras, you can control the PTZ cameras with the *Live* tab's *PTZ Control* section.

Note: PTZ features may be limited when connecting to selected surveillance systems; see Surveillance System Differences on page 100 for more information. Depending on your user rights, access to PTZ controls from some cameras may be restricted.

i Tip: You may be able to use a joystick for controlling your PTZ cameras. Joystick control is configured in the Smart Client's application menu; see *Customizing Joystick Setup* on page 42. 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. Refer to the release note for information about joystick and point-and-click support for PTZ cameras.

Point-and-Click

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

For some cameras, crosshairs surrounded by a square may be displayed. When this is the case, you are able to zoom in on an area by dragging a square around the required area in the image. 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.

Zoom with Mouse Wheel

For PTZ and fisheye cameras, you are able to zoom in and out using the scroll wheel on your mouse, provided your mouse is equipped with a scroll wheel.

Note: 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.

PTZ Navigation Buttons

As an alternative to point-and-click control, use the navigation buttons in the *PTZ Control* section to move the selected PTZ camera.

The round middle button lets you quickly move the camera to its home (i.e. default) position. The *plus* and *minus* buttons lets you zoom in and out respectively.

i 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 whole image again.



PTZ Preset Positions

If preset positions have been defined for the selected PTZ camera, you are able to select such positions such positions in two ways. Selecting a preset position from the list will make the PTZ camera move to the specified position.

- From the *PTZ Control* section's *Presets* list. Bear in mind that preset positions are defined by the surveillance system administrator; the *Presets* list will be empty if no preset positions have been defined for the selected PTZ camera.
- You can also move a PTZ camera to a preset position through a menu available when right-clicking on the required camera's position in a view on the *Live* tab:
 1. On the *Live* tab, select the required view.
 2. Right-click inside the required camera position; you now get access to a shortcut menu.
 3. In the menu, select *PTZ Presets*, then the required preset position.



Example: Available preset positions will depend on individual camera configuration

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

Stopping PTZ Patrolling

You can stop a patrolling PTZ camera (i.e. a PTZ camera which continuously moves between a number of preset positions according to a schedule) through a menu available when right-clicking on the required camera's position in a view on the *Live* tab:

Note: Only use this feature when there is an important reason to do so; PTZ patrolling schedules are often carefully planned in order to meet your organization's surveillance needs. If in doubt, consult your surveillance system administrator.

1. On the *Live* tab, select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *PTZ Presets* > *Stop PTZ Patrolling*.

To resume patrolling, either simply select the command again or close the view in which the PTZ camera is included.

Fisheye 360° Images

Fisheye is a technology allowing creation and viewing of 360-degree panoramic images; it requires either a dedicated fisheye camera or a regular camera equipped with a special fisheye lens.



If fisheye cameras are included in the view, you are able to move to a favorite position in the fisheye image, and then save that position by clicking the *Save* button under *Fisheye PTZ Positions*

in the *PTZ Control* section. When you later want to return to the saved position, simply click the *Load* button.

Manually Triggering Events

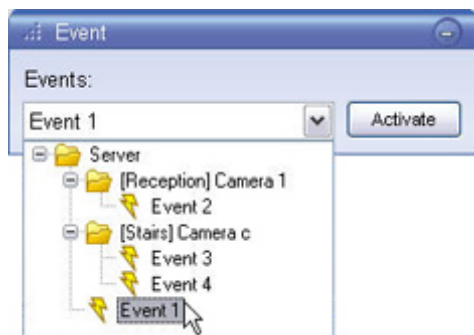
If manual triggering of events has been defined on your surveillance system, you can trigger events from the Smart Client.

Note: Depending on your user rights, access to manually triggering events may be restricted.

? **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, such as recording on a camera. Events can be global or tied to a particular camera/device.

Depending on configuration, manually triggered events can be used for a wide variety of purposes, including triggering combinations of actions. For example, the manual triggering of an event could make a camera record with a particular frame rate, activate two different outputs, and send an e-mail alert to three different recipients.

Exactly what happens when you manually trigger an event is defined by your surveillance system administrator. Ask your surveillance system administrator if in doubt about using manually



triggered events in your organization. Your surveillance system administrator may occasionally know manually triggered events under the name *event buttons*.

To manually trigger an event, select the required event in the *Event* section, and click the *Activate* button.

The list of selectable events is grouped by server and camera/device with which the event is associated. Hierarchically, global events are displayed immediately under the relevant server. In the above example, *Event 1* (the selected event) is a global event.

Manually Triggering Outputs

If external outputs have been defined on your surveillance system, for example for switching on lights or sounding a siren, such outputs can be triggered from the Smart Client.

Note: Depending on your user rights, access to triggering outputs may be restricted.

To trigger an output, select the required output in the *Output* section, and click the *Activate* button.

The list of selectable outputs is grouped by server and camera/device to which the output is attached.



Sending Video to Matrix Recipients

Matrix is a feature in selected Milestone surveillance systems only (see Surveillance System Differences on page 100 for more information). It allows distributed viewing of video from any surveillance system camera to any monitor (known as a Matrix recipient) on a network.

With a typical Matrix configuration, video is automatically presented on the required Matrix recipient when defined events occur—for example when motion is detected—but you can also manually send video to a Matrix recipient.

The ability to manually send video to a Matrix recipient is only available for single-camera positions; not for hotspots or carousels. Also, it is only available if Matrix has been configured on your surveillance system, and you have the required user rights.

To send video to a Matrix recipient, do the following:

1. Select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *Matrix*, then the required Matrix recipient.



Example: Sending a camera's images to a Matrix recipient through the shortcut menu

Copying Single Images

You are able to 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 a single camera at a time.

To copy, do the following:

1. Select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *Copy*.



You can now paste the image into the required application.

Viewing Recorded Video

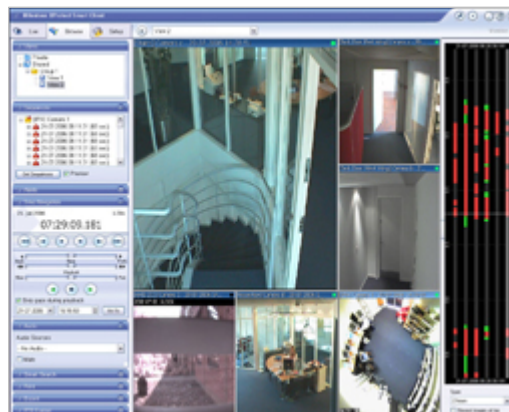
You view recorded video on the Smart Client's *Browse* tab.

When you select the Smart Client's *Browse* tab, the Smart Client will connect to the surveillance system server, and display recorded images from the cameras in the selected view. This way, you are able to browse recorded video.

Note: Particular user rights may be required in order to access the *Browse* tab. Depending on your user rights, access to browsing video from some cameras may be restricted.

The *Browse* tab provides you with a number of advanced features for browsing recorded video, including ...

- Time navigation (see page 76)
- A highly intuitive timeline browser (see page 75)
- Sequences browsing (see page 78)
- Alerts browsing (see page 79)
- Smart search, which lets you search for motion in one or more selected areas of recordings from a particular camera (see page 80).



In addition to the video browsing features, the *Browse* tab also lets you ...

- Listen to audio (see page 85; audio is available when connected to selected Milestone surveillance systems only)
- Use hotspots (see page 73)
- Use digital zoom (see page 82)
- Navigate fisheye images (see page 84)
- Print images (see page 85)
- Export evidence in various formats (see page 89).

i Tip: The Smart Client supports use of multiple windows. This is especially useful if your computer has more than one physical display attached, but from the *Live* and *Browse* tabs you can send individual views to separate windows as well. This way, you can watch more than one view at a time. See *Using Multiple Windows* on page 94 for more information.

Views and their Content

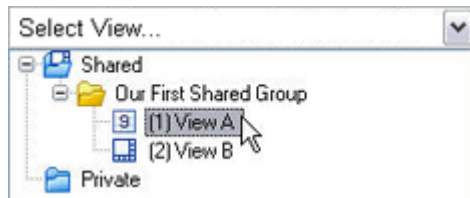
Selecting a View

You are basically able to select a view for display on the *Browse* tab in two ways:

- By selecting the required view in the *Browse* tab's *Views* section:



- By selecting the required view from the *Views* list located in the upper part of the window.



i **Tip:** If views have been assigned shortcut numbers (see *Assigning Shortcut Numbers to Views* on page 26), you will also be able to select a view by using keyboard shortcuts (see *Using Standard Keyboard Shortcuts* on page 97).

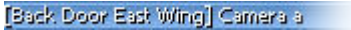
Camera Names and Colored Indicators


Each camera in the view is identified by a bar, located in the top of each camera position.

The bar displays the name of the camera as well as the name of the device to which the camera is connected. The device name is displayed first, in square brackets, followed by the camera name. When images are displayed, the image bar furthermore shows the date and time of the displayed image.

The bar is dark blue. When you select a particular camera in the view, the bar of the selected camera position becomes a lighter blue.


Dark blue: camera is not selected


Light blue: camera selected

Each bar features a recordings indicator, which is useful when browsing recordings. The indicator lights up green  each time a new image is displayed.

Enlarging Camera Positions

To enlarge images from a particular camera in a view, double-click the camera position's blue bar. To return to normal view, simply double-click the blue image bar again.

Hotspot Positions

When the selected view contains a hotspot, the hotspot will also appear when you are working on the *Browse* tab.

Like on the *Live* tab, you are able to select a camera position in a view to automatically view the camera's images in the hotspot.

You are of course able to browse the hotspot's images using the *Browse* tab's various navigation features.

Like on the Smart Client's other tabs, a hotspot is indicated by a thin orange border.



Carousel Positions

A carousel is normally used for displaying video from several cameras, one after the other, in a single view position.

When the selected view contains a carousel, the carousel will also appear when you are working on the *Browse* tab. A carousel, however, is only useful when working on the *Live* tab; not when working on the *Browse* tab. On the *Browse* tab, the carousel will simply list the name of the camera it was last displaying on the *Live* tab.

Like on the Smart Client's other tabs, a carousel is indicated by a thin green border.

Matrix Positions

Note: The ability to use Matrix content in views is available when connecting to selected Milestone surveillance systems only; see Surveillance System Differences on page 100 for more information.

Matrix is an integrated product that allows distributed viewing of video from any surveillance system camera to any monitor (known as a Matrix recipient) on a network. Provided Matrix has been configured on the surveillance system server, and one or more special Matrix positions have been defined for your view, you are able to browse Matrix-triggered video.

When the selected view contains one or more Matrix positions, the Matrix positions will also appear when you are working on the *Browse* tab.

On the *Browse* tab, the Matrix positions will simply display images from the cameras with which the Matrix positions were last used on the *Live* tab. You are of course able to browse these images using the *Browse* tab's various navigation features.

Like on the Smart Client's other tabs, a Matrix position is indicated by a thin blue border.

Camera Messages

Message texts may under particular circumstances appear in white letters across one or more of a view's camera positions.

See page 86 for a complete overview of the message texts and advice about what to do when you see them.





Camera Shortcut Menus

By right-clicking an image in one of a view's camera positions, you get access to a shortcut menu:

Note: Some of the following features may only be available when connecting to selected Milestone surveillance systems; see Surveillance System Differences on page 100 for more information.

- **Start Recording for # Minutes:** Not available when browsing already recorded images on the *Browse* tab.
- **Copy:** Lets you copy the displayed image (as a single bitmap image) to your clipboard. The copied image can then be pasted into other applications, such as word processors, etc. Available for all cameras. See page 85 for more details.
- **Camera:** Lets you select another camera for display in the view position. This way you are able to switch between viewing video from different cameras in the same view position. Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. See Switching Cameras in Camera Positions in the following for more details.
- **Sound Notifications:** Not available when browsing already recorded images on the *Browse* tab.
- **PTZ Presets:** Not available when browsing already recorded images on the *Browse* tab.
- **Matrix:** Lets you send video from the selected camera to a particular Matrix Monitor. Note that the *Matrix* command is not available if viewing the camera in a hotspot. Only available if Milestone XProtect Matrix (an integrated product for distributed viewing of live video streams) has been configured on your surveillance system. See page 75 for more details.
- **Send Camera:** Lets you send video from the selected camera position to another single-camera position in an open view, including any views you may have open in floating windows or on secondary displays. Only available for single-camera view positions, not for hotspots, carousels, or *Matrix* positions. See page 75 for more details.

Switching Cameras in Camera Positions

You are able to change the cameras displayed in a view's camera positions. This way you are able to switch between viewing video from different cameras in the same camera position in a view. This feature is only available for single-camera positions; not for hotspots, carousels, or Matrix positions.

To switch cameras in a position, do the following:

1. Select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, first select *Camera*. Next, select the required server in the first submenu (the Smart Client supports viewing of cameras from several servers), then select the required camera in the second submenu.

i Tip: The camera originally displayed in the view position will be listed at the top of the first submenu, with the word (*default*) after the camera name. This helps you quickly switch back to viewing the original camera.

i Tip: If camera shortcut numbers have been defined on the surveillance system server, you are also able to use keyboard shortcuts for switching between cameras; see Using Standard Keyboard



Shortcuts on page 97 for more information. If such camera shortcut numbers have been defined, they will appear in brackets before camera names in the shortcut menu, as it the case in the example illustration.

Sending Video between Views

You are able to send video from a selected camera position to another single-camera position in an open view, including any views you may have open in floating windows or on secondary displays. This feature is only available for single-camera positions; not for hotspots, carousels, or Matrix positions.

To send video to another camera position in an open view, do the following:

1. Select the view that includes the camera from which you want to send video.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, first select *Send Camera*. Next, select the required destination view in the first submenu, then select the required camera position in the second submenu.

If some of the camera positions listed on the second submenu are not selectable, it is because the positions are either not in use or used for hotspots, carousels, or Matrix content.

Sending Video to Matrix Recipients

Matrix is a feature in selected Milestone surveillance systems only (see Surveillance System Differences on page 100 for more information). It allows distributed viewing of video from any surveillance system camera to any monitor (known as a Matrix recipient) on a network.

You can manually send video to a Matrix recipient. The ability to manually send video to a Matrix recipient is only available for single-camera positions; not for hotspots or carousels. Also, it is only available if Matrix has been configured on your surveillance system, and you have the required user rights.

To send video to a Matrix recipient, do the following:

1. Select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *Matrix*, then the required Matrix recipient.

Video Browsing Features

Timeline Browser

The timeline browser displays an overview of periods with recordings from all cameras displayed in your current view. The number of timelines displayed in the timeline browser reflects the number of cameras displayed in the view you are using. The timeline of the camera selected in the view is highlighted in a lighter color.

To browse recordings using the timeline browser, click inside the timeline browser, and move your mouse up or down without releasing the mouse button.

The timeline browser uses two colors:



- Red (●): Recordings with motion
- Green (●): Recordings without motion

The white horizontal line in the middle of the timeline browser indicates the point in time from which recordings are being displayed in the camera layout.

The timeline browser prioritizes recordings with motion higher than recordings without motion: If there are recordings with as well as without motion within an interval of one minute, the timeline browser will treat the entire interval as an interval containing recordings with motion. This is why, depending on individual camera settings, you will sometimes see more red periods than green periods in the timeline browser.

Note: Administrator-defined prebuffered recording periods cannot be displayed in the timeline browser's timelines. The fact that these periods cannot be displayed in the timeline browser's timelines does not affect the recordings.

i Tip: If your mouse has a scroll wheel, you can also use the scroll wheel for browsing the timelines. If using your mouse scroll wheel for browsing, you can quickly change the timeline browser's time span by pressing the CTRL key on your keyboard while scrolling.

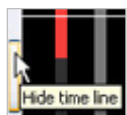
i Tip: Browsing is normally quite fast, but you are able to slow down the pace by pressing the CTRL key on your keyboard while browsing. Note that this does not apply if using your mouse's scroll wheel for browsing.

i Tip: Double-click at any point within a timeline to quickly move to that point in time.

Time Span

Immediately below the timeline browser itself, you are able to specify which time span (1 hour, 2 hours, etc. up to 1 day) should be used in the timeline, and whether the newest recordings should be indicated at the top or at the bottom of the timeline.

Hiding and Showing the Timeline Browser



The timeline browser is useful, but it takes up space in the view. When you do not need the timeline browser, you can hide it by clicking the small button in the left side of the timeline browser's border. The button is located near the timeline browser's white horizontal line.

To show the timeline browser, simply click the button again. When the timeline browser is hidden, the button will be available in the *Browse* tab's far right border.

Time Navigation

The *Browse* tab's *Time Navigation* section provides you with controls for browsing and playing back recorded images from the camera selected in the view.

Master Time Area

The *Time Navigation* section's *Master Time* area in the upper part of the *Time Navigation* section shows the master time and date of the recordings viewed. The master time is the time to which all the cameras viewed are tied.

This means that when you browse recordings, all the



images you see in the view will, in principle, be from exactly the same point in time. Some cameras, however, may only record if motion is detected. Also, there may be no recorded images 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.

The *Master Time* area also displays the current playback speed (example: 1.00x, indicating real-time).

Browse Buttons

The *Time Navigation* section's browse buttons lets you manually navigate through recordings from the camera selected in the view.



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



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



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



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



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



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

Time Sliders

The *Time Navigation* section's time sliders let you browse recordings simply by dragging the sliders' handles.

Drag to the left to move backwards in time; drag to the right to move forward in time. Use the upper times slider for fine browsing within a limited period of time; use the lower slider for browsing longer time spans.



Playback Slider and Buttons

The *Time Navigation* section's playback slider lets you specify the required playback speed. In the slider's middle position, playback speed is real-time (1.00x).

Drag the slider to the left for a slower playback speed; drag to the right for a faster playback speed.



An indication of the exact playback speed is displayed in the upper right corner of the *Time Navigation* section's *Master Time* area.

Use the playback buttons to play back recordings:



Play reverse: Plays back recordings backwards in time



Play forward: Plays back recordings forward in time



Stop: Stops playback



Tip: Dragging the playback slider to its leftmost position pauses playback.

Skip Gaps During Playback

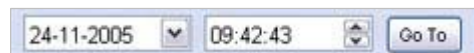
To automatically skip gaps in recordings during playback, select the *Skip gaps during playback* check box. Such gaps are primarily evident when a camera has relatively few recordings.

Note: The *Skip gaps during playback* feature is based on gaps in video only. As soon as there is a gap in video recordings, the feature will ensure that the gap is skipped *even if there are audio recordings during the video gap*. This means that if a recording contains video as well as audio, you may miss out on parts of the audio recordings if using this feature.

Quick Date and Time Navigation

The date and time fields in the lower part of the *Time Navigation* section let you quickly jump to a specific point in time.

Specify required date in the first field and required time in the second field, then click the *Go To* button.



Sequences

The *Browse* tab's *Sequences* section provides you with an overview of recorded sequences for the camera selected in the view.

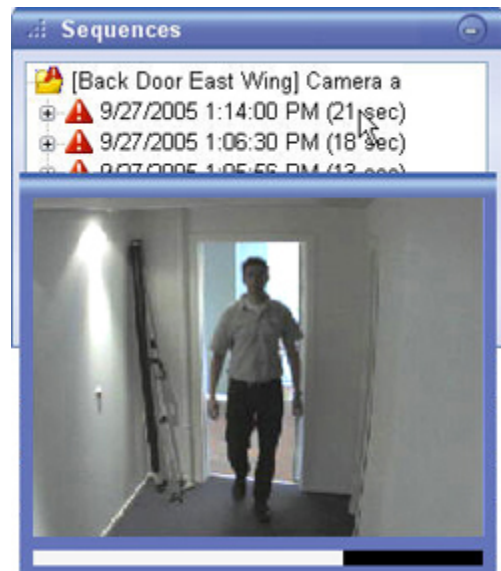
To use the *Sequences* section, select the required camera in the view, then click the *Sequences* section's *Get Sequences* button.


Clicking the *Get Sequences* button will retrieve a list of up to 40 sequences: 20 sequences prior to the point in time displayed in the view, and 20 sequences following the point in time displayed in the view. Each sequence will be listed with date and time as well as the length of the sequence.

Clicking a sequence in the list will move all images in the view to the time of the sequence.



Tip: If the *Preview* check box is selected, you are able to quickly view each sequence by placing the mouse pointer over the required sequence in the list.



Clicking the *expand* icon  next to a sequence in the list will show you the exact date and time of the first and last image in the sequence as well as the exact date and time of the motion detection, event, etc. triggering the recording.

Sequences may often begin some seconds before a motion detection, event, etc. and end some seconds after. This so-called buffer allows you to be able to see what happens immediately before and after an incident; the buffer length is determined by the system administrator.

Alerts

Note: The *Alerts* section is used for slightly different purposes, depending on which type of Milestone surveillance system you connect to; see *Surveillance System Differences* on page 100 for details. Consult your surveillance system administrator if in doubt.

If You Are Connected to a Milestone XProtect Corporate Surveillance System

The *Browse* tab's *Alerts* section lets you view a list of detected alerts.

Alerts are short messages customized to suit your organization's needs. Examples of alerts: *Panic Button Pressed*, *Fire Exit 23 Open*, *Employee Clocking In*, etc. Alerts may be triggered for a variety of reasons; they are not necessarily related to system events, although that may often be the case.

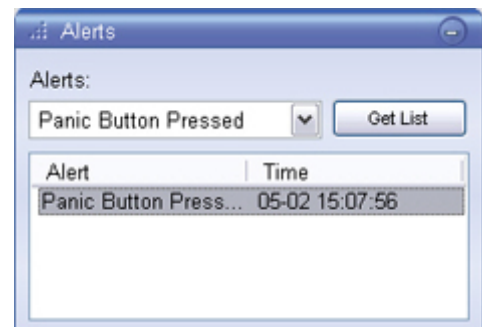
Listed alerts are clickable, allowing you to quickly jump to the time at which an alert occurred.

To get a list of alerts, do the following:

1. Select the required alert in the *Alerts* list.
2. Click the *Get List* button. This will display a list of detected alerts.

You are able to click the listed alerts to view recordings from the required alert in the view.

i Tip: To view what took place prior to and after the alert, use the *Time Navigation* controls to browse recordings from around the time of the alert.



If You Are Connected to a Milestone XProtect Enterprise, XProtect Professional or XProtect Basis+ Surveillance System

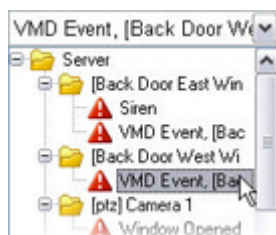
The *Browse* tab's *Alerts* section lets you view a list of detected events (occasionally known as alerts).

Listed events are clickable, allowing you to quickly jump to the time at which an event occurred.

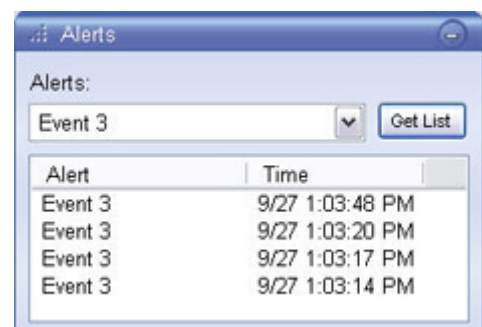
To get a list of events, do the following:

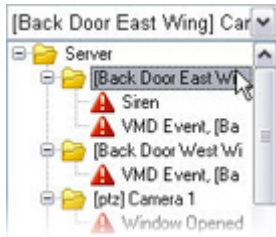
1. Select the required events in the *Alerts* list.

You may either select a single event:

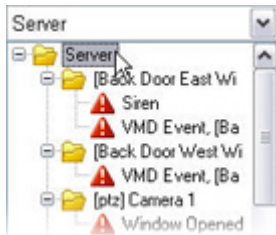


Or all events on a particular camera:





Or all events on a particular server:



2. Click the *Get List* button. This will display a list of detected events. You are able to click the listed events to view recordings from the required event in the view.

i Tip: To view what took place prior to and after the event, use the *Time Navigation* controls to browse recordings from around the time of the event.

Smart Search

Smart search lets you search for motion in one or more selected areas of images from a particular camera.

Note: Smart search is only available when connecting to selected surveillance systems; see Surveillance System Differences on page 100 for more information. Smart search cannot be used for images from fisheye cameras. Depending on your user rights, access to smart search may be restricted.

To use smart search, do the following:

1. Select the *Browse* tab's *Smart Search* section.
2. Select the *Smart Search* section's *Show Grid* check box.
3. Select the required camera in the view. A blue grid overlay will appear on the image from the camera. This is the grid you selected in the previous step; the grid can be removed by clearing the *Show Grid* check box.

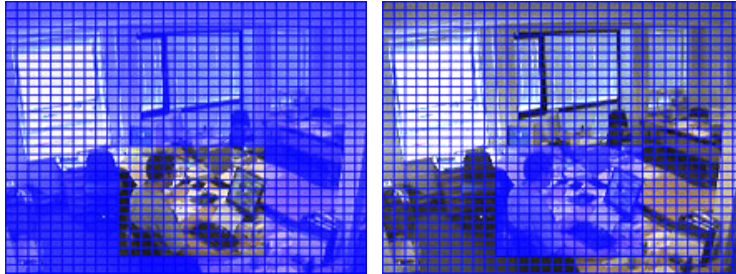
i Tip: For a better view, enlarge the camera image by double-clicking the blue bar above the image.

Click and drag inside the image to select the area(s) in which you want to perform the smart search. You are able to select more than one area.

The areas you select will become visible through the blue overlay. The blue overlay thus indicates areas to be *excluded* from the smart search. With



the *Smart Search* section's *Include* and *Exclude* options, you are able to toggle between including/excluding areas when you drag. With the *Invert* button, you are able to quickly invert your selection, if required.



Examples of a selected area, and of the selected area inverted

- Click the *Smart Search* section's *Save* button to save your search area settings.

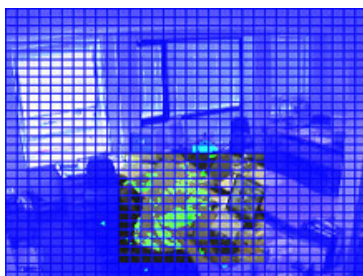
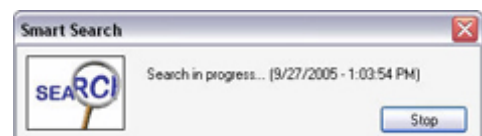
i Tip: If you want to experiment with further changes to the search area, you can return to your saved search area settings by clicking the *Load* button.

- In the *Smart Search* section, select required search sensitivity (*Very Low-Very High*) in the *Sensitivity* list.
- Select required image interval in the *Interval* list. 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 time required to complete the search. However, with a long interval, the search may not find motion sequences that are shorter than the specified interval.
- Click the *Next* (move forward in time) or *Previous* (move back in time) buttons to search through sequences with motion detected in the selected areas.

Note: Smart search is always carried out from the time of the image you are viewing and forwards or backwards.

- The smart search begins, and a progress window displays search progress.

When a sequence with motion inside the selected area(s) is found, it will be displayed in the view, and detected motion will be highlighted.



Motion highlighted in green

i Tip: The *Browse* tab's *Time Navigation* section control panel will show exact corresponding time information.

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

PTZ Cannot Be Used Retroactively

Despite the fact that the *Browse* tab features a section named *PTZ Control*, you cannot use the section to control PTZ (Pan/Tilt/Zoom) cameras.

This is due to the simple fact that the *Browse* tab is used for viewing already recorded video; you cannot control a PTZ camera retroactively.

Instead, the *Browse* tab's *PTZ Control* section is used for two purposes:

- For using digital zoom on recorded video (see the following)
- For navigating fisheye 360° images (see page 84)

Digital Zoom

Just like on the *Live* tab, the *Browse* tab's *PTZ Control* section lets you use digital zoom on video from cameras displayed in a view. When viewing recorded video on the *Browse* tab, digital zoom is by default enabled, and you can use it for both regular cameras and PTZ (Pan/Tilt/Zoom) cameras.

If you have used digital zoom while viewing live video on the *Live* tab it will not have affected any recording; recording still takes place in the camera's regular format.

? **What is the difference between optical and digital zoom?** With optical zoom, a camera's lens elements physically move to provide the required angle of view. You cannot use optical zoom when viewing recorded video, simply because you cannot move the camera's lens retroactively. 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 thus simulates optical zoom, but the digitally zoomed portion will have a lower quality than the original image. Digital zoom works equally well on live and recorded video.

Digital Zoom Features

With digital zoom you will see a small overview frame in the bottom right corner of each of the view's camera positions.

Once you zoom in on an area of an image, the overview frame will help you maintain an overview of the complete image.



Overview frame inside image

To zoom in, click inside the required image and drag around the area you want to zoom in on. The area you select will be highlighted by a white border. When you release the mouse button, the zoom will take effect:



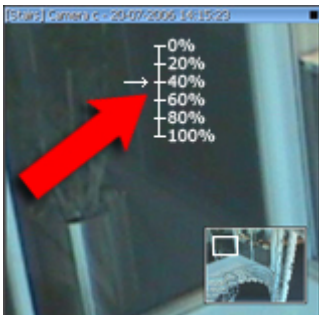
White border around zoom area

Even when you have zoomed in on an area, you are able to move to other areas of the image while maintaining your zoom level: simply drag the highlighted area in the overview frame to the required position:



Zoom area highlighted in overview frame

To get access to a slider for adjusting the zoom level, click inside the required image and move your mouse pointer up or down while pressing the SHIFT key on your keyboard:



Zoom level slider

Selecting a zoom level of 0% lets you view the whole image again.

i 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 whole image again.

Enabling & Disabling Digital Zoom

On the *Browse* tab digital zoom is by default enabled. If you want to disable digital zoom, clear the *PTZ Control* section's *Digital Zoom* check box. To enable digital zoom, simply select the *Digital Zoom* check box again.



Digital Zoom in Exported Evidence

If you are going to export evidence (see page 89) in AVI or JPEG formats, you will be able to select whether to export the regular images or the digitally zoomed images. If exporting in the database format, it will not be necessary to make such a selection as recipients will be able to use digital zoom on the exported recordings.

Digital Zoom in Printed Evidence

If you print (see page 85) an image on which you have used digital zoom, the digitally zoomed area of the image will be printed.

Fisheye 360° Images

Fisheye is a technology allowing creation and viewing of 360-degree panoramic images; it requires either a dedicated fisheye camera or a regular camera equipped with a special fisheye lens. If your views include fisheye cameras, you can navigate recorded images from the fisheye cameras with the *Browse* tab's *PTZ Control* section.

Note: Use of fisheye cameras is not supported by all Milestone surveillance systems. Ask your surveillance system administrator if in doubt.

Navigation by Dragging Inside Fisheye Images

You can often navigate fisheye images by dragging inside them. If your mouse pointer changes to a crosshairs shape when placed over the images from a fisheye camera, navigation by dragging is supported for the camera. Refer to the release notes for information about supported features for individual fisheye cameras.



Navigation Buttons

As an alternative to navigation by dragging inside fisheye images, use the navigation buttons in the *PTZ Control* section to move around the view from the selected fisheye camera. The round middle button lets you quickly move the camera to its home (i.e. default) position. The *plus* and *minus* buttons lets you zoom in and out respectively.

i Tip: If you 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 whole image again.



Presets

The *Presets* list is not available for navigating fisheye images.

Defining a Favorite Fisheye Position

You are able to move to a specific position in the fisheye view, and then save that position by clicking the *Save* button. When you later want to return to the saved position, click the *Load* button.

Audio Recorded by Microphones

Note: Audio is not supported by all Milestone surveillance systems; see Surveillance System Differences on page 100 for more information. Even on systems supporting audio, access to live audio may be restricted, depending on your user rights. Consult your surveillance system administrator if in doubt.

If one or more cameras have microphones attached, you are able to listen to recorded audio from a selected microphone when browsing recorded video on the Smart Client's *Browse* tab.

To listen to recorded audio, select the required microphone in the *Audio* section's *Microphones* list.

To temporarily mute the recorded audio, simply select *Mute*.

i Tip: You can listen to recorded audio independently of the views/cameras you are watching. However, the recorded audio you will hear will match the point in time you specify through the *Browse* tab's navigation features.

If the *Microphones* list displays *No microphone hardware*, your computer lacks the hardware required to play audio from the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No microphone sources*, your computer is able to play audio, but no microphones attached to cameras are available.

? Why is the Speakers list not available? Some surveillance simply system do not support two-way audio; see Surveillance System Differences on page 100 for more information. Even on systems supporting two-way audio, outgoing audio from the Smart Client is not recorded. Therefore, you are not able to listen to what was transmitted through speakers attached to cameras, and consequently you cannot select speakers from the list.



Copying Single Images

You are able to 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 a single camera at a time.

To copy, do the following:

1. Select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *Copy*. You can now paste the image into the required application.

Camera Message Texts

Message texts may under particular circumstances appear in white letters across one or more of a view's camera positions.

Possible messages (listed alphabetically) are:

- After Database End:** Will appear on *Browse* tab only. Indicates that the time selected is after the time of the last recording in the camera's database. The last image in the camera's database will be shown in the camera position in order to indicate that recordings from the camera are available, but only from a time earlier than the selected time.
- Before Database Start:** Will appear on *Browse* tab only. Indicates that the time selected is before the time of the first recording in the camera's database. The first image in the camera's database will be shown in the camera position in order to indicate that recordings from the camera are available, but only from a time later than the selected time.
- Connected to [Device Name] [Camera Name] on [IP Address]:[Port Number]:** Indicates that a connection to the camera has been established.
- Connecting to [Device Name] [Camera Name] on [IP Address]:[Port Number] ...:** Indicates that a connection to the camera is currently being established.
- Connection refused. Reason: ...:** Indicates that connecting to the camera in question is not allowed, for example because your rights to access recordings from the camera have been changed by the surveillance system administrator. Consult your surveillance system administrator if in doubt.
- Connection to [Device Name] [Camera Name] on [IP Address]:[Port Number] lost!. Reconnecting ...:** Indicates that connection to the camera has been lost, and that another connection attempt is currently being made.
- Connection to engine failed! Retrying ...:** Indicates that a connection to the surveillance system server could not be established, and that another connection attempt is currently being made. This message may occur if connection to the surveillance system is temporarily lost. If your surveillance system consists of several interconnected servers, the message may also occur if the server from which you are requesting the camera's recordings is temporarily unavailable. If the problem persists, consult your surveillance system administrator.
- No images available for [Device Name] [Camera Name] on [IP Address]:[Port Number]. Database might be empty.:** Will appear on *Browse* tab only. Indicates that it is not possible to show images from the camera; the very likely reason being that there are no recordings in the camera's database. Bear in mind that the settings determining when recordings from the camera are stored in the database are determined by the surveillance system administrator. Sometimes, the surveillance system administrator may specify that recordings should only be stored within particular time periods or when particular events occur. This may explain why you are perhaps able to view live images from the camera on the Smart Client's *Live* tab, while at the same time you may find that no recordings have been stored for viewing on the Smart Client's *Browse* tab.





- **No motion:** Indicates that motion is currently not detected in the camera's images; the images you see will not be updated until there is motion. This message will only appear if the surveillance system administrator has specified that images should only be updated when there is motion; a feature which can help reduce server load and bandwidth consumption. Consult your surveillance system administrator if in doubt.
- **Not connected:** Indicates that it is not possible to connect to the camera, for example because the camera itself is disconnected from the network. Consult your surveillance system administrator if in doubt.
- **Not initialized:** Indicates that the camera is not in an operative state. Consult your surveillance system administrator if the problem persists.
- **The server has encountered a database problem:** Indicates that a database problem has occurred on the surveillance server. Consult your surveillance system administrator, who will have access to tools for diagnosing surveillance server database problems.
- **The server has lost connection to the camera:** Indicates that the surveillance server has lost connection to the camera. This may be a temporary issue, for example due to maintenance. Consult your surveillance system administrator if in doubt.
- **The server is running out of disk space:** Indicates that limited disk space is available on the surveillance system server. If more disk space is not made available on the surveillance system server, recording will be affected. Consult your surveillance system administrator.

Printing Evidence

With the *Browse* tab's *Print* section, you are able to print recorded images.

When you print an image, it is automatically included in a small surveillance report, in which you are also able to include notes about the recorded incident.

To print an image, do the following:

1. Select the required camera in the view.
2. Select the required point in time, for example by using the controls in the *Time Navigation* section.
3. Click the *Print* section's *Print...* button. This will open the *Smart Client Surveillance Report* window, with a preview of the image to be printed as well as information about camera name, image capture time, print time and user name of the user printing the image.

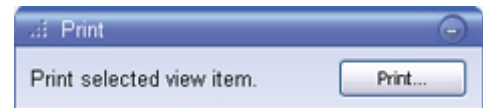
i **Tip:** If you used digital zoom on the image, the digitally zoomed area of the image will be printed.

4. You are also able to include a user's note, for example a description of the recorded incident.



5. **Optional:** If you want to change or verify paper size, source and orientation for the printout, click the *Smart Client Surveillance Report* window's *Page Setup* button to open the *Page Setup* window. When ready, click the *Page Setup* window's *OK* button to return to the *Smart Client Surveillance Report* window.
6. **Optional:** If you want to preview your printout, click the *Smart Client Surveillance Report* window's *Preview* button.

7. Click the *Print* button to print the image and associated details.



Exporting Video Evidence

With the Smart Client you are able to quickly export video evidence in the AVI (movie clip), JPEG (still image) and Milestone XProtect database formats. With the AVI and database formats you can include video as well as audio in your exports.

Note: Export in the database format is only available when connecting to selected surveillance systems; see Surveillance System Differences on page 100 for more information. Depending on your user rights, access to exporting AVI, JPEG and database evidence from some or all cameras may be restricted.

Exporting in AVI and JPEG Formats

To export video evidence in the AVI or JPEG formats, do the following:

Note: Date and time formats used when browsing recorded images may vary depending on your computer's regional settings.

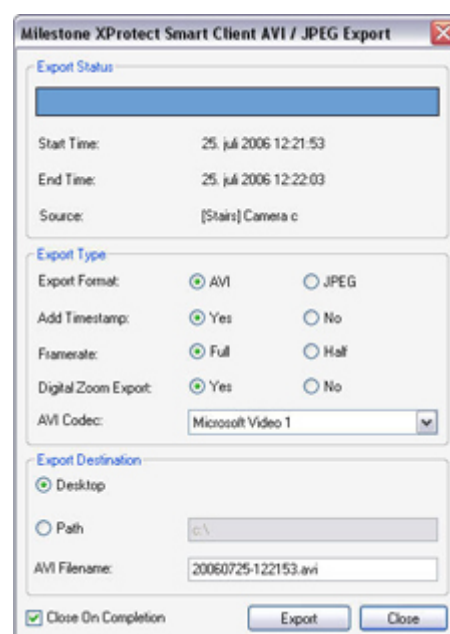
1. Select the Smart Client's *Browse* tab.
2. In the *Browse* tab's *Export* section, specify when the period to be covered by the export should start. You do this by typing the required date in the first *Start Time* field and the time in the second field.

i Tip: Instead of manually specifying date and time, you may use the *Browse* tab's *Time Navigation* features to move to the required start point, then click the upper of the *Export* section's *Set* buttons. This will automatically set the date and time of the viewed image in the *Start Time* fields.

3. In the *End Time* fields, specify end date and time for the export. You may use the *Set* button as described above.
4. Select the required camera from the *Source* list. You must select an individual camera from the list as your source; the *Current View Sources* option only applies when exporting in the database format.

Only relevant if you are going to export in AVI format: If the selected camera has a microphone attached—and the surveillance system supports audio—audio from the microphone will automatically be included in the export.

5. Click the *AVI/JPEG Export...* button. This will open a separate export dialog. The export dialog will list the specified start time, end time, and camera.
6. In the export dialog's *Export Type* section, select the required export format: *AVI* or *JPEG*.



7. Select whether to add timestamps from the surveillance system to the exported images. If selected, small timestamps will appear in the corner of the images:



8. **This step applies for export in the AVI format only; if using the JPEG format, go to step 9.** Select required frame rate for the export. With the *Full* option, all images between the start and end times will be included in the export; with the *Half* option, only every second image will be included, yet still play back in real-time.
9. If you used digital zoom on the camera's images before exporting, you are able to export the digitally zoomed images rather than the regular images. Select *Yes* if you want to export the digitally zoomed images, select *No* if you want to export the camera's regular, non-zoomed, images.

If you did not use digital zoom before exporting, this option will not be available.

10. **This step applies for export in the AVI format only; if using the JPEG format, go to step 11.** In the *AVI Codec* list, select required AVI codec. The list will contain the video codecs available on your PC.

i Tip: 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 Indeo® video 5.10 codec, if available on your PC, generally provides a very good compromise between quality and file size.

11. Specify export destination in the export dialog's *Export Destination* section.
 - **Desktop:** If you select *Desktop*, your exported file will be saved in an automatically created *Exported Images* folder on the desktop of your PC.
 - **Path:** If you select *Path*, you are able to specify a path yourself. The exported file will be saved in an automatically created *Exported Images* folder under the path you specify (example: If you specify a path like C:\My Stuff\My Files, the exported file will be saved in C:\My Stuff\My Files\Exported Images). When specifying a path this way, the folders you specify do not have to be existing ones; if they do not already exist, they will be created automatically.
12. **This step applies for export in the AVI format only; if using the JPEG format, go to step 13.** By default, the AVI file will get a file name based on the export start time in the 24-hour format, along the structure *yyyymmdd-hhmmss.avi* (year, month, day, hour, minute, second; example: 20060927-130603 for a file with a start time of 13:06:03 on 27th September 2006). The name will automatically appear in the *AVI File Name* field.

The default file name format is independent of regional settings on your computer.



You are always able to change the default file name to a name of your choice, simply by overwriting the default file name.

- Click the *Export* button to begin the export. The status bar in the upper part of the export dialog will display the status of the export:



i Tip: If you are exporting very long sequences, export may—depending on your selected export settings—take a while. You can continue to use the Smart Client for other purposes while the export process is underway.

If the *Close On Completion* check box is selected (default), the export dialog will automatically close when the export is finished. Upon completion, you are able to view and distribute the exported file.

Exporting in Database Format

To export video evidence in the Milestone XProtect database format, do the following:

Note: Date and time formats used when browsing recorded images may vary depending on your computer's regional settings.

- Select the Smart Client's *Browse* tab.
- Select the view on which you want to base your export.

i Tip: You do not necessarily have to include all of the selected view's cameras in your export; later in the process you will be able to specify exactly what to include in the export.

- In the *Browse* tab's *Export* section, specify when the period to be covered by the export should start. You do this by typing the required date in the first *Start Time* field and the time in the second field.

i Tip: Instead of manually specifying date and time, you may use the *Browse* tab's *Time Navigation* features to move to the required start point, then click the upper of the *Export* section's *Set* buttons. This will automatically set the date and time of the viewed image in the *Start Time* fields.

- In the *End Time* fields, specify end date and time for the export. You may use the *Set* button as described above.
- Select the required source from the *Source* list. You may select an individual camera, in which case only images from the selected camera will be included in the export, or *Current View Sources*, in which case the export will include images from all cameras in the current view for which you have database export rights.

i Tip: To quickly select an individual camera, you may also simply click the required camera slot in the view.

- Click the *Database Export...* button. This will open a separate export dialog. The export dialog will list the specified start time, end time, and source.
- If the selected camera(s) have audio sources attached, you are able to include audio in the export by selecting the *Include Audio* check box (if no audio sources are attached, the check box will not be available).

8. If you want to compress the exported database, select the *Compress Exported Database* check box. Compression can reduce the size of the exported database by approximately 10%. However, the database export process will take considerably longer when compression is used.
9. If you want to encrypt the exported database, select the *Encrypt Exported Database* check box. If you select encryption, specify a password for subsequent decryption of the exported databases, and remember to send the password to the recipient *separately*.

Note that when encryption is used, the database export process as well as subsequent opening of the database in order to view its content will take considerably longer than when no encryption is used.

10. Specify export destination in the export dialog's *Export Destination* section.

- **Desktop:** If you select *Desktop*, your exported file will be saved in an automatically created *Exported Images* folder on the desktop of your PC.
- **Path:** If you select *Path*, you are able to specify a path yourself. The exported database will be saved in an automatically created *Exported Images* folder under the path you specify (example: If you specify a path like C:\My Stuff\My Files, the exported file will be saved in C:\My Stuff\My Files\Exported Images). When specifying a path this way, the folders you specify do not have to be existing ones; if they do not already exist, they will be created automatically.

11. If you want to include a stand-alone version of the *Viewer* (application for viewing and navigating recordings; see separate manual) in the database export, select the *Include Viewer Program Files* check box.

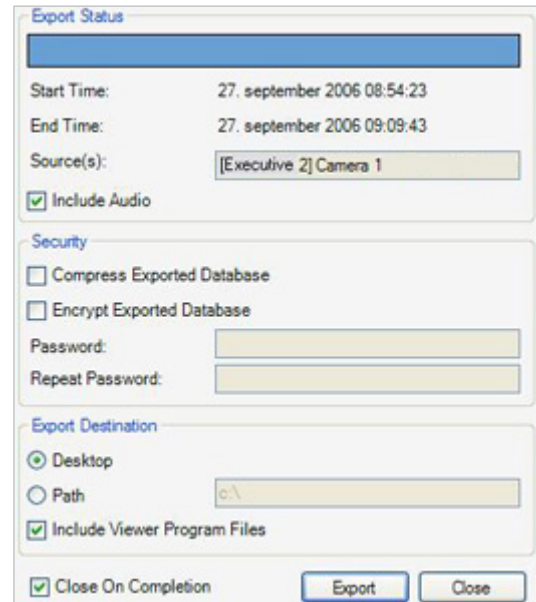
If you include the *Viewer* in the export, the exported databases can be viewed on any PC—no additional surveillance system software will be required. Read more about the *Viewer* application in the separate *Milestone XProtect Standalone Viewer User's Manual*, available on the software CD as well as from www.milestonesys.com.

i Tip: A *Viewer* application included in a database export will, if possible, match the language version of your Smart Client. If the *Viewer* application is not available in a matching language version, an English language version of the *Viewer* application will be included.

12. Click the *Export* button to begin the export. The status bar in the upper part of the export dialog will display the status of the export:



i Tip: If you are exporting very large databases, export may take a while. You can continue to use the Smart Client for other purposes while the export process is underway.





If the *Close On Completion* check box is selected (default), the export dialog will automatically close when the export is finished.

You are now able to distribute the content of the *Exported Database* folder.

i Tip: If you included the *Viewer* application in the export, double-clicking the file *Browser.exe* in the *Exported Images* folder will open the *Viewer*, ready for viewing and browsing the exported database content.

i Tip: If you included the *Viewer* application in your export, copying all files from the *Exported Images* folder to the root of a CD or DVD will make the CD/DVD start automatically when the recipient inserts it.

Frequently Asked Questions about Exporting

? **Can I export audio too?** When exporting in the AVI and database formats, you are—when the surveillance system supports audio—able to include audio recorded by microphones in the export. Outgoing audio from the Smart Client to speakers can only be recorded by some surveillance systems, and cannot be included in exports. Also bear in mind that export in the database format is only available if connected to selected Milestone surveillance systems; see *Surveillance System Differences* on page 100 for more information. When exporting in the JPEG format, you cannot include audio.

? **Can I export digitally zoomed images?** If you used digital zoom prior to exporting, you will, when exporting in the AVI or JPEG formats, be able to select whether to export the regular images or the digitally zoomed images. When exporting in the database format, it will not be necessary to make such a selection as recipients will be able to use digital zoom on the exported recordings.

? **Can I export fisheye recordings?** Yes, provided your surveillance system supports the use of fisheye cameras (i.e. cameras using a special technology for recording 360° images). When exporting recordings from a fisheye camera, be aware that it is only possible to export the raw fisheye view itself; not a flattened fisheye view, a 2×2 split fisheye view, or zoomed fisheye views.

? **Where can I learn more about the Viewer?** The *Viewer* has its own built-in help system, and a separate Milestone XProtect Viewer User's Manual is also available from the Milestone website, www.milestonesys.com. Useful tips for people performing database exports in the Smart Client—about making the standalone Viewer start up automatically, etc.—is also available under *Exporting in Database Format* previously in this topic.

Using Multiple Windows

The Smart Client supports use of multiple windows. This is especially useful if your computer has more than one physical display attached, but even when your computer has only one display you can send individual views to separate windows, while keeping the Smart Client's main window in the background. This way, you can watch more than one view at a time.

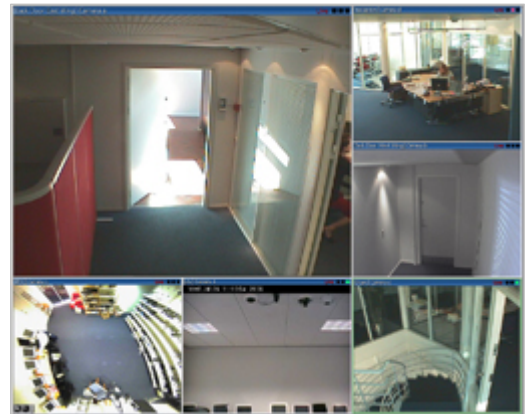
You can send views to separate displays or windows from the Smart Client's *Live* tab as well as its *Browse* tab.

Sending a View to Primary Display

Sending a view to *Primary Display* will show the view in a **separate full-screen window on your computer's main display**.

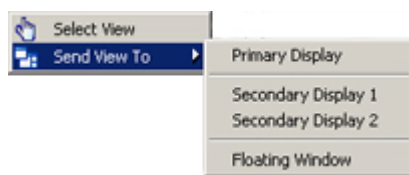
The illustration to the right provides an example of a view sent to the *Primary Display*. While you are viewing the separate full screen window, the main Smart Client window will be hidden behind it.

The separate full-screen window will only show the selected view, none of the *Live* or *Browse* tab's other features, and it can only show one view at a time. Any hotspots, carousels, Matrix positions, still images or HTML pages included in the view will work as usual.



To send a view to *Primary Display*, do the following:

1. In the *Live* or *Browse* tab's *Views* section, right-click the required view. This will bring up a menu.



2. In the menu, select *Send View To > Primary Display*.

Sending a View to Secondary Display

Sending a view to a *Secondary Display* will show the view in a full-screen window on **another physical display** (if available).

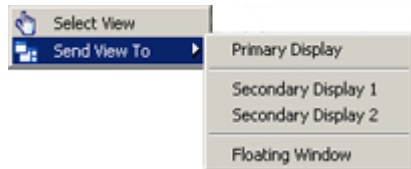
The other physical display will only show the selected view, none of the *Live* or *Browse* tab's other features, and it can only show one view at a time. Any hotspots, carousels, Matrix positions, still images or HTML pages included in the



view will work as usual.

To send a view to a *Secondary Display*, do the following:

1. In the *Live* or *Browse* tab's *Views* section, right-click the required view. This will bring up a menu.



2. In the menu, select *Send View To > Secondary Display*. If more than one secondary display is available, they will be numbered.

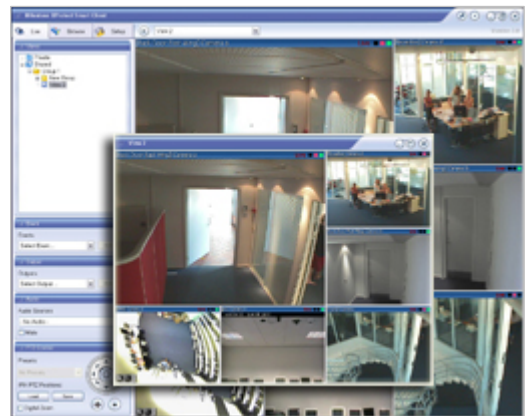
Sending a View to a Floating Window

Sending a view to a *Floating Window* will show the view in a **small separate window on your main display**.

The illustration to the right provides an example of a view sent to a *Floating Window*. Note that the main Smart Client window is immediately available behind the floating window.

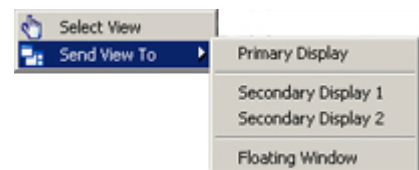
The floating window will only show the selected view, none of the *Live* or *Browse* tab's other features. A floating window can only show one view at a time, but you can use any number of floating windows.

You are able to change the size of a floating window to suit your needs. Any hotspots, carousels, Matrix positions, still images or HTML pages included in the view will work as usual in a floating window.



To send a view to a *Floating Window*, do the following:

1. In the *Live* or *Browse* tab's *Views* section, right-click the required view. This will bring up a menu.
2. In the menu, select *Send View To > Floating Window*.



Closing Separate Windows

- ⊗ To close a separate view window, regardless whether it is shown on the *Primary Display*, as a floating window, or on a secondary display, simply click the *Close* button in the right corner of the window's blue top bar.

In order to allow the maximum possible viewing area, the blue top bar of a view sent to *Primary Display* or a *Secondary Display* is hidden. To show the top bar, and get access to the *Close* button, simply move your mouse pointer to the very top of the view.



Multiple Windows Are Stored for Next Login

If you have created a multiple window setup for your views, the setup will be saved when you log out of the Smart Client. The next time you log in, you will be asked if you want to use your previous views again, including your multiple window setup.

Note, however, that this only applies if you log in to the Smart Client on the computer on which you created your multiple window setup.

Unfortunately, you cannot log in to a Smart Client on another computer and expect to use your multiple window setup on the other computer as well. The simple reason for this is that not all computers have extra displays attached.

If you want to use multiple windows with the Smart Client on more than one computer, you must therefore configure your multiple window setup on each computer.

Frequently Asked Questions about Multiple Windows

? **How many secondary displays can I use?** In the Smart Client there is no limitation as such. However, the number of secondary displays you are able to use is likely to depend on your hardware (display adapters, etc.) and your Windows version.

? **How do I close a view sent to *Primary Display* or a *Secondary Display*?** In order to allow the maximum possible viewing area, the blue top bar of a view sent to *Primary Display* or a *Secondary Display* is hidden. To show the top bar, and get access to the *Close* button, simply move your mouse pointer to the very top of the view.

? **I watch the same carousel in two different windows; why is it out of sync?** A carousel changes cameras at a specific interval, configured on the *Setup* tab. 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.

Keyboard Shortcuts

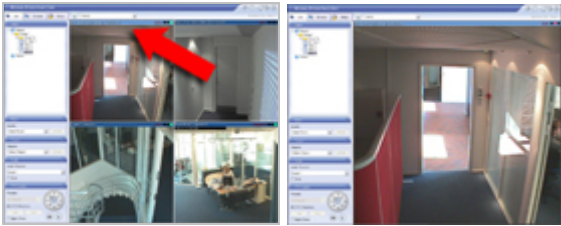
Using Standard Keyboard Shortcuts

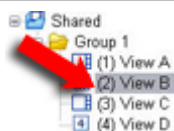
When working on the Smart Client's *Live* and *Browse* tabs, a number of simple keyboard shortcuts are available.

i Tip: In addition to the standard keyboard shortcuts, you are able to assign your own custom shortcut key combinations to particular actions in the Smart Client. See *Assigning Custom Keyboard Shortcuts* on page 44.

The Smart Client's standard keyboard shortcuts are:

Note: When using the following shortcuts, do not actually press the *+* key. When listing keyboard shortcuts, the *plus sign* is used for indicating "and also press."

ENTER	Toggles maximized/regular display of the selected view position. Example:
	
View position in regular (left) and maximized (right) state. Note that the selected view position is always highlighted by a lighter blue top bar.	
/+ <camera shortcut number> +ENTER	Lets you change the camera displayed in the selected view position to the camera with the matching shortcut number.
Example: If the required camera has the shortcut number 6, you would press <i>/+6+ENTER</i> .	
Note that camera shortcut numbers may not necessarily be used on your surveillance system. Camera shortcut numbers are defined on the surveillance system server; ask your surveillance system administrator if in doubt.	
/+ENTER	Changes the camera displayed in the selected view position to the position's default camera.
/+/+ENTER	Changes the cameras displayed in all view positions to the positions' default cameras.
*+ <view shortcut number> +ENTER	Changes the selected view to the view with the matching shortcut number.
Example: if the required view has the shortcut number 8, you would press <i>*+8+ENTER</i> .	
Note that view shortcut numbers may not necessarily be used. If view shortcut numbers are used, you will be able to see them in the <i>Views</i> section, where they will appear in brackets before the views' names:	



View shortcut numbers are defined on the Smart Client's *Setup* tab; ask your surveillance system administrator if in doubt.

6 (numeric keypad only)

Moves the view position selection one step to the right.

4 (numeric keypad only)

Moves the view position selection one step to the left.

8 (numeric keypad only)

Moves the view position selection one step up.

2 (numeric keypad only)

Moves the view position selection one step down.

Note: Above listed shortcuts can be used when working with the following types of view positions: regular camera positions, hotspots, carousels, HTML pages. They cannot be used for view positions with Matrix content or static images.

Using Custom Keyboard Shortcuts

You are able to assign your own custom shortcut key combinations to particular actions in the Smart Client.

For more information, see *Assigning Custom Keyboard Shortcuts* on page 44.

Logging Out



To log out of the Smart Client, simply click the *Log Out* button in the Smart Client's top bar.



Surveillance System Differences

The majority of the Smart Client's features are available regardless of which type of Milestone surveillance system you connect to.

However, a few features will work differently depending on the type of Milestone surveillance system you connect to:

Differences at a Glance	When the Smart Client Is Used with a Milestone XProtect Corporate Surveillance System	When the Smart Client Is Used with a Milestone XProtect Enterprise Surveillance System	When the Smart Client Is Used with a Milestone XProtect Professional Surveillance System	When the Smart Client Is Used with a Milestone XProtect Basis+ Surveillance System
Login Authentication Methods	Windows authentication through local database as well as Active Directory.	Basic authentication and Windows authentication through local database as well as Active Directory.	Basic authentication and Windows authentication through local database.	Basic authentication and Windows authentication through local database.
Ability to Connect to Cameras from Multiple Servers	Available.	Available.	Not available.	Not available.
Shared Views	<p>Shared views can be shared by all users or by selected users only.</p> <p>Shared views can be stored in more than one top-level folder. The folders can be visible for all users, or selected users only. Folders' names are determined by surveillance system administrator.</p> <p>Ability to edit shared views determined by user's role.</p>	<p>Shared views are shared by all users.</p> <p>All shared views always stored in a single top-level folder called <i>Shared</i>; the folder will be visible for all users.</p> <p>Ability to edit shared views determined by user's rights.</p>	<p>Shared views are shared by all users.</p> <p>All shared views always stored in a single top-level folder called <i>Shared</i>; the folder will be visible for all users.</p> <p>Ability to edit shared views determined by user's rights.</p>	<p>Shared views are shared by all users.</p> <p>All shared views always stored in a single top-level folder called <i>Shared</i>; the folder will be visible for all users.</p> <p>Ability to edit shared views determined by user's rights.</p>



Differences at a Glance	When the Smart Client Is Used with a Milestone XProtect Corporate Surveillance System	When the Smart Client Is Used with a Milestone XProtect Enterprise Surveillance System	When the Smart Client Is Used with a Milestone XProtect Professional Surveillance System	When the Smart Client Is Used with a Milestone XProtect Basis+ Surveillance System
Multicast Stream Support	Available, if configured on surveillance system, when connecting to recent versions.	Not available.	Not available.	Not available.
Event Indicator on Live Tab	Not available.	Available, provided notifications on events have been configured on the surveillance system.	Available, provided notifications on events have been configured on the surveillance system.	Available, provided notifications on events have been configured on the surveillance system.
Alerts Section on Browse Tab	Used for browsing based on alerts. Alerts are short messages customized to suit your organization's needs. Examples of alerts: <i>Panic Button Pressed</i> , <i>Employee Clocking In</i> , etc. Alerts may be triggered for a variety of reasons; they are not necessarily related to system events, although that may often be the case.	Used for browsing based on system events.	Used for browsing based on system events.	Used for browsing based on system events.
Sound on Event	Not available.	Available, provided notifications on events have been configured on the surveillance system.	Available, provided notifications on events have been configured on the surveillance system.	Available, provided notifications on events have been configured on the surveillance system.



Differences at a Glance	When the Smart Client Is Used with a Milestone XProtect Corporate Surveillance System	When the Smart Client Is Used with a Milestone XProtect Enterprise Surveillance System	When the Smart Client Is Used with a Milestone XProtect Professional Surveillance System	When the Smart Client Is Used with a Milestone XProtect Basis+ Surveillance System
Multiple Windows	Available.	Available.	Available.	Not available.
Ability to Use Matrix Content in Views	Available, if Matrix is configured on the surveillance system and user has a role with necessary Matrix rights.	Available, if Matrix is configured on the surveillance system.	Available, if Matrix is configured on the surveillance system.	Not available.
Ability to Send Video to Matrix Recipients through Smart Client Shortcut Menu	Available, if Matrix is configured on the surveillance system and user has a role with necessary Matrix rights.	Available, if Matrix is configured on the surveillance system.	Available, if Matrix is configured on the surveillance system.	Not available.
Audio (provided microphones/speakers are available on surveillance system)	Two-way audio available. Incoming and outgoing audio can be recorded, but only incoming audio (from microphones) can be played back and exported.	Two-way audio available. Only incoming audio (from microphones) is recorded and can be included when exporting evidence in the database format.	Two-way audio available. Only incoming audio (from microphones) is recorded and can be included when exporting evidence in the database format.	One-way audio (recordings by microphones) available.
Smart Search	Available.	Available.	Available.	Not available.
Export Formats	AVI, JPEG, Database.	AVI, JPEG, Database.	AVI, JPEG, Database.	AVI, JPEG.
Language Packs (if made available by administrator)	Available, if configured on surveillance system, when connecting to recent versions.	Available, if configured on surveillance system, when connecting to recent versions.	Available from XProtect Professional 6.5, if configured on surveillance system.	Available from XProtect Basis+ 6.5, if configured on surveillance system.
Failover Servers	Available, if configured on surveillance	Not available.	Not available.	Not available.



Differences at a Glance	When the Smart Client Is Used with a Milestone XProtect Corporate Surveillance System	When the Smart Client Is Used with a Milestone XProtect Enterprise Surveillance System	When the Smart Client Is Used with a Milestone XProtect Professional Surveillance System	When the Smart Client Is Used with a Milestone XProtect Basis+ Surveillance System
	system. Failover servers can take over if recording servers become unavailable. You may experience a short break if viewing video when a failover server takes over from a recording server, or vice versa, as your views must be reloaded in your Smart Client.			
Ability to Manually Start Recording from Live Tab	Not available.	Available.	Available.	Available.
Ability to Pause Patrolling PTZ Camera During Manual Operation	Available.	Available.	Available.	Not available.
Ability to Use Keyboard Shortcuts for Auxiliary Commands	Not available.	Available.	Available.	Available.
Surveillance System's Welcome Pages	Surveillance systems' welcome pages, from which you can download the Smart Client, may look differently depending on the surveillance system version you connect to. Some versions provide extended features, such as the ability to view the welcome page in the language of your choice.			

Ask your surveillance system administrator if in doubt about which type of Milestone surveillance system you connect to.



Removing the Smart Client

Note: If you are not a surveillance system administrator, it is highly recommended that you consult your system administrator before removing any surveillance system-related software.

To remove the Smart Client, do the following:

1. In Windows' *Start* menu, select *Control Panel*, and select *Add or Remove Programs*. This will open the *Add or Remove Programs* window.
2. In the *Add or Remove Programs* window's list of currently installed programs, select *Milestone XProtect Smart Client* entry.
3. Click the *Remove* button, and follow the removal instructions.



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Headquarters (Denmark):

Milestone Systems A/S
Banemarksvej 50 G,
DK-2605 Brøndby, Copenhagen
Denmark
Tel.: +45 88 300 300
Fax: +45 88 300 301

The Americas:

Milestone Systems Inc.
9805 SW Nimbus Avenue, Suite 400
Beaverton, Oregon 97008
USA
Tel.: +1 503 350 1100
Fax: +1 503 350 1199

Phone toll-free +1 877 350 1101

Middle East:

Milestone Systems Middle East
P.O. Box 500809
DIC, Building 5 IEB, 6th floor, Office 606
Dubai, United Arab Emirates
Tel.: +971 50 8827093

United Kingdom:

Milestone Systems UK
118 Codnor Gate, Ripley
Derbyshire DE5 9QW
England
Tel.: +44 (0) 1773 570 709

Germany:

Milestone Systems DE
Am Kleefeld 6a
83527 Haag i. OB.
Germany
Tel./fax: +49 (0) 8072 442173

Singapore:

Milestone Systems Singapore
30 Robinson Road
13-03 Robinson Towers
Singapore 048456
Tel.: +65 6225 2686
Fax: +65 6225 1798

Italy:

Milestone Italia S.r.l.
Via Paisiello 110
20092 Cinisello Balsamo
Milano, Italy
Tel.: +39 02 6179 7507
Fax: +39 02 6179 7517

Japan:

Milestone Systems Japan
29-6, Sarugaku-cho, Shibuya-ku,
Tokyo 150-0033, Japan
Tel.: +81 (0) 3 3780 8749
Fax: +81 (0) 3 3476 4234
マイルストーン・システムズ
〒150-0033 東京都渋谷区猿樂町29-6 (デンマーク大使館内)

France:

Milestone Systems France SARL
121 rue d'Aguesseau
92100 Boulogne-Billancourt
France
Tel.: +33 141 03 14 82

www.milestonesys.com
info@milestonesys.com