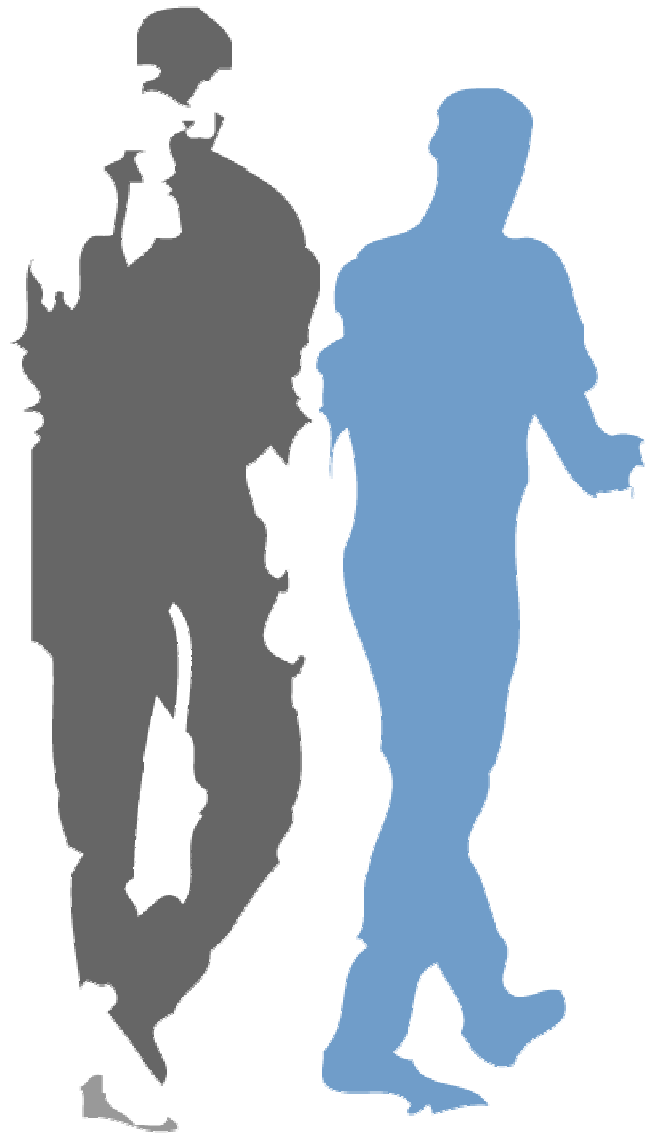milestone

XProtect

Smart Client 3.0
User's Manual

milestone

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 your user rights and 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.

Tip: If you know that your surveillance system administrator has already configured the necessary *views* for you, you may proceed straight to this manual's *Day-to-Day Use* chapter (page 52) after installing (page 13) and logging in to (page 15) your *Smart Client*. 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.

Contents

Introduction

The *Smart Client* provides remote users with extremely feature-rich access to the surveillance system. It lets users access multiple servers at a time, allowing remote user access across systems.
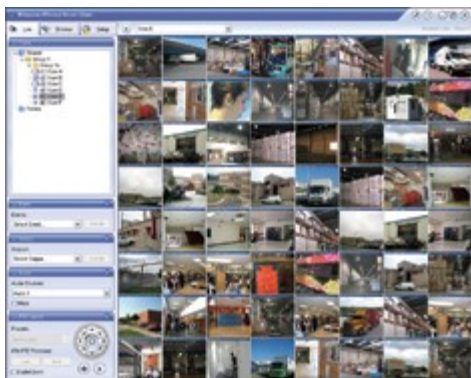
Example of the *Smart Client*, in this case displaying live images from 64 cameras

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

What Remote Users Are Able to Do with the Smart Client

With the *Smart Client*, remote users are able to:

- View live images 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.

- Listen to live or stored recordings from audio sources.

- 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. Views can be placed in *private* groups (only accessible by the user who created them) or *shared* groups (accessible by all *Smart Client* users connected to the Milestone XProtect Enterprise system).

- 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 spot (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 IPIX (360° view) cameras.

- Use digital zoom on live as well as recorded images.

- Activate manually triggered events (also known as *event buttons*).

- 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 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 XProtect Enterprise database formats, of which the database format 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.

How the Smart Client Gets Recordings from the Surveillance System

Recordings viewed by *Smart Client* users are provided by the surveillance system's *Image Server*. The *Image Server* runs as a service on the Milestone XProtect Enterprise server; it does not require separate hardware.

The Milestone XProtect Enterprise system administrator uses the *Image Server Administrator* to manage *Smart Client* users' access to the surveillance system.

How User Rights Can Affect Day-to-Day Use of the Smart Client

The rights of individual remote 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.

How the Smart Client Differs from the Remote Client

The *Remote Client* and *Smart Client* may initially look quite similar. However, the two clients are programmed differently, they have different installation requirements, and the *Smart Client* offers considerably more advanced features than the *Remote Client*.

Programming Differences: .Net or Not?

As opposed to the Milestone XProtect *Remote Client* (see separate manual), the *Smart Client* has been developed based on the .Net software development platform. .Net Framework 2.0 is thus required on computers running the *Smart Client*. The framework is downloadable from http://www.microsoft.com/downloads/.

The .Net software development platform allows the interconnection of computers and services for the exchange and combination of data and objects. The platform makes extensive use of so-called web services, which provide the ability to use the web rather than single applications for various services. This in turn provides the ability for centralized data storage as well as automated updating and synchronization of information.

The .Net platform enhances software developers' ability to create re-usable and customizable modules, which makes it possible to develop highly flexible software solutions. You can therefore expect the .Net-based *Smart Client* to be a highly flexible client, ready for integration of new features, plugins, etc.

However, organizations and their requirements are different, and some organizations find that the high degree of interconnection of services and computers inherent in a .Net-based solution is not desirable. If your organization has chosen to apply a conservative approach regarding .Net-based software, using the *Remote Client* will be the perfect solution for you.

Installation Differences

The *Remote Client* can be installed on the remote user's computer, or the user can connect to the Milestone XProtect Enterprise server and run the *Remote Client* straight from the server.

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

System Requirements

Operating System	Microsoft Windows 2000 Professional, Windows 2000 Server and Advanced Server, Windows XP Professional (32 and 64 bit) or Windows Server 2003 (32 and 64 bit)
CPU	Intel P4 or higher (Xeon recommended for large views), minimum 2.4 GHz.
RAM	Minimum 512 MB (1 GB recommended for large views).
Network	Ethernet, 100 Mbit or higher recommended.
Graphics Card	AGP or PCI-Express, minimum 1024×768 (1280×1024 recommended), 16 bit colors.
Hard Disk Space	50 MB free.
Software	Microsoft .Net 2.0 Framework and DirectX 9.0 or newer required.

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. Should the computer require 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.

Installation of Downloaded Version

To download and install the *Smart Client*, do the following:

1. Open an Internet Explorer browser (version 6.0 or later), and connect to the URL or IP address specified by your system administrator in order to connect to the Milestone XProtect Enterprise surveillance system server.

   When you connect to the surveillance system server, you will see a welcome page.

2. In the *XProtect Smart Client* section of the welcome page, click the *Download and install XProtect Smart Client locally* link:

   Detail from welcome page; arrow indicates *Download and install XProtect Smart Client locally* link

3. Depending on your security settings, you may receive a security warning (*Do you want to run or save this file?*).

   When this is the case, click the *Run* button.

4. Depending on your security settings, you may receive a further security warning (*Do you want to run this software?*).

   When this is the case, click the *Run* button.

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. Insert the Milestone XProtect Enterprise software CD, wait for a short while, select required language, then click the *Install Milestone XProtect Smart Client* link.

   ⓘ **Tip:** 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?*). When this is the case, click the *Run* button.

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

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:
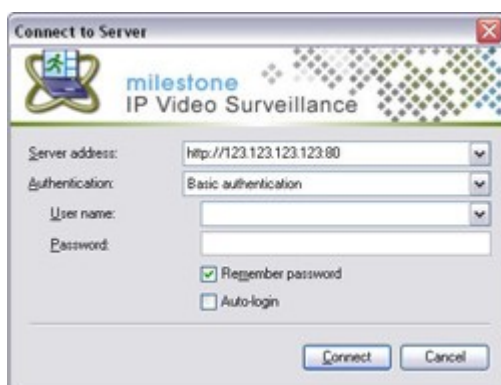
4. Specify your login information in the following fields:

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

   - **Authentication:** Lets you select between three types of authentication (i.e. the process of verifying that you are who you claim you are):

     o **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.

- o **Windows authentication** with which you will be authenticated through your Windows login, but you will need to type your Windows user name and password.

- o **Basic authentication**, with which you must specify a special user name and password for accessing the surveillance system.

Note: Which authentication method to select depends on how your user account has been specified on the surveillance system server; consult your surveillance system administrator if in doubt.

- **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*.

Tip: If a problem or other issue occurs during login, you will receive an error message; see *Login Error Messages* on page 17 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 check box is cleared, no view will initially

be displayed, in which case you must select the required view yourself.

- ***Detached Views:*** Available only if you used views in primary display, on secondary displays, or in floating windows the last time you were logged in on the computer in question (see *Using Multiple Windows* on page 85 for more information). If 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 images from cameras, the *Browse* tab is used for browsing recorded images from cameras, and the *Setup* tab is used for configuring the *Smart Client*.

   Note: Depending on your user rights, you may not be able to access all of the *Smart Client*'s three tabs.

   If you have logged in for the first time, you need to determine whether any *views* exist. Views determine how images 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.

Login Error Messages

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
You do not have access to any part of the application (live, browse or setup). Please contact the system administrator.	**Issue:** Since no access rights to any part of the *Smart Client* have been defined for you, you cannot access the *Smart Client* at all. **What to do:** Consult your surveillance system administrator, who will be able to change your access rights if required.
Failed to connect. Maximum number of clients are already connected.	**Issue:** The maximum number of remote access clients allowed to connect to the surveillance system server simultaneously has been reached.

	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.
Failed to connect. Please check the server address.	**Issue:** It was not possible to connect to the surveillance system server at the specified server address. **What to do:** Verify that you have typed the correct server address. Bear in mind that the http:// prefix as well as a port number is typically required as part of the server address. Consult your surveillance system administrator if in doubt.
Failed to connect. Please check the username and password.	**Issue:** It was not possible to log in to the *Smart Client* with the specified user name and/or password. **What to do:** Verify that you have typed your user name correctly, then re-type your password to ensure it does not contain errors. Bear in mind that user names as well as passwords may be case sensitive (i.e. there is a difference between typing *Amanda* and *amanda*). Consult your surveillance system administrator if in doubt.
New Client Available. ***Update is recommended / Update is required.*** ***The new version can be downloaded from ...***	**Issue:** A new version of the *Smart Client* is available. This message is typically accompanied by information about whether an update is recommended or whether it is a requirement (for example due to recently introduced features not working in your current *Smart Client* version). The message will typically also contain information about where to download the new version from. **What to do:** Follow the advice given in the message. Consult your surveillance system administrator if in doubt.

Selecting Language

Upon login you are able to select between several language versions.

To select a language, do the following:

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 *Language*, then the required language:

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.

Views

The way in which images from one or more cameras are displayed in the *Smart Client* is called a *view*. A view may contain images from up to 64 cameras. A *Smart Client* can handle an unlimited number of views, allowing you to switch between various collections of camera images.

Example: *Smart Client* displaying view with six different cameras (view is highlighted in red frame)

Private and Shared Views

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.

Views can be private or shared. Private views can only be accessed by the user who created them, whereas shared views can be accessed by all *Smart Client* users connected to the surveillance system server.

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.

When that is the case, you can start using your *Smart Client* straight away; 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.

 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

Especially if you are a first-time user of the *Smart Client*, you will want to know whether any shared views have already been created for your organization's *Smart Client* users.

Typically, your surveillance system administrator will have told you if shared views are used in your organization. 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:

   - If the *Views* section contains any folders under the *Shared* top-level folder, shared groups are available. **When this is the case, you may—your user rights permitting—immediately begin using the shared views for viewing live and recorded video (see *Day-to-Day Use* on page 52).** Only if you want to add more views, e.g. customize your *Smart Client* with private views, do you need to create further views on the *Setup* tab.

   - If the *Views* section contains only the two top-level folders, *Private* and *Shared*, without any content in any of the two folders, neither private nor shared views are available. When this is the case, you must create at least one view on the *Setup* tab before you can begin using the *Smart Client*.

How to Create and Manage 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 *Smart Client* users log in, the shared views will automatically be available to the users, and the users will basically not need to create further views unless they want their own private views.

Which Types of Views Are You 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: The user is able to create and edit private views (under the *Private* top-level folder), but not shared views, as the Shared top-level folder is marked by a padlock icon (clearly visible in the enlarged example).

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 group, 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:

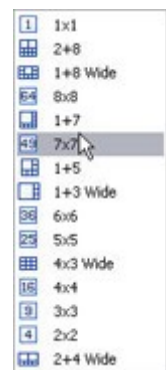1. In the *Setup* tab's *Views* section, make sure the group in which you want to create the view is selected.

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.

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. 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.

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 the latest *Smart Client* version (3.0), views created in *Smart Client* version 3.0 will not work in previous versions of the *Smart Client*. If creating shared views in *Smart Client* version 3.0, it is thus important that the users with whom you wish to share the views also use *Smart Client* version 3.0.

To create your first shared view, you first create a group under the *Setup* tab's *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 the *Private* top-level folder, do the following on the *Setup* tab:

1. In the *Setup* tab's *Views* section, select the *Shared* 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.
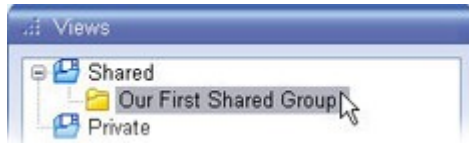

    You are now able to create a view within the group.

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.

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. 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

Note: Your ability to edit views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit it.

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 88).

To assign a shortcut number to a view, do the following:

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
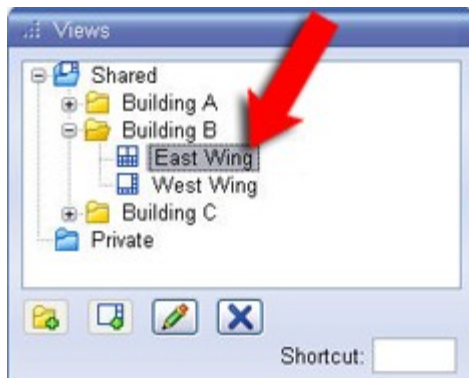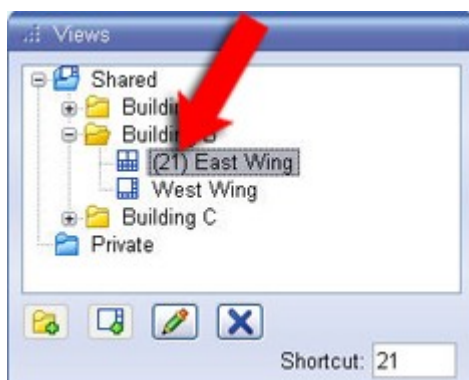
Note: Your ability to edit views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit it.

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.

Note: Your ability to edit and delete views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit and delete it.

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.

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.

Note: From time to time your system administrator may make changes to camera or user properties on the Milestone XProtect Enterprise 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.

How to Add Content to Views

Once you have created views (see page 21), you are able to add content to the views.

Note: Your ability to edit views—including adding content to the views—depends on your user rights. Basically, if you are able to create the view, you are also able to edit it.

Content can be images 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 images.

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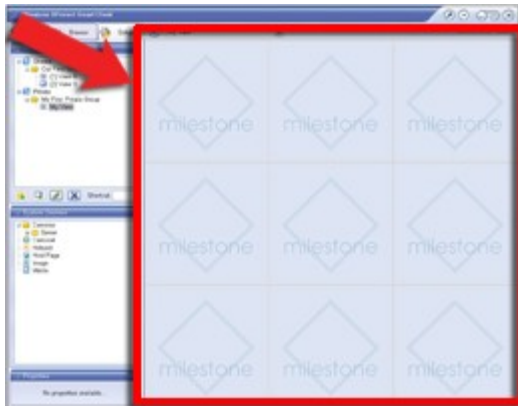
   Layout of selected view is outlined in main section
   (indicated in red frame in this example)

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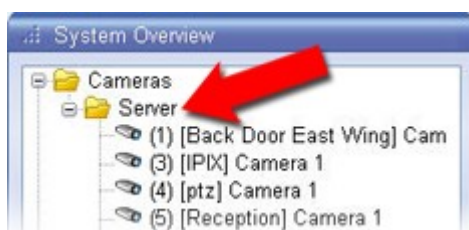
3. Select the required camera from the list, and drag the camera to the required position in the view.

   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 37 for detailed information.

4. 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 ⊠, 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.

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

1. Drag the *System Overview* section's *Carousel* 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 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.
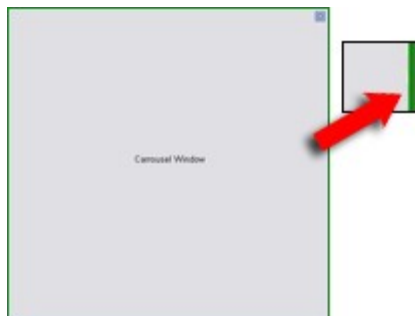
    Thin green border indicates carousel

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

    Begin by selecting which cameras to include in the carousel. In the following example, we have selected four cameras. Note that you are also able to select all cameras on a server in one go by selecting the check box next to the server icon.
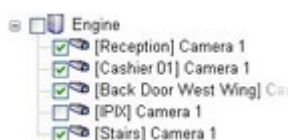
    The sequence in which cameras will appear in the carousel is automatically determined by

their names, which are typically made up along the structure *[Device name] [Camera name]*. The cameras will appear in alphabetical order (even if you select cameras from more than one server), then loop continuously.

When you have selected cameras, specify the carousel's other properties, which are:

- **Image Quality:** Select between *Full* (default)*, SuperHigh (for megapixel)*, *High*, *Medium* or *Low*. The setting will apply for all cameras included in the carousel.

- **Frame Rate:** Select between *Unlimited* (default), *Medium* (25% of original frame rate) or *Low* (one frame per second)*.* The setting will apply for all cameras included 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.

- **Interval (seconds):** Specify the interval between the carousel's camera changes. The setting will apply for changes between all the cameras included in the carousel; it is not possible to specify particular intervals for changes between particular cameras.

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.

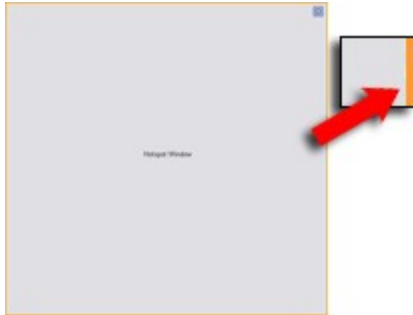2. Release the mouse button over the required position.

   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:** Select between *Full* (default)*, SuperHigh (for megapixel)*, *High*, *Medium* or *Low*. The setting will apply for all cameras displayed in the hotspot.

- **Frame Rate:** Select between *Unlimited* (default), *Medium* (25% of original frame rate) or *Low* (one frame per second). The setting will apply for all cameras displayed 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.

Example: A map inserted in a view as a static image

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.

Example: A company web page inserted in a view

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:

Open URL window

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.
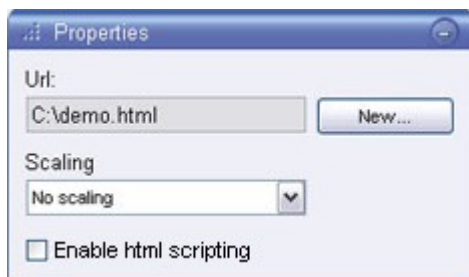
3. Click the *OK* link.

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 43).

     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.

Navigating the HTML Page

The HTML page can be navigated using the links on the HTML page itself.

Furthermore, each HTML page in a view will feature four navigation buttons in the top bar. From left to right the buttons are: *Back*, *Forward*, *Refresh* and *Home*.

Adding Matrix Content

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 Milestone XProtect Enterprise. 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.


Example: In the above 1+3 view, the large position has been defined at the primary Matrix position (1), and the three other positions as secondary (2), tertiary (3), etc.

The latest received image stream will always be shown in position 1, the image stream received before that will always be shown in position 2, and so on. The choice of positions in the example is for demonstration purposes only; you are of course able to freely determine which of the view's positions should be primary, secondary, etc.

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.

    i **Tip:** 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.
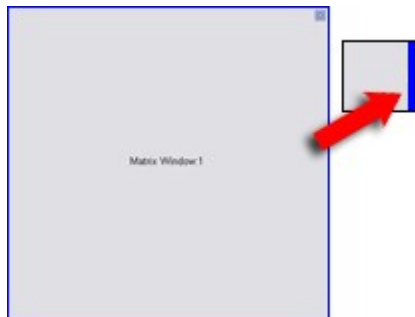
    Thin blue border indicates Matrix

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

    - **Image Quality:** Select between *Full* (the default setting)*, SuperHigh (for megapixel)*, *High*, *Medium* or *Low*.

    - **Frame Rate:** Select between *Unlimited* (default), *Medium* (25% of original frame rate) or *Low* (one frame per second).

    - **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.

Further Configuration

Adjusting Camera Properties

In the *Setup* tab's *Properties* section, you are able to adjust a number of settings for individual cameras.

Note: Particular user rights may be required in order to access the *Setup* tab.

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

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

If the *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*

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.

Frame Rate

Lets you select a frame rate for the selected camera. Select between *Unlimited* (default), *Medium* (25% of original frame rate) or *Low* (one frame per second).

IPIX Split Mode

Available only if the selected camera is an IPIX camera. IPIX 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 IPIX camera.

The IPIX Split Mode list lets you select the required spilt 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 IPIX camera will appear as specified, with either one or four viewpoints from the same image:
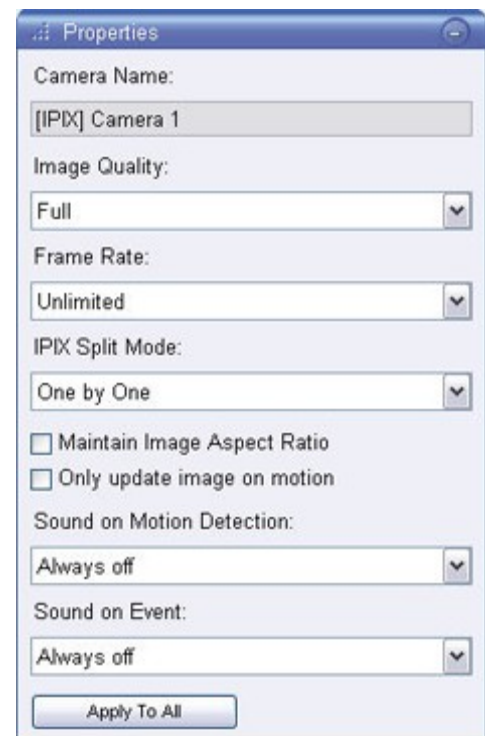
Two by Two: Live tab displaying four different viewpoints from a single IPIX camera; in this example, the IPIX camera's four viewpoints are enlarged for clarity.

Tip: When viewing different viewpoints from an IPIX 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 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 with which they have been recorded.

This may result in horizontal or vertical black bars appearing around the images from some cameras.

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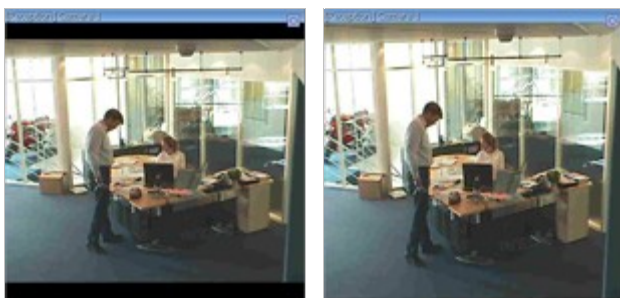
Example: The same image viewed with *Maintain Image Aspect Ratio* selected (left) and cleared (right)

Only Update Image 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.

 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: 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.

 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.

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*.

To customize joystick setup, do the following:

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*:
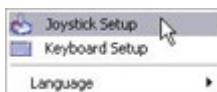
   The *Joystick Setup* window appears.

3. In the *Joystick Setup* window, 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:
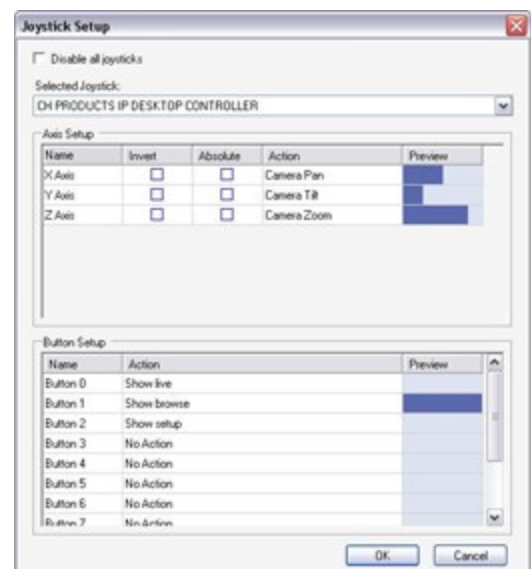
4. In the *Axis Setup* section, specify settings for the available axes.
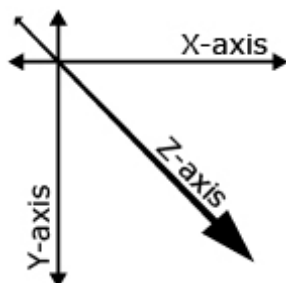
With a joystick, you are typically able to navigate camera images three-dimensionally, along three axes: an X-axis, a Y-axis, and a Z-axis, where the Z-axis refers to the depth (zoom) level.

- **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 Pan*, *Camera Tilt*, *Camera 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.

5. In the *Button Setup* section, specify an action for each required joystick button.

   You select the required action in the *Action* column.

   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 is 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 is 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

You are able to assign shortcut key combinations to particular actions in the *Smart Client*.

Tip: The *Smart Client* also features a small number of standard keyboard shortcuts, immediately ready for use. See *Using Standard Keyboard Shortcuts* on page 88 for more information.

To assign shortcut key combinations, do the following:

1. Click the *Show Application Menu* button in the *Smart Client*'s top bar:

2. From the menu that appears, select *Keyboard Setup*:
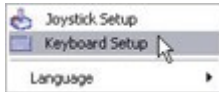
   The *Keyboard Setup* window will appear.

3. When the *Keyboard Setup* window appears, click inside the *Press shortcut key* field, then press the required key combination.

   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).

   This will display the pressed key combination in the *Press shortcut key* field.

4. In the *Select action* list, select the required action for the shortcut key combination.

5. 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.

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

7. Click *OK*.

   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.

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 several language versions.

To select a language, do the following:

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 *Language*, then the required language:

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.

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 Milestone XProtect Enterprise system administrators wishing to create and distribute such HTML pages to *Smart Client* users, a check list outlining the tasks involved is also provided.

Tip: The *Smart Client* is highly flexible when it comes to customizing navigation and other features. For advanced users it is possible to create approximately 100 different function calls in the *Smart Client*. See *Smart Client Scripting* on page 48 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 Group1View2"
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*:

Two shared groups, each containing two views

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:
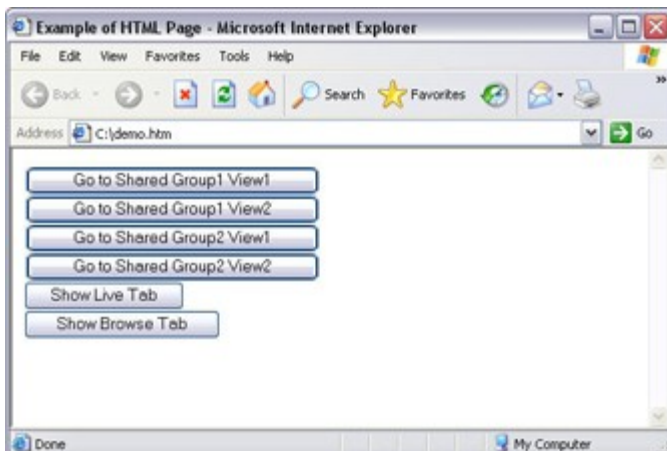
HTML page with buttons for navigating between views and tabs

We have saved the HTML page locally, in this case on the user's C: drive. When the HTML page is to be used for navigation, saving the HTML page locally is necessary because of security features in Internet Explorer.

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

We then imported the HTML page into the required *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:
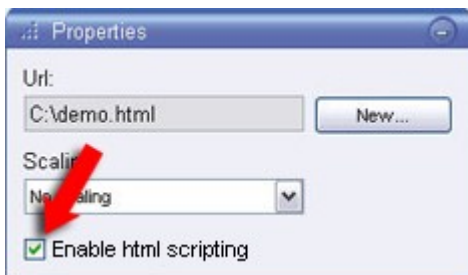
Selecting *Enable HTML scripting* ensures that the scripting required for the buttons to work is automatically inserted in the HTML page.

When imported into one of our views, our HTML page looks like this:
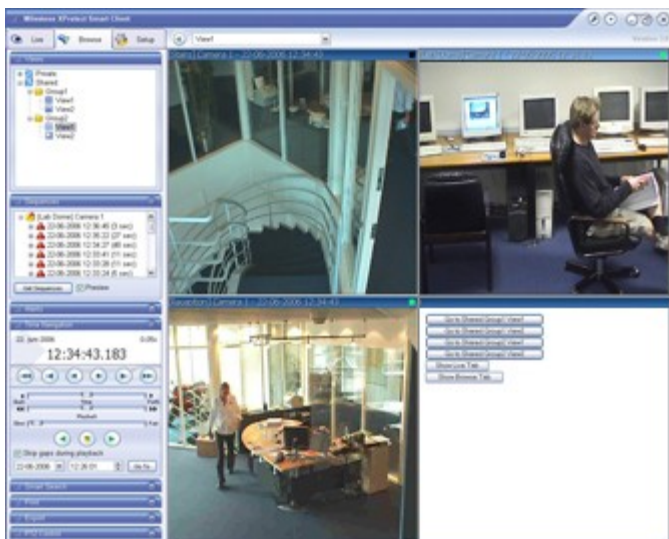
Example of navigation HTML page imported into a view

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.

In the following example we have kept the two groups and two views from the previous example.

Instead of using buttons, we have created an HTML page with an image of a floor plan, and created an image map based on the floor plan. Viewed in a browser, our HTML page looks like this:
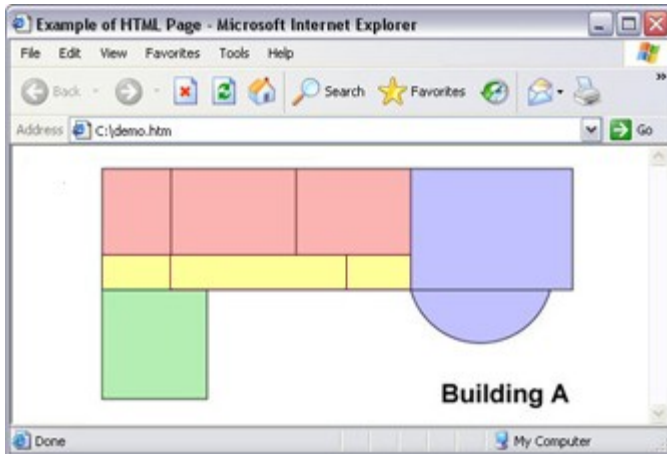
HTML page with image map for navigating between views

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:
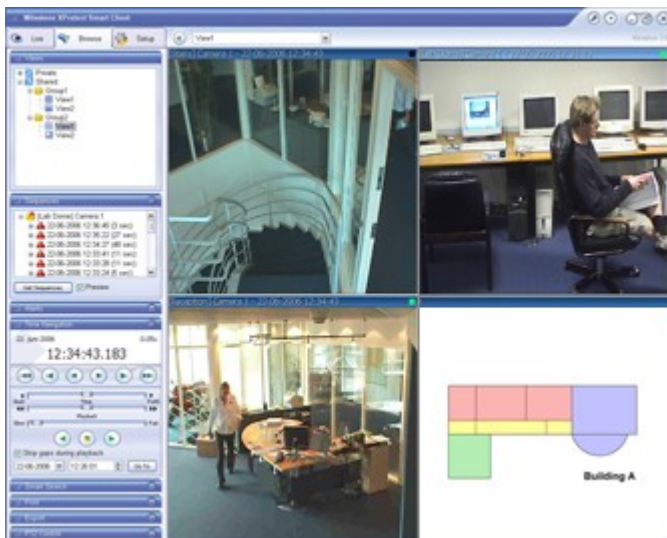
Example of HTML page with clickable floor plan imported into a view

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

Milestone XProtect Enterprise 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 Client*s*.* For example, in order for a button leading to View1 to work, a view called View1 must exist in users' *Smart Client*s.

   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.

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.

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.

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

    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 *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 Windows (Active Directory)-based authentication, you can make the *Smart Client* connect to the surveillance system automatically, based on the user's current Windows login.

Parameters

You are able to use the following parameters:

ServerAddress

Refers to 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 *AutheticationType* 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 *T0mMy5Pa55w0rD* in the dialog's *Password* field:

```
Client.exe –ServerAddress "http://ourserver" –UserName "Tommy" –Password
"T0mMy5Pa55w0rD"
```

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: *WindowsDefault* (called *Windows authentication (current user)* in the login dialog), *Windows* (called *Windows authentication* in the login dialog), or *Simple* (called *Basic authentication* in the login dialog).

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'
```

Day-to-Day Use

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 Milestone XProtect Enterprise 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.

The *Live* tab, in this example displaying a view
With images from six cameras

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 85 for more information.

Selecting a View

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

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

Selecting a 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:
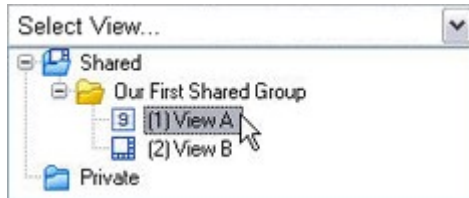
Selecting a view in the *Views* list

Tip: If views have been assigned shortcut numbers (see *Assigning Shortcut Numbers to Views* on page 25), you will also be able to select a view by using keyboard shortcuts (see *Using Standard Keyboard Shortcuts* on page 88).

Image Bars and Colored Indicators

Each camera position in the view is identified by an image bar, located in the top of each camera image.
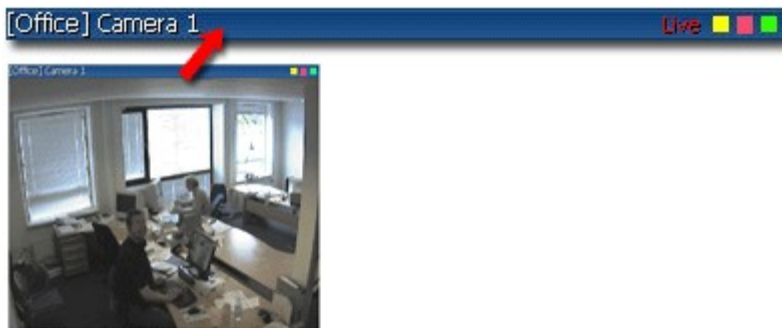
Camera position; enlarged detail shows image bar

The image 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 image bar will display the word *Live* when live images are displayed, and the word *Stopped* if the camera is stopped and live viewing is not possible. If the image bars of all cameras display *Stopped*, it may indicate that the connection to the surveillance server is lost; consult your surveillance system administrator if in doubt.

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

Dark blue: camera is not selected   Light blue: camera selected

Colored Indicators

Each image bar features three colored indicators:

- **Event indicator** *(the leftmost of the three indicators, solid yellow ▪)*: Lights up when specific events, defined by the surveillance system administrator, occur. Click anywhere inside the image to reset the event indicator. This indicator may appear black if event indication has not been specified for the camera in question, of if no specified events have occurred. Consult your surveillance system administrator if in doubt.

- **Motion indicator** *(the indicator in the middle, solid red ▪)*: Lights up when motion is detected in the image. Click anywhere inside the image to reset the motion indicator. This

indicator may appear black if no motion has been detected.

- **Online indicator** *(the rightmost of the three indicators, blinking green ■)*: Changes state every time a new image is received from the camera.

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 Event* on page 39 and *Sound on Motion Detection* on page 39 for more information.

Enlarging Images from Particular Cameras in a View

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

Double-clicking blue image bar enlarges view

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

Tip: If you have selected reduced image quality for the camera (on the *Setup* tab), images from the camera will be displayed in full quality when viewed enlarged.

Camera Shortcut Menus

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

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

- **Copy:** Available for all cameras. 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.

Example: Copying an image through the shortcut menu

- **Camera:** Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. Lets you select another camera for display in the view position. This way you are able to switch between viewing images from different cameras in the same view position.

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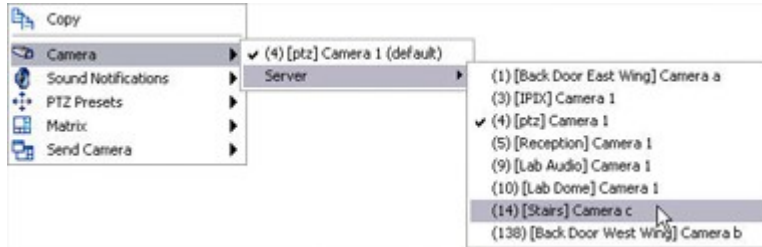
Example: Selecting another camera for display in the view position. In this case all cameras are connected to a single server; your surveillance system may have several servers.

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 88 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.

- *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) have been configured for the camera on the *Smart Client*'s *Setup* tab. Lets you temporarily mute sound notifications. To turn on sound notifications again, simply select *Sound Notifications > Mute* again.

Example: Muting sound notifications through the shortcut menu

- *PTZ Presets***:** 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 for which preset positions have been defined. Lets you select between the camera's preset positions. When you select a preset position, the camera will move to the selected position. Selecting the preset position *Home* will move the camera to its default position.

Example: Selecting a preset position through the shortcut menu. Available preset positions will depend on individual camera configuration

- **Matrix:** 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.

  Lets you send images from the selected camera to a particular Matrix Monitor.

  Note that the *Matrix* command is not available if viewing the camera in a hotspot or a carousel.
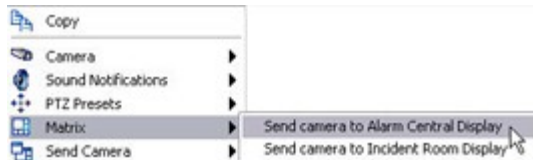
Example: Sending a camera's images to a
Matrix Monitor through the shortcut menu

- **Send Camera:** Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions.

  Lets you send images 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.

  To use this command, first 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 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.

Carousels

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

As with other images, you can enlarge images from a carousel by double-clicking the blue image bar above the image.

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

Hotspot

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

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.

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.

Matrix

Matrix is an integrated product that allows distributed viewing of live video from any camera on any monitor on a network operating with Milestone XProtect Enterprise. 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

As with other images, you can enlarge images from 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.

Example: In the above 1+3 view, all the positions are used for Matrix content. The large position has been defined at the primary Matrix position (1), and the three other positions as secondary (2), tertiary (3), etc. Images from the latest image stream will always be shown in position 1, images from the stream received before that will always be shown in position 2, and so on. Which of the view's positions should be primary, secondary, etc. is determined on the *Smart Client*'s *Setup* tab.

Events

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

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.

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.

Manual events can be global or tied to a particular camera/device.

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*.

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

How to Manually Trigger an Event

To manually trigger an event, select the required event in the *Event* section, and click the *Activate* button.
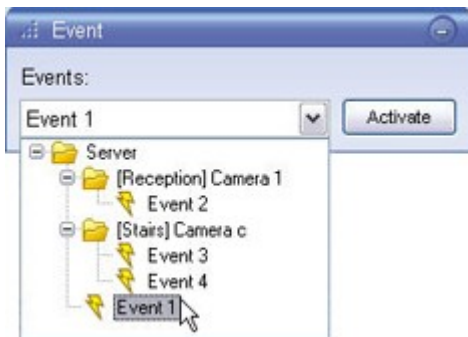
The list of selectable events is grouped by server and camera/device with which the event is associated. Hierarchically, global events are displayed immediately under the relevant server. In the above example, *Event 1* (the selected event) is a global event.

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 the click *Activate* button.

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

Audio

If one or more cameras have audio devices attached, you are able to listen to live audio from a selected audio source when using the *Smart Client*'s *Live* tab.

Note: Depending on your user rights, access to listening to live audio may be restricted.

To listen to live audio, select the required audio source in the *Audio* section's *Audio Sources* list:

Note: If the *Audio Source* list displays *No Audio Hardware*, your computer lacks the hardware required to play audio from the surveillance system. This is typically due to your computer not being equipped with an audio card.

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

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

PTZ Control and Digital Zoom

PTZ (Pan/Tilt/Zoom) and IPIX (technology allowing creation and viewing of 360-degree panoramic images) cameras can be controlled from the *Smart Client*.

The *PTZ Control* section also lets you use *Digital Zoom* on any camera in the view.

Note: Depending on your user rights, access to PTZ controls from some cameras may be restricted.

Tip: You may be able to use a joystick for controlling your PTZ cameras. Joystick control is configured in the *Smart Client*'s application men*u*; see *Customizing Joystick Setup* on page 40.

Note: 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 Control

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.

Crosshairs indicate point-and-click control.
For some cameras, crosshairs may look different.

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 IPIX 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

Alternatively, use the navigation buttons in the *PTZ Control* section to move the selected PTZ or IPIX 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.

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.

PTZ Control section

PTZ Preset Positions

If preset positions have been defined for the selected PTZ camera, you are able to select such positions from the *Presets* list.

Selecting a preset position from the list will make the PTZ camera move to the specified position.

Preset positions are defined by the system administrator; the *Presets* list will be empty if no preset positions have been defined for the selected PTZ camera.

IPIX PTZ Positions

You are able to move to a specific position in an IPIX 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.

Digital Zoom

By selecting the *PTZ Control*'s *Digital Zoom* check box, you are able to use digital zoom on images from any camera displayed in the view.

Tip: 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.

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:

Zoom level slider

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

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.

Viewing Recorded Video

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

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

Note: Date and time formats used when browsing recorded images may vary depending on your computers regional settings. Illustrations in this help topic, and date and time formats used in these illustrations, are thus for guidance only.

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

The *Browse* tab provides you with a number of advanced features for browsing recorded images. In addition to a range of image browsing features, the *Browse* tab also lets you print images, and export AVIs (movie clips), JPEGs (still images) as well as database files.
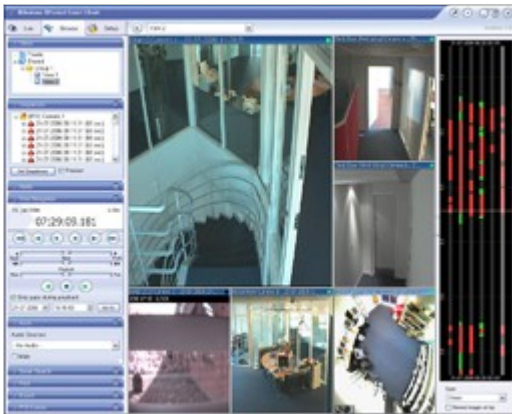
The *Browse* tab, in this example displaying a view with images from six cameras. Note the timeline browser in the right part of the *Browse* tab.

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 85 for more information.

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:

Selecting a 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.
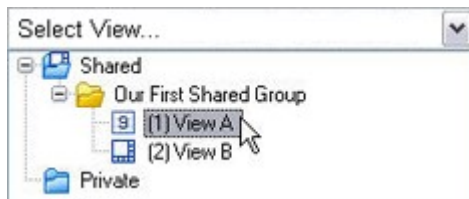
Selecting a view in the *Views* list

Tip: If views have been assigned shortcut numbers (see *Assigning Shortcut Numbers to Views* on page 25), you will also be able to select a view by using keyboard shortcuts (see *Using Standard Keyboard Shortcuts* on page 88).

Image Bars and Green Indicators

Each camera in the view is identified by an image bar, located in the top of each camera image.

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

Dark blue: camera is not selected   Light blue: camera selected

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

Enlarging Images from Particular Cameras in a View

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.

Tip: If you have selected reduced image quality for the camera (on the *Setup* tab), images from the camera will be displayed in full quality when enlarged.

Camera Shortcut Menus

By right-clicking an image in one of a view's camera positions, you get access to a shortcut menu:
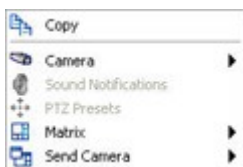
- **Copy**: Available for all cameras. Lets you copy the displayed image (as a single bitmap image) to your clipboard. The copied image can then be pasted into other applications, such as word processors, etc.

- **Camera:** Only available for single-camera view positions, not for hotspots, carousels, or Matrix positions. Lets you select another camera for display in the view position. This way you are able to switch between viewing images from different cameras in the same view position. To use this command, first 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 88 for more information. If camera shortcut numbers have been defined, they will appear in brackets before camera names in the shortcut menu.

- **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**: Only available if Milestone XProtect Matrix (an integrated product for distributed viewing of live video streams) has been configured on your surveillance system. Lets you send images from the selected camera to a particular Matrix Monitor. Note that the *Matrix* command is not available if viewing the camera in a hotspot.

- **Send Camera:** Only available for single-camera view positions, not for hotspots, carousels, or *Matrix* positions. Lets you send images 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. To use this command, first select the required destination view in the first submenu, then select the required camera position in the second submenu. If some of the 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.

Carousels

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.

Hotspot

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.

Matrix

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.

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.

Timeline Browser's Colors

The timeline browser uses two colors:

- Red (●): Recordings with motion

- Green (●): Recordings without motion

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 than green periods in the timeline browser.

White Horizontal Line

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.

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.

How to Use the Timeline Browser

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

Tip: If your mouse has a scroll wheel, you can also use the scroll wheel for browsing the timelines.

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.

Tip: 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.

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

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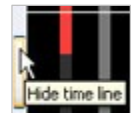
To show the timeline browser, simply click the button again. When the timeline browser is hidden, the button will be available in the *Browse* tab's far right border.

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.

Time Navigation section. Date and time format may be different on your computer.

Master Time Area

The *Time Navigation* section's *Master Time* area 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.

24. november 2005	1.00x
09:42:43.997	
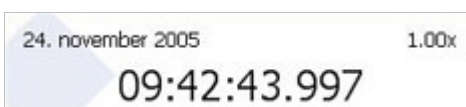
Master Time area. Date and time format may be different on your computer.

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.

Browse buttons

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.

Time sliders

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.

Playback slider and buttons

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.

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.

Go To Time

The *Time Navigation* section's *Go To Time* fields let you quickly jump to a specific point in time.
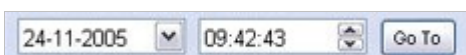
Go To Time fields. Date and time format may be different on your computer.

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.

How to Browse Sequences

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.

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.

Sequences section; placing mouse pointer over a sequence indication lets you quickly view the incident. Date and time format may be different on your computer.

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.

Expanded sequence indication. Date and time format may be different on your computer.

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

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.

How to Get a List of Events

To get a list of events, do the following:
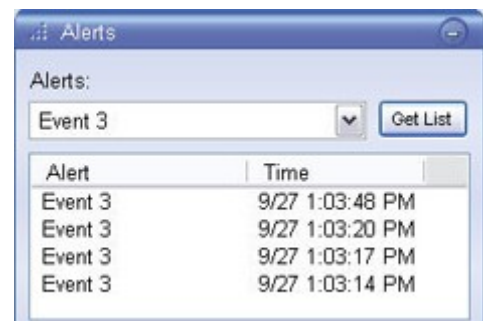
1. Select the required events in the *Alerts* list.

   You may either select a single event:
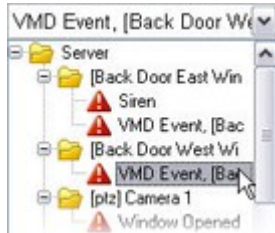
   Or all events on a particular camera:

   Or all events on a particular server:
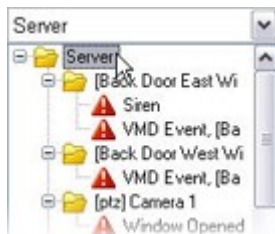
2. Click the *Get List* button.

   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.

   ℹ️ **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.

Audio

If one or more cameras have audio devices attached, you are able to listen to recorded audio from a selected audio source when using the *Smart Client*'s *Browse* tab.

Note: Depending on your user rights, access to listening to recorded audio may be restricted.

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

Note: If the *Audio Source* list displays *No Audio Hardware*, your computer lacks the hardware required to play audio from the surveillance system. This is typically due to your computer not being equipped with an audio card.

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

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.

Smart Search

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

Note: Smart search cannot be used for images from IPIX cameras. Depending on your user rights, access to smart search may be restricted.

How to Use Smart Search

To use smart search, do the following:

1. Select the *Browse* tab's *Smart Search* section.
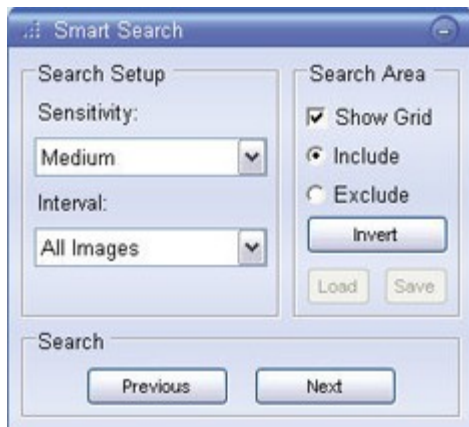
2. Select the *Smart Search* section's *Show Grid* check box:

3. Select the required camera in the view. A blue grid overlay will appear on the image from the camera:
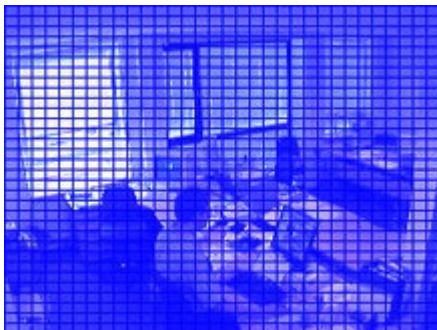
This is the grid you selected in the previous step; the grid can be removed by clearing the *Show Grid* check box.

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

4. Click and drag inside the image to select the area in which you want to perform the smart search.

i **Tip:** 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:
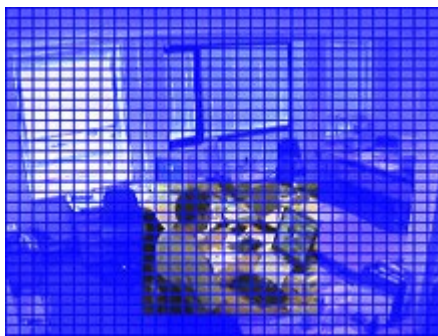
Example of selected area

With the *Smart Search* section's *Include* and *Exclude* options, you are able to toggle between including/excluding areas when you drag.

With the *Smart Search* section's *Invert* button, you are able to quickly invert your selection, if required:

Example: selected area inverted

5. 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.

6. In the *Smart Search* section, select required search sensitivity (*Very Low-Very High*) in the *Sensitivity* list.

7. 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.

8. 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.

9. The smart search begins, and a progress window displays search progress:
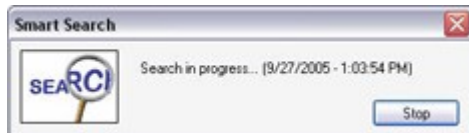
   When a sequence with motion inside the selected area(s) is found, it will be displayed in the view. Motion will be highlighted:
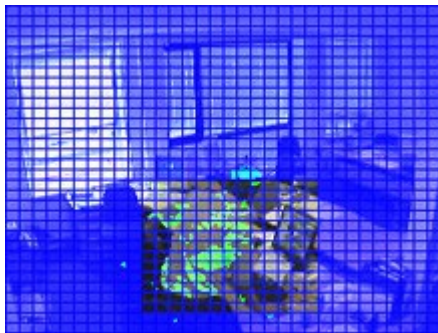
   Motion highlighted in light green color

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

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

PTZ Control and Digital Zoom

The *Browse* tab's *PTZ Control* section lets you navigate recorded images from IPIX cameras (IPIX is a technology allowing creation and viewing of 360-degree panoramic images; it requires either a dedicated IPIX camera or a regular camera equipped with a special IPIX lens).

The *PTZ Control* section also lets you use *Digital Zoom* on any camera in the view.

Note: As the *Browse* tab is used for viewing already recorded images, the *PTZ Control section* cannot be used for controlling PTZ (Pan/Tilt/Zoom) cameras. To control PTZ cameras, use the *Live* tab.

Navigation by Dragging Inside IPIX Images

IPIX images may be navigated by dragging inside images. If your mouse pointer changes to when placed over the images from an IPIX camera, navigation by dragging is supported for the camera. Refer to the release note for information about supported features for individual IPIX cameras.

PTZ Navigation Buttons

As an alternative to navigation by dragging inside IPIX images, use the navigation buttons in the *PTZ Control* section to move around the view from the selected IPIX 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.

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.

PTZ Control section

Presets

The *Presets* list does not apply for navigating already recorded images.

IPIX PTZ Positions

You are able to move to a specific position in the IPIX 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.

Digital Zoom

By selecting the *PTZ Control*'s *Digital Zoom* check box, you are able to use digital zoom on images from any camera displayed in the view. 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:

Zoom level slider

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

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.

Printing Images

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

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

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 from the *Print* section's *Source* list.

   Alternatively, you may select the camera in the view.

2. Select the required date and time 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.

   You also have the option of including a user's note, for example a description of the recorded incident.

Window with preview and information about printed image. Date and time format may be different on your computer.

4. **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.

5. **Optional:** If you want to preview your printout, click the *Smart Client Surveillance Report* window's *Preview* button.

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

Export

With the *Browse* tab's *Export* section, you are able to export recordings in the AVI (movie clip), JPEG (still image) and database formats.
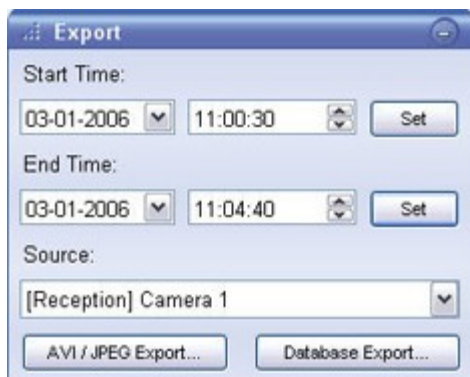
Export section. Date and time format may be different on your computer.

See *Exporting Video Evidence* in the following for detailed information about exporting recorded video.

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 Enterprise database formats.

Note: Depending on your user rights, access to exporting AVI, JPEG and database evidence from some or all cameras may be restricted.

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

 Tip: When exporting in the database format, you are able to include audio in the export; with the AVI/JPEG export option, you are not.

Exporting in AVI and JPEG Formats

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

Note: If exporting recordings from an IPIX camera, be aware that it is only possible to export the "fisheye" view itself; not a flattened IPIX view, a 2×2 split IPIX view, or zoomed IPIX views.

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.
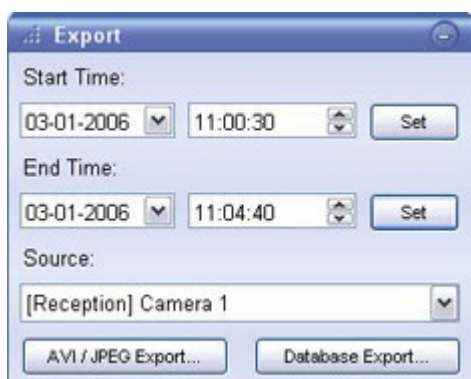
Export section. Date and time format may
be different on your computer.

 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.

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:
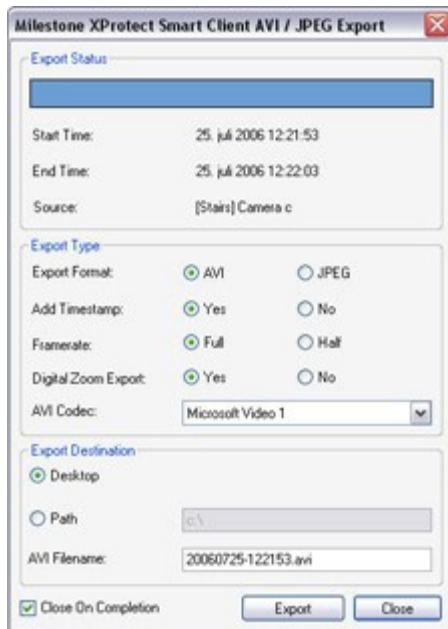
6. In the export dialog's *Export Type* section, select the required export format: *AVI* (movie clip) or *JPEG* (still images).

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:

Example of timestamp; arrow indicates actual position.
Date and time format may be different on your computer.

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.

    ![info] **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: 20050927-130603 for a file with a start time of 13:06:03 on 27th September 2005). 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.

13. 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:

55%

    ![info] **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 Enterprise database format, do the following:

Note: If exporting recordings from an IPIX camera, be aware that it is only possible to export the "fisheye" view itself; not a flattened IPIX view, a 2×2 split IPIX view, or zoomed IPIX views.

1. Select the *Smart Client*'s *Browse* tab.

2. Select the view on which you want to base your export.

   ⓘ **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.

3. 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.

   ⓘ **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.

4. In the *End Time* fields, specify end date and time for the export. You may use the *Set* button as described above.

5. 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.

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

6. 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.

7. 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.

    ⓘ **Tip:** If you include the *Viewer* in the export, the exported databases can be viewed on any PC—no additional Milestone XProtect Enterprise software will be required.

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

    `|===============55%===============        |`

    ⓘ **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.

    ⓘ **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.

    ⓘ **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 start the CD/DVD automatically when the recipient inserts it.

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 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.

- ***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.

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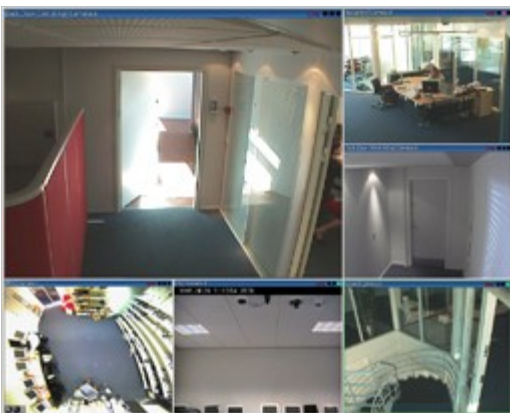
Example of a view sent to the *Primary Display*. While you are viewing the separate full screen window, the main *Smart Client* window will be hidden behind it.

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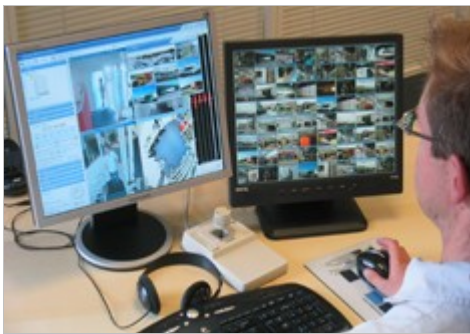
Example of an 8×8 view sent to a *Secondary Display*. In this example, the main *Smart Client* window is available on the left display.

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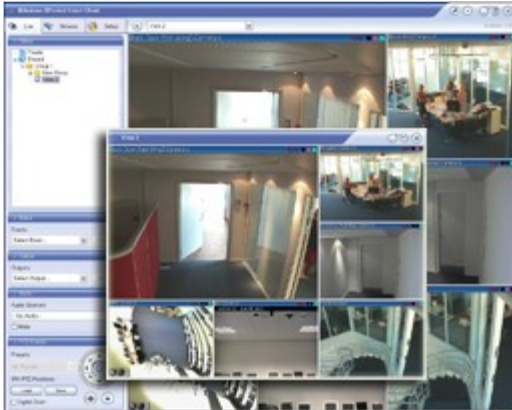
Example of a view sent to a *Floating Window*.
The main *Smart Client* window is immediately
Available behind the floating window.

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

Q: How many secondary displays can I use?

A: 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.

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

A: 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.

Q: I watch the same carousel in two different windows; why is it out of sync?

A: 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.

Using Standard Keyboard Shortcuts

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

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 41.

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 + is used to indicate "and then press." Example: For the keyboard shortcut */+ENTER*, you should thus only press the / key, then the *ENTER* key.

ENTER	Toggles maximized/regular display of the selected view position.

Example:
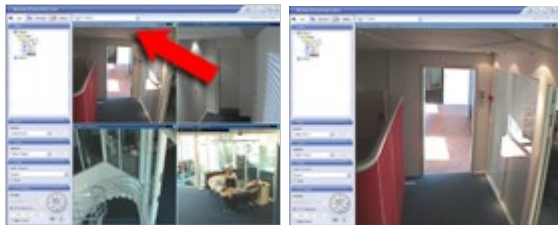
View position in regular (left) and maximized (right) state. Note that the selected view position is always highlighted by a lighter blue top bar.

/+<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 */+6+ENTER*.

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 **+8+ENTER*.

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 *Views* 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.

Example:

By pressing the *6* key on the numeric keypad, the
view position selection is shifted one step to the right.
Note that the selected view position is always high-
lighted by a lighter blue top bar.

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.

Logging Out

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

Removing the Smart Client

Note: If you are not a Milestone XProtect Enterprise 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 x.x* (where x.x refers to the version number).

3. Click the *Remove* button, and follow the removal instructions.

Index

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SC30-um-4 (b)-081206