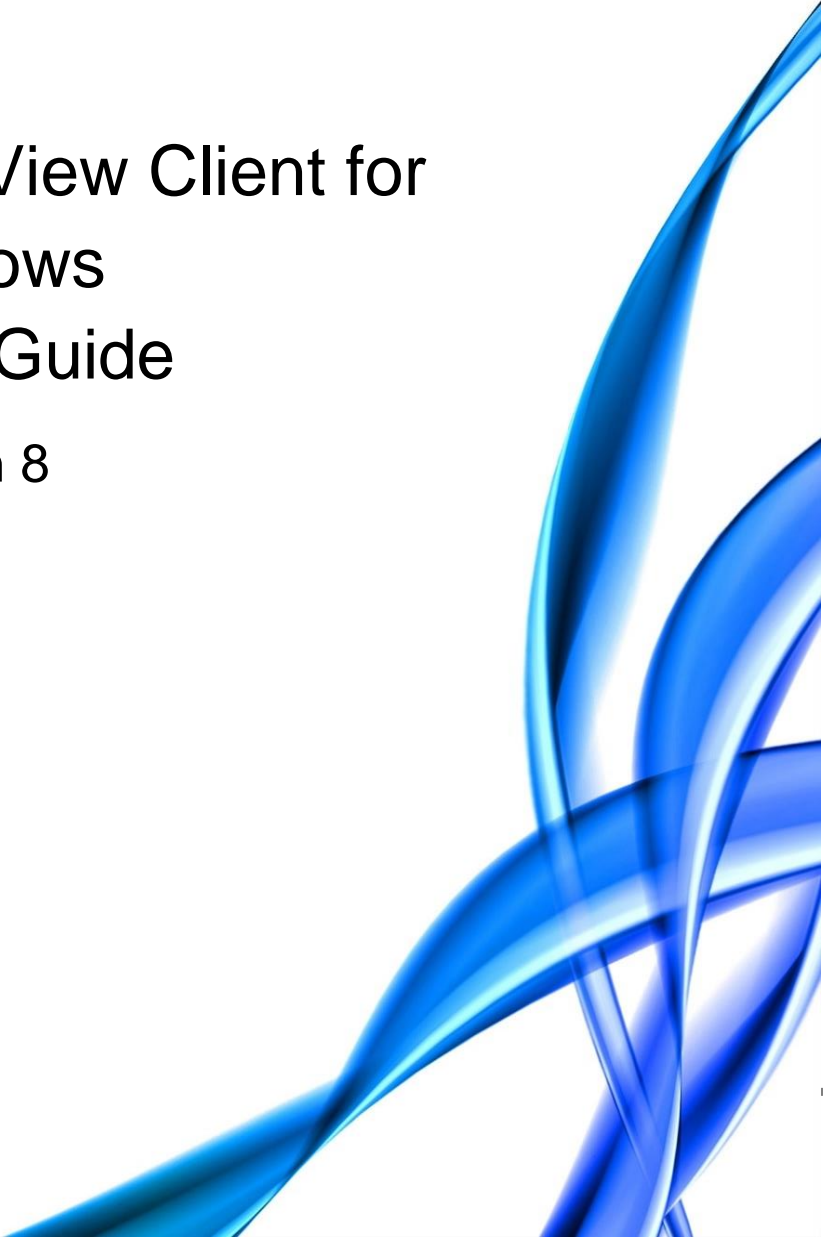# ernitec

EasyView Client for Windows
User Guide

Version 8

NEW FEATURES

The following new features are introduced in Version 8:

- Viewing Client can be used to simultaneously connect to multiple different Master Servers (license controlled add-on feature). Server selection has been moved from the Viewing Client login window to the application launcher dialog. It is also possible to directly create desktop shortcuts that connect to a certain Master Server.
- Viewing Client look and feel has been modernized, and more functions are now available from the device tree and the new title menu. Hotkeys can be used to change view modes on the fly. Certain view components also have detailed configuration options for advanced users.
- The Viewing Client window can be made smaller than before, and the controls can be hidden automatically with a timer when desired. The Viewing Client window can be also stretched to cover multiple monitors.
- Alarms can have a custom color.
- The user can specify to show certain or all alarms on the time slider.
- The user can add comments to alarms.
- Support for multiple Alarm popup monitors.
- I/O devices can be attached to take over a whole device tab grid cell, making them easier to operate
- Ability to open a camera to search and analysis plugins from the device tree.
- Fast Bookmark button.
- Data cache for activity data.
- Active and Ended alarm highlight colors can be adjusted separately.
- PTZ (dome) camera control "aiming point" has been changed to be less intrusive, and the size can be adjusted from the Viewing Client configuration file.
- TruStream support: for multi-streaming cameras, Viewing Client will automatically choose a stream that matches best the grid cell resolution that the camera is displayed in.
- Certain products contain both a dark and light visual theme for Viewing Client.

- The numpad device number popup dialog can be positioned freely anywhere on the Viewing Client window.
- AVM operator console can be positioned in a fixed camera grid cell.

INSTALLING VIEWING CLIENT

Viewing Client is installed with other applications when the normal VMS installer is used. If a user wants to install only the Viewing Client application, he can use the dedicated Viewing Client-only installer.

Viewing Client is also available as a standalone executable file (EasyViewPlayer.exe), which does not require any installation. This version of Viewing Client can be used to review video clips, Storyboard clips and video archives.

INSTALLING VIEWING CLIENT WITH VIEWING CLIENT-ONLY INSTALLER

The Viewing Client-only installer installs only the Viewing Client application.

The first component to be installed is SlimDX. When the SlimDX installing is finished, press "Next".

The installer will ask where it should place the installed files. If you do not want to change the default location, press "Next".
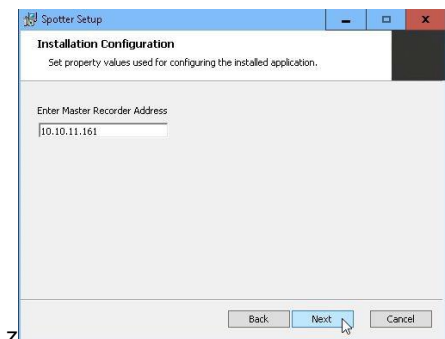
Next the installer will ask for the Master Server's IP address (if you only have one VMS server, it is that VMS server's IP address). Enter it in the dialog and press "Next". After this, press "Install" to install Viewing Client.

After the installation is finished, Press "Finish" to exit the installer.

INSTALLING VIEWING CLIENT WITH VMS INSTALLER

Viewing Client can also be installed as part of the normal VMS installation. This process is very similar to the one described in the Viewing Client-only installer, the main difference is that you have a selection screen where you can select if you install the Recorder service or not. If you are only installing the clients and not the Recorder service, you do not need a license. In this case, deselect the "Recorder" option and proceed with the installation.

By default, the installer will install Viewing Client on all VMS Server installations. With the VMS installer, it is also possible to choose the option that Viewing Client is started automatically.

See the VMS Installation Guide for more details.

USING VIEWING CLIENT FROM OUTSIDE A FIREWALL

The recommended way to use Viewing Client from external networks, or through a public Internet connection is to first establish a VPN connection to the company intranet. This way, the Viewing Client application outside the firewall can use the intranet IP address of the Master Server and video recording VMS Servers (nodes, slaves).

It is also possible to use the VMS system without a VPN. In this case, the user should connect to the Master Server with the outside IP address and port combination. Please refer to your system administrator for more information.

STARTING VIEWING CLIENT AND LOGGING IN

Viewing Client is started by double-clicking the Viewing Client icon on the desktop. It is also possible to start Viewing Client automatically when the computer boots up. See Installing Viewing Client With VMS Installer.

It is possible to create shortcuts that control to which Master Server Viewing Client connects to.

The application launcher dialog for site selection can be accessed by pressing "Delete" button when the initial dialog is shown.

The site selection list contains list of all the master servers that have been configured. More servers can be added or the details of existing servers edited with the add and edit options. User can choose a server and press "Continue" to log in to that server.
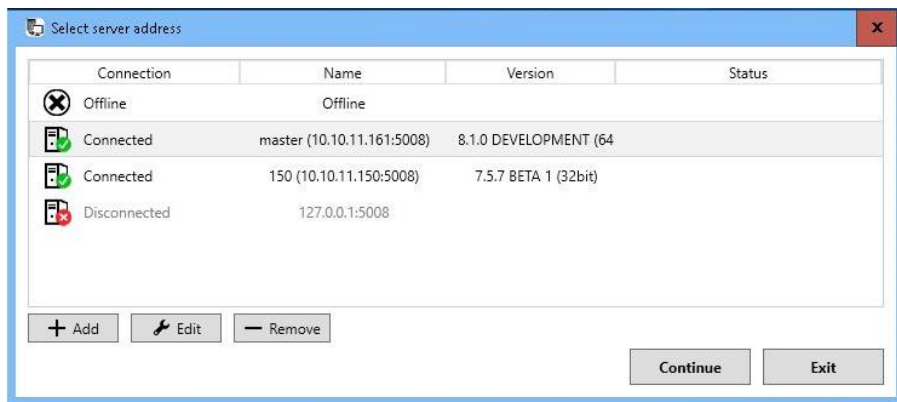

If the site selection screen is not accessed during Viewing Client startup, the system will log in to the last server that was used. It is possible to log in to servers that are different version and also servers that are 32-bit or 64-bit versions. The settings and other site-specific information and resources for different servers are stored separately.

After choosing a server and continuing, the login screen is shown (unless user has selected automatic login for this server).

The user can enter here his/her username and password and then press "Continue" to log in.

The user can have multiple Viewing Client windows logged in to different servers simultaneously. After logging in to one server, he can re-start Viewing Client from the desktop icon, and enter the site selection dialog and select another site. All site-specific operations such as layout saving only affect the windows logged in to that site. The site name is displayed in the device tree title (red highlight).
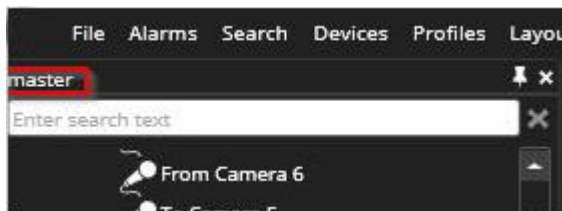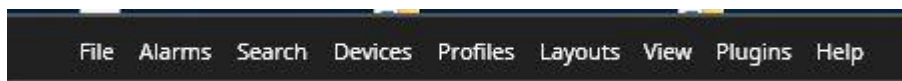

VIEWING CLIENT USER INTERFACE COMPONENTS

Here you can see an overview of the different Viewing Client user interface components.
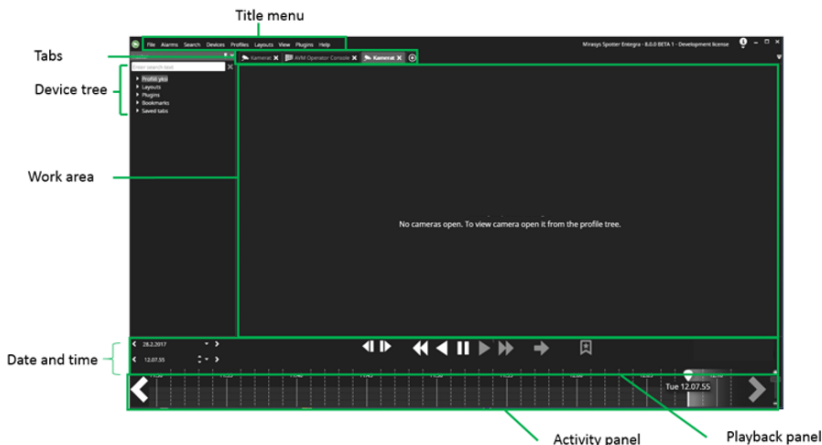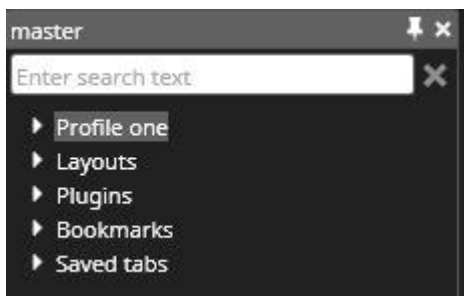
TITLE MENU

Various functions can be accessed from the title menu.

- File menu: New window and tab, creating archives and opening media, lock, log off and exit.
- Alarms menu: Opening alarm popup and alarm view tabs.
- Search: All available search methods.
- Devices: Joystick and device numbering configuration.
- Profiles: View and change to other profiles.
- Layouts: Control the layouts.
- View: Control the mode and visibility of the application window components.
- Plugins: Additional features, Viewing Client extensions.
- Help: About and Help

DEVICE TREE

The Device tree title shows the name of the Master Server that Viewing Client is connected to. Below this is a search field which can be used to filter the whole tree contents. Any text entered in the field can be removed with the "X" control or by pressing the Esc-key.

master	📌 ✕
Enter search text	✕
▶ Profile one	
▶ Layouts	
▶ Plugins	
▶ Bookmarks	
▶ Saved tabs	

The Device tree contains five different types of content that can be opened to the work area. The currently selected profile, which contains the cameras and other devices, is the first item. The profile can be changed from the title menu.

The next option is layouts, which contains all the layouts that are available for the current user. Plugins, Bookmarks and Saved tabs can also be opened and managed via the device tree.

A device such as a camera is opened by drag and drop or by double-clicking on the device. Selecting a folder will open all the contents of the folder to the work area. Selecting many devices is possible by pressing Shift or Ctrl keys when selecting the devices.

Layouts, plugins and bookmarks can be opened with a double-click. Plugins can be additionally opened by dragging them to a specific camera grid cell.

Cameras, audio devices and text channels are opening by default in real-time view, if not specified otherwise in the System Manager application's profile settings. Digital input and output (I/O) are opening in closed state. Digital output states can be changed from the device tree as well by pressing the button in the device tree.

In addition to showing the device symbol, also device state is shown in the device tree. A device is indicated with a white icon if it's in normal state. When the device is

in another state, for example no signal, connecting, no connection, there is an icon on top of device symbol.

| Normal | Recording | No signal | Not in use | Connecting | No connection |

If a device is used as an alarm trigger or an alarm action, it has by default a yellow highlight color. The colors for active and ended alarms can be adjusted in Settings. Alarms can also be assigned a custom color that can be specific for each alarm separately.

The user can change the device name in the System Manager application and also enter a description. The name and the description are visible in the device tooltip. The user can also define special icons for the devices in the System Manager Profile Settings.
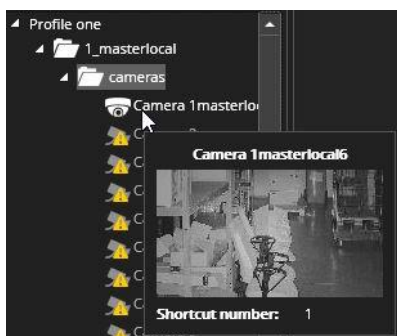

Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Alt+D	Cycle between the different device tree view modes

WORK AREA AND TABS

The work area is the region of the Viewing Client window where the content of the devices can be viewed. When cameras and other devices are added to the work area, they automatically open the stream to the playback position or the live position of the work area.
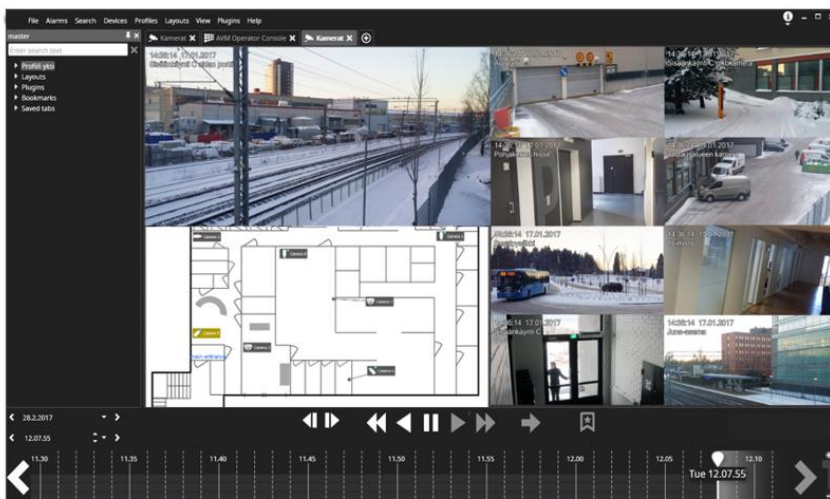
DEVICE TABS

The work area can have multiple device tabs. New tabs can be created by clicking the "New tab" control, or from the File menu.
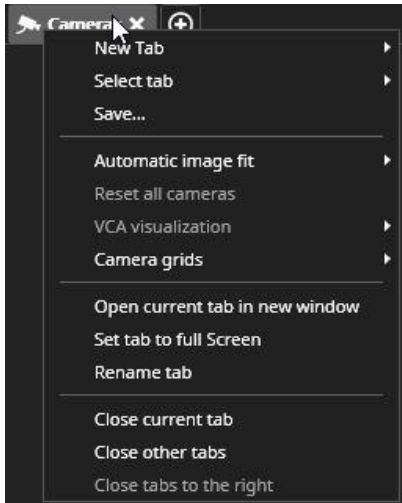

The tab pull-down menu offers the possibility to jump to a tab, if there are lot of tabs and some of them are not visible anymore.

Only cameras that are on the currently visible tab are streaming. Cameras that are on the "hidden" tabs are not streaming, but will resume streaming instantly when the tab is activated.

Tabs can be reordered by dragging them to a different position. Tabs can be also dragged outside the Viewing Client window to move the content to a new, automatically created window. If the Ctrl key is pressed when dragging, a copy is made instead of moving. The same applies for moving or copying cameras.


The tab menu can be accessed with a mouse right-click. It also offers the possibility to select a tab and create new tab, as well as change the name of the current tab, and close a tab or several tabs. The automatic cropping and camera grid settings for all cameras on this tab can be controlled from here. Also, the tab menu offers the possibility to reset the virtual zoom and VCA visualization settings for all cameras on the tab.

Tabs can be closed from the "X" control, or from the tab menu. It is possible also to close all tabs to the right of the current one, or all tabs but the current one.

It is possible to save and share tab contents. A tab is saved by first configuring the tab, then right clicking the tab title to reveal the tab menu and then selecting Save tab option.

This displays a dialog where the tab name can be entered. It is also possible to define whether the tab is shared to other users.
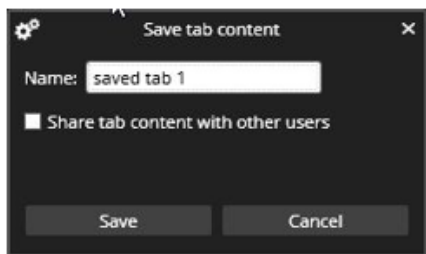
Saved tabs can be later reopened from the device tree. Saved tabs are essential in Agile Virtual Matrix (AVM) and Viewing Client Monitor Manager as they allow use of special views in the AVM Display Servers and other monitors.

Saved tabs can be accessed also with keyboard shortcut numbers using the "," option.

Frequently Used Keyboard Shortcuts:

| Shortcut	Description
Ctrl+Shift+T	Open tab menu.
Ctrl+Shift+W	Close current tab.
Ctrl+Tab	Select next tab. If currently selected tab is last tab, select first tab in the window. Addition (+) tab is not selected.
Ctrl+Shift+Tab	Select previous tab. If currently selected tab is first tab, select last tab in the window. Addition (+) tab is not selected.
Ctrl+Alt+V	Hide/show tab controls.

CAMERA GRIDS
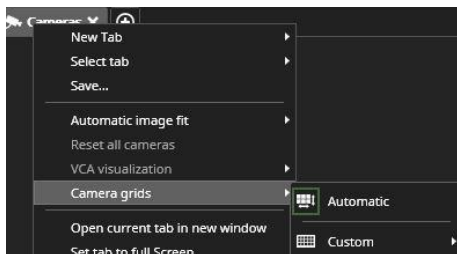
The default view mode of the work area is automatic. In this mode, cameras appear all using the same size, and the position and size changes automatically as more cameras are added.

There are also fixed grids available, where some cameras can be larger than others, and cameras stick to the fixed view mode grid and do not move around like in automatic mode. The fixed grids are available from the tab menu.

CUSTOM CAMERA GRIDS

In addition to the pre-formatted fixed grids, it is also possible for the user to create and manage custom camera grids with the grid editor. The editor can be opened from the View menu.
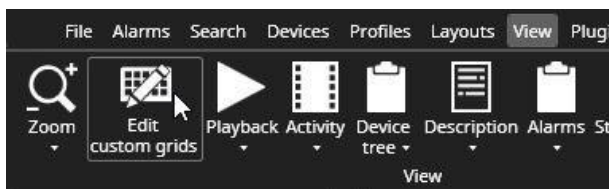
The size of the grid can be set with the Dimension controls, and by clicking the "Create new" button. Then the individual cells can be merged to make new, larger cells. The resulting grid can be then given a name and saved.
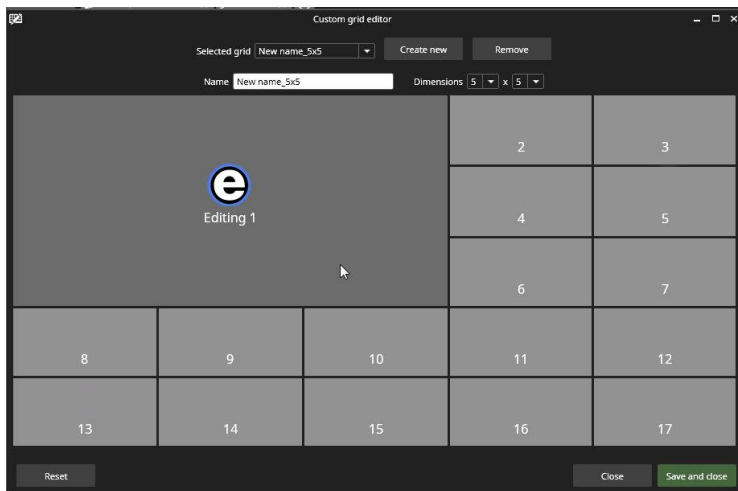
The grid can be then accessed from the tab menu.
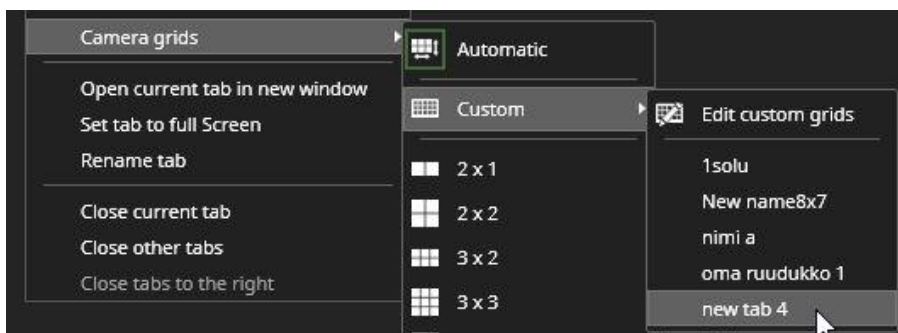
Already exiting grids can be loaded to the editor using the pull-down control. They can then be reset or deleted.

Custom grids are user-specific, and they cannot be shared as such. It is however possible to create a layout or a saved tab using the custom grids and share the layout. Other users can then access the shared layout and use it.

CAMERA VIEW

When the mouse cursor is placed on top of a camera on the work area, the camera toolbar, maximize and close buttons become visible.
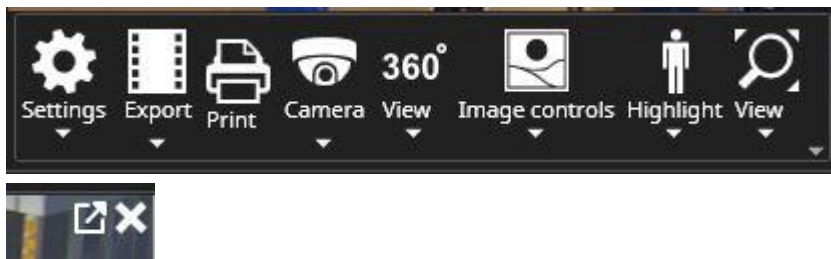
Cameras can be closed from the close button or maximized to fill the whole work area from the camera maximize button. The functionality of the camera toolbar is explained in the next chapter of this guide. When a camera is on the work area, it can also be maximized by double-clicking it. Double-clicking a maximized camera will make its size normal again.

The camera name and timestamp are shown on the top left corner of the camera. The visibility and color of the name and the timestamp can be controlled from Viewing Client Settings or the camera toolbar. The camera recording indicator is a small blue dot next to the timestamp. It is displayed when the camera is recording.

Cameras can be dragged to different positions in the work area, simply by drag and drop with the mouse left button depressed. Similarly, a camera can be dragged to another tab or another Viewing Client window by dragging it on top of the other tab and releasing the mouse button. Further, a camera can be dragged outside the Viewing Client window and releasing the mouse button will open a new Viewing Client window. Again, holding Ctrl while dragging will create a copy instead of moving the item.

Note that it is better to depress Ctrl key only after user has started to drag the object, because if Ctrl is pressed first, the Mixed Playback Mode activates.
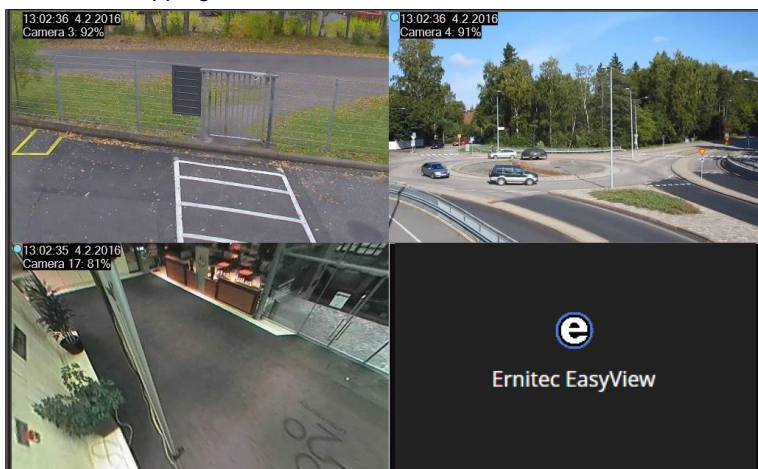
AUTOCROP, VIRTUAL ZOOM AND QUICK ZOOM

The default image fit setting can be adjusted in Viewing Client settings. The default option for new device tabs is "Crop". The setting can be changed to "Off" or "Stretch". The Stretch option is not available for the automatic grid.

Automatic cropping off:
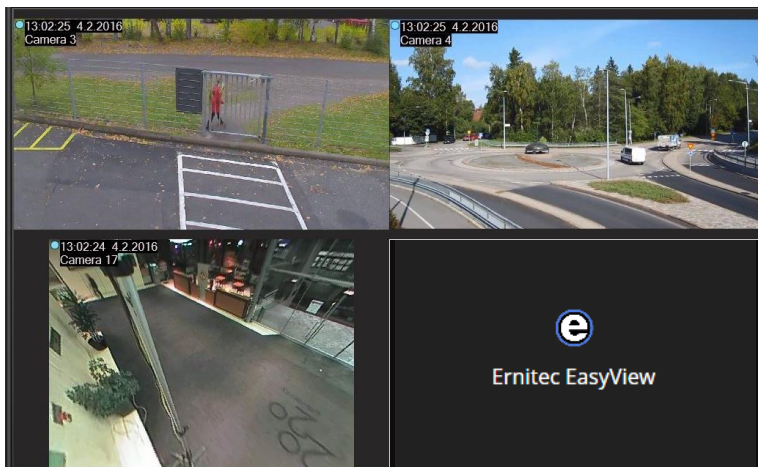
Automatic cropping on:

The image fit settings are controlled from the tab menu. Automatic cropping will crop the image to fit the current aspect ratio of the work area. In automatic view mode, this works best if there are for example 4 or 9 cameras on the screen. In fixed grid mode, the auto cropping makes cameras fit the aspect ratio of the fixed grid cell.

There is also the possibility to stretch the image to fit the grid cell. This option is only available for fixed or custom grids.
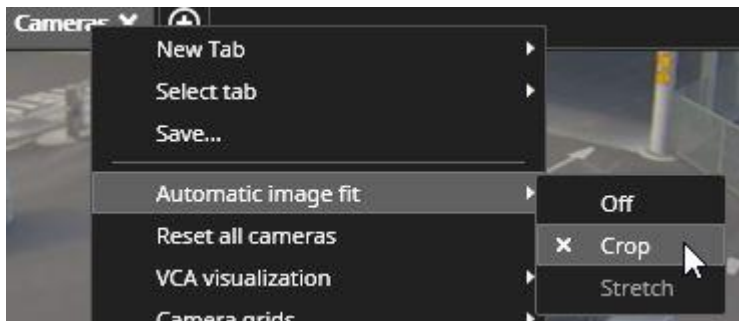
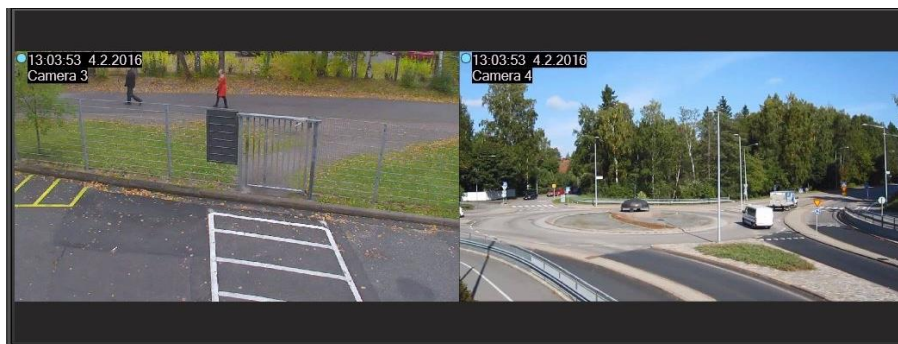Image stretch option not in use:

Image stretch option in use:

The stretch option is only available for the whole tab. Stretch and crop cannot be used at the same time, but a virtual camera cropped image can be stretched.

The virtual zoom can be used to change the camera aspect ratio to the PC monitor aspect ratio, or any freely chosen aspect ratio. The usage of the virtual zoom is explained in the View Menu And Virtual Cameras section of this guide.

Quick zoom is a handy way to digitally zoom into the image of any camera on the work area. Quick zoom is accessed by a right mouse click when the cursor is on top of the camera. By holding the right mouse button depressed and using the mouse wheel, the image can be zoomed.

The mouse cursor will change into a "4-point arrow" to indicate this mode.

Moving the mouse moves the zoomed area. Releasing the mouse button or taking the mouse cursor outside the camera area will stop the zoom. If the Shift key is kept pressed when the right mouse button is released, the quick zoom is frozen into a virtual zoom setting.

There is also another way to do virtual zoom. If the user holds the Shift key and then presses the left mouse button and drags the mouse over a camera, a red rectangle is drawn over the camera. Now when the mouse button is released, the camera will execute a virtual zoom into the selected area.

Frequently Used Keyboard Shortcuts:

| Shortcut	Description
Ctrl+Shift+S	Sets the auto stretch on and off for the current tab.
Ctrl+Shift+C	Sets the auto crop on and off for the current tab.

OTHER TYPES OF DEVICES

Text channels appear as a device in the work area with text content.

Digital Inputs and Outputs (I/O's) and audio channels can be added either to individual cells on the camera grid or then attached to individual cameras. When attached to individual cameras, they appear in a component panel on the right side of the camera.
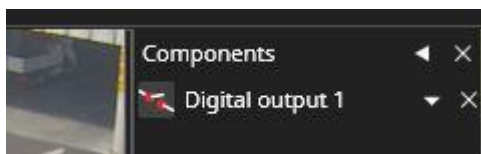
The component panel width can be adjusted, and it can be also collapsed to only show the I/O control.

When the I/O devices are added to the camera grid cell, they take over the entire grid cell.
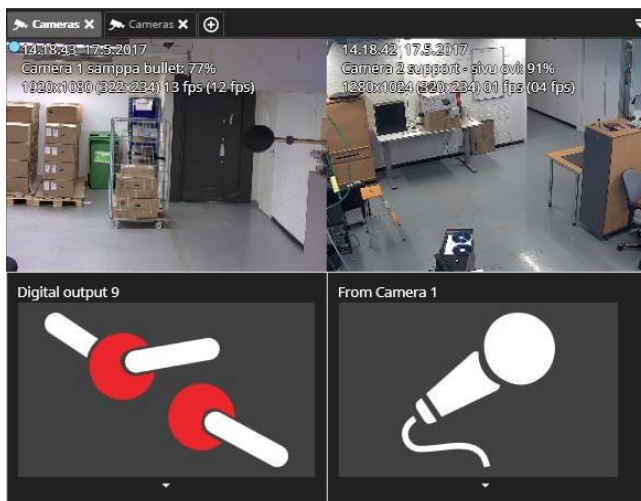
Outputs have a small pull-down menu that allows control of state switch, pulse and pulse duration. Please note that output states can also be toggled from the device tree by clicking on the output control. The default action of the outputs is defined in System Manager – Profiles section.

Audio channels have a small blue note symbol indicating that the channel is open. The channel opens automatically if it is added to the component panel. Audio channels have a similar pull-down control as outputs to control mute, unmute and volume.

All component panel components, inputs, outputs and audios can be closed from the individual component close controls. The whole component panel can be closed from the component panel close control. When the devices are on the grid cell, they can be closed via the normal way with the top right corner "X" control.

Two-way audio has automatically a camera toolbar control. This is further described in the next chapter of this manual.

FULL-SCREEN MODE

A single camera can be maximized to cover the whole work area with the maximize control, or by double-clicking it. The whole work area of a Viewing Client window can be made to be full screen by pressing the F11 key, or by double-clicking the tab control. The second press of the F11 key (or the Esc key) will return to the original window size.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F11	Maximize current tab to full screen size.
F11 or Esc	Restore maximized tab to normal size (when no camera is selected).

CAMERA TOOLBAR
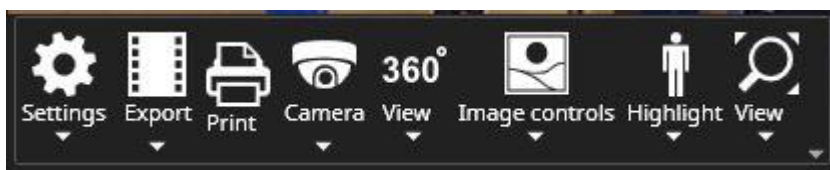
The camera toolbar is displayed when the mouse is moved over a camera, or if a camera is selected with other means. If the mouse is not moved for some time, the camera toolbar disappears automatically.

The camera toolbar can contain the following items:

- Camera settings control
- Export control
- Image print control
- Camera closing and duplication control
- Two-way audio control
- View or virtual zoom control
- VCA highlight control
- Image Control plugin control
- 360 camera de-warping control
- Other toolbar plugins

CAMERA SETTINGS

All the camera specific settings are saved to layouts when a user saves a layout. This way it is easy to create specific settings for different use scenarios. See the Layouts section of this guide for further information.

The camera settings contain the camera specific settings for:

- Streaming mode
- Image update
- TruCast (direct camera streaming to Viewing Client)
- Camera name and timestamp display settings
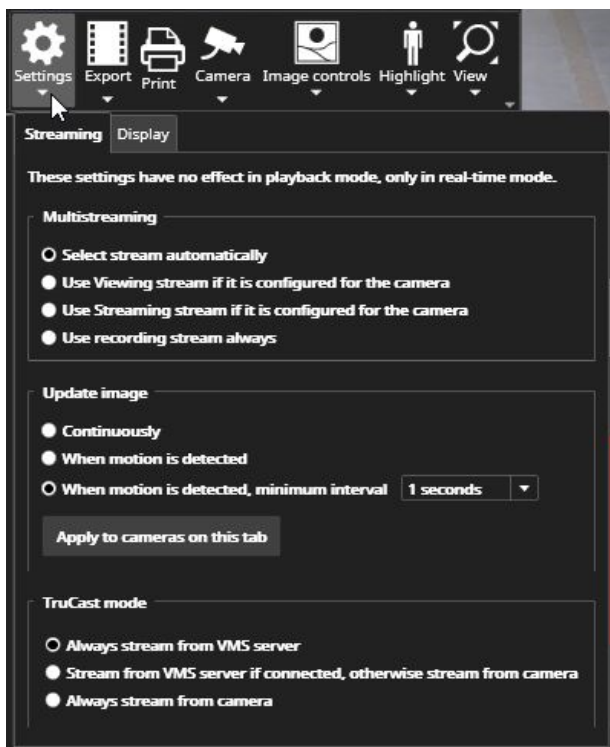
The defaults for the settings controlled from Viewing Client settings. If the user wants to change a setting to be different from the default, then he can use these camera specific settings.

The streaming mode setting controls if Viewing Client chooses the stream automatically (default) or uses a specific stream for the image display.

The image update settings control if the camera is drawing the image continuously, which draws all images from camera even when there, is no motion detected, or only when motion is detected. There is a third option which refreshes the image once a second also when no motion is detected.

Below the image update settings is a button to make the current image update settings apply for all cameras on this tab.

When a new camera is opened to the work area, the image update settings default to the setting that is defined in Viewing Client settings.

The TruCast settings control whether the stream is coming from the VMS server, or directly from the camera. The TruCast settings are remembered for the camera, so even if the camera is closed, the next time it is opened, it will be using the same TruCast settings that were used last time.

The display settings control if the name and timestamp is shown on top of the camera, and what color is used for the text and the text outline. If the user finds a nice color that he prefers, he can make the setting a new global default for all cameras.

EXPORTING AND PRINTING
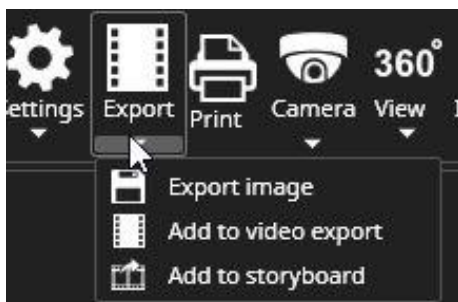
The exporting functionality allows to export a single image or add the camera to the video export area to export a video clip from one or multiple cameras.

Default behavior of the button is that the camera is added to the video export area.

When exporting a single image, the user can define the export location, image name and format. It is also possible to select whether the date and time are added to the image. If the user leaves the name field empty, the default name is the camera name.

When exporting a video clip, the camera is added to the data export area at the bottom left corner of Viewing Client. After this, the user can control the exact start and end time of the exported clip using the controls in time slider. More about this is in the activity panel section of this manual. Note that video exporting is also possible without using the toolbar button by dragging a camera to the activity panel area.

The fastest export file format is SEF (Secure Export Format). It can be viewed with Viewing Client or EasyViewPlayer.

The print button will open a standard printing dialog window that can be used to print the current screenshot. The printed image will be the one that was on the screen when the toolbar print button was pressed.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+P	Print camera image.
Ctrl+S	Save (export) camera image.

CAMERA CONTROL AND PTZ CONTROL

In non-PTZ cameras, the camera control can only be used to duplicate the camera and to close it.
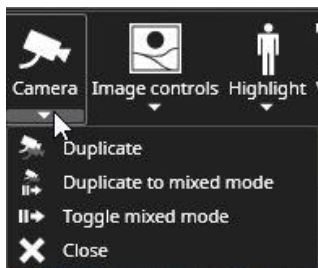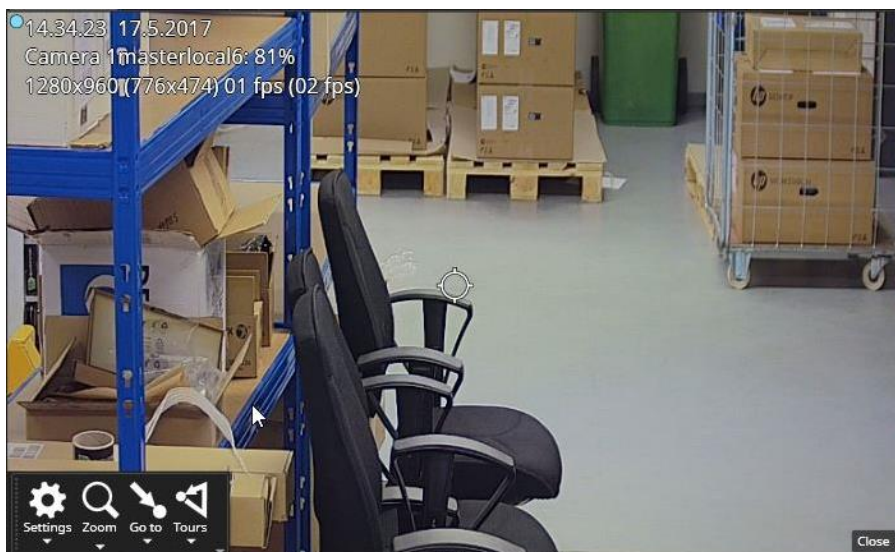

In case of a PTZ (dome) camera, the main toolbar button changes to a "Dome" camera icon, and pressing this button assumes the PTZ control.

The close button in the bottom right corner closes the PTZ control, although it will also close automatically after a time which can be defined using the System Manager application.

In PTZ control mode, the PTZ camera can be turned with keyboard arrow keys, the mouse and a DirectX compatible joystick. Some PTZ cameras support pointing to a specific point or area of the screen to control the camera turning and zoom. For these cameras, the mouse pointer changes to an "aiming point".

Cameras that do not support the above, can be turned by grabbing the center control with the mouse and moving the arrow off-center. The size of the center control icon can be edited from configuration file. Please ask instructions from Support.
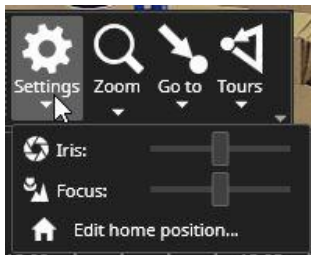
NOTE: The Pelco keyboard joystick is not supported in Viewing Client. The Axis T8310 series of joysticks are currently not supported.

PTZ CONTROL VIEW

In PTZ control mode the toolbar changes to show:

- PTZ settings
- Zoom settings
- Preset settings (Go to)
- PTZ camera tour settings (Tour)

The PTZ settings menu contains iris and focus slider controls and the place to edit the camera home position. The home position can be selected from the currently saved presets or tours.

It is possible also to define how long the camera takes until it returns to the home position, and if the switch to the home position is made only if the camera is not in some other tour or preset position.
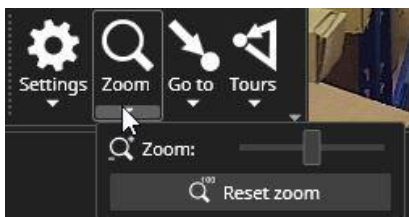

The zoom settings menu allows to control the camera zoom. The camera zoom can also be controlled from the keyboard, or the mouse wheel.
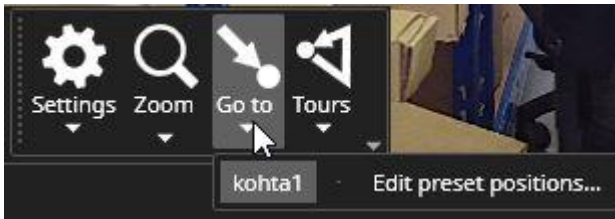
The preset or "Go to" menu allows to use and manage presets. Selecting the "Edit preset position" will make it possible to save the current camera position as a preset. If the camera is already in an existing preset position, it is possible to rename the position. Please note that the current preset position name is displayed in the top right corner of the camera view when the PTZ control is active.

Selecting any preset position from the list will turn the camera to that preset position. The same applies to the PTZ camera tour editing mode. When a user is editing or creating a new PTZ tour, the camera will switch to show what the preset position is when it is being added to the new tour.

Deleting a preset is possible from the edit preset position menu.
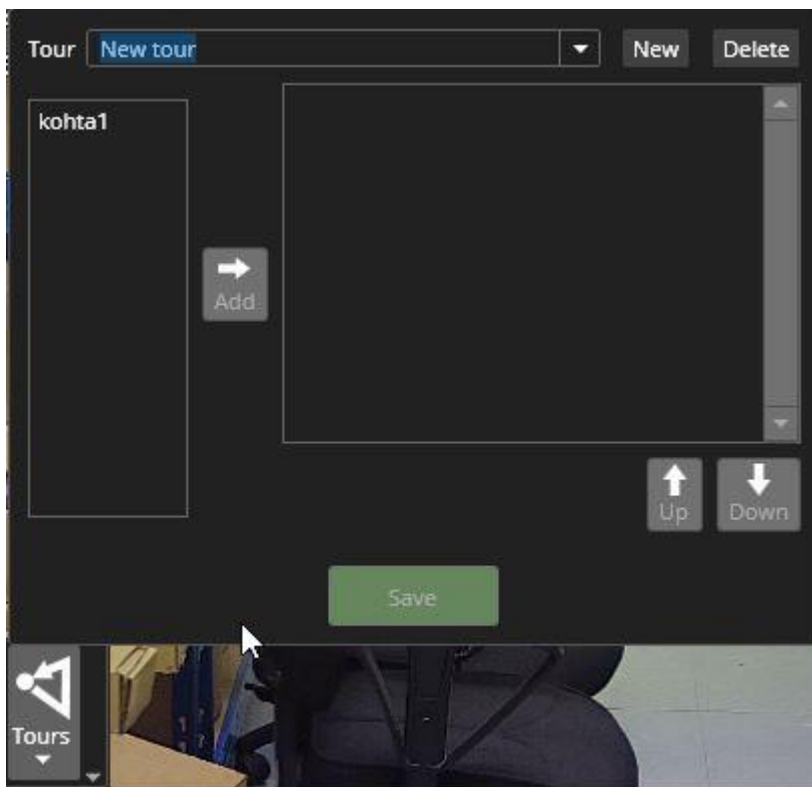
The PTZ camera tour menu has a list of currently available PTZ camera tours. It is possible to stop the current tour by selecting the stop PTZ camera tour.

PTZ camera tours can be edited from the edit camera tours option.

In the camera tour editing view, the tour to be edited can be selected from the pull-down control at the top of the view.

The name of the tour can be changed by clicking the tour name and writing a new name. A new tour can be made by clicking the "New" button. Tours can be deleted from the "Delete" button.

To add a new preset to the tour, select the preset from the list on the left and then press the arrow to add it to the tour. Adjust the position of the preset in the tour with

the up and down arrows. The speed of movement to the next position and the duration in the position can be adjusted from the controls.

It is possible to "pause" the PTZ camera tour by adding a longer stay duration to one of the preset positions. The preset stay duration can be up to 60 minutes long.

The PTZ control settings can be adjusted from the System Manager application. Please see the System Administrator guide for this.

TWO-WAY AUDIO

If the camera has two-way audio configured, the menu item becomes active.

Two-way audio can be in three different modes.
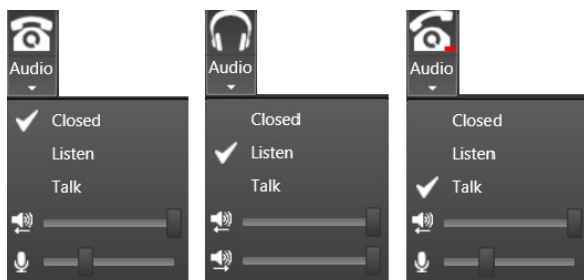
In the closed mode, the audio channels are not open.

In the listen mode, the user will hear audio from the camera and any potential audio going to the camera from any other VMS client. The audio channel from current user is not open.

In the talk mode, the user can hear the audio from the camera and the audio channel from current user is open, so the audio is broadcasted to the camera.

The toolbar icon has red (to camera) and green (from camera) volume indicators which show if there is audio going to or coming from the camera.

The channel volumes can be adjusted from the sliders.

VIEW MENU AND VIRTUAL CAMERAS
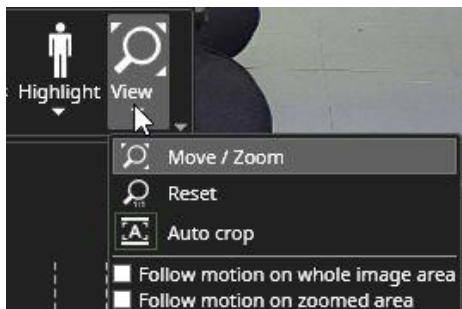
The view toolbar menu can be used to create and manage virtual cameras from the current camera.

To create a new virtual camera, press "Move/Zoom". A red rectangle will appear on the camera. This rectangle can be moved around by mouse drag and drop. The size of this rectangle can be adjusted in various ways.

- Mouse wheel movements will make the virtual camera rectangle larger or smaller.
- The size can also be adjusted by dragging the edge of the rectangle with mouse and left click.
- The size will also change from keyboard "page up" and "page down" buttons.

The default aspect ratio of a new virtual camera rectangle is the monitor aspect ratio. The aspect ratio can be changed by:

- Pressing the keyboard Ctrl key when adjusting the size will make the rectangle aspect ratio match the current Viewing Client work area aspect ratio
- Pressing the keyboard Shift key when adjusting the size will make the aspect ratio freely sizeable.

When the user presses "OK" the virtual camera is saved. Pressing "Cancel" means that no changes are saved.

Pressing "New" creates a new virtual camera. There are no specific limits on how many virtual cameras there can be, but the VMS license will limit the number of cameras on a Viewing Client tab.

When a second virtual camera is created, there are now two rectangles on the screen. The user can click the virtual camera window he wants to edit, and the border color will change to red. One of the virtual cameras is drawn with a solid line, and the others with a dotted line. The one with the solid line is the same one where the camera rectangles are. The other cameras change the border color to red as the rectangle representing them is selected.

Please check also the Quick zoom part of this guide.

Please note that there is only one stream open even when there are multiple virtual cameras on the tab.
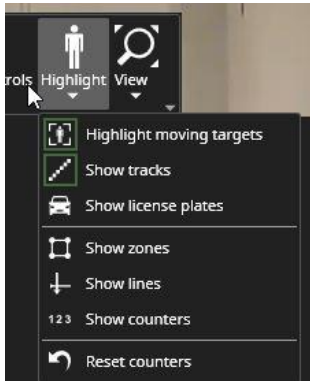
Frequently Used Keyboard Shortcuts:

NOTE: Only when in virtual camera editing mode.

Shortcut	Description
Arrow left	Moves the red box to left.
Arrow right	Moves the red box to the right.
Arrow up	Moves the red box up.
Arrow down	Moves the red box down.
Page Up	Makes the box larger (zoom out).
Page Down	Makes the box smaller (zoom in).

VCA HIGHLIGHTS

The VCA highlight menu is enabled if the VMS license has VCA channels, and the VCA is enabled for this camera in System Manager. The menu offers possibility to:

- Highlight moving objects such as cars and walking persons
- Show the track that the object has taken on the camera screen
- Highlight license number plates
- Show VCA zones and lines after they have been configured using the VCA configurator
- Show a client-only VCA event counter
- Reset all counters on a camera screen

The client-only VCA counters are local to the Viewing Client application and not integrated to the Reporting+ application. They are meant for short term reporting and can be reset by clicking on the counter on the camera screen.

IMAGE CONTROL PLUGIN
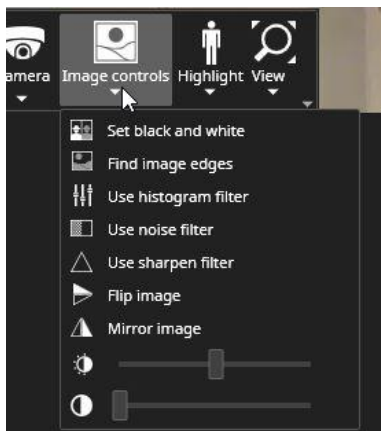
The Image Control plugin has various options to adjust the camera image:

- Option to turn the image into a black and white image
- Edge highlight filter
- Histogram filter (a form of contrast optimization filter)
- Noise reduction filter
- Image sharpening filter
- De-interlace filter
- Image flip (flips the image along the horizontal axis)
- Image mirror (mirrors the image along the vertical axis)
- Brightness adjustment slider
- Contrast adjustment slider

360 DE-WARPING PLUGIN

The 360 View toolbar control allows you to define how a 360-camera image is de-warped (straightened) by the Viewing Client application.

The Plugin has controls to:

- Pan, Tilt and Zoom the de-warped image (available only for some de-warped modes and cameras)
- Select the de-warping mode
- Non-de-warped
- Single view

- Panorama (typically a double panorama, but some cameras only offer a single panorama view)
- Quad view (4 individual de-warped cameras that can be adjusted separately
- Camera mounting position control
- Lens selector
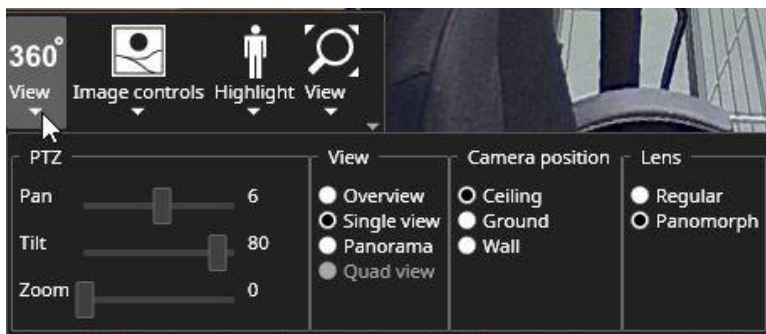
The de-warping plugin will attempt to choose the correct lens automatically. In case this fails for any reason, the lens selector control can be used.

The plugin will show a text notice, if it notices that the lens is not supported.

The 360-toolbar option is shown after the "360 camera" option has been selected in the System Manager application.

The 360 de-warping plugin can also be used with the EasyViewPlayer.

DIRECT CONTROL OF 360 CAMERAS

When 360 de-warping is in use, it is possible to click on top of the image and then move the mouse and use the mouse wheel to zoom. This will act as an ultra-fast virtual PTZ. When clicking again with the mouse, the control is released and the changes saved. The de-warp mode switches automatically to single view when the camera is clicked.

Sample view of a panorama de-warped camera:

LAYOUTS

Layouts contain all content settings of Viewing Client and are useful when the user has perfected a monitoring view and wants to save it for future use.

Layouts contain, for example, the following:

- Viewing Client window location and size (full-screen or normal)
- View component visibility settings
- Virtual camera settings
- Toolbar option settings such as image showing, 360 camera settings, VCA visualization settings and image control settings
- Camera tour settings
- Playback position, i.e., date and time
- Tab names and order
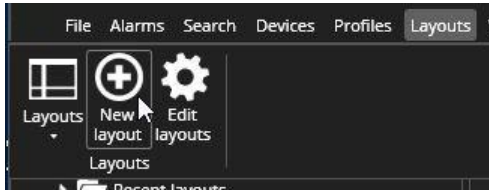- Plugin specific settings for example Agile Virtual Matrix (AVM) settings and content

Loading a layout is as simple as selecting it from the device tree.
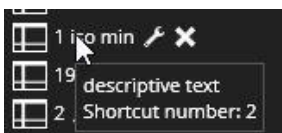
If the user positions the mouse on top of the layout, the tooltip will show the layout description.

New layouts can be saved with the keyboard shortcut Ctrl+M, or from the layout menu.

Layouts can be managed and edited by accessing the "Edit layouts" option, or by pressing the edit button from the device tree.

In the manage layouts view, the user can create layout folders and layouts. Pressing the layout folder button will create a folder and the new layout button will create a new layout. Pressing the button multiple times will create multiple folders and layouts. It is also possible to duplicate a layout to ease the editing of layouts.

If the user chooses an existing layout, also the delete option and the "Replace with current" -option are highlighted. Choosing to replace will overwrite the stored layout with the current settings that the user has configured in Viewing Client.

The user can enter a name and description for the new layout in the boxes on the left. Below these boxes there are the options to share the layout to other users and to specify the scheduling of the layout loading. The scheduled layout loading requires that the current user is logged in to Viewing Client at the time when the layout loading should happen.

Sharing of layouts allows other users to use the same layout or create their own versions of it. When the "Shared" check box is selected, other users who have access to the currently active profile will see the layout in their "shared layouts" list.

When the user shares a layout, the full folder path is shared as well, so the other users see not only the layout, but also the folder path that leads to it.

Loading the layout will change to the profile that was used when the layout was saved.

Both the folders and the layouts in the folders appear in alphabetical and numerical order, it is not possible for the user to order them differently. If the user wants to control the order of folders or layouts, we currently recommend naming them with a number prefix. This allows the user to control which order they are shown in, if the alphabetical ordering is not desirable.

Layouts can be dragged and dropped into different folders. This happens by pointing to a layout, pressing the left mouse button and then dragging the layout on top of a different folder name. Similarly, it is possible to drag and drop a folder inside a folder.

When using multiple Viewing Client windows logged in to multiple Master Servers simultaneously, the layouts only effect the windows that are logged into same master. The layouts are always Master Server -specific.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+L	Open layout menu (layout name selection can be changed with arrow keys, Esc closes menu without selecting layout).
Ctrl+ M	Takes the user to new layout saving.
Ctrl+Up	Load previous layout (same order as in the layout menu).
Ctrl+Down	Load next layout (same order as in the layout menu).

PLAYBACK CONTROLS AND ACTIVITY PANEL

The Viewing Client time slider is located at the bottom of the window. It can be in visible in two view modes, normal or small, or in a hidden state. In the Normal view mode, the camera activity, bookmarks and alarms are displayed in three separate layers.

In small state, the activity, bookmarks and alarms are displayed in single bar, with alarms on top of bookmarks and activity bars.

The user can cycle between the different view modes with keyboard shortcut Ctrl+Alt+T.

The time slider is available in two states: real-time and playback. If the time is in real-time, the playback indicator balloon is white.
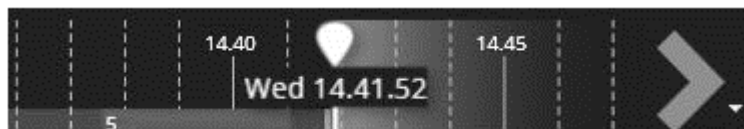
If the playback is not in real-time, the indicator is green. The exact time is visible in the box in the indicator.

The real-time view can be enabled by clicking on the "Now" button, or by dragging the slider all the way to the right (current time). It is also possible to go to current time from the date/time selector.

In real-time mode, the right end of the time slider does not show an arrow and the future time is shown in gray. In real-time mode, the play forward buttons are disabled.

When some cameras are open on the work area, the time slider shows a combined activity indication for the cameras with a highlight color. Using this information, the user can see which times have stored material from the currently selected cameras.

The small arrow can be used to open a time slider configuration dialog.

The dialog can be used to control the view mode, zoom level and the alarm and bookmark filtering settings. The time slider can be configured to only show certain alarms. The time slider zoom level can also be changed with mouse wheel. The time

slider can be moved by right mouse clicking on top of it and dragging it to the right or left. Left clicking on the time slider will move the playback position.
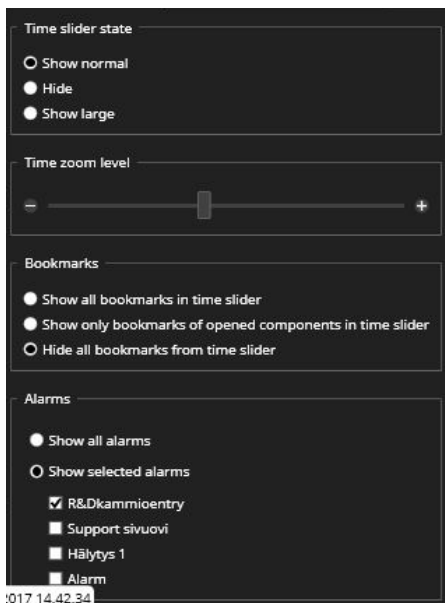
The user can change to playback mode by clicking on the time slider with the mouse. Other methods to move from real-time to playback are to use play backwards button or change the playback position using the date or time controls.

In playback mode, there is an arrow at both ends of the time slider and indication color for selector and frames around devices is green. Playback buttons are also indicated with a green highlight.

EXPORT MODE ACTIVITY PANEL

The export mode time slider playback position is not tied to the export start and end times, and there are buttons above the time slider for precise export time control.

In addition to this, there are icon buttons to add bookmark, start clip export, and the Storyboard.

An easy way to adjust the clip start and end times is to position the playback indicator to the desired spot and then using the "Set current time" buttons
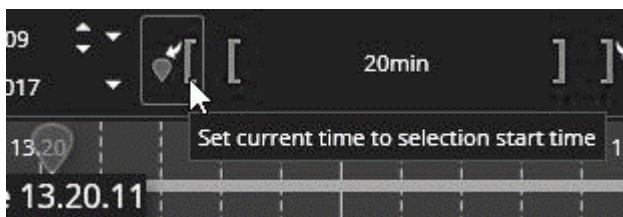
or
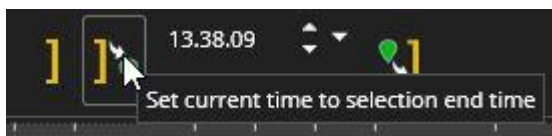
The clip start and end handles can also be adjusted with mouse drag or mouse wheel

or with the date and time fields in the export area.

The buttons at either end of the controls take the playback position to the already defined clip start or end time. They do not alter the clip start or end time.

The middle button shows the clip length and clicking it zooms the time slider so that the whole export clip is seen. Please note that the playback position is always remaining in the view; the time slider cannot be dragged or zoomed so that the green playback position disappears from view.

There is also a "Clear" button in the export camera area. This removes all cameras or devices from the export time slider.

The Esc-key press closes the time slider if it is in export mode.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F8	Move focus to time panel.
Ctrl+F8	Show/hide time panel.
Esc	Closes the export mode of time slider.
Ctrl+Alt+T	Cycles between the different view modes.

DATE AND TIME CONTROLS

The date and time controls show the selected date and time. The user can change the date by opening the calendar.

The buttons left and right of the date add or subtract one day from the currently shown day. It is also possible to click on the date box and enter the date manually.

The buttons left and right of the time add or subtract one hour. Just like with the date selector, it is possible to click on the time box and enter the time manually.

It is also possible to quickly set time with 10-minute accuracy using the pulldown menu.
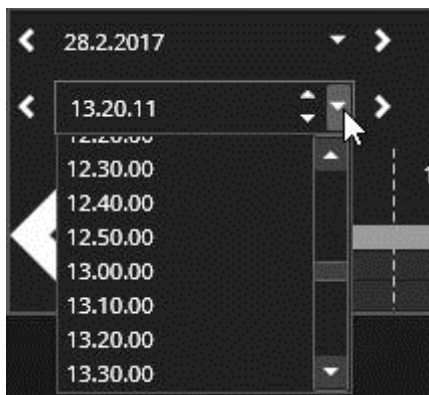
In large playback controls mode, underneath the Date and Time selectors there is a third option called "Activity". This option shows the detection of motion for the cameras that are open in the work area.

Activities before and after selected times are shown. If the user selects the arrow button on the left, then motion detection activities before the given time are shown, and if the user selects the button on the right, then activities after the given time are shown. This way the user can move between detected activities in the cameras that are on the work area.

Activities are shown for one or many cameras. The user can, for example, view activities for many cameras and if one camera is double-clicked to full-screen, then only activities for that single camera are displayed.

Activity panel visibility can be controlled from the view menu's "Activity" setting.
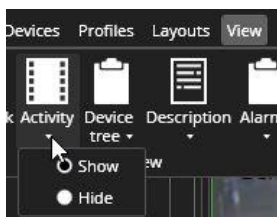
ALARMS IN ACTIVITY PANEL

Active and ended alarms can be shown in the activity panel. The default setting is off.

The settings can be adjusted from the time slider settings.

Based on the time slider zoom level, alarms that are close together are grouped together. Like bookmarks, these alarms can be accessed with mouseover and mouse right click menus.

Frequently Used Keyboard Shortcuts:

| Shortcut	Description
Ctrl+D	Date selection.
Ctrl+G	Time selection.
Ctrl+E	Activity selection.
Ctrl+Alt+Shift+Left	Set playback time -1 hour.
Ctrl+Alt+Shift+Right	Set playback time +1 hour.
Ctrl+Shif+Y	Set playback time +1 day.
Ctrl+Y	Set playback time -1 day.

PLAYBACK CONTROLS

With the playback buttons, the user can choose direction and speed of the playback. With each mouse click the speed can be increased (left click) or decreased (right click). The speed is indicated with a small number in the button.

Using the small arrow to the right of the playback panel, the user can configure which controls are displayed in the two available view modes for the playback panel.
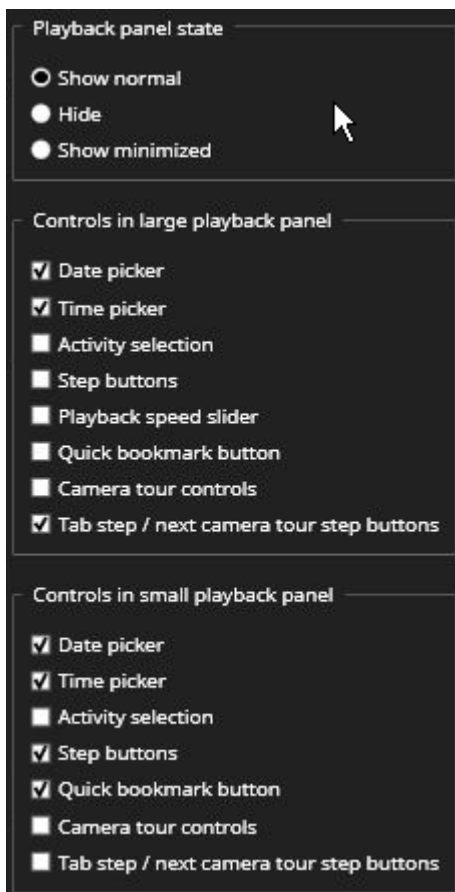
The user can cycle between different playback panel view modes with keyboard shortcut Ctrl+Alt+C. The only control that is not available in small view mode is the Speed slider.

Very low speeds 1fps, 0.1x, 1/8x, 1/4x and 1/2x are accessible only with the slider, or by clicking with mouse right button on the playback button to reduce the speed.

If the user wants to go to real-time mode, there is a "Go to current time" button.

Small mode flattens the playback controls to occupy a minimal amount of display space.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds. If in real time mode, switch to playback mode first, and set 1x speed.
Ctrl+Space	Pause playback.
Ctrl+Enter	Go to real-time.
Ctrl+Alt+C	Cycle between different view modes.

MIXED PLAYBACK MODE

The Mixed Playback Mode allows users to review playback on certain cameras while continuing to monitor real-time situation in other cameras, and do this all while staying in the same Viewing Client tab.

The mode is accessed by pressing the Ctrl key and then simply selecting cameras currently open on the Viewing Client screen with a mouse left click. The selected cameras will then be highlighted with a thick green border. The user can select multiple cameras by keeping the Ctrl key pressed and continuing to select other cameras. The selection is cancelled by clicking somewhere without keeping the Ctrl key pressed.
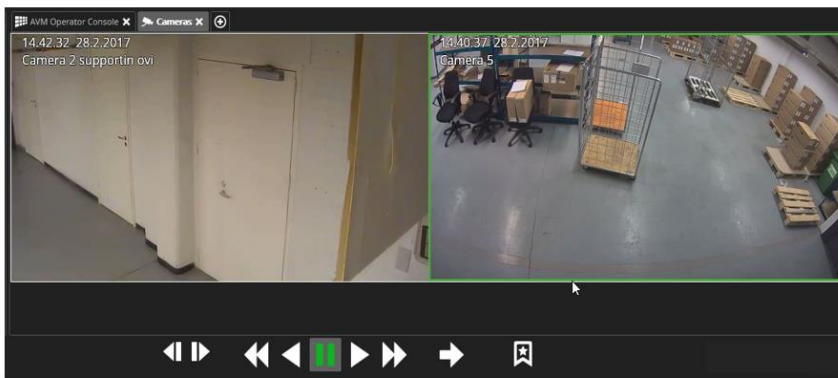
When some number of cameras are highlighted like this, they are in mixed playback mode. Other cameras that are not selected are always in real time. The cameras that are in mixed playback, can now be controlled with the time slider balloon, the playback controls, or for example a joystick jogwheel.

CAMERA TOUR CONTROLS

Camera tour controls can be configured to be seen in both normal and large view mode playback panel.
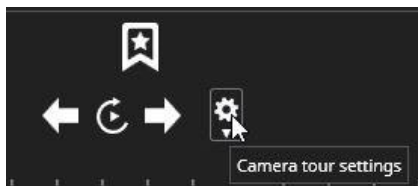
Control is enabled when there is more than one tab open in Viewing Client.

Settings is opened from the "Cogwheel" icon. There is a row for each tab. Special tabs like plugin tabs have disabled functionalities and are by default disabled.

Name	In use	Tour option	Tour time
AVM Operator Console	☐	Show cameras simultaneously ▼	Default time ▼
Cameras	☑	Show cameras simultaneously ▼	Default time ▼
Cameras	☑	Show cameras simultaneously ▼	Default time ▼

Default tour time: 10s ▼

☑ Run camera tour in maximized window state

After each tab, there is an option to enable or disable the tab. All tabs can be added to a tour if desired. There are two options for the Tour. The user can either show cameras simultaneously or show cameras one by one. If devices are shown one by one, it is possible to have a tour with just one tab.

The tour time can be selected at the last row individually, or the user can set a default time and define it at the lower left corner. On the lower left corner, there is also an option to run the camera tour in maximized window state. This checkbox is selected by default.

When the tour is running, it is indicated with a rotating orange arrow. The Camera borders are also highlighted in orange.

There is also a counter underneath the controls that counts the time set for each tour step. The user can also select the forward and backward arrows to move between tour steps. The tour is stopped, if the user selects another operation in Viewing Client. For example, the image or clip export stops tour.

Note: A camera tour can also be operated in the Agile Video Matrix (AVM) with the AVM Operator Console. In AVM, the counter is not displayed.

Frequently Used Keyboard Shortcuts:

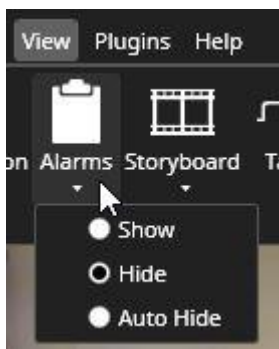| Shortcut	Description
F12	Toggle camera tour start and pause state.

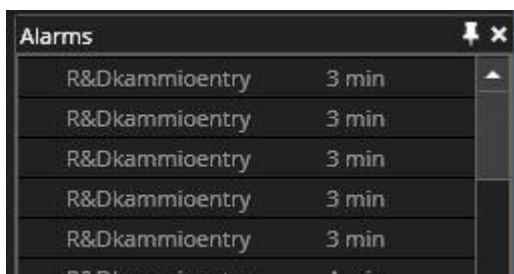| Ctrl + F12 | Steps to next camera tour view. |

ALARMS

ALARM LIST

In Viewing Client, each Viewing Client window can have its own alarm list. The alarm list visibility is controlled from the view menu.

The alarm window shows the name and the priority of each alarm.

Behind the alarm name there is a timer that shows, how long ago the alarm was started. The unit can be in seconds, minutes and hours.
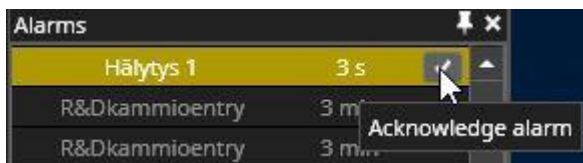
It is also possible to acknowledge alarms. For active alarms, there is an "Acknowledge alarm" button. The button is visible for all alarms during their duration. It is also possible to set this option active in the System Manager application's Alarm settings. In that case, the alarm is active until the user acknowledges it.

The maximum amount of alarms in the alarm window is 100. If the limit is exceeded, then the oldest inactive alarm is removed. Underneath the alarm window there is a pull-down window, with options to show all alarms (default) or only active alarms.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F5	Focuses to first alarm.
Ctrl+F5	Show / hide alarm window.
Enter	Opens the alarm in alarm view tab.
Space	Acknowledges the focused alarm.
Ctrl+Alt+A	Hide / show the alarm list.

ALARM FILTERING
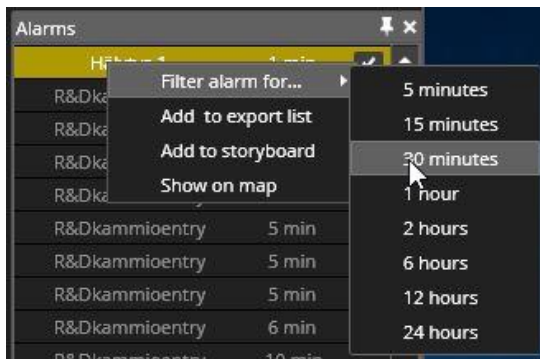
The alarm window has also the possibility to filter alarms. Filtering can be done by selecting an alarm and opening the right-click menu. The user can filter an alarm for 5, 15, or 30 minutes, or 1, 2, 6, 12 or 24 hours. During the filtering, the alarm is removed from the normal alarm list and new occurrences are not shown. The alarm sound and alarm pop-up are also disabled during filtering.

The maximum number of filtered alarms is 50.

The filtered alarms are moved to a filtered list underneath the alarm window. The filtered list can be in an open or closed state. Each filtered alarm has a counter that shows how much longer the alarm remains in the filtered state. There is also a button to remove alarm filtering. Filtered alarms can be unfiltered at any time. Although alarms are inactive in the filter window, they still show alarm state. If a filtered alarm is inactive, it is greyed out and when it is active, it has a white font. If there are no filtered alarms, the filtering window is not displayed underneath the alarm window. The filtering window is displayed in all Viewing Client windows, if it has also the alarms window open.

The alarm view can be opened for filtered alarms as well by a mouse double-click or drag and drop.

SIGNAL LOST ALARMS

It is also possible to show cameras that lose the video signal as alarms in Viewing Client window.

This is achieved by activating the setting "Show signal lost events within alarms" in Viewing Client Settings' alarms tab. In the same place, the user can choose from preformatted alarm sounds which sound is played when the signal lost event occurs.
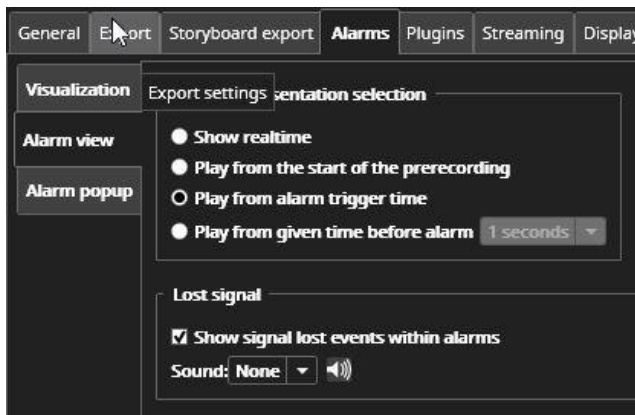
Signal lost events are shown in the alarm list, if the "Show" configuration is set to show them. By default, the signal lost alarms are not shown, so to get the feature working, the user has to open alarm list and select signal lost also from the configuration list.
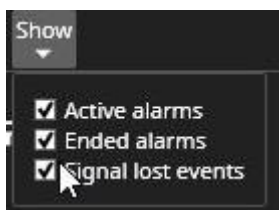
The setting is saved into layouts.

Even if the alarm list is hidden, if the "show" filter is configured to show the signal lost event, the sound file is played when the event happens.

If the alarm list is configured to show signal lost as alarm, it appears with the signal lost icon.

When the signal returns, the event is still visible, but now it is shown as ended (greyed out). The tooltip shows further information.
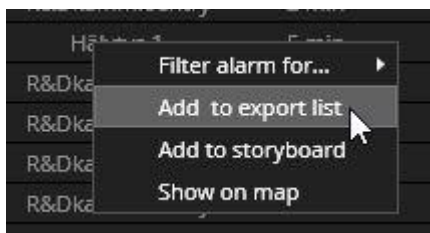
ALARM VIEW TAB
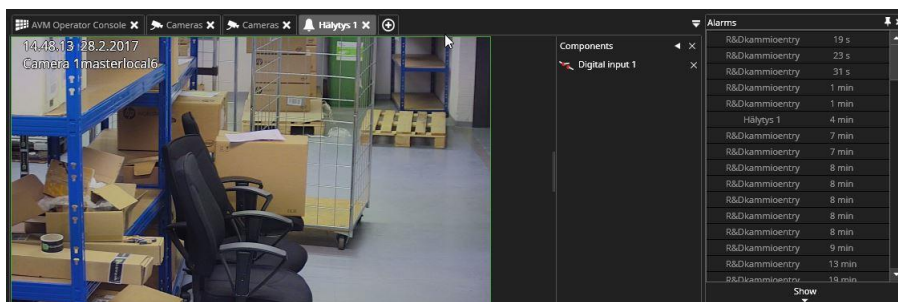
Alarm trigger and action views can be opened to an alarm tab. The user can define in Viewing Client alarm settings, how an alarm is opened in a tab. It is possible to open all alarms in the same tab, so that an old alarm is always replaced with a new one in the same tab, or it is possible to make a new tab for each alarm (maximum number of tabs is 50, so after the maximum has been reached, oldest ones are replaced with new alarms). There is also the possibility to set each alarm to appear in its own alarm tab, in its own Viewing Client window or in all Viewing Client windows.

Alarm Settings also define, from what point the alarm is opened. It can be opened in real-time view or playback view. Playback start can be start of alarm or start of alarm prerecording. There is also a timer that can be set, so that the alarm opens specified seconds before the alarm trigger start time.
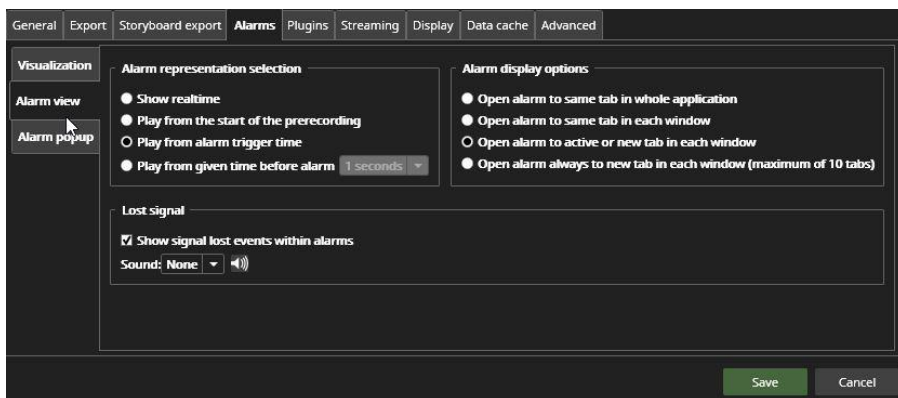
When an alarm is opened to the alarm view tab, the alarm name is visible in the tab and the tab is indicated with a special alarm icon, to differ from normal tabs. The tab icon is different when the alarm is active and when it is not active.
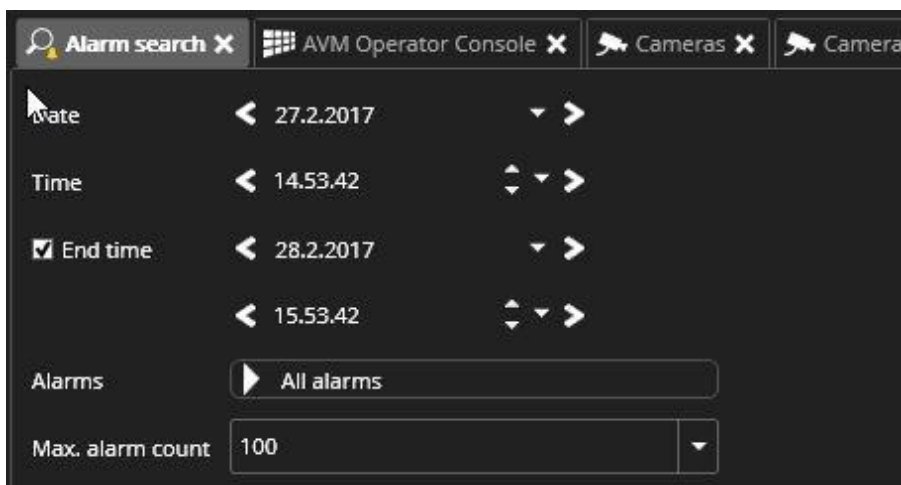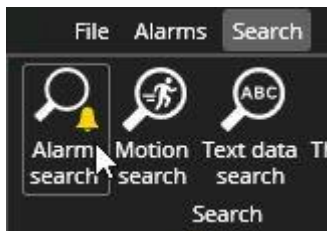
ALARM EXPORT

Alarms are exported by dragging the alarm from the alarm list or the alarm view to the export area. The alarm list has also an option in the single alarms right click menu to add an alarm to export area.

ALARM SEARCH

Alarm Search can be opened from "Search" menu.

The alarm search tab is a separate tab plugin. On the right side of the alarm search tab there are options to set the alarm search start time with Date and Time selections. Below the Time Settings there is an alarm pull down list. It contains all alarms that are included in the selected profile. The user can search for one alarm or several alarms. There is also an option to search for all alarms.

On the right side of the alarm search tab, there are buttons to start the actual search. There is a search backwards and search forward button with a clock icon. Search goes backwards or forward from the set time. Next to the search backwards and forward buttons there is also another button that searches for most recent alarms.

When a search is running, the pause button between the search backwards and search forward becomes active and the user can stop or pause the search. After alarm search time and date searches are changed so that the last found item becomes the new time. This way the user can repeat the same search further if necessary.

Alarm results are displayed in a list that shows the alarm name, alarm start time, duration and comment. The user can sort the list by clicking on the title fields.
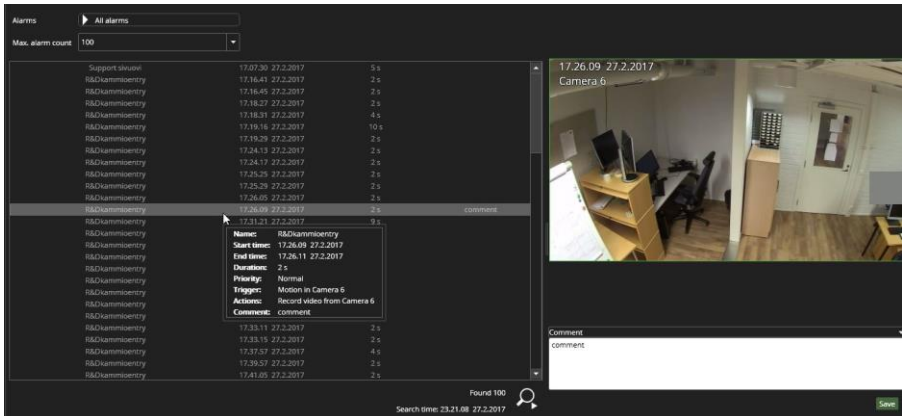
Selecting a single alarm shows detailed information of the alarm in a tooltip. When an alarm is selected, the cameras and other devices mapped to it are displayed in the alarm preview field to the right of the result list. The playback controls can be used to review results. Each click will refresh the contents on the right.

The tooltip shows the name, start time, end time, duration, priority, trigger, action and alarm description and alarm acknowledgements, if these are set to alarm, as well as the comment. Double-clicking on an alarm occurrence in the list, opens up the alarm in the alarm view tab.

COMMENTING ALARMS

Comments can be added to alarms in the alarm search view. The comment is displayed on a single line in the result list, as well as in a separate Comment field below the alarm component preview area.

Commenting is possible in two ways, it is possible to start writing the comment just after selecting the alarm from result list. In this case, the Enter key will save the comment.

Another way to add a comment is to first select a comment, then click with mouse in the comment field below the preview area, write the comment and then press "Save". This way it is possible to use the Enter key to enter newline characters.

ALARM POPUP

The alarm popup plugin can be used to alert a user when a new alarm is activated. The popup window can be a new tab or it can be placed in a camera grid cell. The popup can be opened from the Alarms-menu or from the device tree.
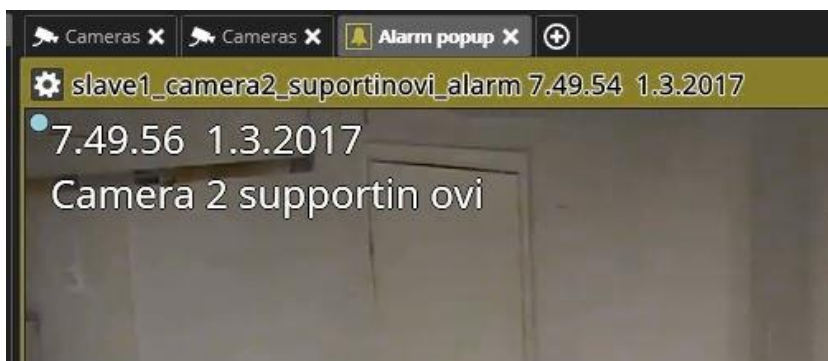
When the alarm popup tab is open, any new alarm components are automatically opened to it, and they remain there for as long as the alarm is active. The popup is by default highlighted with yellow color when an alarm is triggered. The alarm visualization colors can be customized in alarm settings. The colors can be changed separately for active alarms and ended alarms.
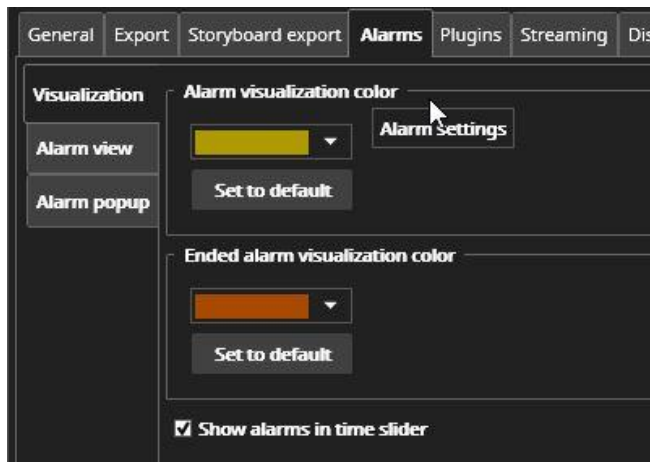
System administrators can also define custom color for each alarm in the System Manager application. For such alarms, there is no difference in the coloring between an ended alarm or an ongoing alarm. The custom color is reflected in time slider grouped alarms only if all alarms in the group are of the same color.

There are various settings for alarm popup behavior. The common settings for all popups are adjusted from Viewing Client Settings. The filter settings for individual popup tabs are adjusted from the popup tab settings.

The user can define whether the tab is automatically opened if it is not open, or whether the window containing the popup tab is brought to the foreground, if it is already not on the foreground. Also, the time how long the alarm devices are visible can be controlled.
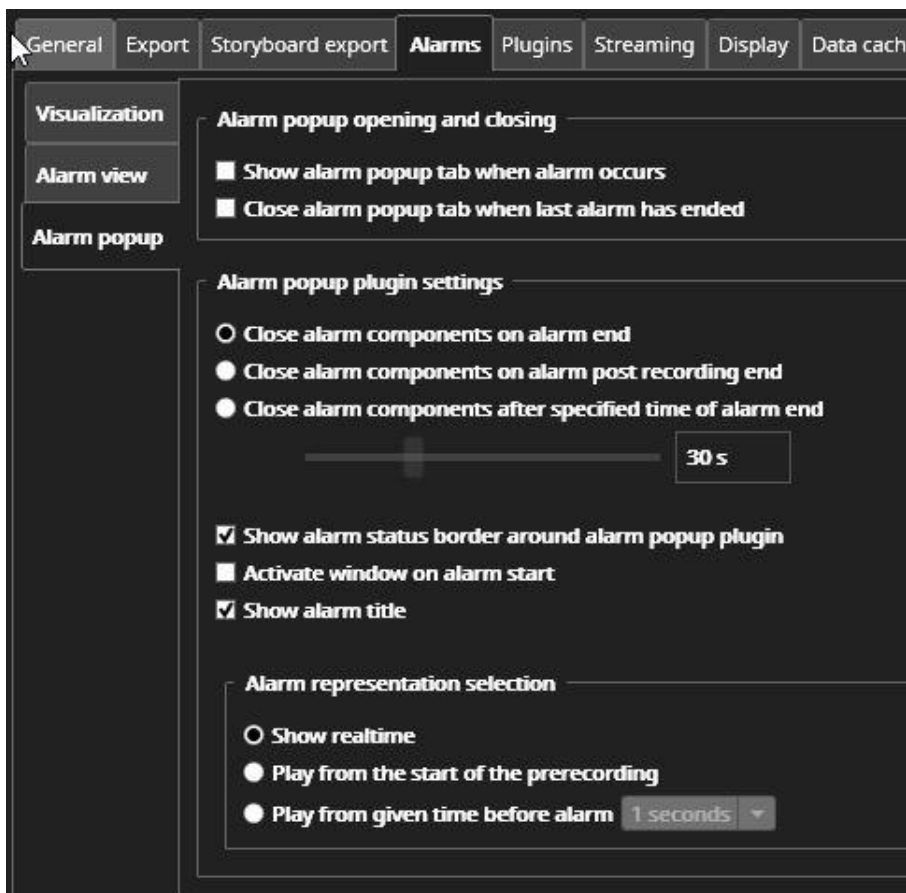
It is also possible to control showing of the alarm title and the alarm status border, and the time from which the alarm components start playing. The Alarm popup can also be used in the Agile Video Matrix (AVM).
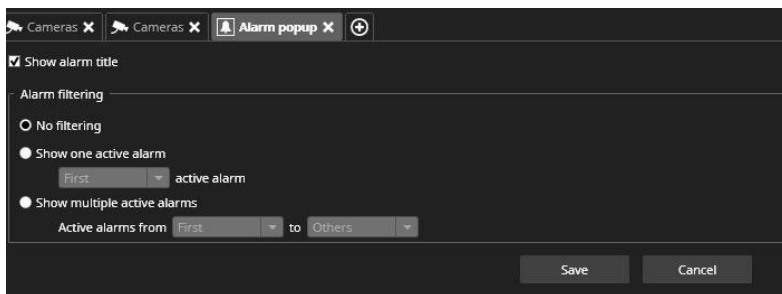
SHOWING THE ALARM NAME IN ALARM POPUP VIEW

The alarm name can be controlled from both Viewing Client settings (system default) and from alarm popup specific settings.

When the user is "administrator" or he has System Manager rights in the user group, then he can see the Alarm Popup setting view.
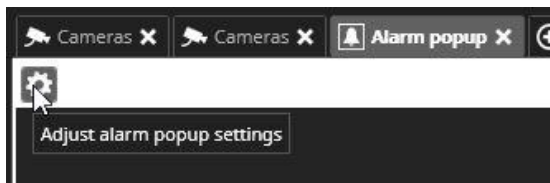
Clicking this will open the Alarm popup in setting view:

The visibility of the alarm title can be controlled here for this single instance of the Alarm popup. When activated, it displays the alarm name with the popup.

If there are multiple active alarms, their names are listed on top of each other.

USE OF MULTIPLE ALARM MONITORS

With the same Alarm popup settings as above, it is possible to configure the system to use multiple alarm monitors, so that only a single alarm (or multiple if so desired) is shown on each monitor.

The system can be configured, for example, to have 4 separate alarm monitors. Then alarm monitor number 1 will show the oldest alarm, monitor 2 shows the second oldest alarm and monitor 3 shows the third oldest alarm. Monitor 4 can for example be configured to show the rest of the alarms.

The configuration is done by defining which alarm the Alarm popup should show. For configuring alarm monitor 1, the first active alarm should be selected in the filtering.
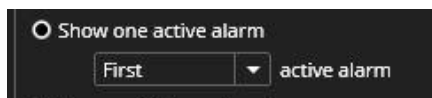
For the second and third, a new alarm popup should be opened and then the filtering adjusted accordingly. For the 4th and additional alarms, the setting should be changed like this:
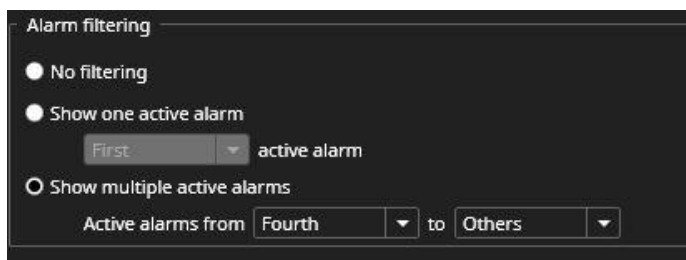
With these four alarm popup windows open and configured, the layout should be now saved.

When there are no active alarms, the alarm monitors display a clarification number so that users know which monitor is which.

When there is only one alarm active, it is displayed on the first monitor.
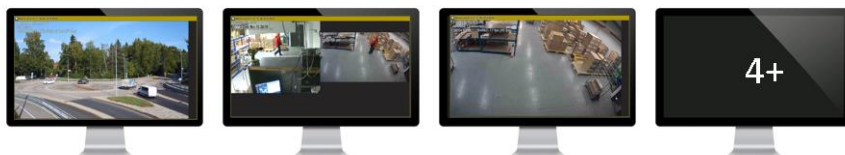
If there are two alarms active, the oldest is displayed on the first monitor, and the newer alarm opens on the second monitor.
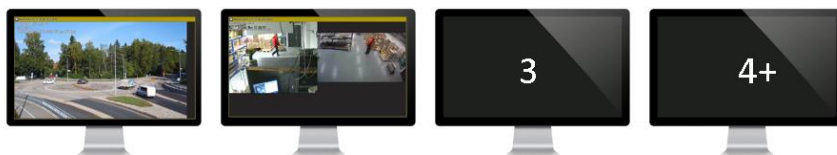
The third alarm on the third monitor.

When the oldest alarm ends, it will be closed from the first monitor (1), and the monitors will automatically refresh so that the alarm previously in monitor 2 is now in monitor 1, and so on.

If the alarm settings have been defined so that alarm components are kept open longer than the alarm duration, the move of alarms will happen only when the alarm components are closed. In this case, the alarm color in monitor 1 will change from the active alarm color to the ended alarm color.

The alarm popup filter setting is saved to layouts and saved tabs.

When using with AVM, it is recommended to create a camera tab, open the alarm popup to the camera tab, configure the filter and then save the tab with the appropriate name. The tab can then be opened to AVM using the AVM Operator Console.

It is also possible to configure the multiple alarm monitors to show the Alarm popup and Profile map side by side by configuring the Profile map to use similar filtering settings as the alarm popup.

ALARMS IN TIME SLIDER

Alarms can be displayed on the Time Slider. The default setting is off. The setting can be controlled from Activity panel configuration (small arrow in the right of activity panel).

The user can right click on the alarm bar on the time slider to display a shortcut menu to access the alarm.
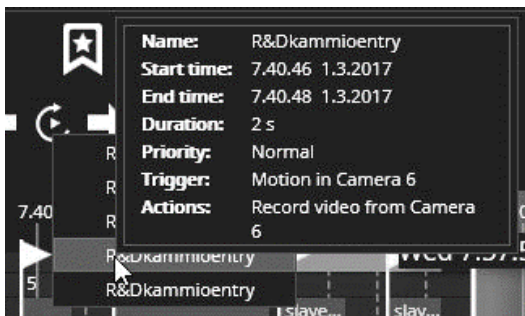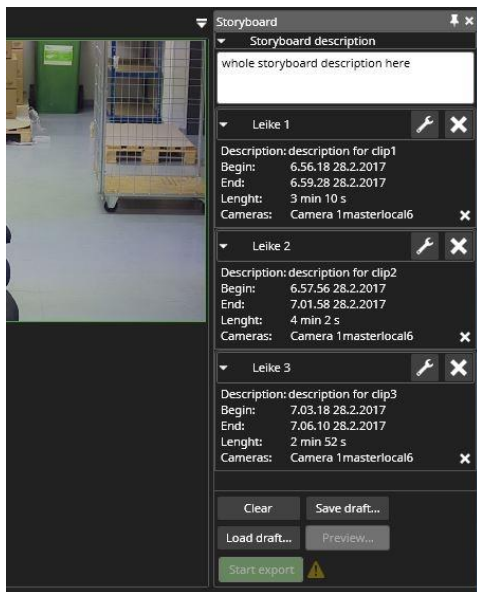

As the time slider is zoomed, the alarms are automatically grouped under a heading number that shows how many alarms are in each group.

STORYBOARD

An essential feature of any video management system is the ability to create authentic video export material for authorities such as the law enforcement authorities.

With Storyboard, it is possible to create a movie-like video export that makes it extremely easy for the recipient of the clip to view and understand instantly and accurately the chain of events.

Storyboards can be viewed with the regular Viewing Client application or the separate, standalone EasyViewPlayer executable that is also now exported as the default player for exported video.

Storyboard allows for example the following:

- Creating a movie-like viewing experience from surveillance video material.
- Maintains complete material authenticity.
- View material in the Storyboard in sequential playback mode or in an all-cameras real-time mode.
- Add clarifying comments and descriptions to activities.
- Viewer for control of displaying of comments as subtitles.
- Playback in continuous replay mode.
- Save drafts and share the Storyboard to other system users.

In addition to these, powerful features in the Viewing Client time slider make editing export clips very easy. These are explained in the Export Mode   section.

A single Storyboard can contain a maximum of 63 camera streams.

ADDING CLIPS TO STORYBOARD

A storyboard is constructed from individual clips. These clips can contain up to 8 cameras, but for the most "movie like" experience, it is preferable to use a single camera per clip.
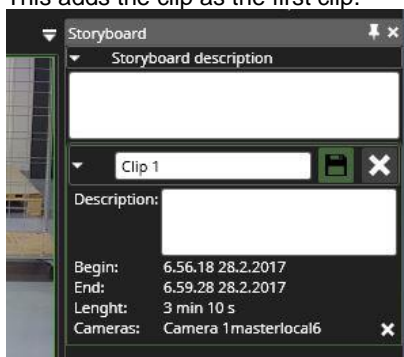
The recommended way to start storyboard creation is to find the camera and event that will be the first clip in the storyboard and adjust the first clip export start and end times normally with the export mode activity panel.
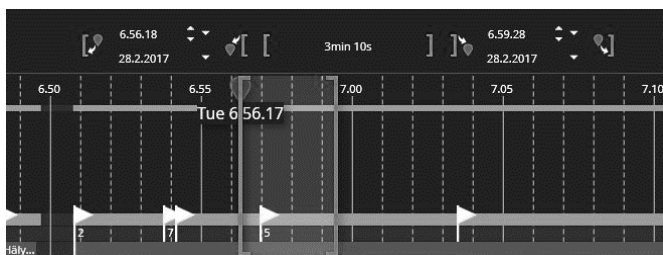
After this, add the clip to storyboard with the "Add clip to storyboard" button.

This adds the clip as the first clip.

The clip is still in edit mode (white text boxes and the "Save" icon). The clip name or description can be edited. Any change in the clip start or end times or camera content
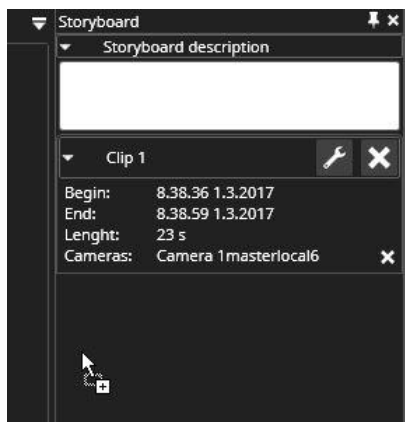
is also now still reflected to the clip contents. If no editing is needed, press the "Save" button.


Now the clip is saved (texts change to non-white) and the next clip can be added to the storyboard.
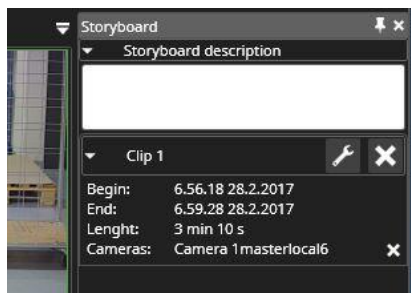

The most convenient way to add the next clip is to find the camera, open it to the work area, and then drag it below the first clip in the storyboard.

This will set the next clip start time to match the end time of the previous clip, and copy the clip duration. The clip opens in edit mode and the start and end times can be fine-tuned.
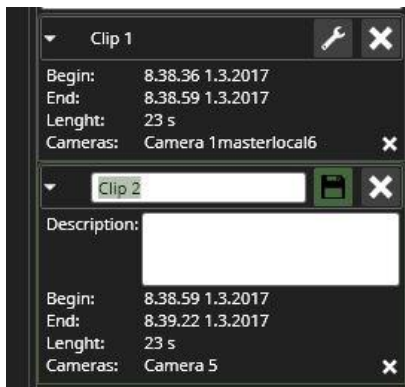
The clips are highlighted in the activity panel. Note that it is all right if the clips overlap.
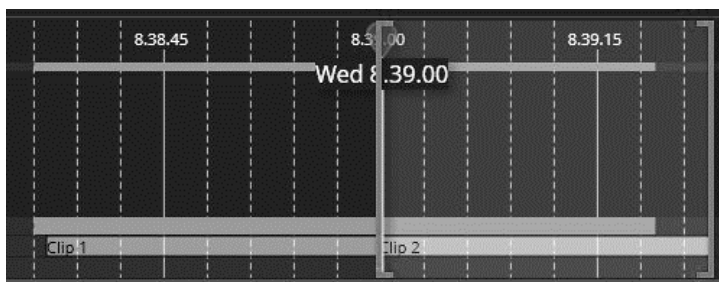
This same process can be repeated to add more clips to the storyboard. When it becomes difficult to drop a new camera to the list, the recommended way is to drop the new camera to the scroll bar. This will add the camera as the last clip. If a camera is dropped on top of an existing clip in the storyboard list, it will be added into that clip as an extra camera.

There are other ways to add content to the storyboard:

- With the camera toolbar export control.
- By drag and drop from different search result screens and from the device tree.
- With a right click option from the alarm list.

EDITING CLIPS IN STORYBOARD

Clips appear in the storyboard always in time order, ordered by the start time of the clip. A clip can be opened for editing later by pressing the "Edit" button.
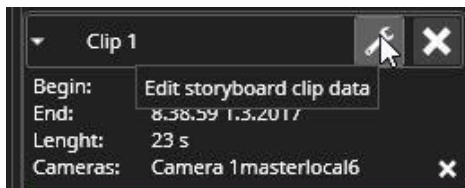
When a clip is opened for editing:

- Any other clips in edit mode are automatically saved.
- The name and description are editable and change to white to indicate this.
- The export time slider is populated with the devices from the clip.
- The start and end times are editable and can be adjusted.
- Devices can be added to the export time slider and saving the clip will add them to the storyboard.

It should be also noted that if someone has created a bookmark for the clip time that is not already in the clip, editing the clip and saving the clip will add the bookmark to the storyboard.

If the start time of a clip is adjusted so that it is now earlier than before and before another clip, the clips are rearranged in the storyboard list automatically.

The start and end times of the clips can overlap. The start time of a later clip can be earlier than the end time of the previous clip. The user has several options for playback, but in the default setting the clips are played sequentially, first one to the end before the next one starts, even if the clip times overlap. The overlapping times are indicated in the time slider by slight difference in the color of the clips where they overlap.
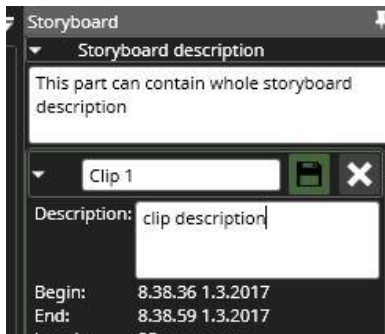

Please note that if the storyboard is long, the clips can be minimized with the click of the clip title.

DESCRIPTIONS AND COMMENTS

The storyboard has several types of descriptions:

- Whole storyboard description
- Individual clip descriptions
- Bookmarks

The descriptions are shown to viewers of the storyboard as subtitles. The timing of showing the descriptions is based on the start time of the clip or bookmark.

Description texts are also exported in HTML text format to the target folder for further use for the target audience.

PREVIEW

During the construction of a storyboard, it is possible to preview the storyboard by pressing the "Preview" button. This opens a new Viewing Client window where the draft storyboard can be previewed. After previewing, it is recommended to close the window and make any desired adjustments to the storyboard in the original Viewing Client window.
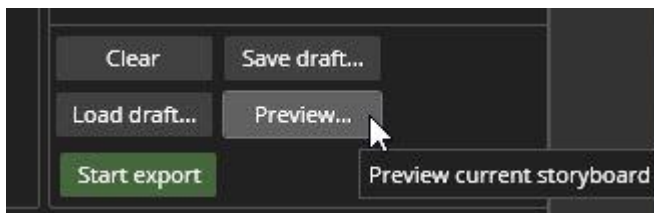
Preview opens in a special Viewing Client window, first to full screen, but the window can also be resized.

DRAFTS AND SHARING

It is possible to save storyboard drafts by pressing the "Save draft…" button.

This will open a dialog where user can enter a name for the draft storyboard. If there are lot of users interested in draft storyboards, it is recommended to save the storyboard to a common location, such as a network drive. Then the draft storyboards can be opened by anyone who has access to the same profile that was used to generate the storyboard draft. The location can be defined in settings.

The "Load draft" button can be used to load a draft storyboard. Please note that closing the Viewing Client window or exiting Viewing Client will clear any unfinished and unsaved storyboard contents.

SETTINGS

Settings for storyboard are described in Storyboard Settings.

EXPORTING STORYBOARDS
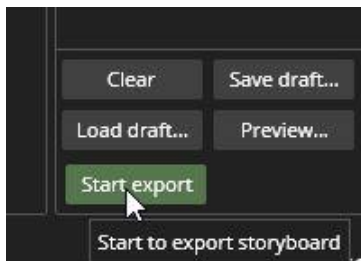
When the storyboard is ready to be exported, the user can press the "Start export" button. This will open a dialog where the location and name can be adjusted. If no information is given, a default location and default name will be used. Please note that large storyboards can take some time to export.

It is of course also possible to export the individual video clips from the time slider button.

The EasyViewPlayer application will be also exported to the target folder, if it is not already there.

In addition to the media, an HTML text attachment with summary and details of the storyboard is also exported to the target folder.

VIEWING STORYBOARDS

A storyboard can be viewed with Viewing Client or with the EasyViewPlayer. Media can be opened by pressing the F4 key or by "Open media" from the File menu, or by double-clicking the storyboard file in the file system.
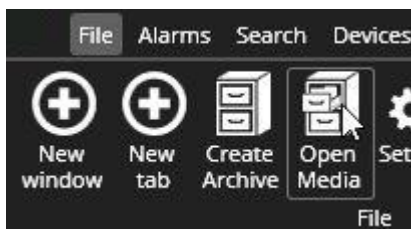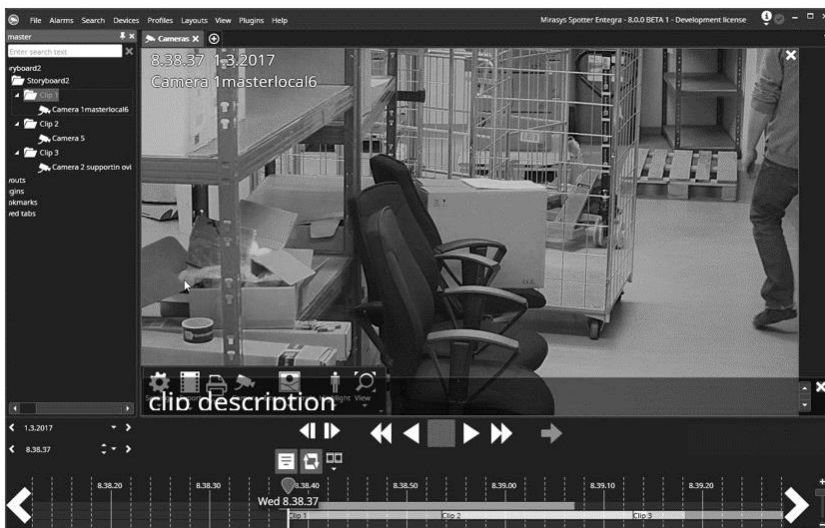

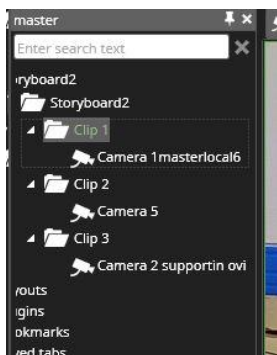Then the storyboard can be opened from the file selection dialog
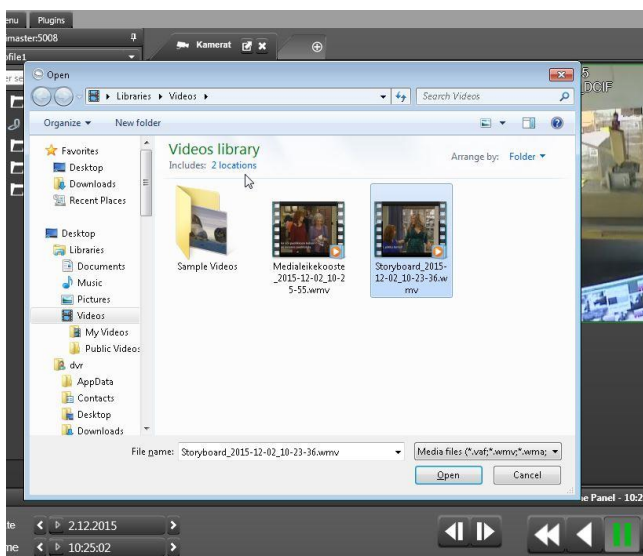
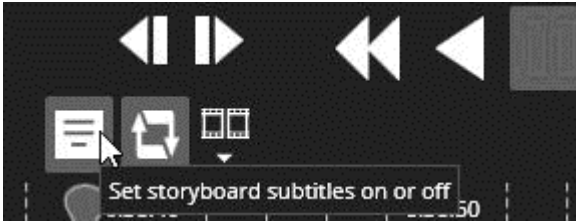Media opens in "Media view" mode with a green window title.

The clip will by default open with the comment subtitles on, and the player in "Repeat" mode. The individual clips are seen in the device tree area.

The repeat and subtitle settings as well as the play time settings can be changed from the buttons next to the playback controls.

OTHER VIEWING MODES

The sequential mode is the default playback mode. It plays the clips in time order, ordered by the start time of the clip. It plays each clip completely before moving to the next, so the time can jump backwards in this mode.

The user can switch the playback mode any time. If he switches to "Playback all" mode, all cameras in the storyboard are opened. Note that when the user starts to play in this mode, the time does not jump backward when clips overlap, but the storyboard is played in real time.
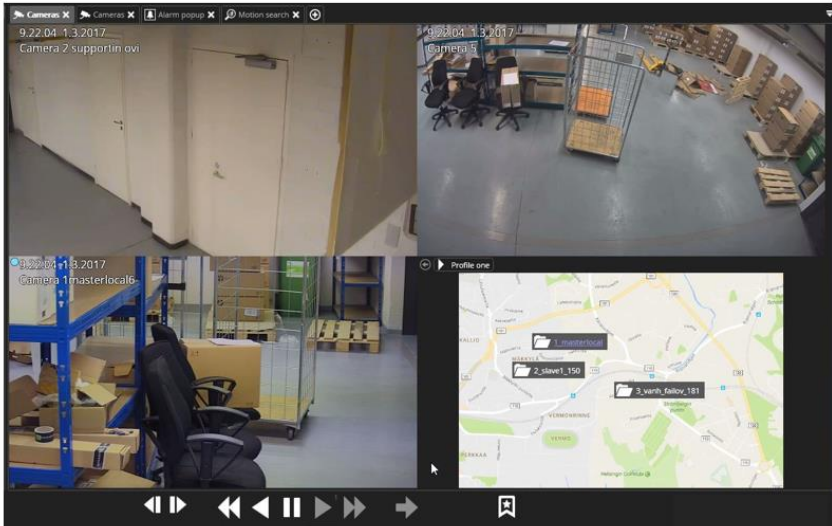
In the manual mode, no camera is opened or closed automatically, and the user can choose which camera to open from the device tree.
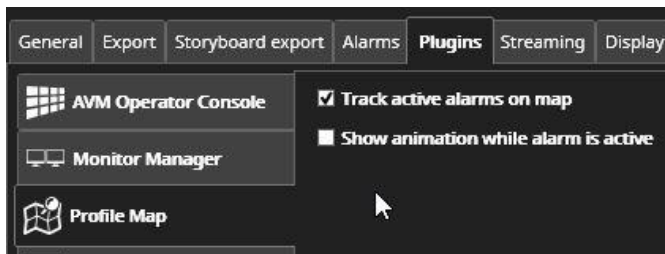
PROFILE MAPS
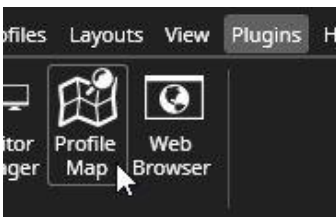
If the selected profile has a map defined, the Profile map plugin can be used to show the map and the devices in it. The map can be a separate tab or it can be embedded in a camera grid cell.

The map can include the following devices: Camera folders, Cameras, Audio, Inputs, Outputs, Text data.

The devices on the map show status information the same way as in the profile tree. Alarms of all priority are highlighted. Double-clicking the device on a map, opens it to a new tab. If a map is open and the user double-clicks an item in the profile tree, then it is highlighted on the map. The device tree has also a "Show on map" option for each device in the right-click menu.

The Profile Maps plugin can react to an alarm by switching the view to show the map view where a trigger for the alarm has come from. This setting is controlled from Profile Maps settings.

There is also a setting for turning the alarm "pulse" animation on or off.

Profile maps has same kind of alarm filtering settings as the Alarm popup, so that in the multiple alarm monitor case it can be set to filter a certain number of active alarms for the map position reaction.

MOTION SEARCH
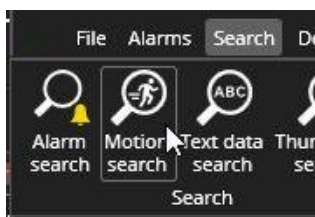
With the Viewing Client Motion Search plugin, the user can open a new tab and select Motion search. A camera can be selected by double-clicking a camera in the device tree or by dragging and dropping it to the Motion search tab. Motion search works only if camera playback is allowed.
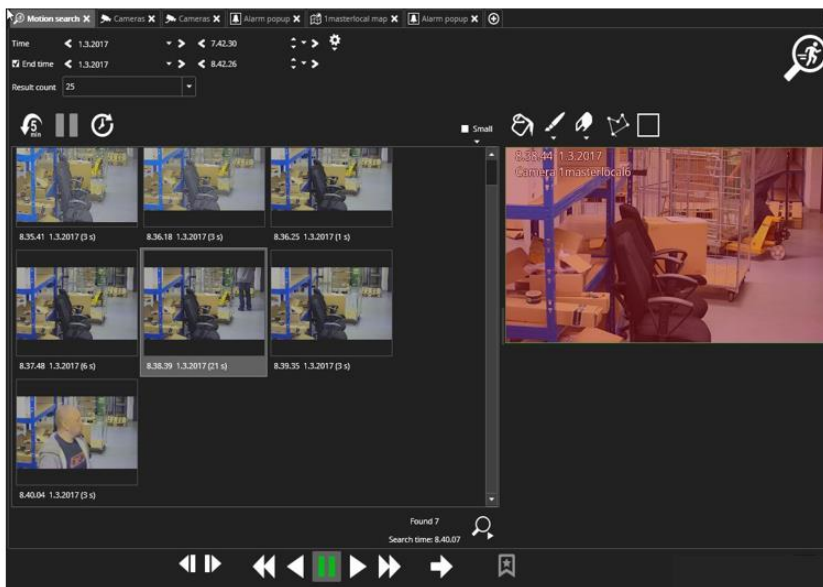
The search results can be clicked and the camera area on the right will be updated to show the image. The playback controls can be then used to review the event. It is possible to play all results in sequence. The playback will jump to the next result at the end of the previous one.

The search settings can be adjusted with the "Settings" button.
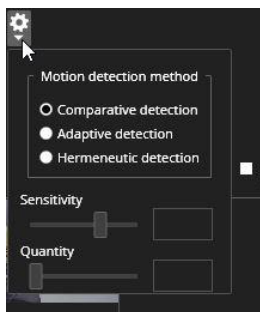
Comparative detection:	For stable indoor conditions
Adaptive detection:	For outdoor conditions with changing light levels
Hermeneutic detection:	A sophisticated method for environments with image "noise" (such as heavy weather). Requires more system resources than other methods.

If the user wants to search for more results there is a "Search more" button on the lower right corner. Search continues from the time of the last found item.

THUMBNAIL SEARCH

Thumbnail search gives the user a very quick way to visually inspect camera material. It is mainly meant for scenarios where some visual change in the camera view can be noticed, and the user wants quickly to find the time when this change has happened.

When Thumbnail search is started, it fetches thumbnails from stored video and displays them on the results view. The thumbnails are fetched based on the start and end time and selected number of thumbnails. The default setting is 4 thumbnails, so whenever a thumbnail search step is done, four thumbnails are presented.
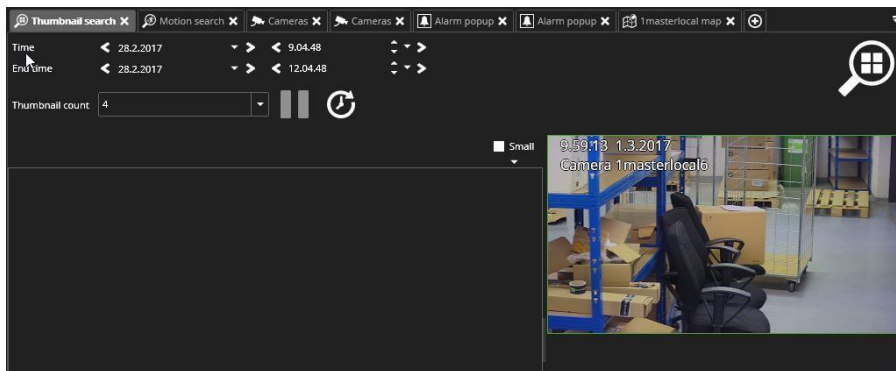
In effect, the search timespan is split into four parts and the thumbnails fetched from these times. If no video is available at the targeted thumbnail retrieval timepoint, the plugin will search time forward until it gets a thumbnail or hits the next targeted thumbnail retrieval timepoint.

In the example below we can see that a trolley has changed place in the warehouse sometime during the day.
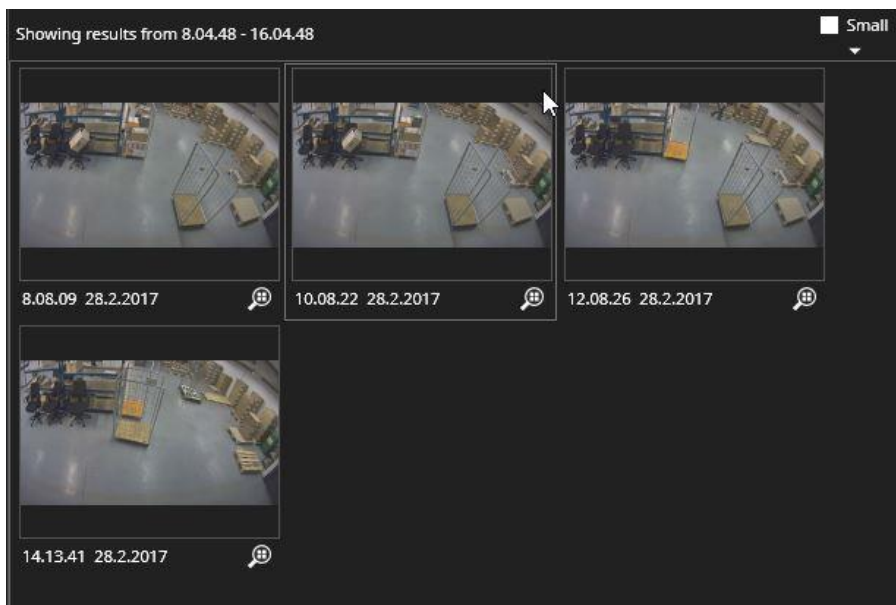
We can see from the timestamps that the change has happened between 12:08 and 14:13. By clicking the third result thumbnail, we can repeat the search for this time period.

After double-clicking the third thumbnail, the next results screen shows again 4 thumbnails. From these we can see that at 13:46 the trolley was still at the original place. We can therefore click the fourth thumbnail and press play to find the time when the event happened.

Now in the camera view we can find that the event took place at 13:47.
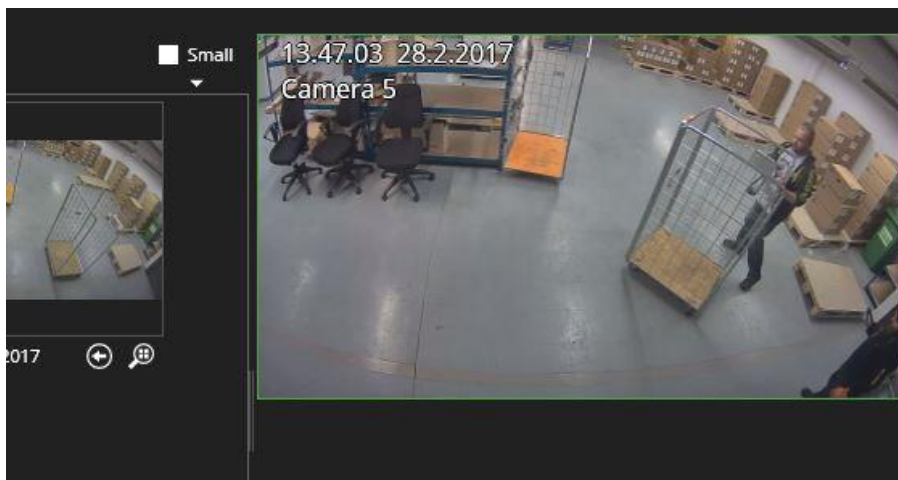
The user can return to previous level of thumbnail results with the return arrow.
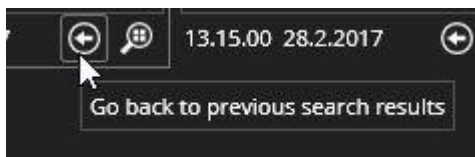
CAMERA CAROUSEL
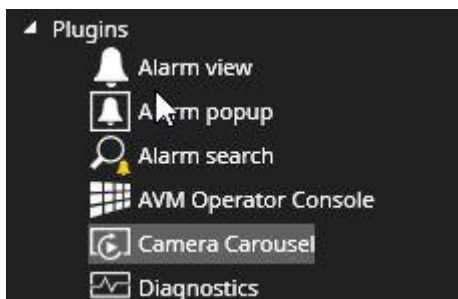
The Camera Carousel plugin allows users to create a lightweight camera tour on a single Viewing Client tab camera cell. Begin to use it by selecting the desired camera grid and then dragging the plugin to the cell from the device tree.
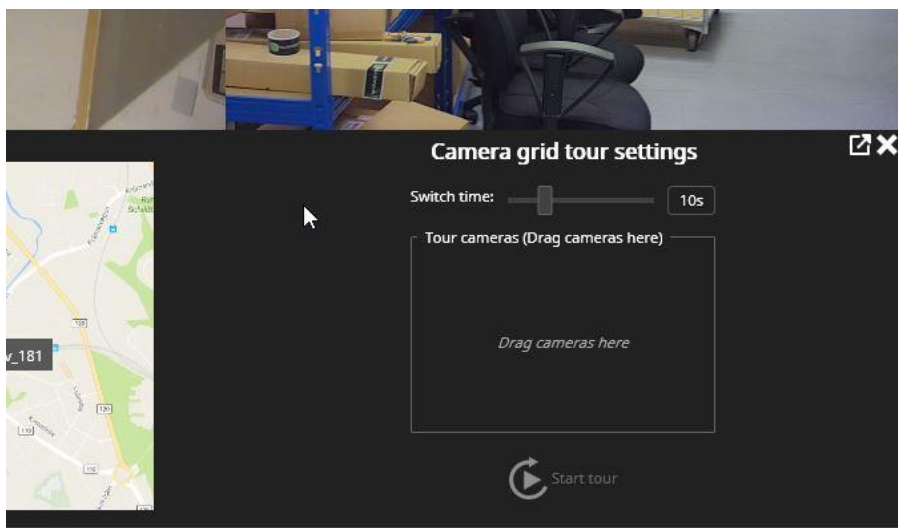
The plugin opens in edit mode and cameras can be added into it.
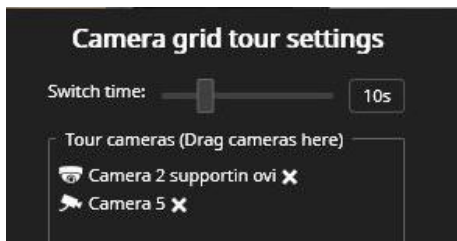
When the carousel is running, the camera grid cell is indicated with an orange border.

The grid can be also used in stopped state. The camera toolbar appears when mouse is taken on top of the carousel and the buttons can be used to select cameras in the carousel.
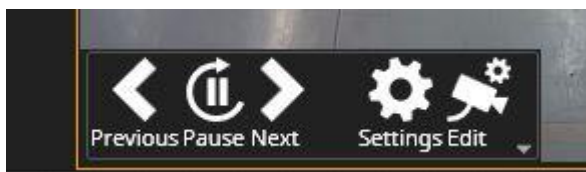
The user can now drag and drop desired cameras into the carousel, adjust the cycle time and hit start to start the tour. When the tour is running, the grid cell is highlighted with orange to indicate that the tour is on and the cell is a camera carousel cell.

The carousel can be paused and cameras cycled forward and back with the controls that appear if mouse is taken on top of the image.

The settings option allows to add more cameras, remove cameras or adjust the time.

Pressing the "Edit mode" takes the user into a mode where individual camera settings can be modified. Taking the mouse on top of a camera image in Edit mode displays the camera toolbar. Here the user can edit for example zoom, 360 de-warping, or VCA settings.

SETTINGS
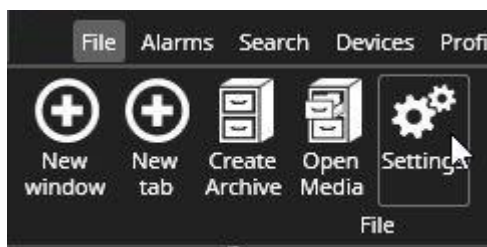
GENERAL SETTINGS
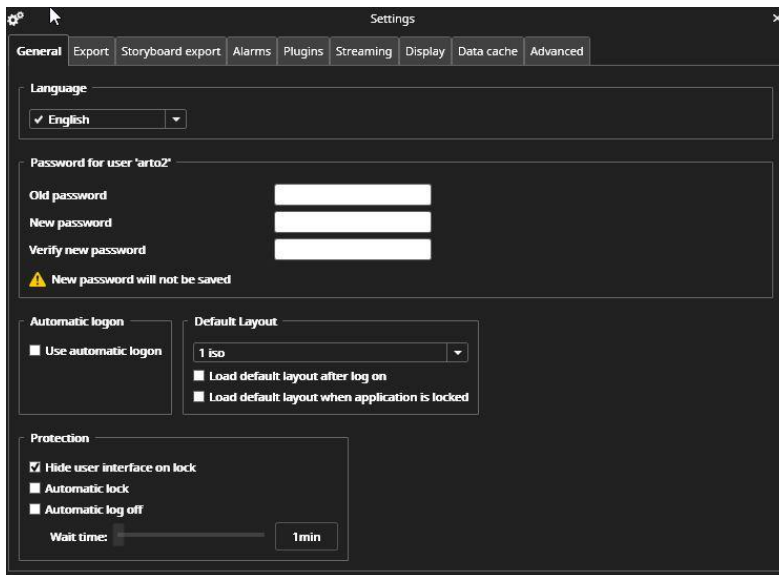
The first tab in the settings menu allows users to change their password and change the language of the user interface.

The protection settings control how the user interface is locked.
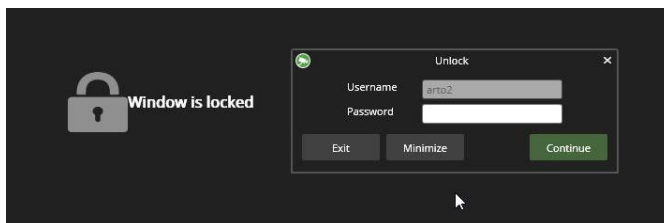
Turning on the "Hide user interface on lock" means that when the user interface locks automatically or the user manually locks the user interface, the whole interface turns grey and no cameras can be seen.

If "Automatic logon" is checked, the user does not need to re-enter their credentials (username and password) when starting to use the application.

The default layout can be selected in the General settings section. The two options for the layout are:

1. Load this layout immediately after the user has logged in
2. Load this layout immediately after the user is locked

This setting can be used to guarantee that a certain "general" view is always active when the workstation is not in use.

EXPORT SETTINGS
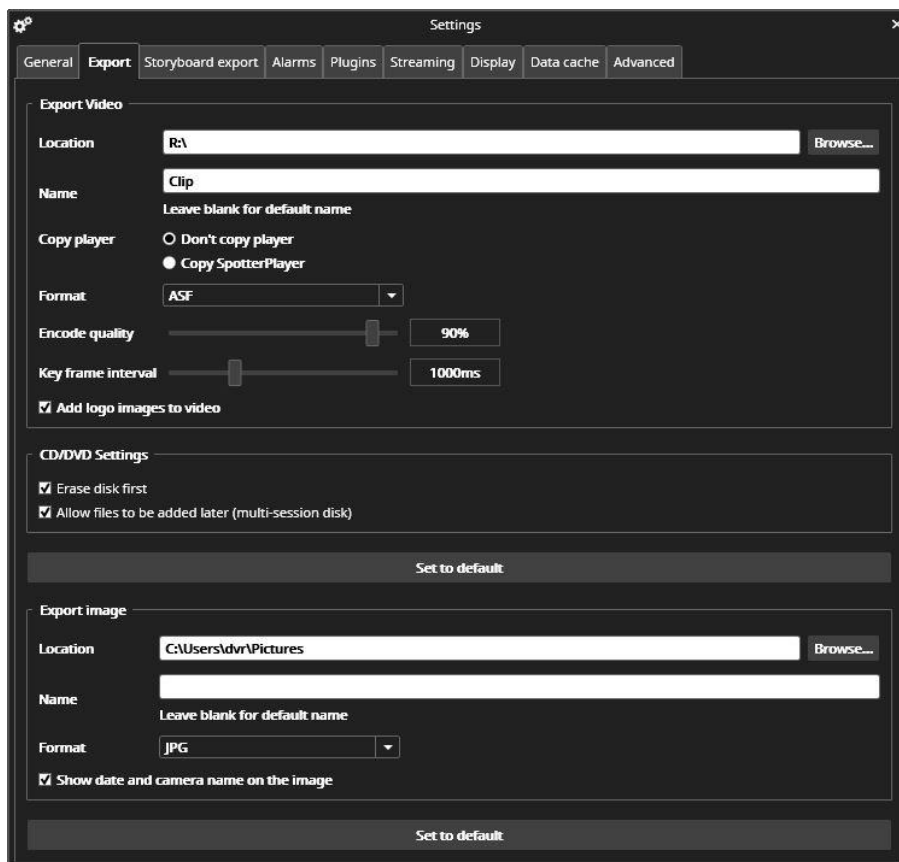
The data export screen has settings where the exported video clips and images are saved and how they are named. Also, the format can be chosen here, and if logos are added to the clip when exporting.

STORYBOARD SETTINGS
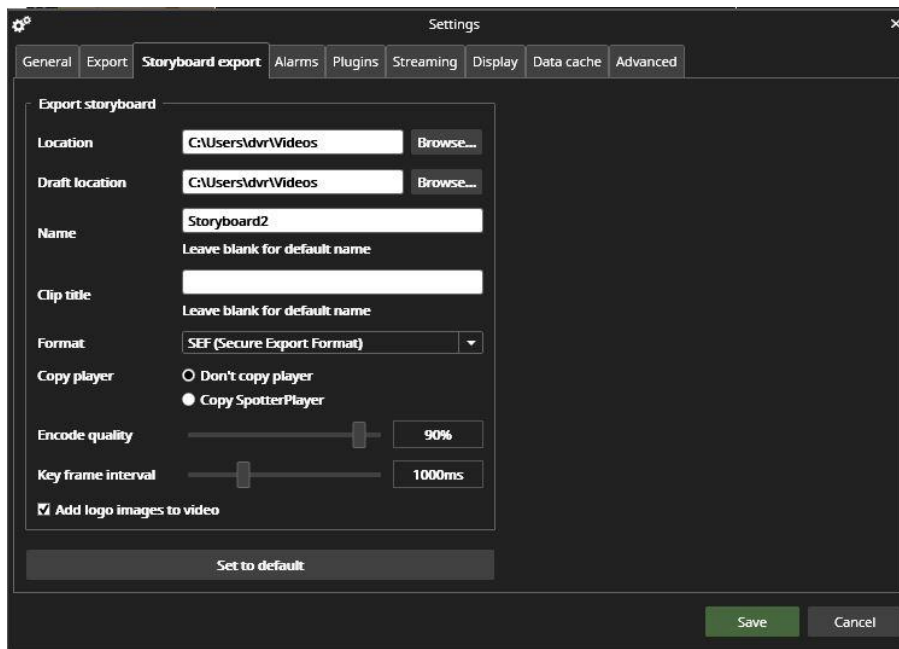
Storyboard settings contain the export target location, and the target location for the draft storyboards. The name of storyboard and the clips can be defined here. If the names are left blank, a default name with a timestamp is used.

ALARM SETTINGS

The alarm tab in settings is split for the Alarm visualization, Alarm view and Alarm popup sections.

Alarm visualization allows to select the alarm highlight color for active and ended alarms.
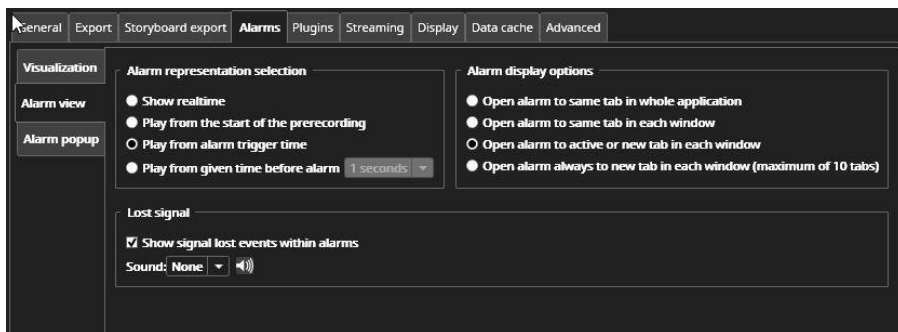
The Alarm representation selection defines what time the alarm is being played when it is opened from the alarm list. The possibilities are:

- From real-time
- From start of the alarm pre-recording time
- From alarm trigger time (default option)
- From a freely selectable time (1- 60 seconds) before the alarm triggers

It is also possible to define how the alarm is opened. The possibilities are:

- Each alarm opens to same tab in all of Viewing Client, in all windows
- Each alarm opens to same tab in single Viewing Client window
- Each alarm opens to active alarm tab
- Each alarm opens to a new tab. (allows to view multiple alarms simultaneously in own tabs)
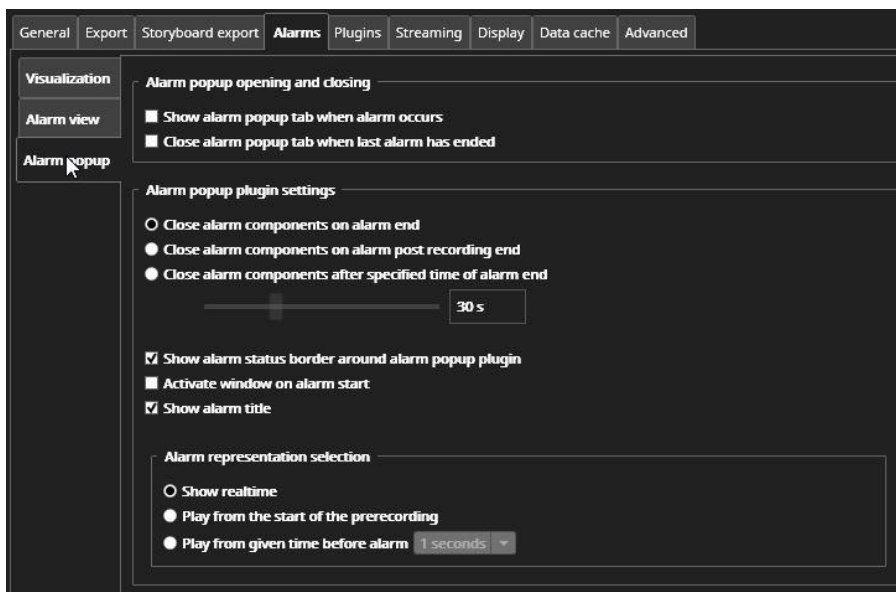
Alarm popup settings define how the Alarm popup view opens and closes. The default setting is that the Alarm popup is not opened and closed automatically, if it is not open.

If the user wants that the Alarm popup is not open normally, and only opens when an alarm happens, then he should select the first checkbox.

If the user wants that the Alarm popup also is closed automatically after the last active alarm ends, then he should check the second checkbox.

The second part of the Alarm popup settings defines how long the alarm components are displayed in the popup tab. The possibilities are:

- Alarm components are closed when the alarm ends (default option)
- Alarm components are closed when post recording time ends
- Alarm components are closed after a specified time has passed after alarm end (5 seconds – 30 minutes)

Furthermore, it is possible to control if the Alarm popup is highlighted with alarm status border, and if the window that has the Alarm popup is brought to foreground if it is hidden.

It is also possible to control if the Alarm popup shows the name of alarm.

Additionally, it is possible to define from what time the Alarm popup will start playing the material.

PLUGIN SPECIFIC SETTINGS

This setting view contains all settings for the installed Viewing Client plugins not specified elsewhere. The settings visible here can be different based on what Viewing Client plugins are installed.

The AVM Operator Console specific settings are explained elsewhere in this guide.

The Web Browser plugin has settings for

- Setting the home page where the plugin will go when it is opened.
- Permissions and visibility of controls for controlling if the user can navigate, refresh, go back to home page and edit the URL.
- Selecting the version of Internet Explorer that is used.

VCA visualization settings allow user to change the color of the VCA highlight and the movement trail, the movement trail length in seconds and the line thickness.

The VCA zone color can be adjusted independently from the VCA highlight color.

STREAMING SETTINGS
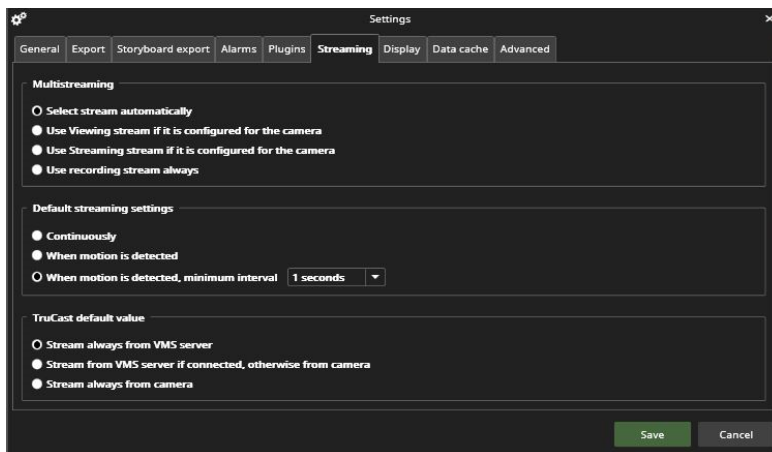
The streaming settings allow to change the default values for three areas of streaming.

- Which stream from camera is used for live viewing.
- Whether the live view stream is directly from the camera (TruCast) or from the VMS Server.
- Does Viewing Client draw all images always, or only based on detected motion.

The TruCast and default image drawing settings can also be adjusted individually per camera from the camera toolbar menu.

These settings will override any settings up until now done for cameras. However, after changing these settings, it is possible to customize individual cameras to use different settings, and these are memorized per camera.

The use of setting "Automatic" in the multi-streaming settings means that Viewing Client will choose the stream which resolution most closely matches the area that the camera has on the device grid.

DISPLAY SETTINGS

The display settings control if the camera name and timestamp are shown on all the cameras.
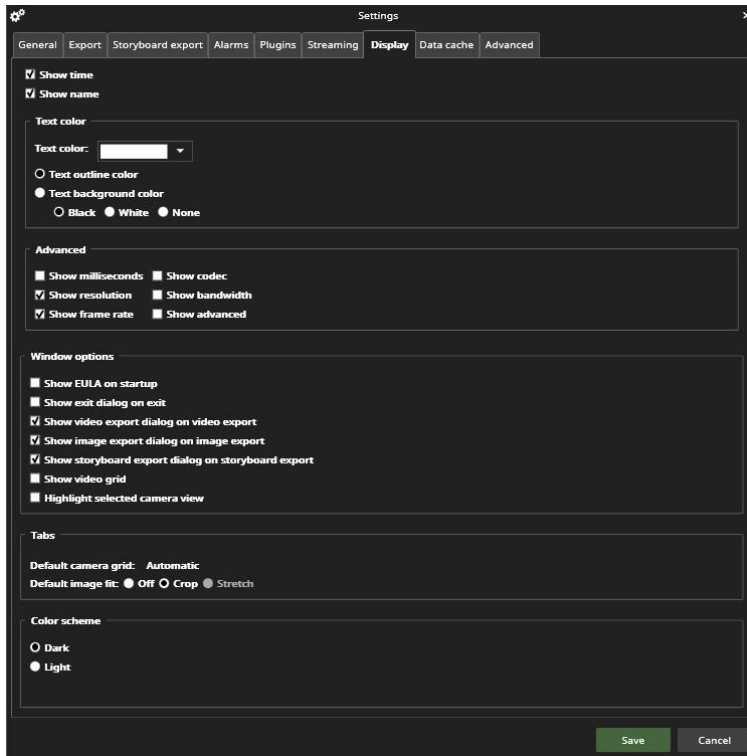
Also, the color of the text and the outline can be adjusted separately.

The color can be adjusted for individual cameras from the camera toolbar.

Here it is also possible to activate the advanced information display such as codec, bandwidth used, framerate, and buffering status.

Activating the advanced display settings displays information on the video buffering performance. This information is meaningful only if the video buffering (see advanced settings tab in Viewing Client settings) is set on, and only for live video (not for playback).

Tab settings control what is the default camera grid for new device tabs, and what is the default image fit setting. "Crop" is set as default.

The last setting controls whether the color scheme is dark (default) or light. This setting is not available in all product variants.

DATA CACHE SETTINGS
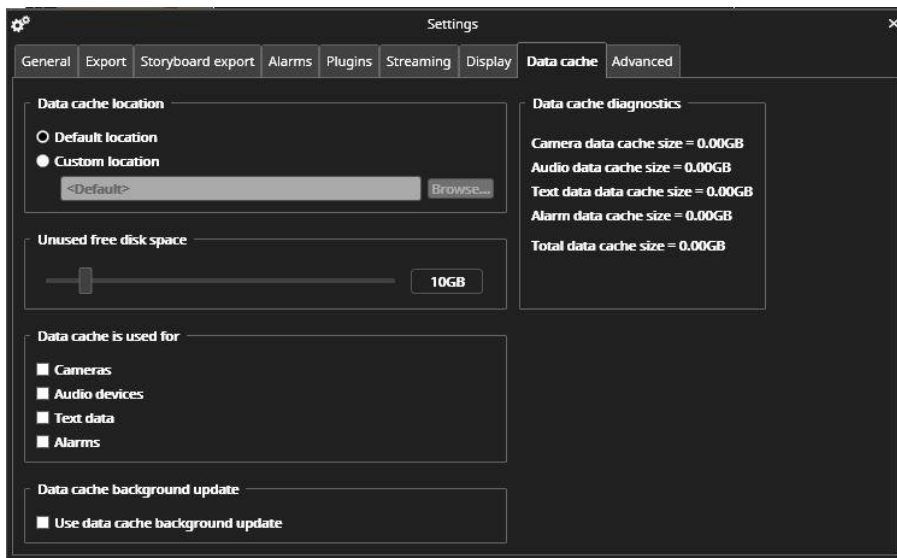
When in use, Data cache speeds up camera and audio device activity data, text data and alarm data retrieval. The system uses either C-drive or some other system hard disk for caching camera data.

With cached camera data, the camera activity bar (blue bar on the time slider) is updated faster. The cache is profile specific.

For larger systems, it is recommended to set up a separate hard disk to store the cache data. The data that is cached can be controlled from the dialog that defines what data is cached:
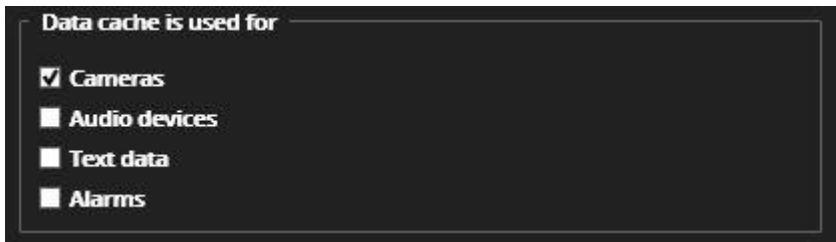
When any of the above is selected, the cache is in use. If the user wants to remove the cache from use, the above checkboxes should all be unselected. In this case, when pressing save, any previous cache data is deleted.

If the setting "Use data cache background update" is selected, the application will continuously update selected activity data while the application is open. This will increase system and network load slightly, but will guarantee best possible cached data performance.

ADVANCED SETTINGS

Using video buffering can help if the video stream appears choppy. Buffering will attempt to queue image frames dynamically to even out any time differences in arriving image frames. The memory use is increased slightly, as is any possible delay with the video compared to real time.

The "MaxSmooth" setting uses a different image drawing mechanism and it will have a smoothening effect on video especially if the framerate is high (over 20 fps). However, the MaxSmooth setting should not be used if the user has multiple Viewing Client windows open.

Smooth video scaling will make video image appearance better, but use of this setting increases the computer load slightly.

The AVM API (Application Programming Interface) must be activated in AVM Display Server use.

The Master Server reconnection setting, if activated, will keep Viewing Client open also in case of loss of connection with the Master Server.
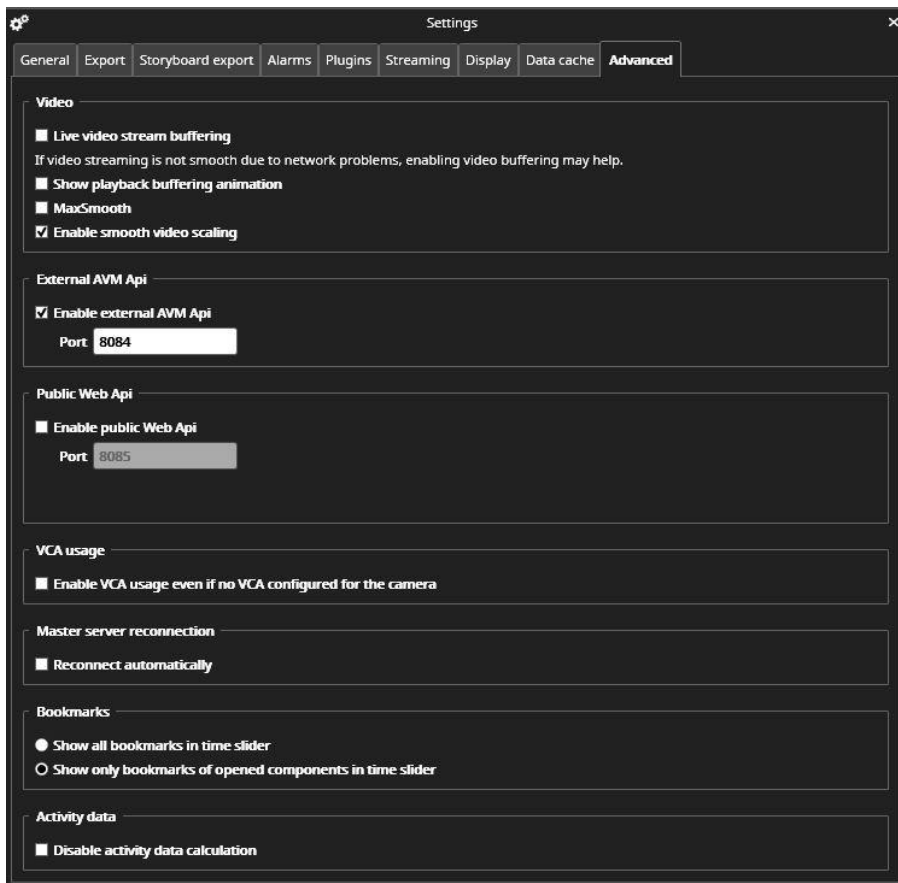
Disabling the activity data calculation will make the camera material bar disappear from the activity panel, but it reduces the system load slightly. It can be disabled if user has no intention to use activity panel (for example in the AVM Display Server case).

Viewing Client has advanced video buffering that smooths out the effect of a bursts in network or an ill-behaving camera where the image frames are not arriving smoothly and regularly from the camera to Viewing Client. Without the buffering on, Viewing Client draws the live images as fast as they arrive, without any regard on the frame rate or the image.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F3	Show settings window.

ARCHIVES
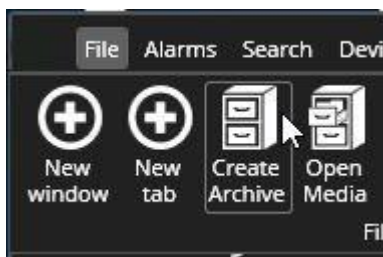
CREATE ARCHIVE ON LOCAL PC

Archive creation is only allowed if the archiving feature is enabled in the license. Create an archive in Viewing Client by selecting "Create archive" from the File menu.

Archives are created to the VMS server's filesystem, or to a network drive. To start to create an archive, the user has to first select the VMS server and location where the archive is to be created, then define the cameras and the timeframe to be archived. Time can be from 1 hour to 1 week.

The archive creation process is displayed in the notification area on the title menu. When the process is finished, a note can be seen in the system status message display on the title bar.
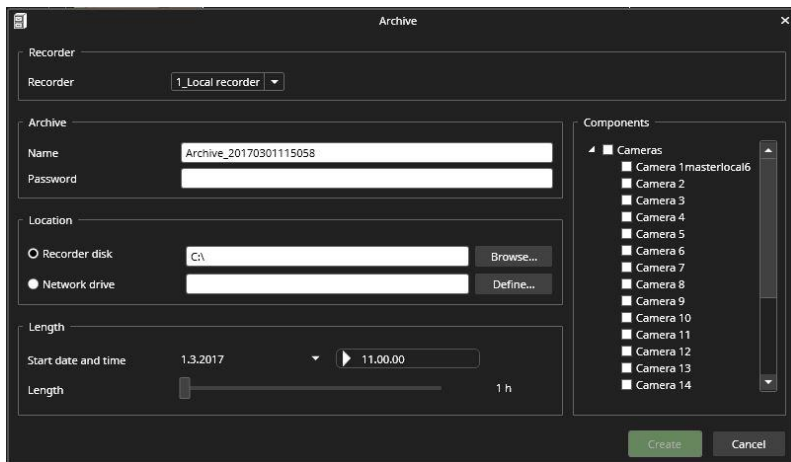
OPEN ARCHIVE OR VIDEO CLIP IN VIEWING CLIENT
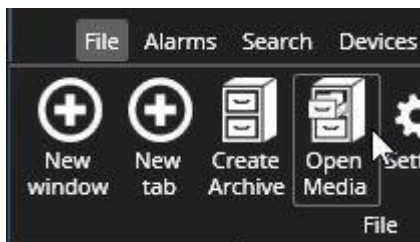
Archives or video clips are opened by the F4 key or the File menu "Open Media" option.

Media will open into a separate new window. The user can export archive material.

EASYVIEWPLAYER

Viewing Client can be used to view video clips and archives. There is also an executable version of Viewing Client, the EasyViewPlayer, that can be handed over to law enforcement or other authorities that would like to review video clips or archives as part of investigation on possible illegal activities.

Name ▲	Date modified	Type	Size
▼ New folder			
Clip.wmv	11.5.2015 8:06	Windows Media Aud...	21 681 KB
Clip1.wmv	11.5.2015 14:03	Windows Media Aud...	34 096 KB
Clip2.wmv	11.5.2015 14:06	Windows Media Aud...	129 257 KB
Clip3.wmv	13.5.2015 10:43	Windows Media Aud...	188 560 KB
Clip4.wmv	20.5.2015 12:07	Windows Media Aud...	13 836 KB
SpotterPlayer7.4.0.exe	13.5.2015 14:42	Application	268 822 KB

When the user exports files, the player is copied to the target folder, if it is not already there.

EasyViewPlayer is included in the full setup package. When handing over video evidence material to 3rd parties, the users should therefore remember to provide also the EasyViewPlayer with the material.

EasyViewPlayer contains and redacted version of help that opens automatically, instructing the novice Viewing Client users how the basic features of Viewing Client can be used.

EasyViewPlayer supports 360 image de-warping, motion search, text data search, and bookmarks.

Please note that you cannot use EasyViewPlayer while the normal version of Viewing Client is running.

The first EasyViewPlayer startup takes approximately 25 seconds.

EasyViewPlayer is the default media player and it will be automatically exported to the target clip folder. It is also possible to use the EasyViewPlayer to view storyboard clips.

The cameras retain their 360 de-warp or virtual camera zoom settings when they are exported. Users can reset or change these settings upon time of viewing.

BOOKMARKS

A bookmark can be created quickly by pressing the Fast bookmark button or with the keyboard combination Ctrl+Alt+B.
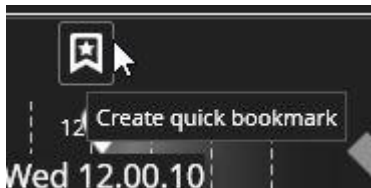
This will create a 10-second-long bookmark to the position of the playback indicator with the content that was open on the tab where the button was pressed.
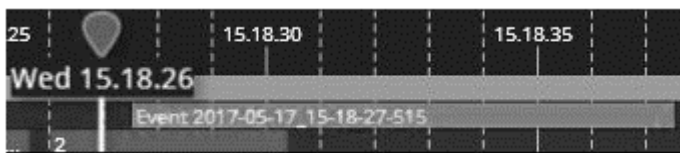
The bookmark can be later edited if desired.
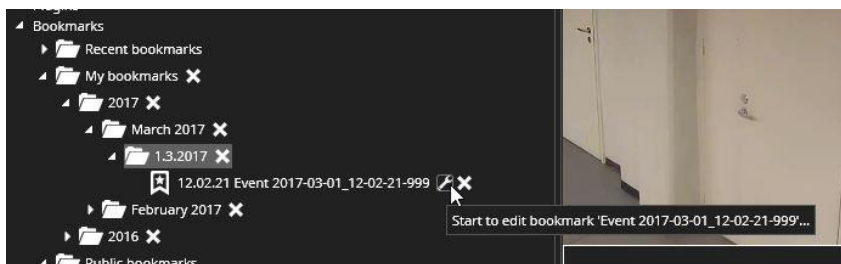
A second way to create a bookmark is to first take the content to the export mode activity panel, and then click on the "Start to set bookmark" button.
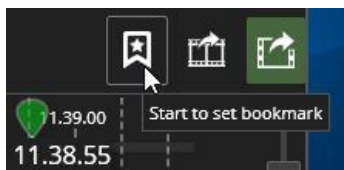
The bookmark editing view is a separate dialog
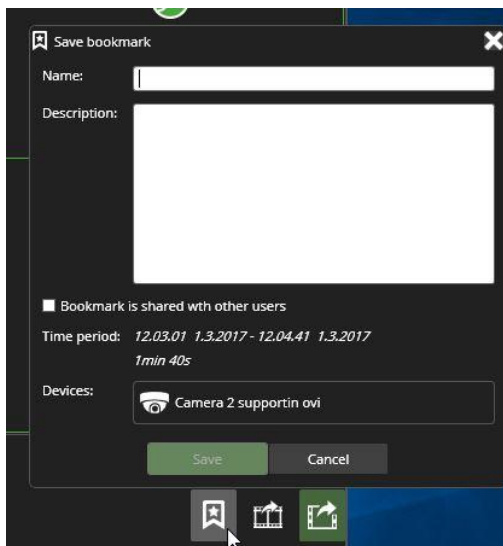
If so configured, bookmarks are displayed on the activity panel and can be accessed also from there with a mouse right click.

Bookmarks can be deleted one by one or by folder with the "X" control in device tree.

The bookmark menu will show which bookmarks have been shared to other users. Also, if other users have shared bookmarks, the user who did the sharing is shown in parenthesis after the bookmark title.

.
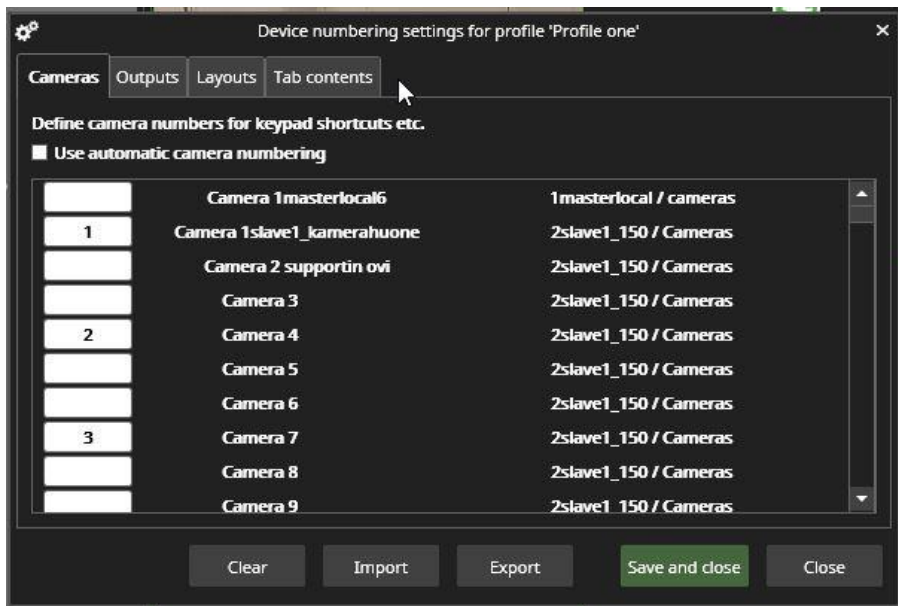
JOYSTICKS AND OTHER INPUT DEVICES

You can use any DirectX compatible joystick as a control device. A joystick can be fully configured, and each button can be assigned a customizable function.

Before a joystick can be taken into use, it needs to be configured, first in Windows, then in Viewing Client.

To calibrate a joystick in Windows, open the Control Panel and find "Set up USB game controllers" under "Devices and printers". Follow the instructions on calibrating the joystick.

After calibration, start Viewing Client and open the "Input devices" option in the Devices menu.

If the "Setup" line item is not visible, add it using the "+ Add" button. Now you can configure the joystick buttons and motion axis and map them to Viewing Client actions. Any button combination can be used, so also multiple button presses can be used to do different things compared to single button presses. The option "Use quick setup time" disables the "configuration timer" that runs from 0 to 100% when pressing a button.
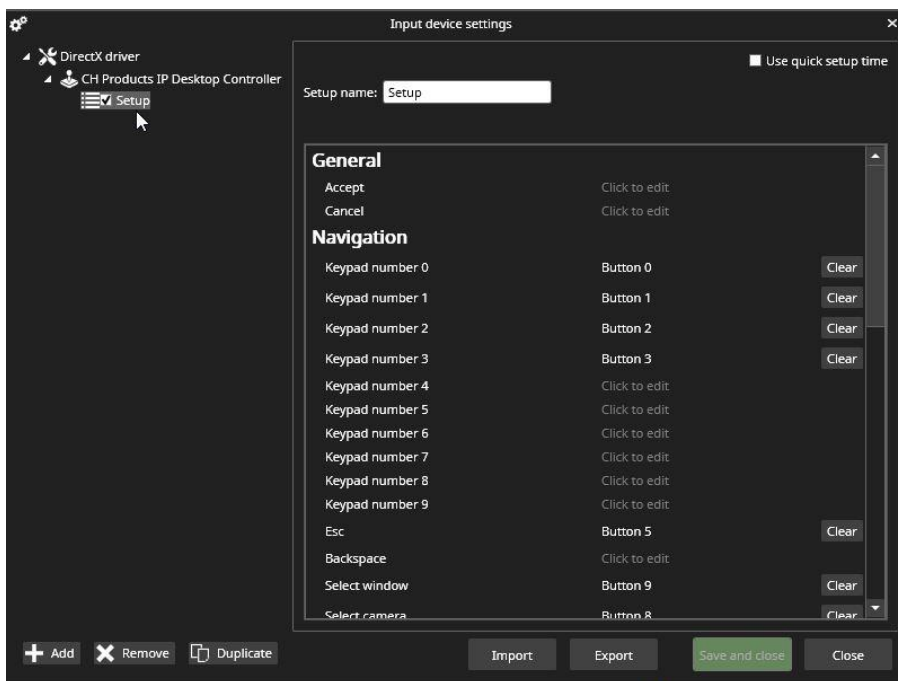
DEVICE NUMBERING
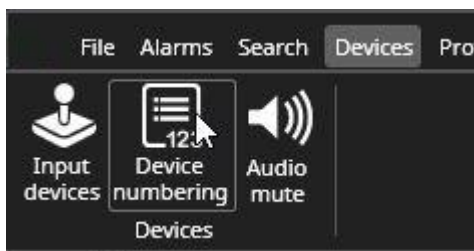
You can set new shortcut numbers for cameras by clicking "Device numbering" on the menu and de-selecting "Use automatic camera numbering".
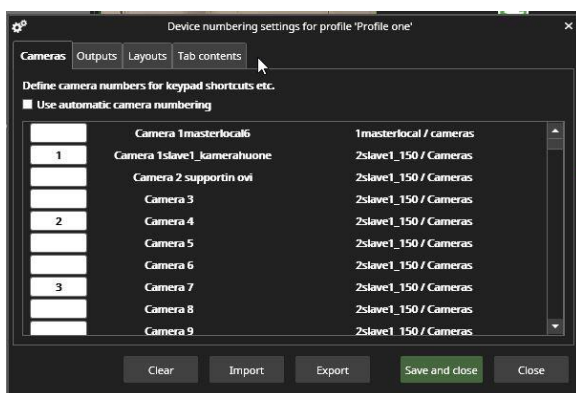
You can use the manually configured keyboard shortcuts anywhere in Viewing Client by using the numeric keypad. The entered numbers show up in a popup dialog.
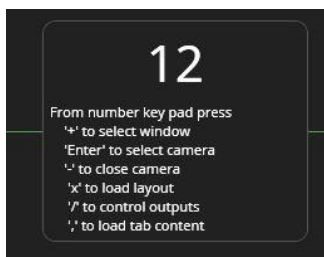
The dialog can be positioned anywhere in the Viewing Client window, and it will remember the set location.

When the numbers are followed by following numpad keys:

- Enter: Camera is opened.
- Double-Enter: Camera is opened and maximized and if a PTZ camera, the PTZ control is assumed.
- "+": Viewing Client window is selected.
- "-": camera is closed.
- "/": layout is loaded.
- ",": saved tab is loaded.

The device numbering settings can be exported and imported to another PC. The import works only if the same profile is active.

LOCKING THE USER INTERFACE

The user can manually lock and log off Viewing Client from the File menu.

HELP

Viewing Client contains built-in help. The help is accessible from the Help menu or by pressing the F1 key.
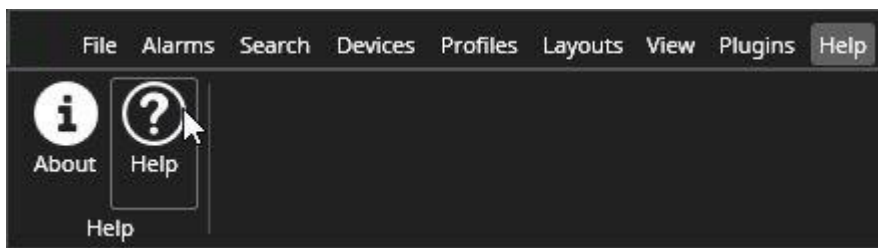
Help contains information on new features and also useful things like keyboard shortcuts and links to view training videos on the Internet.

KEYBOARD SHORTCUTS

You can activate all devices and access most of the functions in Viewing Client with keyboard shortcuts. When accessing devices, use the numeric keypad; the number row on top of the alphabetic keys cannot be used to open devices.

WINDOWS

Shortcut	Description
Ctrl+N	New window.
Alt+F4	Close current window.
Ctrl+Alt+F4	Exit Viewing Client.

ALARMS

Shortcut	Description
F5	Focus to first alarm.
Enter	Open the alarm in alarm view tab.
Space	Acknowledge focused alarm.
Ctrl+Alt+A	Show/Hide Alarm list.

DIALOGS

Shortcut	Description
Enter	Same as clicking OK button in a dialog. If focus is on another button when Enter key is pressed, then the other button's action is executed instead.
Esc	Same as clicking Cancel button in a dialog (or closing the dialog). If the data export view is open, Esc closes it.

SHOW / HIDE COMPONENTS

Shortcut	Description
F1	Show Help window.
CTRL-F1	Show About window.
F2	Reset layout: Set main window to normal state (not maximized). 100% zoom. Show profile window, time panel and time slider. Close export panel in time slider. Focus is not in any component.
F3	Show settings window.
Ctrl + F3	Show control device settings window.
Shift + F3	Show number mappings settings window.
F4	Opens the "Open media" dialog.
Ctrl+F5	Show / hide alarm window.
Ctrl+F6	Show / hide profile window.
Ctrl+F8	Show / hide time panel.
Ctrl+F10	Show / hide ribbon (menu items).
Ctrl+Alt+A	Show/Hide Alarm list.
Ctrl+Alt+C	Cycle between Playback panel view modes.
Ctrl+Alt+T	Cycle between Activity panel view modes.

Ctrl+Alt+D	Show/Hide Device tree.
Ctrl+Alt+V	Show/Hide Tabs.

When a component is displayed, the focus is set to the first item in the component (same functionality as with the shortcut key without Ctrl).

MOVING FOCUS

Shortcut	Description
Tab	Move focus to next element within container component.
Shift+Tab	Move focus to previous element within container component.
F5	Move focus to first active alarm in alarm list. If no active alarm, move focus to first alarm in list. If alarm window is hidden, show it first.
F6	Move focus to first item in profile tree. If profile window is hidden, show it first.
F7	Move focus to first camera in current tab.
F8	Move focus to time panel. If time panel is collapsed, open it first.
F10	Move focus to first ribbon menu item. If ribbon is closed, open it first.

FULL SCREEN WINDOW

The following shortcuts work in a full screen window.

Shortcut	Description
F2	Reset layout.
F8	Move focus to time panel.
Ctrl+F8	Show /hide time panel.
Tab	Move focus to next control (next camera in tab).
Shift+Tab	Move focus to previous control (previous camera in tab).

Ctrl+P	Print video image.
Ctrl+S	Save video image.
Ctrl+Shift+D	Duplicate video view.
Ctrl+Tab	Select next tab. If currently selected tab is last tab, select first tab in the window. Addition (+) tab is not selected.
Ctrl+Shift+Tab	Select previous tab. If currently selected tab is first tab, select last tab in the window. Addition (+) tab is not selected.
Ctrl+T	Create new camera tab. When new camera is created, move focus to first item in device tree (to make it easier to add new cameras).
Ctrl+Shift+W	Close current tab.
F11 or Esc	Restore from full screen to normal state.
Ctrl+D	Date selection.
Ctrl+G	Time selection.
Ctrl+E	Activity selection.
Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds.
Ctrl+Shift+Right	Set playback time +5 minutes.
Ctrl+Shift+Left	Set playback time -5 minutes.
Ctrl+Alt+Shift+Left	Set playback time -1 hour.
Ctrl+Alt+Shift+Right	Set playback time +1 hour.
Ctrl+Shif+Y	Set playback time +1 day.

Ctrl+Y	Set playback time -1 day.
Ctrl+Enter	Set to current time.
Ctrl+Space	Pause playback.
Shift+Left	Decrease playback speed.
Shift+Right	Increase playback speed.
Ctrl+0 to Ctrl+9	Camera selection.
Ctrl+W	Close selected camera.
Alt+Enter	Maximize selected camera.

TABS

Shortcut	Description
Ctrl+Tab	Select next tab. If currently selected tab is last tab, select first tab in the window. Addition (+) tab is not selected.
Ctrl+Shift+Tab	Select previous tab. If currently selected tab is first tab, select last tab in the window. Addition (+) tab is not selected.
Ctrl+T	Create new camera tab. When new camera is created, move focus to first item in device tree (to make it easier to add new cameras).
Ctrl+Shift+T	Open tab menu.
Ctrl+Shift+W	Close current tab.
F11	Maximize current tab to full screen size.
Esc	Restore maximized tab to normal size (when no camera is selected).
Ctrl+Shift+C	Automatic image cropping on / off.
Ctrl+Shift+S	Automatic image stretching on / off.

Ctrl+Shift+R	Reset all camera zooms to full zoom.
Ctrl+Shift+B	Bounding box on / off.
Ctrl+Shift+A	Tail on / off.
Ctrl+Alt+V	Show/Hide Tabs.

PROFILE WINDOW

Shortcut	Description
Enter (when a camera is selected)	Add camera to tab.
Enter (when a folder is selected)	Add all cameras in the selected tab and Expand the folder.
Left (when selected folder is expanded)	Close the folder.
Left (when selected node is not expanded)	Select parent folder.
Right (when selected folder is not expanded)	Open the folder.
Up and Down	Move selection up or down. When a camera is active, the buttons for that camera are shown in the tab (that camera becomes selected).

PLAYBACK TIME AND SPEED

Shortcut	Description
Ctrl+D	Open date selection panel. Select date with arrow keys and accept selection with Enter. Both Enter and Esc closes date selection panel.
Ctrl+G	Open time selection panel. Select time with arrow keys and accept selection with Enter. When pressing a button, the panel stays open. Esc closes time selection panel.

Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds. If in real-time mode, switch to playback mode first, and set 1x speed.
Ctrl+Shift+Right	Set playback time +5 minutes.
Ctrl+Shift+Left	Set playback time -5 minutes. If in real-time mode, switch to playback mode first, and set 1x speed.
Ctrl+Alt+Shift+Left	Set playback time -1 hour.
Ctrl+Alt+Shift+Right	Set playback time +1 hour.
Ctrl+Shif+Y	Set playback time +1 day.
Ctrl+Y	Set playback time -1 day.
Ctrl+Enter	Go to real-time mode. No action if already in real-time mode.
Ctrl+Space	Pause / play.
Shift+Right	Increase playback/fast forward speed. No action in real-time mode.
Shift+Left	Decrease playback/fast forward speed (when speed = 0, start play back/fast rewind). If in real-time mode, switch to playback mode and start playback at 0.5x speed.
Ctrl+Alt+Right OR Ctrl+Alt+P	Display next video frame in playback mode.
Ctrl+Alt+Left OR Ctrl+Alt+O	Display previous video frame in playback mode.
Ctrl + Alt +[number key 1..0]	Direct access to forward play speeds.
Ctrl + Alt + Shift + [number key 1..0]	Direct access to backward play speeds.

MISCELLANEOUS

Shortcut	Description
Ctrl+E	Open activity list. Use arrow keys + Enter to select activity. Esc closes activity list without selecting activity. Tab closes menu and sets focus to next element.
Ctrl+L	Open layout menu (layout name selection can be changed with arrow keys, Esc closes menu without selecting layout).
Ctrl+M	New layout.
Ctrl+Up	Load previous layout (same order as in layout menu).
Ctrl+Down	Load next layout (same order as in layout menu).
Numpad number + star	Load layout with this number (layout numbering in device numbering dialog)
Ctrl + B	Open bookmark menu.
Ctrl + Alt + B	Create a quick bookmark.

CAMERA SELECTION IN A TAB

Shortcut	Description
Ctrl+1 to Ctrl+0	Set focus to n:th camera in tab (0=10th).
Tab	Next camera.
Shift+Tab	Previous camera.
Esc	Remove camera selection.

EXPORT TIME CONTROLS

Shortcut	Description
Alt + I	Zoom time slider to show export time period completely.

Alt + Y	Moves playback position to current export start time.
Alt + CTRL + Y	Sets current playback time to be the export start time.
Alt + U	Moves playback position to current export end time.
Alt + CTRL + U	Sets current playback time to be the export start time.

CAMERA CONTROLS

Shortcut	Description
Ctrl+W	Close current camera.
Alt+Enter	Maximize camera in tab.
Double enter	Maximize / minimize camera in tab.
Esc	Restore camera normal size (when maximized). When in normal size, remove focus.
Ctrl+P	Print camera image.
Ctrl+S	Save (export) camera image.
Ctrl+Shift+D	Duplicate video view.
Ctrl + Alt + Shift + D	Duplicate camera and move it to mixed playback mode.
Numpad number + Enter	Add camera (device number).
Numpad number + plus	Activate monitor/window (monitor number).
Numpad number + minus	Close camera (device number).

PTZ CAMERA CONTROL

Shortcut	Description

Arrow keys	Moving the camera left, right, up, down (also intermediate directions).
Page Up	Zoom out.
Page Down	Zoom in.
Home	Full un-zoom.
End	Maximum zoom in.
Double enter	Maximize camera and assume PTZ control for selected camera number.

I/O CONTROL

Shortcut	Description
Arrow keys	Change focus between action button, content popup button and close button when focus in component panel.
Space	Performs default action when item is selected from the profile tree.

CAMERA TOUR

Shortcut	Description
F12	Toggle camera tour start and pause state.
Ctrl + F12	Steps to next camera tour view.

ABOUT SCREEN

The Viewing Client About window contains information about the installed plugins and their licenses.