CathexisVision Server Software 2021.1 QuickStart Guide

Contents

While Cathexis has made every effort to ensure the accuracy of this document, there is no guarantee of accuracy, neither explicit nor implied. Specifications are subject to change without notice.

1. Introduction

This quickstart guide provides basic instructions and information to set up a **server** with CathexisVision 2021. The objective of this document is to get the software up and running as quickly as possible.

For more detailed information (such as configuring video analytics, failover, etc), please consult the *CathexisVision Setup Manual* or contact Cathexis support at support@cat.co.za

Note: in order to use this document and software, it is assumed that the installer has a basic understanding of the operating system, and is able to do simple administrative tasks. These include adding disks, adding printers, or setting IP addresses.

1.1 Client and server software

Server software	The CathexisVision Server software can be installed on a suitably specified hardware server platform for an advanced and comprehensive site video configuration and management system.
Client software	The CathexisVision Client software gives the ability to connect remotely from a Windows OS PC into a CathexisVision server as a client station, without the need for a full server installation. The Client software access to the server is dependent on the login credentials as configured on the server. This can be from Administrator level with full site configuration rights, down to Operator level, with restricted access to site resources.

1.2 CathexisVision information

> **A NOTE ON CAMERA CHANNELS**
>
> The CathexisVision software packages have **limits on camera channels**. A multi-head camera is physically a single device (camera) but it requires a camera channel for each one of the internal cameras. The same applies to an encoder: a 16-channel encoder will account for 16 camera channels on the CathexisVision software, even though it is a single device. Even when a camera or device only uses a single IP license, the camera channel limit will still apply.

> **USEFUL LINKS**
>
> To view **tutorial videos** on CathexisVision setup, visit https://cathexisvideo.com/resources/videos
>
> Find answers to Cathexis **Frequently Asked Questions**: https://cathexis.crisp.help/en/?1557129162258

2. Requirements / Restrictions

To continue with this document, please download CathexisVision software (www.cathexisvideo.com).

Note: the **minimum** requirement to run this software is **4 Gigabytes of RAM**.

2.1 Supported Systems

Listed below are the operated systems that are supported / not supported. Supported systems apply to all contents of CathexisVision software installation, including:

1. CathexisVision software.
2. Map Editor.
3. Archive Viewer.

2.1.1 Not Supported

The following systems are **not** supported:

- Windows XP and earlier.
- Windows Vista.
- Windows Server 2008.
- Linux Fedora 16 (only supported up to CathexisVision 2018).
- NetBSD.

2.1.2 Supported Linux Systems

- Ubuntu 16.04 LTS Desktop (64-bit).
- Ubuntu 20.04 LTS Desktop (64-bit).

2.1.3 Supported Windows Systems

- Microsoft® Windows® 7 SP1.
- Microsoft® Windows® 8.
- Microsoft® Windows® 8.1.
- Microsoft® Windows® 10.
- Microsoft® Windows® Server 2008 R2 SP1.
- Microsoft® Windows® Server 2012.
- Microsoft® Windows® Server 2012 R2.
- Microsoft® Windows® Server 2016.
- Microsoft® Windows® Server 2019.

Note: CathexisVision 2020 is the last release to support Windows 32-bit installations. CathexisVision 2020 is the last release to support Ubuntu 12.04.

2.2 Windows Update Requirements

The Universal C Runtime Update is required for some systems. Updated Windows Runtime libraries are used in CathexisVision 2017 and onwards. This means that the Windows 10 Universal C Runtime update must be run on systems prior to Windows 10. The list below shows the systems to which this update is required.

Note: From CathexisVision 2018.3 onwards, Windows Vista and Windows Server 2008 are no longer supported. Therefore, the update no longer applies to those systems. Windows Server 2008 R2 is still supported.

This update requirement applies to:

- Windows Server 2012 R2.
- Windows 8.1.
- Windows RT 8.1.
- Windows Server 2012.
- Windows 8
- Windows RT.
- Windows Server 2008 R2 Service Pack 1 (SP1).
- Windows 7 SP1.

Windows XP and earlier is not supported.

Windows updates can be run, or the specific update (KB2999226) may be run. The Windows 10 Universal C Runtime update can be downloaded from: https://support.microsoft.com/en-us/kb/2999226

Running the KB2999226 update has prerequisites. The following software might need to be installed:
- Windows 7 Service Pack 1 (download from http://windows.microsoft.com/installwindows7sp1).
- Windows Server 2008 Service Pack 2 (download from https://support.microsoft.com/en-us/kb/968849).
- Windows Server 2008 R2 Service Pack 1 (download from https://www.microsoft.com/en-za/download/details.aspx?id=22077).
- Windows RT 8.1, Windows 8.1, and Windows Server 2012 R2 update
  - KB2919442 (download from https://support.microsoft.com/en-us/kb/2919442).
  - Then KB2919355 (download from https://www.microsoft.com/en-za/download/details.aspx?id=42327).

2.3 Hardware Requirements

The CathexisVision software architecture is designed to use hardware system components with maximum efficiency. There are many system issues to consider when choosing server hardware. Some examples are:
- Camera resolution.
- Camera bitrates for recording.
- Camera Frame rates and resolution for "live" viewing.
- Whether using the IP camera or the Cathexis software to perform video analytics.
- Whether viewing cameras "live" from the same server on which the user is recording.
- Whether "multicast" video is being streamed from the camera.
- Storage methodology (on-board, Network Storage etc.)

2.3.1 Hardware Selection Guidelines

The table below provides guidelines for choosing hardware for the application. The figures in the table were generated using the CathexisVision Design Tool (visit **cathexisvideo.com / Products / Resources / System Design Tool**).

Note: the following parameters were used to determine these guidelines.

1. These are conservative figures for recording servers only.
2. Live viewing is not included in these numbers.
3. 3MP cameras with a 3MP / 24fps recording stream.
4. CIF / 12fps analytics stream running Smart VMD. (Note:- Not Smart AI algorithm based analytics).
5. External storage on a 1 / 10 Gbps network.

Note: These guidelines are not exhaustive. For assistance with design, contact a distributor or a Cathexis regional office. Alternatively, navigate to www.cathexisvideo.com and use the Design Tool.

Processor	RAM (GB)	Server Storage throughput Mbps	No. of 3MP cameras per server
i7-7700k 4.20GHz	16	600	152
Xeon E3-1290 V2 3.70GHz	16	500	122
Xeon E5-1680 V4 3.40GHz	32	700	187
Xeon E5-2640 V2 2.40GHz	32	650	164
Xeon E5-2695 V3 2.30GHz	32	900	223
Xeon E5-2699 V3 2.30GHZ	32	1000	253

2.4 Anti-virus exclusions

If the system is running an anti-virus with active or real-time protection scanning enabled, some CathexisVision folders need to be excluded from anti-virus scanning. This enables CathexisVision to run correctly. The folders which need to be excluded are:

*   CathexisVision **Server** installation folder.
*   CathexisVision **Client** installation folder.
*   Any folders, drivers, and volumes where the database or databases reside.

Note: all folders and paths listed below are default installation folders. If the default folder option was not selected during installation, then locate and exclude installation folder (or folders) from anti-virus scanning.

The sections below indicate the **default installation folders and paths** which must be excluded from scanning.

2.4.1 Folders to exclude from anti-virus scanning in CathexisVision

If the system uses a **global anti-virus** (meaning anti-virus protection is applied globally and not to individual units) and different units in the site might have different installation folders then exclude all the default installation folders to avoid hassle.

Note: all folders and paths referred to below are default installation folders. If the default folder option was **not** selected during installation, then locate and exclude installation folder or folders from anti-virus scanning.

	Folders to Exclude
CathexisVision Server	c:\program files\Cathexis CathexisVision Suite NVR.
	c:\program files (x86)\Cathexis CathexisVision Suite NVR.
	c:\program files\CathexisVision Server.
	c:\program files (x86)\CathexisVision Server.
CathexisVision Client	c:\dvs.
	c:\program files\Cathexis CathexisVision Suite WRV.
	c:\program files (x86)\Cathexis CathexisVision Suite WRV.
	c:\program files\CathexisVision Client.
	c:\program files (x86)\CathexisVision Client.
Database folders/drives/volumes	Please locate and exclude.

2.4.2 Third-party anti-virus real time scanning on CathexisVision client units

On a CathexisVision Client unit, Windows Defender or other third-party anti-virus real-time scanning component must manually exclude the CathexisVision Server folder from scanning.

2.5 Routing/Port requirements

The following information refers to the router ports that need to be opened on the network firewall / router / anti-virus. These ports are important in allowing several Cathexis services to run correctly. Please ensure that these ports are also open on the anti-virus (if running one).

2.5.1 Ports to open

Operational Ports	Protocol	Application	Description
80	TCP	Default CatMobile Access	Port required to allow CatMobile client connection to server.
30010-30100	TCP	CathexisVision Software	Required ports to access CathexisVision software and associated configuration, live and recorded view, etc.

30014	TCP	API (CathexisVision 2016 and previous versions)*	Port required to allow API connection to server when using CathexisVision 2016 and previous versions. **Note**: Video also needs to be streamed from the server using TCP port 30010.
33104	TCP	API (CathexisVision 2017 and later versions)*	Port required to allow API connection to server, when using CathexisVision 2017 and later versions. **Note**: Video also needs to be streamed from the server using RTSP on TCP port 554.
* For the full list of API ports, please consult the API Help Guide or contact support@cat.co.za			

Maintenance Ports	Protocol	Application	Description
22	TCP	Secure Shell (SSH) - Linux	Port required to enable remote access to Linux server using Secure Shell network protocol.
3389	TCP	Remote Desktop – Windows	Port required to enable remote access to Windows server using Remote Desktop application.
N/A	N/A	TeamViewer Access	Application for allowing remote access to a Windows server. No port required.

2.5.2 Remote support

To ensure that remote support is available, please download and install one of the following programs relevant to the operating system.
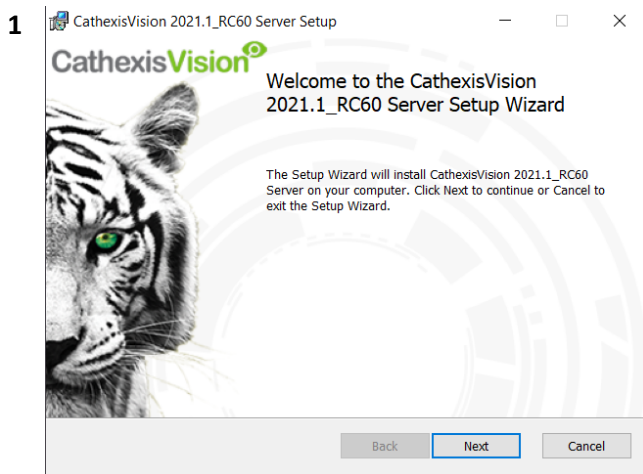
Linux: Secure Shell (SSH – TCP port 22).

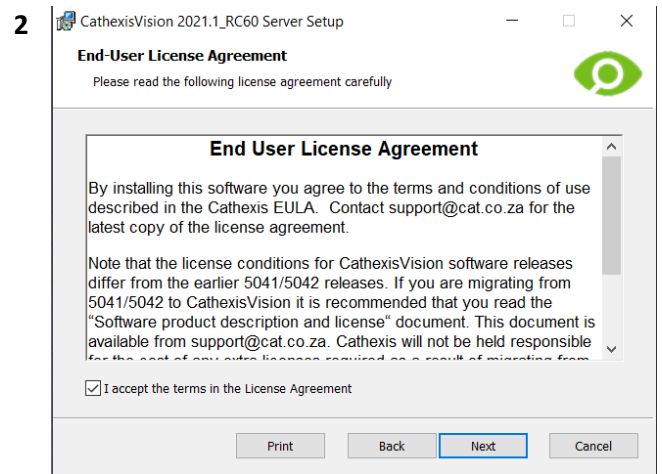**Windows**: TeamViewer, or Remote Desktop.

3. Installation

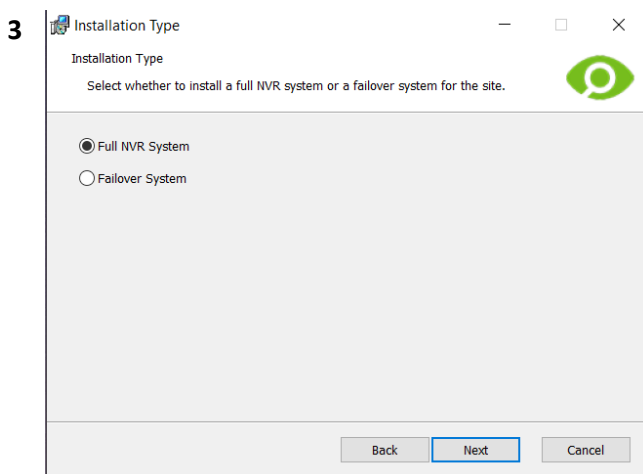Double-click the installer file to open the **Installation Wizard**.
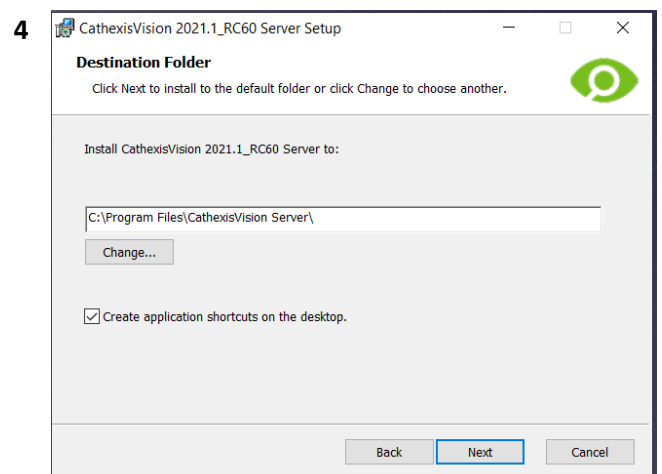
3.1 Follow the Installation Wizard
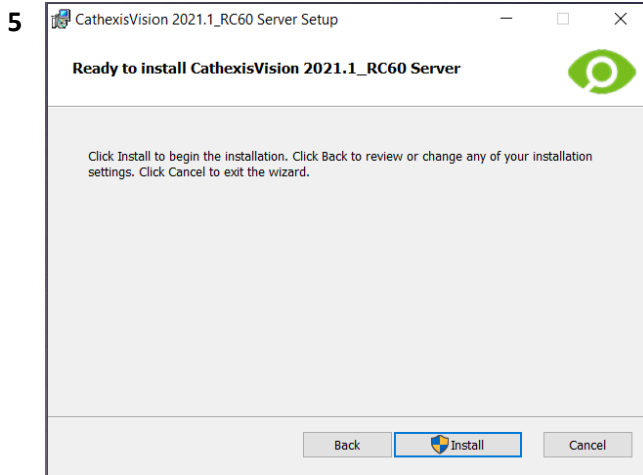
1

Click **Next**.

2

Accept the **End User License Agreement**.

3

The user will be prompted to choose between a **Full NVR System** and a **Failover System** installation.
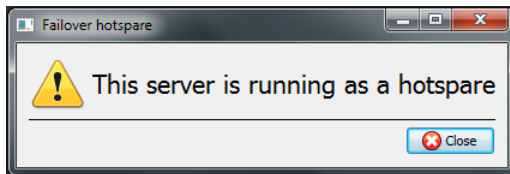
4

Choose the installation folder (it is best to leave this as it is).

5

Click **Install**.

When the installation is complete, click **Finish**.

3.1.1 Failover Installation

After a successful Failover installation, attempting to initiate CathexisVision (by double-clicking on the CathexisVision icon) will open the dialogue box shown here on the left.

Note: there is detailed information about Failover in the Setup section of the *CathexisVision Setup Manual*.

3.2 Cathexis Windows Performance Wizard

The Cathexis Windows Performance Wizard optimises several Windows system settings for use of CathexisVision software on a Microsoft Windows server. The Performance Wizard is run after a successful installation. To change the settings, the Wizard may be run any time thereafter.
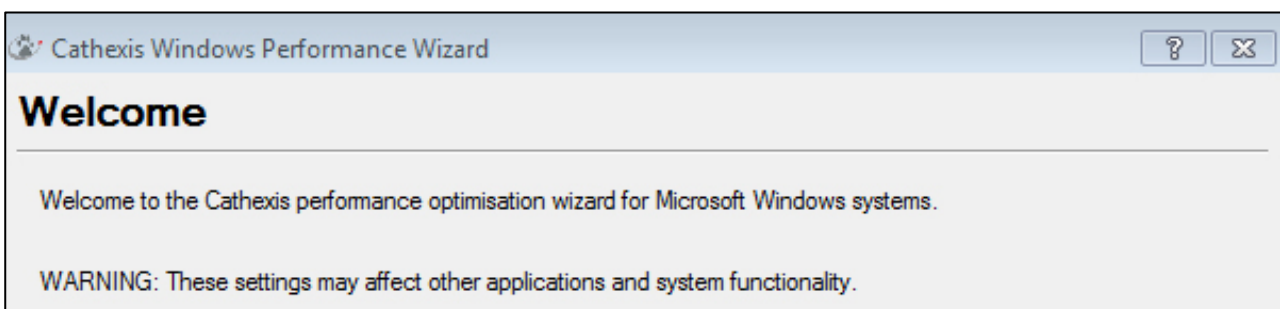
The installer shows the current state of each setting. It presents the following options:

Category	Setting	Explanation	Action
Filesystem Optimisations	**Disable Last Access Timestamp for NTFS partitions**	By default, when a file is accessed, NTFS writes information to record when the file is last accesses. To improve NTFS disk performance, disable the NTFS last-accessed timestamp.	Required
Power Management	**Enable the High-Performance power management scheme**	Adjusts Windows power scheme settings to ensure uninterrupted recording and live viewing.	Recommended
Background Services	**Add exceptions to the Windows Defender service**	This will provide a performance gain for the caching and writing of video to the underlying software and database folder locations. Refer to section 2.4 for more information.	Recommended
	Disable the Windows Search Indexing service	This provides a significant performance gain by preventing background indexing of the file system.	Recommended

3.3 Start CathexisVision

This is the user interface where the recording parameters are configured. It allows the user to view live video and review recorded video.

3.4 Log in

Default login details

Username: admin

Password: admin

4. Licensing

The mode of licensing depends on whether the license task is being performed on the local unit (the unit being worked on) or a remote unit (a viewing unit on which a copy of the software is installed).

This chapter provides a guide for each situation. For details on the licensing structure of CathexisVision, please consult the ***CathexisVision Software Product Description and License Document***, or contact support@cat.co.za.

4.1 Trial license

Once CathexisVision is installed, a trial license is automatically applied to the system. To further license the system, consult the relevant licensing sub-section.

Features of the trial license include:

- Two permanent IP camera licenses.
- Maximum recording review time of two days.
- Standard CathexisVision basic analytics.

To obtain trial licenses that unlock additional features, send a request to support@cat.co.za.

4.1.1 Recording review time

With a trial license applied, only two days (48 hours) of recordings may be reviewed at a time. The camera will continue to record to database (as long as there is space, the cameras have the requisite bitrates, etc.). However, review of the recordings will be restricted to two days (48-hours) from the point of review. Apply the relevant licenses to unlock the database and review all recordings for as far back as the database has recorded.

4.2 Licensing from a local unit

The following instructions describe the process for licensing the unit that is **currently being worked on**. For information on licensing a **remote unit**, refer to the next section (Licensing from a Remote Unit).

4.2.1 Internet connection: product key

With access to the internet, and a product key supplied from a vendor, enter the product key.

The system will connect to the online licensing system and complete the process.

4.2.2 No internet connection: Pack file

If the unit from which the user is performing the licensing does **not** have internet connection, upload a **.pack** file. A .pack file is a file that contains all the licensing information for a unit.

To get a **.pack** file from support@cat.co.za:

1. Save a **.rqst** (request) file from the unit being licensed.

2. Email this file to Cathexis Support, along with the information relevant to the licenses being added to this unit.

3. Cathexis Support will then send a **.pack** file containing the licenses. The licenses can then be uploaded to that unit.

4.2.2.1 License Request File

A **.rqst** file must be retrieved from the unit being licensed. Go to **Tools / Local server licenses…**
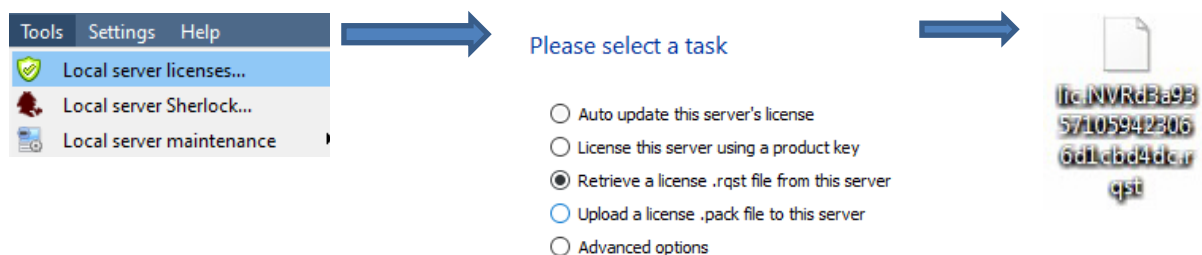
Email this **.rqst** file to support@cat.co.za, along with the information relevant to the licenses being added to this unit.

4.2.2.2 Upload .pack file

The site should now be licensed. For further assistance, contact support@cat.co.za.

4.3 Licensing from a remote unit

The procedure is different when licencing from a **remote** unit (a viewing unit on which a copy of the software is installed). This is because when the user clicks **Tools / Licensing**, the unit on which the user is currently logged in will be the one that is licensed.
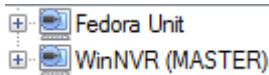
4.3.1 Open Configure Servers

To open **Configure Servers** (in the site that is logged into), follow this path from the menu bar:
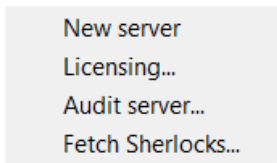
Site / Open Tab / Setup.

In the **Setup** tab, click on the **Configure Servers** icon.

Once **Configure Servers** is open, right-click on the individual unit to license.

Select **Licensing** from the drop-down menu.

At this point, the licensing procedure is the same as if **Tools — Licensing** had been selected in the GUI of the local machine.

The options shown on the left will appear.

Auto-update if this unit has already been licensed.
Use a **Product Key** if one was provided.

To request a license, follow the procedure detailed in 4.2.2 No internet connection section.

Note: Save the **.rqst** files and upload the **.pack** files to storage media attached to the **unit from which the licensing is being done**, *not* the one being licensed. Always retain the **.rqst** file and the **.pack** file for future licensing support.
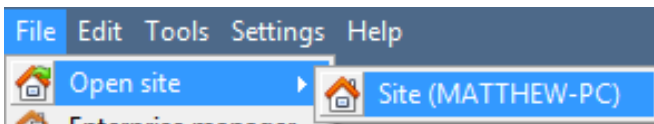
5. The Setup Tab

CathexisVision can run on one individual recording server or on many interlinked servers. Cameras and integrated devices are added to individual servers. Therefore, many of the setups are done on a server-by-server basis. Server-based setups occur in the **Configure Servers** section of the **Setup Tab**.

5.1 Open the Setup Tab

Generally, there are two ways of navigating to the **Setup Tab:**

1. **File / Open Site / Site_Name**

2. **Site / Open Tab / Setup**

5.2 General Setup

In the **General site setup** section, set:

- Site name
- Default access levels
- Site contacts
- Network speed
- Operator archiving profiles.

Once these settings have been chosen, click **Apply**.

6. Cameras

This chapter describes methods for **adding** cameras, the **Camera Editing** options, and the **right-click menu**.

6.1 Adding cameras

There are two ways to add a camera in **CathexisVision**:

1. The camera **Addition Wizard**. (It also provides the option to add databases, schedules, and events to the system.)
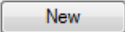2. The **Copy / Paste** Function.

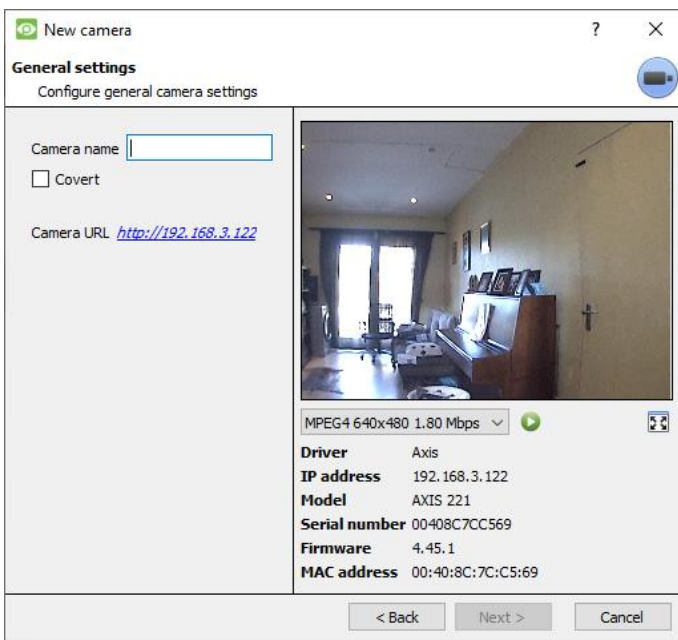For either method, enter the **Cameras Panel**, which is located under **Configure Servers**.

File / Your_Site_Name / Open Tab / Setup / Configure Servers / Expand the appropriate Server / Cameras

6.1.1 Addition Wizard

The **Camera Addition Wizard** guides the user through all steps needed to add a camera. It also allows for the creation of databases, schedules, and events in the setup process. There are two phases in the **Wizard**:

1. The addition of the camera.

2. Setting up the system to record from that camera (either via a Video Motion Detection (VMD) event, or via a scheduled recording).

| New | To start the camera addition wizard, click on the **New** button at the bottom of the Cameras Panel. The following section guides the user through each step in the wizard.

Driver: select the relevant driver for the camera.

IP address: set the IP address of the camera.

Scan: scan the network for cameras that have been set up to make themselves available. Click on a camera and it will automatically set its driver and IP address.

Camera name: the descriptive name given to the camera.

Video input: use if connecting to an encoder that has multiple analogue inputs. If not, leave it on 1.

Port: this has a default setting. However, to connect through a specific port, set it to the port of choice.

Login and password: the camera's current login details.

6.1.2 Connection

The first step in the Wizard is the Camera Connection. The user can set up the camera's connection details.

6.1.2.1 Note on scanning

1. Some cameras do not support automatic location requests and will not be found using Scan.
2. Universal Plug and Play (UPnP) must be enabled on the cameras that support location requests.

6.1.3 General Settings


The table below describes this window.

Note: The image in the preview will not reflect the actual quality of the feed, because it is transcoded when viewed in the Camera Addition Wizard.

| Name	Give the camera a descriptive name, to make it easily identifiable.	
Covert	CathexisVision provides the option to create a covert camera. There is a *difference* between a camera being covert, and a user not having access to it.	
	Covert	**Access Level Defined**
	Will only be present in the Resources List of an Administrator, or an access level that has been granted access to this camera.	Will still appear in the Resources List of lower login levels, but they will not be able to view the feed.
Camera Information	This will list all the relevant information pertaining to the device. View it underneath the image preview.	
Live Preview		

6.1.4 Add / Edit Video Feeds

To add or edit a video feed, click on one of the available feeds in the list. Then click on the **Edit** button. This will bring up a feed dialogue with the available video feeds and the options that pertain to them.

The two most common IP feeds are **JPEG** and **H.264**.
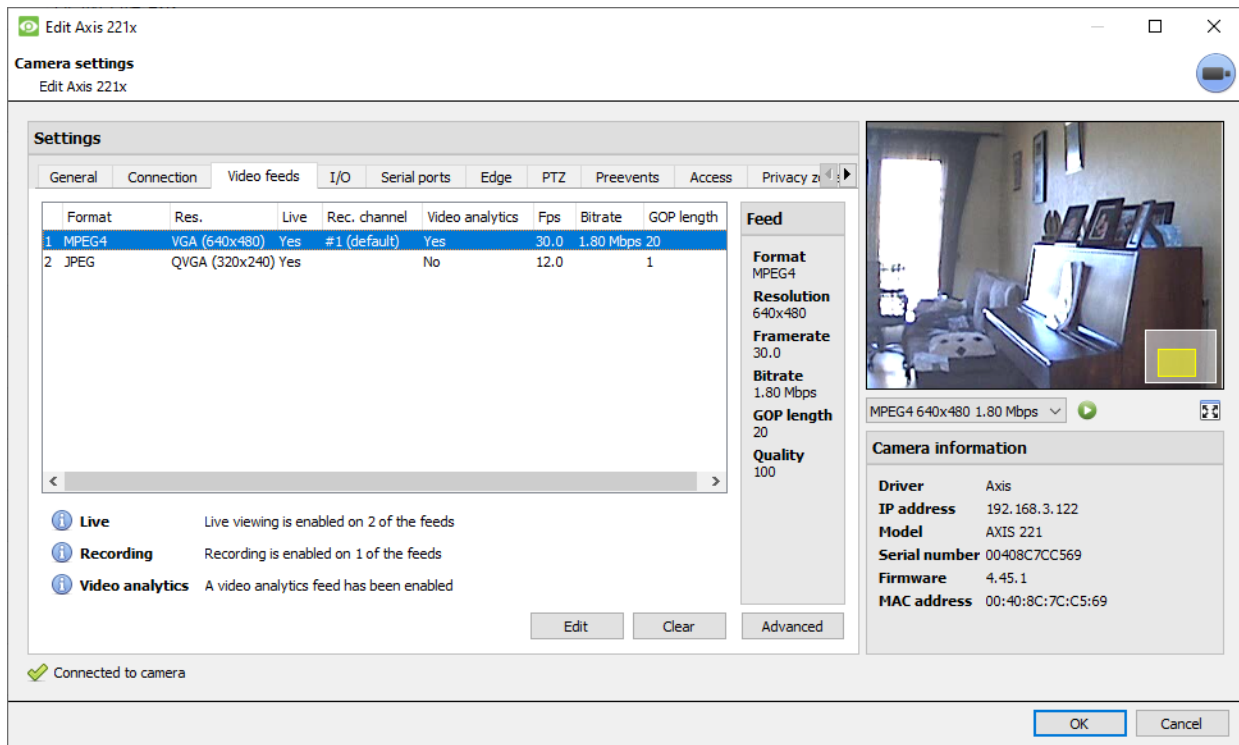
6.1.4.1 JPEG
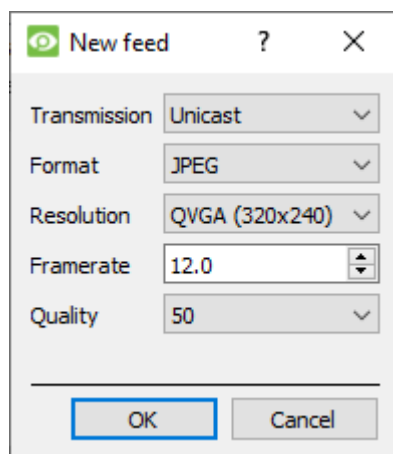
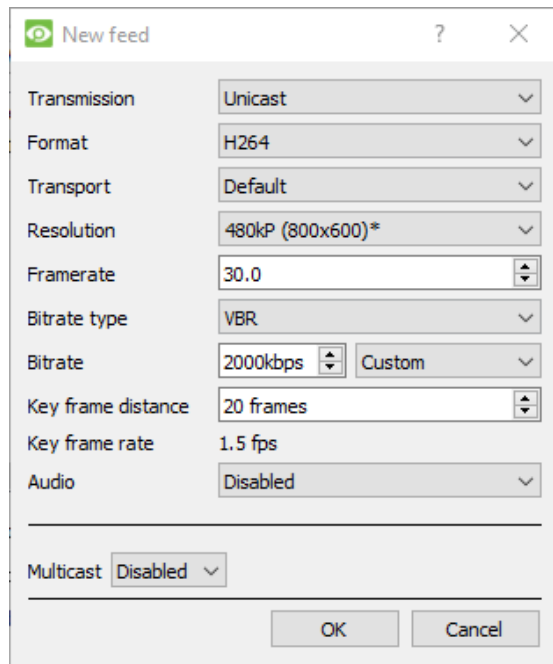

Transmission: shows the transmission type.

Format: the compression format used by this stream. Click the drop-down menu to choose the one desired.

Resolution: the number of pixels in the image.

Framerate: the number of frames recorded per second.

Quality: how lossy the compression of the image is. At 100, the image will have the best quality. At 50, the image will have the lowest quality.

6.1.4.2 H264

Transmission: the transmission type.

Format: the compression format used by this stream. Click the drop-down menu to choose the one desired.

Resolution: the number of pixels in the image.

Framerate: the number of frames recorded per second.

Bitrate Type: the way the bitrate is handled. A constant bitrate will be more predictable, but will lose more information the more the image changes. Variable bit-rate is less predictable, but will have better images when the picture has more motion.

Bitrate: the amount of information (in bits) that the feed will send per second. (**Quality** defines how lossy the compression of the image is.)

Key Frame Distance: the number of frames between each I-Frame (Key Frame).

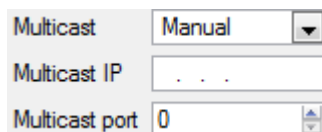**Key Frame Rate**: demonstrates frame rate.

Audio: this can be disabled or enabled.

Multicast: this can be disabled or enabled.

6.1.4.3 Multicast

Set up **Multicast** on feeds by selecting the relevant option from the feed dialogue. There are three options: **disabled, auto,** and **manual**. If **Multicast** is not desired, leave it disabled.
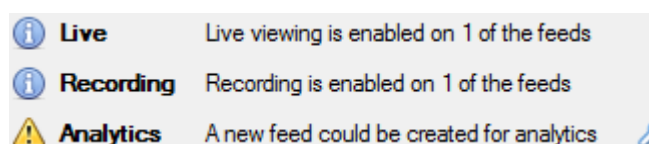
Manual

With **manual** selected, enter the **Multicast IP** and **Multicast Port**.

Auto

On Auto, the Multicast address will be automatically assigned. The core settings for this can be found in the *CathexisVision Setup Manual*.

6.1.4.4 Feed notifications

This area displays the status of the feeds created: **Recording**, **Live Viewing**, or **Analytics**.

Note: If the user clicks on any of the above icons, detailed information regarding the feed or problem will be displayed.

Automatic configuration

🔧   If there is a **spanner icon** at the end of the feed notification, this means that there is a potential problem with the feed setup. **Click on this icon** to automatically fix the problem.

6.1.5 Right-click Menu (Live, Recording, and Recording Channel Settings)

After setting up a feed, right-click on it to bring up the menu (shown below). These settings can only be accomplished after the feed is up and running.

| Disable live	Disable live viewing of the feed.
Disable recording	Disable recording of the feed.
Set recording channel	Define which channel number will represent this feed.
Enable analytics	Enable video analytics.

6.1.6 Analytics

To enable analytics on a unit:

1. Configure a second feed.

2. Right-click on that feed.

3. Click **Enable Analytics**.

**There are a few rules regarding enabling analytics**:

If an analytics-enabled channel is not set up here, there will **not** be a prompt to add VMD later in this Wizard. It will also be impossible to add VMD using this feed at a later point.

Only feeds that are QVGA resolution (and lower) will provide the option to enable analytics.

🔧   A **spanner icon** at the end of the **Analytics feed notification** means that a feed for analytics is **not** enabled. Clicking on the icon to automatically enable a feed for analytics.

⚠️ Analytics

Note: If the user chooses to proceed without enabling analytics, a prompt will appear. The user can also enable video analytics this way.
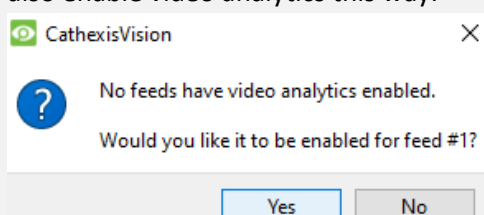
6.1.7 I / O

The next step in the addition is the I/O setup. The I/O values represented in the GUI depend on the I/Os provided by the encoder.
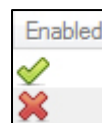

I/O

Inputs are used to trigger an event. **Outputs** are used to give a desired output as a *result* of a triggered event.

Renaming

Double-click on the I/O name to rename it.

Enabling

Double-click on the red cross, or click the enable button. Once enabled, it may be used to trigger an event. This may also be done by right-clicking.

6.1.7.1 Edit an Output

Name: give the output a descriptive name.

Enabled: displays whether the output is disabled or enabled.

Pulse duration: will set the amount of time (in milliseconds) for which the output will pulse (if set to pulse).

Pulse only: if set to Yes, the output will not allow itself to be permanently set.

6.1.7.2 Triggers

Some cameras will have their own event triggers, and encoders will often have I/O options. **Note**:

- Double clicking on any of the column values of an I/O will toggle the value. For example, double-clicking on a Clear state will change the state to Set. (These options are also available via the Right-Click menu.)
- Give the I/Os descriptive names, otherwise they will not be identifiable.

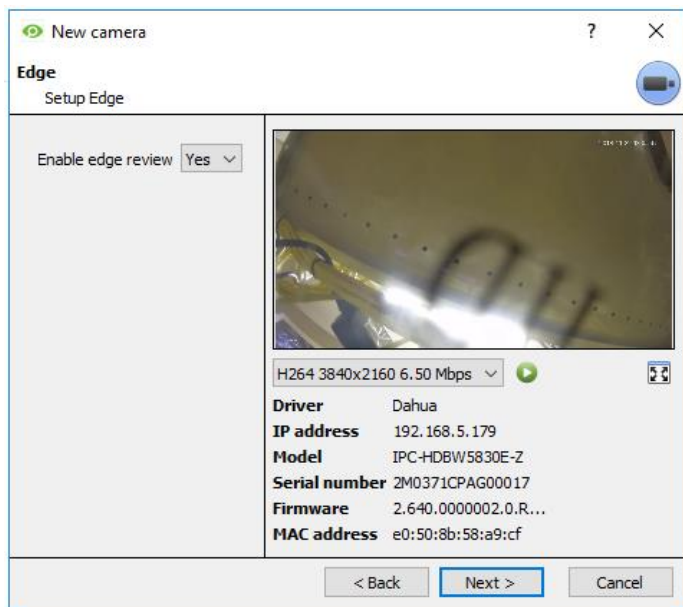## 6.1.8 Serial Ports
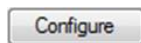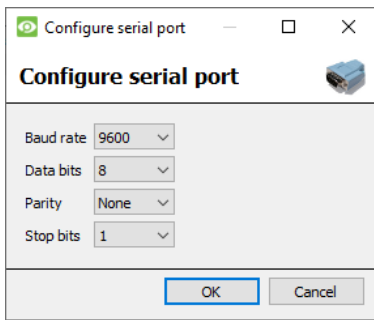
Configure

Highlight the serial port to configure. Then click the **Configure** button.

This provides the option to change the **Baud rate**, **Data bits**, **Parity, Stop bits**, and other camera-dependent settings.

Note: This option will only be available if the camera has serial ports.

6.1.9 Camera Edge Review Setup

Cameras that support Edge recordings will have an additional tab in the Camera Wizard. This enables the viewing of the camera's on-board Edge database within CathexisVision.

Select **Yes** from the drop-down menu to enable the database.

When this is enabled, the camera's Edge database will be available for selection in camera review (as with other CathexisVision system databases).

If this is disabled, the database will not be available for selection.

6.1.10 Pan-Tilt-Zoom (PTZ)

☑ Enable PTZ   Check this box if a PTZ camera is being added. After this, all the available PTZ options will appear in the Wizard interface.

6.1.10.1 General Settings

☑ Enable PTZ

PTZ channel	Onboard
Preset 1 name	Preset 1
Zoom speed	User defined
Home position	Preset 30

☑ Go home during schedule ▭ After Hours

The home preset will be recalled when user control is relinquished or 300sec after a system PTZ command is issued ⑦

☐ Switch wash/wipe relays
☐ Reverse pan direction
☐ Reverse tilt direction
Configure PTZ tours

PTZ channels can be added in two ways: by selecting Onboard or a Serial Port.

Note: these options vary on a camera-by-camera basis.

|	
Preset Name	Give Presets descriptive names (such as 'front door' etc.)
Zoom Speed	This defines how fast the camera will zoom in when using the PTZ controls. **Note:** Use the live view panel at the bottom of the Resources Menu, to see if the zoom speed is satisfactory. Test the PTZ zoom in the setup PTZ control, or use the PTZ control option from the resource panel of the camera view.
Home Position	A home position is a pre-set position to which the camera will return, after a set period of inactivity. **Automatic Return to Home:** Set a schedule, during which the camera will return to its home position. When the schedule is inactive, the camera will remain in the last position that it was left in. If there is no schedule set, the camera will not return automatically to its home position. To have it always return home after a time period, enable the **Every Day** schedule.
Switch Wash and Wipe Relays	If the Wash and Wipe relays are incorrectly attributed, this will swap them over to the correct order.
Configure PTZ tours	A PTZ tour will run through a sequence of pre-set positions.

6.1.10.2 Configure PTZ Tours
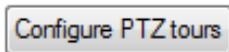
Configure PTZ tours   If the device supports Tours, click on this button to create or edit a PTZ tour. This navigates to the list of tours.

New   Click **New** to create a new tour.
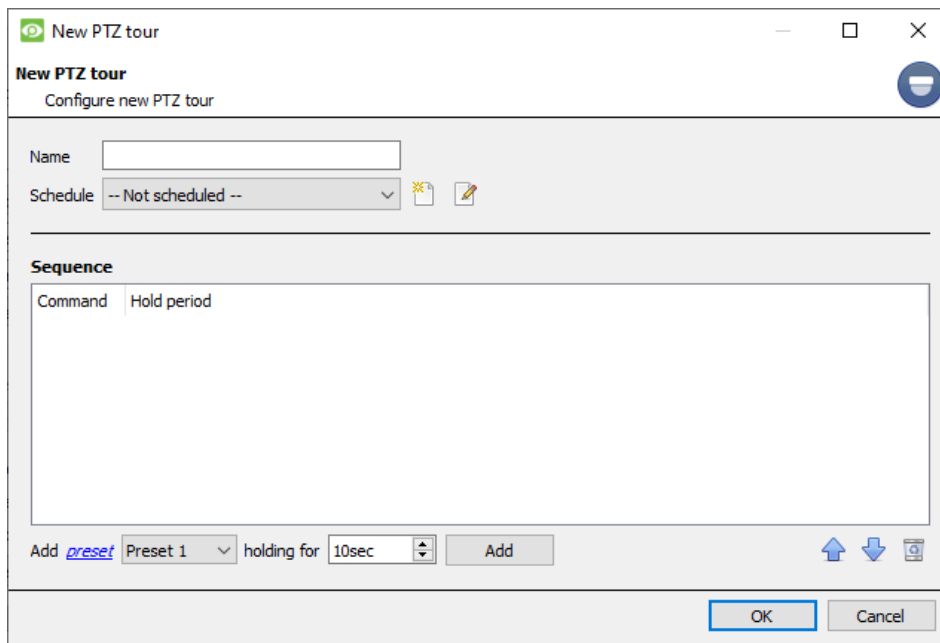
Name and Schedule: give the tour a descriptive name and a schedule (if desired).

Sequence: this is the sequence in which the Presets will run.

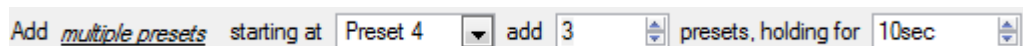### Add Preset, Multiple Presets, or a Pattern to the tour

Preset

Select the Preset. Set how long the camera should linger at this Preset.
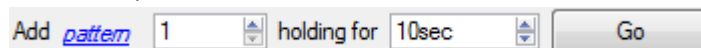

Multiple Presets

- Starting at: select the first Preset to add.
- Add: this is the number of Presets being added.

In the example below, Presets 4 to 6 will be added.

Pattern

Select the pattern to add.

6.1.10.3 PTZ Procedures

With a Pan-Tilt-Zoom (PTZ) camera, an operator can manipulate the camera's direction, Zoom, focal distance (Focus) and amount of light (Iris).

The operator can also control pre-configured camera views called "Presets".

When a Live PTZ camera is selected in the CathexisVision interface, a Dome control panel becomes available.

Click the panel's dropdown menu. Select **PTZ.** The software joystick displays.

Note: remember to select or play a live feed.

Using the PTZ Control Panel

| **Pan Left/Right:** Drag joystick left or right.	**Tilt Up/Down:** Drag joystick up or down.
Move Camera Faster: Distance determines speed. Drag joystick out in the required direction.	**Move Camera Slower**: Distance determines speed. Drag joystick closer in the required direction.
Zoom In / Out: Watch the live camera, while pressing the "Zoom +" and "Zoom –" button.	**Focus Further / Closer**: Watch the live camera, while pressing the "Focus +" and "Focus –" button.
Go to Preset: 1. Select the Preset from the dropdown. Then click GO. 2. The camera view will change to the Preset. 3. To relinquish manual control of the dome or PTZ camera from the PTZ panel, click Auto. 4. If the system runs remote tours automatically, or switches displays based on events, these automated responses will take over.	**Gain Control of Dome / PTZ**: Applies if the system runs remote tours automatically, or switches display based on events. Either click **manual**, or move the software joystick.
Lighten / Darken Live Camera View: Press the "iris +", or "iris –" button. The image will lighten or darken.	**Define a Preset**: 1. Select the Preset number, from the dropdown menu. 2. Use the joystick controls to establish the camera View, Zoom, Focus, and Light (Iris). 3. Click SET. 4. Go to this Preset to check it.

PTZ Priority Control

Control of a PTZ camera works on a priority system. This determines who gets control of the camera, if more than one user is attempting to control the camera at the same time.

Administrators get the highest priority. After that, the priority levels run from user level 30, down to user level 1. For example, if a level 10 user and a level 1 user attempt to control the PTZ camera, the level 10 user will get priority control. An administrator would get priority over both.

Note:

1. If two users of the **same** user level attempt to control the camera, the first user gets priority and the second user will have to wait until the 'Dome override' period has elapsed.

2. Manual control of the camera takes priority over event-initiated or auto control of the dome.

6.2 Configure Camera
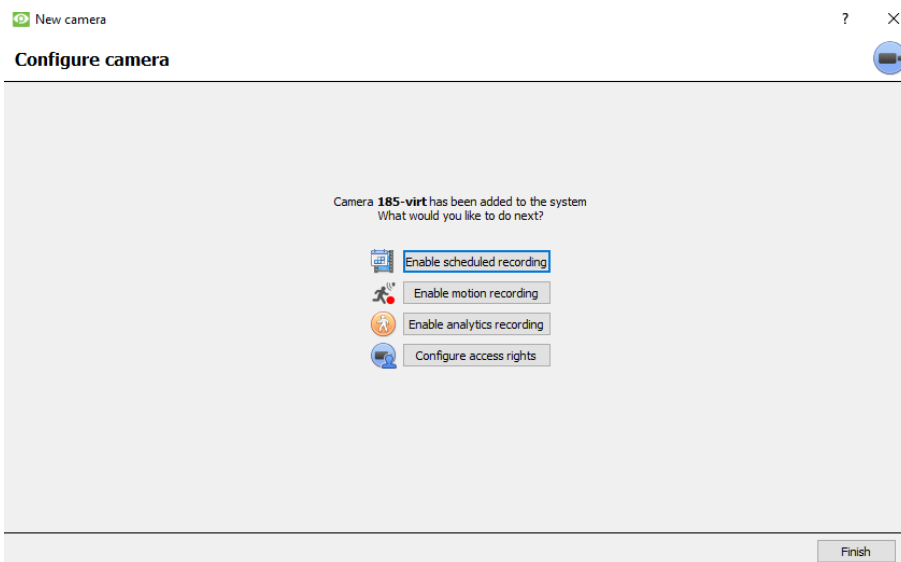
The operator can now add motion recordings and configure camera access rights.
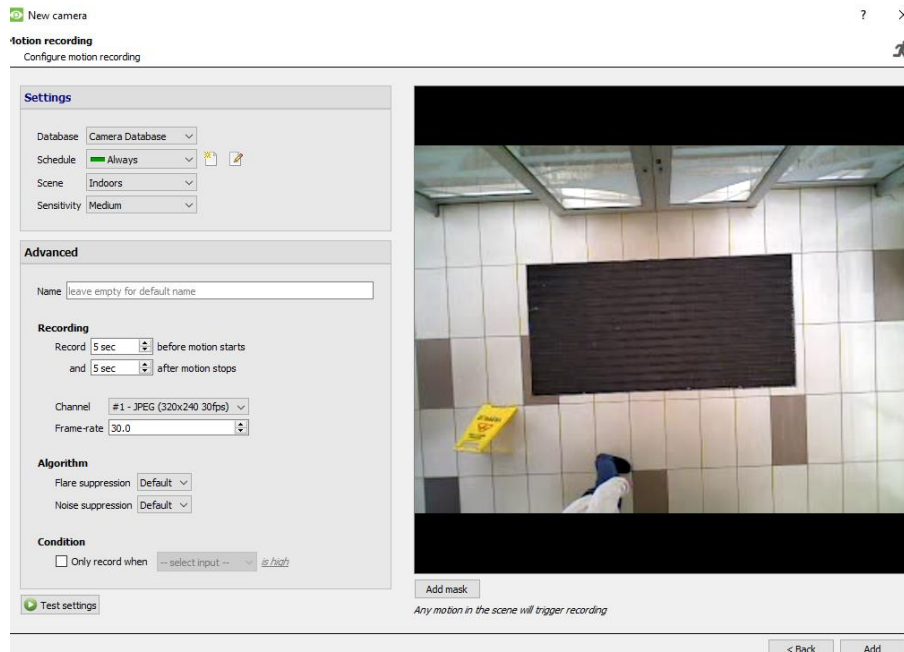
6.2.1 Enable scheduled recording
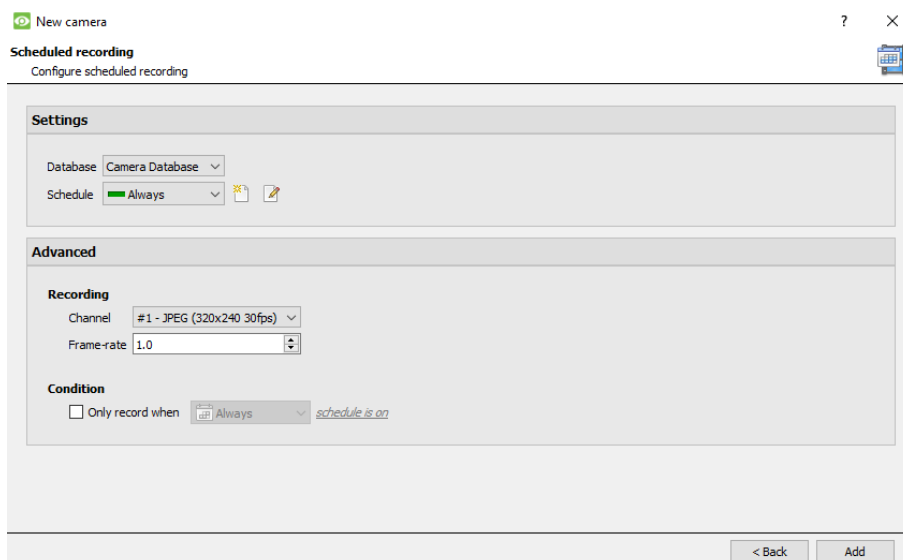
Scheduled recording can be enabled in the Camera Addition Wizard.

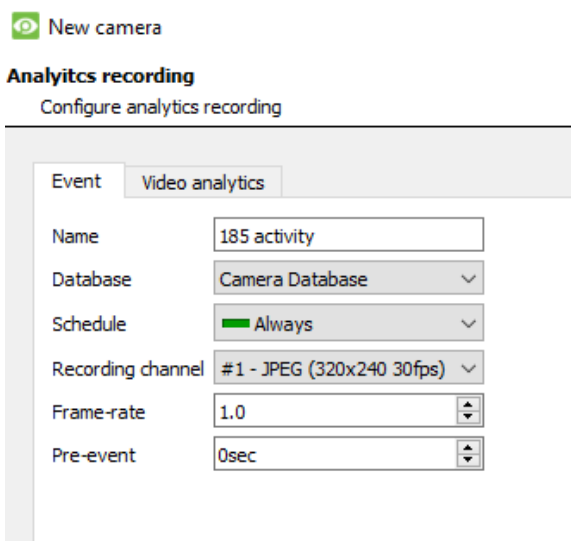Here, set Database, Schedule, Channel, Framerate and Condition.

6.2.2 Enable motion recording

This can be accessed by visiting **Setup / Configure Servers / Expand the Server / Motion Recording**.

Motion recording can be enabled. Here, the user can set Database, Schedule, Scene, Sensitivity, Recording time before and after motion, Channel, Framerate, Flare Suppression, Noise Suppression, and Condition. The user can also Add mask and Test settings**.**

6.2.3 Enable analytics recording

When configuring analytics, under the **Event** tab, set: Name, Database, Schedule, Recording channel, Frame-rate, and Pre-event.
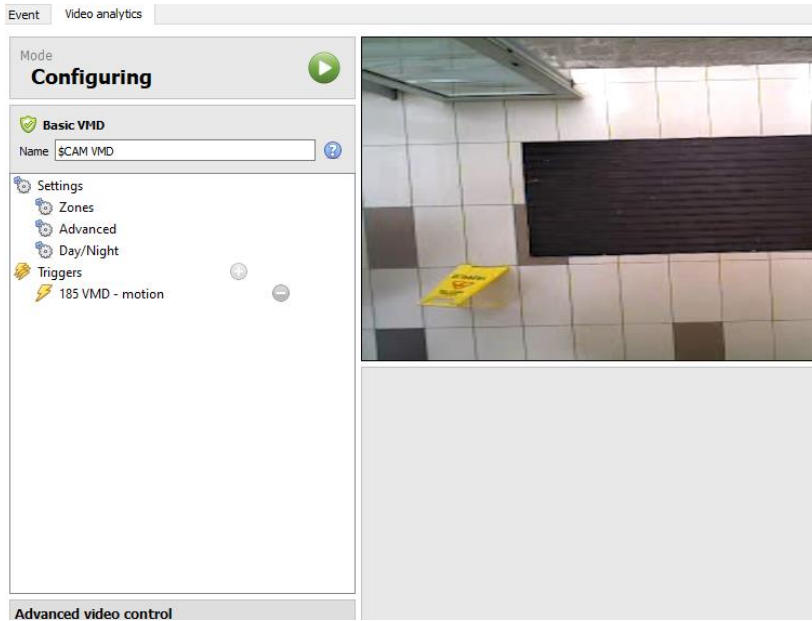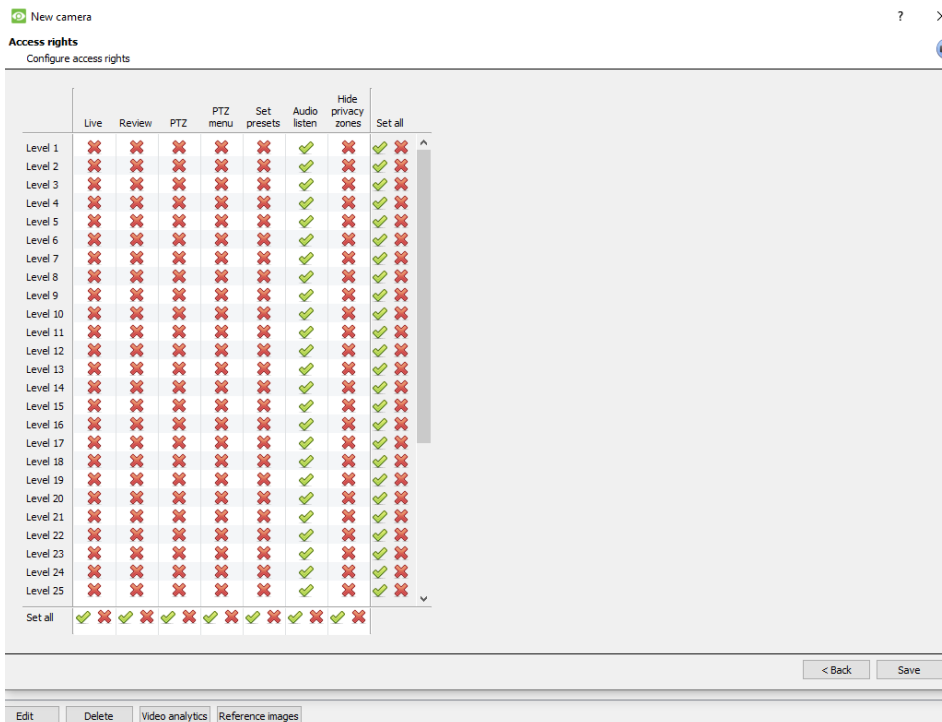
When configuring analytics under the **Event tab,** set Zones, Advanced options, Day/Night settings, and Triggers.

Advanced video control may also be used.

6.2.4 Configure access rights

Click the **Configure access rights** button to configure relevant access rights.

6.3 Copy / paste cameras

CathexisVision offers an easy solution for adding more than one camera that operates on the same driver. Copy and paste new cameras, using the addition information of one previously added camera.

To paste new cameras:

| Copy | Right-click on the previously added camera. Click **Copy**. |
| Paste new… | The right-click anywhere in the Cameras Panel. Click **Paste new…** |

6.3.1 Paste mode: sequential

The paste mode sequential window provides the option to add the new cameras as a direct copy of the camera that was copied.

Start IP Address: this determines the IP address of the first new camera being added. The IP addresses will be incremented from here. (Make sure no IP addresses in this range have been used.)

Total channels on encoder: this must be the full number of camera channels available on this encoder.

Start Input: this is the actual physical channel to which the first camera is added.

6.3.2 Paste mode: discovered

Note: This will copy the video settings from the copied camera onto the discovered cameras selected.

6.3.3 Copy / paste video settings

|	
Copy	If several cameras with the same drivers have already been selected, and the user wishes to transfer the video settings of each camera across, right-click. Select **Copy**.
Paste video settings	Then right-click on the camera to which the video settings will be added. Select **Paste video settings**.

Note:

This step relates to the Video Feed settings. This will not add Video Motion Detection analytics.

Only copy onto cameras that have the same driver as the camera that has been copied.

6.4 Edit existing camera

Note: If any changes are made to the setup of a camera that is currently multicasting, restart the streams. This entails removing and reselecting the cameras in the Cameras tab, after the settings are saved.
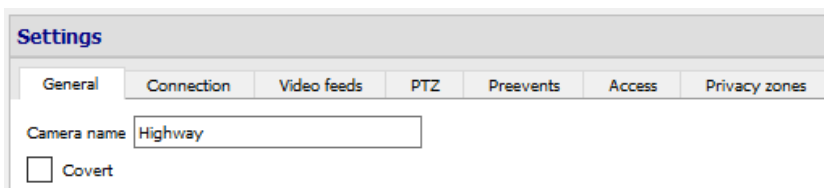
Edit a camera that has already been added, by returning to **Setup Tab / Configure Servers / Cameras.**
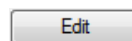
Select a camera. Click **Edit**.

This will bring up an interface with tabs containing the camera's details which can be edited.

6.4.1 Repeated options

The camera setup options of **General**, **Connection**, **Video Feeds**, **I/O**, and **PTZ** are all dealt with above. The Pre-events, Access, and Privacy Zones tabs will be dealt with below.

Note: The **Wizard** goes through the process of setting up a **Database**, **Scheduled Recordings**, and **Video Motion Algorithm** triggered recordings. These appear as individual panels in **Configure Servers**, and not as options within the **Edit** tabs.

6.4.2 Pre-events Tab
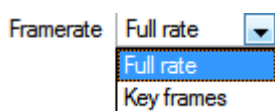
Pre-events were set up under the **Activity Recording** section of the **Wizard**.

The number of pre-events cannot be defined here. However, the frame rate of the pre-events may be defined in this tab.

Note: JPEG is recorded in Key Frames, so there will only be the option of *Frames per Second* when setting the pre-events on a MJPEG stream.

6.4.3 Access Tab

Under the **Access** tab, set up which user access levels have control of the different facets of the available cameras.

	Live	Review	PTZ	PTZ menu	Set presets	Audio listen	Hide privacy zones	Set all
Level 1	✖	✖	✖	✖	✖	✖	✖	✔ ✖
Level 2	✖	✖	✖	✖	✖	✖	✖	✔ ✖
Level 3	✖	✖	✖	✖	✖	✖	✖	✔ ✖

Live	This controls which Access Levels can view the camera's live feed.
Review	This controls which Access Levels can review recorded footage from this camera.
PTZ	This controls which Access Levels can control PTZ movement.
PTZ Menu	This controls which Access Levels have the ability to change the PTZ menu.
Set Presets	This controls which Access Levels can change PTZ Preset positions.
Audio Listen	This controls which Access levels can listen to the audio from the onboard microphone.
Hide privacy zones	This controls which Access Levels can hide privacy zones on the camera image.
Set All	✔ Selecting the tick will give this level access to all settings. ✖ Selecting the cross will give this level access to no settings.

6.4.3.1 Important note on access rights

1. All access levels on this unit are managed in the Access Rights Panel of the server.

   (**Site / Open Tab / Setup / Configure Servers / Expand the Server / Access Rights**)

2. Access rights pertain to the access levels assigned to specific users. If a user is given level 1 access, and this camera is only assigned to other levels, that user will not see this camera.

   (Users are managed in **Site / Open Tab / Setup / Users**).

3. Non-admin users may be given the right to configure other non-admin users. See the main **CathexisVision Setup Manual** for more information.

6.4.3.1 Audio listen access right

The table below describes situations in which the Audio Listen access rights settings configured by the user do and do not apply.
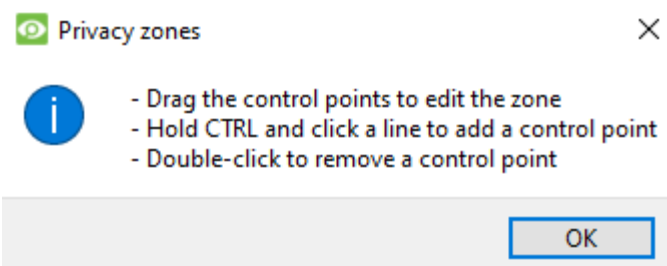
Audio Listen access right settings **do apply** to:	Audio Listen access right settings **do not apply** to:
Live viewing.	Independent audio channels.
Reviewing from the camera tab.	Archived video.
Reviewing from the database tab (both video and integration databases).	Connecting to a 2016.2 server using a 2015 / 2016.1 viewer.
Viewing video when handling an alarm in the Alarm Management Gateway.	Connecting to a 2016.1 server using a 2016.2 viewer.

Note: When listening to reviewed audio, only a single audio channel will now play.
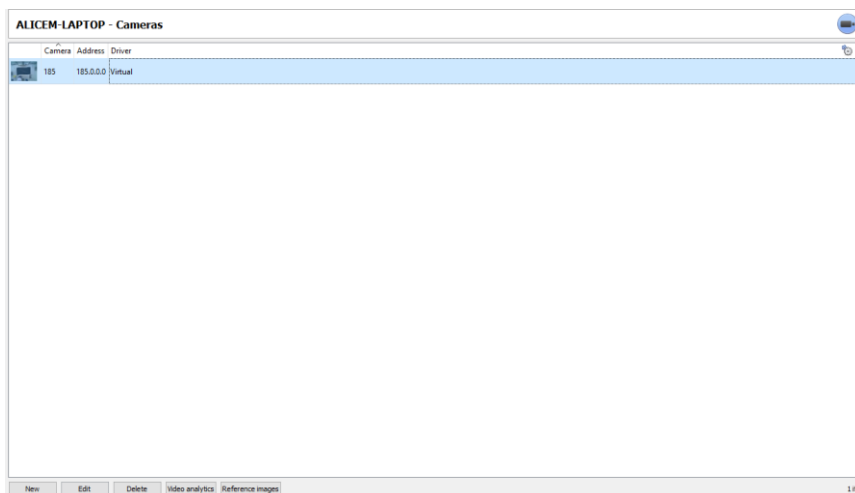
6.4.4 Privacy Zones
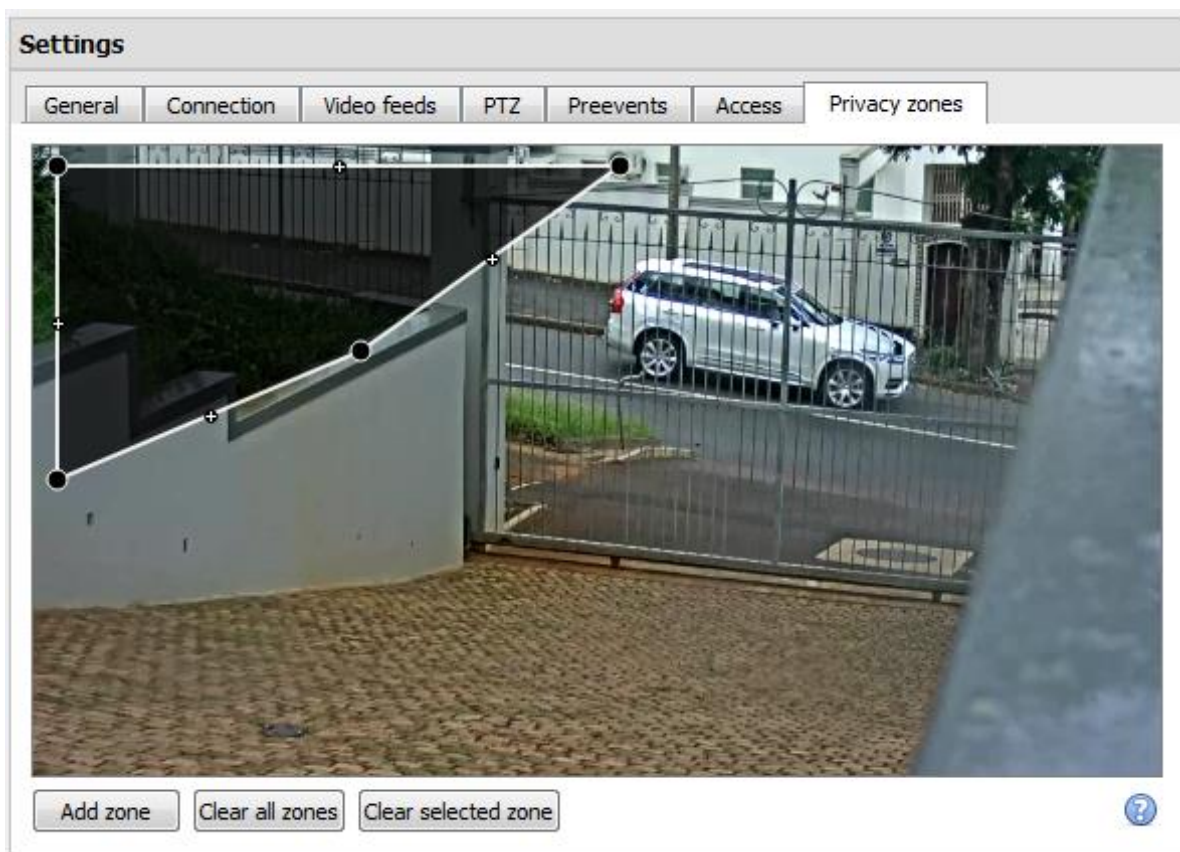
Using privacy zones, certain areas of the camera image can be blocked from view. They can be hidden (removed) by operators who have been granted access rights to do so. Otherwise, privacy zones can be set to blacken out the sensitive information on the camera image, and will reflect in snapshots, recordings, and review.

Add zone	Add a new privacy zone to the camera image.
Clear all zones	Clear all privacy zones from the camera image.
Clear selected zone	Clear only the selected zone from the camera image.
❓	Click this to show instructions on defining the shape of a privacy zone: **Privacy zones** ✕ ℹ - Drag the control points to edit the zone - Hold CTRL and click a line to add a control point - Double-click to remove a control point OK

6.4.5 Camera successfully added

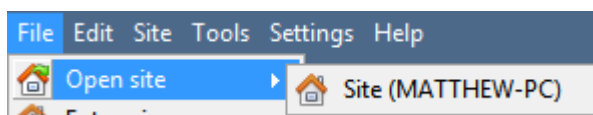The camera has now been set up.

It will start recording as configured.

From this screen, another camera can be added, or the camera that has just been set up can be edited.
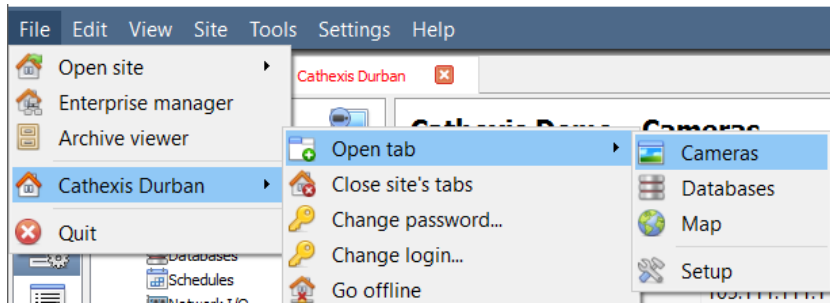
6.5 View camera or cameras

6.5.1 Open

6.5.1.1 Open Site

File / Open Site / Your_Sites_Name.
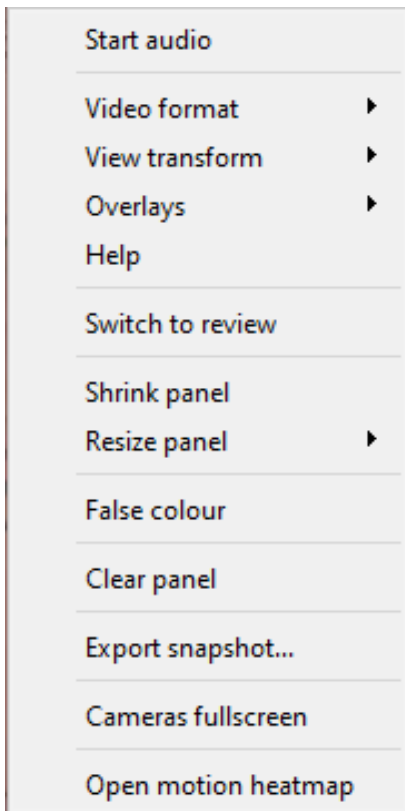
6.5.1.2 Open the Cameras Tab

File / Your_Sites_Name / Open Tab / Cameras.

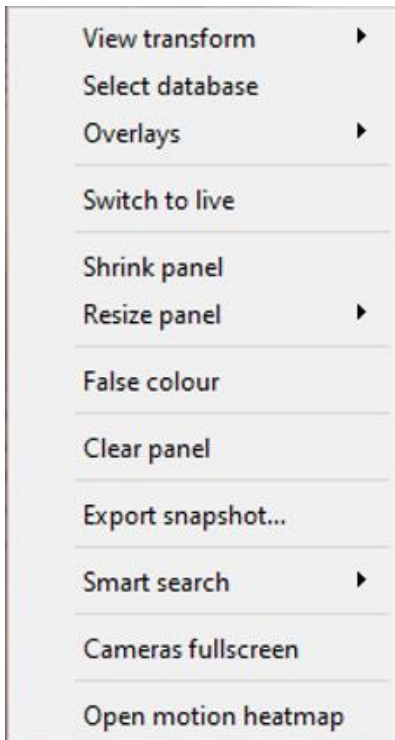Double-click on a camera in the **Resources** panel to start viewing it.

6.5.2 Middle-click on a Live Camera

Middle-click on a live camera to change aspects of how the camera appears in a panel.

Start audio: starts audio.

Video format: allows the user to select which of the camera's video streams (format / resolution) they wish to view.

View transform: allows transforming images for cameras with special lenses. (For example, 360-degree cameras.)

Overlays: allows viewing the different analytics algorithms that have been applied to this camera's feed, live in the Cameras Tab.

Help: a pop-up help window on Digital Zoom, and PTZ Control within this panel will appear.

Switch to review: allows switching back and forth between live and review footage.

Shrink panel: reduces the size of the camera panel.

Resize panel: gives more resizing options.

False colour: changes the colour of the image to false colour.

Clear panel: removes the camera or cameras from the currently selected panel or panels.

Export Snapshot…: opens a window to print snapshot, save to folder, copy to system clipboard, or copy to CathexisVision clipboard. The user can also choose include the camera name and time of snapshot in the overlays.

Cameras fullscreen: fills the entire screen with the Cameras Panel, creating a Video Wall. The same procedure will exit fullscreen mode.

Open Motion Heatmap: opens motion heatmap.

6.5.3 Middle-click on a Camera in Review

| View transform ▶ |
| Select database |
| Overlays ▶ |
| Switch to live |
| Shrink panel |
| Resize panel ▶ |
| False colour |
| Clear panel |
| Export snapshot... |
| Smart search ▶ |
| Cameras fullscreen |
| Open motion heatmap |

View transform: allows transforming images for cameras with special lenses. (For example, 360-degree cameras.)

Select database: if multiple databases are set up, use this option to set a camera to record to a certain database.

Switch to live: allows switching back and forth between live and review footage.

Shrink panel: reduces the size of the camera panel.

Resize panel: gives more resizing options.

False colour: changes the colour of the image to false colour.

Clear panel: removes the camera or cameras from the currently selected panel or panels.

Export snapshot…: opens a window to print snapshot, save to folder, copy to system clipboard, or copy to CathexisVision clipboard. The user can also choose to include the camera name and time of snapshot in the overlays.

Smart search: use the snap-search feature to search the database for snapshots similar to the current image.

Cameras fullscreen: fills the entire screen with the Cameras Panel, creating a Video Wall. The same procedure will exit fullscreen mode.

Open motion heatmap: opens motion heatmap.

7. Events

Events are located under

Site / Open Tab / Setup / Configure Servers **/ Events**

When creating Video Motion Detection (VMD), it will immediately be added as an event. This VMD setup can also be used in other events. From the Events panel, the user can edit current events, create new events, or delete events that are no longer desired.

Double-click or edit an event to adjust the **Schedule**, **Resources**, **Triggers**, and **Actions** as required.

- A trigger sets off an event. There can be more than one trigger per event. (For example, VMD from two cameras will cause the same action.)
- Actions are defined as the actions taken by the system as a result of the trigger.

Note: the "Resources" section refers to the system's ability to switch the display on a Client Viewing PC to a relevant camera's stream, as a result of an action. This does not affect which cameras will be recorded.

8. Uninstall

To uninstall, follow the process that is native to the operating system on which CathexisVision was installed.

9. Conclusion

Note: this is a quick guide to the CathexisVision server software. For more information on CathexisVision, consult the *CathexisVision Setup Manual* (http://cathexisvideo.com/).

For support, contact support@cat.co.za