



OptaSense Integration App-note

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1. Introduction

This document will detail the integration of the OptaSense integration device, with the CathesisVision software. The OptaSense software sends events to CathesisVision whenever something of note happens on the OptaSense system.

Note:

1. CathesisVision does not monitor the status of any hardware on the OptaSense system.
2. OptaSense system events cannot be setup for this integration as CathesisVision cannot control the device.

1.1 General Requirements

- CathesisVision 2017.2 and later.

1.1.1 License Requirements

The OptaSense integration license requirements are as follows:

License	Name	License Description
COPS-2000	OptaSense Device License	This license is the “base” license to integrate with the OptaSense system. It is applied to the server to which the OptaSense device is connected. It will allow for the connection of a single OptaSense system.
COPS-1001	OptaSense Object License	These licenses apply to the sensors in the OptaSense system. The COPS-1001 will license a single sensor, and may be added on a sensor-by-sensor basis.
COPS-3000	OptaSense Bundle license - includes license and unlimited objects.	This license includes the COPS-2000 OptaSense device license, and also provides support for unlimited COPS-1001 object licenses.

Note: In this integration, individual devices will require a license for each device.

A NOTE ON CAMERA CHANNELS

The CathesisVision software packages have **limits on camera channels**. A multi-sensor 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 CathesisVision 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.

1.2 Integration Components

All CathesisVision integrations have two component levels: **Device** and **Object**.

Device	The device is CathesisVision software’s interface, which handles all the interaction between CathesisVision and the integrated hardware. When an integration is added to the CathesisVision system, a device is added. The messages received from the device are called Device Events.
Objects	Objects are the individual pieces of hardware that comprise the integration. There may be multiple "object types" under the objects group. For example, the main controller and door nodes of an access control system are both objects. They are different types of objects.

1.3 Features and Abilities

1.3.1 General

- CathesisVision receives event messages from the OptaSense software package.
- Device event messages can be used to trigger a CathesisVision system event.

1.3.2 Device Objects

Object Type		Abilities
General		<ul style="list-style-type: none"> • This integration has OptaSense, Sensor, and Communication channel objects. • Objects are automatically created as soon as communication between the CathesisVision unit and device is established. • Device objects support overlays. • Events on the software can be used to trigger CathesisVision system and map events. • Objects may be linked to cameras to associate device events with video footage.
OptaSense Server	Object Properties	<ul style="list-style-type: none"> • Name • Status
Sensor	Object Properties	<ul style="list-style-type: none"> • Name • Licensed
Communication Channel	Object Properties	<ul style="list-style-type: none"> • Name • Channel status • Details • Creation type • Creation time • Idle time

1.3.3 Device Events

Event Element	Features/Abilities	
General	<ul style="list-style-type: none"> • Event messages generated by OptaSense will reflect in CathesisVision. • Device event notifications populate both on the map and CathesisVision when a fence event is triggered. • A device can be associated with a camera in order to view overlays. • There is an overlay, with a configurable timeout, when an event occurs. 	
Device Event Types	Alert	<ul style="list-style-type: none"> • ID • Time • Alert ID • Start time • End time • Alert type • Alert level • CPS number • Start channel • End channel • Start optical distance (meters) • End optical distance (meters) • Start latitude • Start longitude • End latitude • End longitude • Scale point • Zone name • Speed (m/s) • External type • External ID
	Miscellaneous	<ul style="list-style-type: none"> • Time • Type • Notification
CathesisVision Event Actions	<ul style="list-style-type: none"> • Events generated by the device are reflected in CathesisVision, and can be used to create CathesisVision system events. • The device and device objects cannot be controlled as part of the system events. 	

1.3.4 Metadatabase

A unique metadatabase is created on the CathesisVision server for this integration. It is fully searchable, with configurable filters based on device event information (as above), and time stamping. The filtered event/s, and the associated video, will then be available for review in a new window from which an archive can be created and exported.

Database Element	Features/Abilities
General	<ul style="list-style-type: none"> All device events are databased. Database entries include the footage from cameras linked to device objects. Multiple cameras may be linked to multiple objects. Device event metadata is displayed where applicable. Databased device events may be viewed in the embedded video player, which includes the usual CathesisVision video review tools.
View Options	<ul style="list-style-type: none"> Alert Miscellaneous
Sort Options	<ul style="list-style-type: none"> Time
Easy Search	<ul style="list-style-type: none"> Alert type Alert level CPS number Zone name External type External ID
Filter	<ul style="list-style-type: none"> NVR time Alert ID Start time End time Alert type Alert level CPS number Start channel End channel Scale point Zone name External type
Export	Database entries may be exported in CSV and PDF format.

USEFUL LINKS

To view **tutorial videos** on CathesisVision setup, visit <https://cathesisvideo.com/resources/videos>

Find answers to Cathesis **Frequently Asked Questions**: <https://cathesis.crisp.help/en/?1557129162258>

2. OptaSense Software Setup

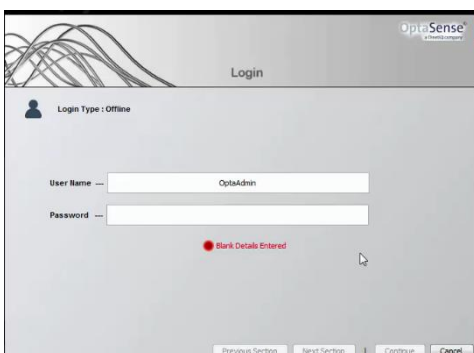
This section will detail the procedure for setting up the OptaSense system to communicate with CathesisVision effectively.

2.1 Getting Started

Open the OptaSense Software.



Enter the user name and password.



2.2 Open Setup Wizard Window

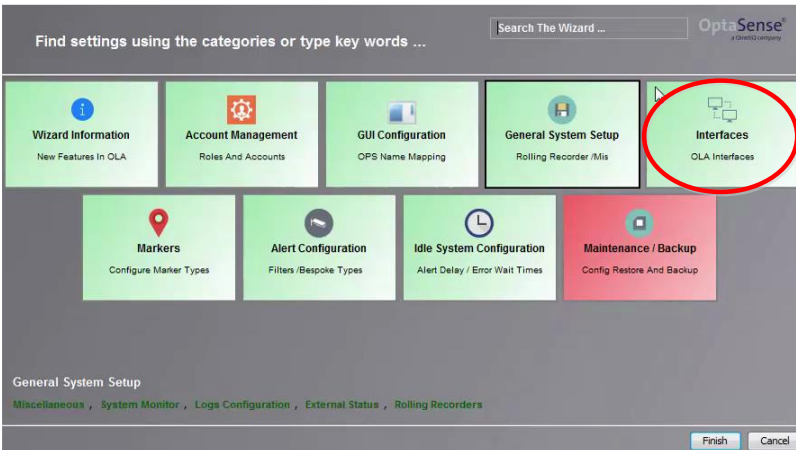
The CathesisVision server that will receive messages needs to be configured in the OptaSense Setup Wizard.

Once logged in, the OptaSense toolbar will appear. Navigate to **Engineering tab / Setup Wizard**.

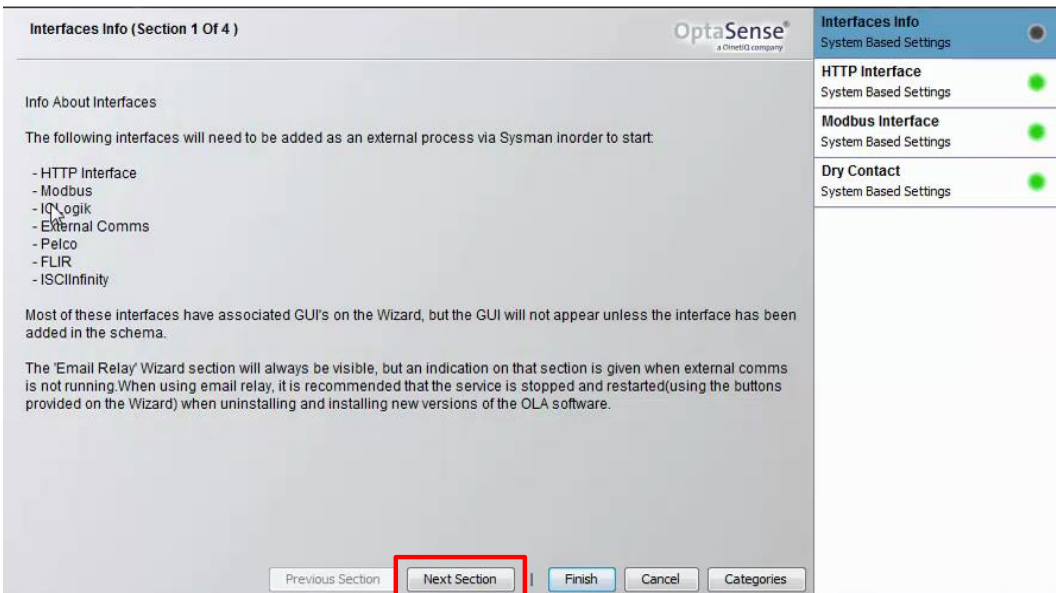


2.3 Open Interfaces Info

In the Setup Wizard Window, click **Interfaces**:

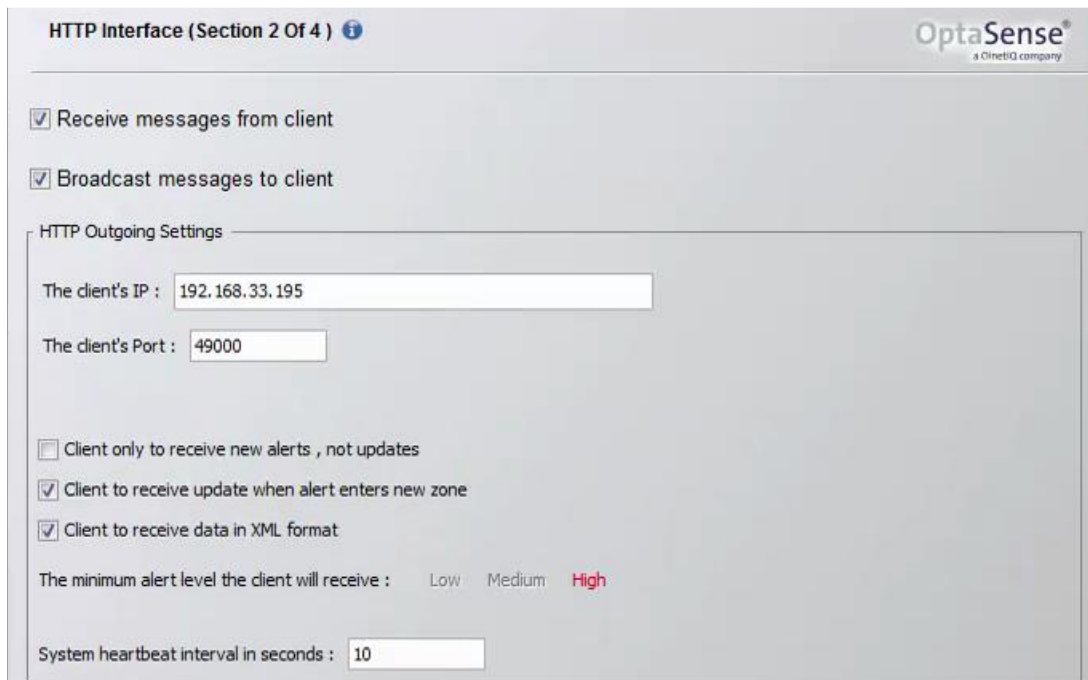



In the Interfaces Window, click **Next Section**:



2.4 CathesisVision Server Details

Enter the CathesisVision server details into the fields.



HTTP Interface (Section 2 Of 4) 

OptaSense[®]
a CinetIQ company

Receive messages from client

Broadcast messages to client

HTTP Outgoing Settings

The client's IP :

The client's Port :

Client only to receive new alerts , not updates

Client to receive update when alert enters new zone

Client to receive data in XML format

The minimum alert level the client will receive : Low Medium **High**

System heartbeat interval in seconds :

Note:

1. This port number must match the number entered when adding the OptaSense device in CathesisVision.
2. When there is connection with CathesisVision, the OptaSenseServer Object will show a Red status in the Object Properties tab of Configure Servers. See next section.

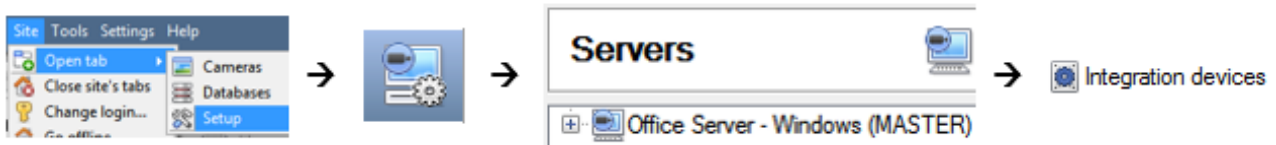
Click **Finish** to complete.

3. Devices Section (Add a New Device in CathesisVision)

Integrations are added on a server-by-server basis. They are managed in the Integration Devices panel, under the **Setup Tab** of the servers to which they are added.

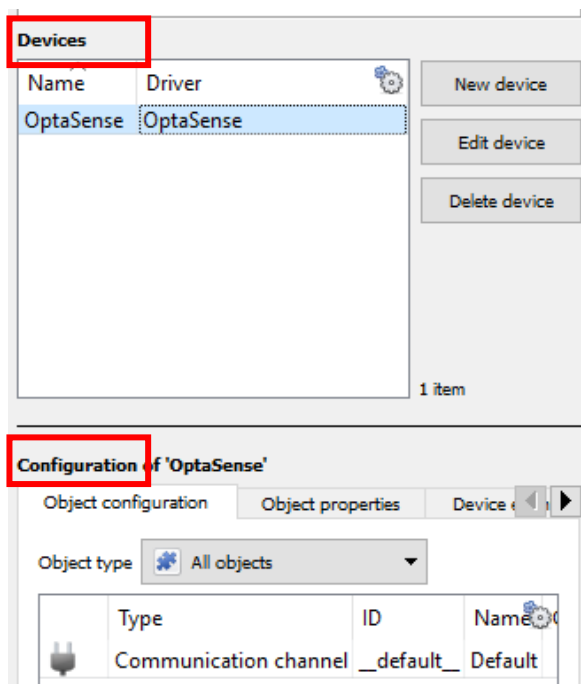
3.1 The Integration Devices Panel

To get to the Integration Panel, follow this path: **Site / Open tab / Setup / Configuration icon / Server / Integration devices**.



There are two sections in the Integration Panel:

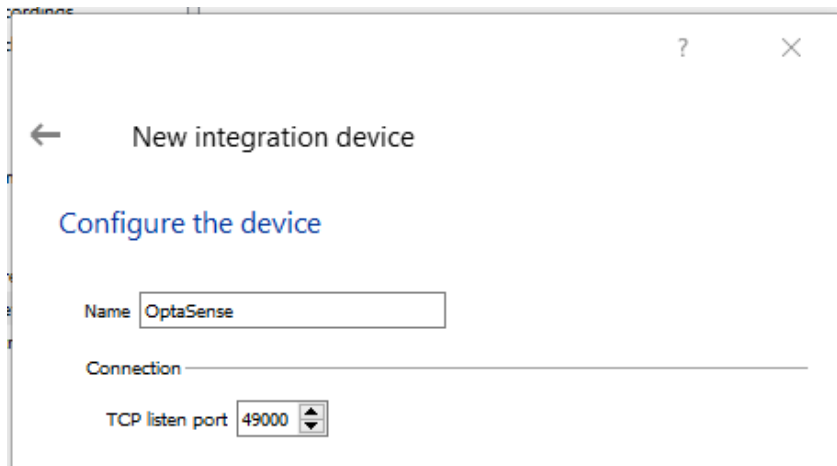
1. The **Devices** list shows the integration devices attached to the integration database.
2. The **Configuration** section enables editing/reviewing the device selected in the **Devices** section.



3.2 Device Addition

New device

1. In the Integration Panel, navigate to the **Devices section**.
2. Click on the **New device** button on the right-hand side. This will open the addition dialogue.
3. Select the OptaSense driver from the list.



New integration device

← Configure the device

Name

Connection

TCP listen port

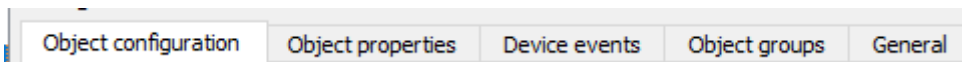
4. Give the device a descriptive **name**.
5. Set the **TCP listen port number**. This number needs to match the one on the OptaSense software.
6. Click **Finish** when done.

4. Configuration Section (Tabs)

The configuration section is divided up into a number of tabs. These tabs are: **Object configuration**, **Object properties**, **Device events**, **Groups**, and **General**.


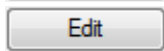

Note: Once the device is connected, the device objects will populate automatically.

4.1 Object Configuration Tab

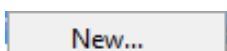
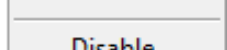
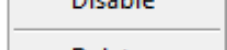
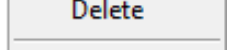


The object configuration tab is the tab where all the individual objects that comprise the integration may be viewed.

4.1.1 Object Configuration Buttons

	Click New to add a new object.
	Click Edit to change an existing object.
	Click Delete to remove an existing object from the CathesisVision configuration.

4.1.2 Object Configuration Right-click Options

	New will open up the dialogue to add a new object.
	Disable/Enable allows objects to be enabled/disabled manually.
	Delete will permanently remove this object from the list.
	Properties will open up the object properties. The object may be edited from here. Specifically, assign cameras to this object, and define user access levels.

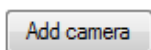
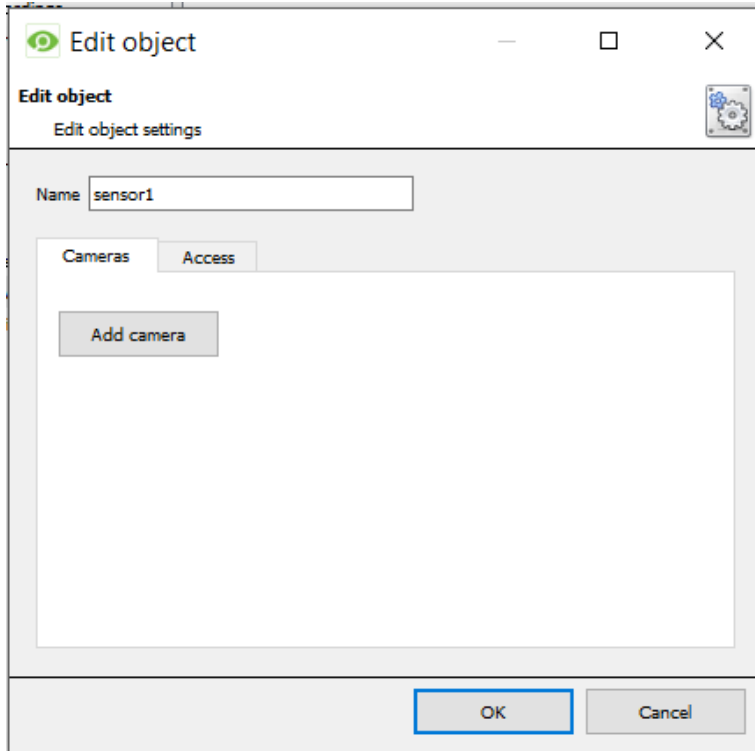
4.1.3 Edit Object

Use the Object configuration tab to make changes. Open the object editing window by selecting an object from the list, and clicking the **Edit button**, or **right-click Properties**.

This window is where cameras are added to objects, overlays are configured, and access rights to the integration are added. These are dealt with in two tabs: **Cameras** and **Access**.

4.1.3.1 Properties: Camera

Adding a camera to an object will mean that whenever there is an event on that object, the recording from that camera will be related to the time and date of the object event, in the Integration database.



To **add** a camera, click Add camera, and select the relevant camera from the drop-down menu.

Multiple cameras may be associated with individual objects.



To **delete** a camera, click the trash icon.

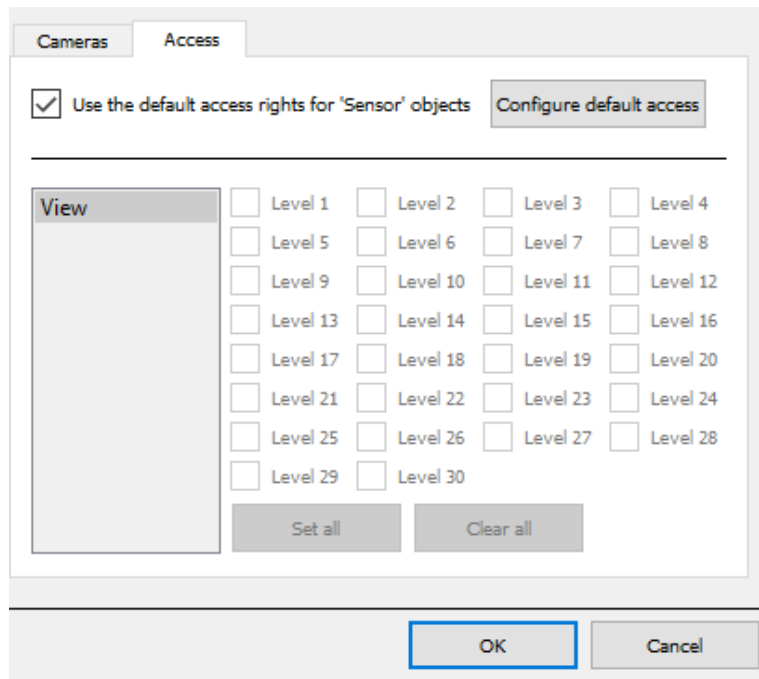


To configure the **overlays** for the specific Sensor object that has been selected, click the settings icon.

- The settings icon only appears once a camera has been added.
- This setting will only apply to the specific Sensor object that has been selected.
- To configure overlays for **all** Sensor objects, please see the section below on defining the Default Settings for Sensor objects.

Note: If **continuous recording is not** set up on associated cameras, there is the risk of an object event triggering while the cameras are not recording. To record cameras only when an object triggers, set up **Events** that trigger a recording, when one of these objects is activated.

4.1.3.2 Properties: Access



Access allows sensitive objects to be protected, by only allowing certain user levels access to them.

Under **View**, set the access levels.

Note: If *Use default access rights* is checked, ensure that those default rights have been correctly defined. Click on **Configure default access** to do this.


4.1.4 Configure Overlays

Overlays may be configured individually, or globally.

- If individual, then the overlay settings are applied only to the selected object.
- If global, then the overlay settings are applied to all objects of the selected type.
- The only difference in the configuration process, is navigating to the overlay settings window for each option. Thereafter, the overlay settings window is the same. See below for navigating to the overlay configuration window for individual/global overlays.

Note: Overlays can only be configured for **Camera** objects.

4.1.4.1 Configure Individual Overlays

1. Right-click the individual object and open the Properties window.
2. Add a camera to the object.
3.  Click the Edit Overlays icon.
4. **Enable** Check Enable to enable overlays on the object.

4.1.4.2 Configure Global Overlays

1. Select the object type from the Object type drop-down menu in the Object Configuration tab.
2. Click the Default Settings icon.
3. Use defaults Uncheck Use defaults.
4. Enable Click Enable to enable overlays on the object.

Overlay Configuration Window

Text Size

Location

Background color

Text color

Select **Text Size**.

Select overlay **Location**.

Select Background and text **colour**.

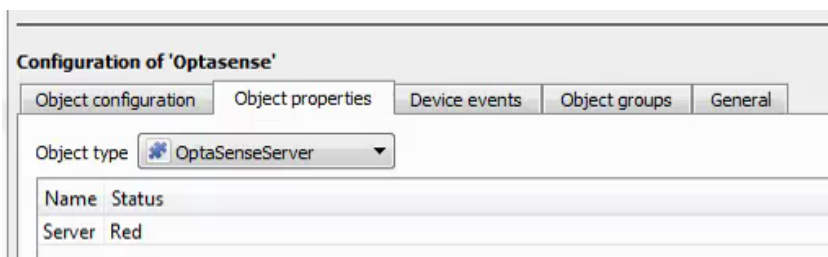
- Selecting the colour blocks will bring up a chart with more colour options.
-

Click **OK** to complete.

4.1.5 Objects Properties Tab

The Object properties tab allows objects to be viewed, sorted by type.

In the case of the OptaSense device the viewing options are by **Sensor**, **OptaSenseServer** or **Communication Channel**.



Note: When there is connection with CathesisVision, the OptaSenseServer Object will show a Red status.

4.2 Device Events Tab

The Device events tab lists real-time events happening on this device. Installers can ensure that the integration is functioning, and monitor the Events happening on site.

Configuration of 'Optasense'

Object configuration | Object properties | Device events | Object groups | General

All events

Event type																		
Alert	20...	48...	2016-12-12 ...	20...	Th...	high	0	93	970	93...	97...	56...	88...	25...	65...	O...	0.0...	
Alert	20...	48...	2016-12-12 ...	20...	Th...	high	0	93	970	93...	97...	56...	88...	25...	65...	O...	0.0...	
Alert	20...	48...	2016-12-12 ...	20...	Th...	high	0	93	970	93...	97...	56...	88...	25...	65...	O...	0.0...	
Alert	20...	48...	2016-12-12 ...	20...	Th...	high	0	93	970	93...	97...	56...	88...	25...	65...	O...	0.0...	
Alert	20...	001	1970-01-01 ...	19...	Th...	high	0	0	0	0.0	0.0	0.0	0.0	21.0	23...			
Alert	20...	001	1970-01-01 ...	19...	Th...	high	0	0	0	0.0	0.0	0.0	0.0	21.0	23...			
Alert	20...	001	1970-01-01 ...	19...	Th...	high	0	0	0	0.0	0.0	0.0	0.0	21.0	23...			
Alert	20...	54...	2016-12-12 ...	20...	Th...	high	0	707	707	70...	70...	25.0	21.0	25.0	21.0	O...	0.0...	
Alert	20...	54...	2016-12-12 ...	20...	Th...	high	0	707	707	70...	70...	25.0	21.0	25.0	21.0	O...	0.0...	
Alert	20...	001	1970-01-01 ...	19...	Th...	high	0	0	0	0.0	0.0	0.0	0.0	21.0	23...			
Alert	20...	2	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	5.02	22...	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	5.02	22...	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	5.02	22...	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	5.02	22...	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	5.02	22...	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	36.0	5.02	36.0	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	36.0	5.02	36.0	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	36.0	5.02	36.0	5.02	Ab...	0.0...	
Alert	20...	1	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	36.0	5.02	36.0	5.02	Ab...	0.0...	
Alert	20...	0	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	10.0	22...	10.0	Ab...	0.0...	
Alert	20...	0	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	10.0	22...	10.0	Ab...	0.0...	
Alert	20...	0	2016-12-12 ...	20...	Th...	high	0	0	0	0.0	0.0	22...	10.0	22...	10.0	Ab...	0.0...	

4.3 Object Groups Tab

Note: While the Object Groups tab is available and functional (meaning groups of object types can be created), creating object groups is of no use for this integration.

For information on the Object Groups tab and how to create groups of objects, please consult the main **CathesisVision Setup Manual**.

4.4 General Tab

The General tab of the Configuration section (Integration panel) deals with the integration database. Setup must be completed here, before the Databases tab can be used to search events and view associated footage.

Object configuration | Object properties | Device events | **Groups** | General

Integration database -- select integration database --

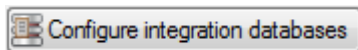
Configure integration databases

From the General tab, the user must:

- *Select* an existing database, or
- Configure a *new* database for OptaSense, and then select it.

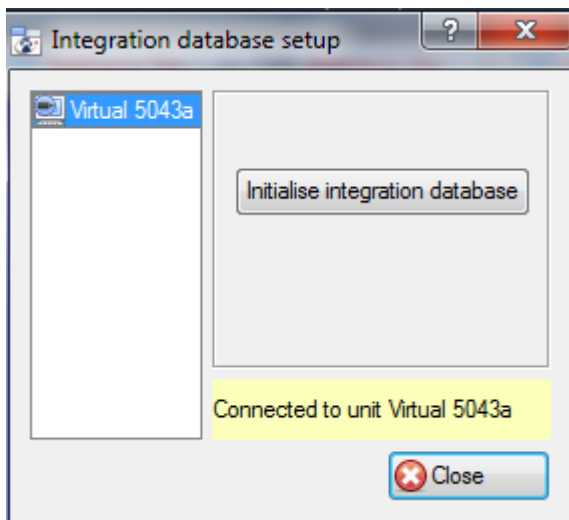
Note: Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathesisVision system.

4.4.1 Configure a New Database



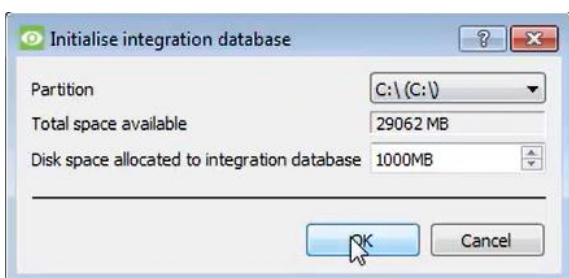
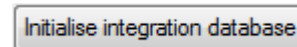
If there is no database created yet, click on this button to go to the integration database setup.

4.4.1.1. Initialise the Integration Database



Select the **unit** to which the database will be added, from the list on the left.

Then, click **Initialise integration database**.



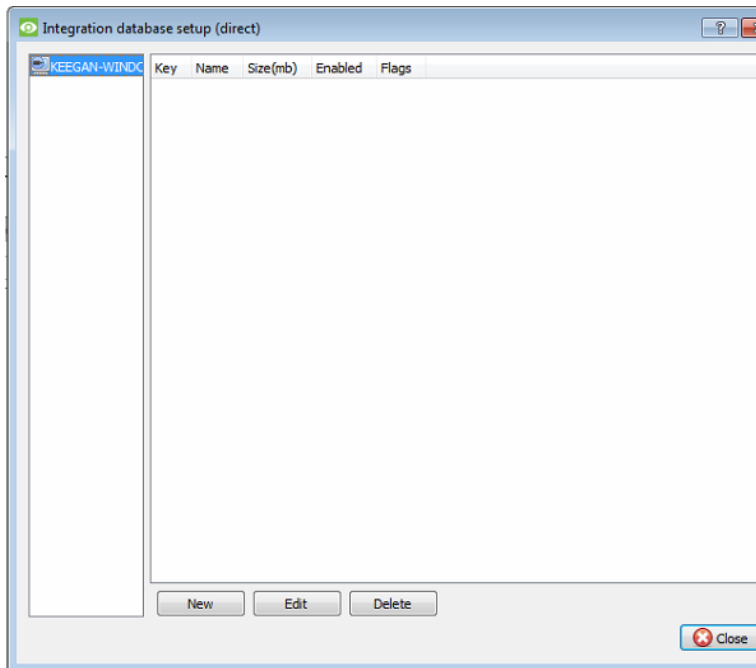
Choose the **partition** on which the database will be created.

Select **disk space** allocation.

Click **OK**.

4.4.1.2 Add a New Devices Database

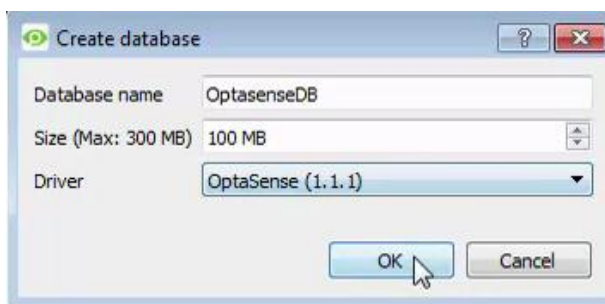
After initialisation, the database can be added to the integration.



This opens the integration database setup window.



Click the **New** button.



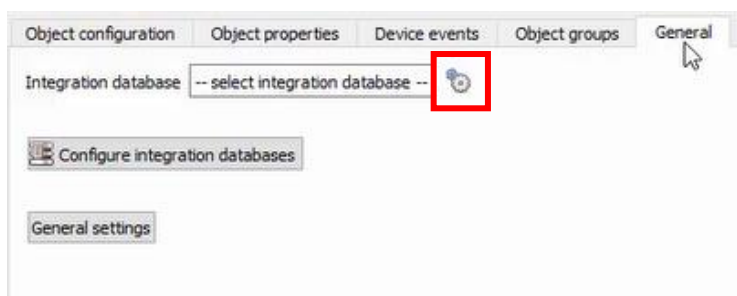
Give the Integration database a descriptive **Database Name**.

Allocate a **Size**.

Choose the device **Driver**, and click on OK to create the database.

4.4.2 Select the Integration Database

Once an OptaSense database has been created, the database must be selected.

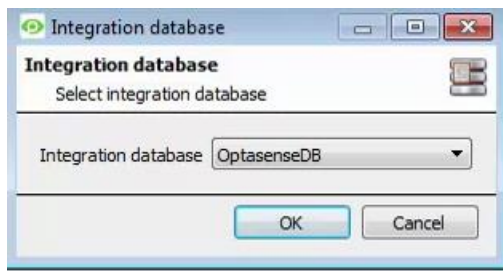


Return to the General tab.



Then, click the **settings icon**.

A dialogue will appear. Only databases which relate to the device being added should appear.



Select the OptaSense database from the drop-down menu.

Then click OK.

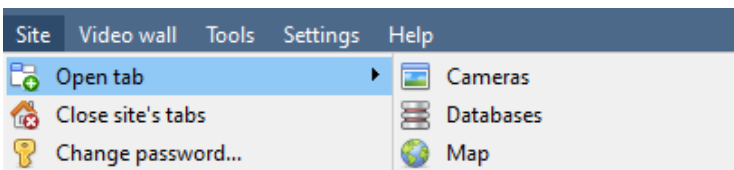
5. Camera Tab Overlay Setup

Once all the relevant settings have been configured, the OptaSense sensor overlay can be pulled through over the relevant camera feed.



Note: Cameras must have already been added to the Sensor objects.

5.1 Navigate to the Cameras Tab



To see the camera feeds, go to the Cameras tab by following this path.

Site / Open tab / Cameras

5.2 Video Feed Options Panel



To bring up the overlay, click the arrow to the left of the screen, to pop out the Video feed options panel.

Once popped out, the Video feed options panel will present a number of options specific to the settings configured for that video feed.

5.2.1 Select the Overlay



Clicking the overlay icon will bring up the overlay options for this video feed.

Select the desired overlay and it will appear over the video feed, as above.

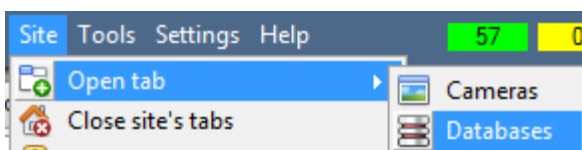
6. Database

The Databases tab allows the user to navigate to the databased entries for each individual database. In the Databases tab, each database is presented as a table. It has built in filters, and the ability to navigate by timestamp. If a database entry has an associated recording, this recording can be launched from within the Databases tab.

Most integrations will have a different database presentation, and unique filters, due to the different parameters sent to CathesisVision by the integrated device.

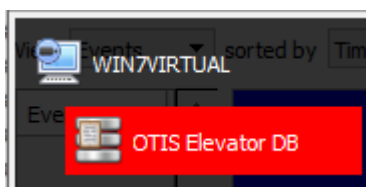
NVR Time	Alert id	Start time	End time	Alert type	Alert level	CPS number	Start channel	End channel
2016-12-12 10:14:08	001	1970-01-01 00:00:00.000	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:11	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:25	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:31	5480@Cantasia-PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:33.205	Threat.Type.Cattle	high	0	28	0
2016-12-12 10:14:36	5480@Cantasia-PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:36.861	Threat.Type.Pipeline_Activity	high	0	28	0
2016-12-12 10:14:41	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:48	5480@Cantasia-PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:48.493	Threat.Type.PerpendicularWalking	high	0	28	0
2016-12-12 10:14:56	5480@Cantasia-PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:56.845	Threat.Type.PerpendicularWalking	high	0	28	0
2016-12-12 10:15:08	5480@Cantasia-PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:15:08.469	Threat.Type.LocalisedEvent	high	0	28	0
2016-12-12 10:15:17	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	unknown	unknown	0	0	0
2016-12-12 10:15:20	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	unknown	unknown	0	0	0
2016-12-12 10:15:26	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	unknown	unknown	0	0	0
2016-12-12 10:15:30	5480@Cantasia-PC.14815305309493.3	2016-12-12 10:15:30.493	2016-12-12 10:15:30.493	Threat.Type.LocalisedEvent	high	0	815	0
2016-12-12 10:15:41	5480@Cantasia-PC.1481530541293.4	2016-12-12 10:15:41.293	2016-12-12 10:15:41.293	Threat.Type.LocalisedEvent	high	0	815	0
2016-12-12 10:15:53	5480@Cantasia-PC.1481530541293.4	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.LocalisedEvent	high	0	815	0
2016-12-12 10:16:06	5480@Cantasia-PC.1481530541293.4	2016-12-12 10:15:41.293	2016-12-12 10:16:06.173	Threat.Type.LeakOPN	high	0	815	0
2016-12-12 10:16:13	0	2016-12-12 10:16:13.397	2016-12-12 10:16:18.397	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:13	0	2016-12-12 10:16:13.397	2016-12-12 10:16:18.397	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:13	0	2016-12-12 10:16:13.397	2016-12-12 10:16:18.397	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:14	0	2016-12-12 10:16:14.173	2016-12-12 10:16:19.173	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:14	0	2016-12-12 10:16:14.173	2016-12-12 10:16:19.173	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:14	0	2016-12-12 10:16:14.173	2016-12-12 10:16:19.173	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:28	0	2016-12-12 10:16:28.423	2016-12-12 10:16:35.423	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:28	0	2016-12-12 10:16:28.423	2016-12-12 10:16:35.423	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:28	0	2016-12-12 10:16:28.423	2016-12-12 10:16:35.423	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:36.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:36.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:36.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:36.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:18:57	7360@Cantasia-PC.1481530737371.1	2016-12-12 10:18:57.300	2016-12-12 10:18:57.300	Threat.Type.Digging	high	0	28	0
2016-12-12 10:19:15	0	2016-12-12 10:19:15.652	2016-12-12 10:19:22.652	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:21:09	0	2016-12-12 10:21:09.851	2016-12-12 10:21:16.851	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:22:15	0	2016-12-12 10:22:15.290	2016-12-12 10:22:22.290	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:22:15	0	2016-12-12 10:22:15.290	2016-12-12 10:22:22.290	Threat.Type.Cable_Cut	high	0	0	0

6.1 Navigate to the Database



To view the information stored in the Integration database, follow the path to the left.

This will open the Database Tab.

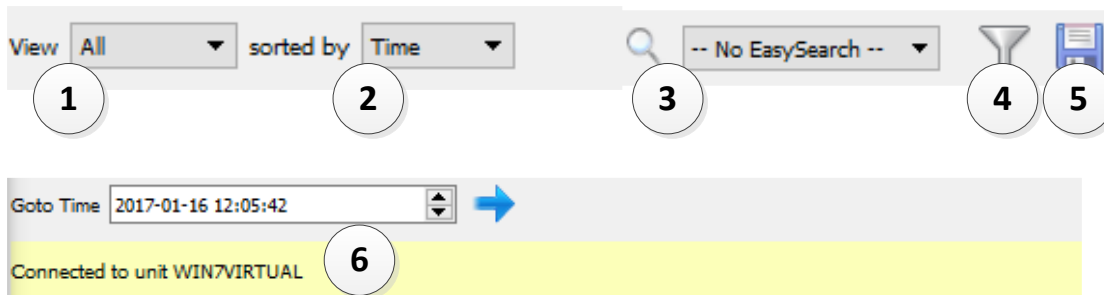


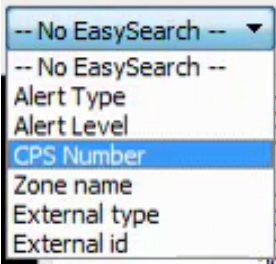
Once in the databases tab, select the relevant integration database. The databases are ordered under the NVRs that they are attached to.






Hover over the on the left-side of the camera image to bring up the database panel on the left.

6.2 Database Interface



<p>①</p> <p>View</p>	<p>The user may change the way that the database is presented. Some integration databases have multiple view options. The OptaSense device has: Alert and Miscellaneous.</p>
<p>②</p> <p>Sorted By</p>	<p>Events can only be sorted by certain parameters.</p>
<p>③</p> <p>Easy Search</p>	<p>The easy search option lets the user quickly search the database. The OptaSense device has:</p> 
<p>④</p> <p>Filter</p>	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Once the filters dialogue is open, the following filter options are available:</p> <ol style="list-style-type: none"> To enable filters check this box: <input checked="" type="checkbox"/> Enable filters To add a new filter click on To delete an added filter click on <p>It is possible to filter the same parameters more than once.</p> <p>To change a filter click on the blue hyperlinked text. (For example, click on Timestamp to change the filter from Timestamp, to any of the other available options.)</p> <p>The filter options in this integration are:</p>

	<div data-bbox="405 152 628 640"> <p>Transaction</p> <ul style="list-style-type: none"> NVR Time Alert id Start time End time Alert type Alert level CPS number Start channel End channel Scale point Zone name External type </div> <p>Note:</p> <ol style="list-style-type: none"> Multiple filters may be run simultaneously. The filter icon  will change to  when filters are active.
<p>⑤</p> <p>Export</p>	<p>Generate metadatabase reports in PDF or CSV format. See below.</p>
<p>⑥</p> <p>Go to Time</p>	<p>This navigates to a specific point in time, down to the second. To navigate to a timestamp set the time using the time and date boxes.</p> <p> Then click on the arrow icon.</p>

6.2.1 Generate Metadatabase Reports



Click the save icon to open the Export window.

Export

Select the period to export

Preset Quarter to date

Specific

From 1 January 2017 00 00 00

to 1 April 2017 00 00 00

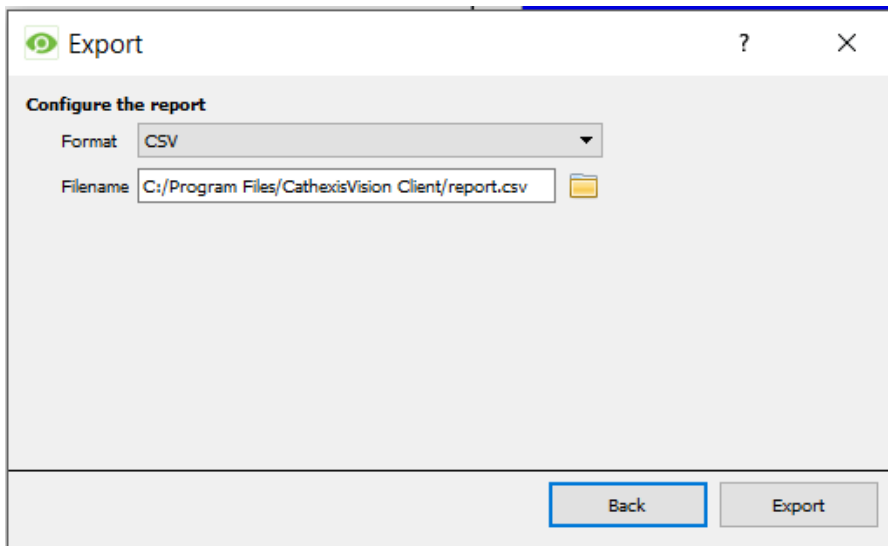
Previous 1 Hours

Period of 1 Hours from 00h00 16 January 2017

Back Next

Select the **Period** to export, and enter the required details.

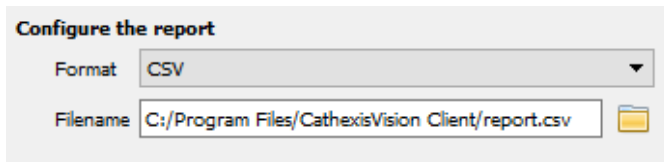
Click **Next**.



Select the **Format** to export the report in; either CSV or PDF.


See below for the two options.

6.2.1.1 Export CSV

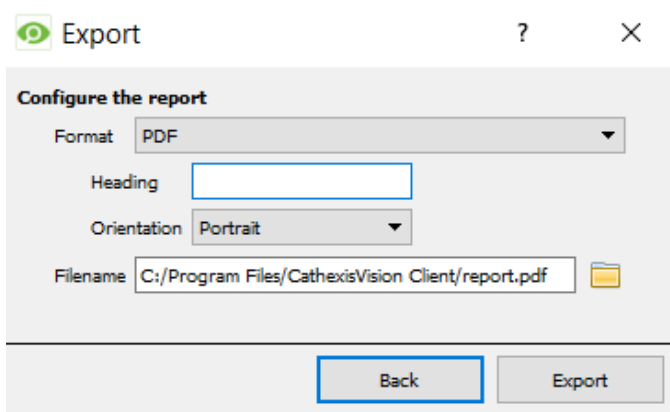


Select CSV **Format**.

Edit the **Filename** by entering it into the text field (replacing **report.csv**).

 Or, click the folder to choose a new save folder and filename.

6.2.1.2 Export PDF




Select PDF **Format**.

Give the PDF a **Heading**.

Select either Landscape or Portrait **Orientation** of the PDF.

Edit the **Filename** by entering it into the text field (replacing **report.csv**).

 Or, click the folder icon to choose new save folder and filename.

6.2.2 Viewing an Entry's Associated Recording

This integration uses the new video option where the video player is embedded in the database view. This player uses the same timeline features as the CathesisVision cameras tab.

NVR Time	Alert id	Start time	End time	Alert type	Alert level	CPS number	Start channel	End channel
2016-12-12 10:14:08	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:11	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:25	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:23	5480@Cantasa PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:33.205	Threat.Type.Cattle	high	0	28	0
2016-12-12 10:14:36	5480@Cantasa PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:36.861	Threat.Type.Pipeline_Activity	high	0	28	0
2016-12-12 10:14:41	001	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.Activity	high	0	0	0
2016-12-12 10:14:48	5480@Cantasa PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:48.403	Threat.Type.PerpendicularWalking	high	0	28	0
2016-12-12 10:14:56	5480@Cantasa PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:14:56.845	Threat.Type.PerpendicularWalking	high	0	28	0
2016-12-12 10:15:08	5480@Cantasa PC.1481530473205.2	2016-12-12 10:14:33.205	2016-12-12 10:15:08.469	Threat.Type.LocalisedEvent	high	0	28	0
2016-12-12 10:15:17	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	unknown	unknown	0	0	0
2016-12-12 10:15:20	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	unknown	unknown	0	0	0
2016-12-12 10:15:26	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	1970-01-01 00:00:00.000	unknown	unknown	0	0	0
2016-12-12 10:15:30	5480@Cantasa PC.1481530530983.3	2016-12-12 10:15:30.493	2016-12-12 10:15:30.493	Threat.Type.LocalisedEvent	high	0	815	0
2016-12-12 10:15:41	5480@Cantasa PC.1481530541293.4	2016-12-12 10:15:41.293	2016-12-12 10:15:41.293	Threat.Type.LocalisedEvent	high	0	815	0
2016-12-12 10:15:53	5480@Cantasa PC.1481530541293.4	1970-01-01 00:00:00.001	1970-01-01 00:00:00.001	Threat.Type.LocalisedEvent	high	0	815	0
2016-12-12 10:16:06	5480@Cantasa PC.1481530541293.4	2016-12-12 10:15:41.293	2016-12-12 10:16:06.173	Threat.Type.LeakOFF	high	0	815	0
2016-12-12 10:16:13	0	2016-12-12 10:16:13.397	2016-12-12 10:16:13.397	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:13	0	2016-12-12 10:16:13.397	2016-12-12 10:16:13.397	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:13	0	2016-12-12 10:16:13.397	2016-12-12 10:16:13.397	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:14	0	2016-12-12 10:16:14.173	2016-12-12 10:16:14.173	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:14	0	2016-12-12 10:16:14.173	2016-12-12 10:16:14.173	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:14	0	2016-12-12 10:16:14.173	2016-12-12 10:16:14.173	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:28	0	2016-12-12 10:16:28.423	2016-12-12 10:16:28.423	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:28	0	2016-12-12 10:16:28.423	2016-12-12 10:16:28.423	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:28	0	2016-12-12 10:16:28.423	2016-12-12 10:16:28.423	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:29.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:29.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:16:29	0	2016-12-12 10:16:29.197	2016-12-12 10:16:29.197	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:18:57	7560@Cantasa PC.1481530737317.1	2016-12-12 10:18:57.300	2016-12-12 10:18:57.300	Threat.Type.Digging	high	0	28	0
2016-12-12 10:19:15	0	2016-12-12 10:19:15.652	2016-12-12 10:19:22.652	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:21:09	0	2016-12-12 10:21:09.851	2016-12-12 10:21:16.851	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:22:15	0	2016-12-12 10:22:15.290	2016-12-12 10:22:22.290	Threat.Type.Cable_Cut	high	0	0	0
2016-12-12 10:22:15	0	2016-12-12 10:22:15.290	2016-12-12 10:22:22.290	Threat.Type.Cable_Cut	high	0	0	0

To view an associated recording, simply left-click on a database entry which has the camera icon in the **Links** column.

Then click **play** in the video player.

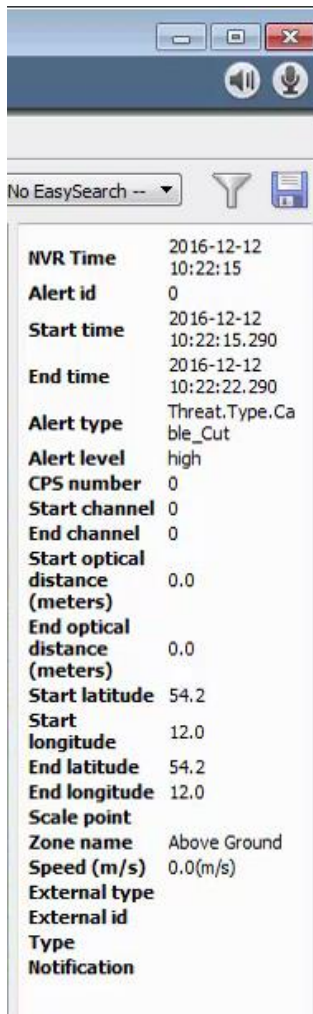
6.2.3 Reviewing Multiple Cameras

If multiple cameras were added to the recorded object during the integration setup, these are displayed on the left of the video player screen as thumbnails.

Select a camera thumbnail to review it.

6.2.4 Device Event Metadata

When an integration database entry is selected, its event information will be displayed on the right of the video player:



NVR Time	2016-12-12 10:22:15
Alert id	0
Start time	2016-12-12 10:22:15.290
End time	2016-12-12 10:22:22.290
Alert type	Threat.Type.Cable_Cut
Alert level	high
CPS number	0
Start channel	0
End channel	0
Start optical distance (meters)	0.0
End optical distance (meters)	0.0
Start latitude	54.2
Start longitude	12.0
End latitude	54.2
End longitude	12.0
Scale point	
Zone name	Above Ground
Speed (m/s)	0.0(m/s)
External type	
External id	
Type	
Notification	

7. Events

OptaSense system events, which may initiate actions on the OptaSense system, cannot be created as CathesisVision cannot control the OptaSense device. However, some standard events may still be created which can trigger actions on the CathesisVision system.

A CathesisVision Event has a trigger, which causes an action. Integrated devices can be set to act at triggers, or as actions. This document will detail the OptaSense specific aspects of Events. There is a comprehensive guide to CathesisVision Events in the main setup manual. For more information, please consult it.

Most of the data that CathesisVision receives from a device is presented in the Events interface. This is done in order to give the user a full range of options. As a result, some of the options presented in the interface may be *impractical* for being used as an event trigger, or action.

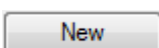
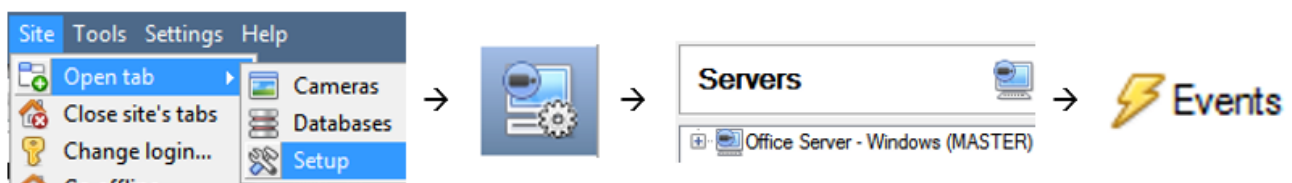
7.1 Event Window

Events in CathesisVision are setup via the Event Window. This has 4 tabs:

1. In the **General Tab**, an event is given a name, description, schedule and priority.
2. In the **Triggers Tab**, the trigger/s for the event is defined.
3. In the **Actions Tab**, the action/s which the event takes is/are defined.
4. In the **Resources Tab**, the various site resources which can be used as part of an event are defined.

7.2 Creating an Event

To create an event using Optasense, navigate to the Events management area by following the sequence: **Open Tab / Setup / Servers / Master Server / Events**. This is shown below.



Once in Events management area, click the **New** icon at the bottom of the screen. This will open up the **New Event window**. Alternatively, right-click and select **New**.


The new event window has four tabs which can be used to set up the event: General, Triggers, Actions, and Resources.

7.3 General Tab

Create a new event under the General tab by filling in the fields.

New event

Give the event a descriptive **Name**.

 Set up a Schedule if desired by clicking the icon.

Select a **Priority**.

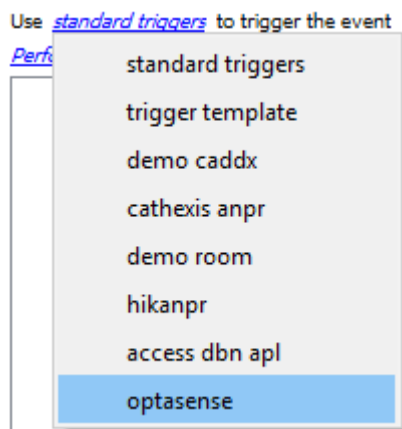
A description may be entered. Or, modify the **Description** if relevant according to the instructions below.

7.4 Triggers Tab

A trigger is the user defined input that tells the event to start. The trigger causes the subsequent action (which the user will also define).

7.4.1 Set the Device as the Trigger

For a new event, the trigger type will default to “standard triggers”. The user will need to change this to OptaSense.



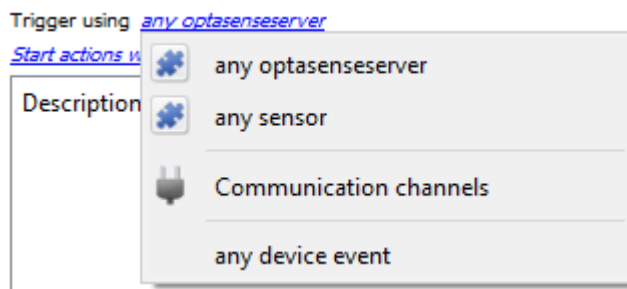
To change the event trigger, **click on “standard triggers”** (the hyperlink after the word “Use”).

This will open a drop-down menu with more options.

To set OptaSense as the trigger, **select the name** from the drop-down menu.

7.4.2 Trigger Types (Trigger Using)

It is useful to think of this as a **master trigger type**.



Any ... will trigger when on an event from *any* of these objects.

Specific ... will only trigger on an event from a specific object.

Specific group... If an object group has been set up it will appear in this list. This event will trigger if any objects in the selected group trigger.

Communication channels will trigger only on the Communication channels.

Any device event will trigger on any event that occurs on the device. Within the “any device event” setup the user may set “device event rules” which will constrain which device events will trigger the event.

Note for group triggers: For events to be databased under the name of a specific object, and not the name of the triggering group, the Description field in the **General tab of the Event setup** needs to be modified.

Click on the to see a list of available descriptions.

7.4.3 While/When and Any/All

The third row of hyperlinks further specifies when the event triggers. The user will choose to trigger either based on a *device event* occurring, or based on an *object property*.

To change these settings, click on the blue hyperlinks in the *third* row.

The user can choose the option to:

- **start actions when** any of the properties meet user-configured *criteria*, or any user-configured *device events* occur, or
- **perform actions while** any/all of the properties meet user-configured *criteria*.

[Start actions when](#) [any of the properties meet the following criteria](#)

[any of the following device events occur](#)

[Perform actions while](#) [any](#) of the properties meet the following criteria

[all](#) of the properties meet the following criteria

7.4.4 Define the Trigger (“Any Device Event” Option)

After using the hyperlinks to set up how the trigger will be defined, the user may proceed to creating a new *device* event.

One of these options is to select *any of the following device events occur*.

Pictured alongside is the **Triggers** tab where a user selects *any of the following device events occur*.



Click on **New** in the Triggers tab.

Clicking on New will bring up the **New device event trigger** dialogue box.

7.4.4.1 New Device Event Trigger

The user will then need to configure the new device event trigger.

- Select the **type of Event** where applicable.
- Choose a **schedule**.
- Choose whether **any**, or **all** constraints need to be fulfilled to set off a trigger.
- Finally use the **new/edit/delete** buttons on the right-hand side to add a device event rule (a constraint). Follow the instructions below.

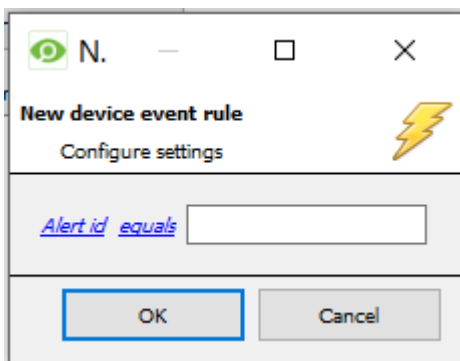
7.4.4.2 New Device Event Rule

Note: From within the **New device event trigger** window (above), it is necessary to set further constraints. Multiple constraints can be set. If constraints are not defined, every device event will trigger this event.



To configure a New device event rule, click on **New** in the New device event trigger window.

This will bring up a further window, called **New device event rule**.



To change the constraint, click on the **first hyperlink**. This will bring up the full list of available rules.

To modify the way this rule will be treated, click on the second hyperlink (which is equals in the example) to display the rules options.

Note: When all available options are known to CathesisVision a drop-down menu will be available. When these variables are not pre-defined they will need to be filled in manually. The information pulled through to the events is information sent to CathesisVision from the OptaSense device. See the OptaSense settings for the strings needed here.

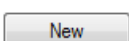
7.4.5 Define the Trigger (“Properties Meeting Criteria” Option)

If the user has defined the trigger by choosing according to *properties meeting criteria*, the **New object property trigger** dialogue box will open.

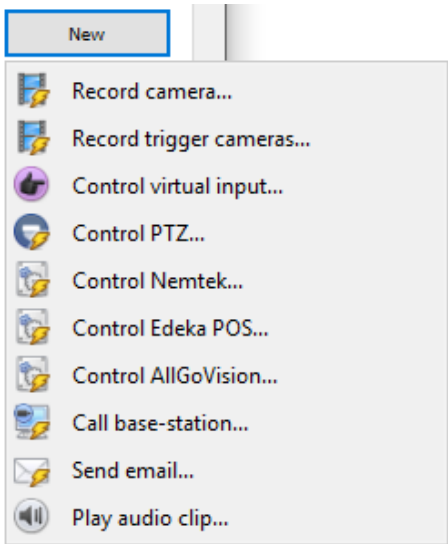
- In these instances, further constraints do not need be set, since they are being added one at a time.
- This is also true for groups, since a group may only be made up of one object type.
- This option is better if a few triggers have been selected.

7.5 Actions Tab

Once the triggers that are going to initiate the event have been defined, the user will need to define some Actions in the **Actions tab** of the **New Event** window.



To add an action, click New in the Actions tab.



A list of **available actions** will appear. The drop-down contains all the available **action types**.

Select an option, for example, Record Camera.

For more information on event actions, please consult the main *CathesisVision Setup Manual*.

7.5.1 Control Device

It is **not** possible to control the OptaSense device.

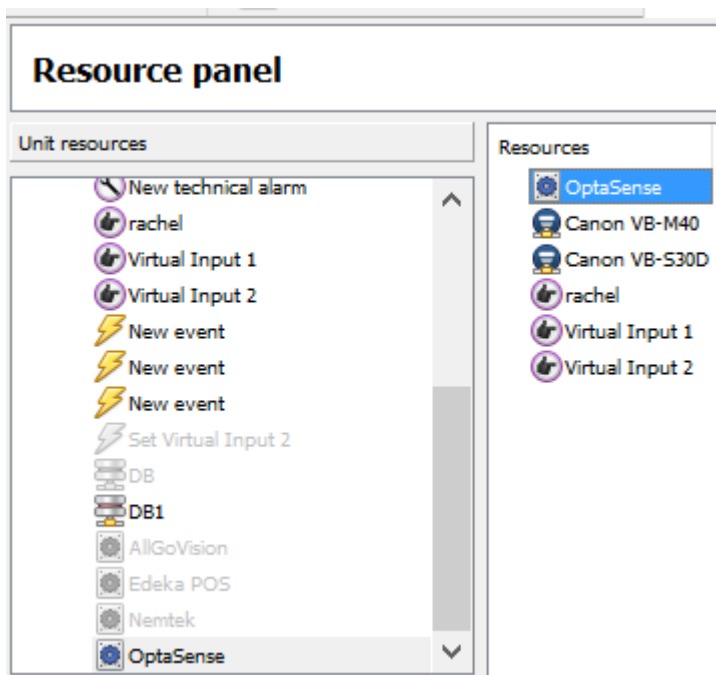
8. Maps

It is possible to add the OptaSense device to a site map, which will allow for a number of action options when objects are triggered. These options include the animation of triggered zones and connecting to site cameras when zones are triggered, etc.

Note: This section will only deal with the specifics of the OptaSense device. For more information on using the CathesisVision Map Editor and Map Tab, please consult the dedicated and detailed **Map Editor Operation Manual**.

8.1 Add the OptaSense Device as a Resource

To configure the map, the OptaSense device must be added as a resource to be added to the map.

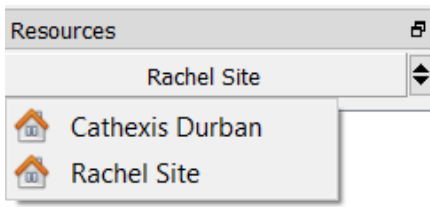


1. Navigate to the **Resource Panel** by following **Site / Open Tab / Setup / Resource Panel**.
2. Drag the OptaSense device from the **Unit Resources** list into the **Resources** list, on the right.

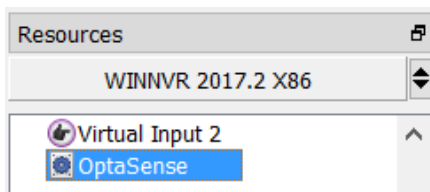
8.2 Add the Device in Map Editor

Once the OptaSense device has been added as a **Resource**, it will be available to drag onto the map area from the **Site Resources** list.

8.2.1 Connect to Site

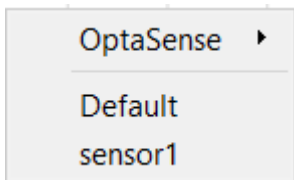


At the bottom right-hand of the Map Editor screen, click the drop-down menu to select the site to connect to.



Once connected to site, all the resources available will populate the panel below.

8.2.2 Adding Device Objects

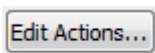


Drag the OptaSense device from the Site Resources list onto the map area.

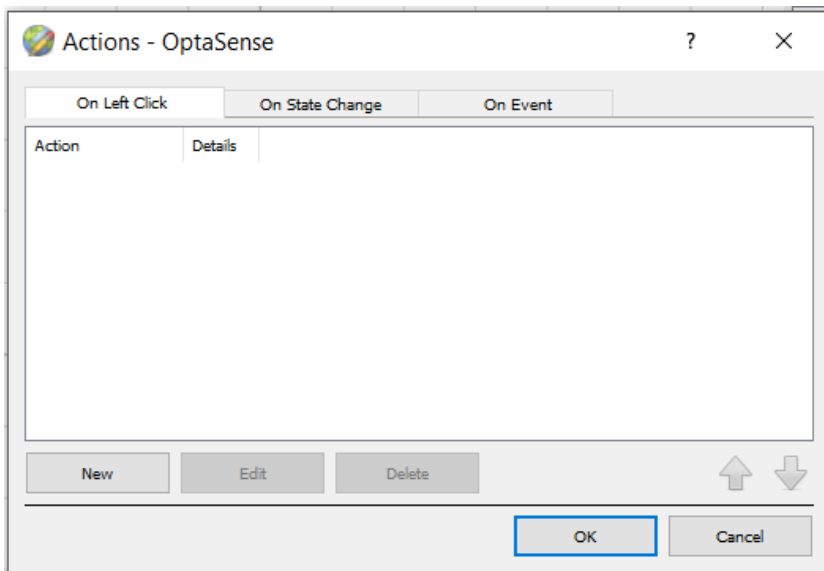
All the OptaSense device objects will appear in a list. Select an object.

Note: To add multiple objects, repeatedly drag-and-drop the OptaSense device onto the map area and select the desired objects individually.

8.3 Adding Device Actions

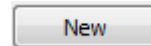


To add actions to the device objects, select the object on the map and click Edit Actions.



Actions may be set for **Left-clicks** and **Events**.

To create a new action, select

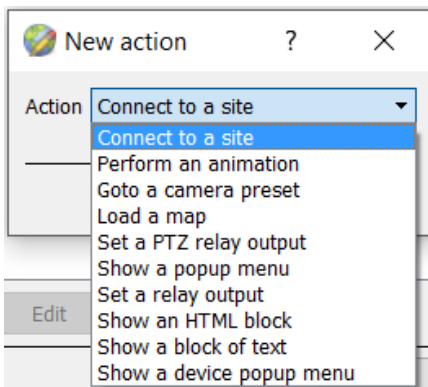


Note: State change map actions have not been configured for this integration.

8.3.1 Action Options

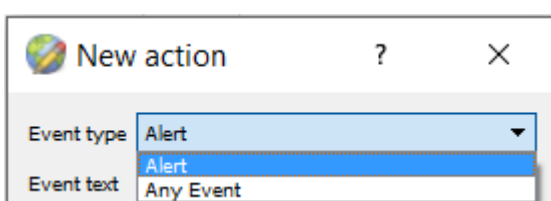
The action triggers will differ according to the object selected, as well whether the action is being set for a Click or Event. See below.

8.3.1.1 On Left Click Tab

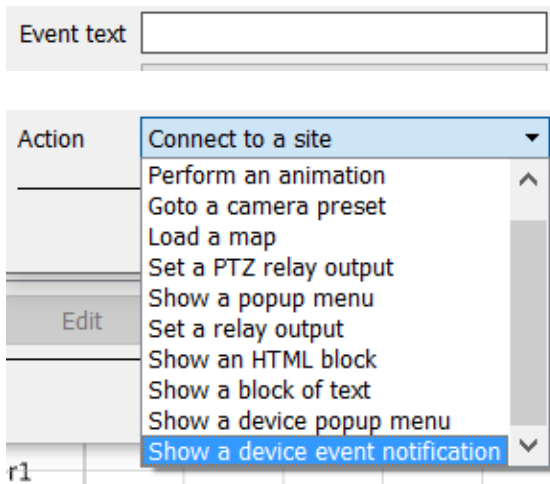


Select a map action to be triggered when this device object is left-clicked on the map.

8.3.1.2 On Event Tab



Select the event type of the device object which will trigger the map action.



Enter Event text which will appear on the map when the selected event triggers this map action.

Select the map action which will be triggered by the device object event.

Note: Event actions include the option to **Show a device event notification**.

Note: Multiple actions may be added to the map objects.

8.4 Save Map

Once finished, save the map.

Note: The map **must not be saved** in the **Work** folder of the CathesisVision installation directory.

8.5 CathesisVision Map Tab

The saved map needs to be uploaded to CathesisVision. Once the map is open, all objects added to the map area in the Map Editor will be visible on the map, and all actions set will be available.

9. Conclusion

This app-note was designed to deal specifically with this integration. For further information about the CathesisVision software please consult the main manual (<http://cathesisvideo.com/>).

For support, please contact support@cat.co.za.