



Axis Edge Analytics Integration App-note

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1. Introduction

CathexisVision integrates with several Axis cameras which support a range of edge (on-camera) analytics. These include the Axis Barcode Reader, Axis Face Detector, Axis Fence Guard, and Axis License Plate Verifier.

This document details how to set up the Transmission Control Protocol (TCP) rule in the Axis camera interface, how to configure CathexisVision to receive edge events, and how to set up triggers in CathexisVision based on these events.

Note:

1. For information about the regular operation of Axis devices, please consult the relevant manufacturer's documentation.
2. Axis edge analytics post detection events to the configured port on the CathexisVision NVR.
3. Cameras are configured in CathexisVision as standard cameras.
4. Sync the cameras and the CathexisVision NVR to the same time source, with the same time zone.

1.1 Requirements

1.1.1 General Requirements

- CathexisVision 2022 or later.
- Windows 10: 64-bit and later; Windows Server 2016 and later.
- Minimum of 8 GB of RAM required.

Note: If the user plans on installing this integration on a Linux unit, contact support@cathexisvideo.com.

1.1.2 License Requirements

Any of the following camera licenses may be used.

License	Name	Description
CLTE packages	Lite Software Package	<ul style="list-style-type: none"> • Discounted license bundles are available for the Lite package. • If additional licenses need to be added to the Lite package, then a CCOR-1001 license may be purchased (up to a total of 48 camera channels on a Lite system).
CCOR-1001	Core Camera License	These camera licenses may be used on <ul style="list-style-type: none"> • Core software (CORE-2001) packages or • Lite (CLTE) packages.
CPRO-1001	Professional Camera License	These camera licenses may be used on <ul style="list-style-type: none"> • Professional (CPRO-2001), • Core (CCOR-2001) or • Lite (CLTE) packages.
CPRM-1001	Premium Camera License	These camera licenses may be used on <ul style="list-style-type: none"> • Premium (CPRM-2001), • Professional (CPRO-2001), • Core (CCOR-2001) or • Lite (CLTE) packages.

Note:

1. Multi-sensor cameras and cameras with multiple channels require only a single IP license.
2. The CatObserver monitor recording feature allows the recording of any monitor connected to any Windows server on the network, as if it were a network camera. One camera license is required per monitor to be recorded.

1.1.3 Third-Part Device Information

The integration was tested on:

Hardware name	Axis
Hardware model number	P1469-XLE
Firmware as tested	11.5.64
Third-party software name	Axis Object Analytics, Axis Video Motion Détection
Third-party software version	1.8-27 and 4.5-5
Third party software license/s required	Third-party licenses were not required to run Axis's basic edge triggers.

1.2 Features and Abilities

CathexisVision receives event messages from the Axis Edge analytics which can be used to trigger a CathexisVision system event.


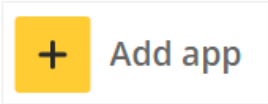
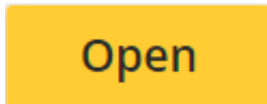
2. Axis Camera Configuration

Before an event can be sent to CathesisVision, the following setup is required on Axis camera.

Note: The setup below is based on the Axis P1469-XLE loaded with 11.5.64 firmware version. The setup could look slightly different on older or newer Axis models, but the same main steps can be followed:

1. Configure edge analytics on the Axis camera ([2.1 Set up Axis Camera](#)).
2. Define the CathesisVision NVR as the recipient ([2.2.1. Add Recipient](#)).
3. Create a TCP connection on the defined destination port ([2.2.1 Add Recipient](#)).
4. Create a new edge rule with the configured recipient ([2.2.2 Add a New Rule](#)).



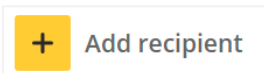
2.1 Set up Axis Camera

	<p>→ Open a web browser and navigate to the camera's IP address.</p> <p>→ Log in to the Axis camera interface.</p> <p>→ In the camera window, click the Apps option.</p>
	<p>→ Click Add app.</p> <p>→ Select the desired app from the list.</p>
	<p>→ Click Open.</p> <p>→ Configure edge analytics as per the vendor's instructions.</p>

2.2 Configure Events in Axis

After configuring edge analytics on the Axis camera according to the vendor's instructions, add the CathesisVision NVR as the recipient. Follow the steps below.

2.2.1 Add Recipient

	<p>→ Click System.</p>
	<p>→ In Settings, click the Events option.</p> <p>→ Select the Recipients tab.</p>
	<p>→ Click the plus icon to add a recipient.</p>

Add recipient

Name

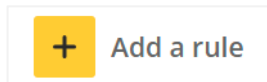
Type

Host

Port

- Enter a name for the recipient.
- Under **Type**, open the drop-down menu and select TCP.
- Under **Host**, enter the CathesisVision server IP address.
- Enter the TCP port. The TCP port to transmit the trigger message is 32305.
- Click **Save**.

2.2.2 Add a New Rule



Edit rule

Use this rule

Name

Wait between actions (hh:mm:ss)

Condition

Use this condition as a trigger

Source

Invert this condition

Add a condition

Action

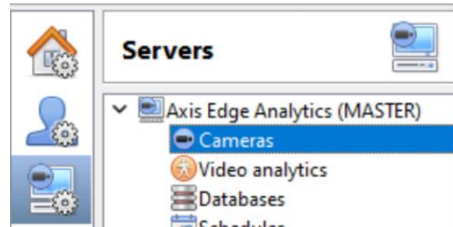
Recipient

Message (will be encoded)

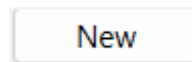
- Select the Rules tab.
- Click the plus icon.
- Click the checkboxes to select to **Use this rule**, and **Use this condition as a trigger**.
- Enter a descriptive **Name** for the rule.
- Enter a period to wait between actions (hh:mm:ss format).
- Click the drop-down arrow to expand the **Condition** menu. Select the condition.
 The drop-down menu shows events from the application that is installed on the camera.
- Under **Action**, select **Send notification through TCP** from the drop-down menu.
- Select the recipient.
- Enter the trigger **Message** that will be sent to CathesisVision.
- Click **Save**.

3. CathesisVision Camera Setup

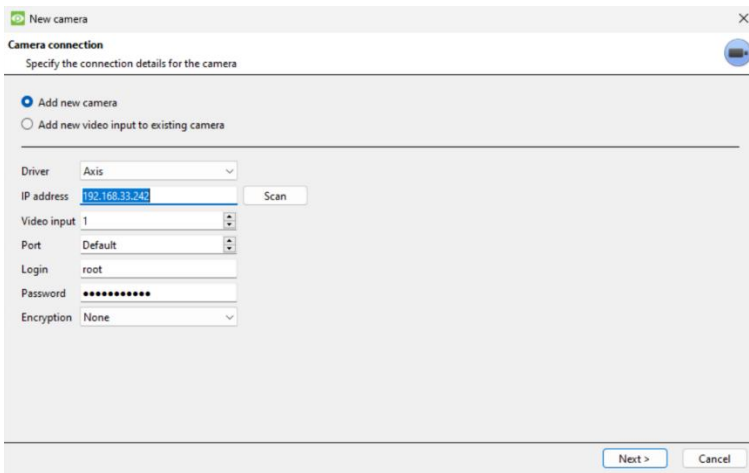
3.1 Add a Camera



- Log in to CathesisVision.
- Open the site.
- Navigate to the Cameras panel by following the path: **Site / Open tab / Setup / Configure servers / Your_site_name server / Cameras**



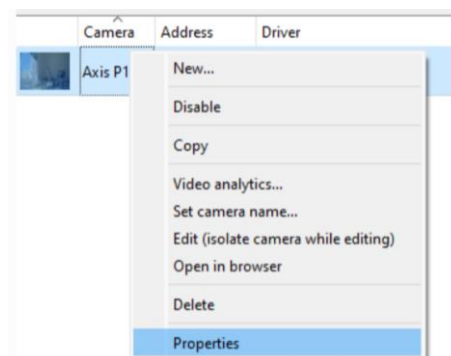
- Click **New**. The **New camera** dialogue will open.



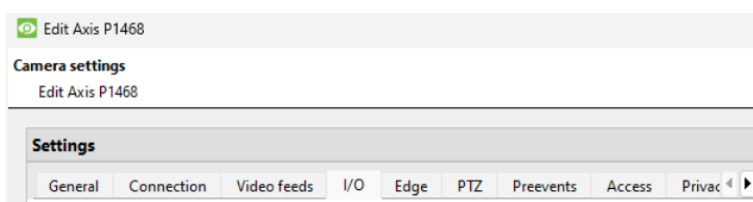
- Choose a driver from the drop-down menu.
- Enter the camera's IP address.
- Enter the login and password.
- Click **Next**.

3.2 Edit Camera Properties: Add Trigger

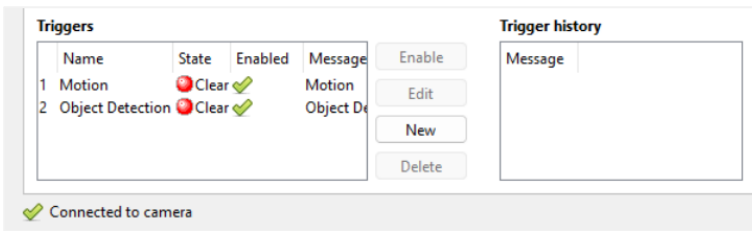
Once the camera has been added, it will appear in the camera list in the main camera panel.



- Right-click the camera. A menu will open.
- Click **Properties**.

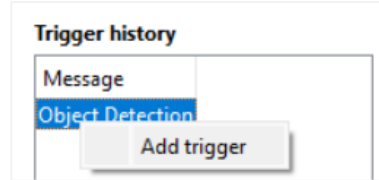


- Click the **I/O** tab. The input/output setup will open.



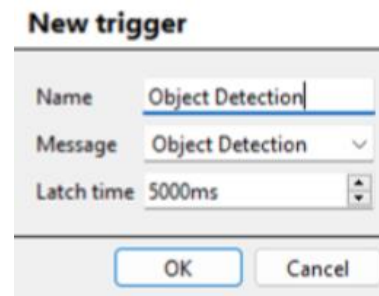
Once the event has been configured in the Axis camera interface, the trigger will be displayed in the **Triggers** area.

The trigger message will be displayed in the **Trigger history** area.



→ Right-click the trigger message.

→ Select **Add trigger**. The **New trigger** window will open.



→ Enter a trigger **Name**.

Note: The text in the “Message” field must be identical to the message text as configured in the Axis rule message. For example, the “Object Detection” text being sent from the above Axis-defined rule needs to be received on the NVR using the same defined “Object Detection”.

Multiple rules can be created on the Axis camera for different detection triggering conditions, and the NVR can have multiple trigger alarms defined for each Axis event rule.

→ Click **OK**.

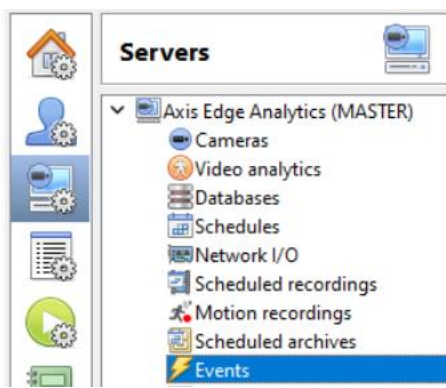
4. Events

A CathesisVision event has a trigger, which causes an action. Set edge detection to act as triggers, or as actions. This section details the Axis camera edge detection specific aspects of events.

There is a comprehensive guide to CathesisVision Events in the *CathesisVision Setup Manual*.

Note: 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* as an event trigger, or action.

4.1 Creating an Event



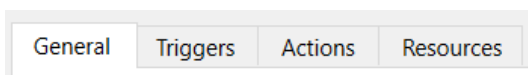
→ Navigate to the Events panel by following the path: **Site / Open tab / Setup / Configure servers / Your_site_name server / Events**



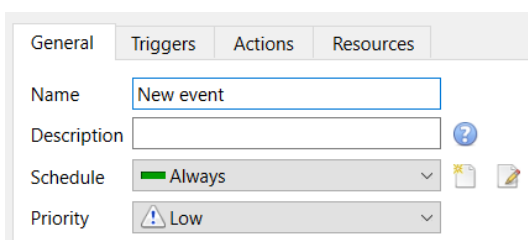
→ Click **New**. This will open the **New Event** window.

The **New Event** window has four tabs: General, Triggers, Actions and Resources. These are covered in the sections below.

4.1.1 General Tab



→ Click the General tab in the **New event** window.



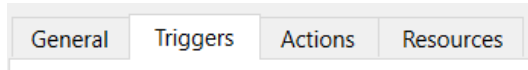
→ Give the event a descriptive **Name**.

→ Select a **Schedule** from the menu, or click the **New schedule** icon to create a new schedule.

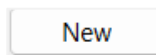
→ Choose a Priority from the drop-down menu. (In the example alongside, "Low" has been selected.)

4.1.2 Trigger

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



→ Select the **Triggers**



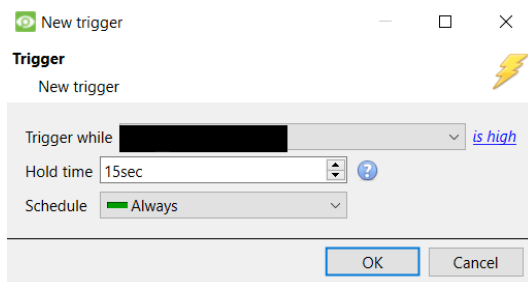
→ Click **New** to create a new trigger.

Use [standard triggers](#) to trigger the event [Perform actions while any](#) of the following are true

Clicking the blue hyperlinked text provides the option to select which category of trigger will trigger an event, and when the action will be performed.

→ Select **standard triggers**.

→ Click **Perform actions while** to configure the new trigger.



→ In the **Trigger while** field, click the arrow to expand the drop-down menu. (**Note:** The field is redacted in the image alongside.)

→ Select the same camera trigger that was added in the I/O setup tab ([Section 3.2](#)).

→ Click the blue hyperlinked text to adjust when the trigger will be active.

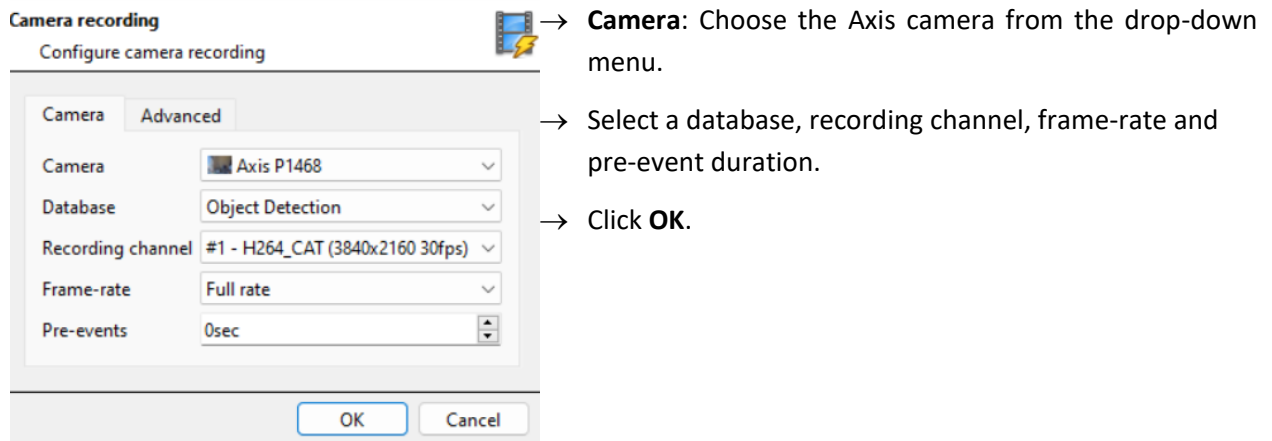
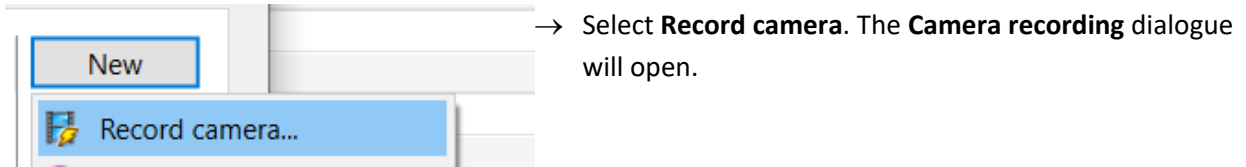
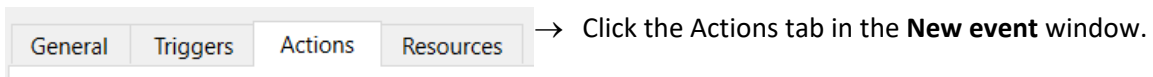
→ Select a **Hold time** (in seconds) using the up and down arrows.

→ Select a **Schedule**.

→ Click **OK**.

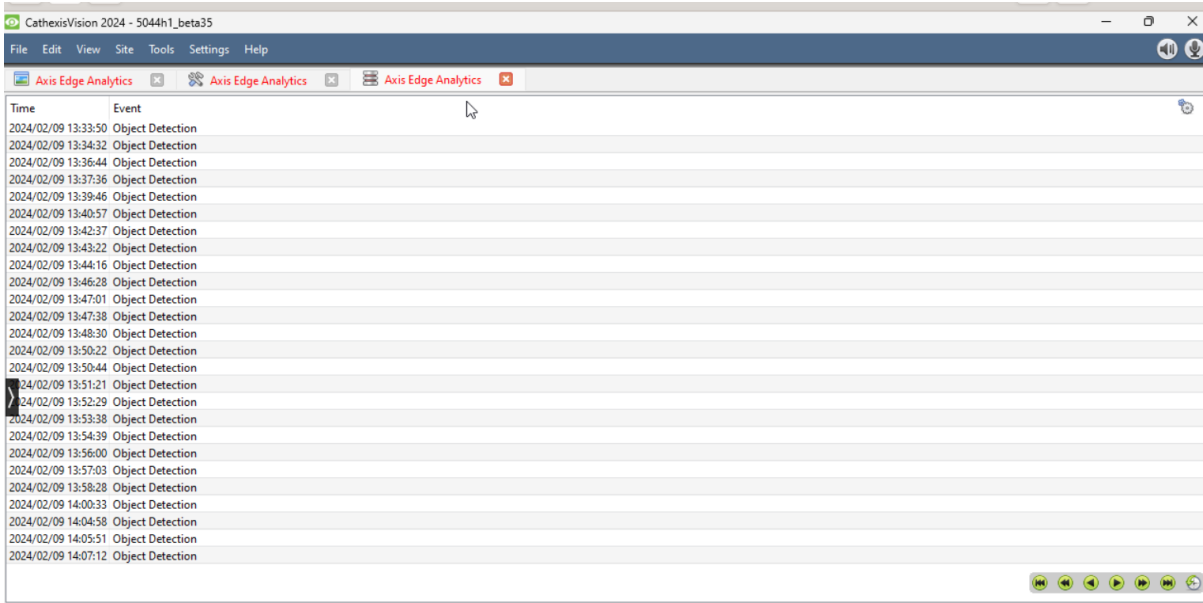
Note: For more information on setting up events, refer to the *CathesisVision Setup Manual*, section **4.10 Events**.

4.1.3 Actions Tab

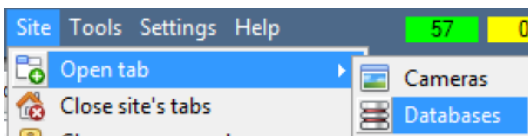


5. Events Database

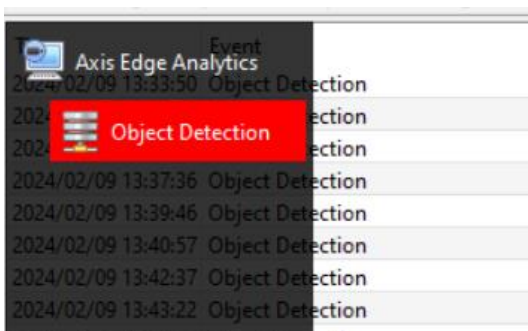
The event database is where the event can be viewed, together with associated footage.



5.1 Navigate to the Database



→ To open the Database tab, follow the path: **Site/ Open tab / Database**. The Database tab will open.



→ Select the relevant event database from the database panel that opens on the left.

→ To open and close this list, click the arrows in the centre of the list.



Time	Event
2024/02/09 13:33:50	Object Detection
2024/02/09 13:34:32	Object Detection
2024/02/09 13:36:44	Object Detection
2024/02/09 13:37:36	Object Detection
2024/02/09 13:39:46	Object Detection
2024/02/09 13:40:57	Object Detection
2024/02/09 13:42:37	Object Detection
2024/02/09 13:43:22	Object Detection
2024/02/09 13:44:16	Object Detection
2024/02/09 13:46:28	Object Detection
2024/02/09 13:47:01	Object Detection
2024/02/09 13:47:38	Object Detection
2024/02/09 13:48:30	Object Detection
2024/02/09 13:50:22	Object Detection
2024/02/09 13:50:44	Object Detection
2024/02/09 13:51:21	Object Detection
2024/02/09 13:52:29	Object Detection
2024/02/09 13:53:38	Object Detection
2024/02/09 13:54:39	Object Detection

The items will be listed, as shown in the image alongside.

6. Conclusion

This app-note was designed to deal specifically with the Transmission Control Protocol (TCP) rule in the Axis camera interface, configuring CathesisVision to receive edge events, and how to set up triggers in CathesisVision based on these events.

For further information about the CathesisVision software, consult the ***CathesisVision Setup Manual*** (<https://cathesisvideo.com/>).

For support, email support@cathesisvideo.com