

Grekkom Ngaro Integration App-note



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1. Introduction

This document details the integration of Grekkom Ngaro software with CathexisVision software. The Grekkom Ngaro software monitors camera activity and then sends any notable alerts to CathexisVision. CathexisVision creates events and database entries for the duration of alarms.

1.1 Requirements

- CathexisVision 2020.4 and later
- Win 10-64bit and later, Win Server 2008 R2 and later.
- Minimum 4GB of RAM required.

1.2 Model and Firmware

• This software integration was developed and tested on Ngaro Server 1.2.3 using the SDK2015.

1.3 License requirements

The Cathexis Grekkom Ngaro software integration license requirements are as follows:

License Code	License Description
CGNA-1001	Grekkom Ngaro Analytics object
CGNA-2000	Grekkom Ngaro Analytics device
CGNA-3000	Grekkom Ngaro Analytics bundle

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

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.



1.4 Integration Components

All CathexisVision integrations have two component levels: Device and Object.

Device The device is CathexisVision software's interface, which handles all the interaction between

Objects Objects are the individual pieces of hardware that comprise the integration. There can be

CathexisVision and the integrated hardware. When an integration is added to the CathexisVision

system, a device is added. The messages received from the device are called Device Events.

multiple "object types" under the objects group.

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. Device Addition and Configuration

This section will detail the procedure for setting up the two systems to effectively communicate with each other.

2.1 Add a New Device in CathexisVision

Integrations are added on a server-by-server basis.

2.1.1 Connecting to Ngaro



The user needs to first configure a new device on the Ngaro server with the following parameters:

ID	This is the device ID that will be used in the CathexisVision software.
Name	A name for the Device.
Туре	Configured as "Control".
IP address	The public IP used in the CathexisVision software.
Port	This is the local port that will be used by the CathexisVision software.
Status	Select "Activo".
X	Uses 10000 as default (it is not needed).
Υ	Uses 10000 as default (it is not needed).
Z	Uses 10 as default (it is not needed).
Zone	Uses value per default (it is not needed).

Integrations in CathexisVision are managed in the Integration Devices panel, under the Setup Tab of the servers to which they are added. To get to the Integration Panel, follow this path:

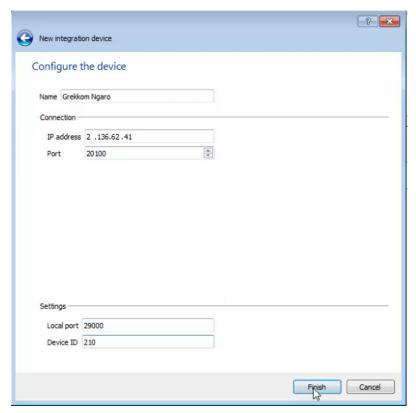


2.1.2 The Integration Devices Panel



2.1.2.1 Device Addition

- 1. Once in the Integration Devices panel, click on New device. This will open the addition dialogue.
- 2. Select the **Grekkom Ngaro** driver from the list.



- 3. Give the device a descriptive name.
- 4. Enter the **IP** address of the device (the public IP where the Ngaro software is installed).
- 5. Enter the **port number** (the port configured in the Ngaro server in order to establish communication between the Ngaro server and the CathexisVision software).*
- 6. Enter the **local server** settings.**
- 7. Click Finish.
- *Note: the configured port is forwarded in the router in order to send the communications to the private IP where the Ngaro server is installed.
- ** Local port the port configured in the Ngaro server when adding CathexisVision as a device in order to establish a communication between the CathexisVision software and the Ngaro server. Ngaro sends all alarms and events through this port. Note: the configured port is forwarded in the router in order to send the communications to the private IP where the CathexisVision software is installed.

Device ID - this is the ID used to identify the device.



2.2 Configuration Section (Tabs)

The configuration section is divided up into several tabs. These tabs are: **Object configuration**, **Object properties**, **Device events**, **Object groups**, and **General**.

2.2.1 Object Configuration Tab

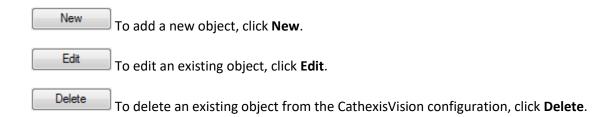


In the object configuration tab, the **individual objects** that comprise the integration can be viewed.

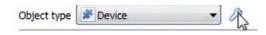


Select the **Object type** dropdown to view the objects that comprise the integration. Select one of the object types from the menu to view only objects of that type in the list area.

2.2.1.1 Object Configuration Buttons

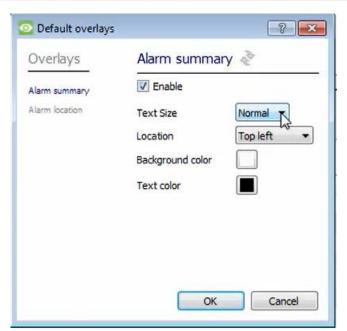


2.2.1.2 Configure Overlays



To configure device overlays, click the spanner icon.





The user can configure the **Alarm** or **Alarm location** overlays by selecting either of these options on the left, and then selecting preferences from the menus on the right.

2.2.1.3 Link an object to a 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.

Double-click the object to open the **Edit Object** window.

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

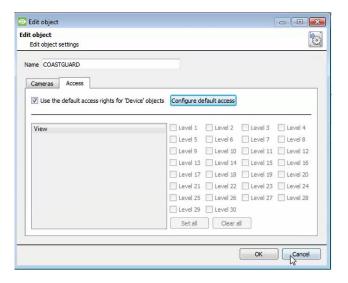
To delete a camera, click .

To configure device overlays, click on the spanner icon.

(See Configure Device Overlays above.)



2.2.1.4 Set Access Rights



The **Access** tab allows users to set access rights.

To edit the default object access rights, click **Configure default access**.

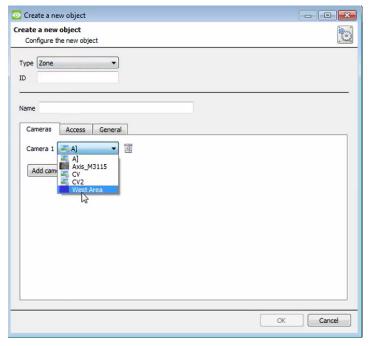
2.2.1.5 Create a zone



In the **Object configuration** tab, select **Zone** as the object type.

Click New . This will open the Create a new object window.

Add a camera to the zone



In the **Create a new object** window, select **Zone** as the Type.

Enter the zone ID.

Give the zone a descriptive name.

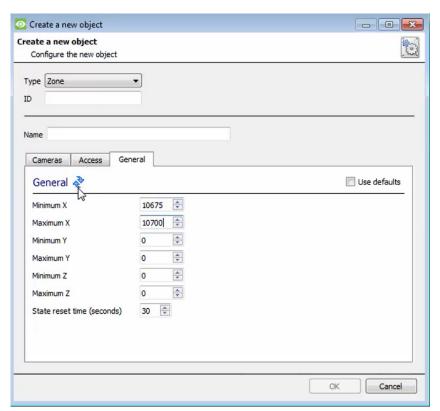
Choose a **camera** to add to the zone.



Configure Access Rights

Click on the Access tab to configure access rights.

General Zone Settings

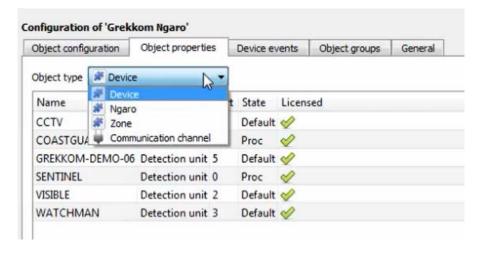


In the **General** tab, enter the co-ordinates of the zone area.

Enter the **state reset time**, which will indicate when the alarm will reset to a normal state.

Click OK.

2.2.2 Objects Properties Tab

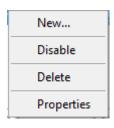


The **Object properties** tab displays the objects' properties, sorted by type.

For the Grekkom Ngaro integration, the objects are sorted by **Device**, **Ngaro**, **Zone**, and **Communication** channel.



2.2.2.1 Object Properties Right-click Options



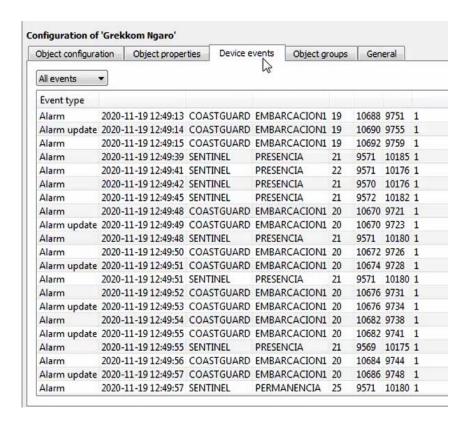
New will open up the dialogue to add a new object.

Disable/Enable allows the user to manually enable/disable individual objects.

Delete will permanently remove this object from the list.

Properties will open up the options for configuring object Properties.

2.2.3 Device Events Tab



This tab lists all events sent from the device.

Device events can be sorted to display All events, Alarm, Alarm update, Connection, and Zone events.



The integration will send CathexisVision an alarm whenever an object is detected.

The alarm will contain a target ID.

The integration will continue to send alarms while the object is being tracked.

When a new target ID is received, an alarm device is generated.

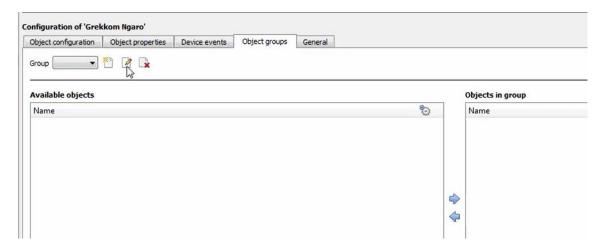
Subsequent alarms with the same target ID will generate alarm update device events.

The start and end time of the event will be stored in the metadatabase.



2.2.4 Groups Tab

Groups of the same type of object can be created. **Tip:** Events can be triggered by an object group.



2.2.4.1 Create a Group

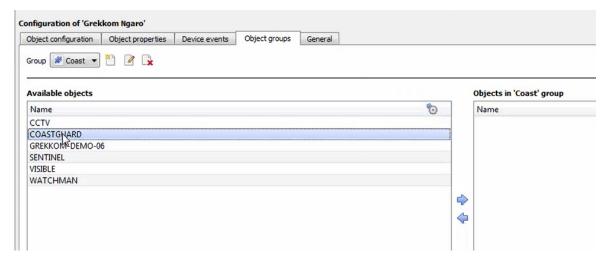


To create/edit an object group, click on $^{\square}/^{\square}$.

(**Note**: Once a group has been created, the object type of the group cannot be edited.)

Give the group a descriptive Group name.

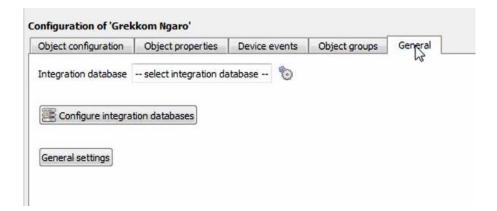
Click on the drop-down menu to select the **Object type**.



A list of available objects will be displayed. To add or remove these objects to the group, select them and click on $\frac{1}{2}$. Note: multiple objects may be selected at a time.



2.2.5 General tab



In the **General tab**, an **integration database** can be created, and time settings can be configured by clicking on the **General settings** button.

<u>Note</u>: 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 CathexisVision system.

2.2.5.1 General settings

Click the General settings button.



As this integration is time-critical, the event time can be set to **Use device time**, or **Use NVR time**.

Set the **Event duration**.

2.2.5.2 Configure a new database



To create a new database, click on this button.

Initialise the Integration Database

The first time an integration database is added, this feature will need to be initialised. This will add a broad database, into which all integrated devices' databases will be added.

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



Click Initialise integration database

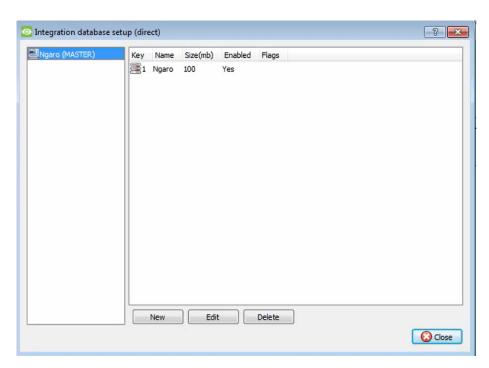


The user needs to choose the partition the database will be formed on, and select how much space will be allocated to it.

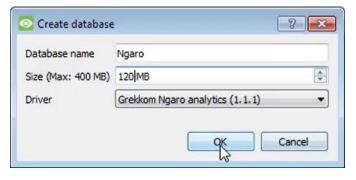
Add a New Devices Database

After initialisation, the database can be added to the integration. In the Integration Devices panel, select **General**.

Click Configure integration databases. The Integration database setup window will appear.



Click on the New button at the bottom of the Integration database setup window.



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

Allocate a **Size** to the new device database.

Choose the device Driver.

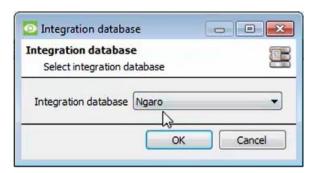
Click **OK** to create the database.



2.2.5.3 Select the Ngaro integration database



In the **General** tab, select the gear icon: 饭



In the dialogue that appears, the user can select the Ngaro integration database.



3. Camera Tab Overlay Setup

Once all the relevant settings have been configured, the overlays can be pulled through over the appropriate camera feed.

Note: Cameras must have already been added to objects, and overlays must have already been configured.

3.1 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. The Video feed options panel will present options specific to the settings configured for that video feed.

3.1.1 Select the Overlay



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

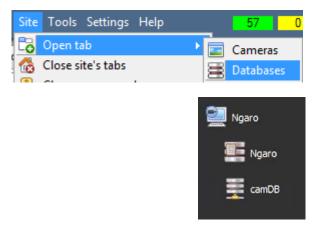
Select the overlay and it will appear over the video feed.



4. Database

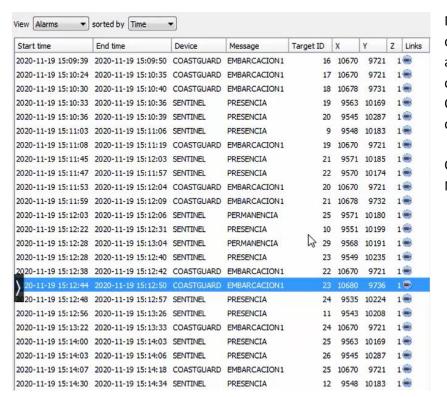
The database tab allows for navigation of the databased entries. It has built-in filters, and the ability to navigate by timestamp. If a database entry has an associated recording, the user can launch this recording from within the database tab.

4.1 Navigate to the Database



Follow the path shown to the left to view the information stored in the integration database.

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



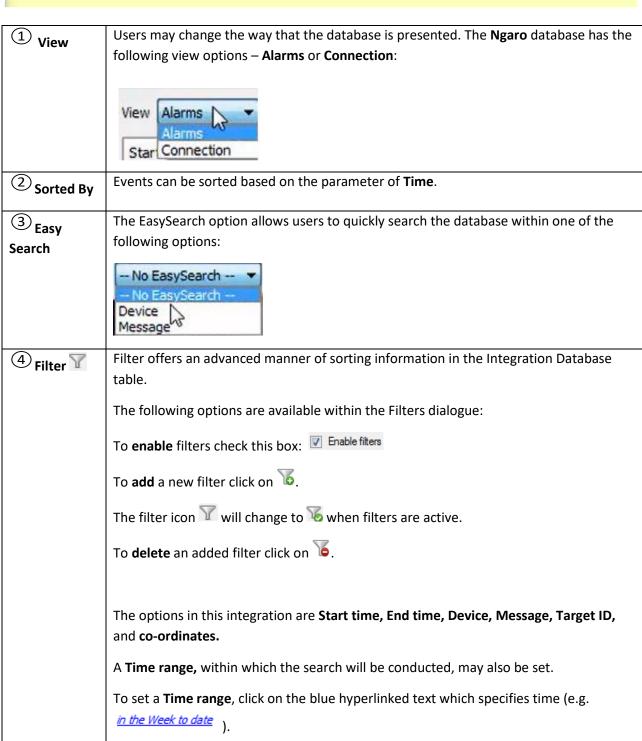
Most integrations will have a different database presentation and unique filters, due to the different parameters sent to CathexisVision by the integrated device.

On the left is an image of the Ngaro database.

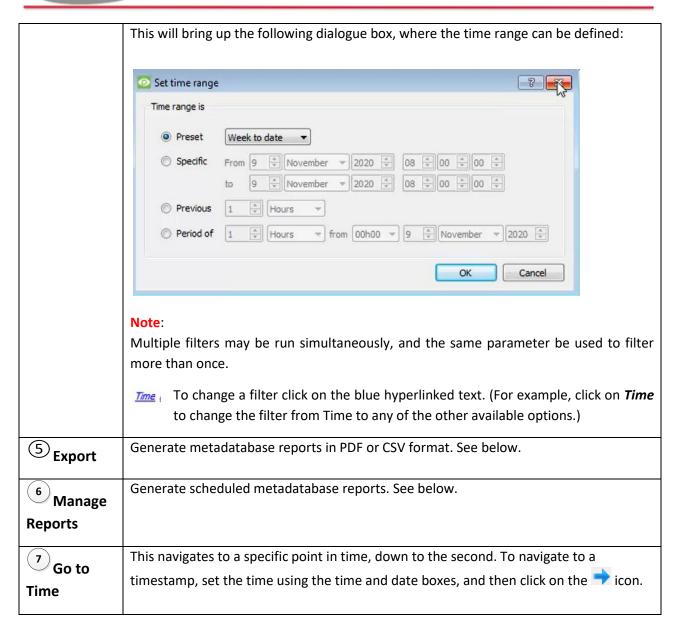


4.2 Database Interface





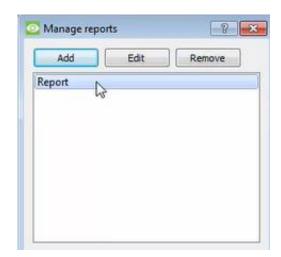






4.2.1 Scheduled Metadatabase Reports

Click the icon to open the scheduled report window.

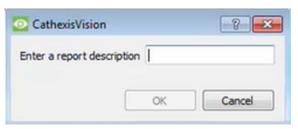


All created reports will be listed here.

First, click **Add** to create a report. Then **edit** to define the reporting schedule. See below for more detail.

To create, edit, or delete a report, select the entry and click on the corresponding button.

4.2.1.1 New Scheduled Report



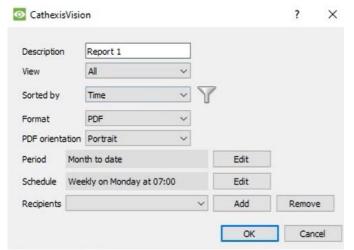
Click **Add** and give the report a description.

Click **OK** when done.

Once the new report is listed with the other reports, select it for editing to define the reporting schedule.

Either right-click the entry and select schedule or select the entry and click the schedule button at the bottom of the screen:

Schedule
.



Edit the **description** if needed.

Edit Viewing options.

Select the **Sorted by** option.

Select the **Format**.

Select the **orientation** of the Format.

Select the **period** to be reported on.

Define the **Schedule** for the report.



Add/remove recipients to whom reports will be sent.

Add Click Add and enter the email address of the recipient. Multiple recipients may be

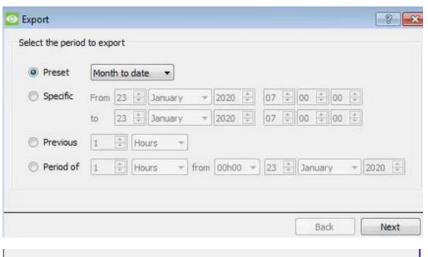
recipient: added. All will receive emails.

Remove Select the recipient from the dropdown menu and click **Remove**.

recipient:

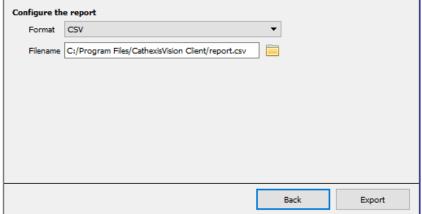
4.2.2 Generate Metadatabase Reports

Click the icon to open the Export window.



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.

4.2.2.1 Export CSV



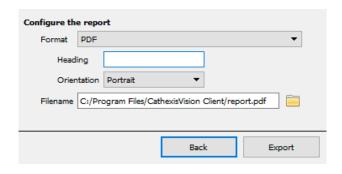
Select CSV Format.

Edit the **Filename** by either entering it straight into

text field (replacing **report.csv**), or click the to choose a new save folder and filename.



4.2.2.2 Export PDF



Select PDF Format.

Give the PDF a **Heading**.

Select either Landscape or Portrait **Orientation** of the PDF. Edit the **Filename** by either entering it straight into text field

(replacing **report.csv**), or click the choose a new save folder and filename.

4.2.3 Metadata



The right-hand side of the database displays metadata about the event entry.

4.2.4 Viewing an Entry's Associated Recording



If cameras are attached to objects in the device Integration setup, and if there are available recordings for those cameras, then each Integration database entry will have a corresponding recording.

To view a databased event's recording, click on the event entry in the database list. Then view the recording by pressing the **play** icon underneath the window on the right.



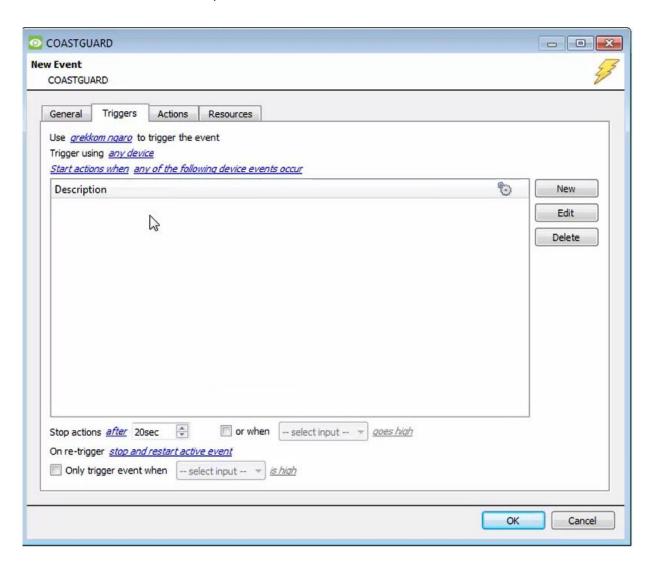
5. Events

A CathexisVision Event has a trigger, which causes an action. Set integrated devices to act as triggers, or as actions. This document details the Ngaro-specific aspects of Events. There is a comprehensive guide to CathexisVision Events in the main setup manual.

Most of the data that CathexisVision receives from a device is presented in the Events interface. This is done in order to give the user a full range of options.

5.1 Event Window

Events in CathexisVision are set up via the Event Window, which has four tabs. In the **General Tab**, an event is given a name, description, schedule and priority. In the **Triggers Tab** the trigger/s for the event are defined. In the **Actions Tab** the action/s which the event takes are defined. In the **Resources Tab** the various site resources which can be used as part of an event are defined.





5.2 Creating an Event

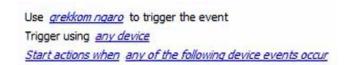
To create an event using the Ngaro integration device, enter the Events management area:



Once in Events, click on New . This will open up the **New Event** window.

5.2.1 While/When and Any/All

When triggering on an object, there is the option to trigger **while/when** a trigger is active. Define whether **all/any** of the triggers need to be active to start an event.



To change these settings, click on blue hyperlinks.

5.3 Triggers

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).

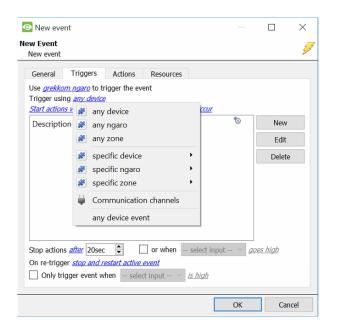
5.3.1 Set the device as the trigger



To define which device will be used to trigger the event, click on the hyperlink after "use". To set it as the Grakkom Ngaro device, click on the hyperlink, and select the device name from the dropdown menu.



5.3.2 Trigger Types (Trigger Using)

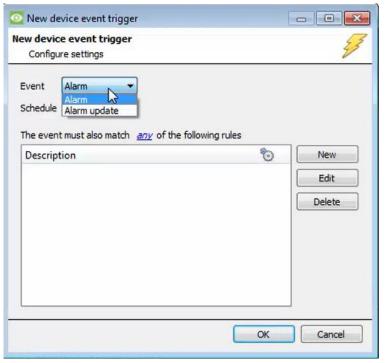


It is useful to think of this as a **master trigger type**.

Note for group triggers: For this event to be databased under the name of a specific object and not the name of the triggering group, the user will need to modify the Description field in the General tab of the Event setup. Click on the 10 to see a list of available descriptions.

5.3.3 Define the Trigger

After selecting a master trigger type, add a trigger to the event. Click on New in the Triggers tab. This will bring up the following dialogue box for the various trigger types:



For example, within the **device** option, choose the type of device Event that will be the trigger.

Choose from the drop-down menu.

Note: Multiple constraints (**Device Event Triggers**) can be set. If constraints are not defined, every single device event will trigger this event.

To add/edit/delete a **Device Event Trigger** (a constraint) use the **New**, **Edit**,
and **Delete** buttons on the right-hand
side.



Choose if <u>av</u>, or <u>av</u> constraints need to be fulfilled to set off a trigger.



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

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 (*equals* in the example). This will display the options for rules.

Note: When all available options are known to CathexisVision, a drop-down menu is displayed. When these variables are not pre-defined, the user will need to fill them in.

5.4 Actions



Having defined the triggers that will initiate an event, the user will need to define **Actions**.

5.4.1 Adding an Action

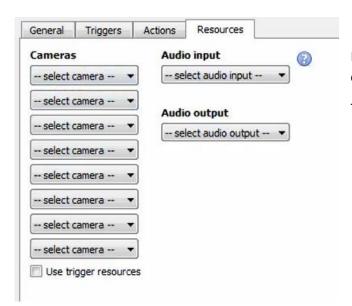
To add an action, click New in the **Actions** tab.



A list of available actions will appear.



5.5 Resources tab



In the Resources tab, the user can select the cameras, audio input, and audio output to be used.

The user can also choose to **Use trigger resources**.

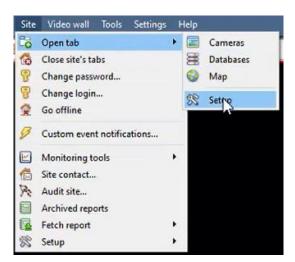


6. Map Editor

This section details how users can set up CathexisVision Map Editor to use with the Grekkom Ngaro integration.

6.1 Add Grekkom Ngaro Integration to Resources

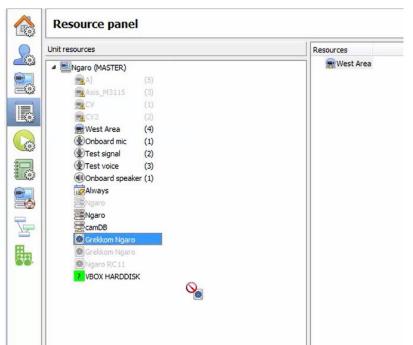
The Grekkom Ngaro integration will need to be added to Resources.



Follow the path shown to the left. Site / Open tab / Setup



In Setup, click the **Configure Resources** icon:



In the site's **Resource panel**, a list of resources will be displayed.

Select the Grekkom Ngaro integration. Drag and drop it under **Resources** on the right.

The Grekkom Ngaro integration device will now be listed under Resources.

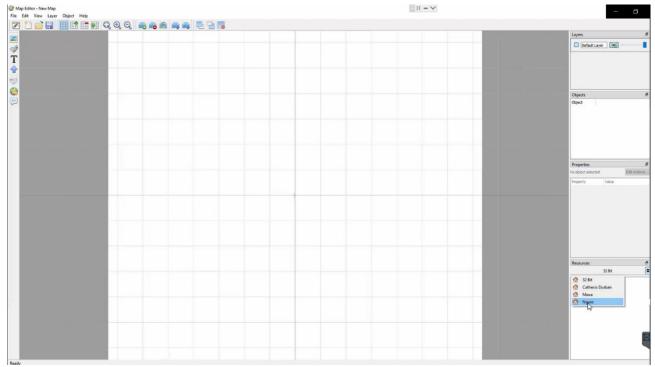


In the Camera tab, the Grekkom Ngaro device will now be listed as a Resource.



6.2 Configure Map Editor





On the right, select the **Grekkom Ngaro server**. The Ngaro integration device will then be listed as a resource.

6.2.1 Add an input

Drag and drop the Ngaro integration onto the map interface.



Choose an **object** from the drop-down menu.

Zone_1 West

The object will now be visible on the map interface.



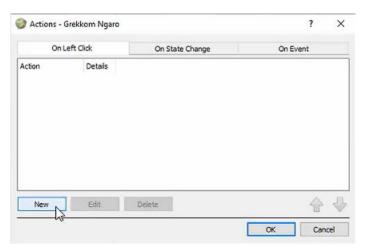
6.2.2 Edit Input



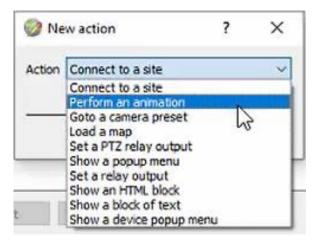
On the map interface, right-click on the zone. (Alternatively, the user can select Edit Actions on the right-hand tab, under Properties.)

Select Edit actions.

6.2.2.1 On Left Click



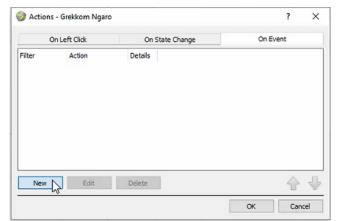
In the **On Left Click** tab in the window that appears, select **New**.



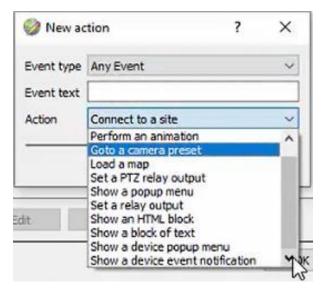
The user can choose an action from the drop-down list.



6.2.2.2 On Event



In the **On Event** tab, select **New**.



The user can choose the Event type (Any Event is the only option for this integration) and select an action from the drop-down list.



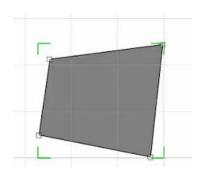
6.2.2.3 On State Change

The following example shows how the user can set the polygon to turn green when the zone's target state is normal, and red when the zone's target state is alarm.

Add a polygon

On the options bar on the left, click the **Add polygon** icon:

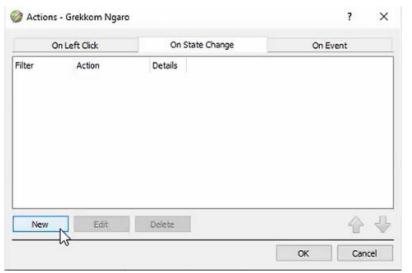




Draw a polygon on the map interface.



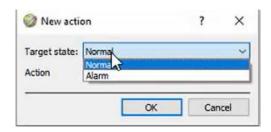
The polygon will now be listed under **Objects** on the right.



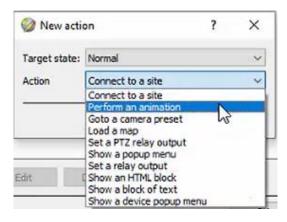
In the On State Change tab, select New.



Target State - Normal

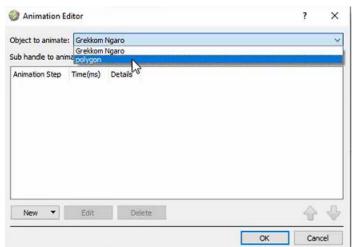


Select the **Target State** as **Normal**.

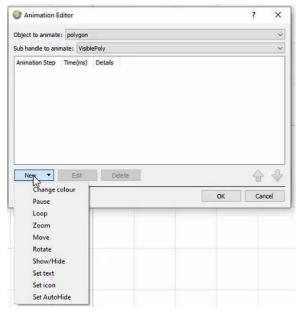


Select an Action. In this example, the user has selected **Perform an animation**.

Click OK.

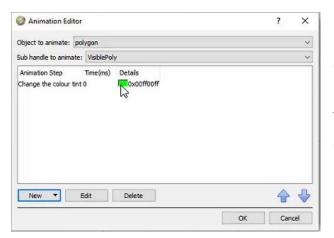


In the Animation Editor window that opens, select the polygon as the **Object to animate**.



Select Change colour from the drop-down list.



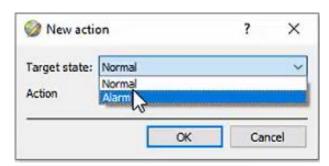


Double-click on the block of colour under **Details** to edit the colour. A window will appear with colour options.

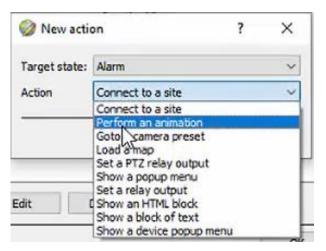
In this example, the user has chosen to keep the colour as green.

Click OK.

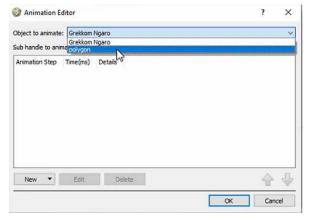
Target State - Alarm



To change the settings for when the Target State is Alarm, select **Alarm** from the drop-down list.

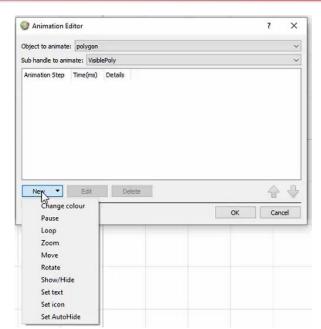


Select an Action from the drop-down list. In this example, the user has selected **Perform an animation**.

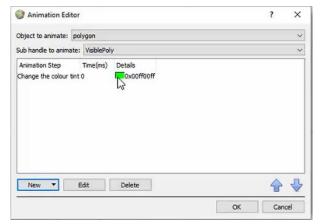


In the Animation Editor window that opens, select the polygon as the **Object to animate**.

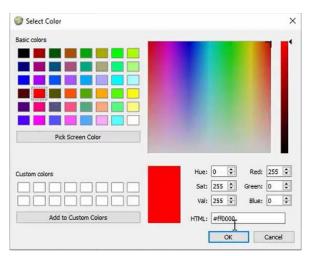




Select **Change colour** from the drop-down list.



Double-click on the block of colour under **Details** to edit the colour. A window will appear with **colour options**.

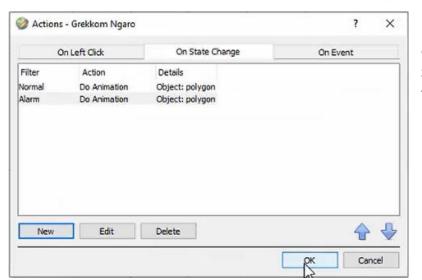


Select the colour which will indicate that the Target State is Alarm. In this example, the user has selected red.

Click OK.

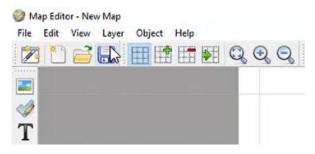
On returning to the Animation Editor window, click OK.





Click OK in the Actions – On State Change tab to confirm the selected settings.

6.3 Save map



In Map Editor, click the Save icon.

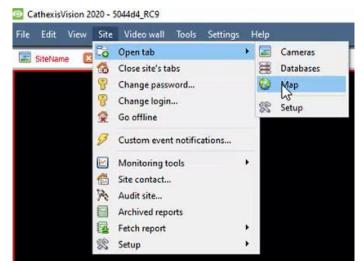


Give the map a **name**.

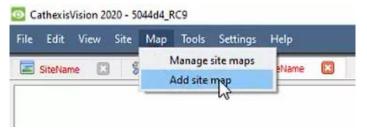
Click Save.



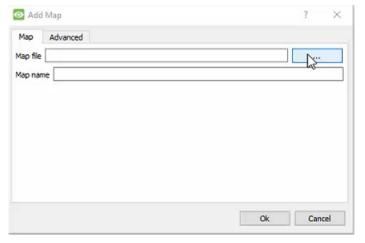
6.4 Load map on CathexisVision



In CathexisVision, go to Site / Open tab / Map

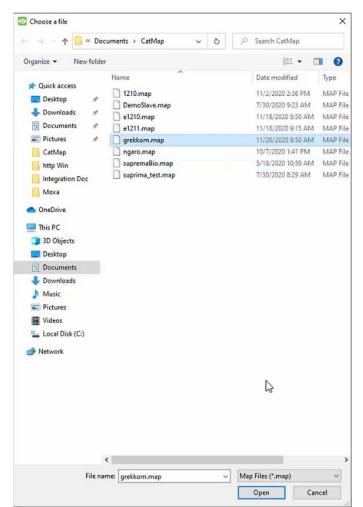


Then, in the Map tab, go to Map / Add site map

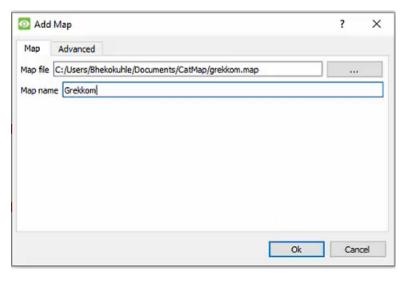


In the **Add Map** window that opens, click on the ellipses icon to retrieve the **Map file**.





Select the integration map and then click **Open**.

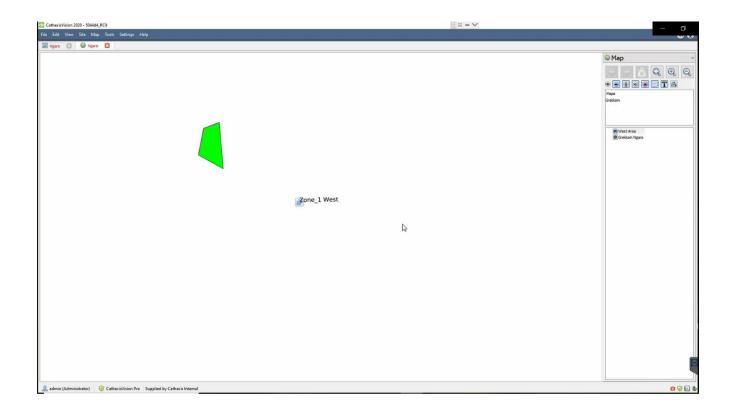


Give the map a descriptive name.

Click OK.



The applied changes will now be reflected on the map, as shown below.





7. Conclusion

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

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