Semac Access Control Integration App-note

21 December 2021

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

1. Introduction

This document will detail the integration of the Semac Access Control device with CathexisVision. Functionally this integration will entail the triggering of standard CathexisVision Events, based on general and zone events.

Note:

1. For information regarding the regular operation of a Semac device, please consult the relevant documentation.
2. There is a General Integration section in the main ***CathexisVision Setup Manual***. It has vital information about creating an integration database, as well as a general introduction to the Integration Panel. **Read over this section.**

1.1 General Requirements

- Cathexis 2020.2 service pack and later.

1.2 License Requirements

License Name		Description
CSMC-2000	Semac Access control Device license	This license is the "base" license to integrate with an access control system. It is applied to the server to which the access control device is connected. It will allow for the connection of a single Semac controller.
CSMC-1001	Semac Access control Door license	These licenses apply to the doors, or readers, in an access control system. The CSMC-1001 will license a single door/reader, and may be added on a door-by-door basis.
CSMC-3000	Semac Access control Bundle license	This license includes the CSMC-2000 Semac device license, and also provides support for unlimited CSMC-1001 reader licenses.

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-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 CathexisVision software, even though it is a single device. Even when a camera or device only uses a single IP license, the camera channel limit will still apply.

1.3 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 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.
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.

In the case of the Semac device, the **device** is the integration itself; the objects are the **doors.**

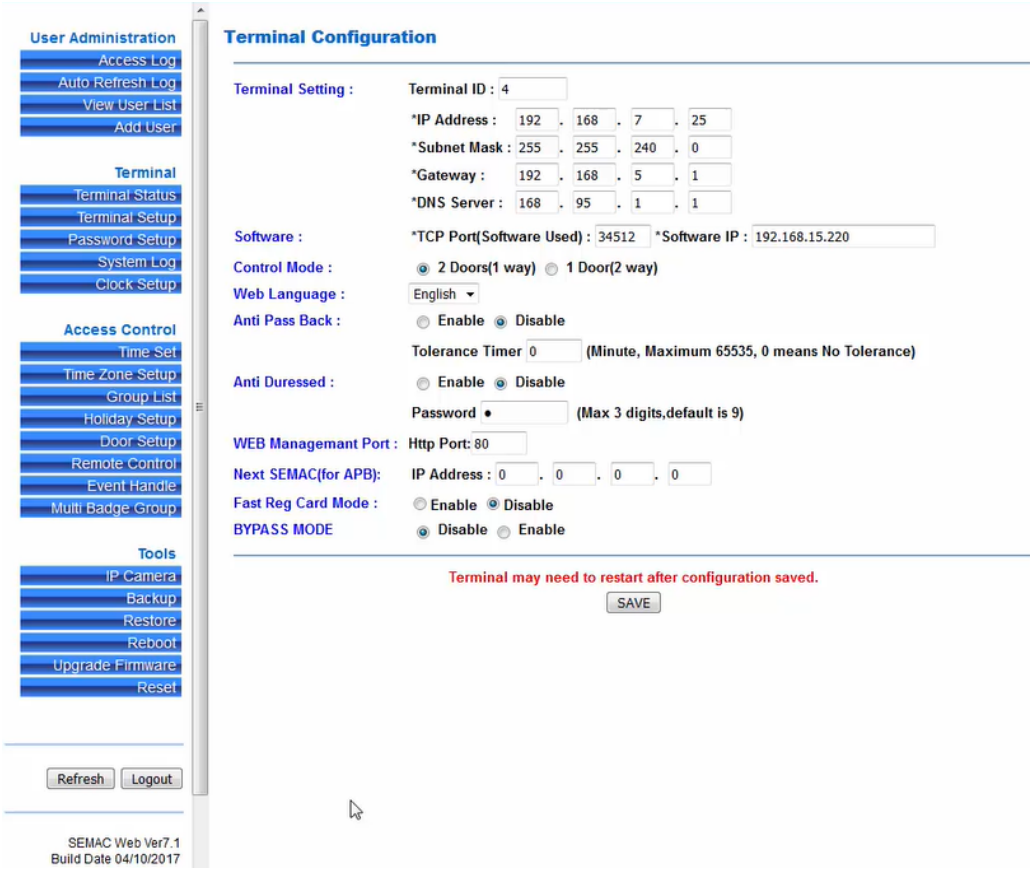
USEFUL LINKS

*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

2.1 Semac Access Control Specific Setup

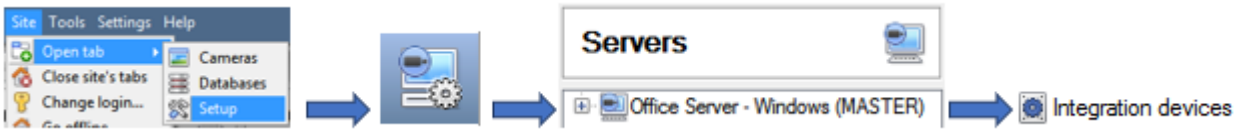


The Semac Device connects to CathexisVision software via a TCP port. The port and IP address are setup to link to Cathexis on the device's web interface.

2.2 Devices Section (adding a New Device in CathexisVision)

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. To get to the Integration Panel, follow this path:

2.2.1 The Integrations Panel



There are two sections in the Integration Panel:

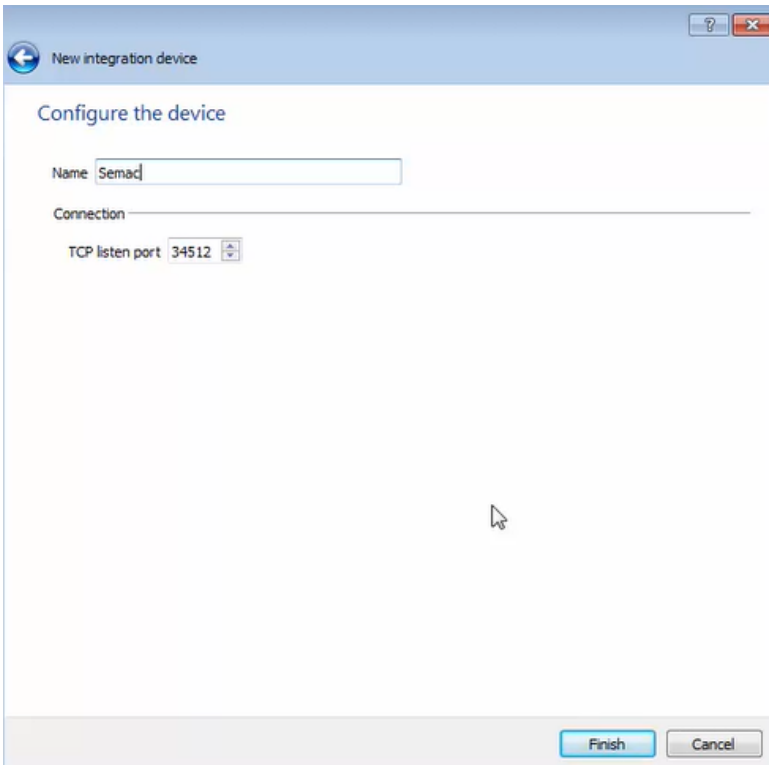
The **Devices** list will list the integration devices attached to the integration database.

The **Configuration** section enables editing/reviewing the device selected in the **Devices** section.

2.2.2.1 Device Addition

1. Once in the Integration Panel, in the devices section, click on New device. This will open the addition window.
2. Select the **Semac** driver.

2.2.2 Add the Device



Give the device a descriptive **name**.

Enter the **Port** number setup on the Semac Software.

Once the Semac device has been added and configured, select it in the **Devices list** and all Semac objects will automatically populate the **Configuration Section**.

2.3 Configuration Section (Tabs)

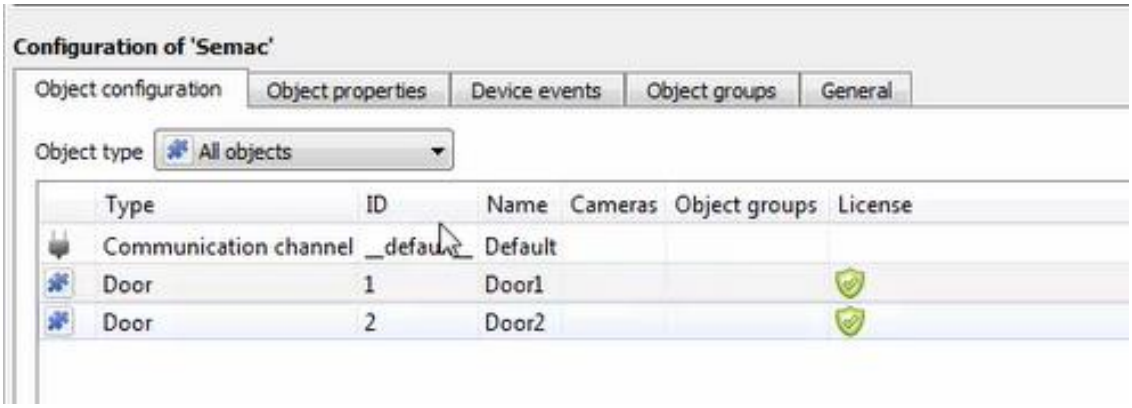
The configuration section is divided up into a number of Tabs. The available tabs are: **Object configuration, Object properties, Device events, Groups, and General.**

The Semac objects will have been automatically populated when the device is added and configured.

2.3.1 Object Configuration Tab

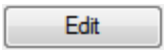
The object configuration tab is the tab where the individual objects that comprise the integration may be viewed. The Semac integration objects are **Door** and **Communication channel**.

In this tab, the **Names, Cameras** and **Groups** assigned to each object are visible.



2.3.1.1 Object Configuration Buttons

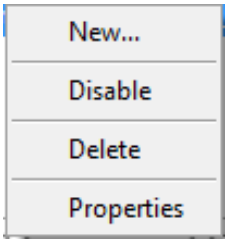
In the case of the Semac device, existing objects are detected automatically. Objects cannot be added manually.



Click Edit to open up an existing object for editing.

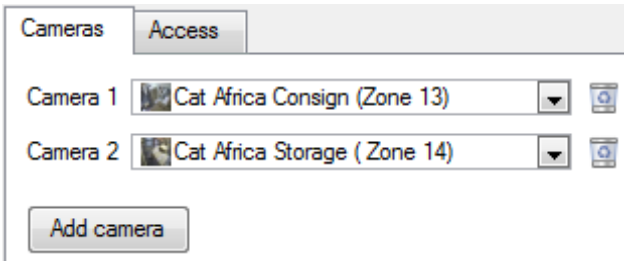
Click Delete to remove an existing object from the CathexisVision configuration.

2.3.1.2 Object Configuration Right-click Options

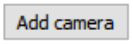


New does not apply to this integration, as objects are detected automatically by the system.
Disable/Enable allows individual nodes to be enabled or disabled.
Delete will permanently remove this object from the list.
Properties will open up the object properties. The object may be edited from here. (Specifically, this is where cameras and user access levels are assigned.)

Properties: Cameras



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.

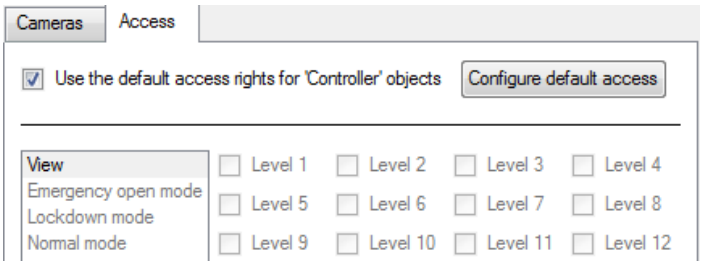


To add a camera, click the Add camera button, and select the relevant camera from the drop-down menu.

To delete a camera, click the trash icon.

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

Properties: Access



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

A list of objects for which access levels may be set, is visible.

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

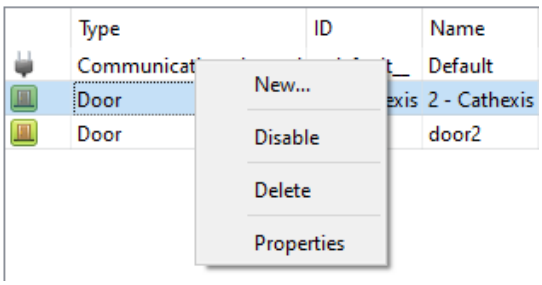
2.3.2 Configure Overlays

Overlays are supported for **Door** objects only. Overlays may be configured globally for all objects, or individually for selected objects. The path to follow for opening the configuration window for global vs individual overlays is different, however the overlay configuration is the same.

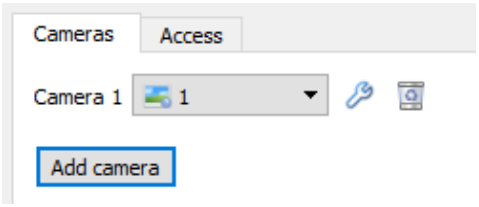
2.3.2.1 Configure Global Overlays

Select the Door object from the **Object type** drop-down menu and click the Default Settings icon.

2.3.2.2 Configure Individual Overlays



Right-click object and select **Properties** to edit the object.

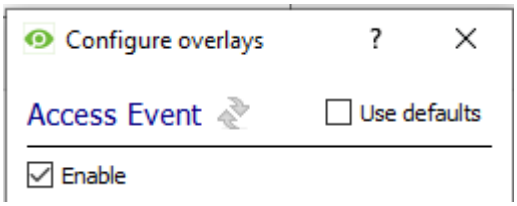


Add a camera to the object.

Then click the settings icon that appears next to the camera name.

Note: This option only appears for Door objects.

Global/Individual Options

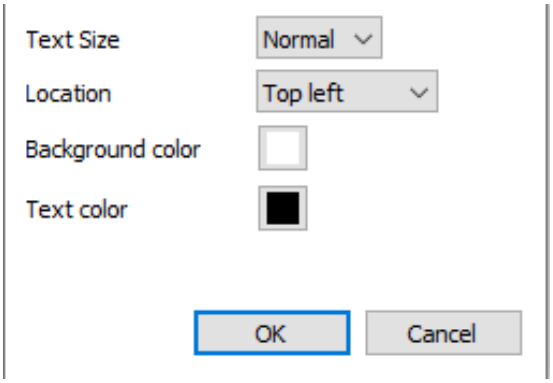


Use Defaults: This option is only available when editing individual overlays. Check this box to use the global configurations. Uncheck to edit overlays for the specific object.

Enable: This option is available in global and individual overlay configuration. In both cases, check the box to enable overlay configuration.

Click to reset values.

Overlay Configuration for Individual and Global



Select **Text Size** options from the drop-down menu.

Define the **Location** of the overlay panel.

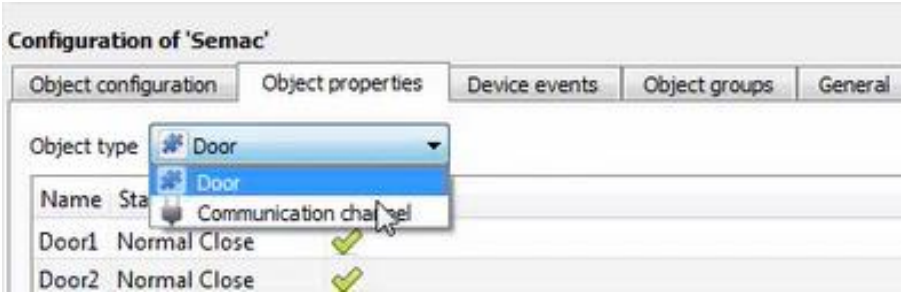
Define the **Background Colour** of the overlay stream: Set the panel appearance to default; remove the border or remove the panel entirely (so that only the overlay text appears). Adjust the opacity as required.

Choose **Text Colour**.

To set a custom panel colour, uncheck **Use Default background colour.**

Click the box to bring up a colour chart.

2.4 Objects Properties Tab



The Object properties tab displays the objects, sorted by type. In the case of the Semac device, the object types available are Door and Communication channel**.**

Below are the definitions for each of the specific object type columns found in the Object Properties tab.

2.4.1 Door Object

State	Meaning
Name	The name of the Door object. Here the terminal names indicate whether they are entrances or exits.
ID	The ID assigned to the object.
Cameras	The cameras assigned to the Object.
Object groups	The object groups assigned to the Object.
License	The License assigned to the Object.

2.4.2 Communication Channel Object

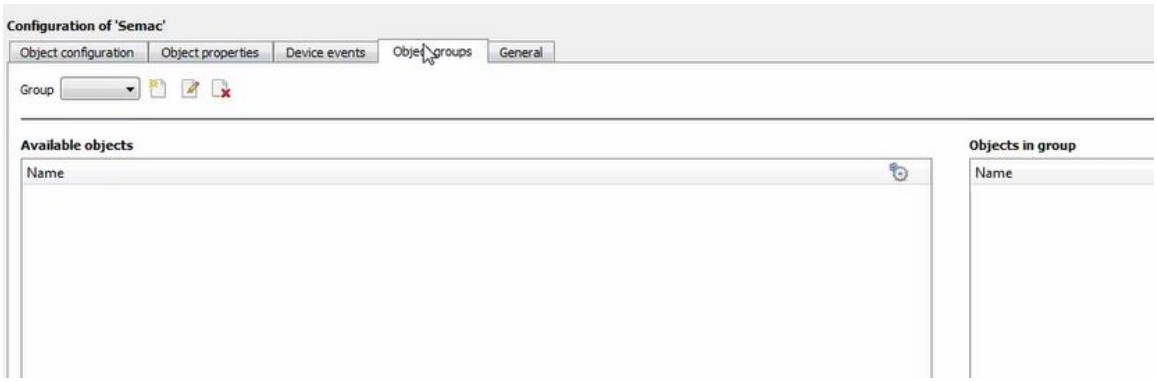
State	Meaning
Name	The name of the Communication channel object. Here the terminal names indicate whether they are entrances or exits.
ID	The ID assigned to the object.
Cameras	The cameras assigned to the Object.
Object Groups	The object groups assigned to the Object.

2.5 Device Events Tab

This will list real time events happening on this device. It is an excellent way for installers to see that the integration is functioning, and to monitor the live events happening on site:

Events may be viewed by type one type **Events**:

2.6 Groups Tab



Groups of the same type of object may be created.

Tip: This is very useful when setting up Events, because events can be triggered by an object group. (E.G. a group will trigger, if any of the objects in that group are triggered.)

2.6.1 Create a Group

To create/edit a group click on / .

Note: Once a group has been created, the object type of the group may not be edited.

When creating a group, select what object type to include in the group. Once the group is created the available objects panel will fill up with all available objects of that type. From this list, choose which objects to use in the Group.

Give the group a descriptive **Group name.**

Click on the drop-down menu to select the **object type** t to group.

There is a list Available Objects. To add/remove these objects to the group select them (it is possible to select multiple at a time), and click on / .

2.7 General Tab

Currently the general tab deals with the integration database. Here, select a pre-created database, or configure a new database.

2.7.1 Select an Integration database

If an integration specific database has already been created, select it by clicking the settings icon.

Only databases relevant to the integration being added should appear.

If a database has not been created, see below.

2.7.2 Configure a New Database

If there is no database created yet, clicking on this button will take open the integration database setup.

Click **New** to create a database.

Give the database a **Name**.

Select the **Size** of the database. The max is 100MB.

Select the Semac AC (1.1.1) driver.

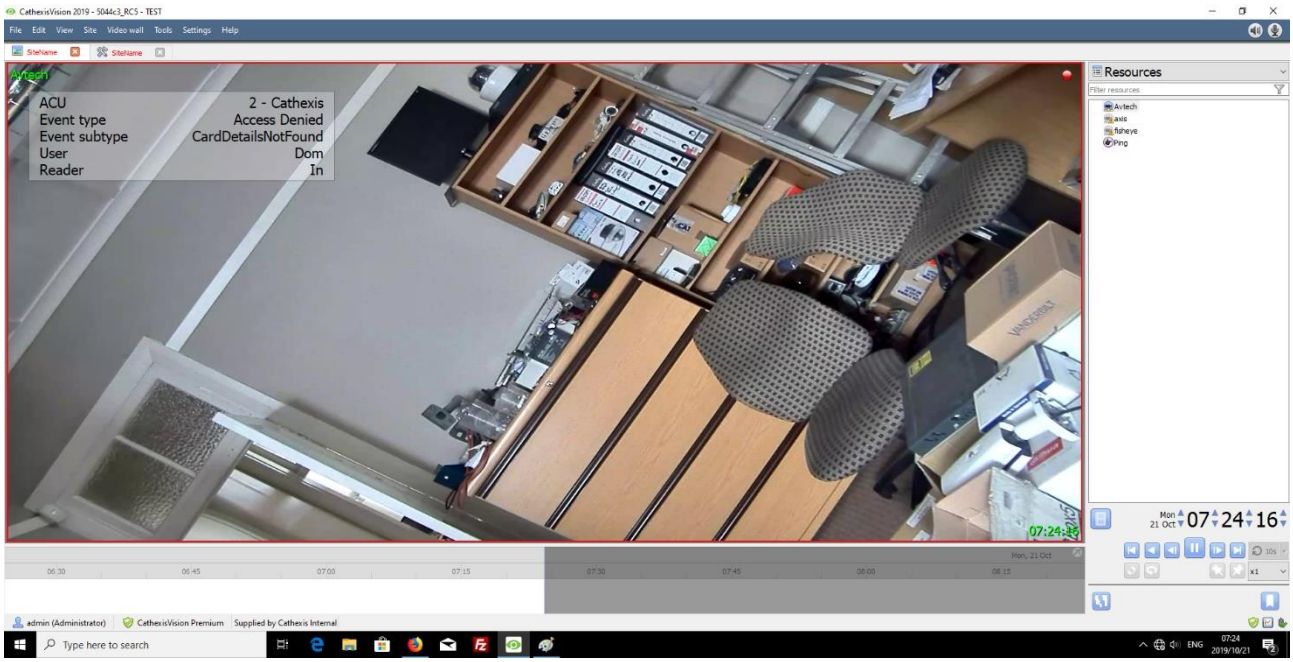
Click **OK** when done.

Select the newly created database by clicking the settings icon and selecting it from the drop down menu.

Note: The information on setting up an integration database may be found in the **Integration Devices General Settings** section of the CathexisVision Setup Manual.

3. Camera Tab Overlay Setup

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



Note: Cameras must have already been added to Door 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. This will pop out the Video feed options panel.

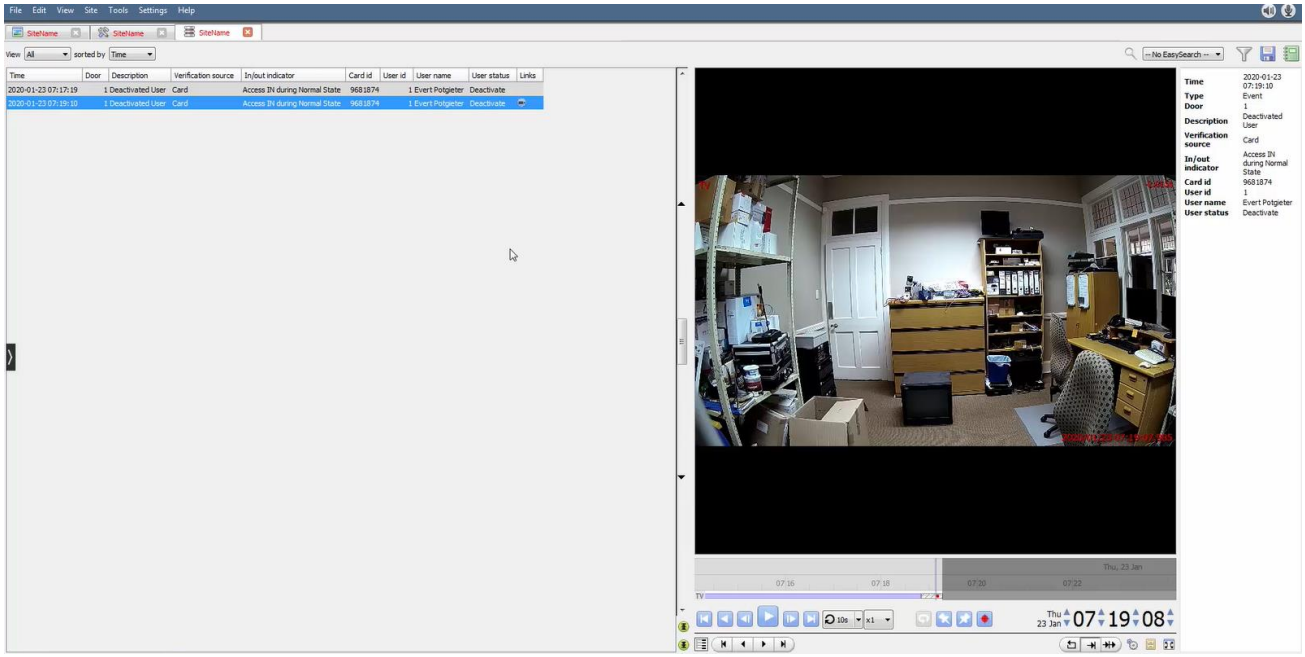
The Video feed options panel will present a number of options specific to the settings configured for that video feed.

3.1.1 Select the Overlay

Clicking the overlay icon will bring up the overlay options for this video feed.
Select this option to make the overlay appear over the video feed, illustrated in the screenshot above.

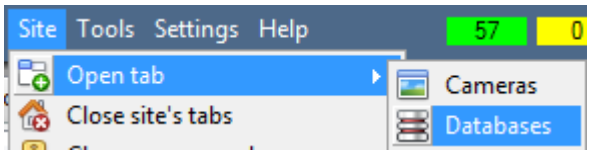
4. Database

The database tab will allow the user to navigate the records in each individual database. In the database tab each database is presented as a table. It has built in filters, and the ability to navigate by timestamp. If a database record has an associated recording, the user will also be able to launch this recording, from within the database tab.



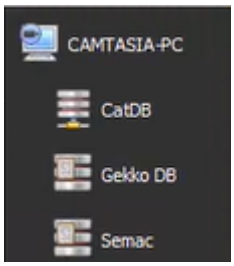
Most integrations will have a different database presentation, and unique filters, due to the different parameters sent to CathexisVision by the integrated device.

4.1 Navigate to the Database



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

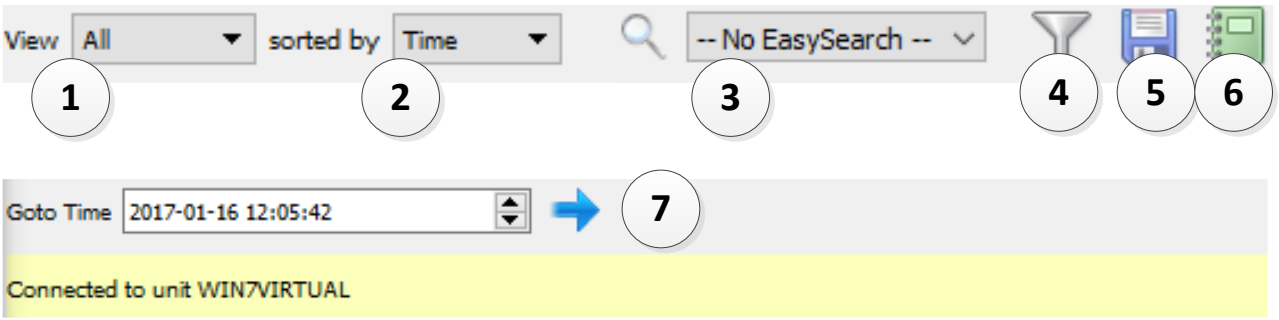
This will open the Database Tab.

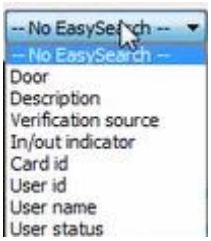
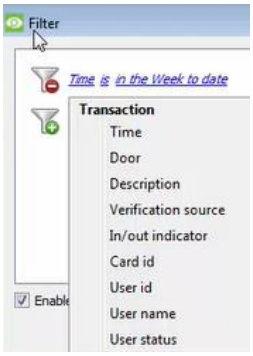


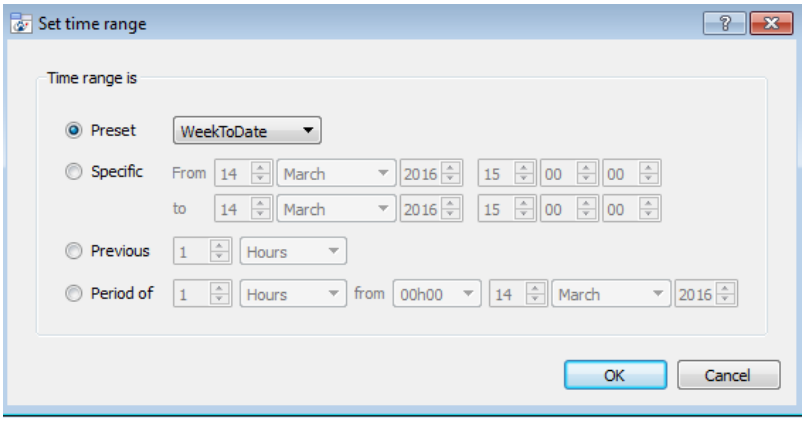
Once in the databases tab, select the relevant integration database. The databases are ordered under the NVRs that they are attached to.

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

4.2 Database Interface



① **View**	Change the way that the database is presented. Some integration databases have multiple view options. The Semac database has only one option: **All**.
② **Sorted By**	Sort the Events based on the parameter of **Time**.
③ **Easy Search**	The easy search option allows quickly searching the database within one of the following options: 
④ **Filter**	Filter offers a more advanced manner of sorting information in the Integration Database table.  Once the filters dialogue is open, the following options are available: 1. To **enable** filters, check this box: Enable filters 2. To **add** a new filter, click on . The filter icon will change to when filters are active. 3. To **delete** an added filter, click . A **Time range,** within which the search will be conducted, may also be set.

	To set a **Time range**, click on the blue hyperlinked text which specifies time (e.g. *in the Week to date*). This will bring up the following dialogue box, where the time range can be defined:  **Note**: 1. Multiple filters may be run simultaneously. Filters with the same parameters may be run more than once. 2. To change a filter, click on the blue hyperlinked text.
⑤ **Export**	Generate metadatabase reports in PDF or CSV format. See below.
6 **Manage Reports**	Generate scheduled metadatabase reports. See below.
7 **Go to Time**	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. Then click the arrow icon.

4.2.1 Scheduled Metadatabase Reports

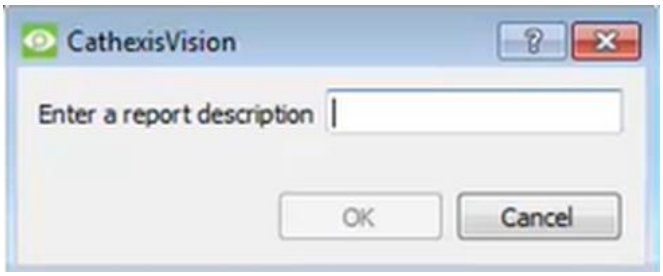
Click the schedule icon to open the scheduled report window.

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

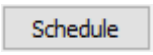


Click Add.

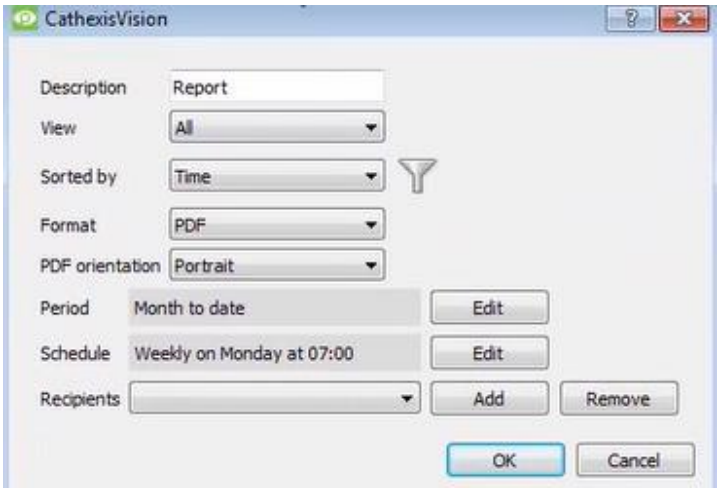
Then give the report a description.

Click **OK**.

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.



Edit the **Description** if necessary.

Edit **Viewing** options.

Select the **Sorted by** option.

Select the **Format**.

Select the **PDF orientation** of the Format.

Select the P**eriod** to be reported on.

Define the **Schedule** for the report.

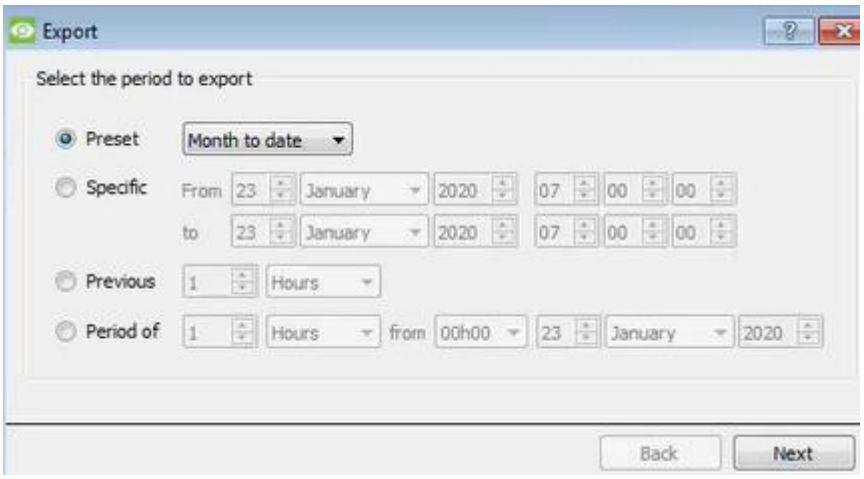
Add/remove recipients to whom reports will be sent.

Add recipient: Click **Add** and enter the email address of the recipient. Multiple recipients may be added. All will receive emails.

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

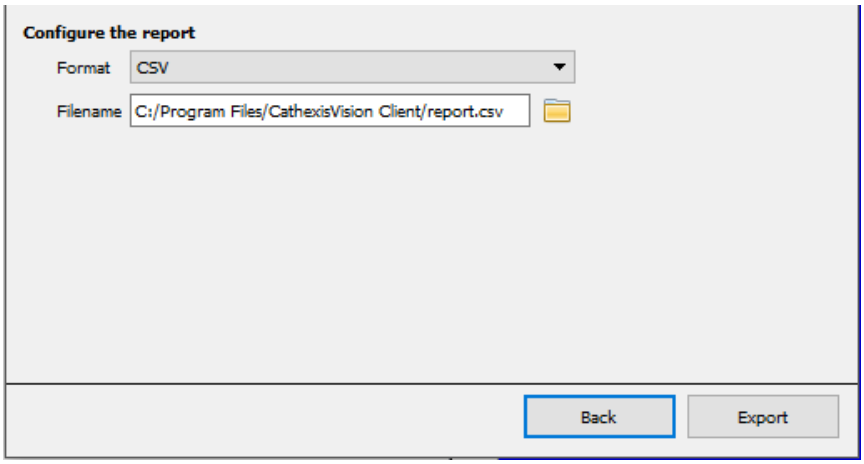
4.2.2 Generate Meta-Database Reports

Click the save icon to open the Export window.



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

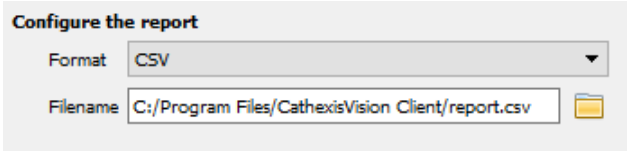
Click **Next**.



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

See below for the two options.

4.2.2.1 Export CSV

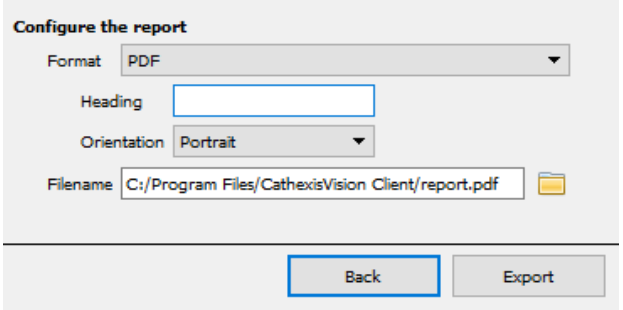


Select CSV **Format**.

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

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

4.2.3 Metadata

Time	2020-01-23 07:19:10
Type	Event
Door	1
Description	Deactivated User
Verification source	Card
In/out indicator	Access IN during Normal State
Card id	9681874
User id	1
User name	Evert Potgieter
User status	Deactivate

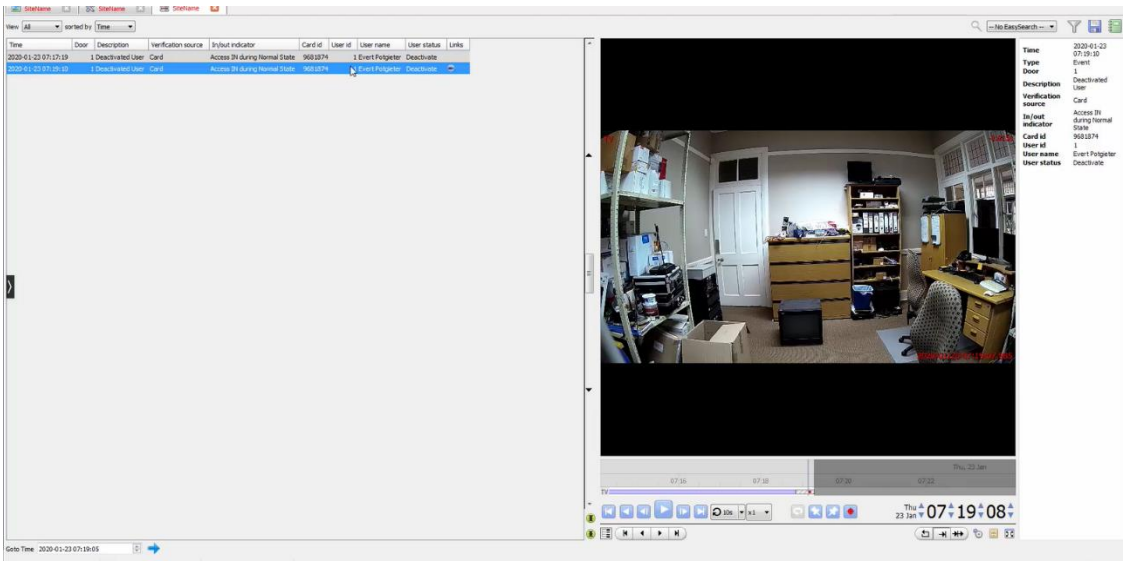
On the right-hand side of the database, meta-data about the event entry is displayed.

4.2.4 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 CathexisVision cameras tab.

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.



5. Events

A CathexisVision event has a trigger, which causes an action. Integrated devices may be set to act at triggers, or as actions. This document will detail the Semac 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. As a result, some of the options presented in the interface may be impractical for being used as an event trigger, or action.

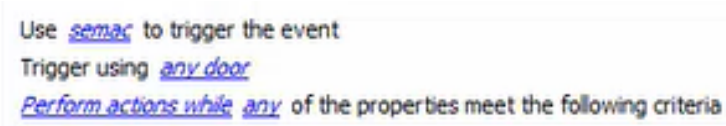
5.1 Create an Event

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

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

5.1.1 While/When and Any/All

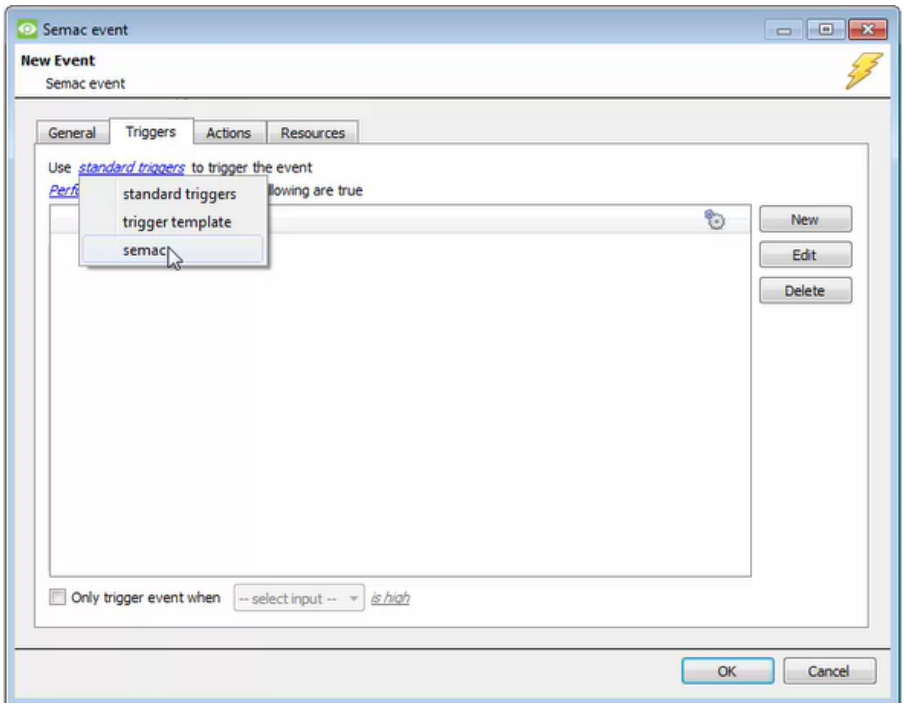
When triggering on a door, the option is to trigger **while/when** a trigger is active. The user will also be able to select multiple triggers, and define whether **all/any** of the triggers need to be active to set-off an event.



As usual, to change these settings click on the blue hyperlinks.

5.1.2 Triggers

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



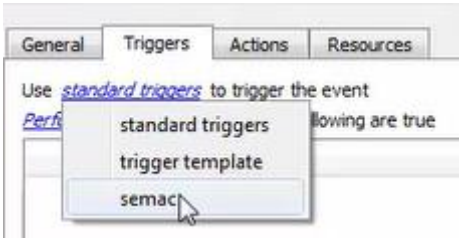
In this window, define the rules and constraints which will trigger an event on the Semac device.

To add/edit/delete a rule use the New, Edit, and Delete buttons on the right-hand side.

Note: The user may set multiple constraints, choosing if *any*, or *all* constraints need to be fulfilled to set off a trigger.

5.1.2.1 Set the Device as the Trigger

Choose the Master Trigger type here.



If creating a new event, the trigger type will default to: Use *standard triggers*. To define which device to trigger the event, click on the hyperlink after "use". To set it as the Semac device, click on the hyperlink, and select the relevant device name from the dropdown menu.

5.1.2.2 Trigger Types

Choose whether certain device objects or any device event will trigger an event.

Any terminal will trigger using any of the terminals.

Terminals in group… will trigger using any of the terminals in that group.

Specific terminal will trigger using only a specific terminal.

Communication channels will trigger on communication channels.

Any device event will trigger when any trigger occurs on the Semac device.

Note: If object groups have been created, the option to trigger using specific/any group will appear here.

Note for group triggers: To database this event under the name of a specific object, and not the name of the triggering group, modify the Description field in the General tab of the Event setup.

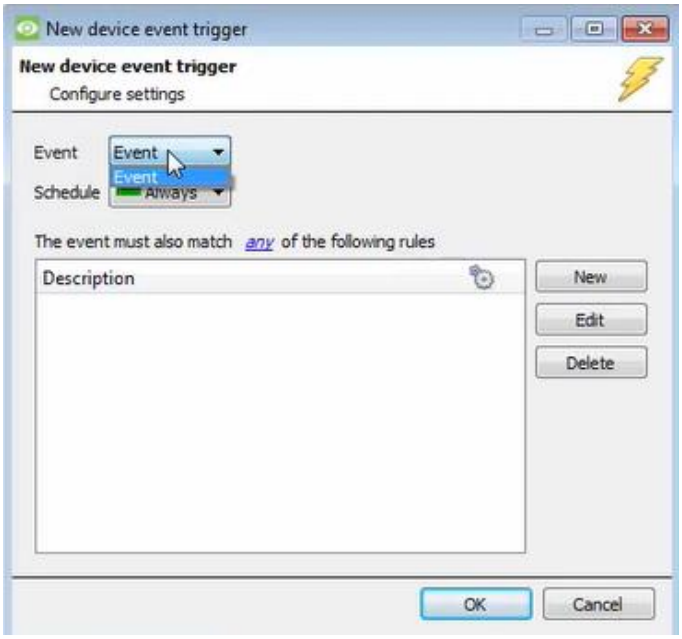
Click on the question mark icon to see a list of available descriptions. Example usage: value=$input_name

In this example, replace 'value' with the name the event should be databased under.

5.2 Device Event Triggers

After selecting a master trigger type, add a trigger to the event.

New Click on New in the Triggers tab. This will bring up the dialogue box below:



Select the **Event** type.

Define the **Schedule**.

Click on the blue hyperlink to define whether the ***any*** or ***all*** of the configured device event rules should trigger an event.

Next, add rules to the device event trigger.

Note: Rules for different event types must be added individually.

5.2.1 Add Rules to Device Event Triggers

If no constraints are set, every device event will trigger this. Once constraints are set, only the constraints chosen will trigger the event. Once the type of device event that will be the trigger is selected, add a new **device event rule.**

To do this, click on New 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 (

in the example) this will display the rules options.

Note: When all available options are known to CathexisVision, they will be visible in a drop-down menu. 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 CathexisVision from the Semac Device, see the Semac settings for the strings needed here.

5.3 Actions

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

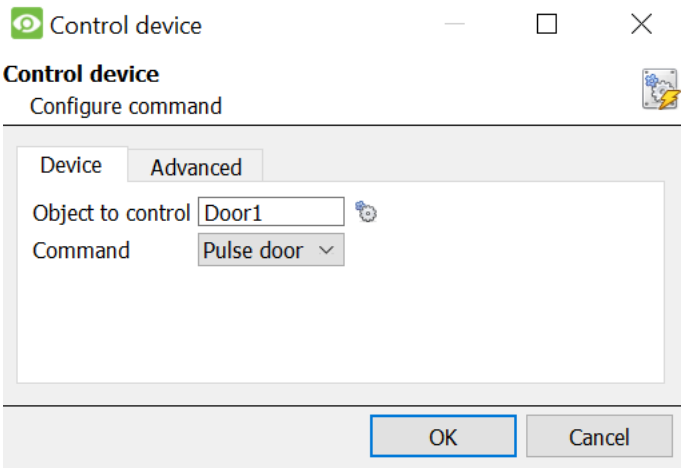
To set an action for an event trigger, click New and select an action from the available options:

One of the available actions will be to control the Semac device.

5.3.1 Control device

This will bring up the **control device** dialogue. Under the **device** tab the user defines how the device will be controlled; under the **advanced** tab, the scheduling of the action is defined.

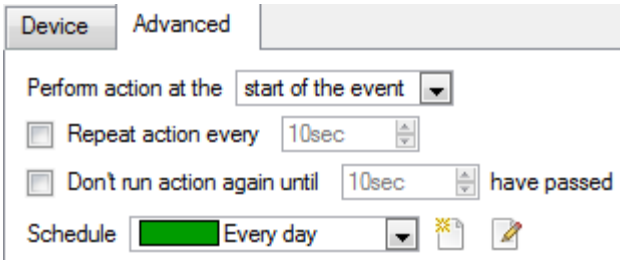
5.3.1.1 Device



To select an **Object to control**, click on the settings icon. This will display a selection of all the Objects available on the Semac device.

The **command** drop-down will change to present the commands available to that Object.

5.3.1.2 Advanced



Decide when to **perform action at:** the options are either at **the start of the event**, or **once the event triggers have subsided**.

The two checkboxes allow the user to set the action to repeat every few seconds, and/or not run for a period after it has triggered.

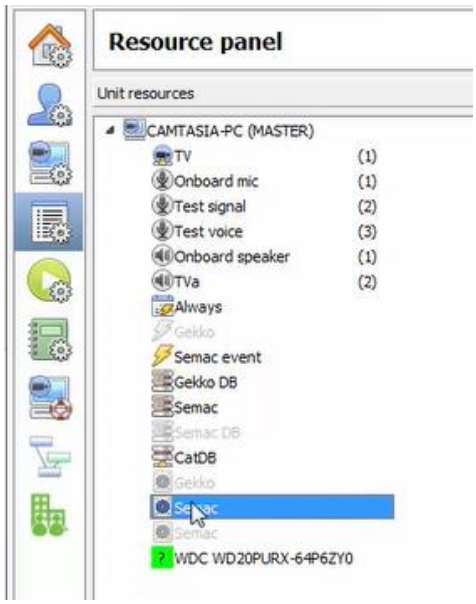
Schedule is a standard CathexisVision schedule, which may be applied to the actions.

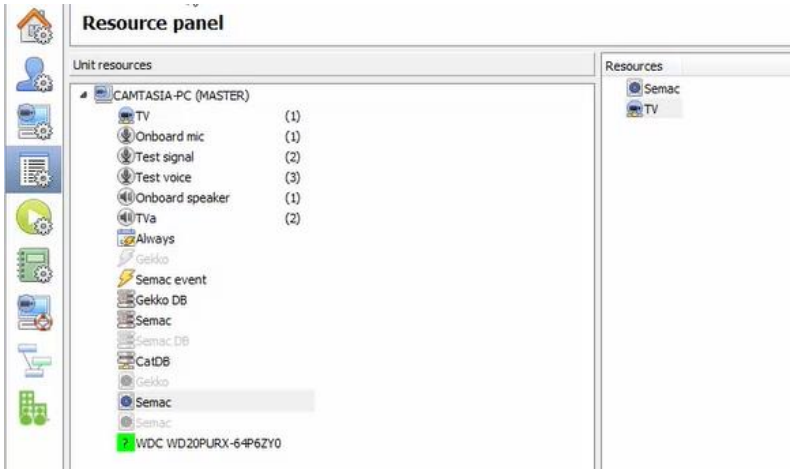
6. Maps

It is possible to add the Semac device to a site map, which will allow for a number of action options when zones/partitions 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 Semac device. For more information on using the CathexisVision Map Editor and Map Tab, please consult the dedicated and detailed Map Editor Operation Manual.

6.1 Add the Semac Device as a Resource





To configure the map, the Semac Access control device must be added as a resource to be added to the map.

6.1.1 Add the Device in the Resource Panel

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

6.2 Add the Device in Map Editor

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

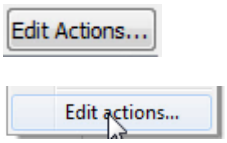
6.2.1 Adding Device Objects

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

Select one of the associated objects.

Note: To add multiple objects, repeatedly drag-and-drop the Semac device onto the map area to bring up this option.

6.2.1.1 Adding Device Actions



To add actions to the device objects, either select the object on the map and click Edit Actions….
Or, right-click the map object and select Edit actions….

6.2.1.2 Action Options

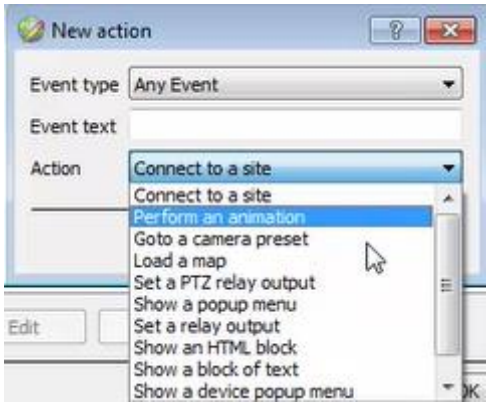
Actions may be set for **Left/Right-Clicks**, **State Changes** and **Events**.

To create a new action, select New.

The action triggers will differ according to the object selected. Consider the following example for an action based on a Semac Access Control event:

Event type options:

Action options:



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

Once finished, save the map.

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

6.3 Map Tab

Upload the saved map to CathexisVision. 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.

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, email support@cat.co.za.