

RS2 Technologies Access Control Integration App-note



Contents

1.	Introduction	3
	1.1 Requirements	3
	1.2 Specifications	3
	1.3 CathexisVision GUI Control of RS2 Technologies Objects	4
	1.3 Integration Components	4
2.	Device Addition and Configuration	5
	2.1 Add a New Device in CathexisVision	5
	2.2 Configuration Section (Tabs)	6
3.	Camera Tab Overlay Setup	13
	3.1 Video Feed Options Panel	13
4.	Database	14
	4.1 Navigate to the database	14
	4.2 Database interface	15
5.	Events	20
	5.1 Creating an Event	20
	5.2 Triggers	20
	5.3 Actions	22
6.	Map	24
	6.1 Add the Device as a Resource	24
	6.2 Add the Device in Map Editor	24
	6.3 Map Tab	25
7	Conclusion	26

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. The integration hardware and firmware used are current at the time of the integration development and newer versions may not be compatible with the integration.



1. Introduction

This document details the integration of the RS2 Technologies Access Control Device, with CathexisVision software. Functionally, this integration will entail the triggering of standard CathexisVision Events, based on the triggers from the RS2 Access Control panel.

1.1 Requirements

- CathexisVision 2020.2 and later
- Win 10-64bit and later, Win Server 2008 R2 and later.
- Minimum 4 GB of RAM required.

Note:

- 1. For information regarding the regular operation of a RS2 Technologies device, please consult the relevant RS2 Technologies documentation.
- There is a General Integration section in the main CathexisVision manual. It contains information on creating an integration database, as well as a general introduction to the Integration Panel. Read over this section.

1.1.1 Licenses

The RS2 Technologies license requirements are the following:

CRST – 1001	RS2 access control reader
CRST – 2000	RS2 access control device
CRST – 3000	RS2 access control bundle

Note: in this integration, a single license will cover multiple linked devices.

1.2 Specifications

This integration was tested on:

Hardware name	Mercury
Hardware model number	LP1502, MR52, LP2500
Firmware as tested	Hardware firmware = 1.303
Third-party software name	RS2 Universal
Third-party software version	V9
Third-party software license required	API license



1.3 CathexisVision GUI Control of RS2 Technologies Objects

Input:

- Mask
- Unmask

Output:

- Activate
- Deactivate
- Pulse

Reader

- Momentary unlock
- Disable
- Unlock
- Lock
- Set reader mode (permanent)
- Set reader mode (temporary)

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 object.

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.



2. Device Addition and Configuration

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

2.1 Add a New Device in Cathexis Vision

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:

2.1.1 The Integrations Panel

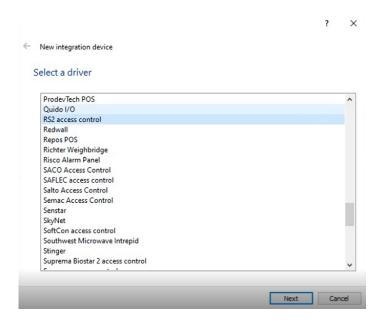


There are two sections in the Integration Panel:

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

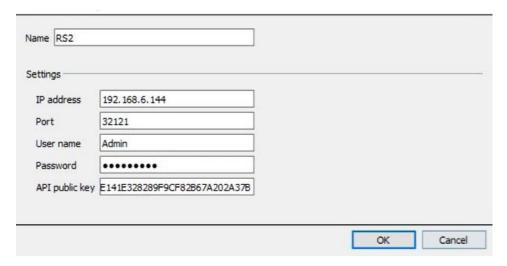
2.1.1.1 Device Addition

- 1. Once in the Integration Panel, in the devices section, click on **New device**. This will open the addition window.
- 2. Select RS2 access control from the list.





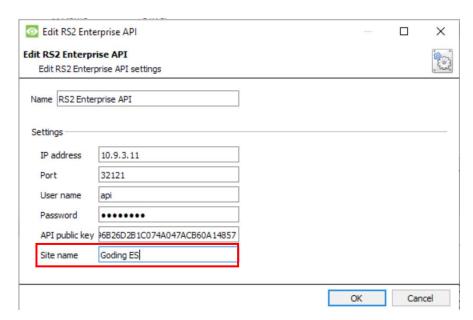
- 3. Give the device a descriptive name.
- 4. Type the IP address of the computer the access.it software is running on.



Connect to a Single Site

It is possible to connect to a *single site* and thus only receive updates from a single site. To do this:

- 1. Select the RS2 driver (as shown above).
- 2. When presented with the setup parameters, enter the name of the single site. The site name must match the name of the site provided in the RS2 software setup.



Note: This option is available in CathexisVision 2022.2 and later.

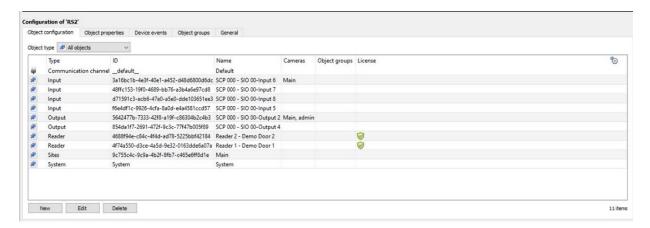
2.2 Configuration Section (Tabs)

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

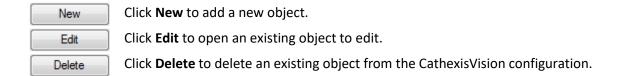


2.2.1 Object Configuration Tab

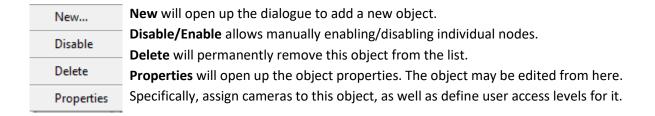
The object configuration tab is the tab where all the individual objects that comprise the integration may be viewed.



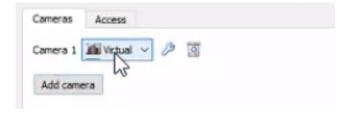
2.2.1.1 Object Configuration Buttons



2.2.1.2 Object Configuration Right-click Options



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.

Add camera To add a camera, click on Add camera. Select the relevant camera from the drop-down menu.

To delete a camera, click on this icon.



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

Properties: Access



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

There will be a list of objects, whose access level may be set.

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.

2.2.1.3 Configure Overlays

Overlays are supported for Door and Device objects. Overlays may be configured individually for selected objects.

Configure Global Overlays

Global overlays may be configured for "reader" or any of the other options except for "All objects".

Configure Individual Overlays

To configure overlays for an object double click or right click and select properties.



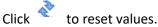
Add a camera to the object, and then click the settings icon that appears next to the camera name.



Individual Options

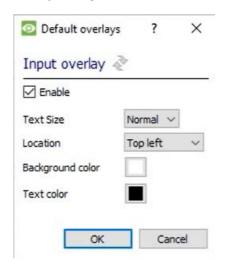
Use Defaults: This option is only available when editing individual overlays. Check this box to use the global configurations. Uncheck to edit overlays for the specific object.

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





Overlay Configuration for Individual



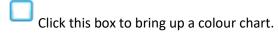
Select **Text Size** options from the drop-down menu.

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.

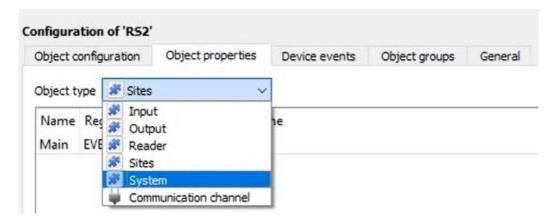
Choose **Text Colour**.

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

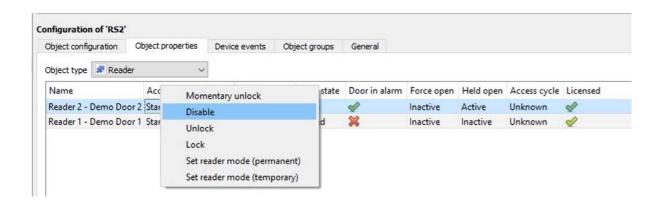


2.2.2 Object Properties Tab

The Object properties tab allows viewing objects, sorted by type. In the case of the RS2 device, there is the option of viewing by **Input**, **Output**, **Reader**, **Sites**, **System**, **Communication channel**.



2.2.2.1 Object Control Menu





Control of the individual object can be selected by right-clicking the mouse over the object for which control is required.

This will show a menu of the commands applicable for the select object.

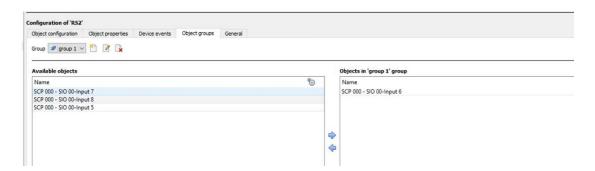
Select the command to apply it.

2.2.3 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.

2.2.4 Object Groups Tab



Groups of the same type of object can be created.

Tip: This is useful when setting up Events, because events can be triggered by an object group. (For example, a group will trigger, if any of the zones/partitions in that group is triggered.)

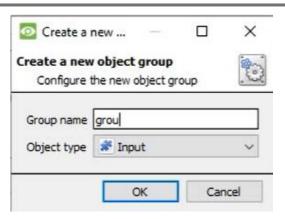
2.2.4.1 Create a Group



To edit a group, click on this icon.

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

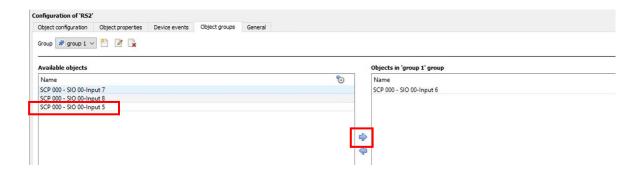




When creating a group, select the object type to include in the group. Once the group is created, the available objects panel will fill up with all available objects of that type. From this list, choose which objects to use in the Group.

Give the group a descriptive Group name.

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

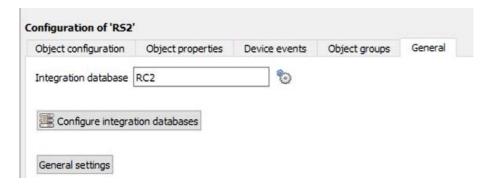


There will then be a list of Available Objects. Multiple objects may be selected at a time.

To add/remove these objects to the group, select them and click $\frac{1}{2}$ / $\frac{1}{2}$.

2.2.5 General Tab

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



2.2.5.1 Select an integration database



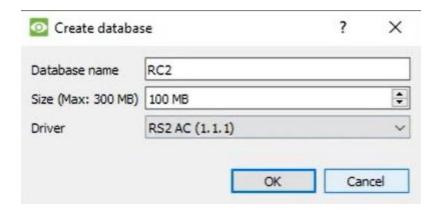
To select a database, click , and select the relevant database. Only databases which relate to the device being added should appear.



2.2.5.2 Configure a new database



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



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 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 a number of 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, as above.

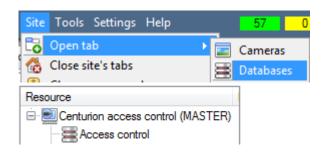


4. Database

The database tab allows navigating to the databased entries, for 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 entry has an associated recording, this recording can be launched from within the database tab.

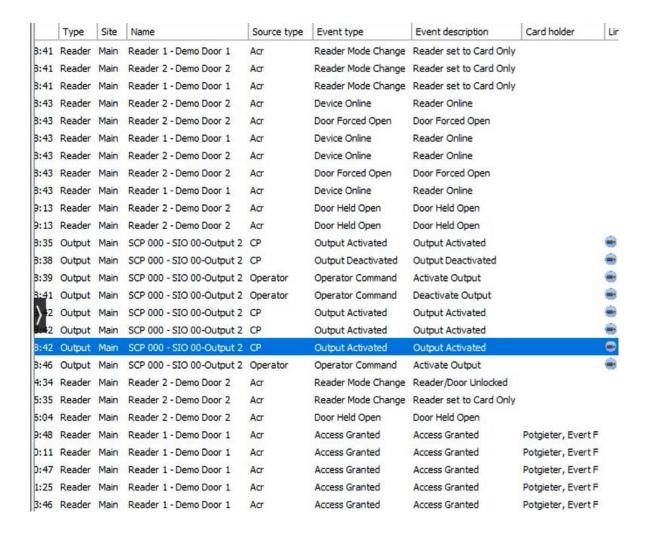
Most integrations will have a different database presentation, and unique filters, due to the different parameters sent to CathexisVision by the integrated device.

4.1 Navigate to the database



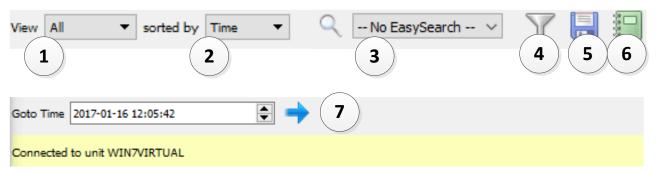
View information stored in the Integration database, by following the path seen to the left. This will navigate to the Database Tab.

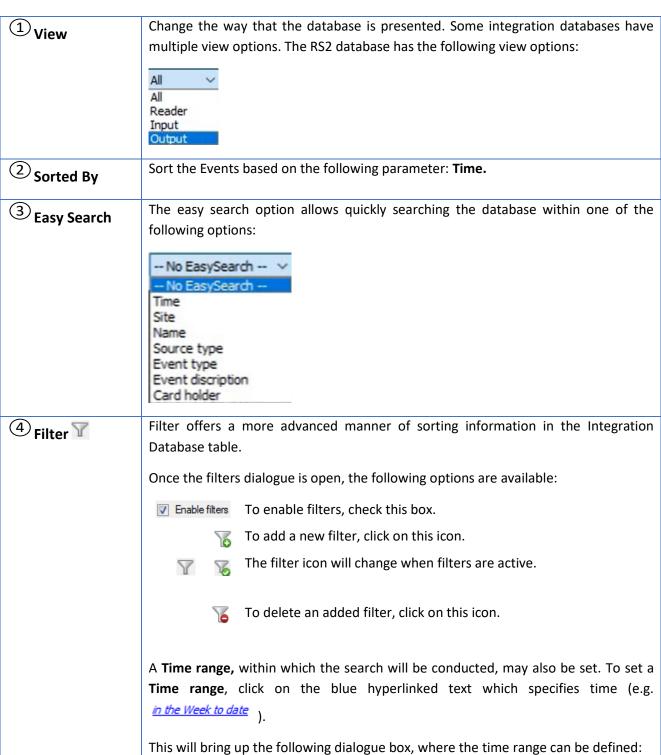
Once in the databases tab, select the relevant integration database. The databases are ordered under the NVRs that they are attached to. Below, is an image of a RS2 Technologies Access Control database:



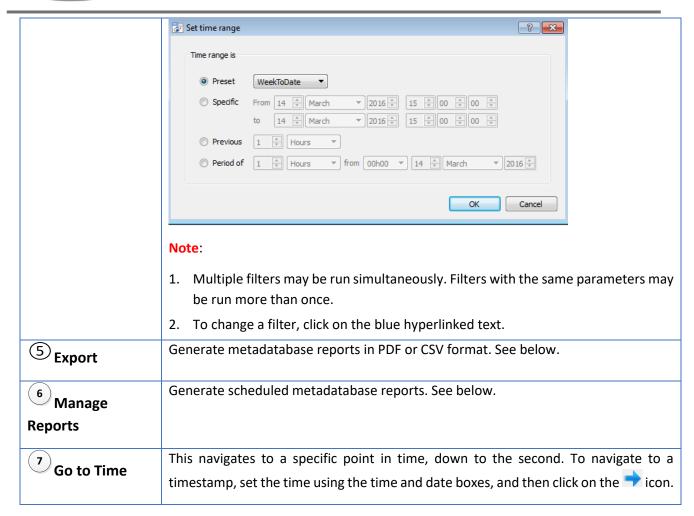


4.2 Database interface



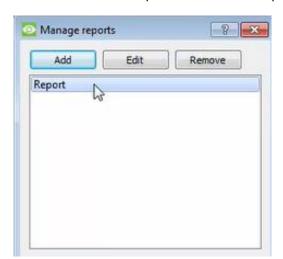






4.2.1 Scheduled Metadatabase Reports

Click this icon to open the scheduled report window.



All created reports will be listed here.

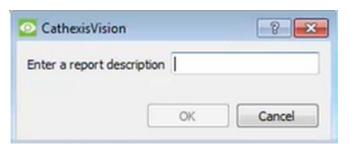
First, click **Add** to create a report. Then **edit** to define the reporting schedule. See below for more detail.

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.

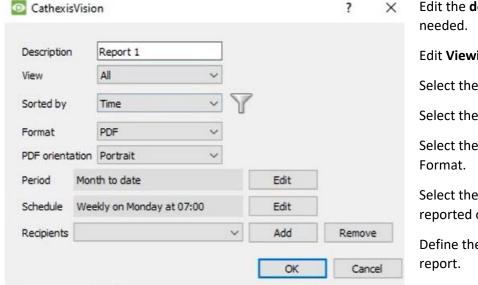


Give the report a description.

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 Schedule bottom of the screen:



Edit the description if

Edit Viewing options.

Select the **Sorted by** option.

Select the Format.

Select the **orientation** of the

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

Define the **Schedule** for the

Add/remove recipients to whom reports will be sent.

Add recipient: Click **Add** and enter the email address of the recipient. Multiple recipients

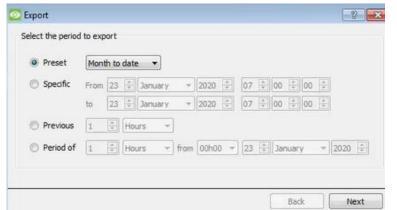
may be added. All will receive emails.

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



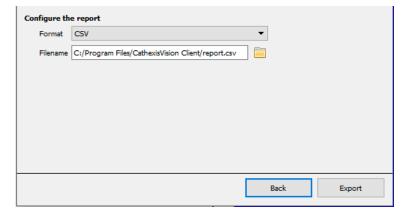
4.2.2 Generate Metadatabase Reports

Click this 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.

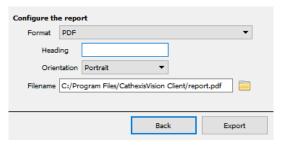
4.2.2.1 Export CSV



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 to choose a new save folder and filename.



4.2.3 Metadata

Time	2020-05-07 08:50:11
Туре	Output
Id	5642477b-7333- 42f8-a19f- c86304b2c4b3
Site	Main
Name	SCP 000 - SIO 00-Output 2
Source type	Operator
Event type	Operator Command
Event description Card holder	Activate Output

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

4.2.4 Viewing an Entry's Associated Recording



If cameras are attached to device objects in the integration setup, and these cameras are set up to record continuously, each integration database entry will have a corresponding recording.

To view a databased event's recording, double-click it. A floating replay window will appear, from which content may be reviewed and archived.



This icon will present the view to the left.



This icon will break down the image into 4 sequential frame viewers.



5. Events

A CathexisVision event has a trigger, which causes an action. Set integrated devices to act as triggers, or as actions. This document will detail the RS2 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* as an event trigger, or action.

5.1 Creating an Event

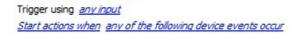
To create an event using the RS2 Technologies device, enter the Events management area:



- 1. Once in Events management area, click on New . This will open up the New Event window.
- 2. Once in this window, select the Triggers tab and click on the hyperlink titled, standard triggers.
 - a. From the drop-down menu, left-click the RS2 Technologies device with which to trigger the event.

5.1.1 While/When and Any/All

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

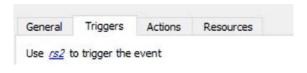


To change these settings, click on the related blue hyperlinks.

5.2 Triggers

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).

5.2.1 Set the device as the trigger

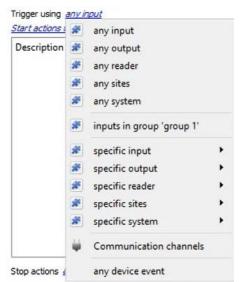


When creating a new event, the trigger type will default to: Use <u>standard triggers</u>. To define which device should trigger the event, click on the hyperlink after "use". To set it as the RS2 device, click on the hyperlink, and select the relevant device name from the dropdown menu.



5.2.2 Trigger Types (Trigger Using)

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



Any door will trigger if anything happens on any of the doors.

Specific door... will trigger on the specific door chosen.

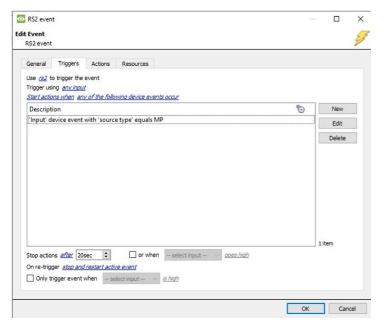
Any device event will trigger, initially, when any event occurs on the device. Within the "any device event" setup, "device event rules" may be set, which will constrain the events that prompt triggers.

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, modify the Description field in the General tab of the Event setup. Click on the to see a list of available descriptions. Here is an example which will database the text "Door Name" along with the name of the *door object* that triggered the event:



After selecting a master trigger type, add a trigger to the event. Click on line the Triggers tab. This will bring up the dialogue box below:

5.2.2.1 Any device event



For example, within the any device event option, choose the type of device Event that will be the trigger. Choose from the drop-down menu.

Note: Set multiple constraints, and choose if and, or constraints need to be fulfilled to set off a trigger. If a constraint is not defined, every single device event will send off a trigger.

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





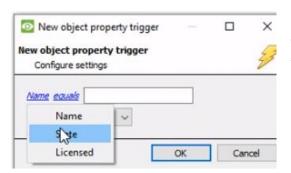
To change the constraint, click on the first hyperlink. This will bring up the full list of available rules.

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

Note: When all available options are known to CathexisVision, a drop-down menu will appear. When these variables are not pre-defined, fill them in. The information pulled through to the events is information sent to CathexisVision from access it software.

5.2.2.2 Any Object/ Group

Triggers that are not of the **Any Device Event** type, have a slightly different setup window. In these instances, constraints need not be set, since they are being added one at a time. This option is better if a few triggers have been selected to use.



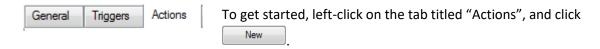
Since only one type of object is being used to trigger the event in this instance, the dialogue will appear as the **New Device Event Rule** window did previously.

Note: this is true for groups too, since a group may only be made up of one object type.

5.3 Actions

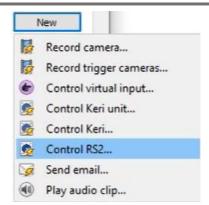
Once the triggers that are going to initiate the event are defined, define some Actions. One of the available actions will be to *control* a RS2 Technologies device. **Schedule** is a standard Cathexis schedule, which may be applied to the actions.

5.3.1 Open Actions Tab and Select the RS2 Technologies Device



A menu will drop down containing all the available action types. The device action type is represented by this icon:



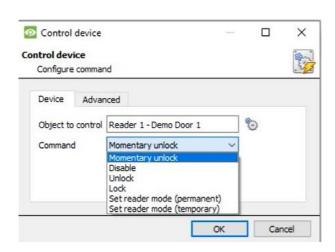


It will state "Control ..." and the name of the Action device. An example is shown in the image on the left.

5.3.2 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.

5.3.2.1 Device

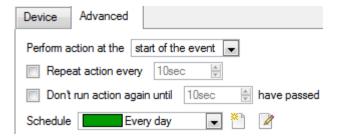


To select an **Object**, click on the icon. This provides a selection of all the Objects available on the RS2 Technologies device.

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

Note: Only take a global action here, and global actions may only apply to **controllers**. For example, **communication channels** or **door nodes** may not be controlled as part of an event action. If selecting one of these objects, there will be no options in the *Command* menu.

5.3.2.2 *Advanced*



Choose to **perform action 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.



6. Мар

It is possible to add the RS2 Technologies Access Control 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 RS2 Technologies device. For more information on using the CathexisVision Map Editor and Map Tab, please consult the *Map Editor Operation Manual*.

6.1 Add the Device as a Resource

To configure the map, the 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 device from the **Unit Resources** list into the **Resources** list, on the right.

6.2 Add the Device in Map Editor

Once the RS2 device has been added as a **Resource**, it will be available to drag onto the map area from the **Site Resources** list in the Map Editor software.



6.2.1 Adding Device Objects



Drag the 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 device resource from the Site Resources list onto the map area to bring up this option.



6.2.2 Adding Device Actions

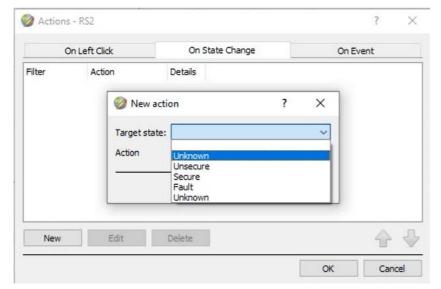
To add actions to the device objects, either:

Edit Actions...

Select the object on the map and click Edit Actions... OR

Edit actions...

Right-click the map object and select Edit actions...



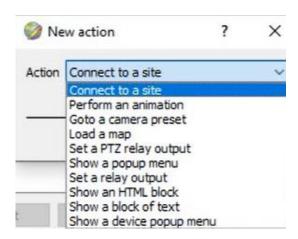
Actions may be set for **Left-Clicks**, **On State Change** and **Events**.

New Click **New** in the relevant tab of the action window.

Once set, the list of actions will be displayed here.

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

Action options:



Action options are the same for all tabs, except for the Device Events Tab, which has the added option to **Show a Device Event Notification**.

- Once all required actions have been set for the various map objects, click **OK** in the Action window.
- Once finished, save the map.

NB: The map <u>must not be saved</u> in the default folder or Work folder of the installation directory. Instead, create a new directory when saving.

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, consult the main manual (https://cathexisvideo.com). For support, email support@cat.co.za

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