Impro Access Portal Pro Integration App-note

Contents

1. Introduction

This document will detail the integration of the Impro Access Portal Pro (AP Pro) 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 an Impro device, consult the relevant documentation.
2. There is a General Integration section in the ***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.**
3. This integration supports Impro V4.1

1.1 Requirements

1.1.1 General Requirements

- CathexisVision 2020.4 and later.
- Windows only: the integration was tested on Windows 10.
- The integration works with encryption enabled *or* disabled: the driver supports encryption on Windows however it must be disabled for a Linux Ubuntu installation.
- Users who wish to disable encryption may consult instructions on the website or the app-note. See Section 2.1.1 Connect to the Impro AP Pro Message Server.

1.1.2 License Requirements

License No.	License Name	Description
CIMP-1001	Impro AP Pro door license.	This will license all doors associated with the device. Each door requires a license.
CIMP-2000	Impro AP Pro device license.	This licenses the Impro AP Pro device.
CIMP-3000	Impro AP Pro Control bundle.	This bundle includes licenses for the Impro device as well as for unlimited doors.

Note:

1. Either purchase the bundle license, or **both the device and door license**.
2. All doors must be licensed individually.

1.1.3 Specifications

Minimum requirements for Access Portal Suite:

- Intel Xeon 3.5GHz processor
- 4GB of RAM
- 50GB of available disk space
- A screen resolution of 1280×800

1.2 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.

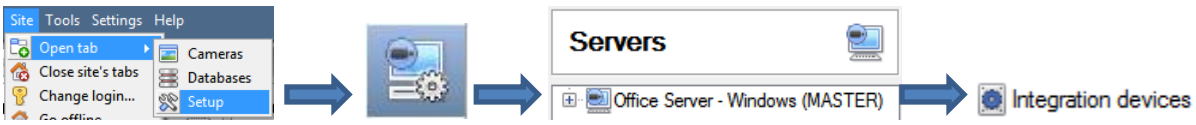
In the case of the Impro Access Portal Pro device, the **device** is the integration itself; the objects are the **terminals.**

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. Even when a camera or device only uses a single IP license, the camera channel limit will still apply.

2. Device Addition and Configuration

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:



There are two sections in the Integration Panel:

1. The **Devices** list will list the integration devices that are attached to the integration database.
2. The **Configuration** section enables the user to edit or review the device selected in the **Devices** section.

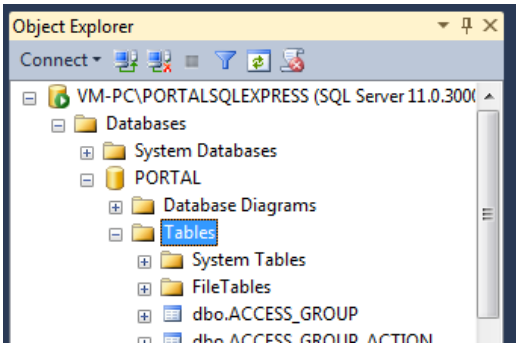
2.1 Impro AP Pro Specific Setup

2.1.1 Connect to the Impro AP Pro Message Server

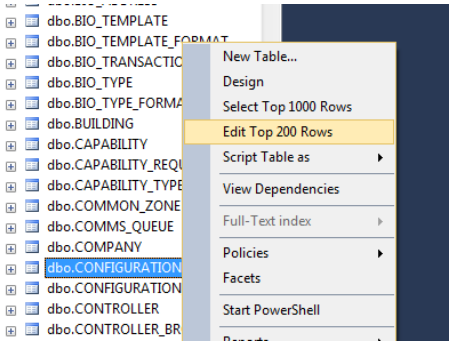
The Impro AP Pro uses a Microsoft SQL Server to store their program data and configuration settings and, by default, broadcasts secure messages.

Note: The encryption must be disabled for a Linux Ubuntu installation.

The default (secure/encyrpted) can be changed by editing the api.secure value in the Impro AP Pro SQL database. Follow the instructions below:

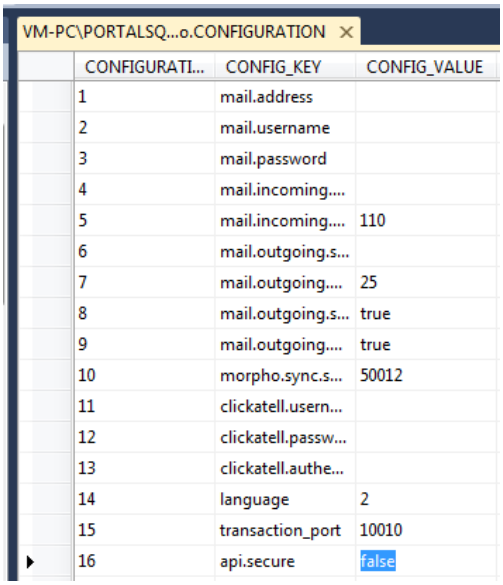


1. Follow this path: **Object Explorer / SQL Server / PORTAL / Tables**

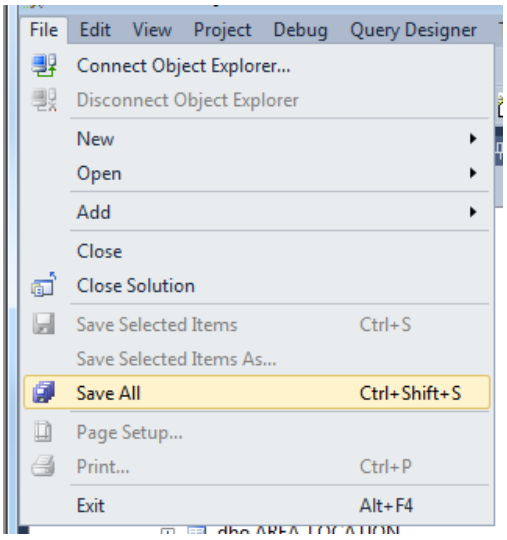


2. Scroll to **dbo.CONFIGURATION**

3. Right-click and select **Edit Top 200 Rows.**



4. Change the api.secure value from true to false in the CONFIG_VALUE field ***for an Ubuntu installation***.



5. Follow this path: **File / Save all**

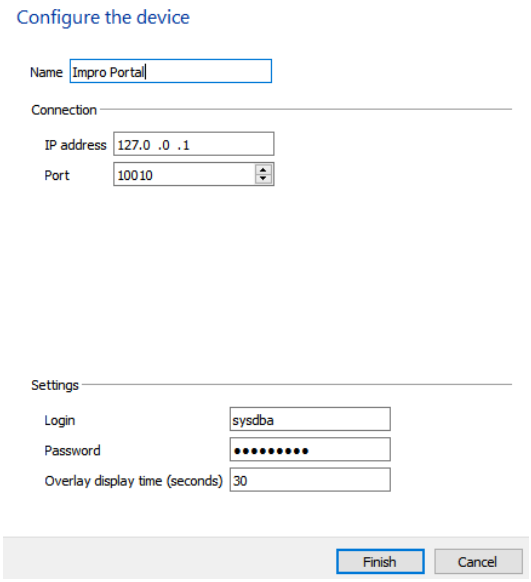
Once this is done, proceed with the integration in CathexisVision.

2.2 Devices Section (Add a New Device)

1. Once in the Integration Panel, click on the **New device** button, in the Devices section. This will open the addition dialogue.

2. Select the **Impro AP Pro** driver.

2.2.1 Add the Device



Give the device a descriptive **name**.

Enter the IP address of the Impro AP Pro Server.

Enter the **Port** number setup on the Impro AP Pro Software.

Enter the **Login** and **Password** details used when logging into the Impro AP Pro Software.

Define how long the overlays should be displayed.

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

2.3 Configuration Section (Tabs)

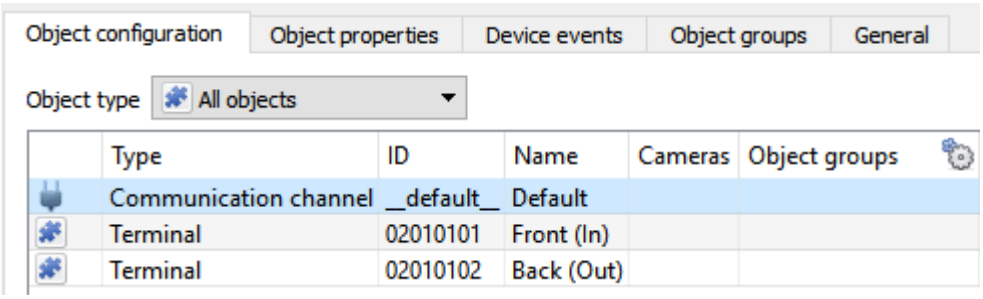
The configuration section is divided up into a number of Tabs. The available tabs are: **Object configuration, Object properties, Device events, Groups, General.**

The Impro AP Pro objects will have been automatically populated when the device was 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 Impro AP Pro integration objects are **Terminals** and **Communication**.

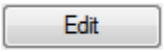
In this tab, the **Names, Cameras** and **Groups** assigned to each object are visible.



2.3.1.1 Object Configuration Buttons

In the case of the Impro AP Pro device, existing objects are detected automatically.

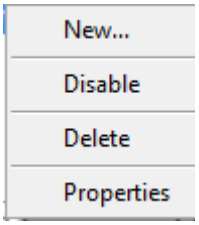
Objects cannot be added manually.



Will open up an existing object for editing.

Is used to delete an existing object from the CathexisVision configuration.

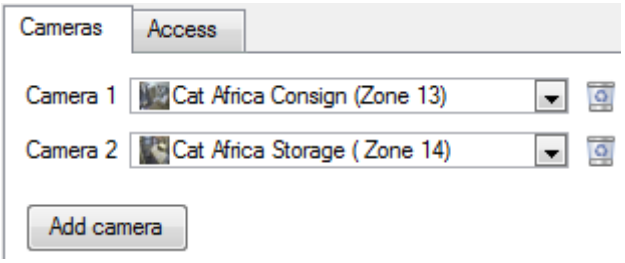
2.3.1.2 Object Configuration Right-Click Options

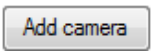


New does not apply to this integration, as objects are detected automatically by the system.
Disable/Enable allows individual nodes to be enabled or disabled.
Delete will permanently remove this object from the list.
Properties will open up the object properties. The object may be edited from here. (Specifically,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



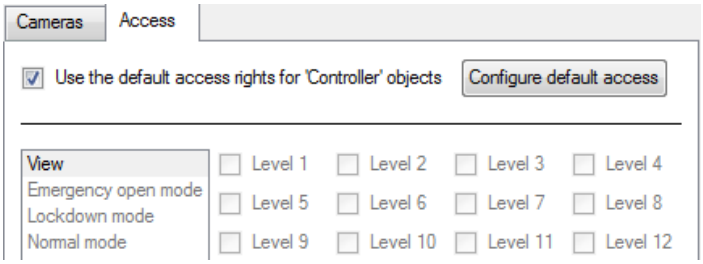


To **add** a camera, click Add camera, and select the relevant camera from the drop-down menu.


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

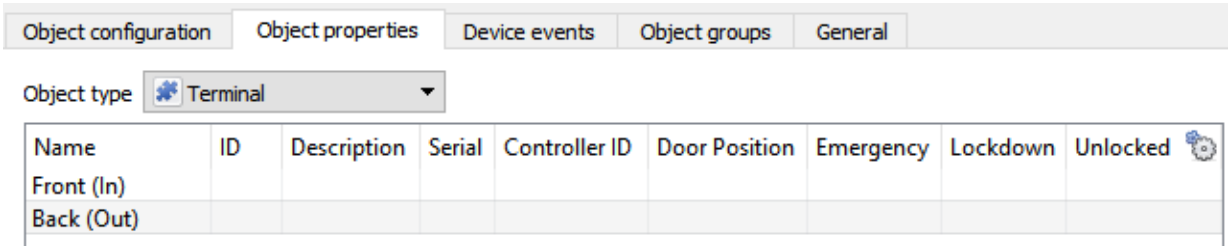


Access allows sensitive objects to be protected by only allowing certain levels users access to them.

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.

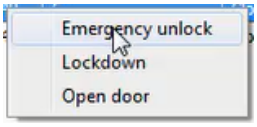
2.3.2 Objects Properties Tab



The Object properties tab displays the objects, sorted by type. In the case of the Impro AP Pro device, the object types available are **Terminal.**

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

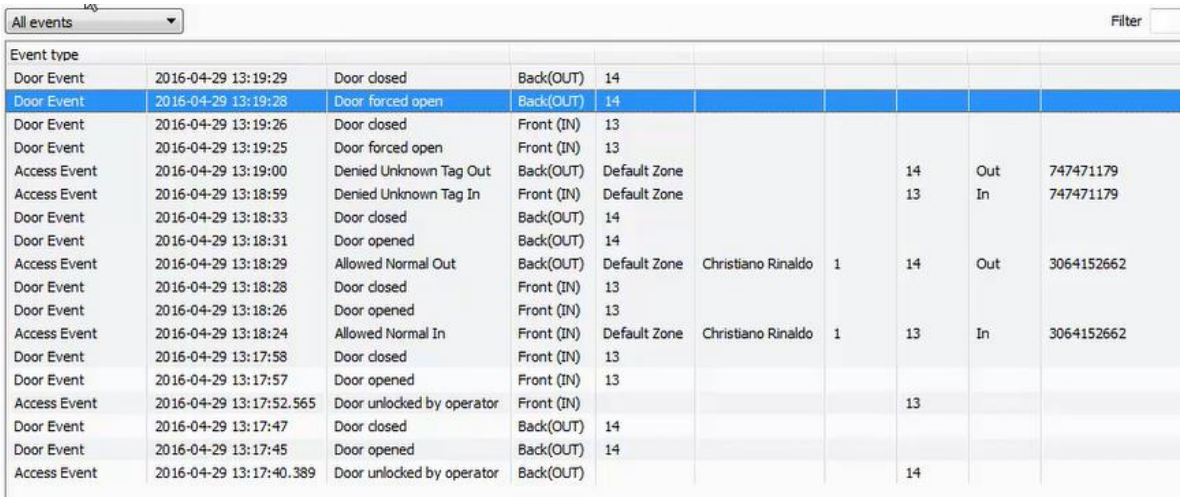
Terminal Object

State	Meaning
Name	The name of the terminal object. Here the terminal names indicate whether they are entrances or exits.
ID	The ID assigned to the object.
Description	Description of the terminal object.
Serial	The serial number of the device.
Controller ID	The ID given to the different terminals (doors) in the Impro AP Pro software.
Door Position	The current position of the door. These include **Open**, **Closed** and **Open Too Long.** Right-click for the following options:  Use these options to manually change the door status. **Please note** the following:

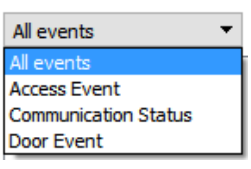
	Emergency Unlock: 1. When a state of Emergency unlock is set, the right-click option will change to **Clear emergency state**. 2. Emergency unlocking a door will change its **Emergency** state to **On**. Clearing an emergency will change the door's **Emergency** state to **Off**. **Lockdown:** 1. Setting a door to Lockdown will change the right-click option to **Clear lockdown state**. 2. Setting a door to Lockdown will change its Lockdown state to On. Clearing a Lockdown will change the door's Lockdown state to Off.
Emergency	This column shows whether the door is in an Emergency state or not. Set or clear an Emergency by right-clicking on the appropriate object. See above.
Lockdown	This column shows whether the door is in a Lockdown state or not. Set or clear a Lockdown by right-clicking on the appropriate object. See above.
Unlocked	This column indicates whether the door is locked or not. If **Unlocked**, the column will show **On**, and will allow entry. If **Locked**, the column will show **Off**, and will not allow entry.

2.3.3 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:



Events may be viewed by type:



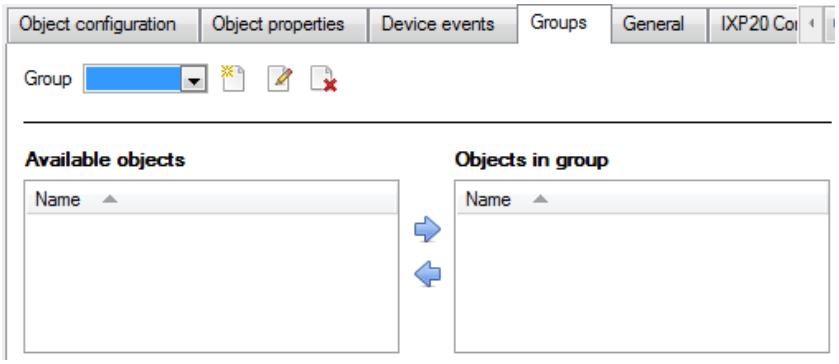
2.3.3.1 Device Event Types

The table below will explain the device event types:

Access Event	Denied Unknown Tag	An invalid access tag has been swiped, and access has been denied.
	Allowed Normal In/Out	A valid access tag has been swiped, and access has been granted.
	Door unlocked by operator	The operator has manually unlocked the door for entrance/exit.
Door Event	Door Closed/Open	After either a valid access tag has been swiped, or an operator has manually unlocked/opened/closed the door, the door event will show that the door is either Closed or Open.
	Door forced Open	A door has been opened without the operator unlocking it, and without using an access tag.
Communication Status	Established communication with Impro AP Pro	Indicates that communication has been established between CathexisVision and Impro AP Pro.
	Successfully logged into Impro AP Pro	Indicates that the user has successfully logged into the Impro AP Pro software via CathexisVision.
	Lost communication with Impro AP Pro	Indicates that communication has been lost between the CathexisVision software and Impro AP Pro software.

Note: When navigating away from this window, the device events for that session will disappear but will still be accessible in the integration metadata base. Please see **Section 3. Database** for more information on navigating to and interacting with the database.

2.3.4 Object 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. (For example, a group will trigger, if any of the objects in that group are triggered.)

2.3.4.1 Create a Group

To **create** a group, click on this icon.

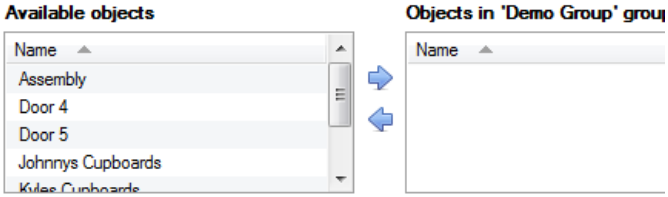
To **edit** a group, click on this icon.

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

When creating a group, select 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** to group.



There is a list Available Objects.

To **add** these objects to the group, select them and click on the right arrow.

To **remove** these objects from the group, select them and click on the left arrow.

Note: Multiple objects may be selected at a time.

2.3.5 General Tab

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

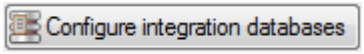
2.3.5.1 Select an Integration Database

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.

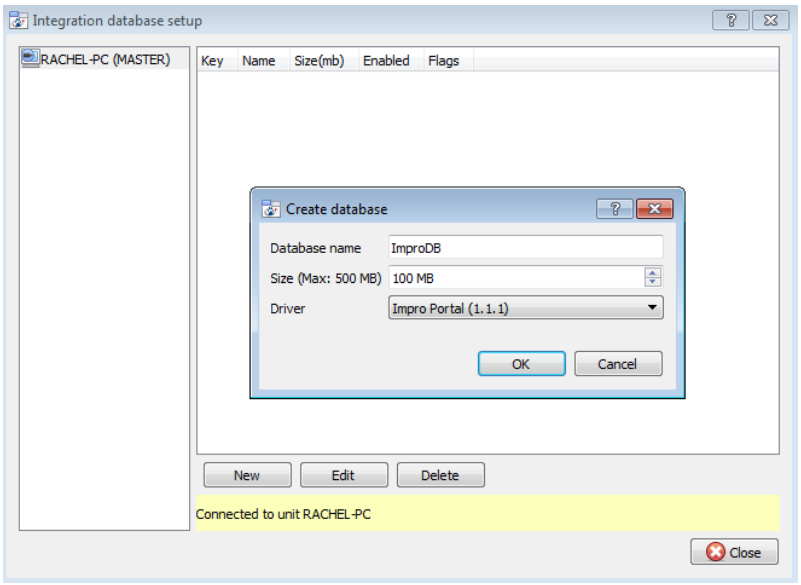
If a database has not been created, see below.

2.3.5.2 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.

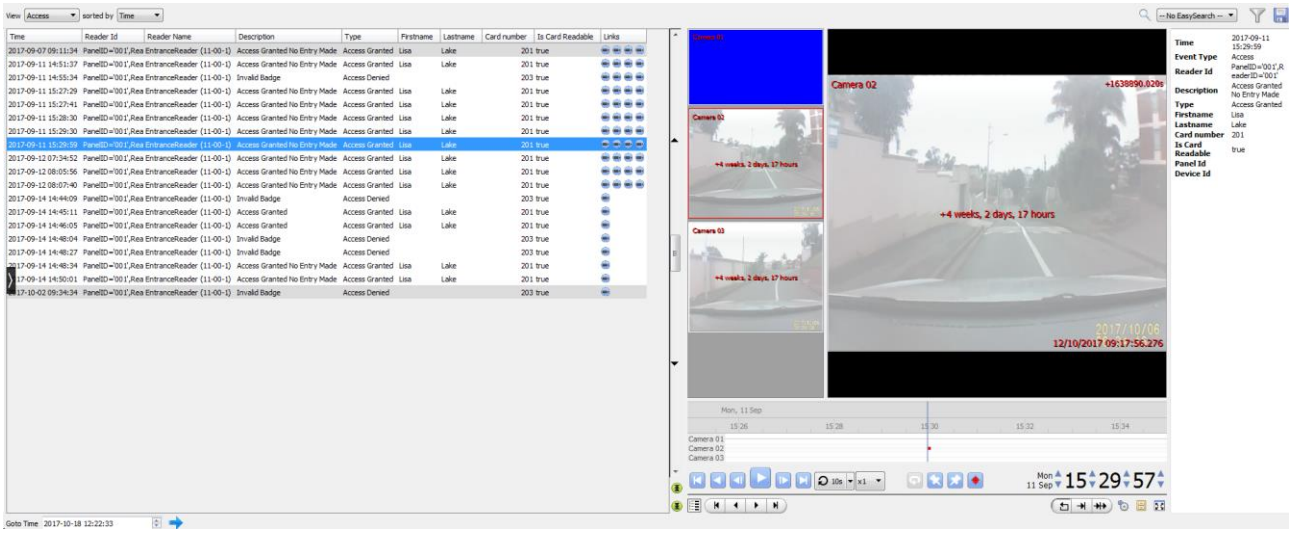
Select the **Impro AP Pro** driver.

Click **OK** when done.

Select the newly created database by clicking the gear 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***.

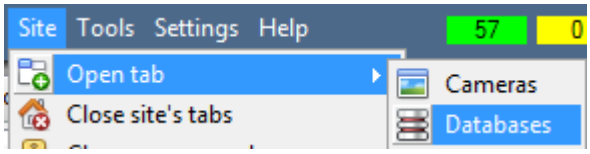
3. Database



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

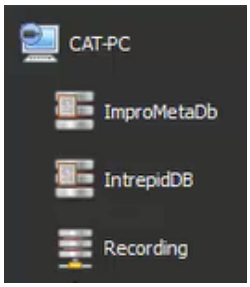
Most integrations will have a different database presentation, and unique filters, due to the different parameters sent to CathexisVision by the integrated device.

3.1 Navigate to the Database



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

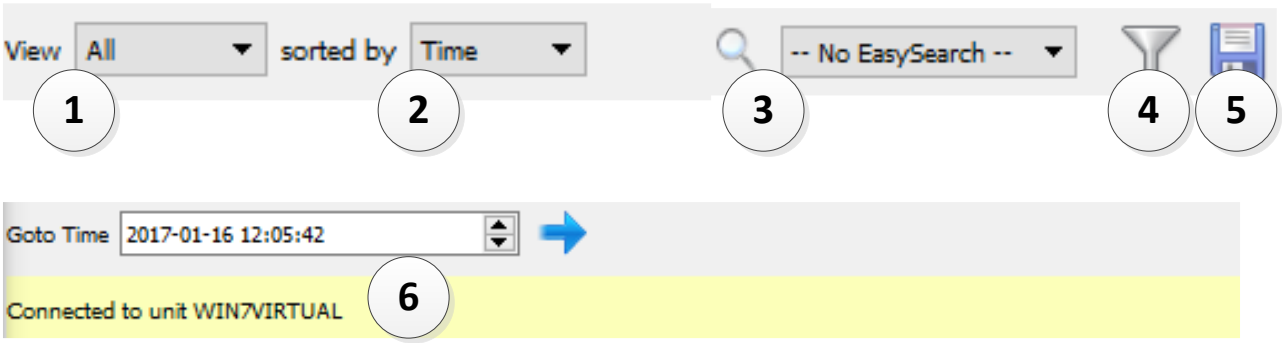
This will open the Databases Tab.

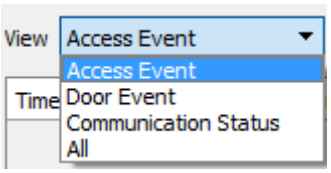
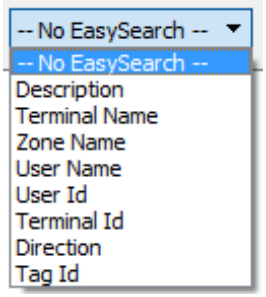
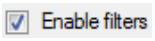
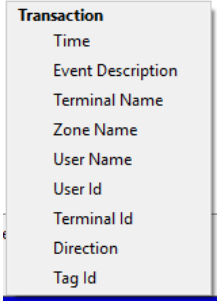


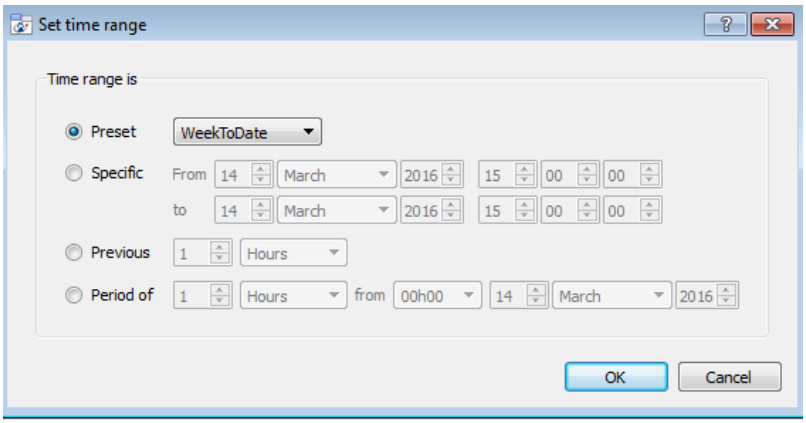
Once in the databases tab, select the relevant integration database. The databases are ordered under the NVRs to which they are attached.

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

3.2 Database Interface

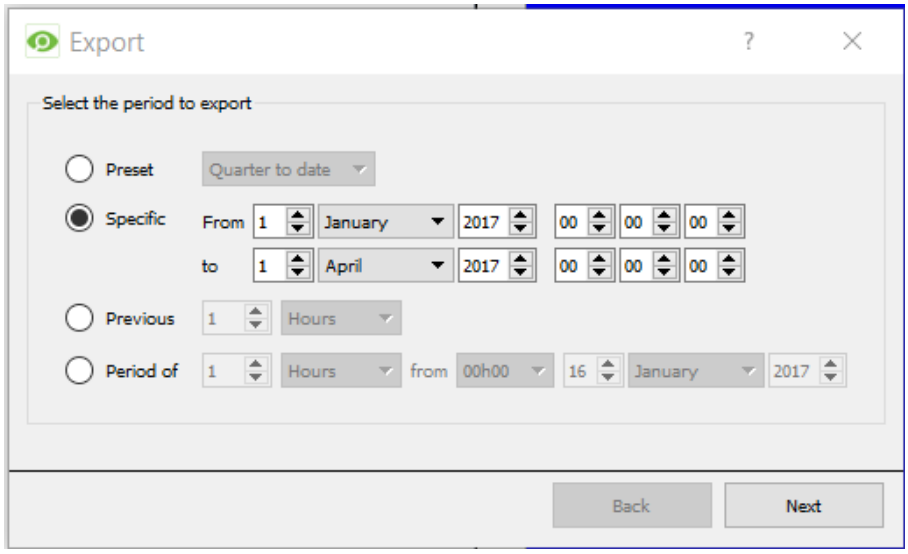


① **View**	The way the database is presented may be changed. Some integration databases have multiple view options. The **Impro AP Pro** database allows viewing by: 
② **Sorted By**	Events may be further sorted based on the following parameters: **Time.**
③ **Easy Search**	The easy search option allows for a quick search of 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:  To enable filters, check this box.  To add a new filter, click on this icon. The filter icon  will change to  when filters are active.  To delete an added filter, click on this icon. **Filter options**: 

	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 perameters may be run more than once. 2. To change a filter click on the blue hyperlinked text.
⑤ **Export**	Generate meta-database reports in PDF or CSV format. See below.
6 **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, and then click on the icon.

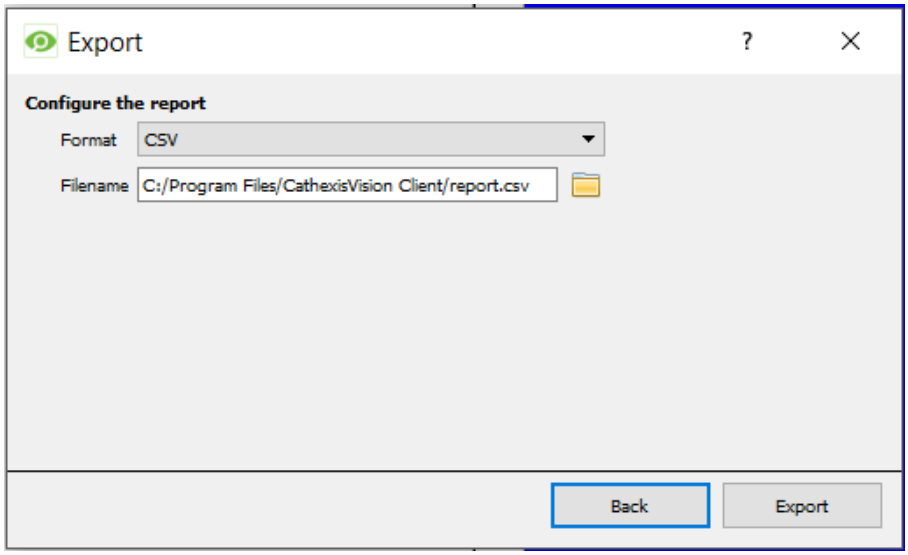
3.2.1 Generate Metadatabase Reports

Click the save icon to open the Export window.



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

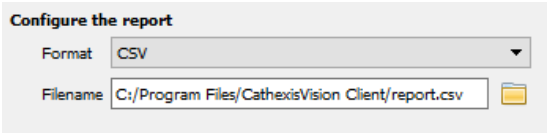
Click **Next**.



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

See below for the two options.

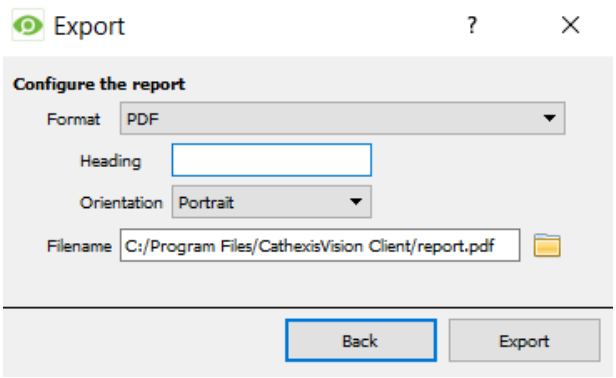
3.2.1.1 Export CSV



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.

3.2.1.2 Export PDF



Select PDF **Format**.

Give the PDF a **Heading**.

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

Edit the **Filename** by either entering it straight into text field (replacing **report.csv)**, or click the  to choose a new save folder and filename.

3.2.2 Metadata

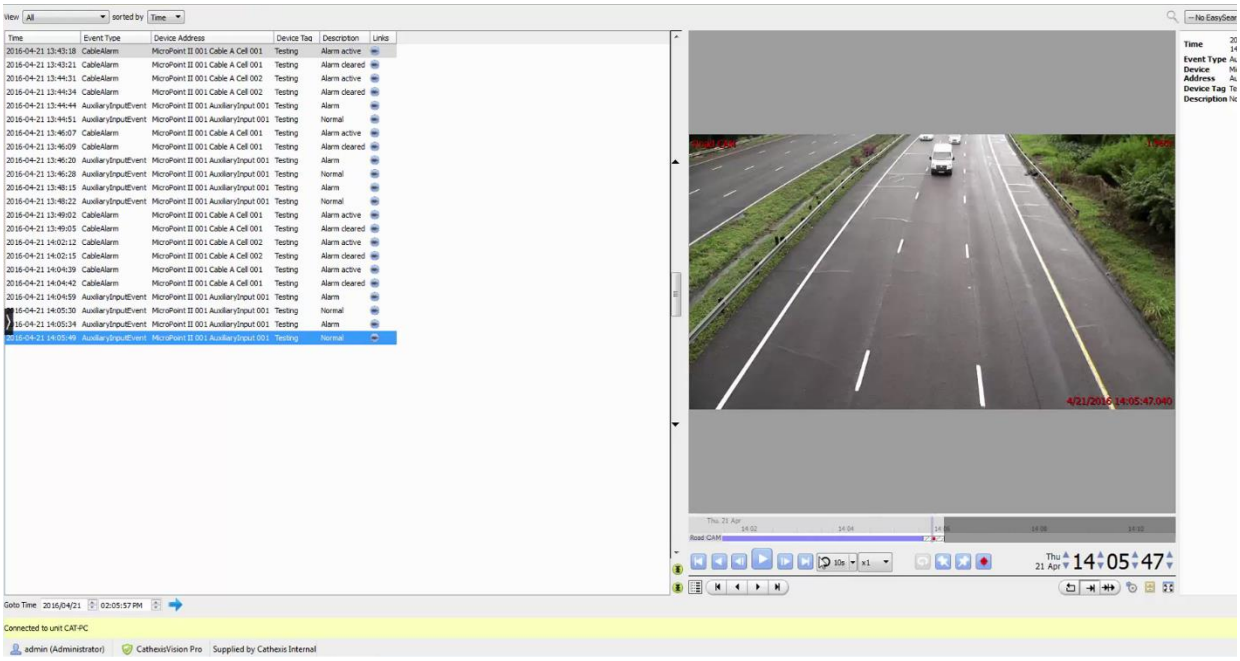
Time	2017-09-11 15:27:41
Event Type	Access
Reader Id	PanelID='001',ReaderID='001'
Description	Access Granted No Entry Made
Type	Access Granted
Firstname	Lisa
Lastname	Lake
Card number	201
Is Card Readable	true
Panel Id	
Device Id	

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

3.2.3 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  icon in the **Links** column. Then click play in the video player.



4. 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 Impro AP Pro specific aspects of Events. There is a comprehensive guide to CathexisVision events in the ***CathexisVision 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.

4.1 Events

To create an event using the Impro AP Pro device, enter the Events management area:

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

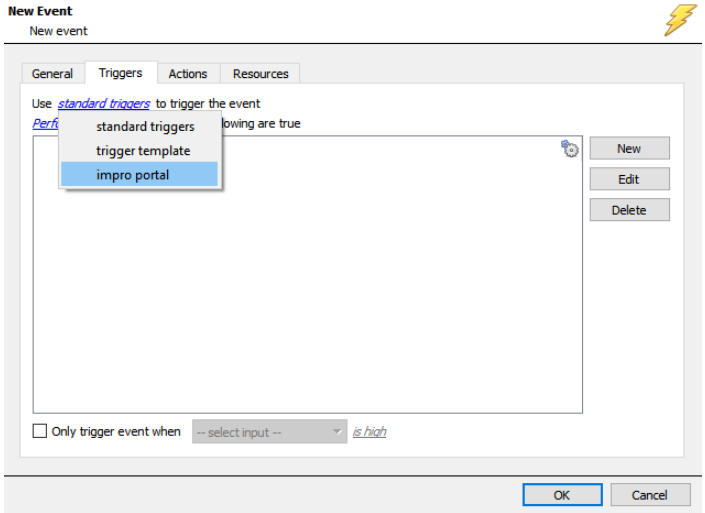
4.1.1 While/When and Any/All

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.

To change these settings, click on the blue hyperlinks.

4.2 Triggers

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



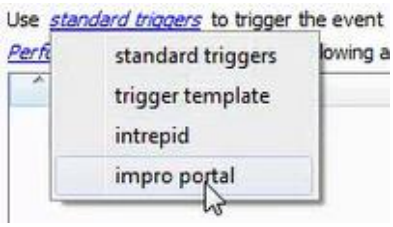
In this window, define the rules and constraints which will trigger an event on the Impro AP Pro device.

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

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

4.2.1 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 Impro AP Pro device, click on the hyperlink, and select the relevant device name from the dropdown menu.

4.2.2 Trigger Types

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

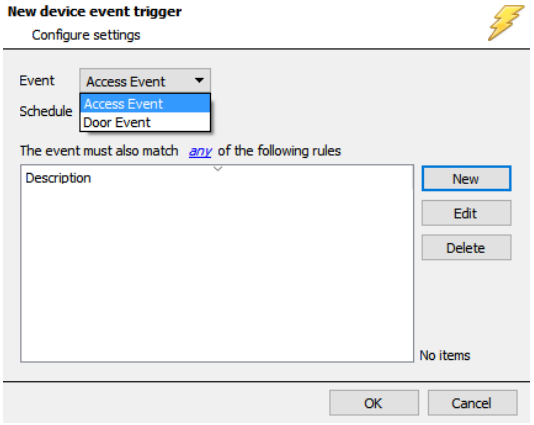
Any terminal will trigger using any of the terminals.
Terminals in group… will trigger using any of the terminals in that group.
Specific terminal will trigger using only a specific terminal.
Any device event will trigger when any trigger occurs on the Impro AP Pro device.
Note: If object groups have 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 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.

4.2.2.1 Device Event Triggers

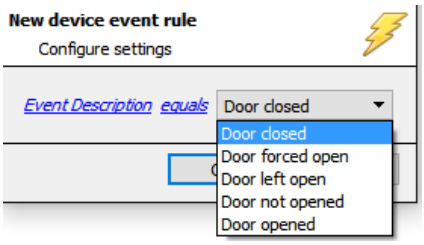
After selecting a master trigger type, add a trigger to the event. Click on New in the Triggers tab. This will bring up the dialogue box below:



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. I.e., switching from Access to Door event types in this window will lose any rules configured for Access events.

4.2.2.2 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 (equals 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 Impro AP Pro device, see the Impro AP Pro settings for the strings needed here.

4.3 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.

Select an action from the available options:

One of the available actions will be to *control* the Impro AP Pro device.

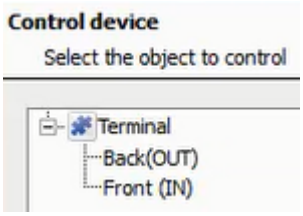
4.3.1 Control Device

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.

4.3.1.1 Device

To select an **Object to control,** click on the  icon.

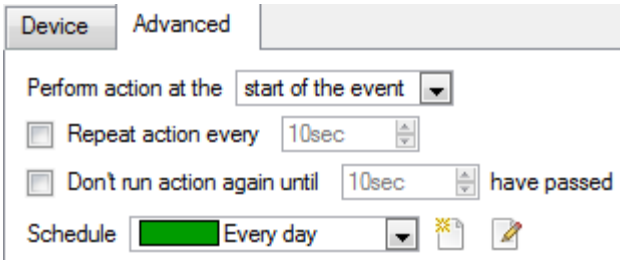
This will display a selection of all the Objects available on the Impro AP Pro device.



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

Note: Only global action may be taken here, and global actions may only apply to controllers. For example, communication channels cannot be controlled as part of an event action. If the selects one of these objects there will be no options in the *Command* menu.

4.3.1.2 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.

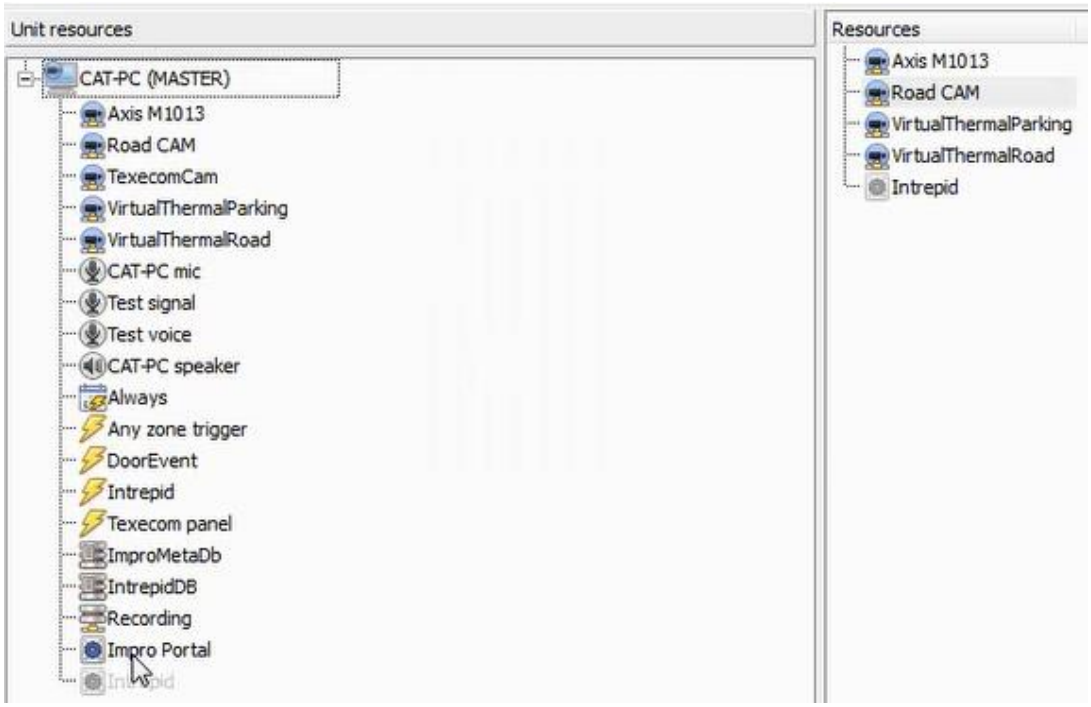
Schedule is a standard CathexisVision schedule, which may be applied to the actions.

5. Map

It is possible to add the Impro AP Pro 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 Impro AP Pro device. For more information on using the CathexisVision Map Editor and Map Tab, please consult the dedicated and detailed Map Editor Operation Manual.

5.1 Add the Impro AP Pro Device as a Resource



To configure the map, the Impro AP Pro device must be added as a resource to be added to the map.

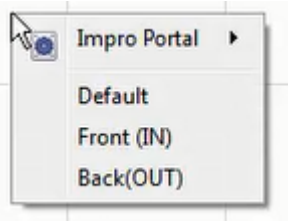
5.1.1 Add the Device in the Resource Panel

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

5.2 Add the Device in Map Editor

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

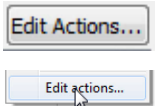
5.2.1 Adding Device Objects



Drag the Impro AP Pro 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 Impro AP Pro device onto the map area to bring up this option.

5.2.2 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**.

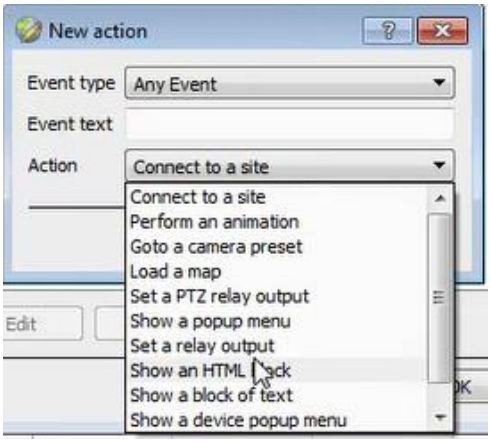
5.2.2.1 Action Options

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 an Impro AP Pro event:

Event type options:

Action options:



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

Once finished, save the map. **Note**: The map must **not be saved** in the Work folder of the installation directory.

5.3 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.

6. Conclusion

Note: this document was designed to deal specifically with this integration. For further information about the CathexisVision software please consult the ***CathexisVision Setup Manual*** (http://cathexisvideo.com/).

For support, please contact 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*