Impro IXP220 Integration

Contents[1]

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1 Introduction

This document will serve to explain the integration of the Impro IXP220 Access Control device with CatVision. Its focus will be to explain how the device is integrated with the CatVision GUI, and Events Setup.

Note:
1. If you need information regarding the regular operation of an Impro IXP220 device, or controller, please consult the relevant Impro documentation.
2. There is a General Integration section in the main CatVision manual. It has vital information about creating an integration database, as well as a general introduction to the Integration Panel. **Read over this section.**

Supported Software and Firmware

- CathexisVision 2016.2 and later.
- Impro IXP220 software v1.8.6 SP2.
- Impro IXP220 Controller and Terminal firmware versions 5.08 and 5.10 are supported.

a. License Requirements

Access control "device" license (CACC – 2000)

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.

Access control "door" license (CACC – 1001 and 1008)

These licenses apply to the doors or nodes in an access control system. The CACC-1001 is for each door, and the CACC – 1008 is a discounted license for 8 doors.

Access control "bundle" license (CACC – 3000)

This license includes the device license (CACC-2000) and enables an unlimited number of doors to be added to the system.

b. Integration components

All CatVision integrations have two component levels: **Device** and **Object**.

Device   The device is CatVision software's interface, which handles all the interaction between CatVision and the integrated hardware. When you add an integration, to the CatVision system, you add a device. The messages received from the device are called Device Events.

Objects   Objects are the individual pieces of hardware that comprise the integration. You may have 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.

Messages and Object Types

The following device event messages, and objects/object types, will be represented in the CatVision integration of the IXP220 hardware.

1. **Device Events**
    There are three device event types: Event, Informational, and problems. These separate events have the following fields:
    a. **Event**
        a. Site name
        b. Time
        c. Sequence number
        d. Event type
        e. Unit super LA
        f. Terminal name
        g. Zone
        h. User
        i. Tag code
        j. Tag type
        k. Reason code
        l. Door number
    b. **Informational**
        a. Type
        b. Description
    c. **Problem**
        a. Type
        b. Description

2. **Object property**
    The IXP220 integration presents one object type: door.
    a. **Door**
        a. Name
        b. Number
        c. Licensed

c. CatVision specific Impro setup

UDP Settings

You will need to setup the Impro Engine to forward UDP events to the CatVision NVR that you will add the Impro device to.

Once you have input the details click Upload, to upload these settings to the Impro device.

Note: The IXP220 software suite version V1.8.6 (service pack 2) has the UDP port settings needed for the integration. Earlier IXP220 software versions may not have this setting, and will subsequently not be suitable for this integration.

2 Device Addition and Configuration

The Integration Panel

To get to the Integration Panel follow this path:
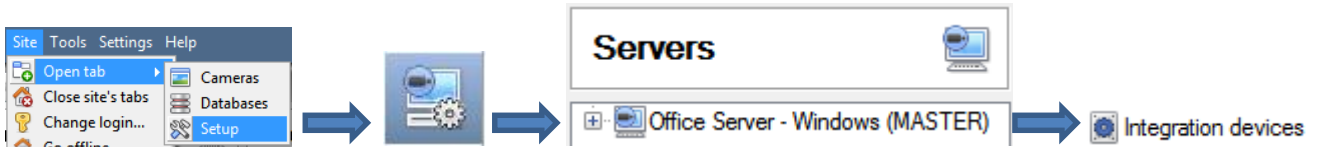
You will notice two section in the Integration Panel:
1. The **devices** list, which will list the integration devices attached to your integration database.
2. The **Configuration** section which enables you to edit/review, the device which you have selected in the **devices** section.

a. Add a new Device

1. Once in the Integration Panel, in the devices section, click on [New device]. This will open the addition window.
2. Select **Impro IXP220 Access Control** from the list.

Give your device a descriptive **name.**

When setting up the **connection,** make sure that the **UDP receive port** is the same as the UDP port that the IXP device will be broadcasting on. (This was set previously, under the section CatVision specific Impro Setup.)

Site ID is the ID number given to the device/s in the Impro software. CatVision will only accept IXP220 messages that are coming from the site with the ID specified. This prevents reception of information from multiple sites, which would confuse the database.

b. Tabs

The available tabs are: **Object configuration, Object properties, Device events, Groups, General.**
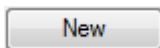
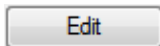### *Object Configuration Tab*
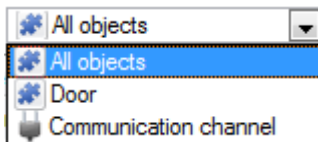
Object Configuration is where you may view all the individual objects that comprise the integration.

You can filter based on **All Objects, Doors, and Communication Channels**.

- *Object configuration buttons*
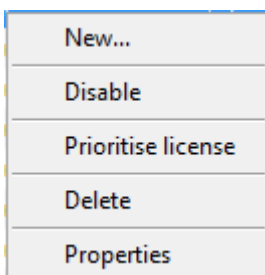
 You may add a new object by clicking on New.

 Will open up an existing object for edition.

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

- *Object configuration right-click options*
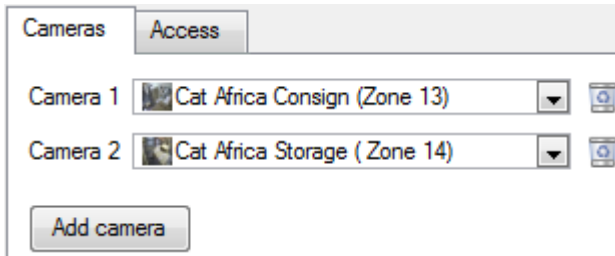

New will open up the dialogue to add a new object.
Disable/Enable allows you to manually enable/disable individual nodes.
Prioritise license will allow you to prioritise certain doors, such that they are licensed first, since you may have more doors than licenses.
Delete will permanently remove this object from the list.
Properties will open up the object properties. You may edit the object from here. Specifically you will be able to assign cameras to this object, as well as defining access levels for it.

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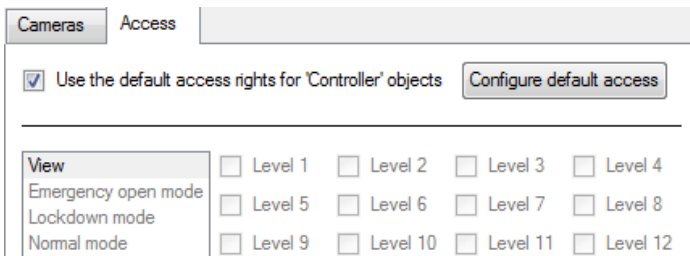
To add a camera click on [Add camera], and select the relevant camera from the drop-down menu.

To delete a camera click on [icon].

Only the first camera specified will be associated in the Integration Database, the other cameras will be used as "trigger Cameras" in the Events setup.

Note: If you do not have continuous recording setup on associated cameras you will run the risk of doors triggering while the cameras are not recording. To record whenever doors trigger, in a non-continuous recording setup, you will need to setup **Events** that trigger a recording, whenever one of these objects is activated.

Properties: Access

Access allows you to protect sensitive objects, by only allowing certain levels of users access to them.

You will see a list of objects, whose access level you may set.

Note: If you have Use default access rights checked, you must make sure that those default rights have been defined. Click on **Configure default access** to see this.
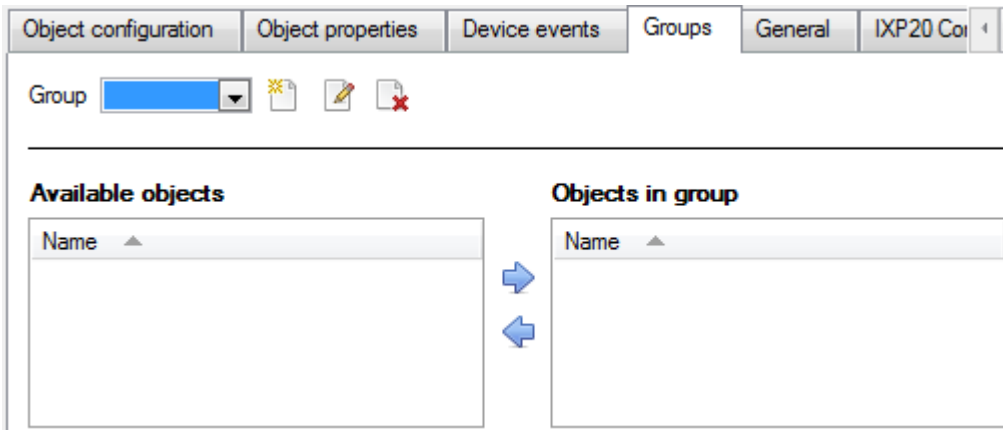
Object Properties Tab

The Object properties tab allows you to view the objects, sorted by type. In the case of the IXP220 you will have the options of viewing by **Door**, or **Communication Channel**.

Device Events Tab

This will list real time events happening on this device. It is an excellent way for installers to monitor the live events happening on site.
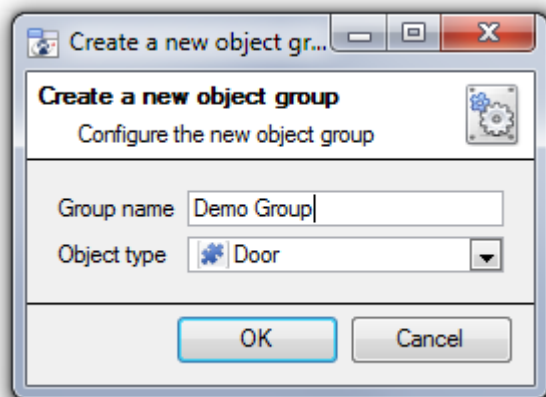
Groups Tab

You can create groups of the same type of object. This is very useful when setting up Events, because you may trigger an event using a group. (E.G. a group will trigger, if any of the doors in that group is opened.)

- ## Create a Group

To create/edit a group click on /. (**Note**: Once a group has been created, you may not edit the object type of the group.)

When creating a group you will select what object type you want 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 you will choose which objects you want to use in your Group.

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

Click on the drop-down menu to select the **object type** that you would like to group.

You will then see a list of Available Objects.

To add/remove these objects to the group select them (you may select multiple at a time), and click on /.
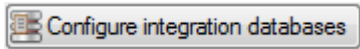
General

The general tab deals with the integration database. Here you will be able to select a pre-created database, or you will be able to configure a new database.

- *Select an Integration database*

Integration database | Access   To select a database click on ⚙, and select the relevant database.

- *Configure a new database*

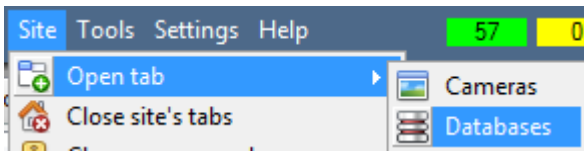Configure integration databases   If there is no database created yet, clicking on this button will take you to the integration database setup.

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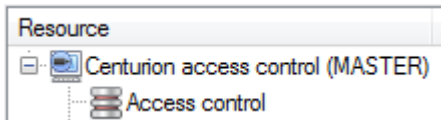
3 Database

a. Navigate to the database

You may view the information stored in the Integration database, by following the path you see to the left.

This will take you to the Database Tab.

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

b. The database interface

The table, below, will go into detail about the numbered items in the above image.

① **View**

You may change the way that your database is presented. Some integration databases have multiple view options. The IXP220 has two options: **Standard,** and **Full.** Selecting the **Full view** adds the columns: Transaction number, Reader id, Tag code, Tag type, Door number.

② **Sorted By**

You may sort the Access Events based on the following parameters:
Access event time, Event type, Reader ID, Door name, Tag code, User name.

③ **Easy Search**

The easy search option allows you to quickly search the database within one of the following options: **User, Door, User and Door, Event type. (Tag type, tag code** are added to the Easy Search options if you are using the **full view.)**
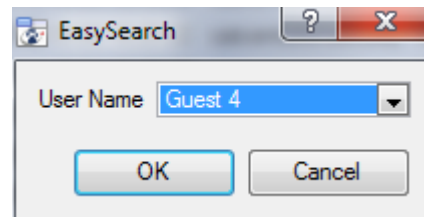
In the example on the left you are searching for all access events where Guest 4 has been involved.

④ **Filter**

Filter offers a more advanced manner of sorting information in the Integration Database table.

You are able to filter based on the following parameters:
Timestamp, **Event type**, **Reader ID** (This is the ID of the reader node), **Door name**, **Tag Code**, **User name**, and **Door Number**.

Once you have the filters dialogue open you will have the following options:
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 on .

Note:
1. You may run multiple filters simultaneously. And you may even filter using the same parameter more than once.
2. To change a filter click on the blue hyperlinked text. (For example, click on *Timestamp* to change the filter from Timestamp, to any of the other available options.)

⑤ Go to timestamp

This will allow you to go 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 the click on the icon.

Viewing an Entry's Associated Recording

If you have attached cameras to device objects in the Integration setup, and have set these cameras up to record continuously, each Integration database entry will have a corresponding recording. To view a databased event's recording double click it. This will bring up a floating replay window, from which you may review and archive video content.

 will give you the view to the left.

 will break down the image into 4 sequential frame viewers.

4 Events Setup

a. Introduction

This manual will detail the Impro specific aspects of Events. There is a comprehensive guide to CatVision Events in the main setup manual and a section on general Integration setup.

Most of the data that CatVision 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 to trigger an event, or be used as an action.

Events

To create an event using the IXP220, enter the Events management area:

1. Once in Events management click on [New]. This will open up the New Event window.
2. Once in this window, select the Triggers tab and click on the hyper link titled, *standard triggers*.
   a. From the menu that drops down, left-click the Impro device that you want to trigger the event.

- *While/When and Any/All*

When triggering on a door you will have the option to trigger **while/when** a trigger is active. You 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.

Trigger using *Door 3*

Perform actions while *any* of the properties meet the following criteria

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

b. Triggers

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

Set your device as the trigger

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

- *Trigger types*

There are two trigger types. A **Device event** trigger**,** and a **Door** trigger.
Device   Represents CatVision's software interface with the Impro controller.
Door   Represents a door node. (You may trigger based on groups of doors too.)
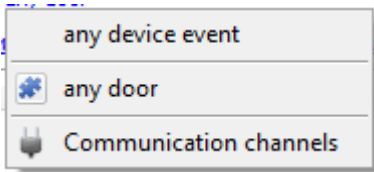
Any device event will allow you to use any of the events relating to the main device as a trigger.

**Any** controller/door will trigger an event if any controller/door meets the criteria set.

Doors in group… will trigger an event if any of the doors in the group meet the object criteria that you set.

Specific **Controller/Door** will trigger an event if a specified controller/door meets the criteria set.

Communications Channels will trigger an event based on communication channel messages.

Note: If your event to be databased under the name of a specific object, related to the trigger type you choose, you will need to 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: Description Door Name: $obj_name
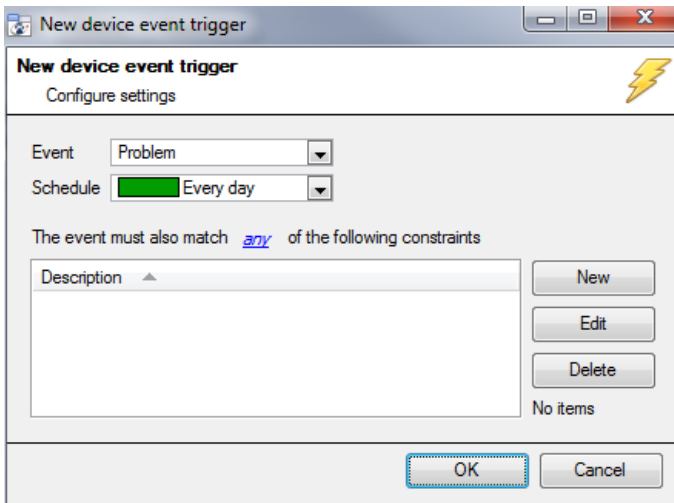
Any device event

Within the *any device event* option there are three sub-options: an **Event**, a **Problem**, and **Informational**. You may select which type you require from the dropdown menu.

You may set multiple constraints, choosing to trigger on *any* of the selected rules, or set that *all* constraints need to be fulfilled to trigger.

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

Note: the Informational option is not useful for triggering events, but is pulled through, along with all the device settings.

- *Event*

Once you have selected the type of device event that will be the trigger, you may add constraints. To do this, click on New.

Note: If you do not set any constraints, all Events will set off this trigger. Once you set constraints only the constraints chosen will set off the trigger.
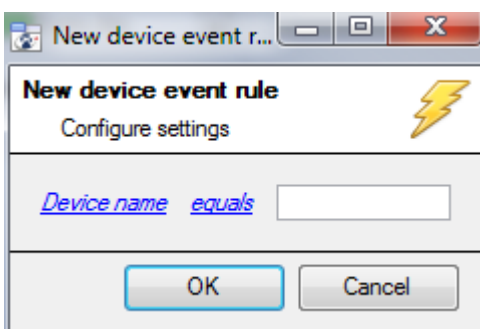
To change the constraint click on the hyperlink (in this case *Device name*), this will bring up the full list of available rules.

To modify the way this rule will be treated click on the second hyperlink (*equals* in the example) this will show you the rules options.

When all available options are known to CatVision you will see a drop-down menu. When these variables are not pre-defined you will need to fill them in yourself. The information pulled through to the events is information sent to CatVision from the Impro device, see the Impro settings for the strings needed here.

Note: Notification is the only non-Impro rule in the event rules list. This relates to the CatMap feature, and is not to be used to trigger an event.

- *Problem*

Problem will provide you with a list of major problems that you would want to be notified of. A good use of this would be to create an event, using the problems which are most relevant to the site as triggers. And have the accompanying action be to email the relevant person, or call a base station.

Note: When adding a new constraint here, only use the _Type_ option. Type will give you a useful dropdown menu, with a set of pre-defined problems.
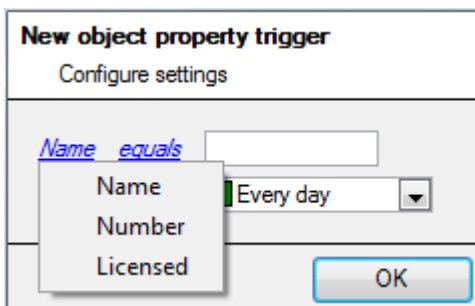
Door

You may select a *specific door*, or *any door*, as a trigger.

Group

The settings for Group are the same as the settings for Door. This is because you are using a group of doors as the trigger.

- *New object property trigger (Door)*

Click on [New] to define the **object property/properties** which will trigger the event:

Click on _Name_ to modify which object property will be used to trigger the event.

Click on _equals_ to modify the relationship, to the object, the event will have. (E.g. will it trigger when the controller information is *equal*, or *not equal* to the information set?)

Note: You will likely have to enter in a text string to define the information. The text information can be gained from the Object Configuration table, under Integration Devices.

c. Actions

Once you have defined the triggers, which are going to initiate your event, you will need to define some actions. One of these actions will be to *control* an Impro device.

- *Open Actions Tab and Select the Impro Device*

 To get started left-click on the tab titled "Actions", and click on [New].

A menu will drop down containing all the available action types. The action type relevant to this document is will be preceded by this icon . It will say "Control …" and the name of your Impro device.
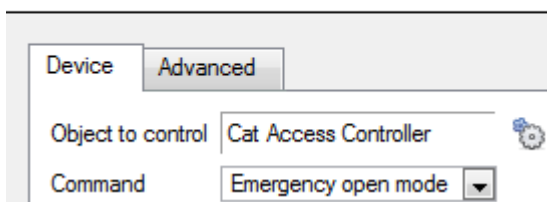
Control Device

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 timeframe of the action is defined.
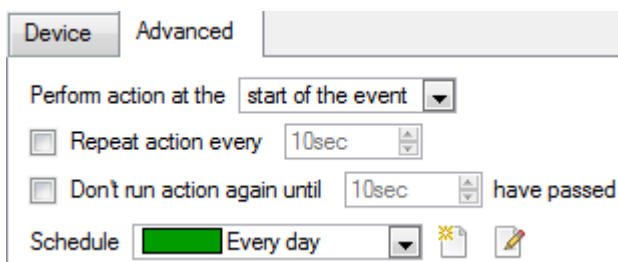
- ● *Device*

To select an **Object** click on the icon. This will give you a selection of all the Objects available on the Impro device.

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

Note: you may only take a global action here, and global actions may only apply to **controllers**. As a result you may not control **communication channels**, or **door nodes**, as part of an event action. If you select one of these objects you will have no options in the *Command* menu.

- ● *Advanced*

You may 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.

Schedule is a standard Cathexis schedule, which you may apply to the actions.