



# Axis Vaxtor Container Recognition App-note

# Contents

1. Introduction.....	3
1.1 CathesisVision Requirements.....	3
1.2 Integration Components .....	4
1.3 Features and Abilities .....	4
2. Axis Vaxtor Setup.....	6
3. Device Addition and Configuration .....	8
3.1 Add a Camera .....	8
3.2 Devices Section (Add a New Device in CathesisVision).....	9
3.3 Configuration Section (Tabs) .....	10
4. Database.....	15
4.1 Navigate to the Database .....	15
4.2 Database Interface .....	16
5. Events .....	18
5.1 Event Window .....	18
5.2 Creating an Event.....	18
6. Conclusion .....	19

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

# 1. Introduction

This document details the integration of the Axis Vaxtor Container recognition software with CathesisVision LPR interface. The Axis Vaxtor Container Recognition is the camera-based video analytics module which provides container identification information. The information captured by the Vaxtor app is then sent to the CathesisVision system through the CathesisVision LPR interface.

**Note:**

1. For information regarding the regular operation of Vaxtor Container Recognition services, please consult the relevant documentation.
2. The Vaxtor system posts Container identification data to the configured port on the CathesisVision NVR.
3. Cameras are configured in CathesisVision as standard and are recognised as an LPR camera.
4. The camera used and the NVR should be properly synced to the same time source with the same time zone.

## 1.1 CathesisVision Requirements

### 1.1.1 General Requirements

- CathesisVision 2020.3 and later.
- Windows 10: 64-bit and later; Windows Server 2016 and later.
- Minimum of 4GB of RAM required.

**Note:** If the user plans on installing this integration on a Linux unit, contact [support@cat.co.za](mailto:support@cat.co.za).

### 1.1.2 License Requirements

License No.	License Name	Description
CLPR-2000	Integration Base License	This license is the “base” license to integrate with a container recognition system. It is applied to the server to which the container recognition device is connected. It will allow for the connection of a single Axis device.
CLPR-1001	Per Detector License	These licenses apply to the detectors in a container recognition system. The CLPR-1001 will license a single detector, and may be added on a detector-by-detector basis.

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

### A NOTE ON CAMERA CHANNELS

The CathesisVision 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 CathesisVision software, even though it is a single device.

## 1.2 Integration Components

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

<b>Device</b>	The device is CathesisVision software’s interface, which handles all the interaction between CathesisVision and the integrated hardware. When an integration is added to the CathesisVision system, a device is added. The messages received from the device are called Device Events.
<b>Objects</b>	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.

## 1.3 Features and Abilities

- All device messages are databased as Access events, security events and information event message.
- Device objects can be used to trigger events.
- There is a specific setup on the Axis Vaxtor side. Select the Axis Vaxtor Setup and enter the VaxOCR Containers Application: make sure the container is version 2.1–24.

### 1.3.1 Device Objects

Objects may be linked to cameras to associate device events with video footage.

Object Type	Features/Abilities
LPR Detector	<b>Object Properties</b> <ul style="list-style-type: none"> <li>• Name</li> <li>• Enabled</li> <li>• Online</li> <li>• Plate Position</li> <li>• Lane Position</li> <li>• Licensed</li> </ul>

<b>LPR Server</b>	<b>Object Properties</b> <ul style="list-style-type: none"> <li>• Name</li> <li>• Online</li> </ul>
<b>Rule</b>	<b>Object Properties</b> <ul style="list-style-type: none"> <li>• Name</li> <li>• Enabled</li> </ul>

### 1.3.2 Metadatabase

A unique metadatabase is created on the CathesisVision server for this integration. It is fully searchable with configurable filters based on device event information (as above) and time stamping. The filtered event/s and the associated video will then be available for review in a new window from which an archive can be created and exported.

Database Element	Features/Abilities
<b>General</b>	<ul style="list-style-type: none"> <li>• Database entries include the footage from cameras linked to device objects.</li> <li>• Multiple cameras may be linked to multiple objects.</li> <li>• Device event meta-data is displayed where applicable.</li> <li>• Databased device events may be viewed in the embedded video player, which includes the usual CathesisVision video review tools.</li> </ul>
<b>View Options</b>	<ul style="list-style-type: none"> <li>• License plates with groups</li> </ul>
<b>Sort Options</b>	<ul style="list-style-type: none"> <li>• Device event time.</li> </ul>
<b>Easy Search</b>	<ul style="list-style-type: none"> <li>• License plate, License Plate (Partial Match), Group, LPR Detector.</li> </ul>
<b>Filter</b>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Type</li> <li>• Site</li> <li>• Name</li> <li>• Source Type</li> <li>• Event Type</li> <li>• Event Description</li> <li>• Card Holder</li> </ul>
<b>Export</b>	Database entries may be exported in CSV and PDF format.

#### USEFUL LINKS

To view **tutorial videos** on CathesisVision setup, visit <https://cathesisvideo.com/resources/videos>

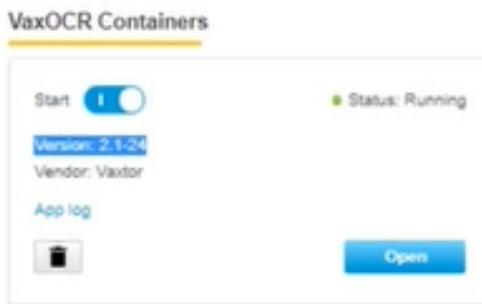
Find answers to Cathesis **Frequently Asked Questions**: <https://cathesis.crisp.help/en/?1557129162258>

## 2. Axis Vaxtor Setup

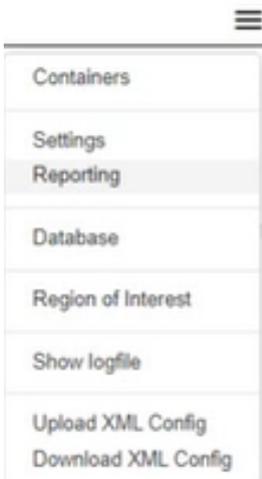
1. Select the Axis Vaxtor Setup and enter the VaxOCR Containers Application.



2. Make sure the container is version 2.1-2.4.



3. Navigate to **Reporting**. Open the TCP Server.



## Reporting

Vaxtor protocol
Overlay
Write result
Vapix
TCP
Genetec
Network Optix
<b>TCP SERVER</b>
<input checked="" type="checkbox"/> Active
Port 5000
Message [START]\$containercode\$ Sreadconfidence\$ Sownercountry\$ Stimestamp\$ Sleft\$ Sstop\$ Sright\$ Sbottom\$[IMAGE][ENI
JSON
XML
FTP
ACS

4. The port number is set to 5000. The message below must be copied, because it gets sent to Cathexis Software:

[START]\$containercode\$|Sreadconfidence\$|Sownercountry\$|Stimestamp\$|Sleft\$|Sstop\$|Sright\$|Sbottom\$[IMAGE]\$image\$(END]

Message

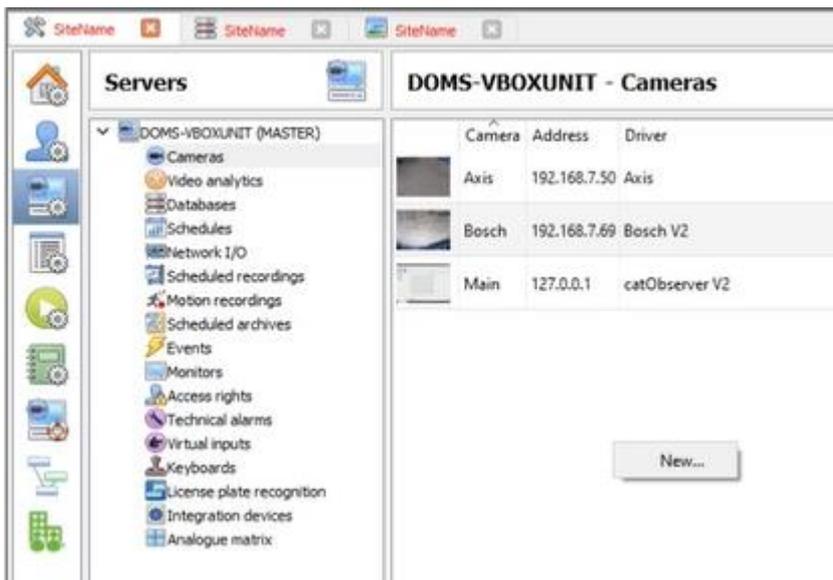
[START]\$containercode\$|Sreadconfidence\$|Sownercountry\$|Stimestamp\$|Sleft\$|Sstop\$|Sright\$|Sbottom\$[IMAGE][ENI

## 3. Device Addition and Configuration

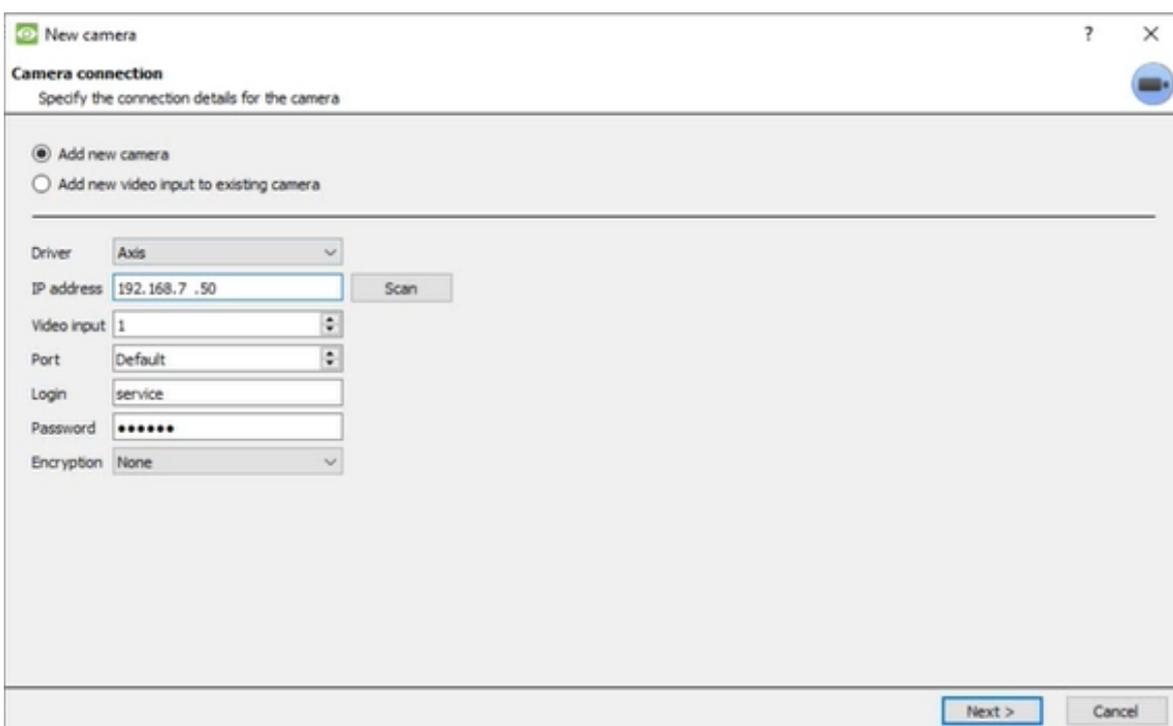
This section details the procedure for setting up CathesisVision LPR integration and Axis Vaxtor Container Recognition App to effectively communicate with each other.

### 3.1 Add a Camera

The first step is to add the Axis Camera by selecting **Servers / Cameras / Right-click / New**.



The **Axis camera's driver, and IP address** are listed below:

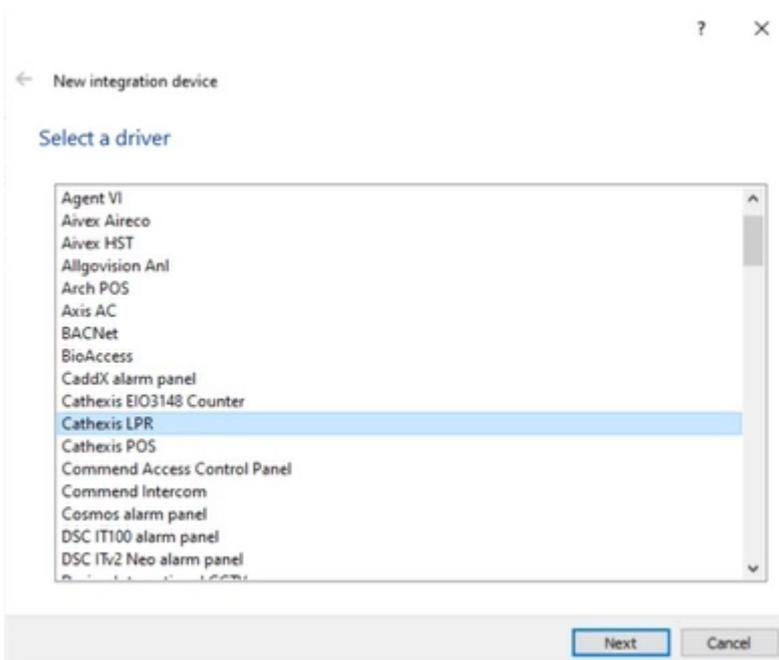


### 3.2 Devices Section (Add a New Device in CathesisVision)

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:

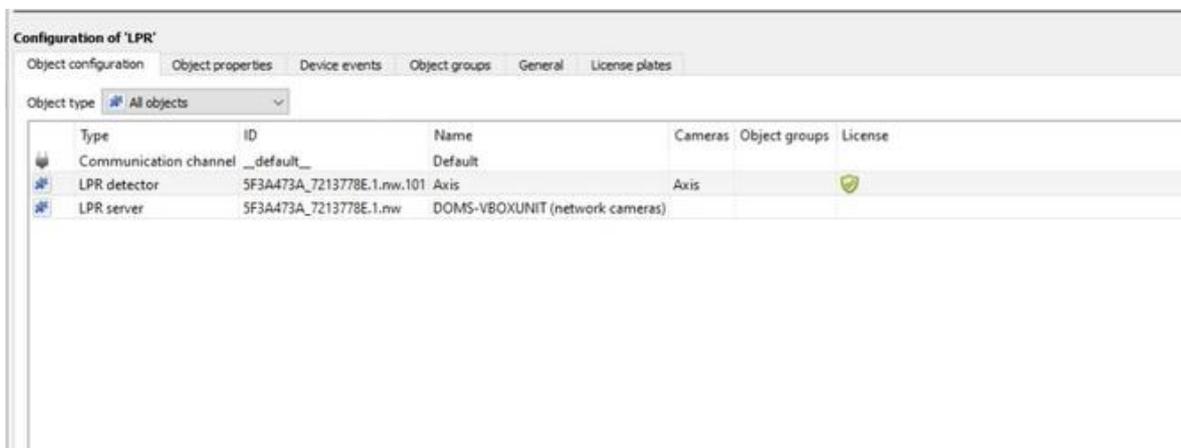


Select the Cathexis LPR Driver.



There are two sections in the Integration Panel.

The **Devices** list will list the integration devices that are attached to the server.

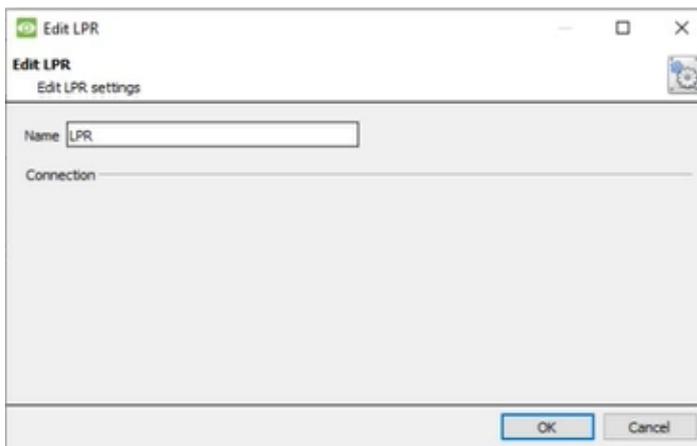


The **Configuration** section enables editing/reviewing, the device selected in the **Devices** section.

### 3.2.1 Device Addition

1.  Once in the Integration Panel, click on **New device** in the Devices section. This will open the addition dialogue.
2. Select **Cathesis LPR** driver from the list.

**Note:** As indicated, the Vaxtor Container Recognition module interfaces to the CathesisVision LPR interface. The result is a container code but headings are for the default LPR.

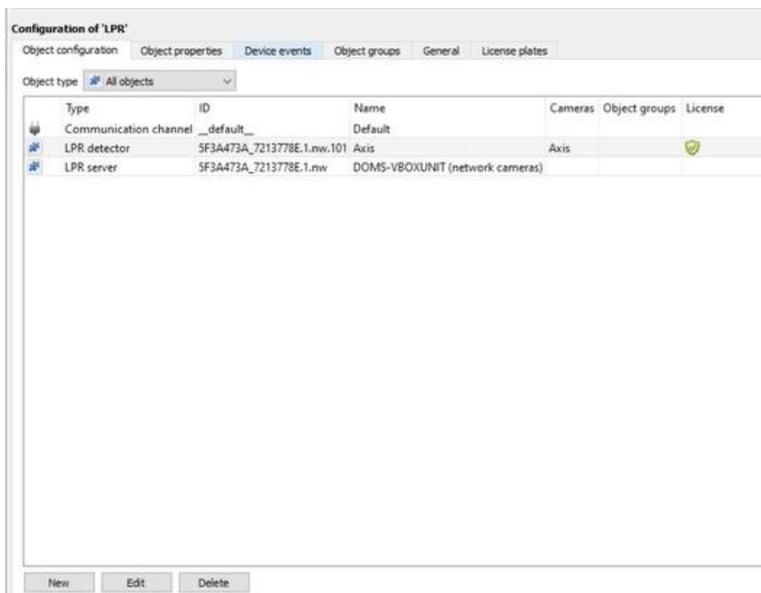


Give the device a descriptive **name**.

## 3.3 Configuration Section (Tabs)

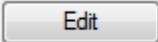
The configuration section is divided up into a number of tabs. These tabs are: **Object configuration**, **Object properties**, **Device Events**, **Groups**, and **General**.

### 3.3.1 Object Configuration Tab

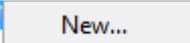
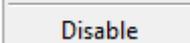
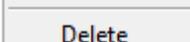
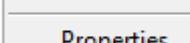


The object configuration tab is the tab where all the individual objects that comprise the integration may be viewed.

### 3.3.1.1 Object Configuration Buttons

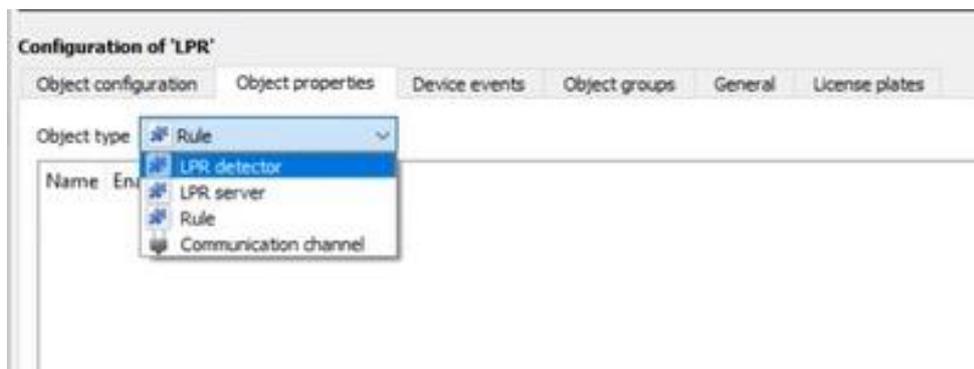
-  Click on **New** to add a new object.
-  Click on **Edit** to open up an existing object for editing.
-  Click on **Delete** to delete an existing object from the CathesisVision configuration.

### 3.3.1.2 Object Configuration Right-click Options

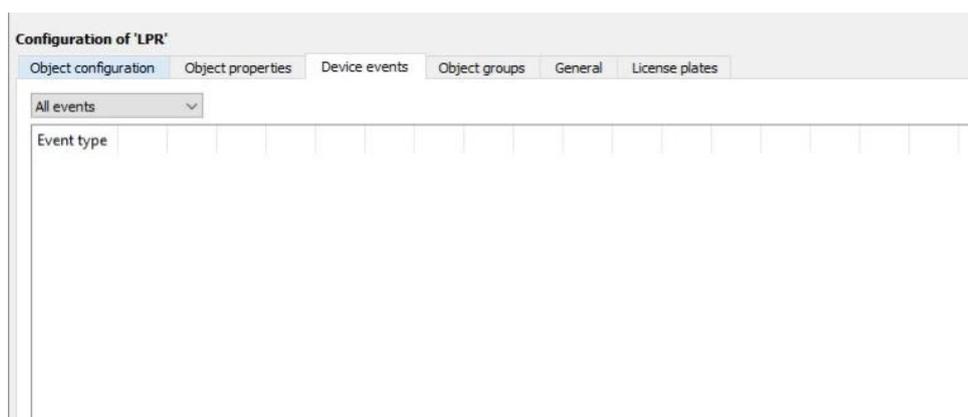
-  **New** will open up the dialogue box to add a new object.
-  **Disable/Enable** allows manually enabling/disabling individual objects.
-  **Delete** will permanently remove this object from the list.
-  **Properties** will open up the object properties. Edit the object from here, specifically, assign cameras to this object, as well as define user access levels for it.

## 3.3.2 Object Properties Tab

The object properties tab is where all object properties may be viewed.



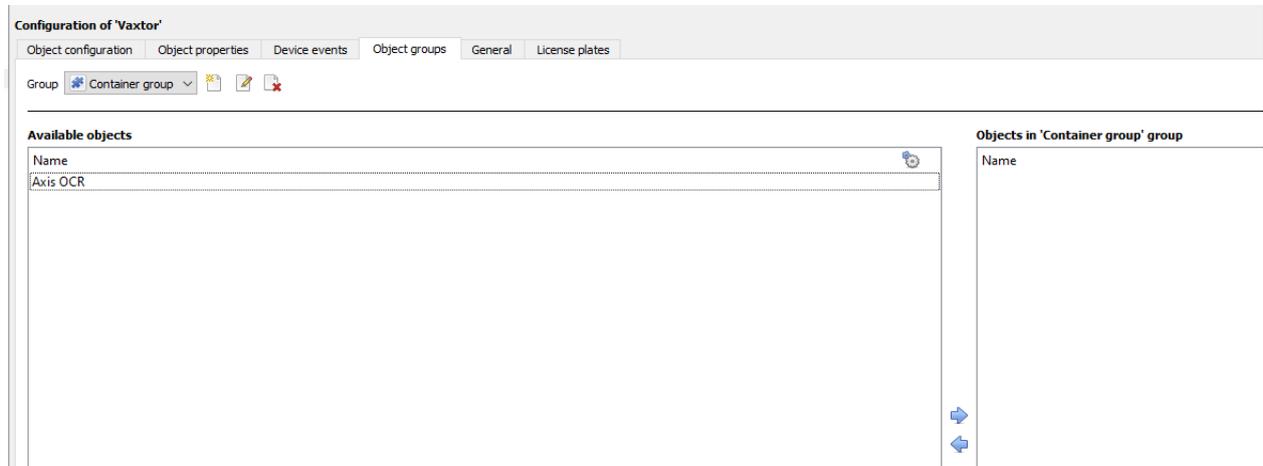
## 3.3.3 Device Events Tab



This lists all Events sent from the device. It is an excellent way for installers to see that the integration is functioning, and to monitor the Events happening on site.

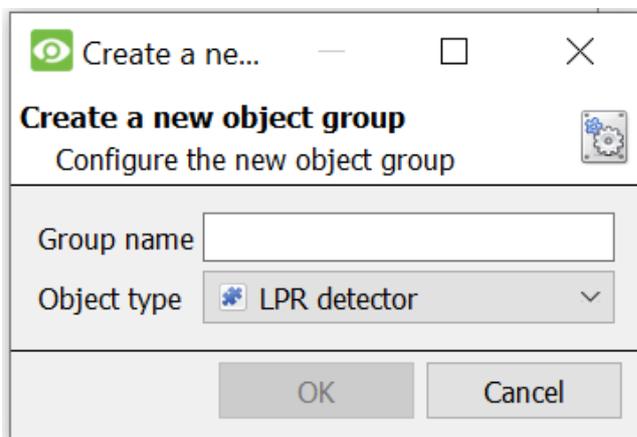
### 3.3.4 Object Groups Tab

Create groups of the same type of object.



**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 devices in that group is triggered.)

#### 3.3.4.1 Create a Group



-  Click to create a group.
-  Click to edit a group.

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

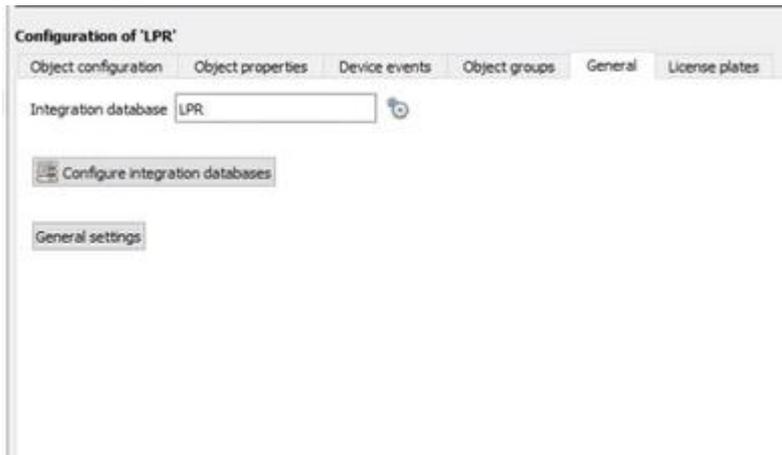
Give the group a descriptive **Group name**.

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

A list of Available Objects will appear. Multiple objects may be selected at a time.

-  To add these objects to the group, select them and click this arrow.
-  To remove these objects from the group, select them and click this arrow.

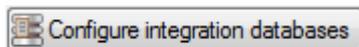
### 3.3.5 General Tab



Currently the general tab deals with the **Integration database**. Here, select an existing database, or configure a new database for the integration.

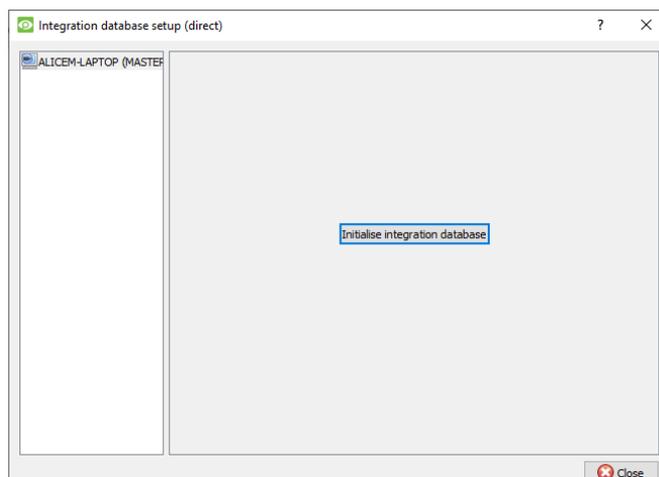
**Note:** Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathesisVision system.

#### 3.3.5.1 Configure a New Database

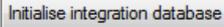


If a database is not yet created, clicking on this button will navigate to the integration database setup.

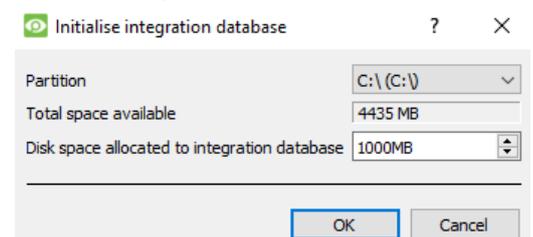
#### Initialise the Integration Database



The first time an integration database is added, initialise this feature on the unit. This will add a broad database, within which all of the integrated device's databases will be added.

 Select the unit to which to add the database from the list on the left. Click **Initialise integration database**.

Choose which partition the database will be formed on, and select how much space it will take up.



### Add a New Devices Database

After initialisation, add the database for the integration being worked with.



Click on the **New** button, at the bottom of the **Create database** window.



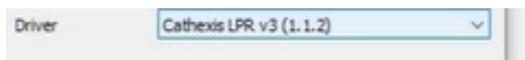
Give the Integration database a descriptive **Database Name**. For example, Container.

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

Choose the device **Driver** that the device will be using. Click on **OK** to create the database.

#### 3.3.5.2 Select the Integration Database

Be sure to select the Cathexis LPR v3 (1.1.2).

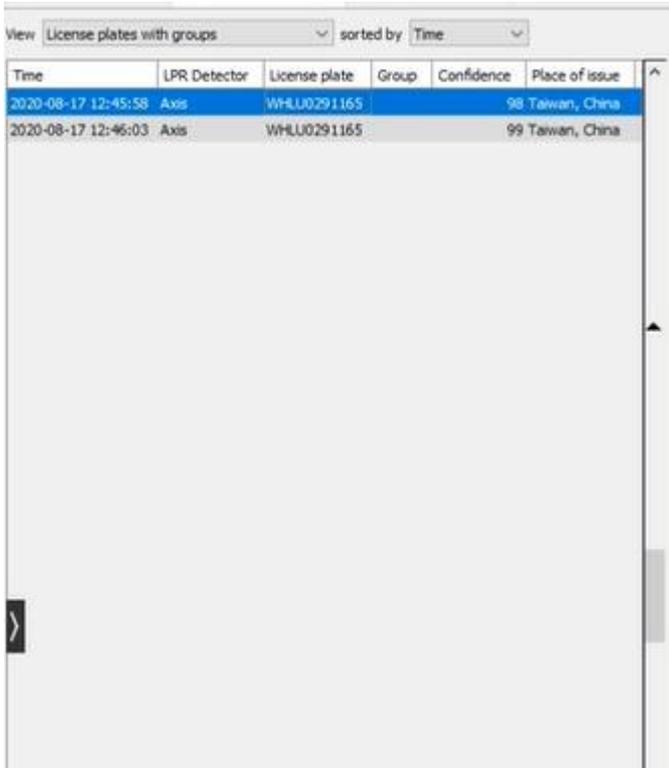


Integration database -- select integration database --

Once a database has been created, the user may select it by clicking on the **gear icon**, and selecting it in the dialogue that appears. Only databases which relate to the device being added should appear.

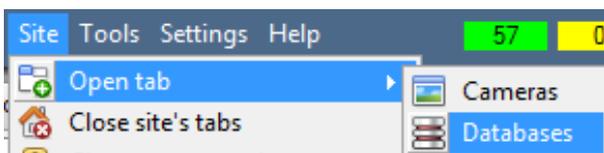
## 4. Database

The database tab allows one to navigate 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, it is possible to launch this recording, from within the database tab.



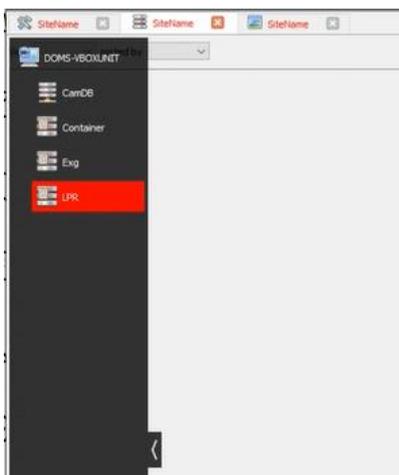
Most integrations will have a different database presentation, and unique filters, due to the different parameters sent by the integrated device to CathesisVision.

### 4.1 Navigate to the Database



View the information stored in the Integration database, by following the path seen to the left.

This navigates to the Database Tab.

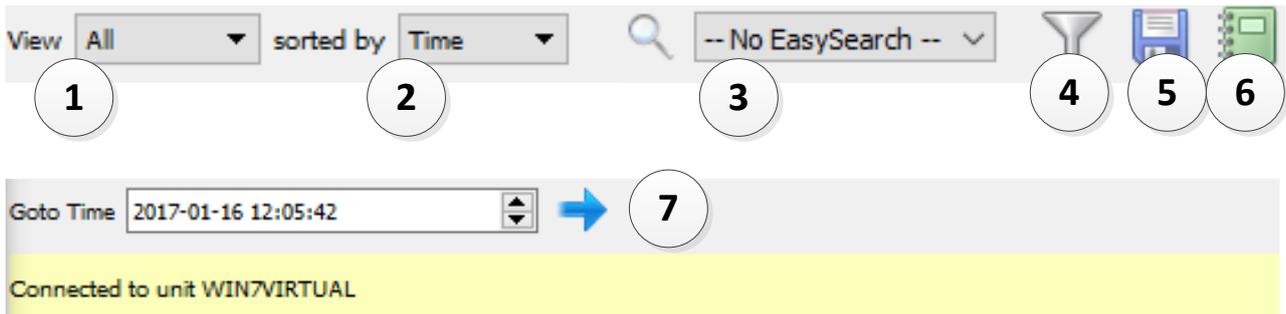


When the database tab opens, select the relevant integration database from the database panel that opens on the left-hand side. The databases are ordered under the NVRs that they are attached to.

To open and close this list, click on the arrow in the centre of the list:



## 4.2 Database Interface

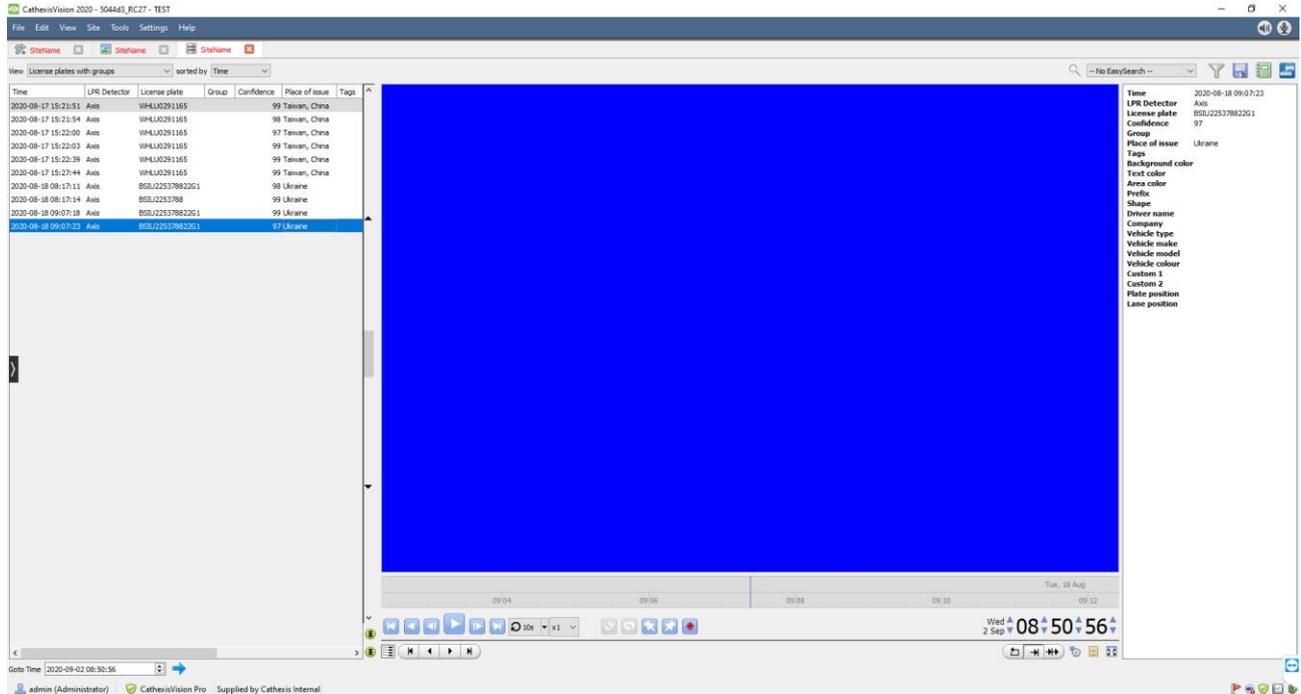


① <b>View</b>	<b>View</b> changes the way the database is presented. 
② <b>Sorted By</b>	Events may only be sorted by Time .
③ <b>Easy Search</b>	The easy search option quickly searches the database. The options are License plate, License Plate (Partial Match), Group, LPR Detector.
④ <b>Filter</b> 	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Once the filters dialogue is open, these are the options:</p> <p><input checked="" type="checkbox"/> <b>Enable filters</b>    Check this box to enable filters.</p> <p>    Click on this icon to <b>add</b> a new filter.          The filter icon will change when filters are active.  → </p> <p>    Click on this icon to <b>delete</b> an added filter.</p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>Multiple filters may be run simultaneously.</li> <li>The same parameter may be used more than once.</li> <li>To change a filter click on the blue hyperlinked text.              (For example, click on <a href="#">Timestamp</a> to change the filter from Timestamp, to any of the other available options.)</li> </ol>
⑤ <b>Export</b>	Generate metadatabase reports in PDF or CSV format. See below.
⑥ <b>Manage Reports</b>	Generate scheduled metadatabase reports. See below.
⑦ <b>Go to Time</b>	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 <b>arrow</b> icon.

## 4.2.1 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 CathesisVision **cameras tab**.

- To view an associated recording, simply left-click on a database entry, which has the camera icon in the **Links** column. Then click play in the video player.



## 5. Events

A CathesisVision Event has a trigger, which causes an action. Integrated devices may be set to act as triggers, or as actions. This document will detail the Cathesis LPR / Vaxtor Container specific aspects of Events. There is a comprehensive guide to CathesisVision Events in the main setup manual.

Most of the data that CathesisVision 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 event triggers, or actions.

### 5.1 Event Window

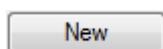
Events in CathesisVision are set up via the Event Window. This has 4 tabs: in the **General Tab** an event is given a name, description, schedule and priority; in the **Triggers Tab** the trigger/s for the event is/are defined; in the **Actions Tab** the action/s, which the event takes, is/are defined; in the **Resources Tab** the various site resources, which can be used as part of an event, are defined.

#### New Event

Window Broken

### 5.2 Creating an Event

To create an event using the Cathesis/Vaxtor device, enter the **Events management area**:



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

## 6. Conclusion

This app-note was designed to deal specifically with this integration.

For further information about the CathesisVision software, consult the main manual (<http://cathesisvideo.com/>). For support, email [support@cat.co.za](mailto:support@cat.co.za).