

Arch Point of Sale Integration Document

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¹ While Cathexis has made every effort to ensure the accuracy of this document, there is no guarantee of accuracy, neither explicit, nor implied. Specifications are subject to change without notice.

1 Introduction

This document will detail the integration of the Arch Point of Sale (Arch POS) device, with CathexisVision's software. CathexisVision will receive information from the integrated device, which will be stored in its own CathexisVision database. This information may be used to trigger CathexisVision events and, in the case of the Arch POS integration, may also be displayed as a live overlay on a camera feed.

Requirements

- CathexisVision 2016 Service Pack 2 and later.

Notes:

1. If you need information regarding the regular operation of an Arch POS device, please consult the relevant Arch POS documentation.

a. License requirements

The Cathexis Arch POS integration license requirements are as follows:

License Name	License Description
CPOS-2000	POS device license
CPOS-1001	POS single Till license
CPOS-1010	POS 10 till license
CPOS-3000	POS device bundle license (unlimited tills)

b. 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 you add an integration to the CathexisVision 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 objects.

Arch POS Integration Features

CathexisVision connects to the Arch POS device via a TCP connection. The connection is on a till-by-till basis, with the user adding an Arch POS device, then adding each till's IP address to the device individually. CathexisVision receives transactions and other event data from the tills, and generates messages which can be stored in an integration database, camera overlays and update object properties.

2 Device Addition and Configuration

a. Introduction

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

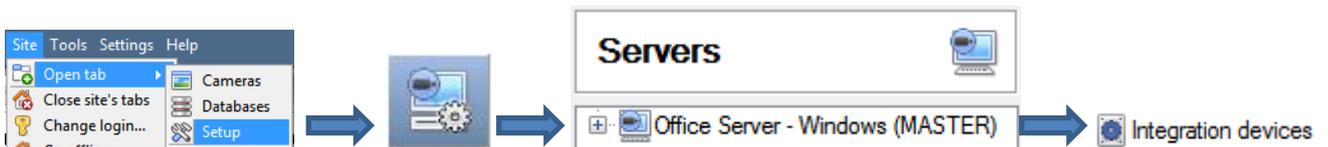
b. CathexisVision Specific Arch POS Setup (Set up the Arch POS device)

There are no specific Arch POS steps required to get the Arch POS integration functioning, but make sure to have the IP address and port number of the Arch POS on hand when you are adding the device to CathexisVision.

c. Devices Section (Add a New Device in CathexisVision)

Integrations are added on a server-by-server basis. They are managed in the Integration Devices panel, under the Setup Tab of the servers to which they are added. To get to the Integration Panel follow this path:

The Integrations Panel



VirtualNVR - Integration devices

Devices

Name	Driver
DSC	DSC IT 100 alarm panel
Moduteq Demo	Moduteq C perimeter m...
Stinger Demo	Stinger
WBX Demo	WBX Weighbridge

4 items

Configuration of 'DSC'

Object configuration | Object properties | Device eve

Object type: All objects

Type	ID	Name
Communication channel	__default__	Default

New Edit Delete 1 item

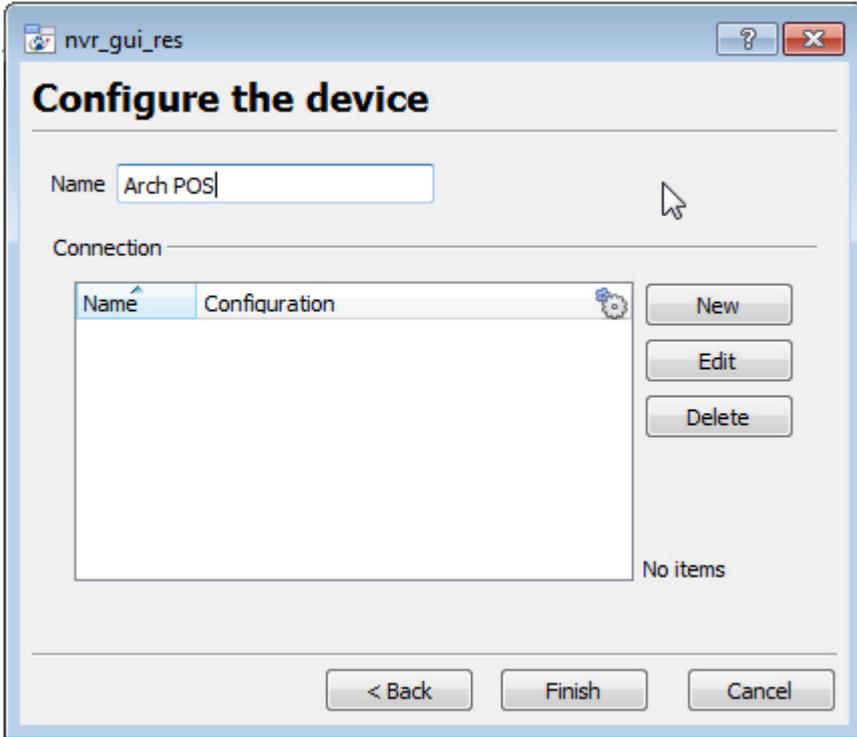
You will notice two sections in the Integration Panel:

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

The **Configuration** section enables you to edit/review, the device which you have selected in the **Devices** section.

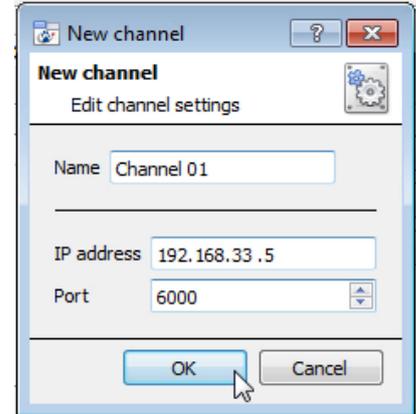
- **Device Addition**

1. Once in the Integration Panel, click on  , in the Devices section. This will open the addition dialogue.
2. Select **Arch POS** driver from the list and click on .



Give your device a descriptive name.

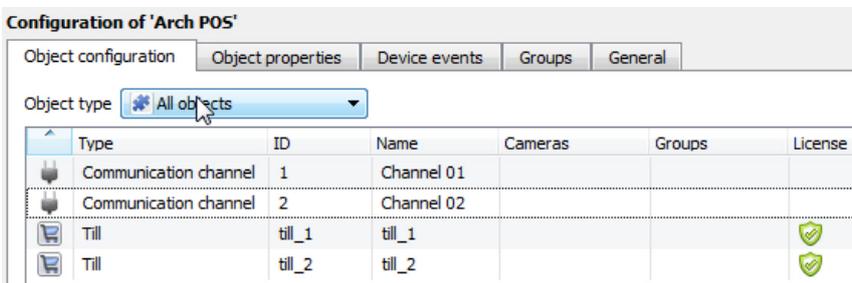
Tills are added to the device one at a time. To do this click on *New* to add a new channel. Give the channel a **name**, and enter in the till's **IP address** and **port number**.



d. 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**.

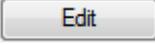
Object Configuration Tab



The object configuration tab is the tab where you may view all the individual objects that comprise the integration. The Arch POS device has the **Till** and **Communication channel** object types.

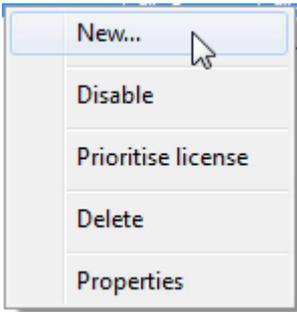
- **Object Configuration Buttons**

 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 CathexisVision configuration.

- **Object Configuration Right-click Options**



New will open up the dialogue to add a new object.

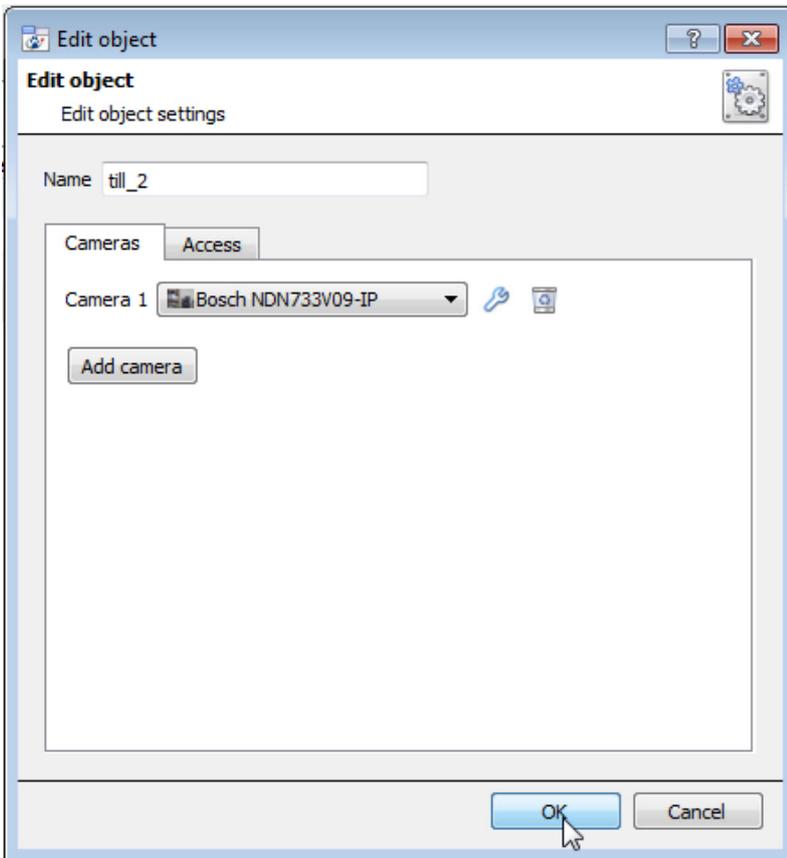
Disable/Enable allows you to manually enable/disable individual objects.

Prioritise license will give a specific till license preference, in case there are more tills 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 define user 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, select one from the drop-down list and click on “Add Camera”.

In the Arch POS integration this will also determine which cameras get the POS overlay on their feed.

To change the Arch POS overlay settings click on . (This is explained further, below.)

To delete a camera click on 

Note: While you can add multiple cameras here, only the first camera added with the object will be linked in the integration database.

Note: If you do not have **continuous recording** set up, on associated cameras, you will run the risk of device objects triggering while the cameras are not recording. To only record cameras, when an object triggers, you will need to set up **Events** that trigger a recording, when one of these objects is activated.

Properties: Access



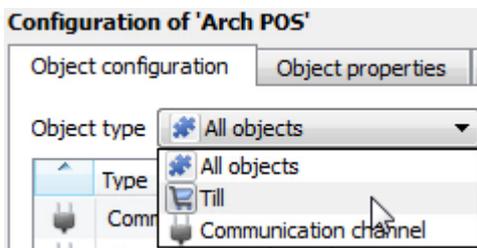
Access allows you to protect sensitive objects, by only allowing certain user levels access to them.

Under **View** you will be able to set the access levels.

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

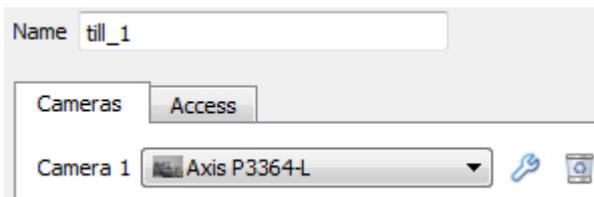
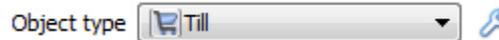
- **Arch POS Overlay Settings**

These overlays will show the till transaction details as an overlay on the cameras associated with the till. You may change the overlay settings to suit the camera feeds, as well as edit the default overlay settings.



Default Overlay Settings:

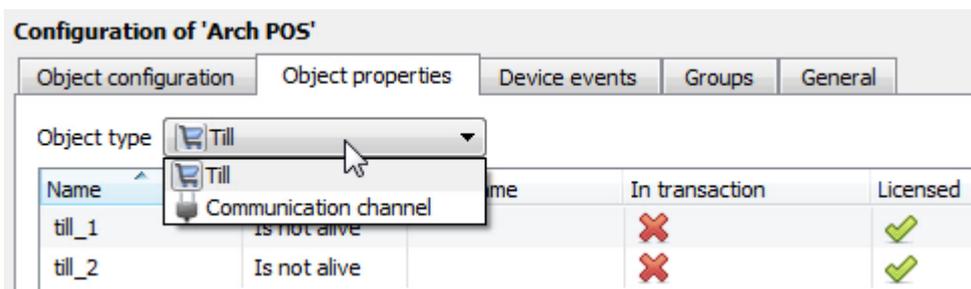
In the **Object Configuration** tab select the **Till** object type from the drop-down menu. Click on the spanner icon that appears next to the drop-down menu:



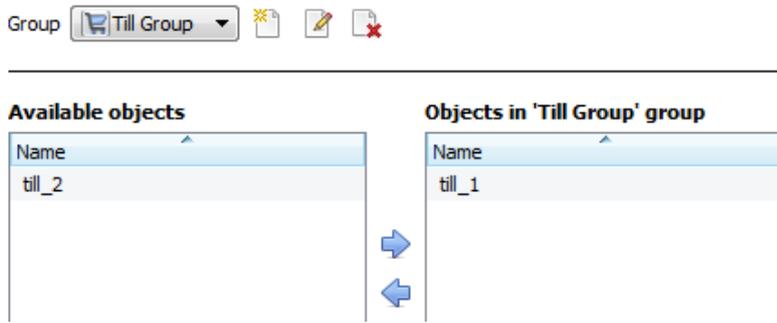
Individual Till Settings:

To edit the overlays for individual tills right click on a till in the Object Configuration tab, select Properties, and click on the  icon next to the camera. This will open the overlay dialogue.

Objects Properties Tab

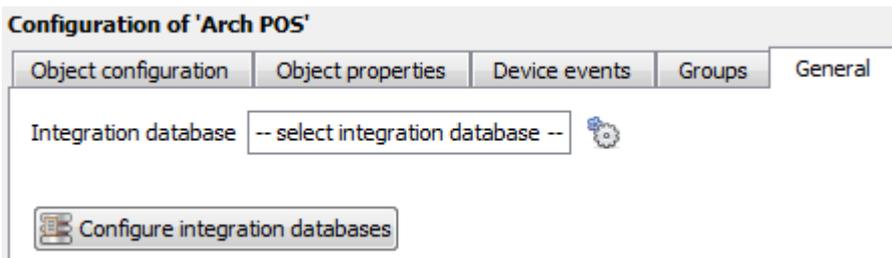


The Object properties tab allows you to view the objects, sorted by type. In the case of the Arch POS device you will have the options of viewing by **Till** or **Communication channel**.



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 ➡ / ⬅.

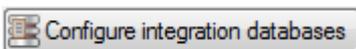
General tab



Currently the general tab deals with the **Integration database**. Here you will be able to select an existing database, or you will be able to configure a new database for your integration.

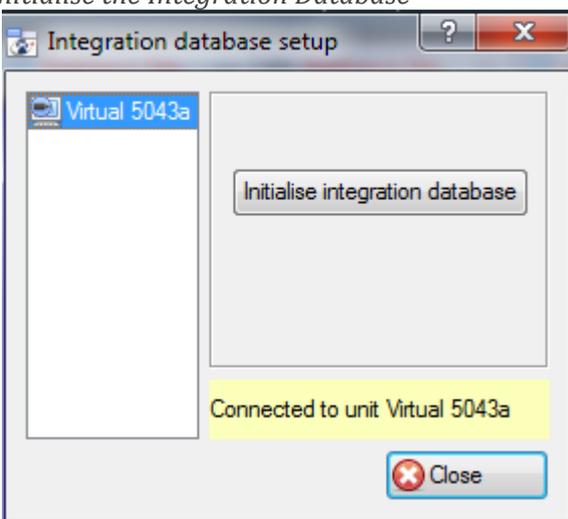
Important Note: Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here your integration will not function properly within the CathexisVision system.

- *Configure a new database*



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

Initialise the Integration Database



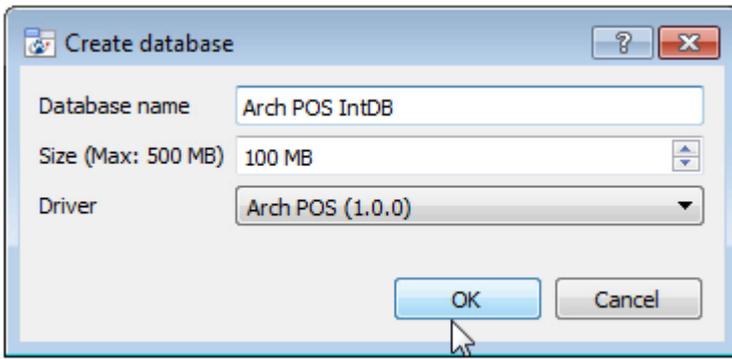
The first time you add an integration database you will have to initialise this feature on the unit. This will add a broad database, within which you will be adding all of your integrated device's databases.

Select the unit you wish to add the database to, from the list on the left, and click **Initialise integration database**. You will have to 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, you will be able to add the database for the integration that you are working with. Click on the **New** button, at the bottom of the Create database window.

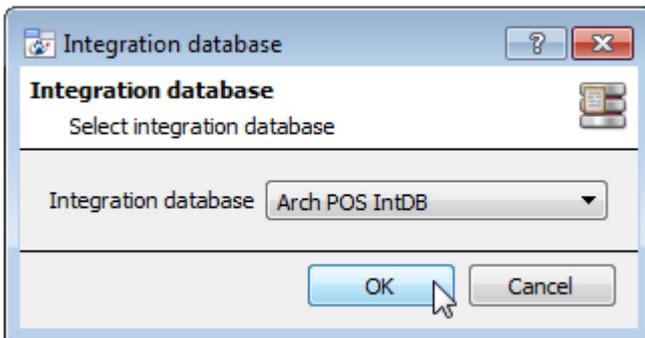


Give your Integration database a descriptive **Database Name**. e.g. Arch POS Integration database.

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

Choose the device **Driver** that your device will be using, And click on OK to create the database.

- *Select the Arch POS Integration database*



Integration database 

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

3 Database

a. Introduction

The database tab will allow you to navigate 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 you will also be able to launch this recording, from within the database tab.

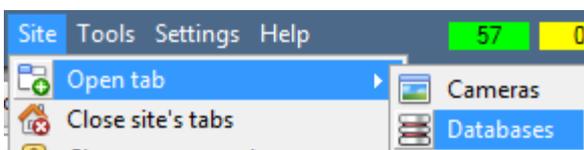
View **All Events** sorted by **Time**

Time	Transaction #	Till	Till Name	Event
2015-08-03 10:50:31		0 till_1	till_1	Logged In
2015-08-03 10:50:37	1501011775	till_1	till_1	transaction
2015-08-03 10:51:04		0 till_1	till_1	Logged Out
2015-08-03 10:51:18		0 till_2	till_2	Logged In
2015-08-03 10:51:29	1501011776	till_2	till_2	transaction
2015-08-03 10:51:57	1501011777	till_1	till_1	transaction
2015-08-03 10:52:02	1501011778	till_1	till_1	transaction
2015-08-03 10:52:08	1501011779	till_2	till_2	transaction
2015-08-03 10:52:13	1501011780	till_2	till_2	transaction

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

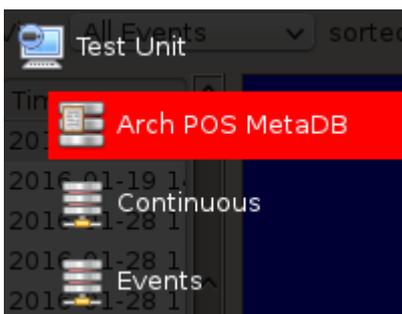
The Arch POS database is information rich. This is an example of some of the information that is included.

b. 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.



From 2016.2 onwards, when the database tab opens you will have to 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:



c. Database Interface

This isn't accurate

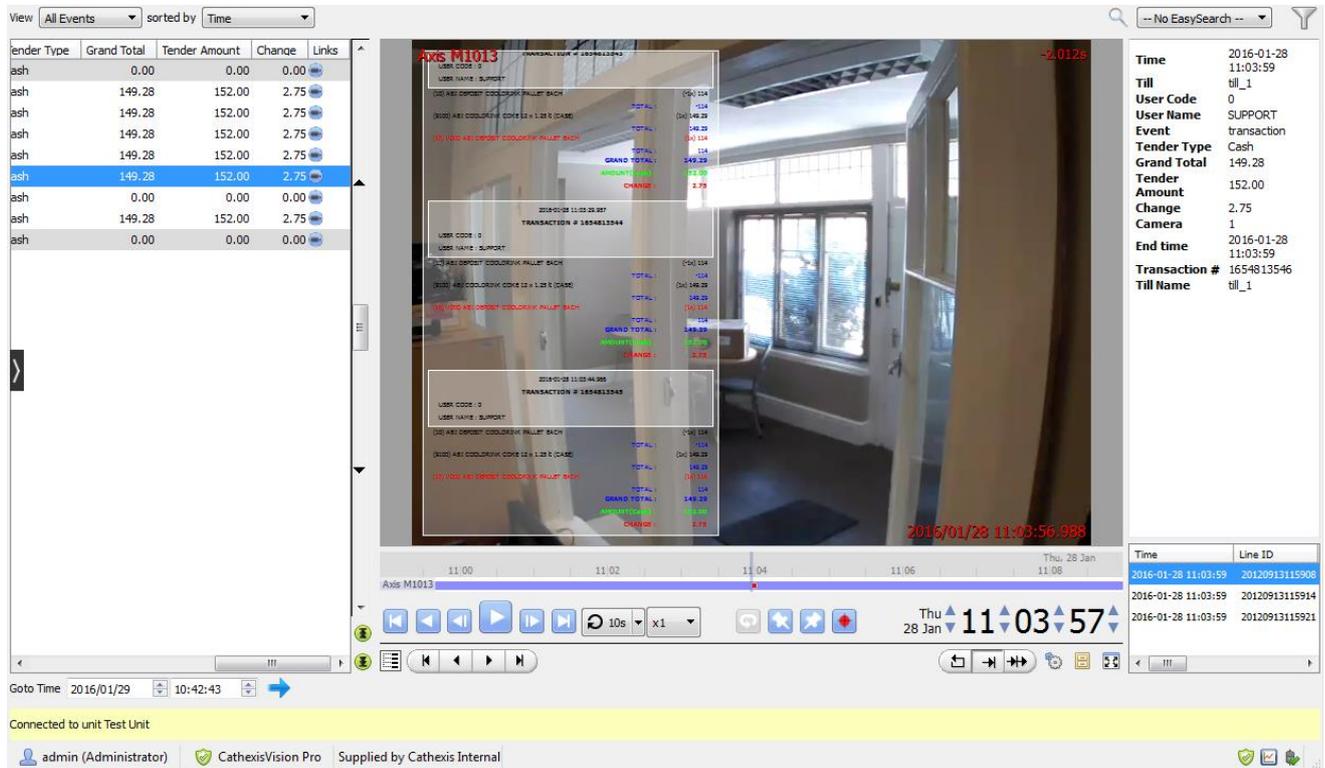


<p>① View</p>	<p>You may change the way that your database is presented. Some integration databases have multiple view options. The Arch POS database has All Events, Transactions, Other Events and Line Items options.</p>
<p>② Sorted By</p>	<p>You may sort the Events based on the following parameters: Time, Transaction number, Till, Till Name, Event, User Code, User Name, Tender Type, Tender Amount, Grand Total, and Change.</p>
<p>③ Easy Search</p>	<p>The easy search option allows you to quickly search the database within one of the following options: Time, Transaction number, Till, Till Name, Event, User Code, User Name, Tender Type, Tender Amount, Grand Total, and Change.</p>
<p>④ Filter </p>	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Once you have the filters dialogue open you will have the following options:</p> <ol style="list-style-type: none"> 1. To enable filters check this box: <input checked="" type="checkbox"/> 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 . <p>The options in this integration are Time, Till, Till Name, User Code, User Name, Event, Tender Type, Tender Amount, Grand Total, and Change.</p> <p>Note:</p> <ol style="list-style-type: none"> 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.)
<p>⑤ Go to Time</p>	<p>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 then click on the  icon.</p>

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.



The screenshot displays a software interface for viewing a database entry's associated recording. The interface is divided into several sections:

- Database Table (Left):** A table with columns: Tender Type, Grand Total, Tender Amount, Change, and Links. The 'Links' column contains video camera icons. One row is highlighted in blue.
- Video Player (Center):** A video player showing a recording of a room. Overlaid on the video are three transaction detail windows. Each window shows:
 - Transaction ID: 20160128 11:03:59
 - TRANSACTION # 1654813546
 - USER CODE: 0
 - USER NAME: SUPPORT
 - Transaction details including amounts and change.
- Metadata Panel (Right):** A panel displaying transaction details:
 - Time: 2016-01-28 11:03:59
 - Till: till_1
 - User Code: 0
 - User Name: SUPPORT
 - Event: transaction
 - Tender Type: Cash
 - Grand Total: 149,28
 - Tender Amount: 152,00
 - Change: 2,75
 - Camera: 1
 - End time: 2016-01-28 11:03:59
 - Transaction #: 1654813546
 - Till Name: till_1
- Video Player Controls (Bottom):** A timeline and control bar for the video player, showing the current time as 11:03:57 on Thu, 28 Jan.
- System Bar (Bottom):** A yellow bar indicating the user is connected to 'unit Test Unit' and the system is 'Supplied by Cathexis Internal'.

4 Events

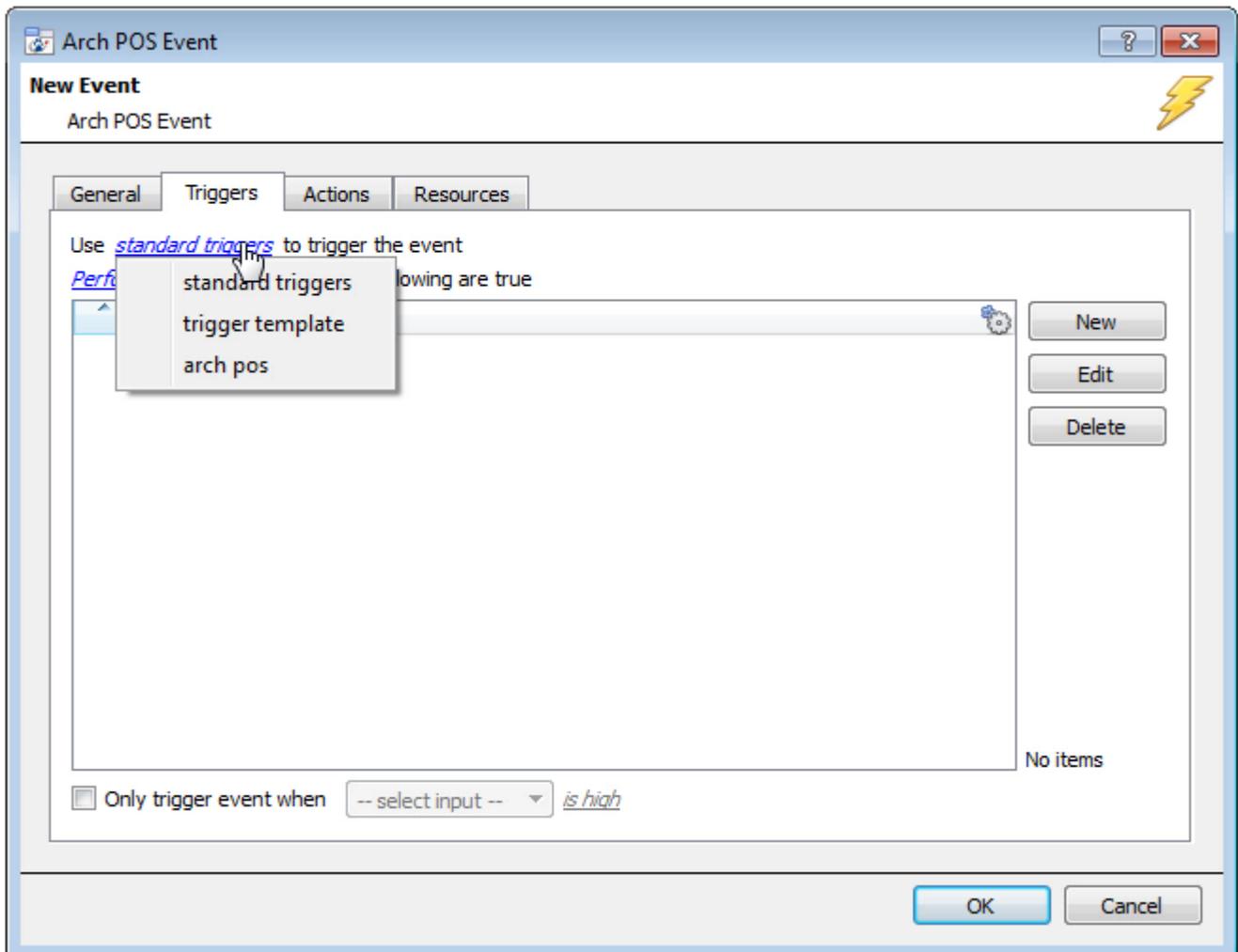
a. Introduction

A CathexisVision Event has a trigger, which causes an action. You may set integrated devices to act at triggers, or as actions. This document will detail the Arch POS specific aspects of Events. There is a comprehensive guide to CathexisVision Events in the main setup manual.

Most of the data that CathexisVision receives from a device is presented in the Events interface. This is done in order to give the user a full range of options. As a result, some of the options presented in the interface may be *impractical* for being used as an event trigger, or action.

Event Window

Events in CathexisVision are setup 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 defined. In the **Actions Tab** the action/s which the event takes is defined. In the **Resources Tab** the various site resources which can be used as part of an event are defined.



b. Creating an Event

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



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

- **While/When and Any/All**

When triggering on an object 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 start an event.

Use [arch pos](#) to trigger the event
 Trigger using [any till](#)
 Start actions when [any of the properties meet the following criteria](#)

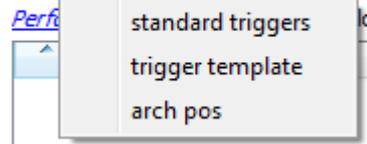
As usual, to change these settings click on the related, blue, hyperlinks.

c. Triggers

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

Set your device as the trigger

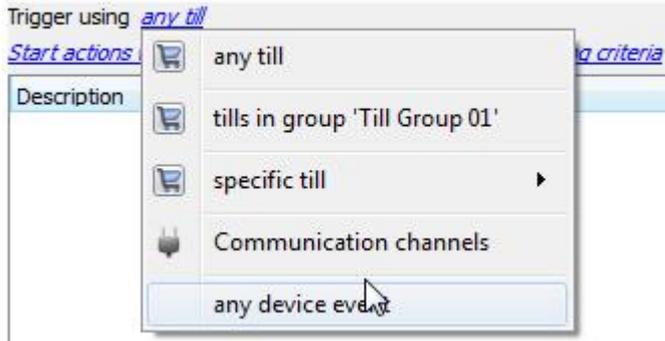
Use [standard triggers](#) to trigger the
 Perform [standard triggers](#)
 Use [standard triggers](#)



If you are creating a new event, the trigger type will default to: Use [standard triggers](#). To define which device you want to trigger the event, click on the hyperlink after “use”. To set it as the Arch POS device, click on the hyperlink, and select the relevant device name from the dropdown menu.

Trigger Types (Trigger Using)

Use [arch pos](#) to trigger the event
 Trigger using [any till](#)
 Start actions when [any of the properties meet the following criteria](#)



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

Any till will trigger when any of these objects sends the selected trigger.

Object in group... If you have set up a group it will appear here in this list.

Communication channels will trigger only on the Communication channels.

Specific till will trigger on an event from the specific till selected.

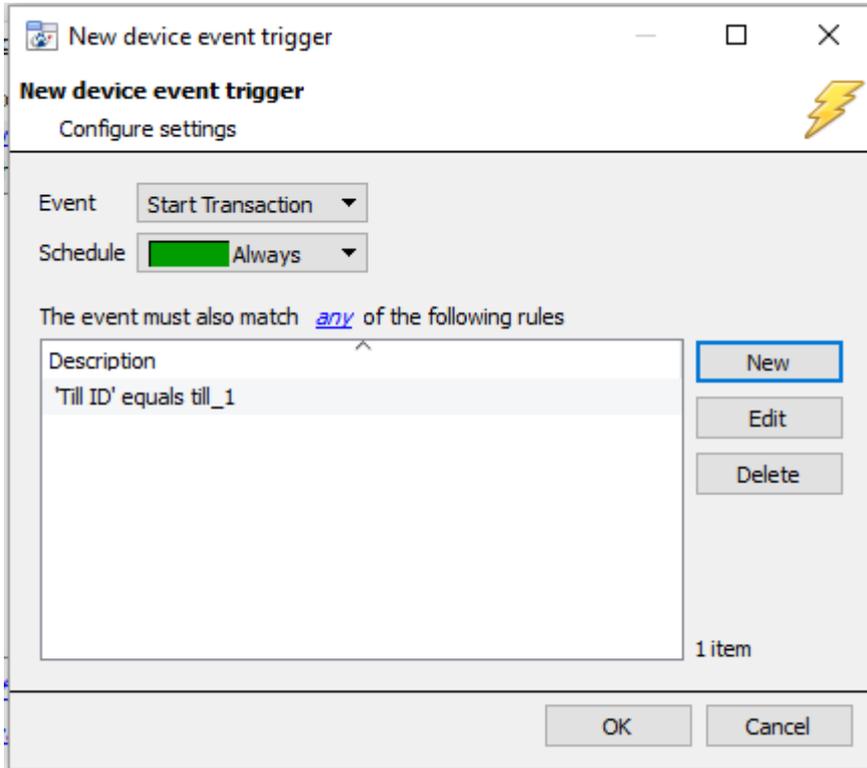
Any device event will trigger on any event that occurs on the device. Within the “any device event” setup you may set “device event rules” which will constrain which device events will trigger the event.

Note for group triggers: If you want this event to be databased under the name of a specific object, and not the name of the triggering group, 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 Arch POS example:
 Description 

Define Your Trigger

After selecting a master trigger type, you will need to add a trigger to the event. Click on  in the Triggers tab. This will bring up the dialogue box you see below, for the various trigger types:

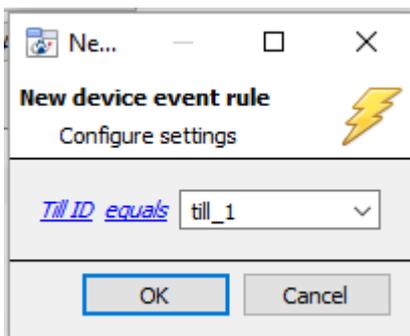


For example within the [any device event](#) option you may choose what type of device Event will be your trigger. Choose an event type from the drop down menu.

Note: You may set multiple constraints (**Device Event Triggers**). If you do not define a constraint, every single device event will trigger this event.

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

Choose if [any](#), or [all](#) constraints need to be fulfilled to set off a trigger.

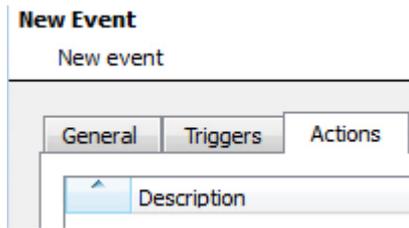


To change the constraint, click on the first hyperlink, this will bring up the full list of available rules.

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

Note: When all available options are known to CathexisVision 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 CathexisVision from the Arch POS device, see the Arch POS settings for the strings needed here.

d. Actions



Once you have defined the triggers that are going to initiate your event, you will need to define some Actions. With many integrations there will be the option to control the integrated device, as one of the actions.

CathexisVision cannot send commands to the Arch POS device, as this integration does not have two-way communication.

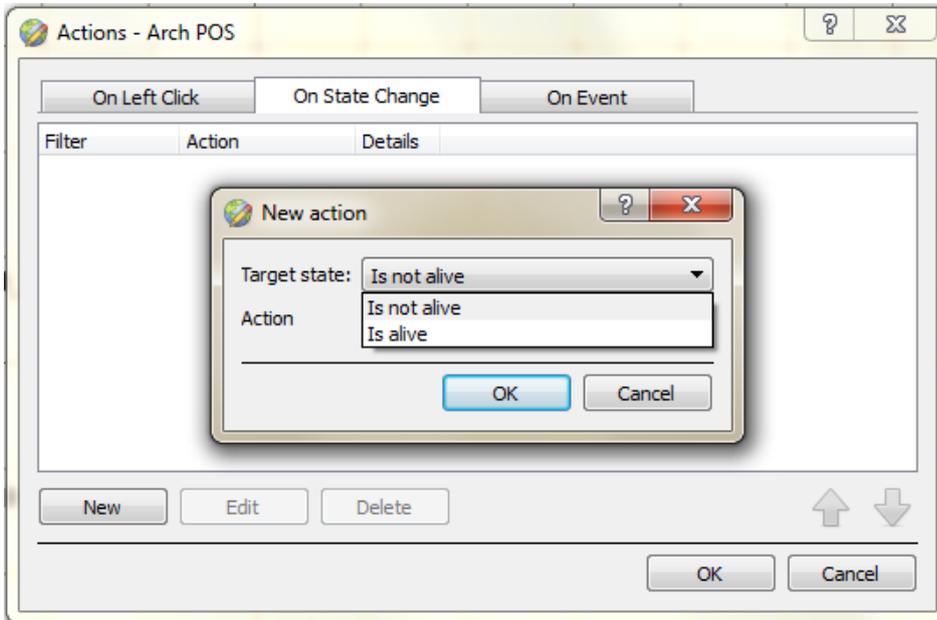
5 Conclusion

Please remember that this appnote was designed to deal specifically with this integration. For further information about the CathexisVision software please consult the main manual (<http://cathexisvideo.com/>).

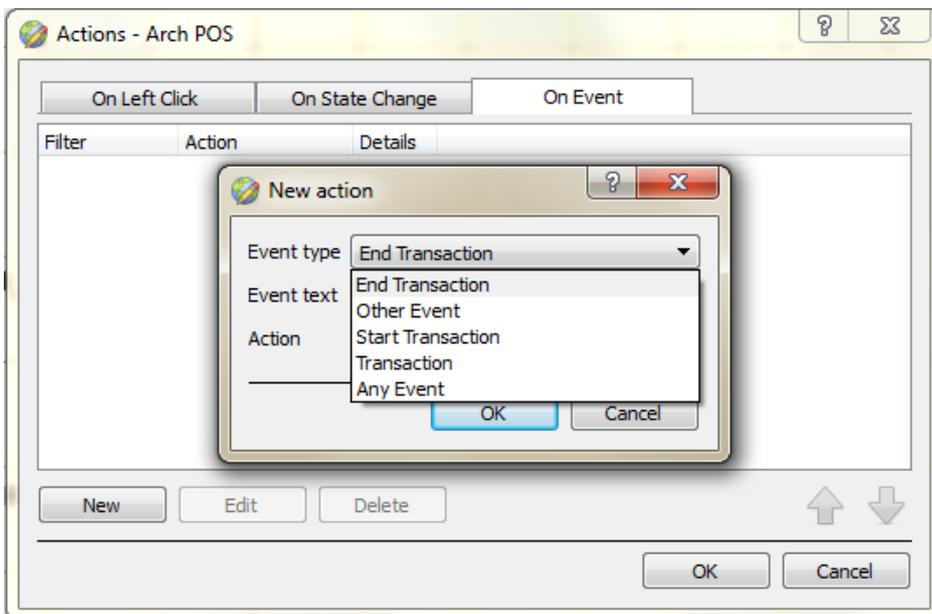
For support please contact support@cat.co.za

6 Maps

The Till objects of the Arch POS integration can be added on maps. For more information on setting up maps, please consult the CathexisVision Maps Setup document.



Once you have dragged a till object onto the map editor, you will be able to trigger an action using the following states: **Is alive** and **Is not alive**.



You will also be able to trigger actions using the following events: **End Transactions**, **Other Event**, **Start Transactions**, **Transactions** and **Any Event**.

Note: Communication objects can be added onto maps, but will not trigger any actions.