



Isilon Integration App-note

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1. Introduction

This document details the integration of the Isilon hardware, with the CathesisVision software. CathesisVision monitors the Isilon hardware over the network and triggers events based on Isilon hardware state changes.

Note: For information regarding the regular operation of an Isilon device, please consult the relevant company documentation.

There is a General Integration section in the main *CathesisVision Setup Manual*. It contains information on creating an integration database, as well as a general introduction to the Integration Panel. **Read over this section.**

1.1 Requirements

1.1.1 Software Requirements

- CathesisVision 2018 Service Pack 1 and later.
- **Isilon OneFS API version 3** is supported.
- Hardware tests done using **Isilon OneFS version 8.0.0.4**.

1.1.2 License Requirements

License Name	License Description	Details
CISL-1001	Isilon Cluster License	Licenses the Isilon clusters (rack of servers).
CISL-2000	Isilon Device License	Licenses the Isilon device.
CISL-3000	Isilon Bundle License	Includes device license and unlimited cluster licenses.

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

1.2 Integration Components

1.2.1 Isilon Integration Components

This integration supports multiple Isilon clusters (a rack of servers), each with multiple nodes (a single server). A designated node is automatically set to represent/manage the cluster. The other nodes in the cluster will take over the cluster management if the designated node goes down. For the CathesisVision software to fully support this function, it is thus recommended that all relevant nodes are configured into the relevant clusters in the integration device setup. This will ensure that there is redundancy if/when a node goes down.

1.2.2 General CathesisVision Integration Components

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

Device 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.

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.

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.

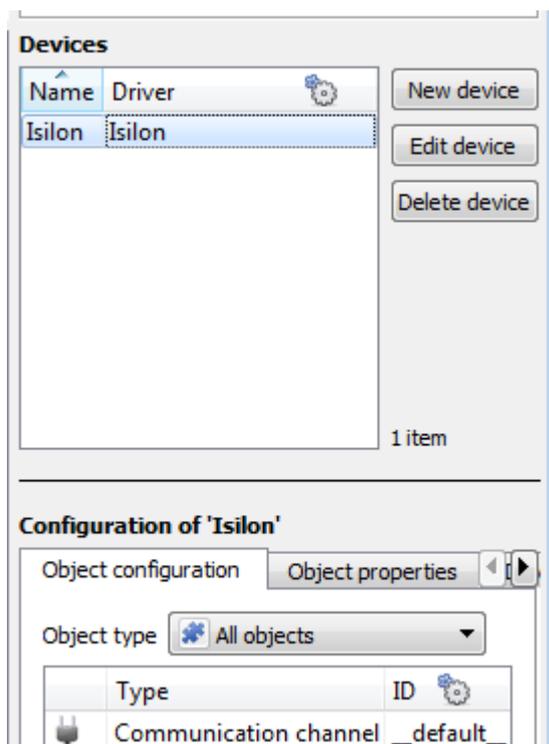
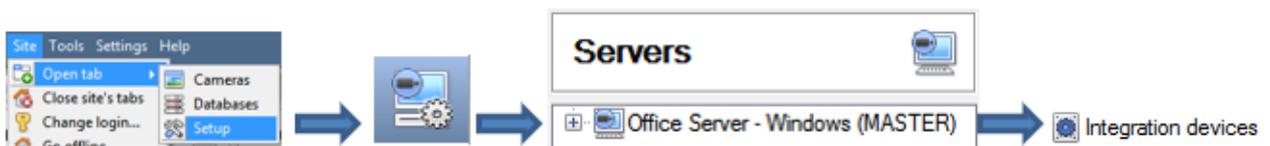
2. Device Addition and Configuration

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

2.1 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:

2.1.1 The Integrations Panel



There are two sections in the Integration Panel:

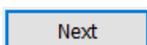
The **Devices** list will list the integration devices that are attached to the server.

The **Configuration** section enables the editing/review of the device which added in the **Devices** section.

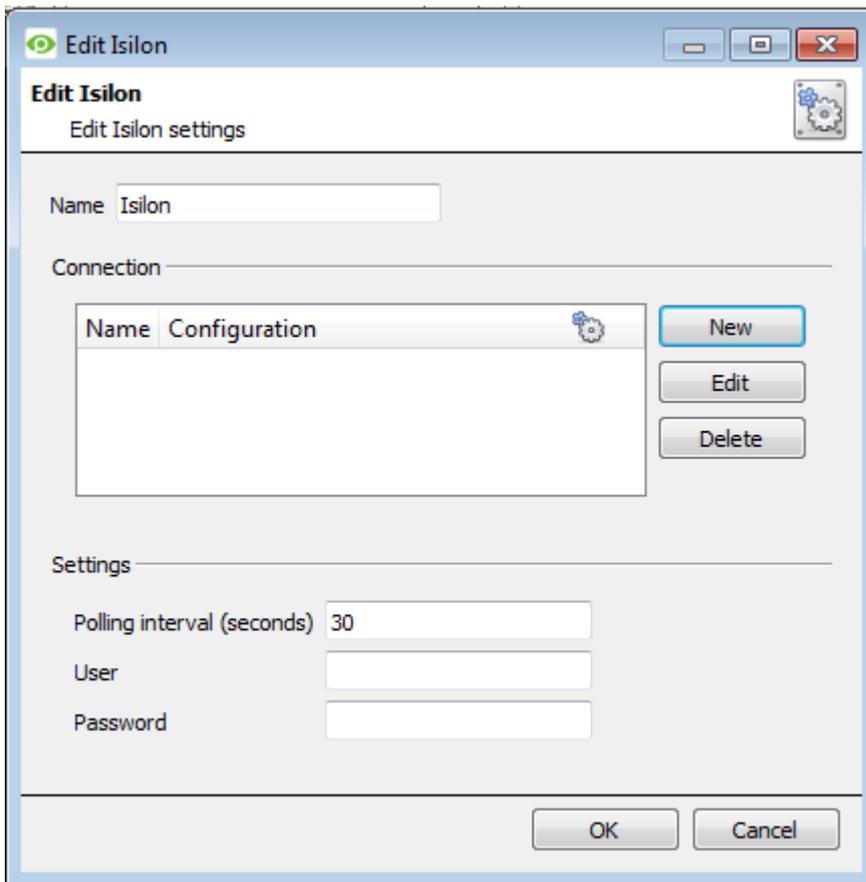
2.1.1.1 Device Addition



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

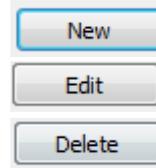


Select the Isilon driver from the list and click the **Next** button.



Name the device.

Configure Clusters.



Use these buttons to configure clusters.

See the section below.

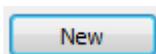
Enter the Polling Interval (seconds). This is the interval at which CathesisVision will request status updates from the Isilon hardware.

Enter the **User** and **Password** details. The default details are admin/admin.

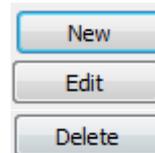
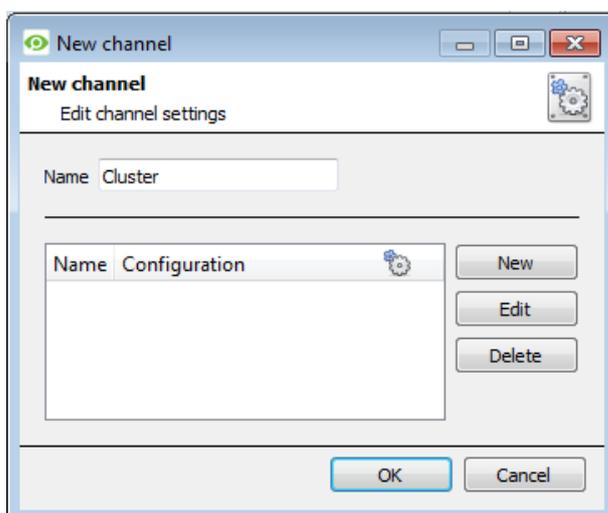
New Cluster

Here, clusters are configured and then individual nodes are attached to them.

Note: A node is automatically set to represent/manage the cluster. The other nodes in the cluster will take over the cluster management if the designated node goes down. For the CathesisVision software to fully support this function, it is thus recommended that all relevant nodes are configured into the relevant clusters in the integration device setup. This will ensure that there is redundancy if/when a node goes down.



Create new cluster.

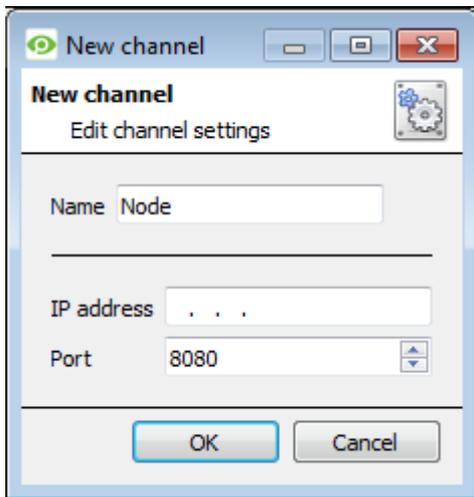


Use these buttons to configure the nodes in the cluster.

New Node



Create new node to attach to the current cluster.



The dialog box is titled "New channel" and has a subtitle "Edit channel settings". It contains the following fields:

- Name:** A text input field containing the word "Node".
- IP address:** A text input field containing three dots " . . . ".
- Port:** A dropdown menu with "8080" selected.

At the bottom of the dialog are "OK" and "Cancel" buttons.

Give the individual node a descriptive Name.

Enter the IP address of the node.

Leave the Port as 8080.

Connection is made to the Isilon hardware and device objects are populated automatically.

2.2 Configuration Section (Tabs)

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

2.2.1 Device Object Descriptions

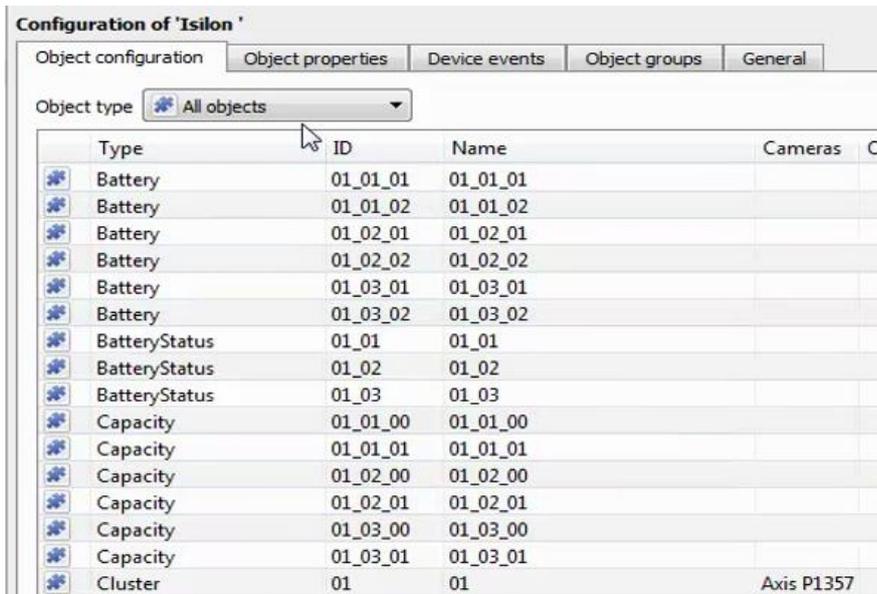
Once the Isilon device is added, the device objects will populate automatically.

The Isilon integration offers the following device object types:

- **Battery**
- **BatteryStatus**
- **Capacity**
- **Cluster**
- **CPU**
- **Drive**
- **Hardware**
- **Node**
- **NodeStateReadOnly**
- **NodeStateServiceLight**
- **NodeStateSmartFail**
- **NvRam**

- Partition
- PowerSupplies
- SensorValue
- Supply

2.2.2 Object Configuration Tab



The object configuration tab is the tab in which the individual objects that comprise the integration can be viewed.

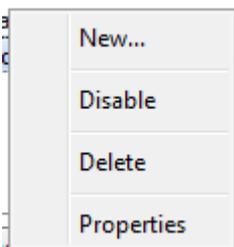
Objects will only be created when the corresponding hardware is present.

Select the Object type dropdown to view all objects that comprise the integration. Select one of the object types from the menu to view only objects of that type in the list area.

2.2.2.1 Object Configuration Buttons

- Add a new object by clicking on New.
- Click edit to change an existing object.
- Click delete to remove an existing object from the CathexisVision configuration.

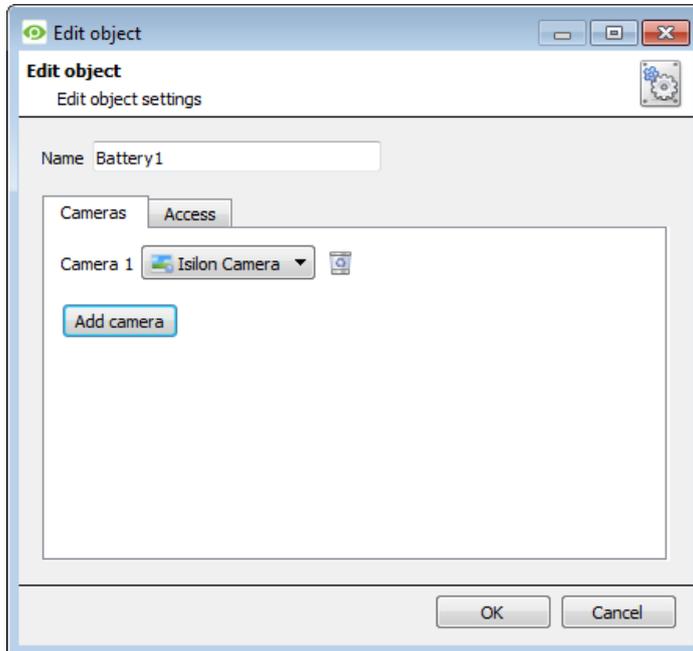
2.2.2.2 Object Configuration Right-click Options



- New** will open up the dialogue to add a new object.
- Disable/Enable** will manually enable/disable individual objects.
- Delete** will permanently remove this object from the list.
- Properties** will open up the object properties. Objects may be edited from here. (Specifically, cameras will be assigned to this object, as well as user access levels 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.



Add camera

Click the Add camera button.

From the dropdown menu, click the desired camera.



To delete a camera, click the trash icon.

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

Properties: Access

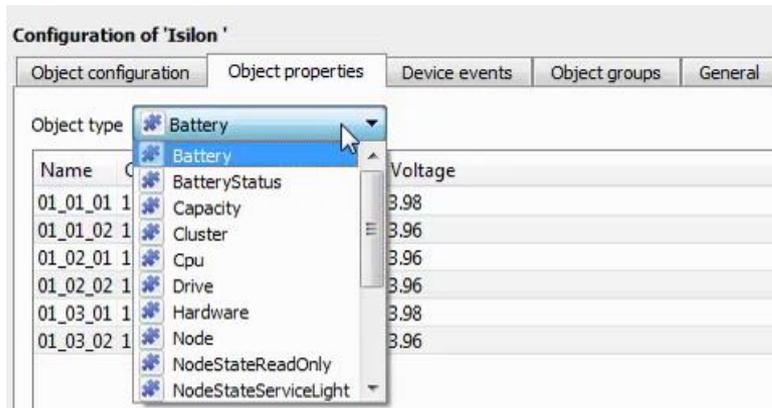


Access protects sensitive objects by ensuring that only certain user access levels can access them.

Under **View**, set the access levels.

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

2.2.3 Objects Properties Tab



The Object properties tab allows objects to be viewed by type. In the case of the Isilon device, objects can be viewed by the object types in the drop-down menu.

Selecting any of these object types will populate the configuration section with the object type properties.

2.2.4 Device Events Tab

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

Event type	Timestamp	ID	Description	Status
Cluster	2017-05-24 15:18:59.360	01	Connected	
Drive	2017-05-24 15:18:59.360	01	01_01	01_01_07 REPLACE
Drive	2017-05-24 15:18:59.360	01	01_01	01_01_12 REPLACE
Drive	2017-05-24 15:18:59.370	01	01_02	01_02_08 REPLACE
Drive	2017-05-24 15:18:59.380	01	01_02	01_02_16 REPLACE
Drive	2017-05-24 15:18:59.390	01	01_03	01_03_31 REPLACE
Supply	2017-05-24 15:18:59.400	01	01_03	ERROR Failed

Filter the device events by selecting the drop-down menu and choosing an event type.

2.2.5 Groups Tab

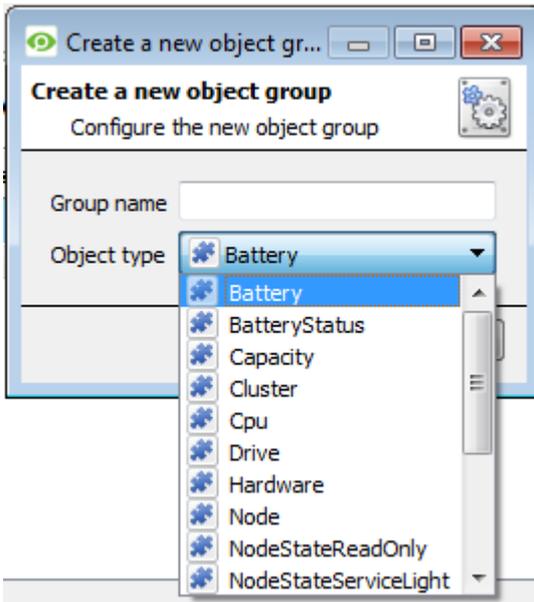


Groups of the same type of object can be created.

This is useful when setting up Events, because events can be triggered by an object group.

E.G. A group will trigger, if any of the devices in that group are triggered.

2.2.5.1 Create a Group



To create/edit a group click on / .

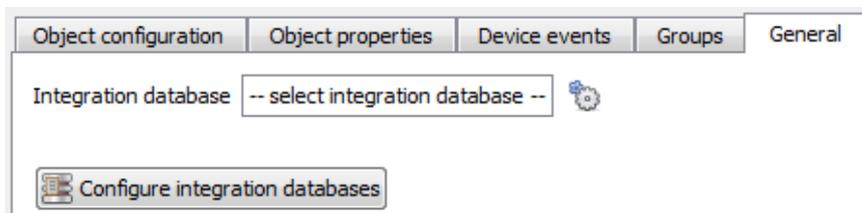
Note: Once a group has been created, the object type of the group may not be changed.

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

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

A list of Available Objects will appear. To add/remove, select the object/s (multiple may be selected), and click on / .

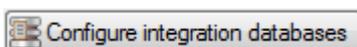
2.2.6 General Tab



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

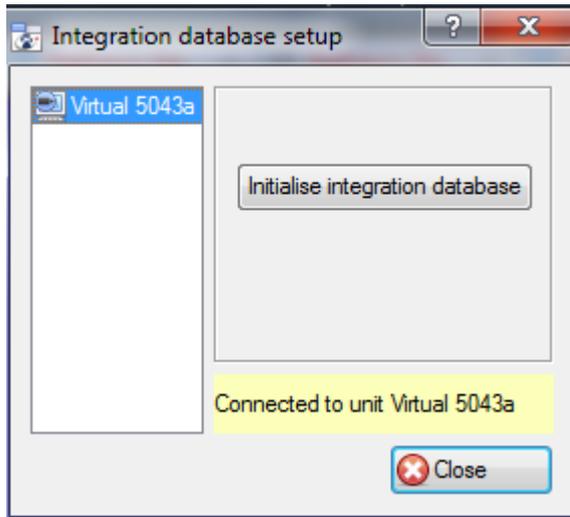
Important Note: Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathesisVision system.

2.2.6.1 Configure a New Database



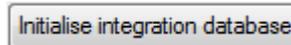
If there is no database created yet, click on this button to set up the integration database.

Initialise the Integration Database



The first time an integration database is added, this feature needs to be initiated 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 the database will be added from the list on the left.



Then click the initialise database button.



Choose a partition on which the database will be formed.

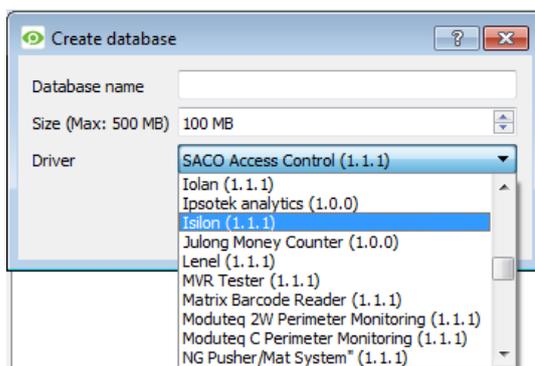
Select how much space it will take up.

Add a New Devices Database

After initialisation, add the database for the current integration.



Click the New button at the bottom of the Create database window.



Give the Integration database a descriptive **Database Name**.

Allocate a **Size** to the new device database. The max is 500MB.

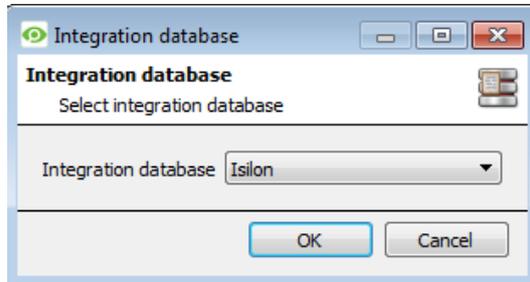
Choose the **Isilon**.

Click **OK** to create the database.

Once created, close the **Integration Database Setup** window.

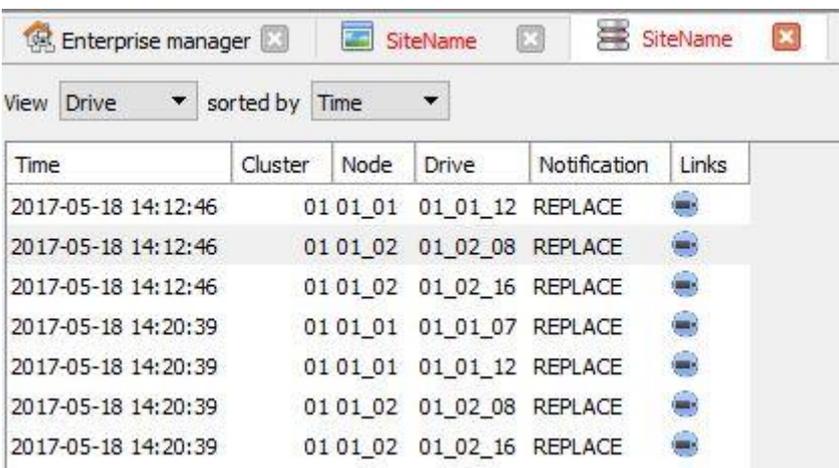
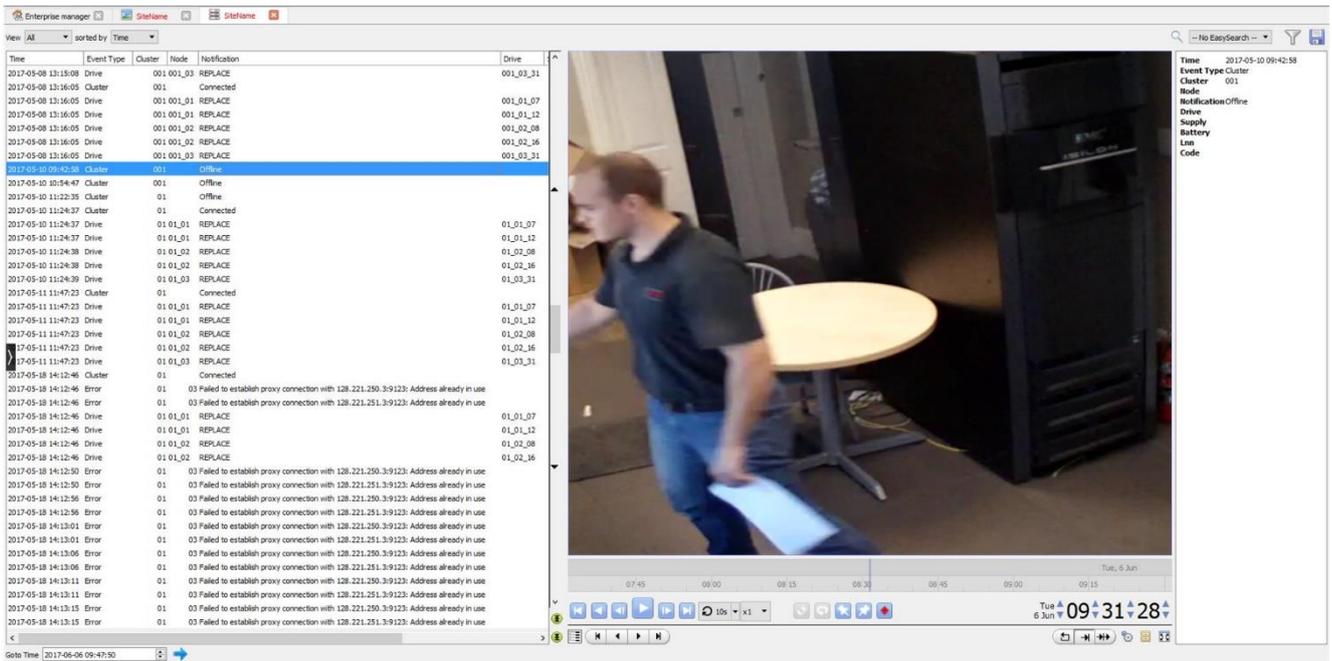
2.2.6.1 Select the Integration Database

- Once a database has been created, the user may select it by clicking on the settings icon, and selecting it from the drop-down menu in the dialogue that appears.



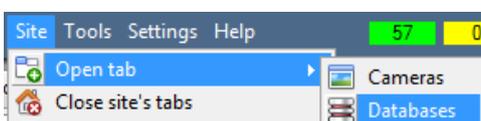
3. Database

The database tab will allow the user 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 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



The information stored in the Integration database may be viewed by following this path.

Site → Open tab → Databases

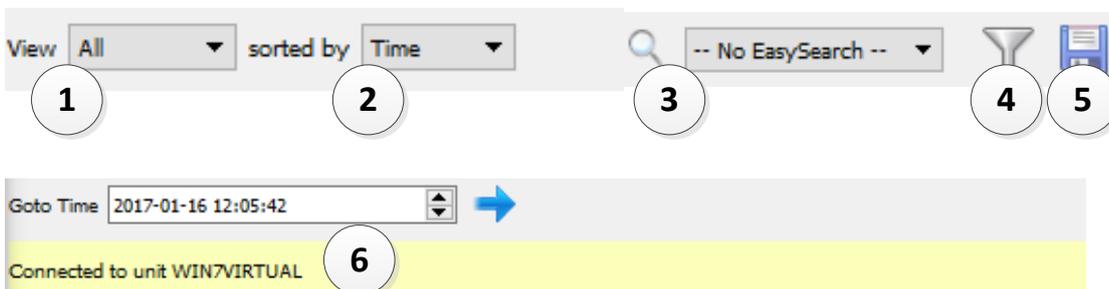


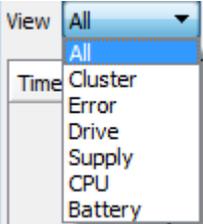
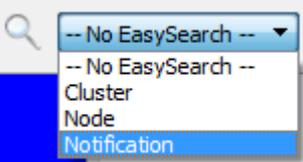
From 2016.2 onwards, when the database tab opens, the relevant integration database must be selected from the database panel that opens on the left-hand side. The databases are ordered under the NVRs to which they are attached.

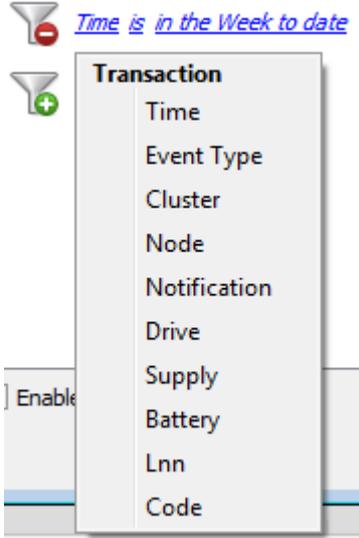
To open and close this list click on the arrow in the centre of the list:



3.2 Database Interface



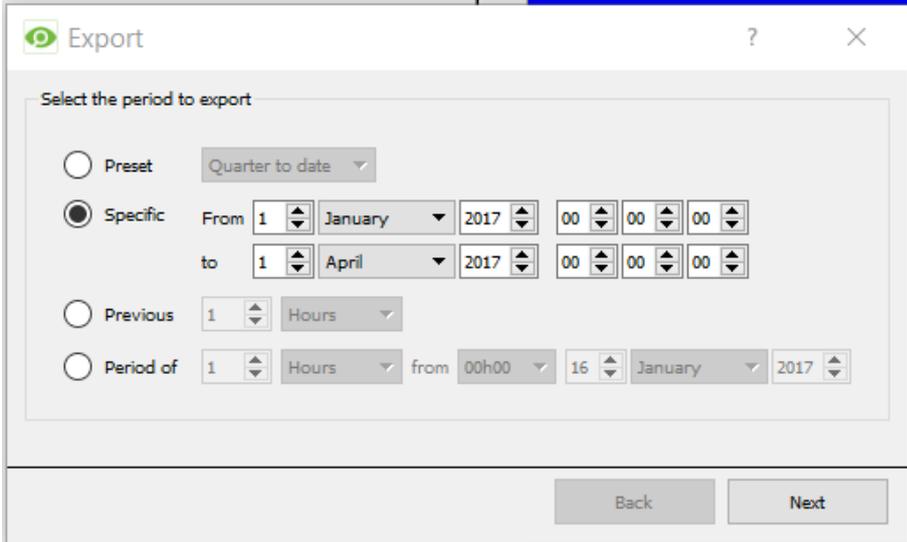
<p>① View</p>	<p>The user may change the way that the database is presented. Some integration databases have multiple view options. The Isilon database may be viewed by:</p> 
<p>② Sorted By</p>	<p>Events can only be sorted by certain parameters.</p>
<p>③ Easy Search</p>	<p>The easy search option lets the user quickly search the database:</p> 
<p>④ Filter </p>	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Once the filters dialogue is open, the following filter options are available:</p> <ol style="list-style-type: none"> To enable filters check this box: <input checked="" type="checkbox"/> Enable filters To add a new filter click on . To delete an added filter click on . <p>It is possible to filter the same parameters more than once.</p>

	<p>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> <p>The filter options in this integration are:</p>  <p>Note:</p> <ol style="list-style-type: none"> Multiple filters may be run simultaneously. The filter icon will change to when filters are active.
<p>⑤ Export</p>	<p>Generate meta-database reports in PDF or CSV format. See below.</p>
<p>⑥ Go to Time</p>	<p>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.</p>

3.2.1 Generate Meta-Database Reports

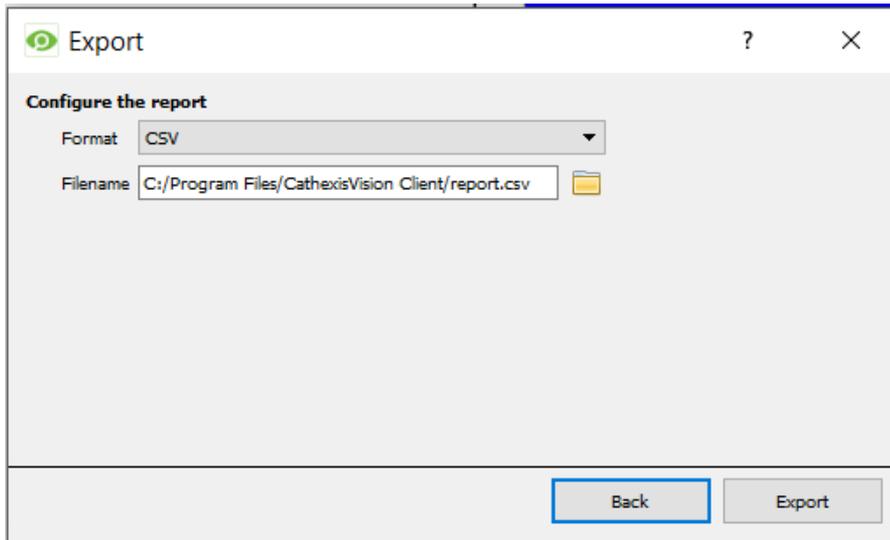


Click the save icon to open the Export window.



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

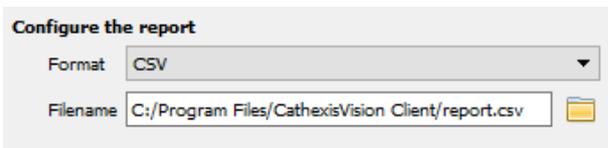
Click **Next**.



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

See below for the two options.

3.2.1.1 Export CSV



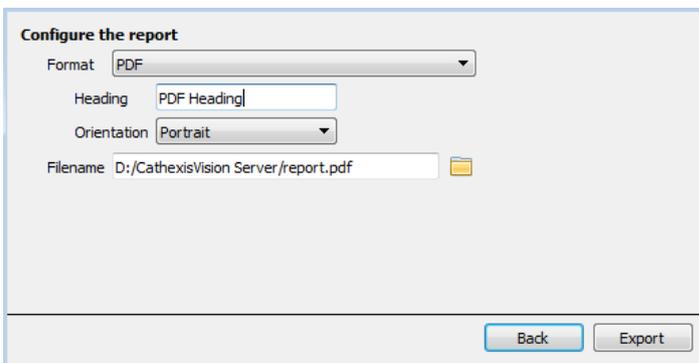
Select CSV **Format**.

Edit the **Filename** by either entering it straight into text field (replacing **report.csv**),



Or, click the folder icon 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**).



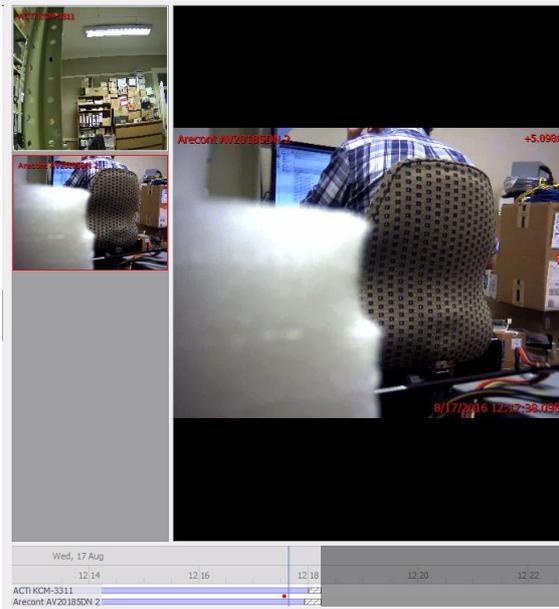
Or, click the folder icon to choose a new save folder and filename.

3.2.2 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.

3.2.2.1 Reviewing Multiple Cameras

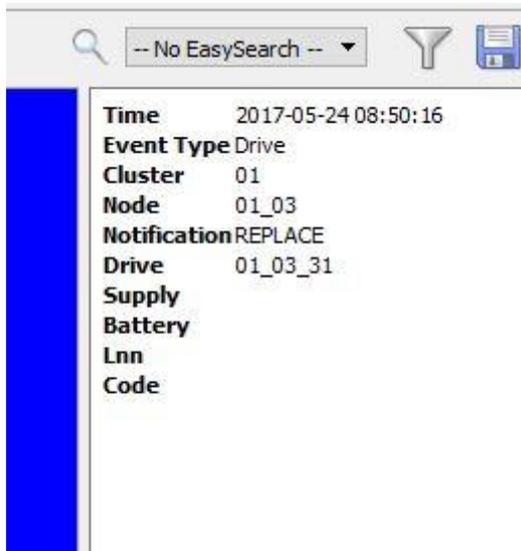


If multiple cameras were added to the recorded object during the integration setup, these are displayed on the left of the video player screen as thumbnails.

Select a camera thumbnail to review it.

3.2.2.2 Device Event Metadata

When an integration database entry is selected, its event information will be displayed on the right of the video player.



4. Events

A CathesisVision Event has a trigger, which causes an action. Integrated devices can be set to act at triggers, or as actions. This document will detail the Isilon specific aspects of Events. There is a comprehensive guide to CathesisVision Events in the main setup manual. For more information, please consult it.

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* for being used as an event trigger, or action.

4.1 Event Window

Events in CathesisVision are setup via the Event Window. This has four tabs:

1. In the **General Tab**, an event is given a name, description, schedule and priority.
2. In the **Triggers Tab**, the trigger/s for the event is defined.
3. In the **Actions Tab**, the action/s which the event takes is/are defined.
4. In the **Resources Tab**, the various site resources which can be used as part of an event are defined.

New Event

New event



General
Triggers
Actions
Resources

Name

Description ?

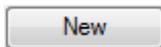
Schedule Always ▼ ✖ ✎

Priority ! Low ▼

OK
Cancel

4.2 Creating an Event

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



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

4.2.1 While/When and Any/All

When triggering on an object the user will have the option 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 start an event.

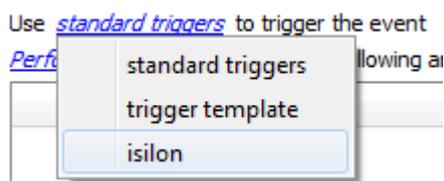
Use [isilon](#) to trigger the event
Trigger using [any device event](#)

To change these settings, click on the blue hyperlinks.

4.3 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).

4.3.1 Set the Device as the Trigger

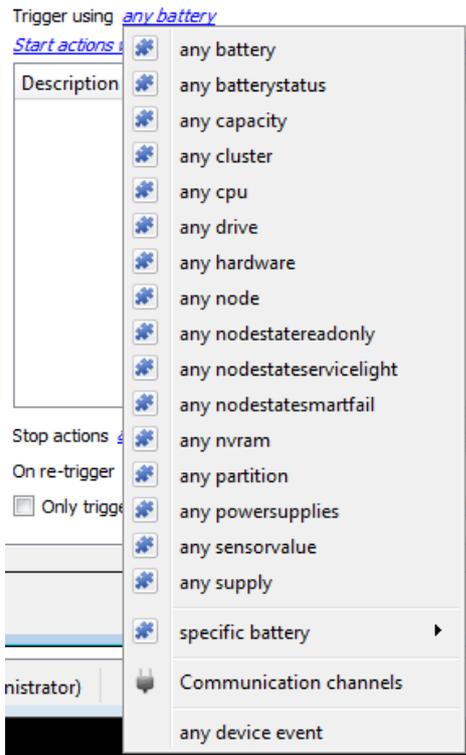


If creating a new event, the trigger type will default to: Use [standard triggers](#).

To define which device will trigger the event, click on the hyperlink after the word "Use". To set it as the Isilon device, click on the hyperlink, and select the relevant device name from the dropdown menu.

4.3.1.1 Trigger Types (Trigger Using)

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



Any ... will trigger when on an event from *any* of these objects.

Specific ... will only trigger on an event from a specific object.

Specific group... If an object group has been set up it will appear in this list. This event will trigger if any objects in the selected group trigger.

Communication channels will trigger only on the Communication channels.

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

Note for group triggers: For events to be databased under the name of a specific object, and not the name of the triggering group, the Description field in the **General tab of the Event setup** needs to be modified.

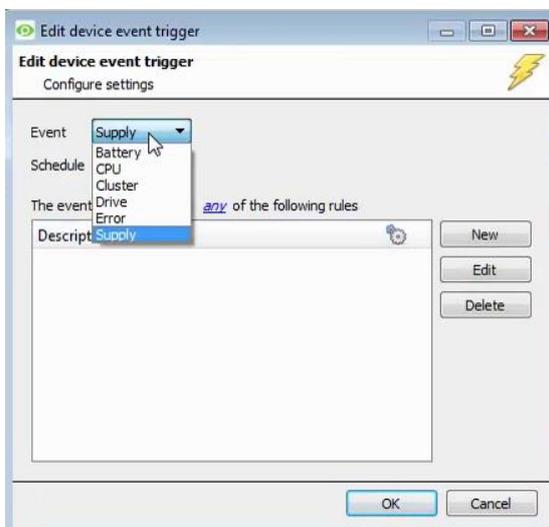
Click the question mark icon to see a list of available descriptions.

4.3.2.2 Define the Trigger

After selecting a master trigger type, add a trigger to the event.



Click the New button in the Triggers tab. This will bring up the dialogue box below, for the various trigger types:

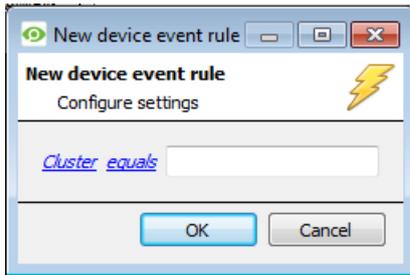


For example, within the [any device event](#) option, choose what type of device Event will be the trigger. Choose an event type from the drop-down menu.

Note: Multiple constraints (**Device Event Triggers**) may be set. If a constraint is not defined, 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) to display the rules options.

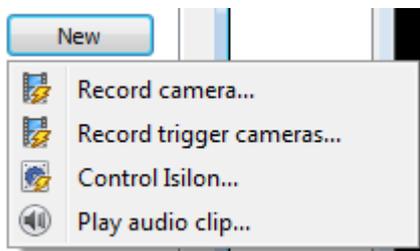
Note: When all available options are known to CathesisVision a drop-down menu will be available. When these variables are not pre-defined they will need to be filled in manually. The information pulled through to the events is information sent to CathesisVision from the Isilon device, see the Isilon settings for the strings needed here.

4.4 Actions

Once the triggers that are going to initiate the event have been defined, the user will need to define some Actions in the **Actions tab** of the **New Event** window.



To set an action for an event trigger, click the New button and select an action from the available options:



For more information on event actions, please consult the CathesisVision Main Setup Manual.

4.4.1 Control device

It is **not** possible to control the Isilon device.

5. Conclusion

This app-note was designed to deal specifically with this integration. For further information about the CathesisVision software please consult the main manual (<http://cathesisvideo.com/>).

For support please contact support@cat.co.za.

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>