

Ganz Control



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## **Ganz Control**

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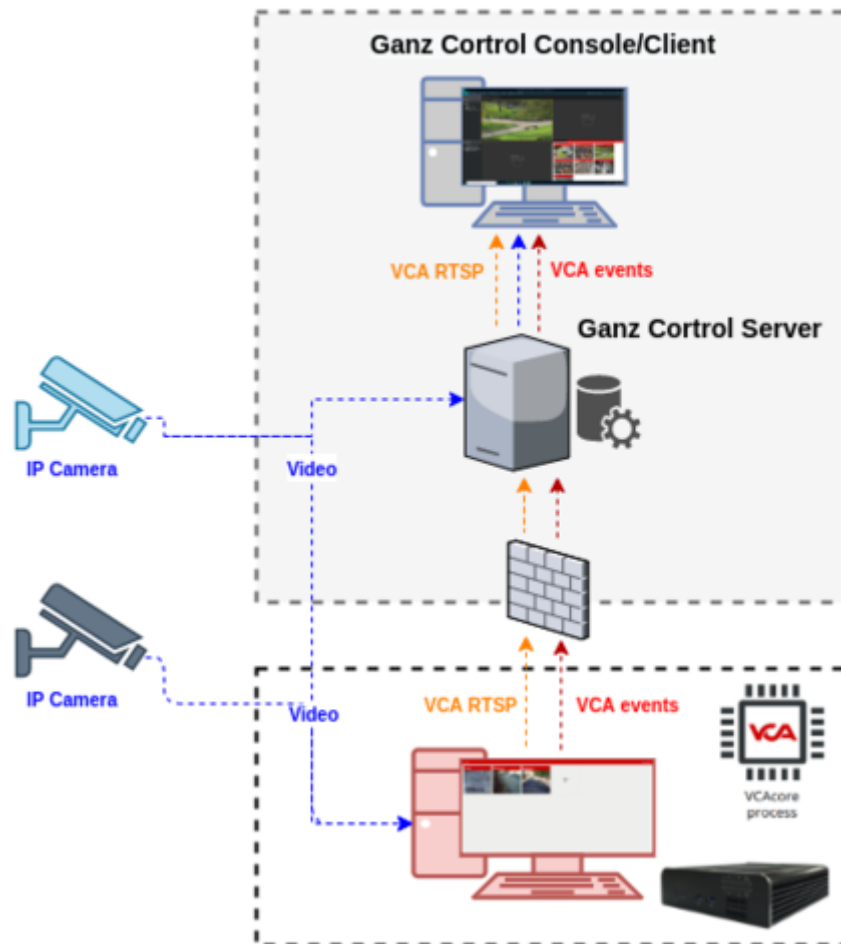
## Prerequisites

- A VCA device such as bridge or server.
- Ganz Control Premier (Console, Client and Server) version 1.15 or greater.

## Supported features

- Web UI integration: TCP events with metadata available via tokens.
- VCA RTSP stream configured in Ganz Control.
- VCA Web UI displayed on the Client.

## Architecture



# VCA Configuration

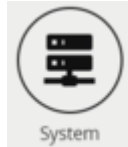
## Confirming the RTSP port used for transmitting video footage

Check, and change if required, the RTSP port used by VCA for external connections to the channels within the VCA service.

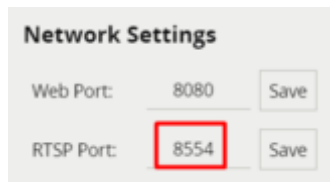
1. From the main screen, select the **system cog** in the top right.



Select **System** from the available menu items.



*Note: The RTSP port detailed under Network settings. This is the port VCA will use to send rtsp streams of its channels. The syntax for connecting to these channels is: `rtsp://<device_ip>:<RTSP_port>/channels/<channel_id>`. Example: `rtsp://192.168.1.10:8554/channels/27`*



## Creating a Channel

Configure the VCA application as required with the appropriate channel and logical rules. A basic setup is detailed below as an example:

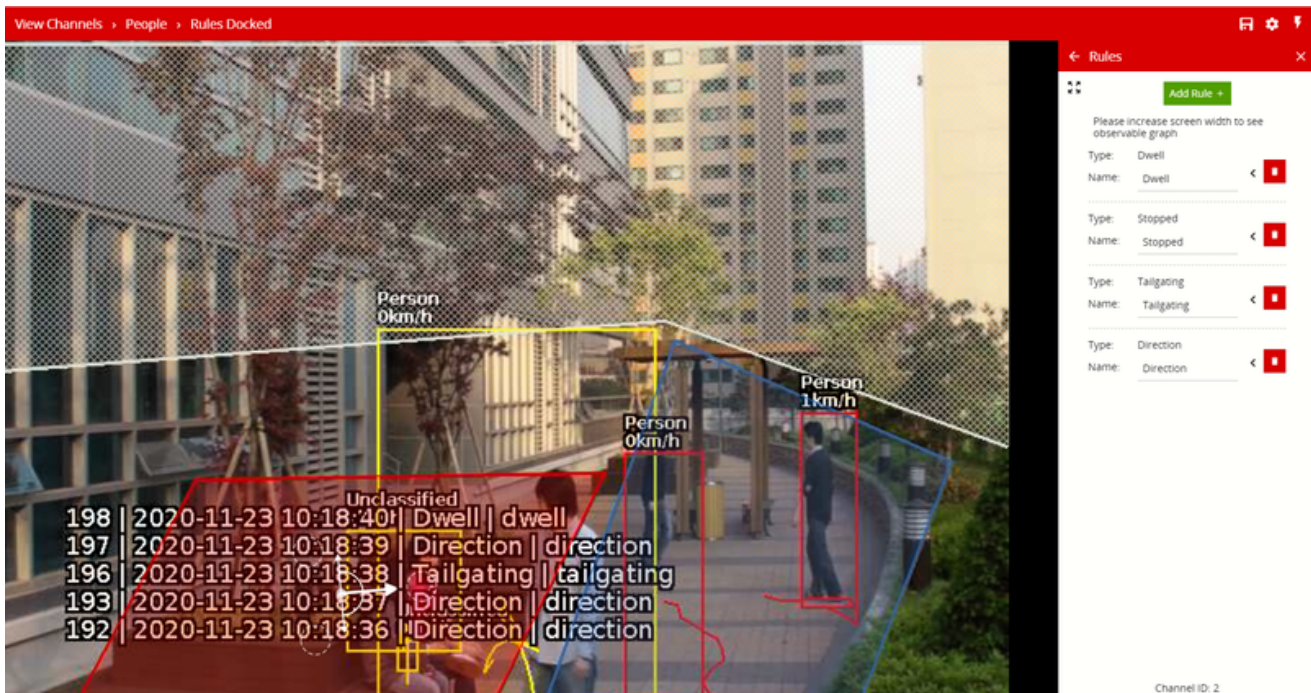
1. Configure a **zone** to connect to a camera.

*Note: the recommended settings for the camera stream to VCA is a maximum resolution of D1 (704 x 480) with a frame rate of 15 frames per second. A lower resolution and frame rate will reduce the analytic accuracy, a higher resolution and frame rate will result in high CPU usage and can reduce analytical accuracy.*

2. Configure a **zone** for the channel.
3. Create a **presence rule** to trigger an event on object detection in the zone.
4. Note the **Channel ID** as this will be needed when connecting to the RTSP stream from the Ganz Server.

For more information on creating and configuring channels in VCA please refer to the `vca-core-manual-1.4.0r1`.

*Note: You will need to note the channel ID number, it is used when attempting to connect to the RTSP stream from VCA. It can be located at the bottom of the channels menu.*



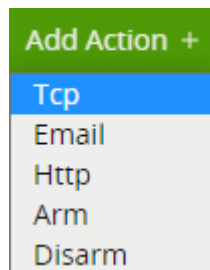
## Creating an Action

1. Select the system **cog icon** in the top right to access Settings.



2. Select **Edit Actions**.

3. Select **Add Action** and select **TCP** from the list of available actions.



4. Enter a descriptive name for the action.

5. Select the arrow on the right of the action to expand the TCP configuration options.

- **URI:** Enter the IP address of the Ganz Control Server.
- **Port:** Enter the TCP port configured in Ganz Control Server.
- **Body:** Select Custom from the drop-down menu. Add tokens as needed.
- **Sources:** Click **Add Source +** to display a list of the available Sources and logical rules and select the logical rule created for the source you want to send to the Ganz Control server.

6. Click **Test** to send a test TCP notification.

Type:  Name:

URI:

Port:

Body:

```

Event:
Start Time: {{start.iso8601}}
ID: {{id}}
Name: {{name}}
Source: {{host}} - IP: {{ip}}
Channel: {{#Channel}}{{id}}{/Channel}}
Object: {{#Object}}{{#Classification}}{{value}}{/Classification}}{/Object}} - DETECTED
Speed: {{#Object}}{{#Speed}}{{value}}{/Speed}}{/Object}}
Zone: {{#Zone}}{{name}}{/Zone}}

```

Line endings:

Select a token to add it to the template string

Always Trigger:

Sources:

For this integration, the following tokens were used to send an information on the camera, zone and rule type that triggered the event:

```

Event:
Start Time: {{start.iso8601}}
ID: {{id}}
Name: {{name}}
Source: {{host}} - IP: {{ip}}
Channel: {{#Channel}}{{id}}{/Channel}}
Object: {{#Object}}{{#Classification}}{{value}}{/Classification}}{/Object}} - DETECTED
Speed: {{#Object}}{{#Speed}}{{value}}{/Speed}}{/Object}}
Zone: {{#Zone}}{{name}}{/Zone}}
End Time: {{end.iso8601}}
End

```

Where:

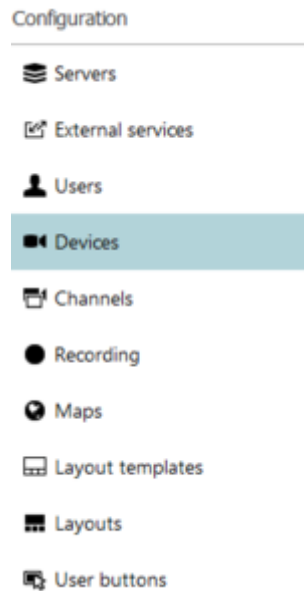
- **Event:** This represents the beginning of an event and is used to define the Data Source format in the Ganz Control server.
- **End:** This represents the end of an event and is used to define the Data Source format in the Ganz Control server.
- `{{start.iso8601}}`: The start time of the event.
- `{{id}}`: The id of the event.
- `{{name}}`: The name of the event.
- `{{host}}`: The host name of the stream.
- `{{ip}}`: The IP address of the server.
- `{{#Channel}}{{id}}{/Channel}}`: The id of the channel that the event occurred on.
- `{{#Object}}`: An array of objects that triggered the event.
  - `{{#Classification}}{{value}}`: The classification of the object.
  - `{{#Speed}}{{value}}`: The estimated speed of the object.
- `{{#Zone}}`: An array if the zone associated with the event.
  - `{{name}}`: Name of the zone.
- `{{end.iso8601}}`: The end time of the event.

# Ganz Control Console Configuration

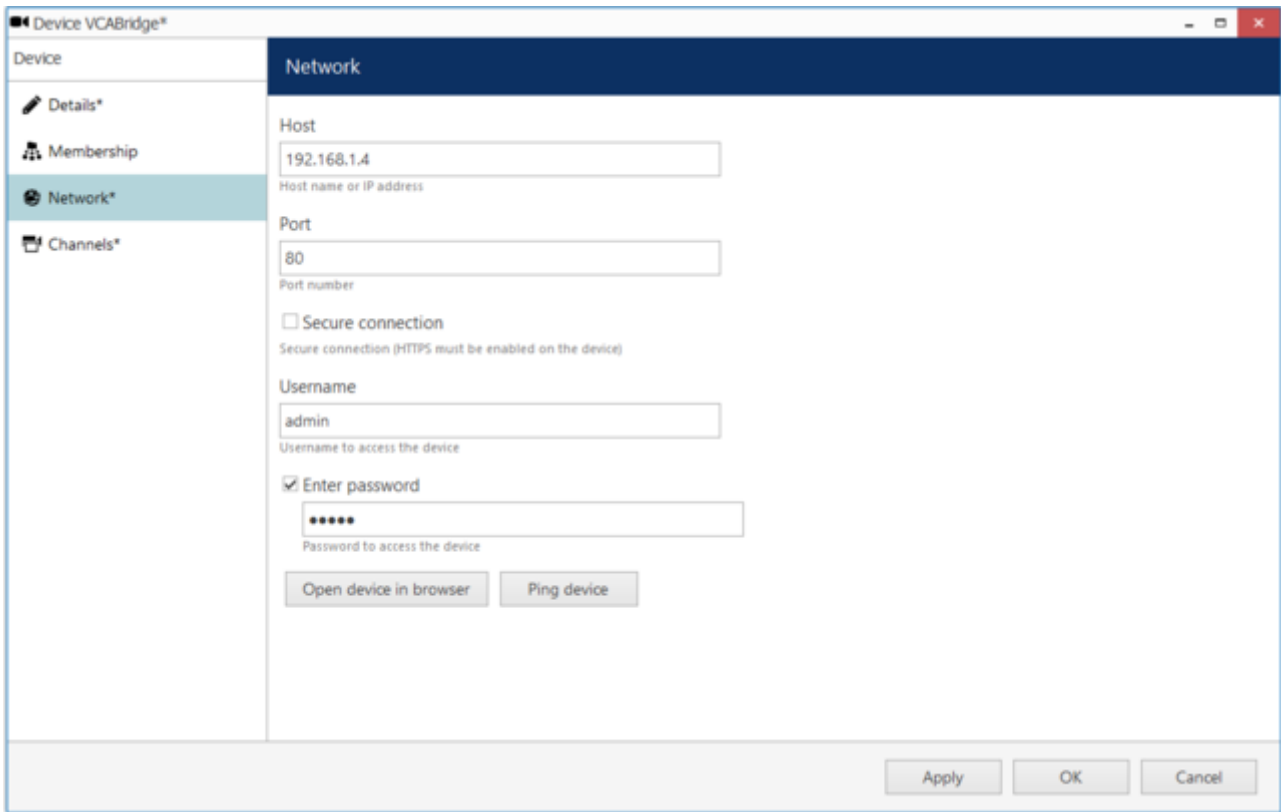
## *Configuring Device*

Go to the Configuration main page.

1. In the Panel on the left, select **Devices**.

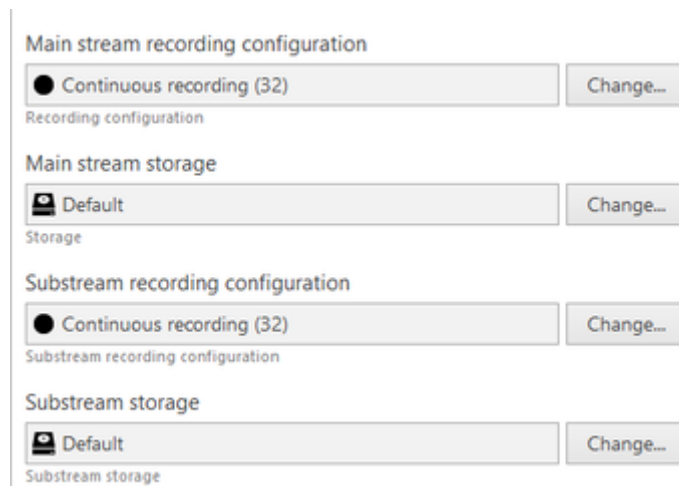


2. Select **New Device** located top.
3. Click on **Select Model** and select *RTSP Compatible* from the list.
4. Define a title for the device (for example VCAcore 1.4).
5. Go to the **Network** tab and complete the information as follows:
  - **Host:** Enter the IP address of the VCA device.
  - **Port:** Enter the web port configured to access the VCA device.
  - **Username:** The username for the VCA device.
  - **Password:** The password for the VCA device.
6. Click **Apply**.
7. Click **OK** to finish creating the new device.



## Configuring the Channel

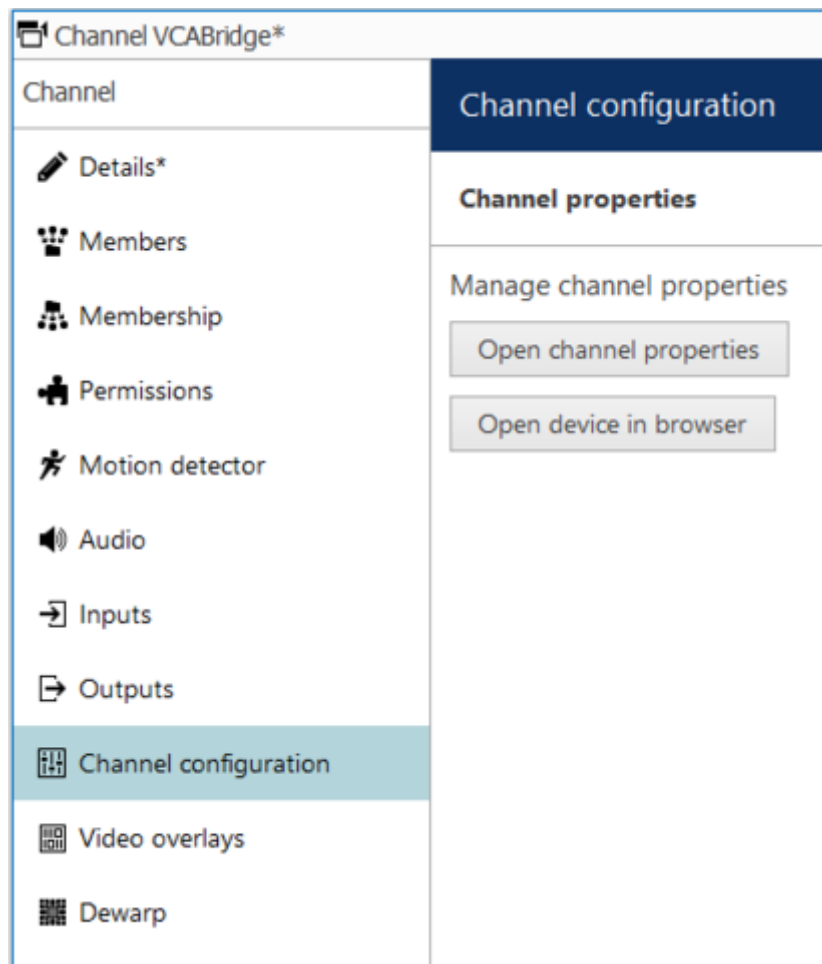
1. In the Panel on the left, click on the **Channels** tab.
2. Select the newly created channel and click **Edit** located top.
3. ON the **Details** tab configure the recording of the device as follows:
  - **Main stream recording configuration:** click *Change* and select *continuous recording* and click **OK**.
  - **Substream recording configuration:** click *Change* and select *continuous recording* and click **OK**.



## Configuring VCA RTSP Stream

1. On the **Channel** screen, switch to the **Channel configuration** tab and click on **Open channel properties**.



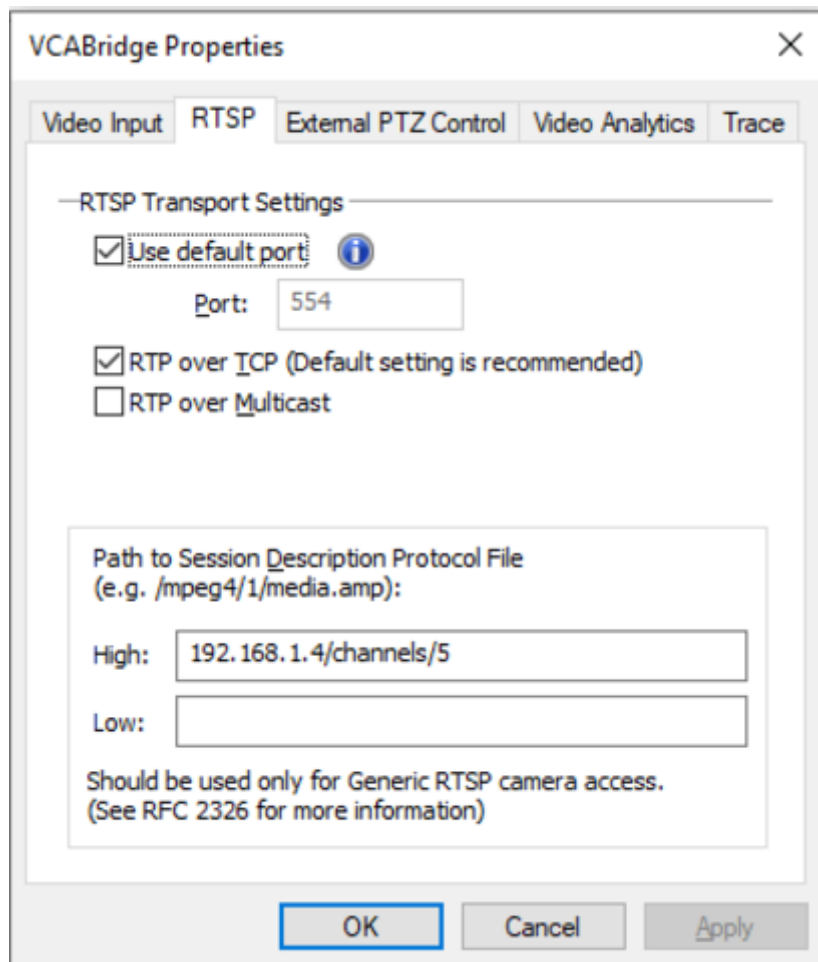


2. On the pop-up screen, go to the **RTSP** tab and complete the information as follows:

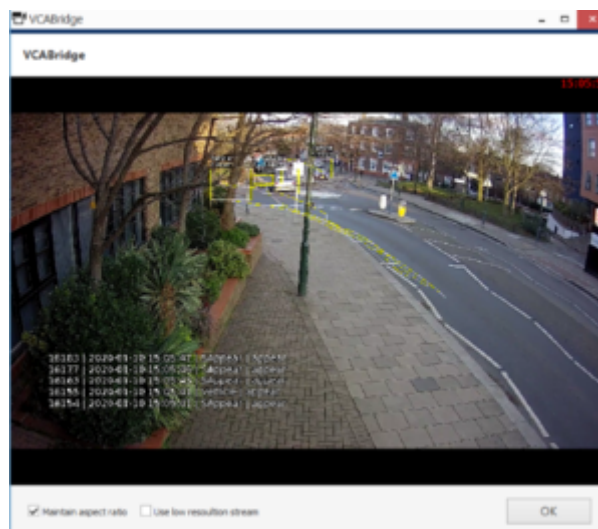
- **Confirm RTSP Port:** 8554 (override if required).
- Select RTP over TCP (default settings is recommended).
- **Path to Session Description Protocol File, High:** Enter the path for the VCA channel. Default format: /channels/<channel id>.

3. Click **Apply** to save all settings.

4. Click **OK** to close all windows.



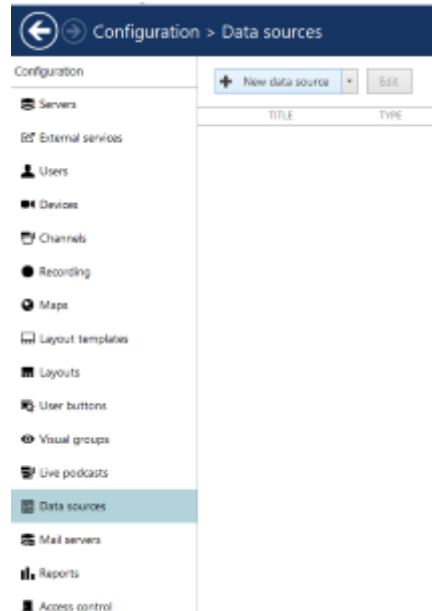
Note: To confirm the VCA channel is configured correctly you can show a live stream. From the Channels tab, select the newly created device, and click Show Video located top.



## Configuring Data Source

To send events from the VCA device, a data source will need to be created. Data is stored and displayed embedded with the video stream from the channel(s) you choose to associate with it. In the Panel on the left, click **Data Source**.

1. Then, select **New data source** located top.



2. On the pop-up screen, complete the information as follows:
  - **Data source title:** Enter the name of the data source (VCacore 1.4 Data Source).
  - **Server:** Click on *Change* and choose the *Ganz Cortrol Server*.
  - **Data source profile:** Leave none (it will be created later).
  - **Data source type:** In the drop-down menu select TCP.
  - **Mode:** Select the Server (the program will be listening to the specified port).
  - **Port:** Enter the TCP port configured within the VCA action.
3. Click **OK** to close the window.

Data source DS\_VCABridge\*

Data source

Details\*

Details

Title

DS\_VCABridge

Data source title

Server

GanzVMSServer

Change...

Server

Data source profile

none

Change...

Data source profile

Data source type

Tcp

Data source type

Mode

Client

The program will connect to specified adress and port.

Server

The program will listen on the specified port.

Port

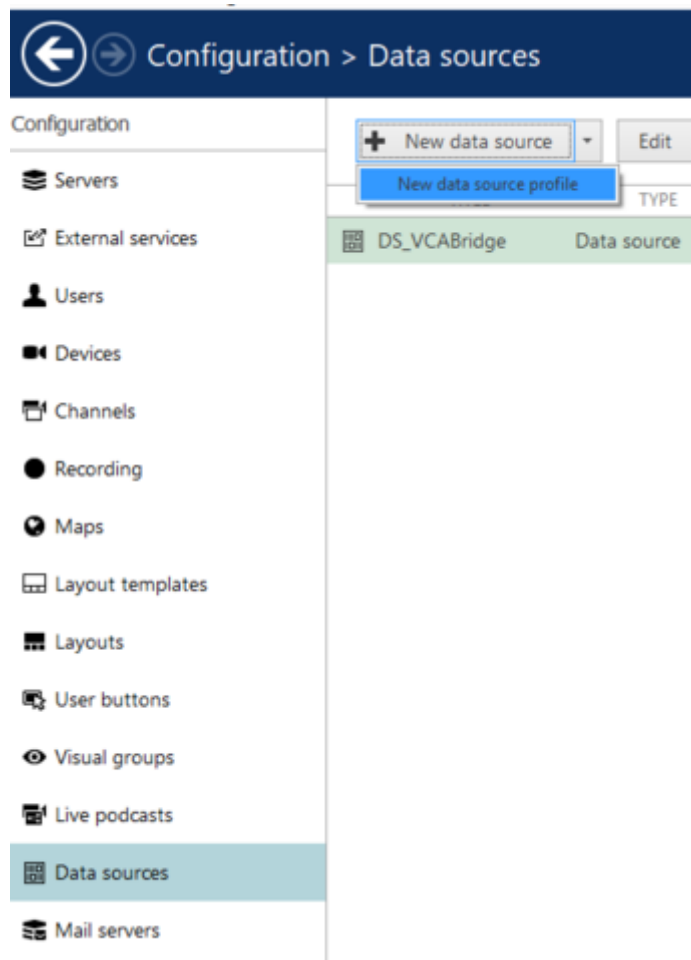
9090

TCP port

*Note: Make sure any active firewalls are configured to allow traffic using the port detailed above.*

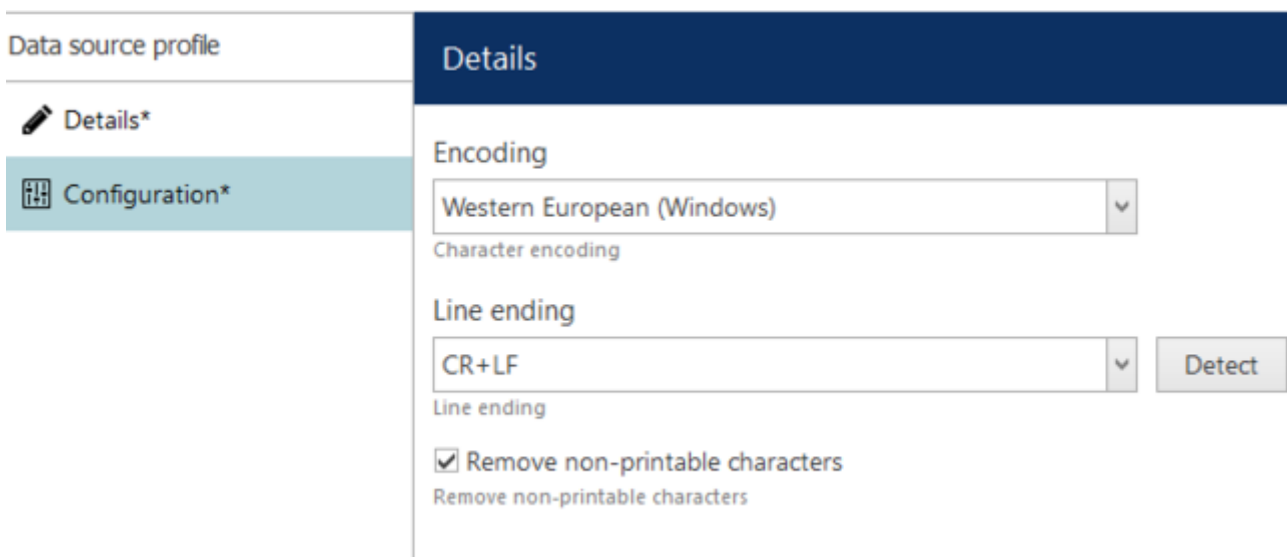
## Configuring Data Source Profile

1. In the Panel on the left, select **Data Sources** and click the + **New data source profile** button located top.



2. In the **Details** tab, enter a custom name (VCAcore 1.4 DS Profile) for your data source profile. Then, click **Configuration**.

- **Encoding:** select Western European Windows.
- **Line Ending:** in the drop-down options select CR + FL.
- **Remove non-printable characters:** leave it checked.

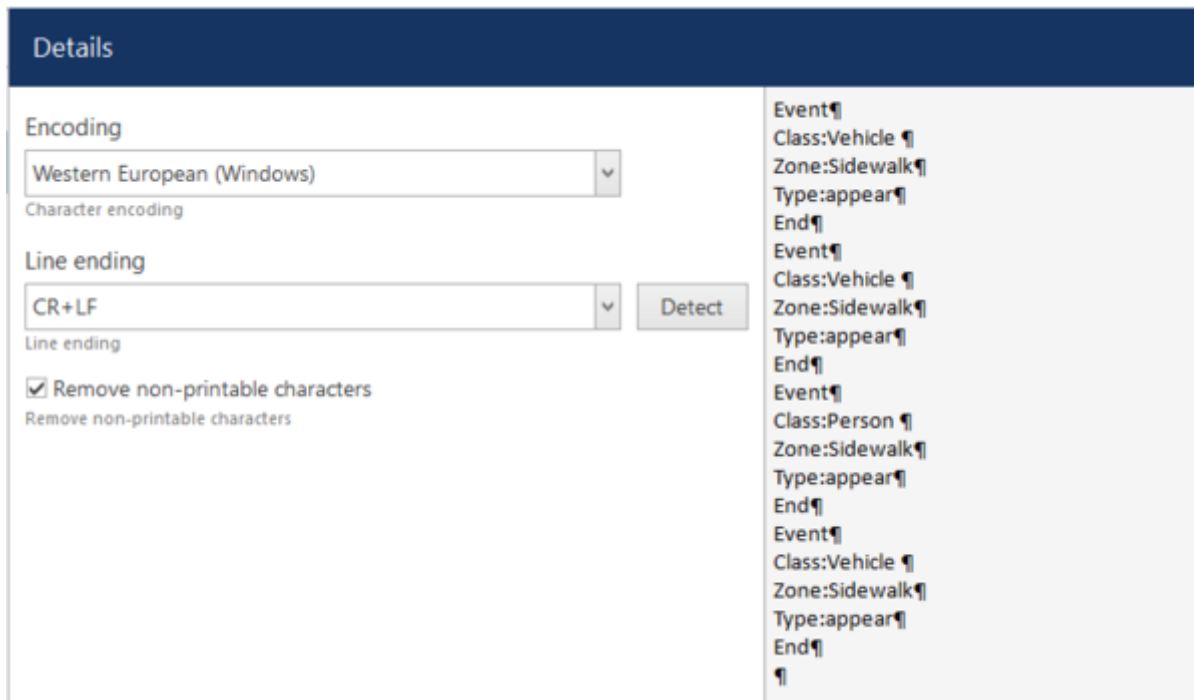


### Defining Data Source Profile Format

1. Click **load from data source...** (located top right).
2. Select the *Data Source* created previously.
3. Click **OK**.

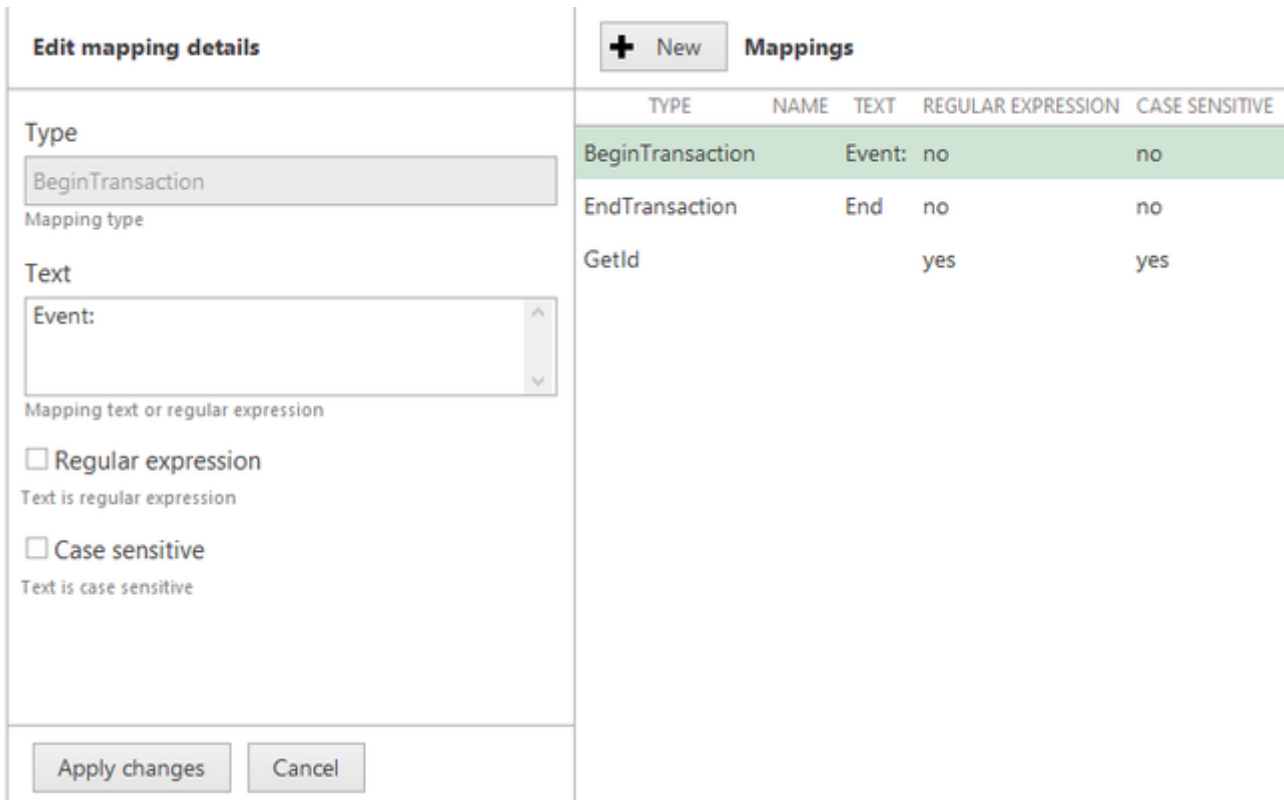
*Note: Make sure that the VCA device is sending events to the Ganz Server so that it can be viewed.*

Events are displayed in the trace window, click *Stop* to stop receiving events. If no events are being received then review the device configuration and ensure that your VCA device is producing events.



Now you need to define the *beginning* and the *end* of an event from the data being received.

1. Locate the text that identifies the beginning of an event (in this case it is the word *Event*:).
2. Click on the **BeginTransaction** entry in the **Mappings** section, this will show the settings for *BeginTransaction* on the left.
  - Enter the word *Event* into the text field.
  - Uncheck **Regular expression** and **Case sensitive**.
  - Click **Apply** changes.



3. Locate the text that identifies the end of an event (in this case it is the word *End*).
4. Click on the **EndTransaction** entry in the **Mappings** section, this will show the settings for *EndTransaction* on the left.

- Enter the word *End* into the text field.
- Uncheck **Regular expression** and **Case sensitive**.
- Click **Apply** changes.

Edit mapping details	<input type="button" value="+ New"/> <b>Mappings</b>				
<b>Type</b> <input type="text" value="EndTransaction"/> Mapping type	TYPE	NAME	TEXT	REGULAR EXPRESSION	CASE SENSITIVE
<b>Text</b> <input type="text" value="End"/> Mapping text or regular expression	BeginTransaction		Event:	no	no
<input type="checkbox"/> <b>Regular expression</b> Text is regular expression	EndTransaction		End	no	no
<input type="checkbox"/> <b>Case sensitive</b> Text is case sensitive	GetId			yes	yes
<input type="button" value="Apply changes"/> <input type="button" value="Cancel"/>					

Click *Test* to verify the transaction format, if this fails then check the settings against the steps outlined above and try again. Click **OK** to close the window and save the configuration.

### Linking the Data Source Profile to the Data Source

1. In the *Data Source* configuration screen, select the data source created before and click **Edit** located top.

Configuration

- Servers
- External services
- Users
- Devices
- Channels
- Recording
- Maps
- Layout templates
- Layouts
- User buttons
- Visual groups
- Live podcasts
- Data sources**
- Mail servers
- Reports
- Access control

+ New data source
Edit
Disable
🗑️
✖️ 1 selected

TITLE	TYPE	SERVER	DATA SOURCE PROFILE
DS_VCABridge	Data source	GanzVMSServer	none
DSProfile_VCABridge	Data source profile		

2. Click **Change** next to the Data source profile. Then, select the new Data Source Profile and click **OK** to confirm.
3. Click **OK** to save the settings.

Select data source profile

Search

**Available data source profiles**

Title	Type
none	
DSProfile_VCABridge	Data source profile

OK
Cancel

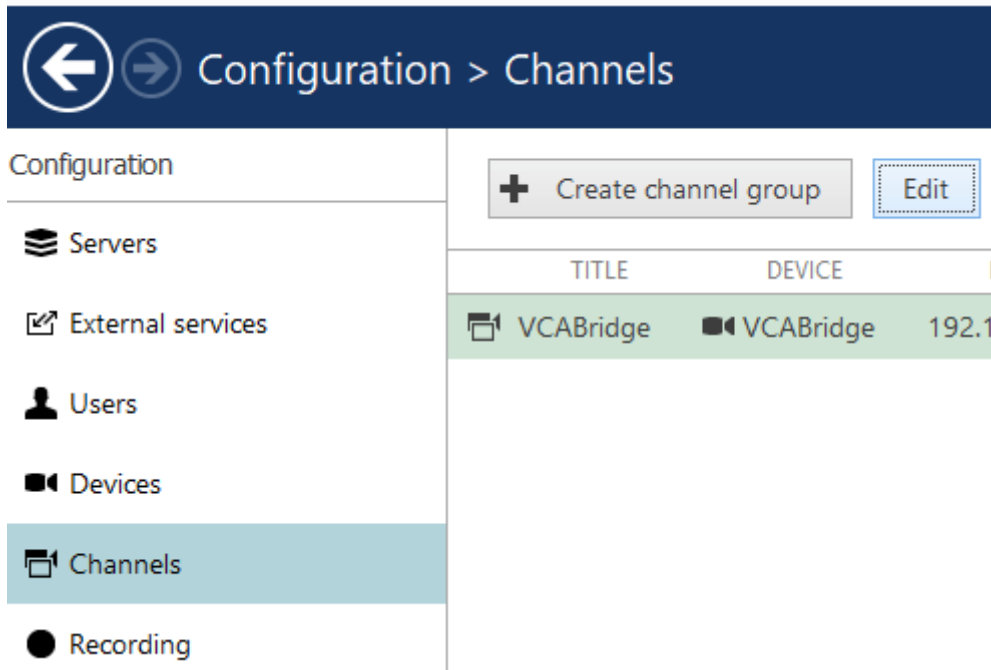


To confirm the data source settings, select *Test* to start receiving events using the data source profile.

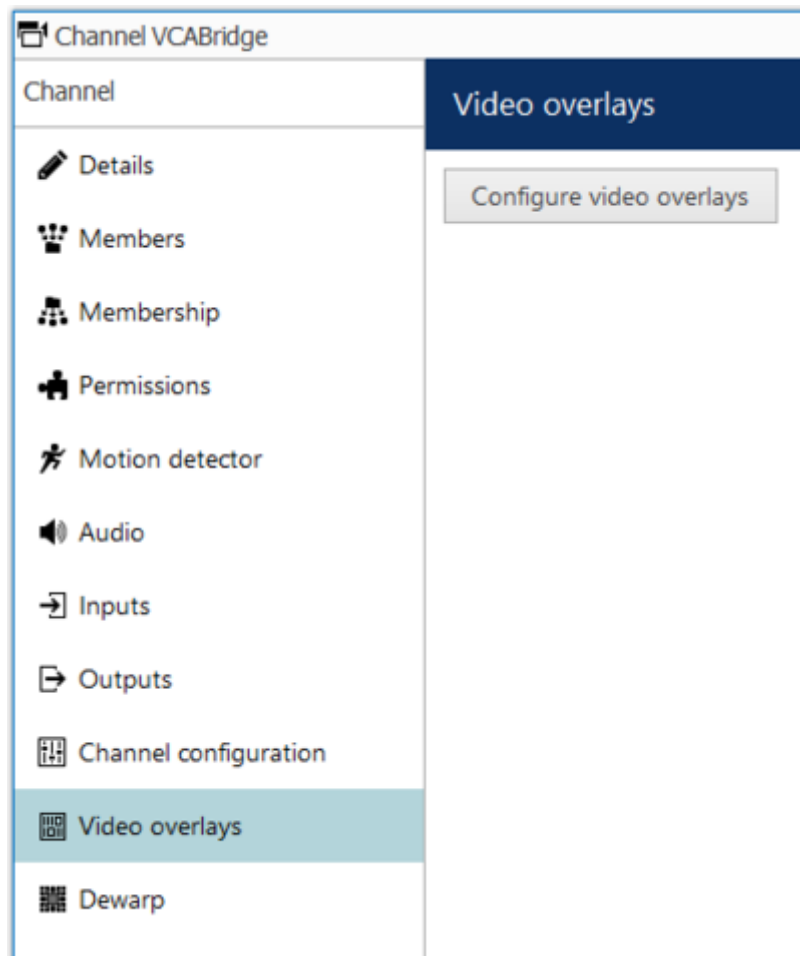
## Linking Data Source to Channels

The Data source must now be attached to the Channel to link the event messages coming into the server to the video channel.

1. Go to the **Channels** configuration screen, then select the newly created channel and click **Edit** located top right.

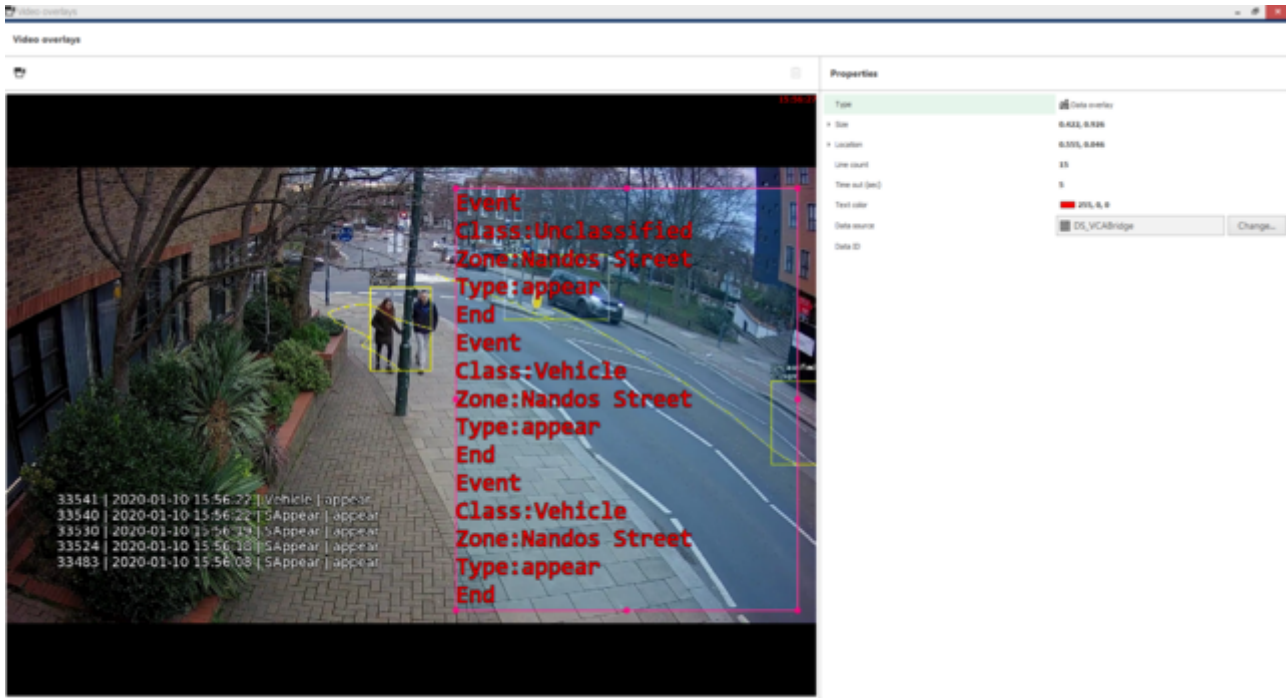


2. Select the **Video overlays** tab. Then, click on **Configure video overlays**.



3. Click **Change** next to the data source option.
4. On the new screen, select the Data source. Then, click **OK** to confirm and close the window.

The events will appear within the pink box shown on the right side of the video.



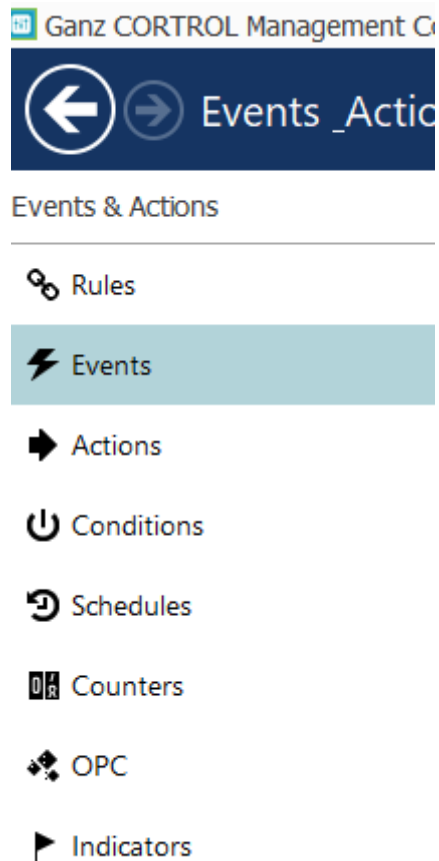
On this screen, you can configure the colour, type, and size of the text that will reflect the events on the video as overlays.

6. Click **OK** to close the *Video overlays* window.

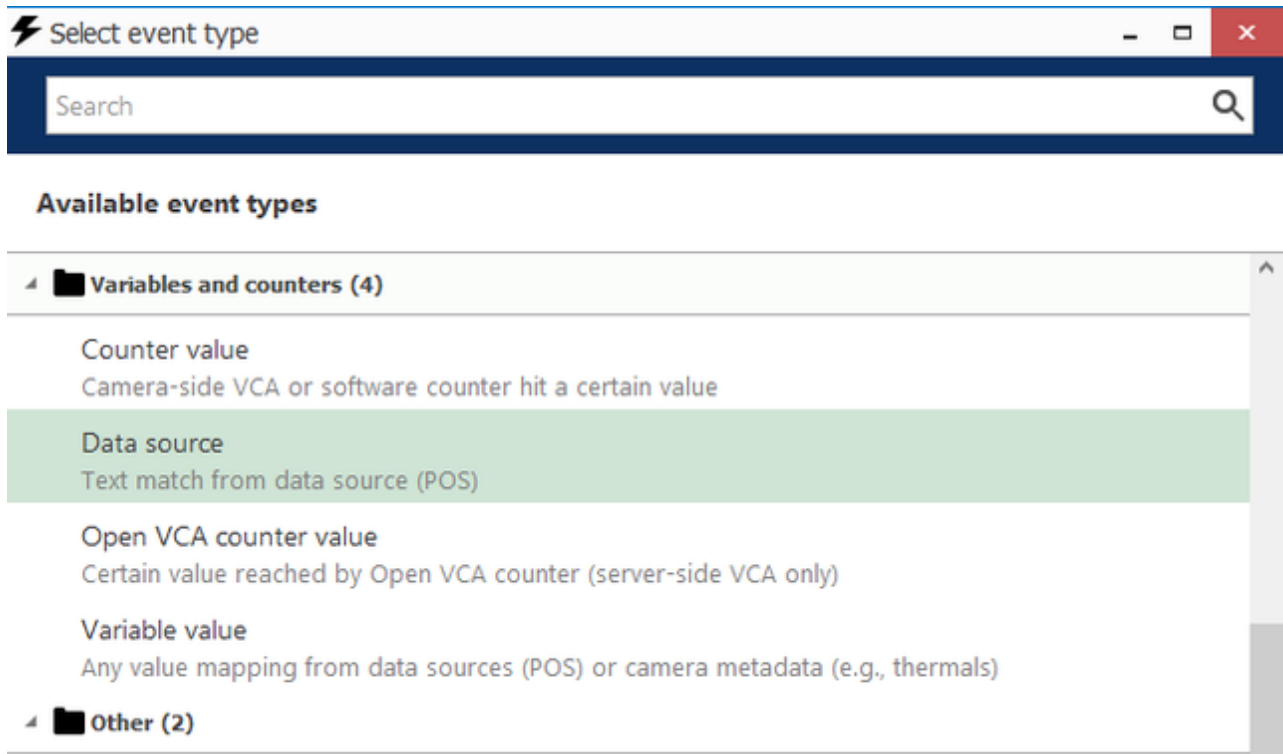
## Creating Events, Actions, and Rules

Here we will configure the events, actions, and rules that will be sending the Data Sources notifications to the Ganz Client. The first step is create an event as follows:

1. Go to the **Events & Action** panel.
2. Select the **Events** tab and click on **New Event** located top.



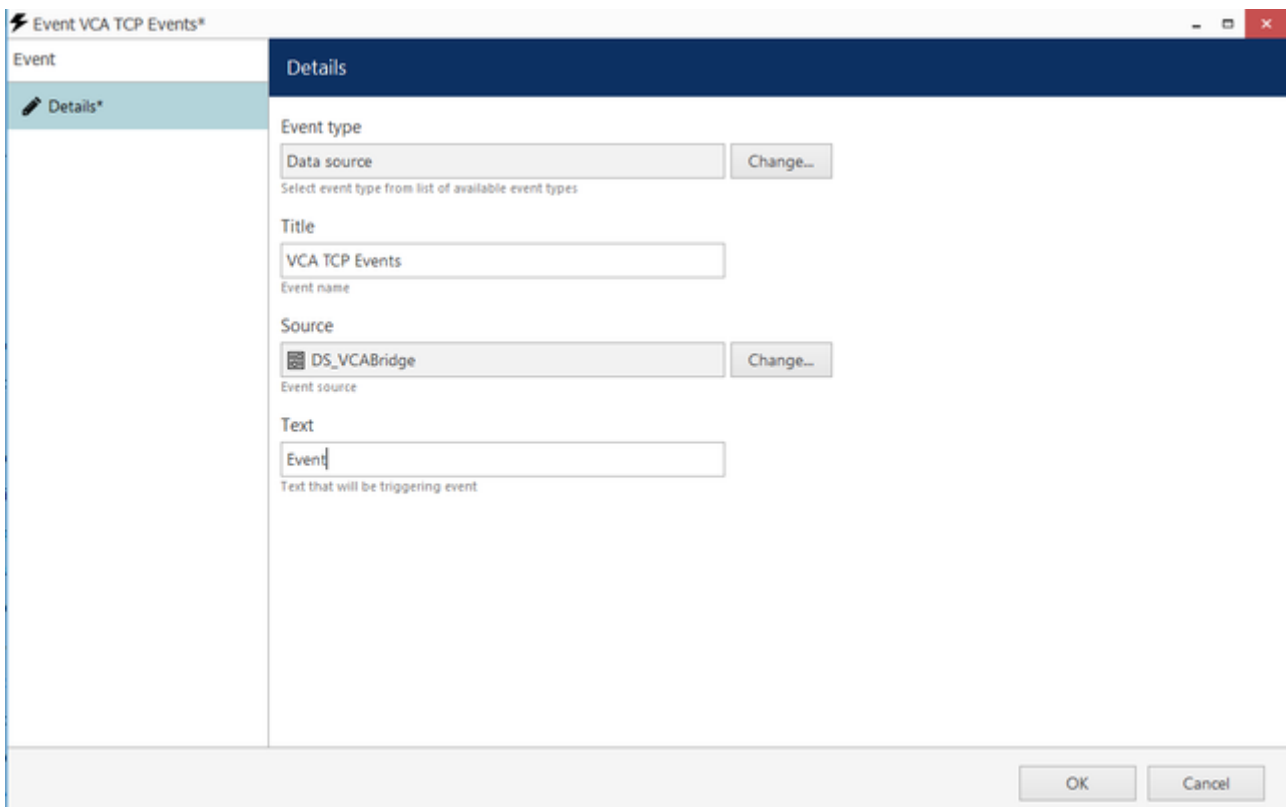
3. Go to *Variables and Counter (4)* and select **Data Source** from the event type drop down.



4. On the new screen, complete the information as follows:

- **Title:** Enter the name of the Data Source event (VCA TCP Events).
- **Source:** Click *Change* and select the Data Source. Then, click **OK** to confirm and close the Event source window.
- **Text:** enter a text that will be triggering events (Event).

5. Click **OK** to confirm and close the Event window.



The next step is to create an action. Go to the **Actions** tab and click **New action** located top.

← → Events Actions > Actions

Events & Actions

+ New action

	TITLE
Rules	
Events	
<b>Actions</b>	<ul style="list-style-type: none"> <li>➔ Change Indicator</li> <li>➔ Decrement</li> <li>➔ Generate alert</li> <li>➔ Generate alert suk</li> <li>➔ Increment</li> <li>➔ Pop-up on screen</li> <li>➔ Pop-up playback</li> <li>➔ Reset</li> <li>➔ Set condition</li> <li>➔ Unset condition</li> </ul>
Conditions	
Schedules	
Counters	
OPC	
Indicators	
Variables	

1. Go to *Notifications (4)* and select **Send event to client** from the options.

➔ Select action type

Search

**Available action types**

▲ **Logging (2)**

- Write to application log  
Append entry to the OS application event log
- Write to audit log  
Append entry to the internal software audit log

▲ **Notifications (4)**

- Highlight object on map  
Visually accent the target object on the map
- Send email  
Send email notification via pre-defined mail server
- Send event to client**  
Text or sound notifications for thick and mobile clients
- Send mail with a snapshot  
Send email notification with an attachment

2. Modify the properties of the notification as follows:

- **Title:** Enter the name for the action.
- **Message:** At the top right of the message box you will find the *Insert field* button which contains several fields that can be added to create the structure of the notification message. **Add** some fields to the message as required.



- **Enable** the following options: *Display events in alert*, *Display a warning message box*, and *Display event in notification panel*.

The image shows the configuration window for "Action VCAcore 1.4 Notifications\*". The "Details" tab is active, showing the following configuration:

- Action type:** Send event to client (with a "Change..." button)
- Title:** VCAcore 1.4 Notifications (Action name)
- Message:** Event: (EVENT\_TITLE) - (EVENT\_ID) - (EVENT\_TIME) - Source: (EVENT\_SOURCE\_TITLE)  
(ACTION\_TITLE)  
(ACTION\_TARGET\_TITLE)
- Message display options (all checked):**
  - Display event in alerts**  
Message will be shown in alerts on client.
  - Display a warning message box**  
Message will be displayed in message box on client.
  - Display event in notification panel**  
Message will be shown in notification panel on client.

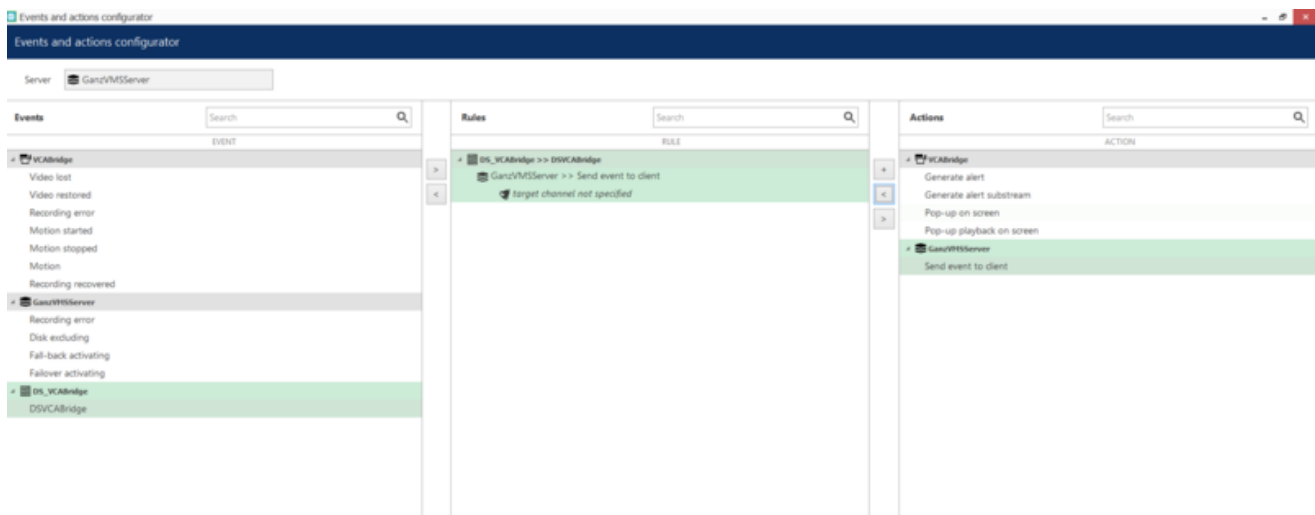
- Click **OK** to confirm and close the *Actions* window.

The last step is to create a rule. Go to the **Rules** tab and click **Open configuration** located top.

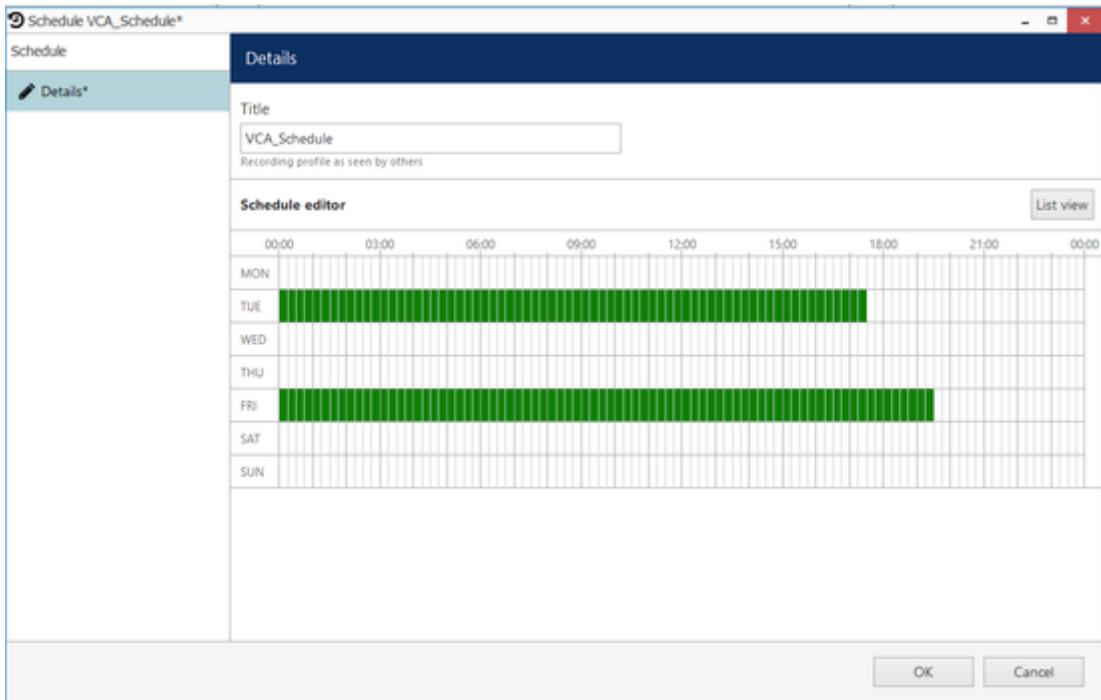


On the event and actions configuration screen, you will see three boxes associated with Events, Rules, and Actions.

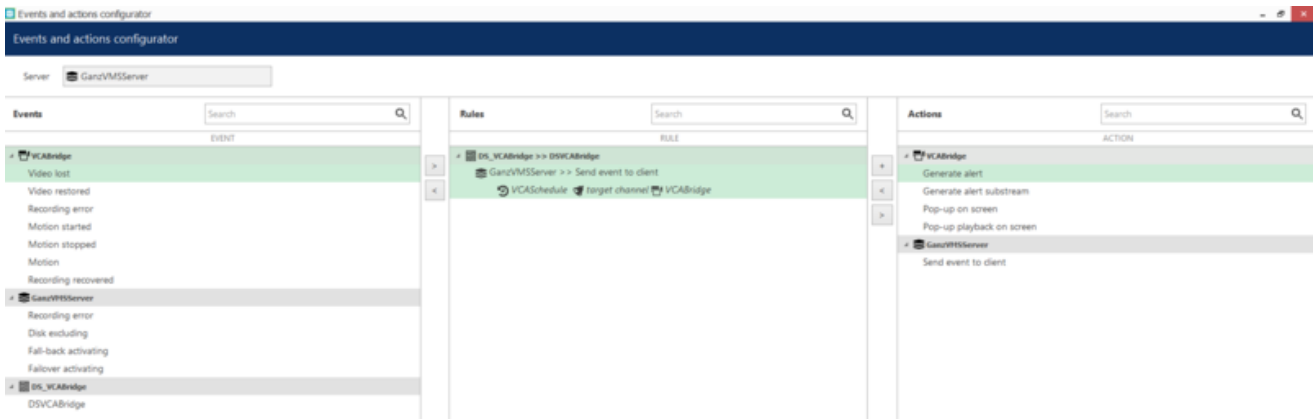
1. Go to the *Events* box and select the event associated with the previously created Data Source.
  - Select the **Data Source** and click on the greater than > button to move the event into the Rules box.
2. Go to the *Action* box and select **the VCA Notification** located below to the Ganz Server name. Then click in the less than < button to move the action into the Rules box.



3. Go to the *Rules* box and click the **Target channel** located bottom.
  - On the pop-up screen, select the VCA device created previously, and click **OK** to confirm.
  - Click **Schedule** located button.
  - On the pop-up screen click **New schedule**.
  - Enter a title for the schedule (VCA\_Schedule). Then, configure the schedule as required and click **OK** to close the *Schedule* window.



4. On the main screen, click **OK** to confirm the configuration.



*Note: Optionally, you can test this Rule by clicking the Test button located top. The notification will appear on the Ganz Control Client.*



## Configuring VCA Web Interface

1. On the main screen, go to the **Devices** tab and click **New device** located top.
2. On the pop-up screen, click **Select model** and select **Web page** from the options.

The screenshot shows a configuration window titled "Device VCAcore 1.4 Web uI\*". On the left is a sidebar with "Details\*" selected. The main area is the "Details" tab, which contains a "Title" field with the value "VCAcore 1.4 Web ul" and a "Model" dropdown menu currently set to "(Generic) Web Page". A "Select Model" button is located to the right of the dropdown.

3. Enter a name of the VCA device to identify the web page.
4. Switch to the **Uri** tab and complete as follows:
  - **Address** Enter the URL of the VCA device (by default <http://127.0.0.1:8080>).
  - **Username:** Enter the username of the VCA device.
  - **Enter password:** Enter the password of the VCA device.
  - Click **Apply**.
5. Click **OK** to close the Device window.

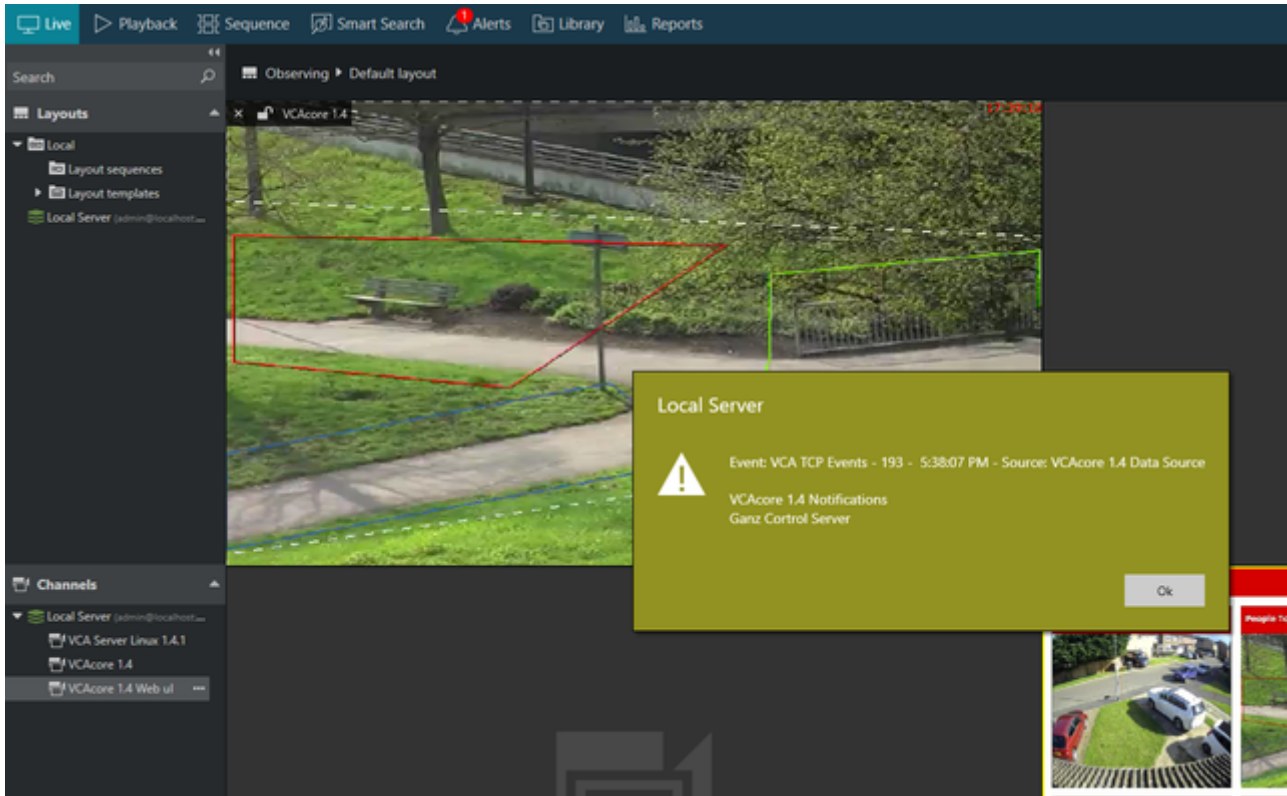
The screenshot shows the same configuration window, but now the "Uri" tab is selected in the sidebar and the main area. The "Uri" tab contains an "Address" field with the value "http://192.168.1.100:8080", a "Username" field with the value "admin", and an unchecked checkbox for "Enter password". Below the checkbox is an empty password field and the text "Password will not be changed".

*Note: To confirm the web interface is configured correctly you can show a live stream. From the Channels tab, select the newly created web page, and click Show Video located top.*

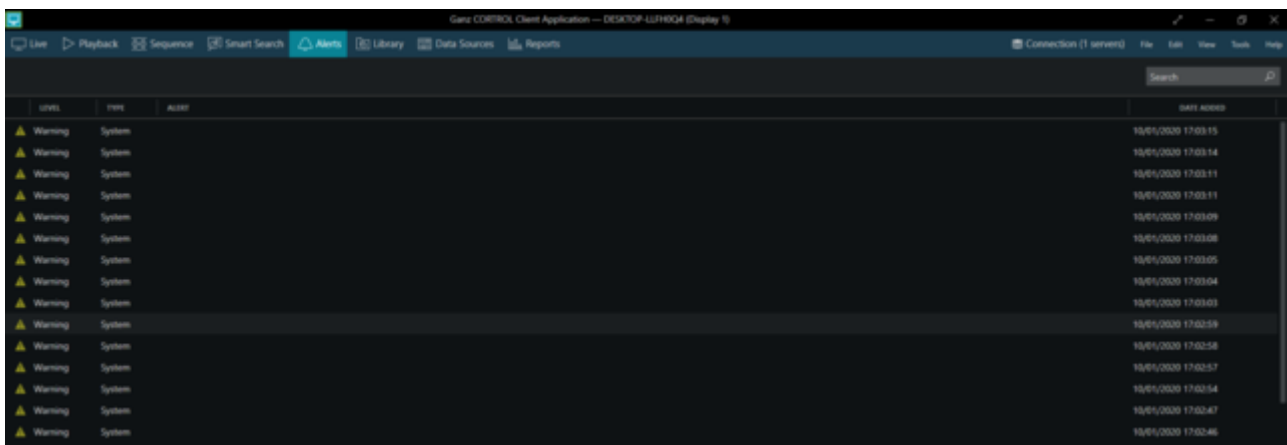
## Verifying Events on the Ganz Client

Open the Ganz Control Client to verify the events created with the Data Source and monitor the VCA web interface.

Every time the Data Source event is triggered, the pop-up notifications will appear on the **Live** tab of the Client as follows:



You will see the notifications on the **Alerts** tab located top.



You can verify the VCA web interface on the main screen as follows:

