



SmartBridge

**Avigilon
Setup Guide**

AVIGILON™ | **TECHNOLOGY
INTEGRATIONS** | **PARTNER**

Table of Contents

Avigilon Setup Guide	1
Introduction	3
SmartBridge and Avigilon pre-requisites	4
Installation	5
Communication between SmartBridge and Avigilon	11
Add an IP camera as an input	12
Add an alarm event to Avigilon	14
Add an rule to Avigilon	21
Receiving alarm event to Avigilon Client	26
Viewing alarm events from Avigilon client	27
How to search alarms from Avigilon Client	28

Introduction

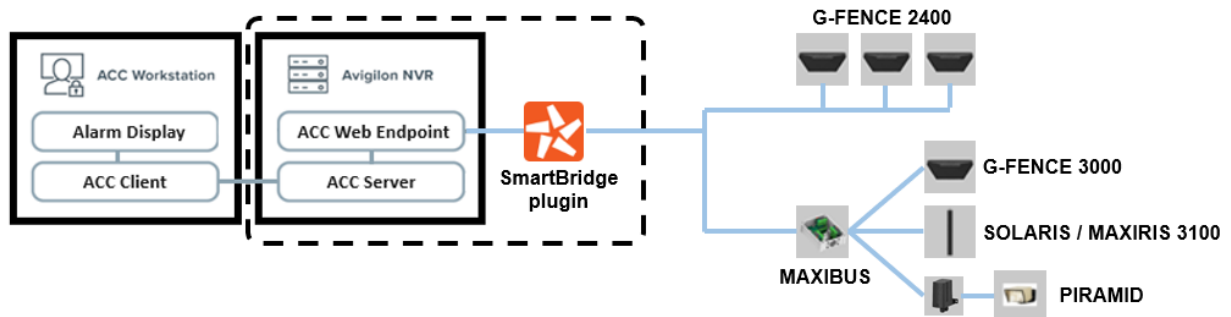
This configuration guide will explain how to add and configure the alarm events provided by the SmartBridge in the Avigilon VMS. Also, it will guide you on how to test and display the alarm events in the Avigilon Client screen.

The following setup guide is based on Avigilon Unity Video VMS. For Avigilon Control Center VMS software, the process still the same except that Avigilon Web Endpoint API service needs to be installed additionally to Avigilon ACC software. The section “***Communication between SmartBridge and Avigilon***” is explaining how to do it.

SmartBridge and Avigilon pre-requisites

This is an integration architecture that shows how the SmartBridge software plugin is interfaced with Avigilon server using Web Endpoint HTTPS API. The SmartBridge will add equipment such as G-FENCE 2400 or Maxibus hub PIDS system to its interface through IP. Once it is added, each device offers a list of alarm events with ID, these events will be created manually from Avigilon interface in Alarms section by using “External Software Event”. Then a Rule-To-Action can be performed such as a PTZ preset call or other actions.

The communication of alarm events will be sent from SmartBridge to Avigilon server through a secure IP connection using Web Endpoint API service.



REQUIREMENTS

SmartBridge License (required)	Please refer to the manufacturer
SmartBridge version	V5.4.0 and above
Avigilon ACC version	V7.14.16.14 and above
Avigilon Unity Video version	V8.1.0.12 and above
Minimum system requirements	At least 5 GB storage for software and logs At least 8 GB of memory At least Windows 10 PRO 64 bits (Updated)

Installation

This section explains how to install softwares such as SmartBridge and Avigilon that are needed to setup alarm events.

For SmartBridge installation process, please refer to its User manual for more details.

AVIGILON UNITY VIDEO

During installation process of Avigilon Unity Video software installer, you must select server and client options to install both. After installation is done, restart Windows and activate Avigilon license.

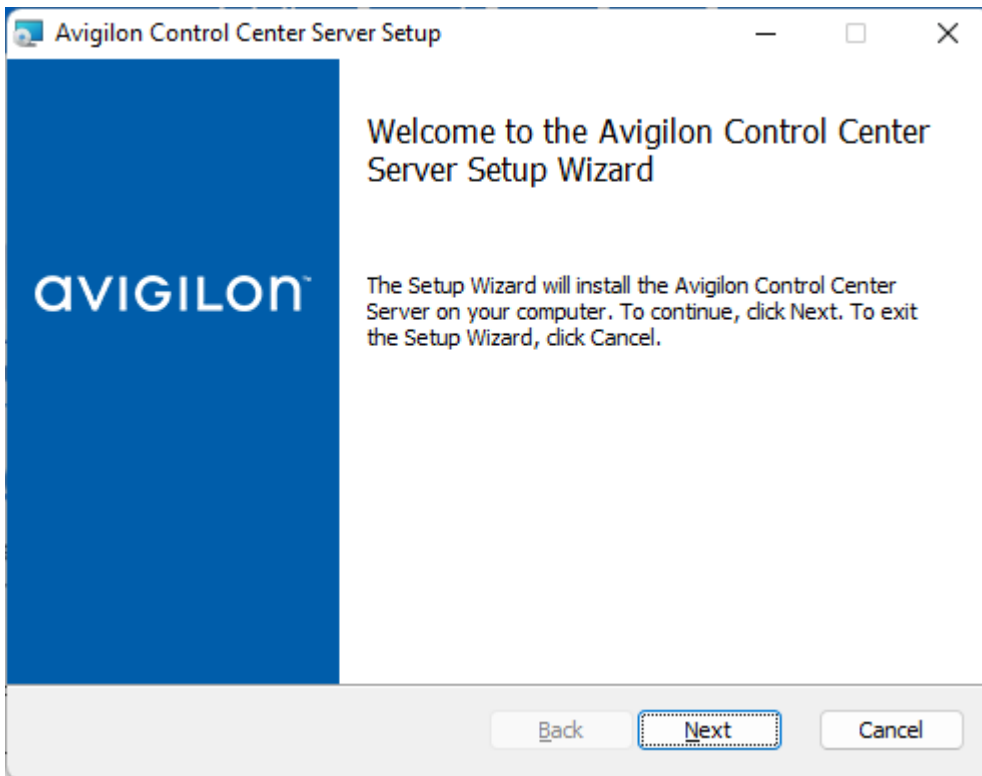
AVIGILON ACC

During installation process of Avigilon ACC software installer, you must select the 3 options by checking them such as:

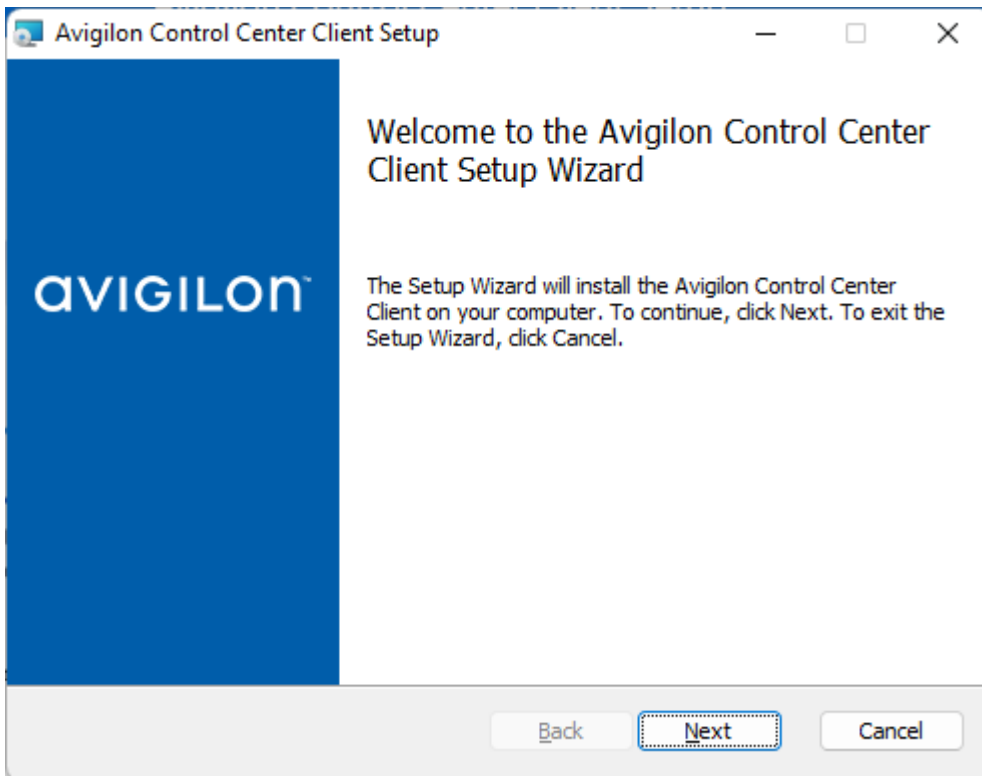
- AVIGILON CONTROL CENTER CLIENT
- AVIGILON CONTROL CENTER CAMERA FIRMWARE
- AVIGILON CONTROL CENTER WEB ENDPOINT

Then, click **NEXT** button to perform installation.

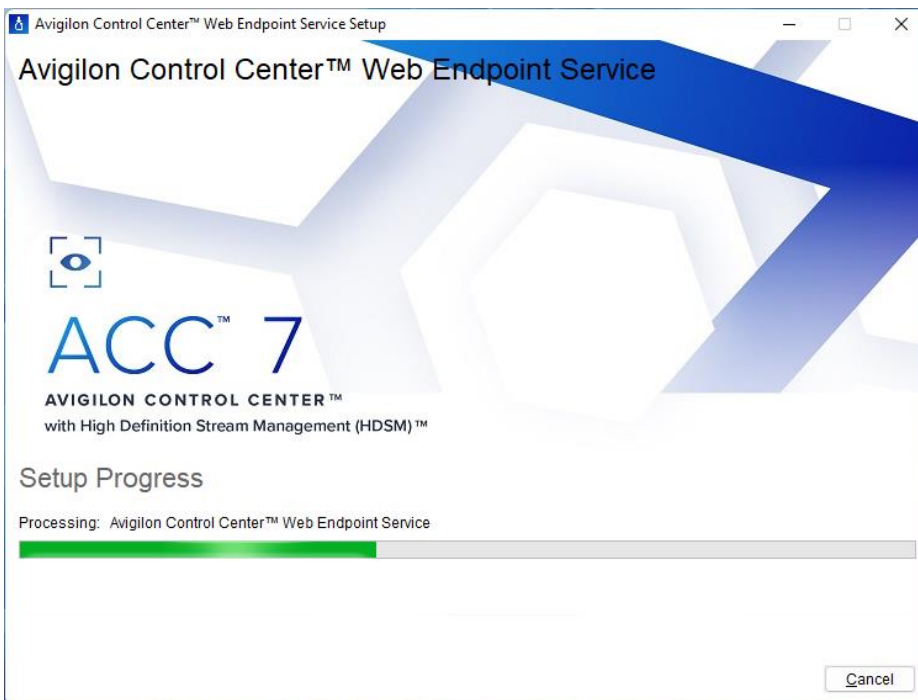
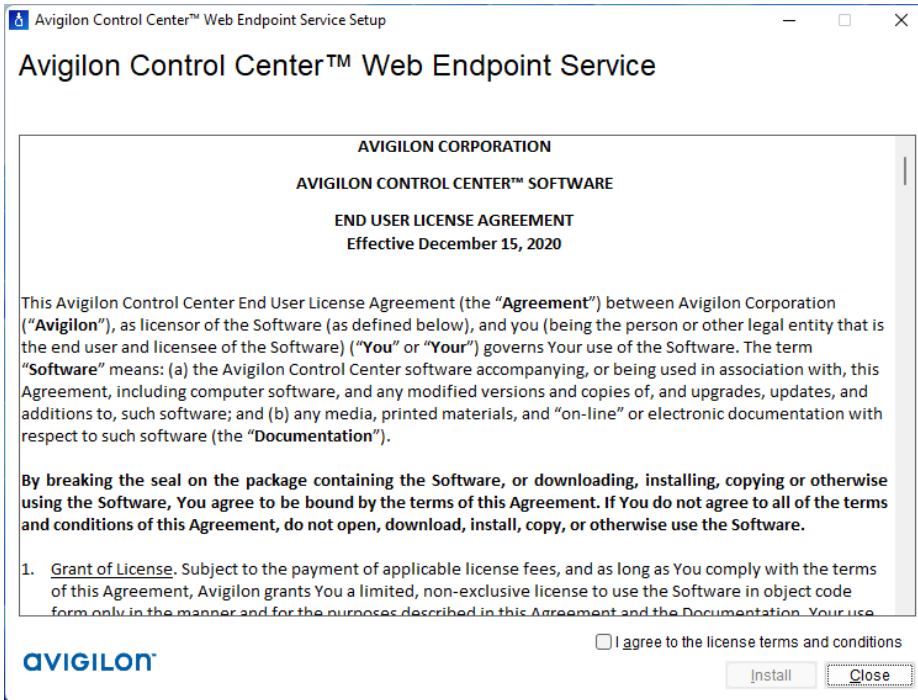




Continue the installation process by following each step as described.

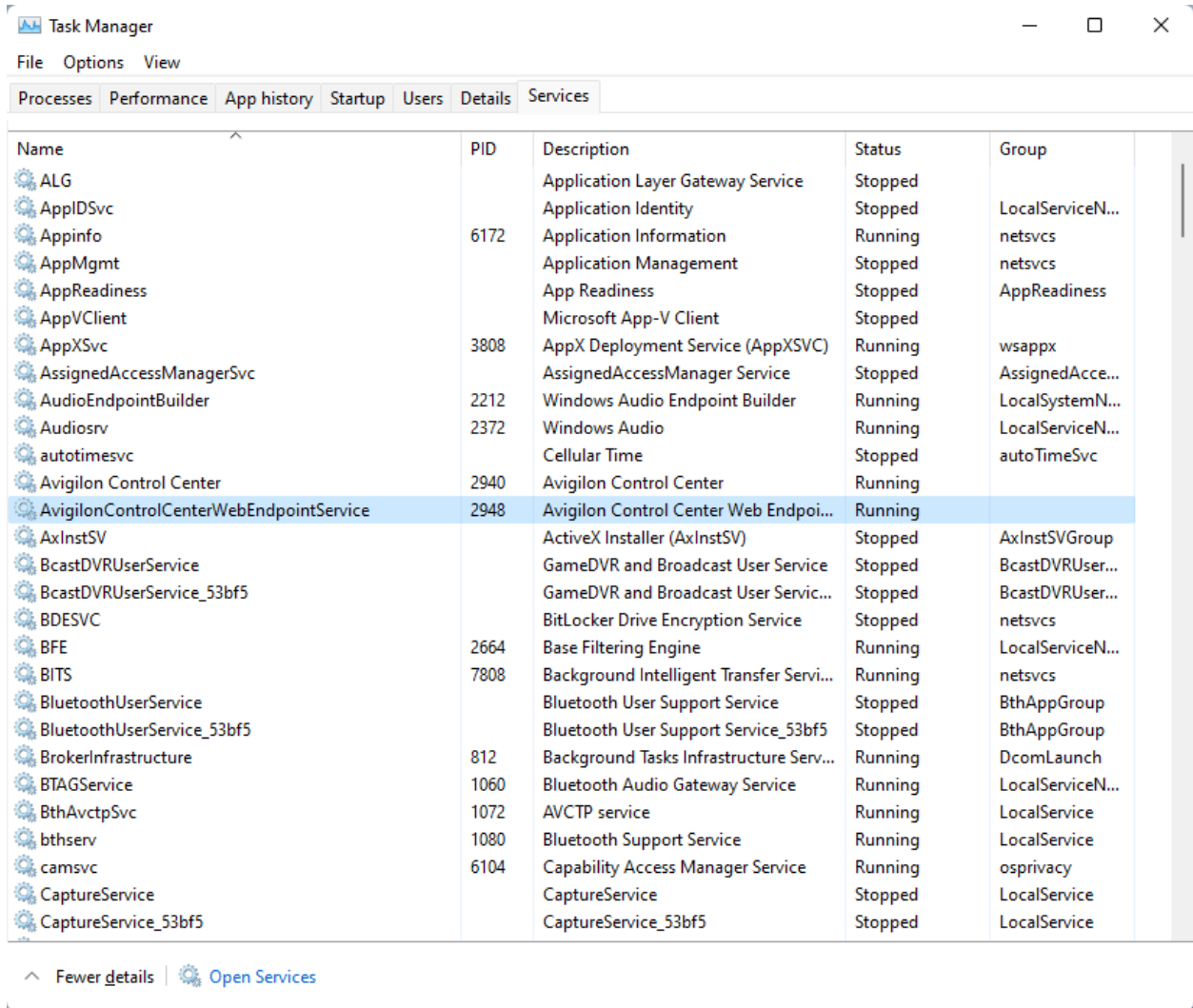


Then, check the Web Endpoint agreement and click on **Install**.



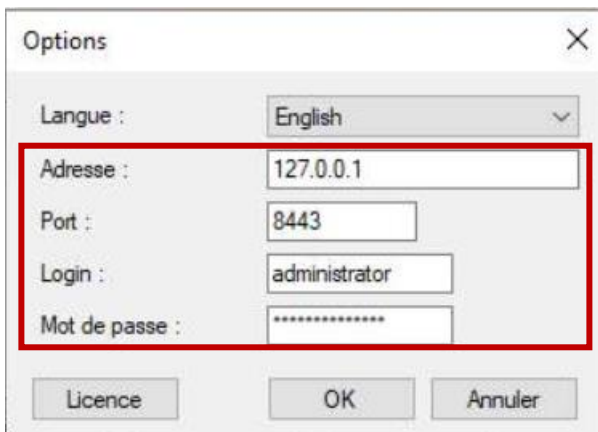
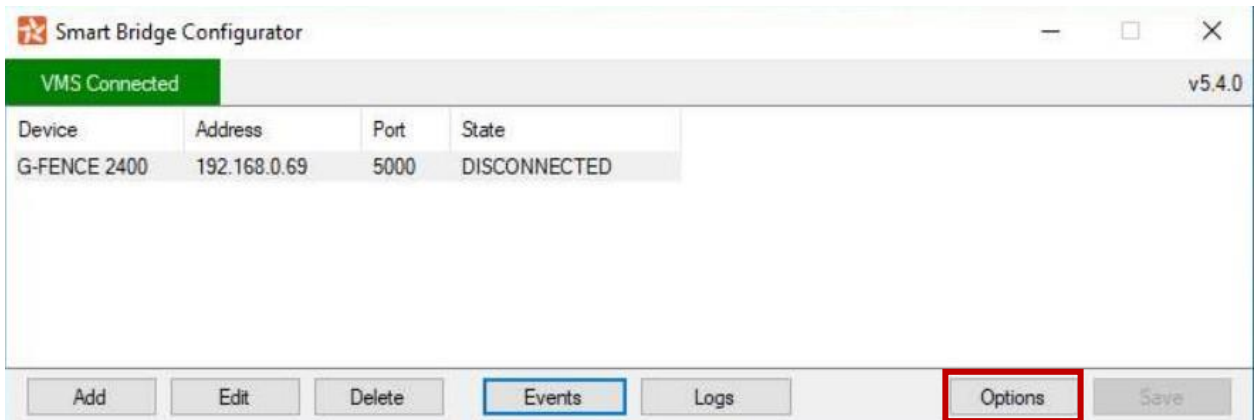
After the installation has been completed, make sure to restart Windows to apply changes. Then, make sure that the Windows service named **AvigilonControlCenterWebEndpointService** is running.

The default static port used for the service is: **8443**



Communication between SmartBridge and Avigilon

First, make sure to configure communication parameters in the **Options** of the SmartBridge:

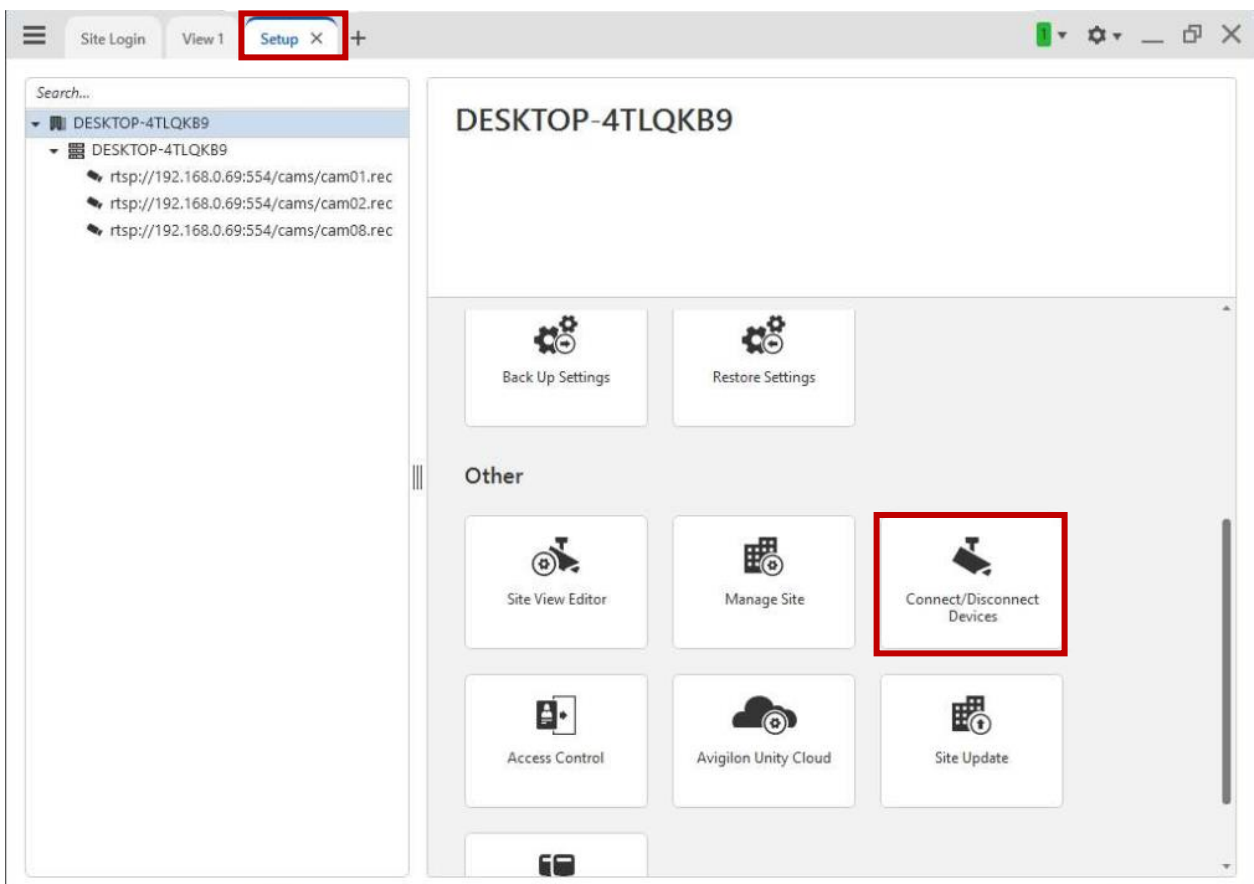


Enter the IP address and port of the Avigilon server. Then, the username and password must be the same as the Avigilon credentials. The default port of Web Endpoint is 8443 and cannot be changed.

Add an IP camera as an input

This section explains how to add a new IP camera to Avigilon settings. That configuration will be used to switch video on received PIDS (*Perimeter Intrusion Detection System*) alarm events from SmartBridge plugin.

Under **Setup** tab, click on **Connect/Disconnect Devices** tile from the menu.



In the following screen, find you IP camera from the network or click on Find Device and add a new ONVIF IP camera such as fixed camera or PTZ.

After entering all IP information of the device and credentials, the new camera will be listed in the **Connected Devices** list as shown below.

The screenshot shows the SmartBridge interface with the 'Connect/Disconnect Devices...' window open. The 'Find Device...' button is highlighted. Below it, the 'Discovered Devices' table lists various cameras. The 'Connected Devices' table shows three cameras connected to the 'DESKTOP-4TLQKB9' server.

Name	IP Address	Type	Model	MAC Address
AXIS M1054	192.168.0.212	ONVIF	M1054	
Dahua	192.168.0.129	ONVIF	IPC-HDBW5300	
General(63918)	192.168.0.125	General (ONVIF)	IP_Camera	90:02:A9:1B:F9:AE
General(63929)	192.168.0.127	ONVIF	IP_Camera	90:02:A9:1B:F9:B9
HIK DS-2CD2112-I(21162)	192.168.0.121	ONVIF	DS-2CD2112-I	44:19:B7:24:52:AA
HIKVISION DS-2CD2035FWD-I(48666)	192.168.0.122	ONVIF	DS-2CD2035FWD-I	94:E1:AC:ED:BE:1A
IPC322ER3-DUVPF28-C	192.168.0.132	ONVIF	IPC322ER3-DUVPF28-C	
IPCamera	192.168.0.123	ONVIF	IPCamera	
UNV IPC3232ER3-DUVZ-C	192.168.0.128	ONVIF	IPC3232ER3-DUVZ-C	

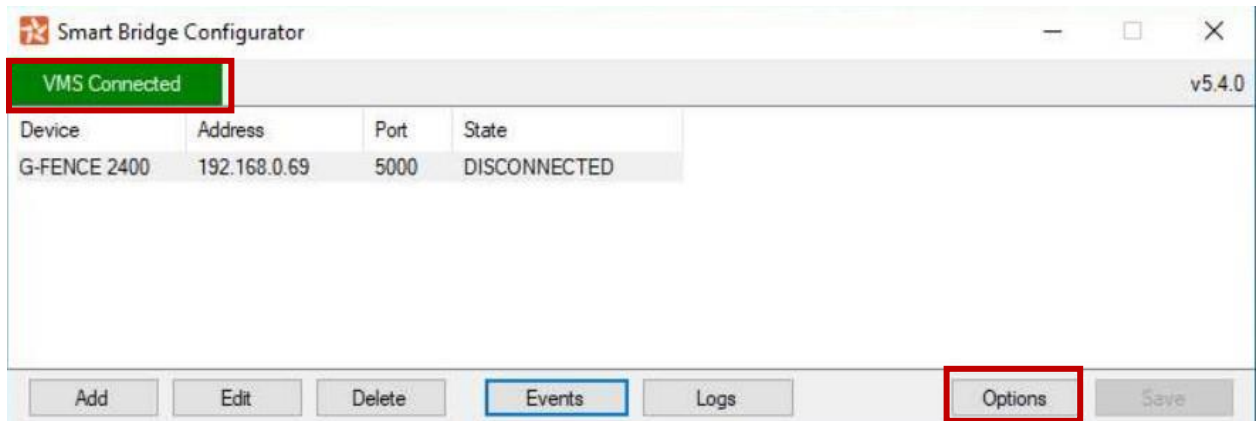
Name	IP Address	Type	Model	MAC Address	Status	Netw
DESKTOP-4TLQKB9						
rtsp://192.168.0.69:554/cams/cam01.rec	192.168.0.69	Generic RTSP			Connected	LAN
rtsp://192.168.0.69:554/cams/cam02.rec	192.168.0.69	Generic RTSP			Connected	LAN
rtsp://192.168.0.69:554/cams/cam08.rec	192.168.0.69	Generic RTSP			Connected	LAN

The 'Find Device' dialog box contains the following fields and options:

- Search From Server: DESKTOP-4TLQKB9
- Search Type: IP Address
- Device Type: ONVIF
- IP Address/Hostname: (empty)
- Control Port: 80
- Apply credentials to all uninitialized devices:
- User Name: (empty)
- Password: (empty)
- Buttons: OK, Cancel

Add an alarm event to Avigilon

After the event gateway has been configured, make sure that SmartBridge displays VMS Connected as status as described below. Then, to add events one by one from Protech/Sorhea PIDS devices, click on **Options** button as shown below.

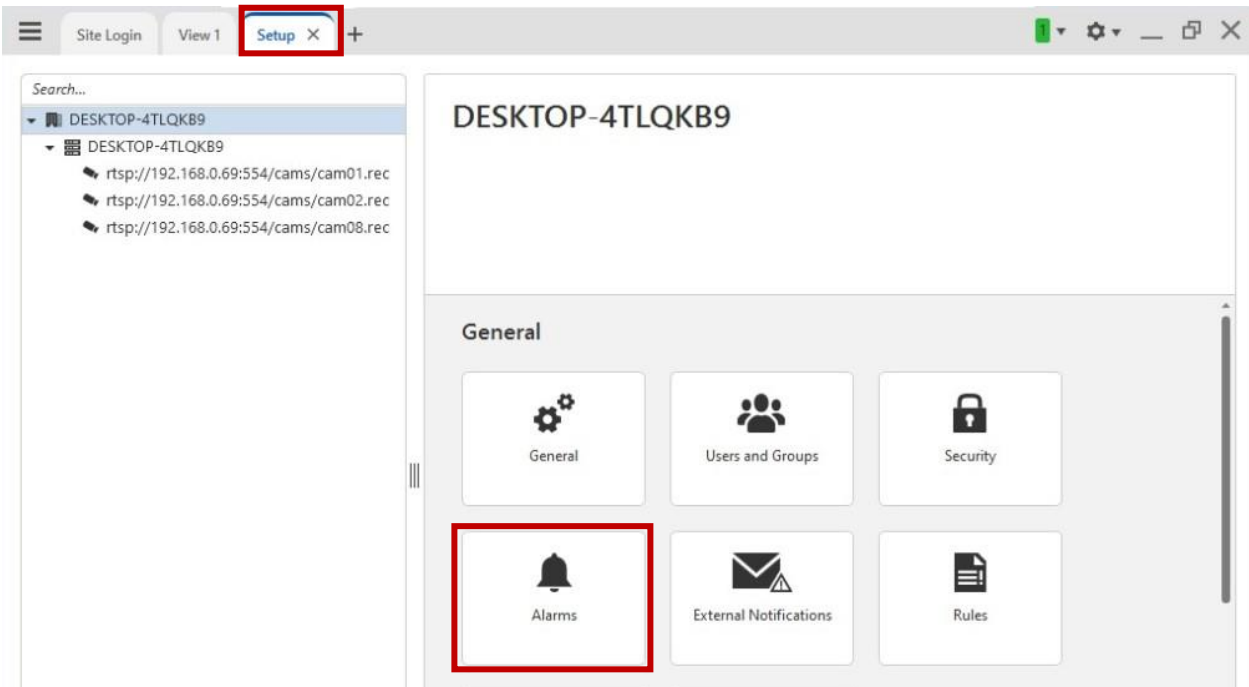


Then, select desired event name such as "10001_SENSOR_D2_1". Here the most important is the expression name that must be the same as Avigilon external event name that will be created. Otherwise, the event will not be send to Avigilon server.

The screenshot shows the 'Available Events' dialog box. It contains a table with three columns: 'Alarm name', 'Expression', and 'Test'. The '10001_SENSOR_D2_1' event is highlighted with a red box.

Alarm name	Expression	Test
COMMUNICATION_LOST	10000_COMMUNICATION_LOST	Test
SENSOR_D2_1	10001_SENSOR_D2_1	Test
SENSOR_D2_2	10002_SENSOR_D2_2	Test
INTRUSION_ZONE_1	10003_INTRUSION_ZONE_1	Test
TECH_ALARM_CABLE_1	10004_TECH_ALARM_CABLE_1	Test
TECH_ALARM_CABLE_2	10005_TECH_ALARM_CABLE_2	Test
TECH_ALARM_VBATT	10006_TECH_ALARM_VBATT	Test
TECH_ALARM_TAMPER	10007_TECH_ALARM_TAMPER	Test
TECH_ALARM_AUX_1	10008_TECH_ALARM_AUX_1	Test
TECH_ALARM_AUX_2	10009_TECH_ALARM_AUX_2	Test

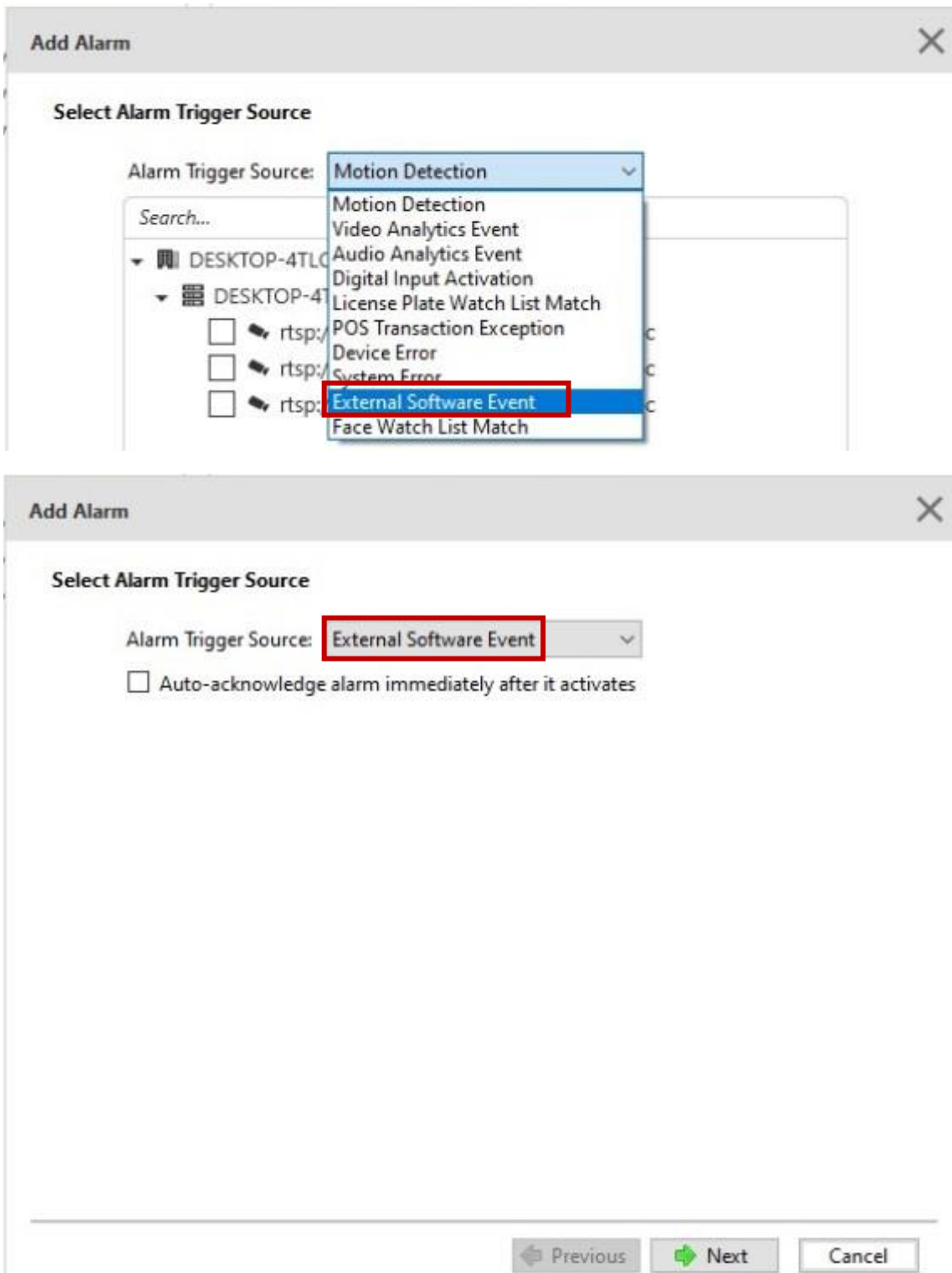
In the **Setup** tab, under **General** section, click on **Alarms** tile to open the alarm settings.



Once alarm box settings is opened, click on **+Add** button to create a new alarm.



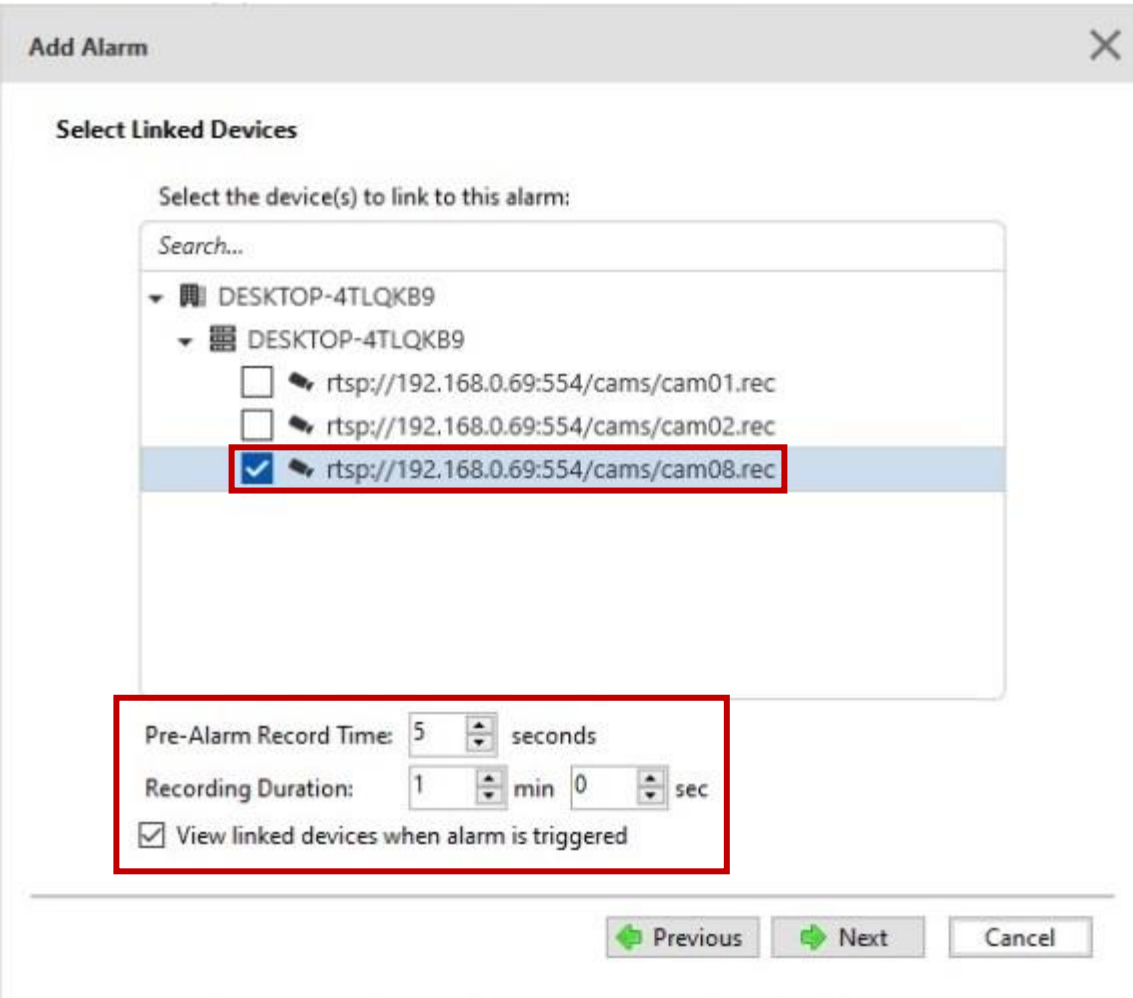
In this screen, select “**External Software Event**” under **Alarm Trigger Source**. Then, click on **Next**.



In this screen, select and check an IP camera source that will be associated with the new alarm event as shown below as an example. Make sure to properly set the parameters of alarms such as:

- Pre-Alarm Record Time: 5 seconds (Can be modified, if needed)
- Recording duration: 1 minute (Default value)
- Check the option **“View linked devices when alarm is triggered”**

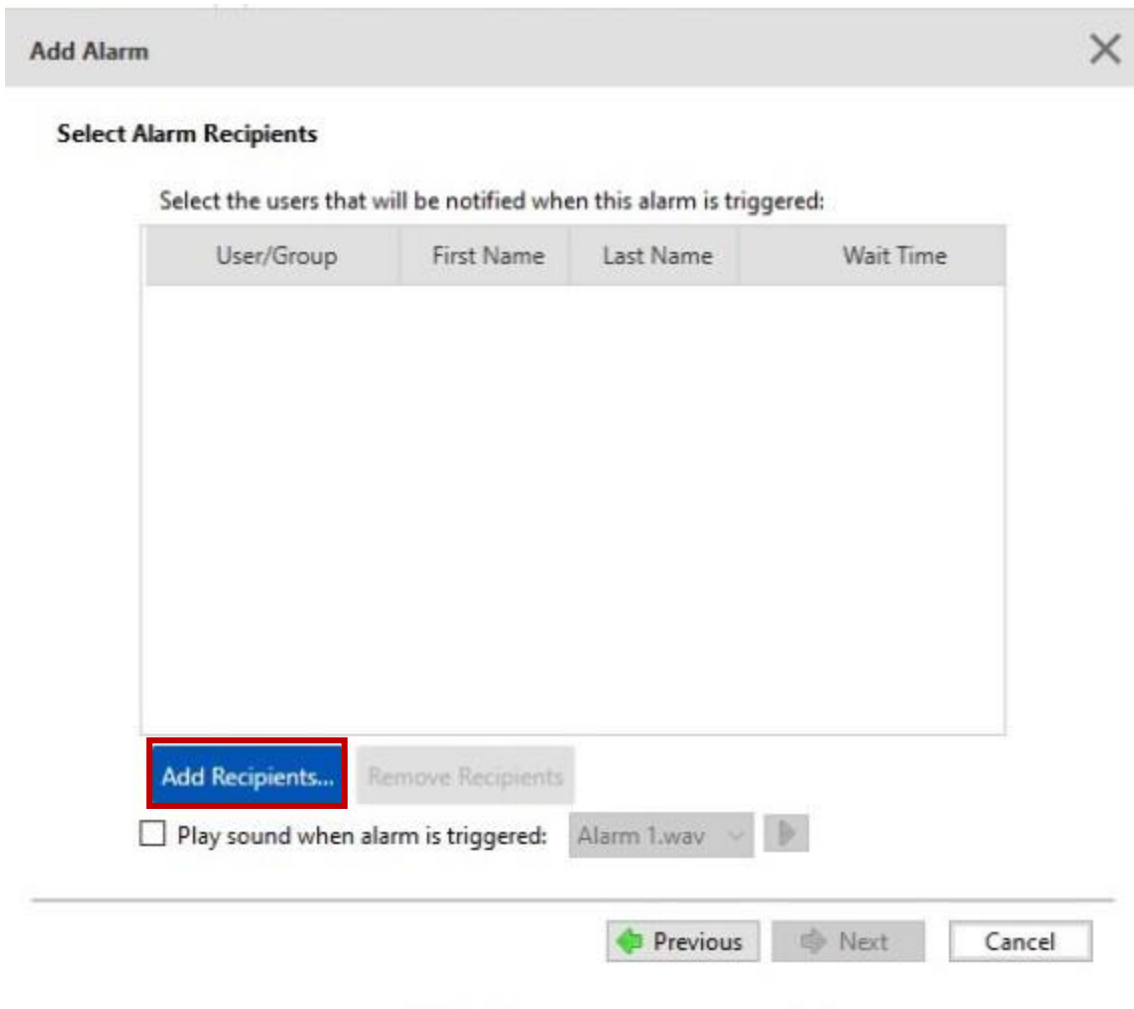
Then, click on **Next** button to continue.



The screenshot shows the 'Add Alarm' dialog box with the following content:

- Add Alarm** (Title bar)
- Select Linked Devices** (Section header)
- Select the device(s) to link to this alarm:
- Search...
- DESKTOP-4TLQKB9 (expanded)
- DESKTOP-4TLQKB9 (expanded)
- rtsp://192.168.0.69:554/cams/cam01.rec
- rtsp://192.168.0.69:554/cams/cam02.rec
- rtsp://192.168.0.69:554/cams/cam08.rec
- Pre-Alarm Record Time: 5 seconds
- Recording Duration: 1 min 0 sec
- View linked devices when alarm is triggered
- Previous Next Cancel (Buttons)

In this screen, add a new recipient by clicking on its button **Add Recipients...**



Check **Administrators** as recipients.



Then, click on **Next** button to continue.

The screenshot shows a dialog box titled "Add Alarm" with a close button (X) in the top right corner. The main heading is "Select Alarm Recipients". Below this, it says "Select the users that will be notified when this alarm is triggered:". There is a table with the following columns: "User/Group", "First Name", "Last Name", and "Wait Time". The "User/Group" column contains "Administrators" with a small icon to its left. The "Wait Time" column contains "0" in a spinner box, followed by "h", "0" in another spinner box, and "m". Below the table are two buttons: "Add Recipients..." (highlighted in blue) and "Remove Recipients". Below these buttons is a checkbox labeled "Play sound when alarm is triggered:" followed by a dropdown menu showing "Alarm 1.wav" and a play button icon. At the bottom of the dialog are three buttons: "Previous" (with a left arrow), "Next" (with a right arrow), and "Cancel".

Skip this screen by clicking on **Next** button.

The screenshot shows a dialog box titled "Add Alarm" with a close button (X) in the top right corner. The main heading is "Select Alarm Acknowledgment Action". Below this are two checkboxes: "Require a comment when acknowledging alarm" and "Activate selected digital output(s) on alarm acknowledgment". Below these checkboxes is a search box with the text "Search...". Below the search box is a tree view showing a folder "DESKTOP-4TLQKB9" expanded to show its contents: "DESKTOP-4TLQKB9", "rtsp://192.168.0.69:554/cams/cam01.rec", "rtsp://192.168.0.69:554/cams/cam02.rec", and "rtsp://192.168.0.69:554/cams/cam08.rec".


In this screen, make sure to enter the same alarm event name as the expression in the SmartBridge event list. **Priority** must be at **1**, **Schedule** at **always** and check the option “**Enable alarm**”, then click on **Finish** button.

Add Alarm ✕

Select Alarm Properties

Name:

Priority:

Schedule: 

Enable alarm

← Previous ✓ Finish Cancel

NOTE: Repeat all the previous steps to other alarm events that need to be added to Avigilon.

Add an rule to Avigilon

To add a new rule, click on **+Add** button. A rule is a set of different actions that will take an alarm event and will perform an action such as displaying an IP camera, PTZ preset, email notification...



In this screen, check “**Alarm triggered**” under **Alarm Events**. Then, click on the [blue](#) link after When to select corresponding alarm event from the list. In the popup, select the desired alarm event from “**Any of the following alarms**” and then click on **OK** button and **Next**.

Rule Setup [X]

Select Rule Event(s)

Select the event(s) that will trigger the rule action

- [-] Server Events
- [-] Device Events
- [-] Object Attribute Events
- [-] User Events
- [-] **Alarm Events**
 - Alarm acknowledged
 - Alarm auto acknowledged
 - Alarm triggered**
 - Alarm assigned
 - Alarm unassigned

When [alarm '10001_SENSOR_D2_1'](#) is triggered,

[Previous] [Next] [Cancel]

Select Alarms [X]

Any alarm

Any of the following alarms:

- 10001_SENSOR_D2_1
- 10003_INTRUSION_ZONE_1

Under **User Notification Actions**, you can select “**Display on-screen message**” or other actions types. By clicking on blue link **message**, you can customize message. Then, click on **Next** button to continue.

Rule Setup ✕

Select Rule Action(s)

Select the action(s) for the rule

- Display on-screen message**
- Send email
- Send notification to Central Monitoring Station
- Play a sound
- Start live streaming
- Video intercom call
- Focus of Attention
- Create Bookmark

When [alarm '10001 SENSOR D2 1'](#) is triggered, display an on-screen [message](#) for [all users](#).

← Previous Next → Cancel

Skip this screen if you don't need to add an additional condition (**optional**).

Rule Setup ✕

Select Rule Condition(s)

Select the condition(s) to be met for this rule to run

[-] Device Events

- Digital input is active
- Digital input is not active

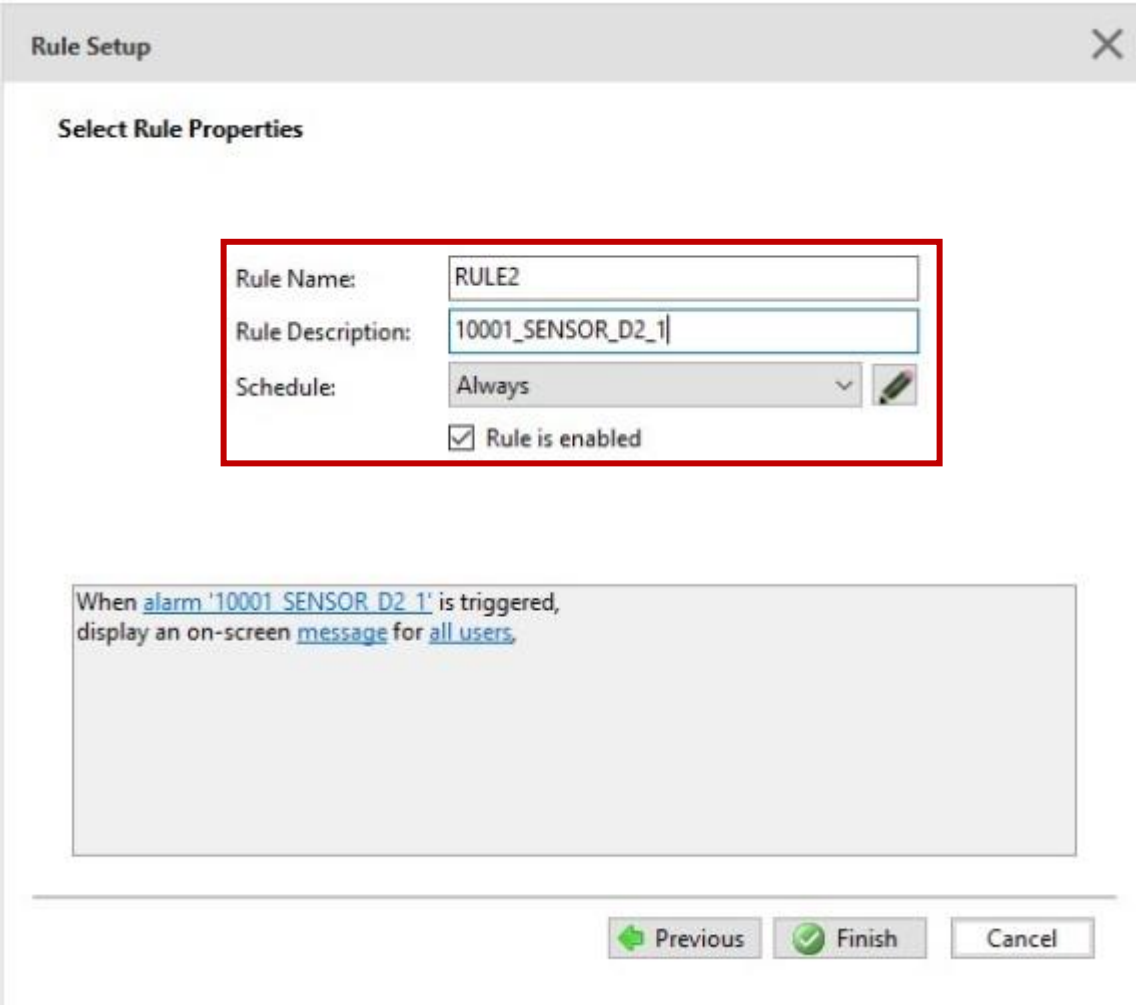
When [alarm '10001 SENSOR D2 1'](#) is triggered, display an on-screen [message](#) for [all users](#).

⬅ Previous Next ➡ Cancel

In this screen, to complete the following parameters such as:

- **Rule Name:** RULE2 (Can be modified, if needed)
- **Rule Description:** 10001_SENSOR_D2_1 (Must refer to the alarm event name)
- **Schedule:** Always
- **Rule is enabled:** Checked

Then, click on **Finish** button.



The screenshot shows a 'Rule Setup' dialog box with a close button (X) in the top right corner. The title is 'Rule Setup'. Below the title is the section 'Select Rule Properties'. A red rectangular box highlights the configuration fields:

- Rule Name: RULE2
- Rule Description: 10001_SENSOR_D2_1
- Schedule: Always (with a dropdown arrow and an edit icon)
- Rule is enabled

Below the highlighted fields is a text area containing the following text: "When [alarm '10001_SENSOR_D2_1'](#) is triggered, display an on-screen [message](#) for [all users](#)."

At the bottom of the dialog box are three buttons: 'Previous' (with a left arrow), 'Finish' (with a green checkmark), and 'Cancel'.

Receiving alarm event to Avigilon Client

When performing a new alarm event, the SmartBridge will send it to Avigilon server that will get it and will displayed on the client interface as shown below. In this example, we forced an alarm to be triggered by clicking on **Test** button from SmartBridge configurator interface. Then, we see that the corresponding camera is displayed.

Operator can click on **Ack** button in the bottom bar in the camera stream to acknowledge it.

The screenshot displays the Avigilon Unity client interface. The main window shows a live camera stream of a parking lot with a red border. Below the stream, the URL `rtsp://192.168.0.69:554/cams/cam08.rec` and the alarm name `10001_SENSOR_D2_1` are visible, along with an **Ack** button. On the left, a search bar and a list of camera URLs are shown, with `rtsp://192.168.0.69:554/cams/cam08.rec` selected. In the foreground, an 'Available Events' window is open, showing a table of alarm events. The row for `10001_SENSOR_D2_1` is highlighted with a red box, and its `Test` button is also highlighted. A 'Success' dialog box with the message 'Test sent.' and an **OK** button is overlaid on the table.

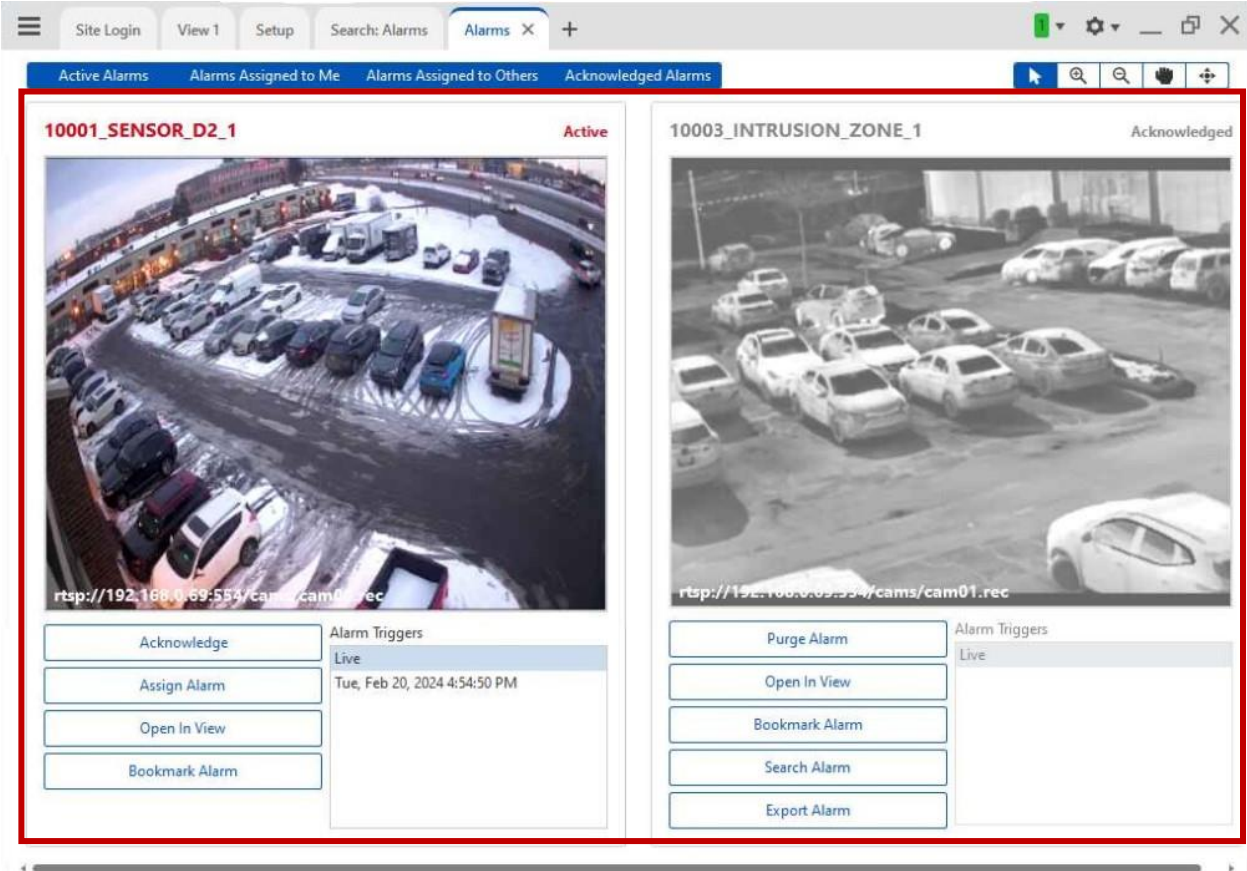
Alarm name	Expression	Test
COMMUNICATION_LOST	10000_COMMUNICATION_LOST	Test
SENSOR_D2_1	10001_SENSOR_D2_1	Test
SENSOR_D2_2	10002_SENSOR_D2_2	Test
INTRUSION_ZONE_1	10003_INTRUSION_ZONE_1	Test
TECH_ALARM_CABLE_1	10004_TECH_ALARM_CABLE_1	Test
TECH_ALARM_CABLE_2	10005_TECH_ALARM_CABLE_2	Test
TECH_ALARM_VBATT	10006_TECH_ALARM_VBATT	Test
TECH_ALARM_TAMPER	10007_TECH_ALARM_TAMPER	Test
TECH_ALARM_AUX_1	10008_TECH_ALARM_AUX_1	Test

Viewing alarm events from Avigilon client

When clicking on Alarms button from the Avigilon menu, this screen will be displayed. Then, you can apply different actions on the received alarm such as:

- Acknowledge if it is still active
- Assign an alarm
- Bookmark an alarm

NOTE: For more details about how to setup these actions, please refer to the Avigilon user manual.



The screenshot displays the Avigilon client interface with a navigation bar at the top containing 'Site Login', 'View 1', 'Setup', 'Search: Alarms', and 'Alarms X'. Below the navigation bar are tabs for 'Active Alarms', 'Alarms Assigned to Me', 'Alarms Assigned to Others', and 'Acknowledged Alarms'. The main content area is divided into two panels:

- Left Panel:** Titled '10001_SENSOR_D2_1' with a status of 'Active'. It features a live video feed of a snowy parking lot. Below the feed are four buttons: 'Acknowledge', 'Assign Alarm', 'Open In View', and 'Bookmark Alarm'. To the right of these buttons is an 'Alarm Triggers' section showing 'Live' and the timestamp 'Tue, Feb 20, 2024 4:54:50 PM'.
- Right Panel:** Titled '10003_INTRUSION_ZONE_1' with a status of 'Acknowledged'. It features a live video feed of a parking lot. Below the feed are five buttons: 'Purge Alarm', 'Open In View', 'Bookmark Alarm', 'Search Alarm', and 'Export Alarm'. To the right of these buttons is an 'Alarm Triggers' section showing 'Live'.

How to search alarms from Avigilon Client

To search for specific alarms, click on Search/Alarms button from the Avigilon Client menu. Then, select the desired alarm by checking it, select a period of time and click on Search button to perform a scan. Alarms will appear in the time bar that will be associated with an IP camera. So, you can play the video according to the alarm.

The screenshot displays the Avigilon Client interface with several key elements highlighted by red boxes:

- Search: Alarms** button in the top navigation bar.
- Alarms to Search:** A list of alarms with checkboxes. The first alarm, `10001_SENSOR_D2_1`, is checked, while the second, `10003_INTRUSION_ZONE_1`, is not.
- Date Range:** A section for selecting a time period. The **From:** field is set to `2024-02-20 04:41:25.576 PM` and the **To:** field is set to `2024-02-20 05:00:31.307 PM`.
- Search** button located below the date range fields.
- Video Feed:** A live video stream from a camera showing a parking lot with snow. The timestamp `2024-02-20 04:53:45.906 PM` is visible at the top of the video.
- Event Table:** A table with columns for **Event**, **Alarm**, **Start Time**, and **Note**. It is currently empty.
- Timeline:** A playback timeline at the bottom showing a time scale from `3:30 PM` to `5:00 PM` on `TUESDAY, FEBRUARY 20, 2024`. A blue bar indicates the current video position at `4:41:25.576 PM`.

NOTE: For more other actions and features, please refer to the Avigilon user manual.