

AIBOX-PRO Integration Guide for Avigilon ACC

1. Introduction

1.1 Prerequisites

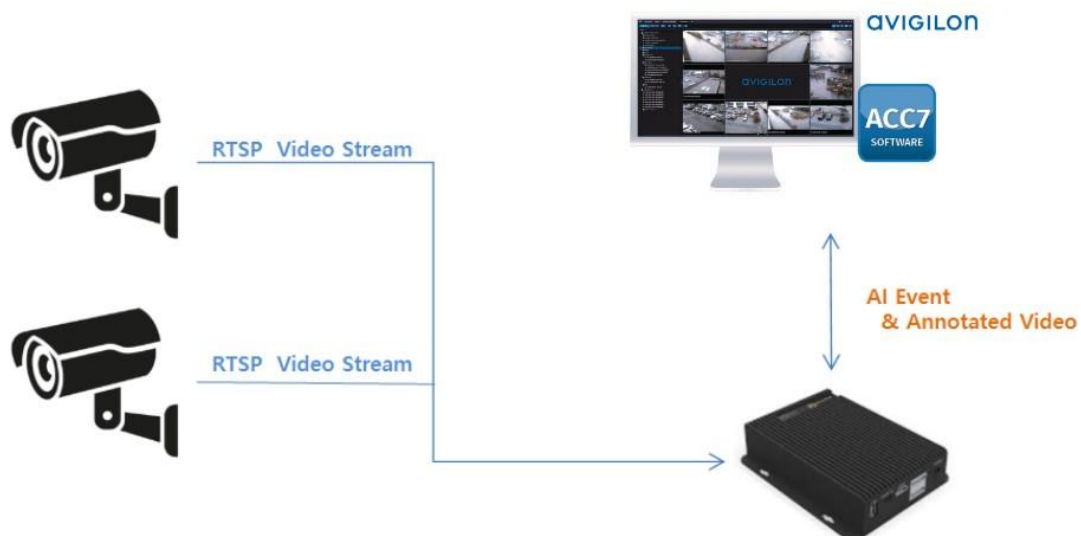
- AIBOX-PRO FW version 103000 or greater.
- Avigilon ACC 7.14 or greater.

1.2 Learn about integration architecture

There are two ways to integrate AIBOX-PRO with Avigilon ACC VMS:

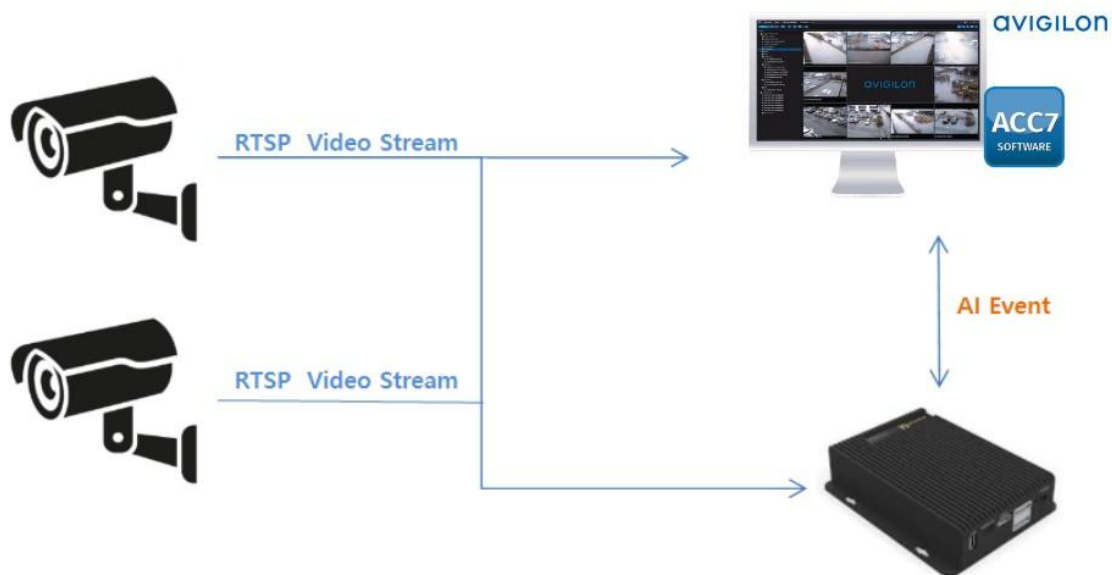
1) Case 1

The AIBOX-PRO receives the RTSP video stream from the IPCAM and provides the annotated video and event data after AI analysis. The annotated video is transcoded to provide object recognition information, bounding boxes, zone information, and more from AIBOX-PRO's AI analysis.



2) Case 2

Both AIBOX-PRO and Avigilon ACC VMS simultaneously receive the RTSP video stream from the IPCAM, and the AIBOX-PRO sends the AI analysis events to Avigilon ACC VMS. It can also receive the RTSP stream from Avigilon ACC VMS instead of the IPCAM's RTSP video stream.



2. Configuration

2.1 Avigilon ACC VMS Configuration

We will explain how to integrate AIBOX-PRO with Avigilon ACC VMS using the Case1 method.

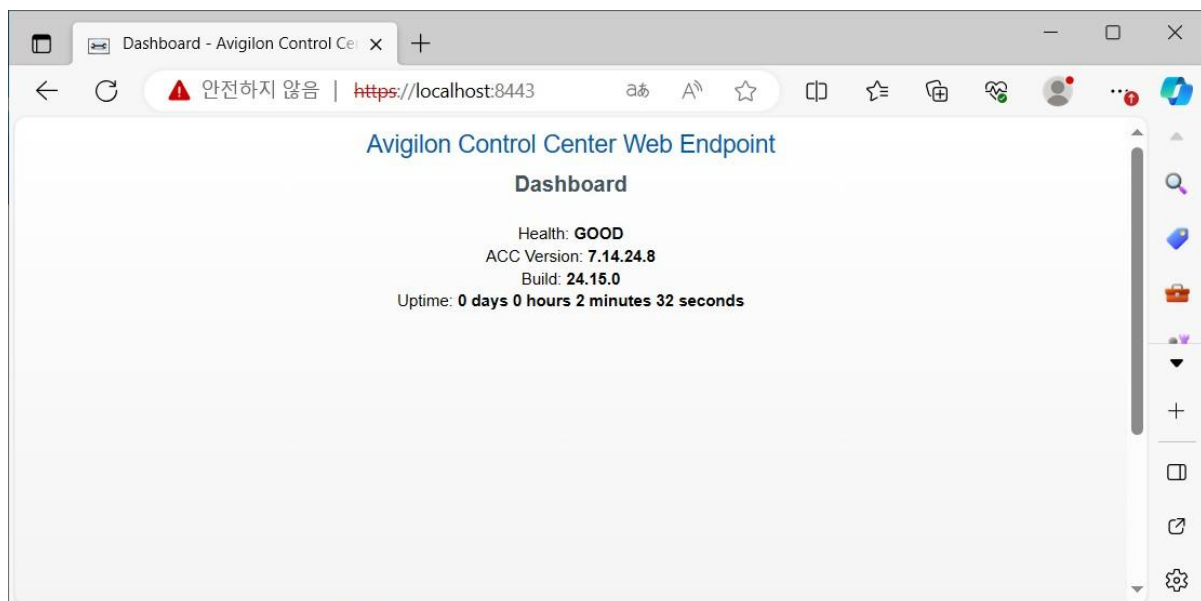
1) Installing the ACC Web Endpoint Service

The ACC Web Endpoint Service must be installed on the same system as the ACC Server software.

Download and install the ACC 7 Web Endpoint Service from the Avigilon website:

<https://www.avigilon.com/software-downloads>

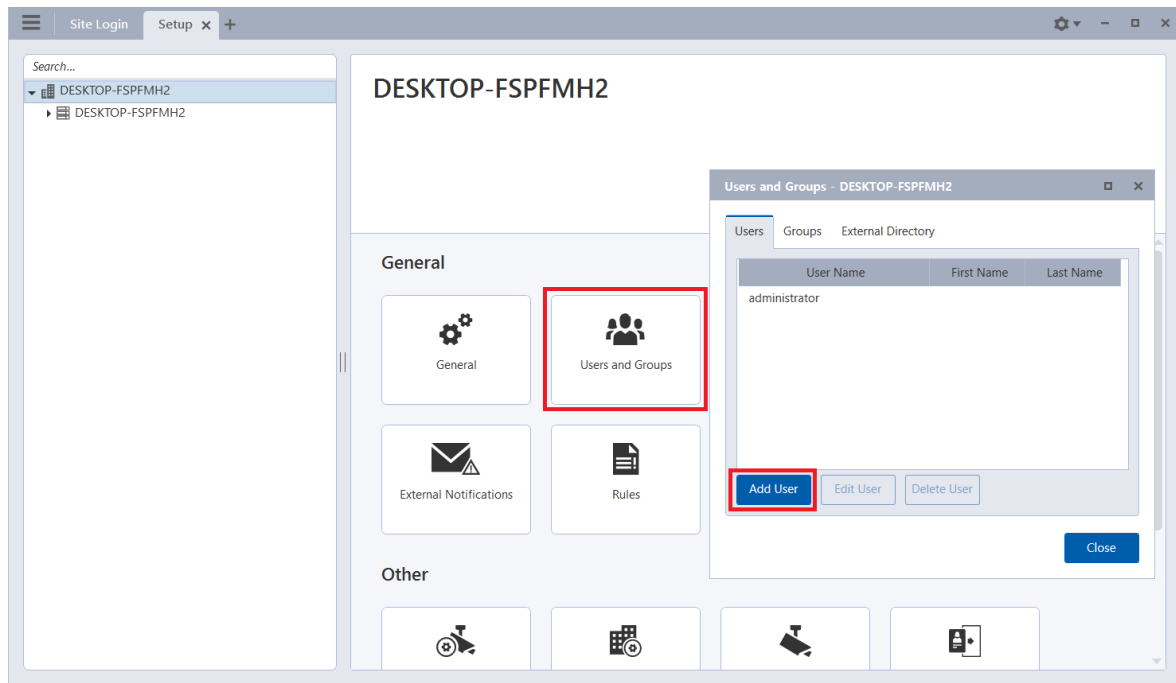
Once installed, you can view the health of the ACC 7 Web Endpoint Service at: <https://localhost:8443/>



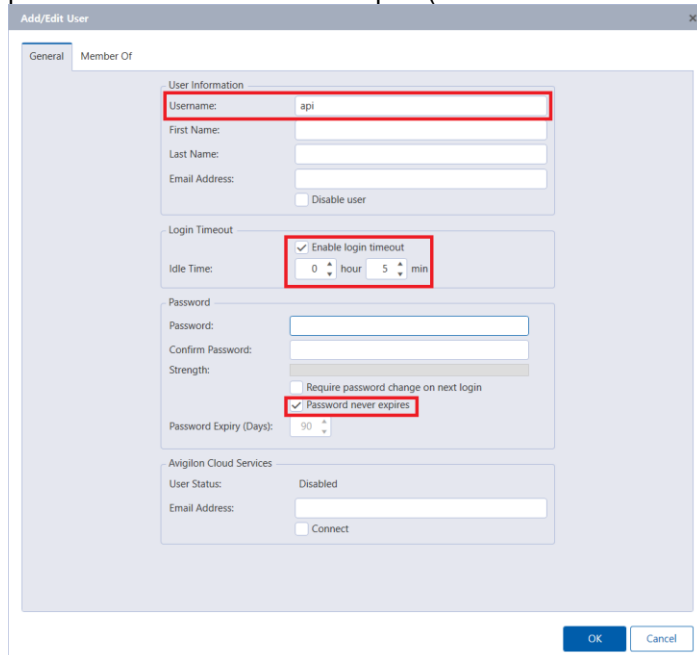
2) To add an 'api' account to Avigilon ACC VMS

To integrate AI Bridge with Avigilon ACC, you add an account that will be used for the integration. In this document, we will create an 'api' account.

Click on 'Users and Groups' in the site settings of the Avigilon ACC Client, then click on 'Add User'.



Enter the Username as 'api' and set the Login Timeout to 5 minutes. Then, make sure to set the password so that it does not expire (check 'Password never expires').



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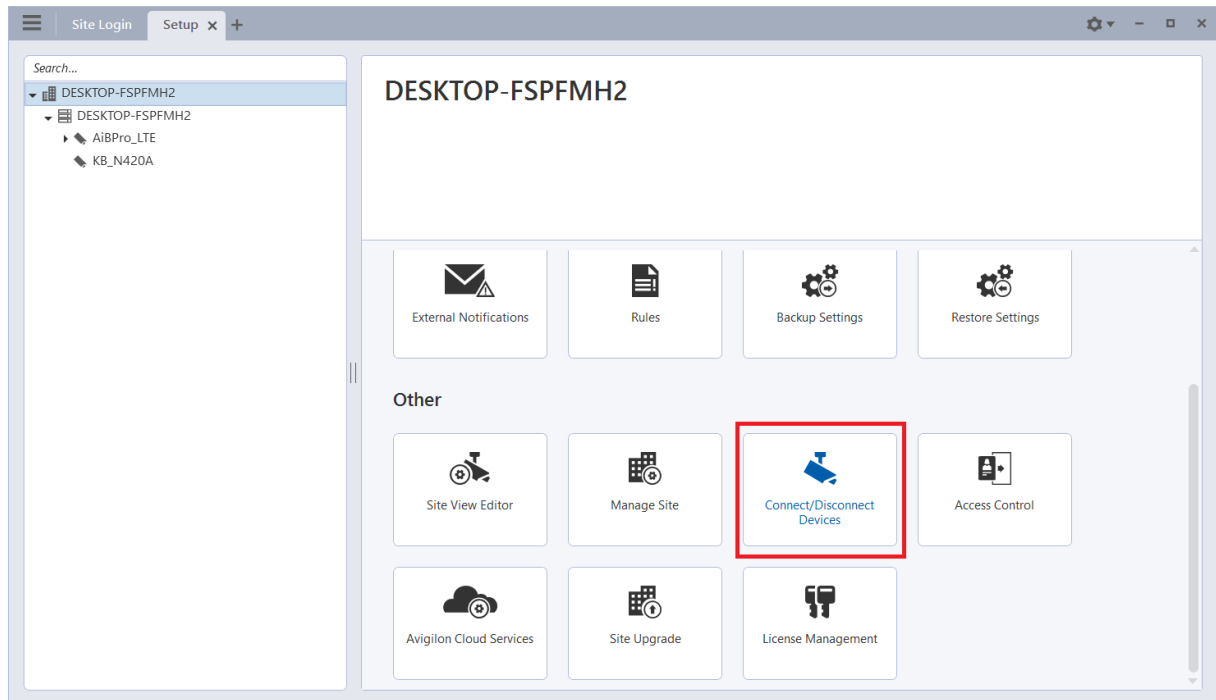
The account created will need permissions for alarm triggering and bookmarking. In this document, we will select administrator rights.

The screenshot shows the 'Add/Edit User' dialog box with the 'Member Of' tab selected. The 'Groups' list on the left includes '고급 사용자', '관리자' (selected), '제한 사용자', '표준 사용자', 'Cloud 관리자', and 'Cloud 뷰어'. The 'User Privileges for 관리자:' section on the right lists various permissions, all of which are checked. The 'Access Rights for 관리자:' section on the right shows a search bar and a list of access rights, all of which are checked. The 'OK' and 'Cancel' buttons are at the bottom right.

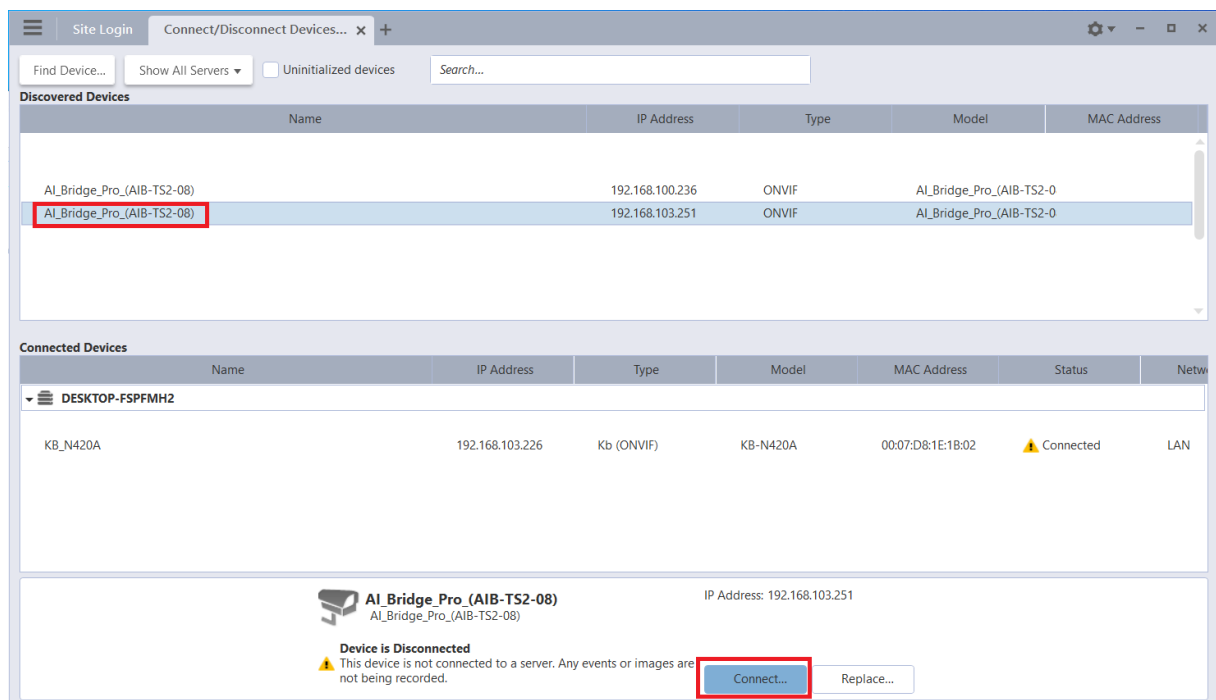
Group	User Privileges for 관리자:	Access Rights for 관리자:
고급 사용자		
관리자	☒ View live images ☒ Use PTZ controls ☒ Lock PTZ controls ☒ Trigger manual recording ☒ Trigger digital outputs ☒ Broadcast to speakers ☒ Receive live events with identifying feat ☒ View high-resolution images ☒ View recorded images ☒ Export images ☒ View images recorded before login ☒ Archive images ☒ Create teach markers ☒ Licensed search for identifying featur ☒ Add to face watch lists from recorder ☒ Manage saved views ☒ View Maps ☒ Manage maps ☒ Manage web pages ☒ Manage virtual matrix monitors ☒ Initiate collaboration sessions ☒ Manage user sessions ☒ Listen to microphones ☒ Setup devices ☒ Setup general settings ☒ Setup network settings ☒ Setup image and display settings	☒ DLX-TOP-FSP1MH2 ☒ AIBPro_1TE(27384-1) ☒ AIBPro_1TE(27384-2) ☒ AIBPro_1TE(27384-3) ☒ AIBPro_1TE(27384-4) ☒ AIBPro_1TE(27384-5) ☒ AIBPro_1TE(27384-6) ☒ AIBPro_1TE(27384-7) ☒ AIBPro_1TE(27384-8) ☒ AIBPro(22416-1) ☒ AIBPro(22416-2) ☒ AIBPro(22416-3) ☒ AIBPro(22416-4) ☒ KBLN420A
제한 사용자		
표준 사용자		
Cloud 관리자		
Cloud 뷰어		

3) Adding the AIBOX-PRO to Avigilon ACC VMS.

In the Avigilon ACC Client, select "Connect/Disconnect Devices".



AIBOX-PRO operates like an Onvif Device, so it is automatically detected by Avigilon ACC VMS. If the device is not automatically detected, please check your network configuration.



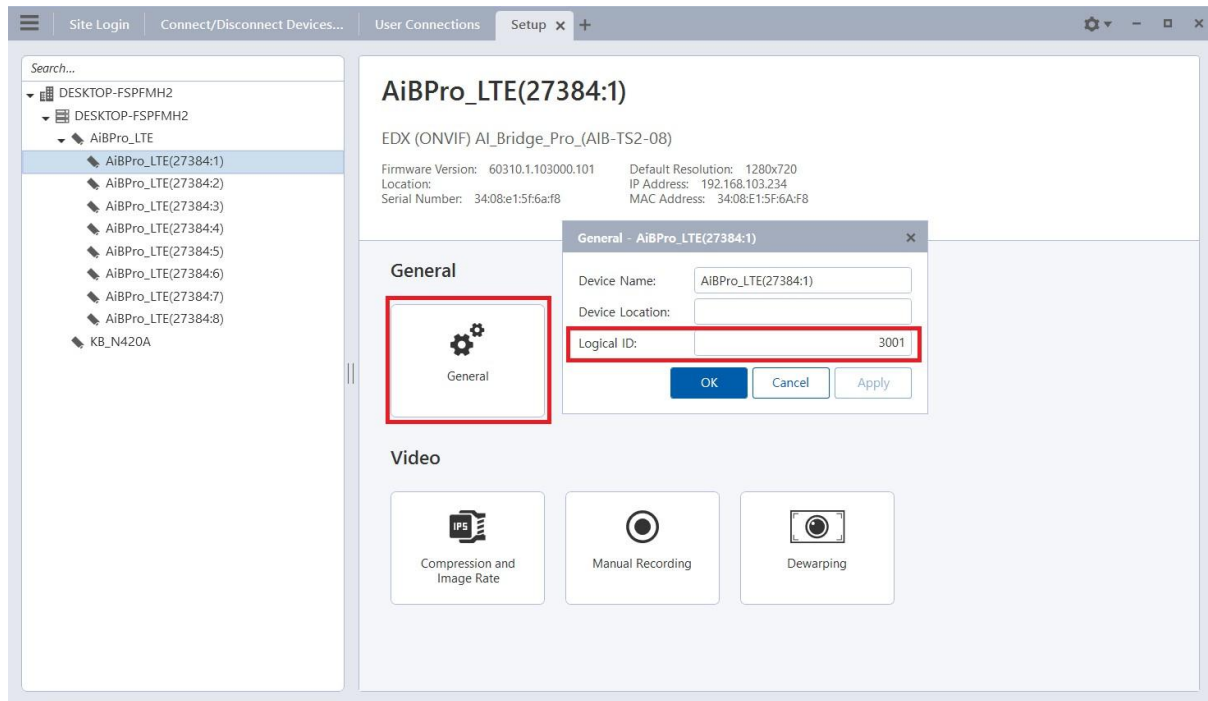
Click on 'General' in the properties of each video channel to assign a Logical ID.

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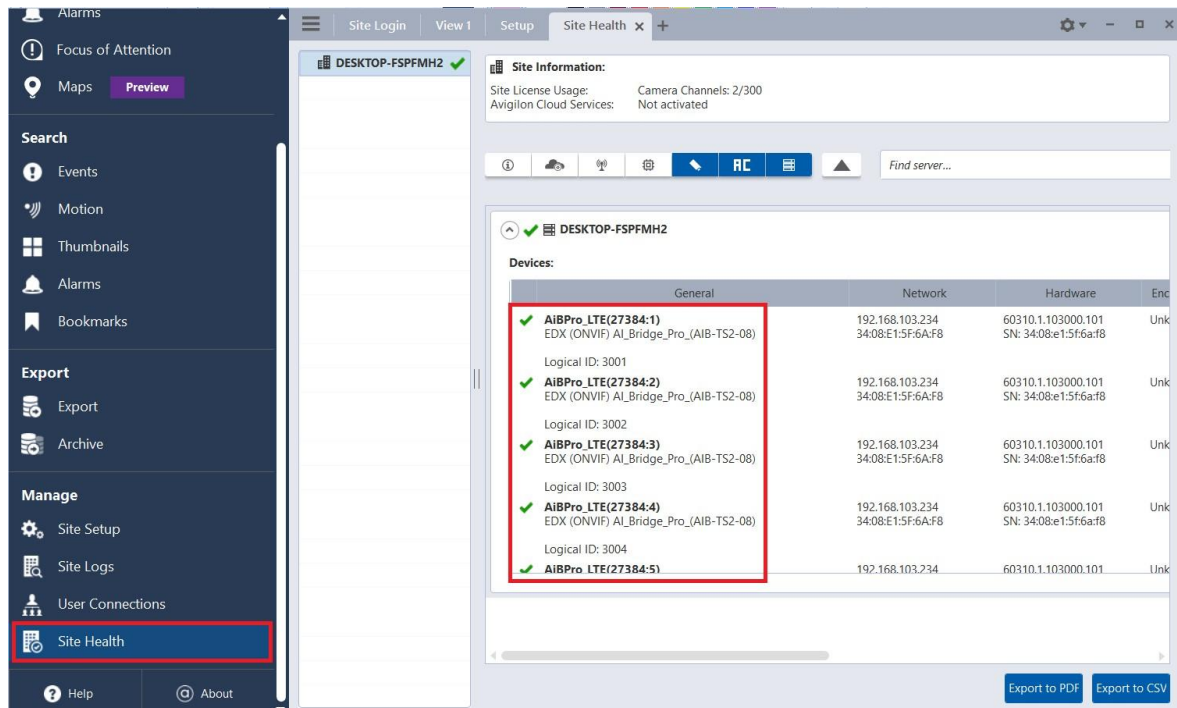
NOTA APPLICATIVA



This Logical ID is used to link channel information between AIBOX-PRO and Avigilon ACC.
Please ensure that it does not duplicate with other channels.

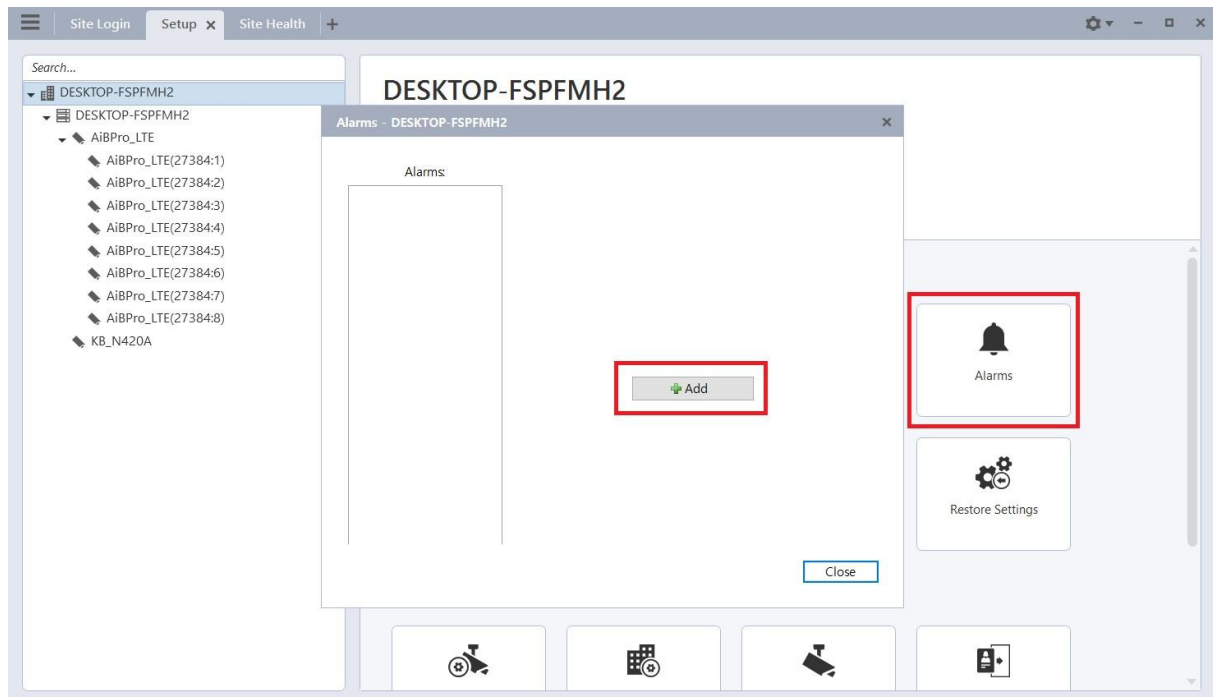


The Logical IDs assigned to each channel can be viewed in the 'Site Health' menu.

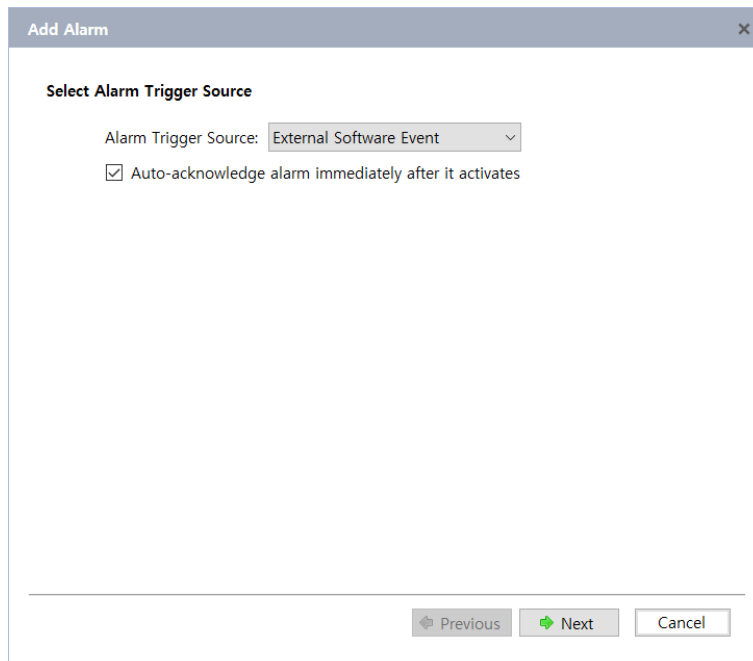


4) Add AI alarm definitions.

In the Avigilon ACC Client, select "Alarms" from General panel



Choose the trigger source "External Software Event".



Select the video channel that will be integrated with this alarm.

Add Alarm

Select Linked Devices

Select the device(s) to link to this alarm:

Search...

DESKTOP-FSPFMH2

DESKTOP-FSPFMH2

AiBPro

AiBPro_LTE

☒ AiBPro_LTE(27384:1)

☐ AiBPro_LTE(27384:2)

☐ AiBPro_LTE(27384:3)

☐ AiBPro_LTE(27384:4)

☐ AiBPro_LTE(27384:5)

☐ AiBPro_LTE(27384:6)

Pre-Alarm Record Time: 5 seconds

Recording Duration: 1 min 0 sec

☐ View linked devices when alarm is triggered

Previous

Next

Cancel

Enter the event name as "AI Event1". This value is an essential key for distinguishing events between AIBOX-PRO and Avigilon ACC. It must be entered in the "Alarm ID" property in the Avigilon Action handler settings of AIBOX-PRO.

Add Alarm

Select Alarm Properties

Name: AI Event1

Priority: 1

Schedule: Always

☒ Enable alarm

Previous

Finish

Cancel

If you want to use different Alarms for each AIBOX-PRO channel, you designate video channels for each channel and create alarms sequentially, as shown in the attached example.

Alarms - DESKTOP-FSPFMH2

Alarms:

AI Event1

AI Event2

AI Event3

AI Event4

AI Event5

AI Event6

AI Event7

AI Event8

AI Event8

Alarm priority: 1

Alarm is enabled

Alarm Schedule is 'Always'

Alarm triggered on an external software event

Auto-acknowledge alarm immediately after it activates

Alarm is linked to device AiBPro_LTE(27384:8)

Alarm recipients are 고급 사용자, 관리자, 표준 사용자

Edit

Delete

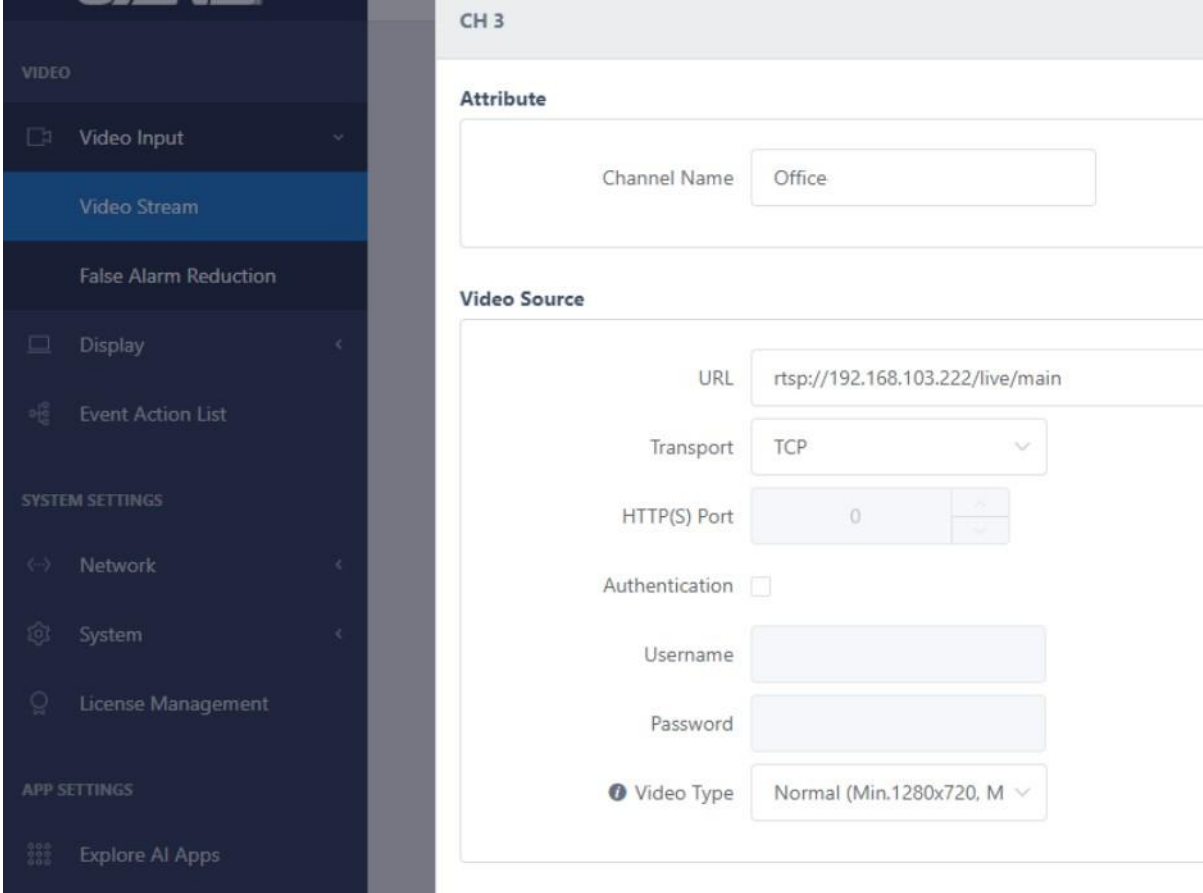
Add

Close

2.2 AIBOX-PRO Configuration

1) Add Video Stream

Set (add) the video stream. You can add it either by using an Onvif device search or by directly adding the IPCAM RTSP stream address.



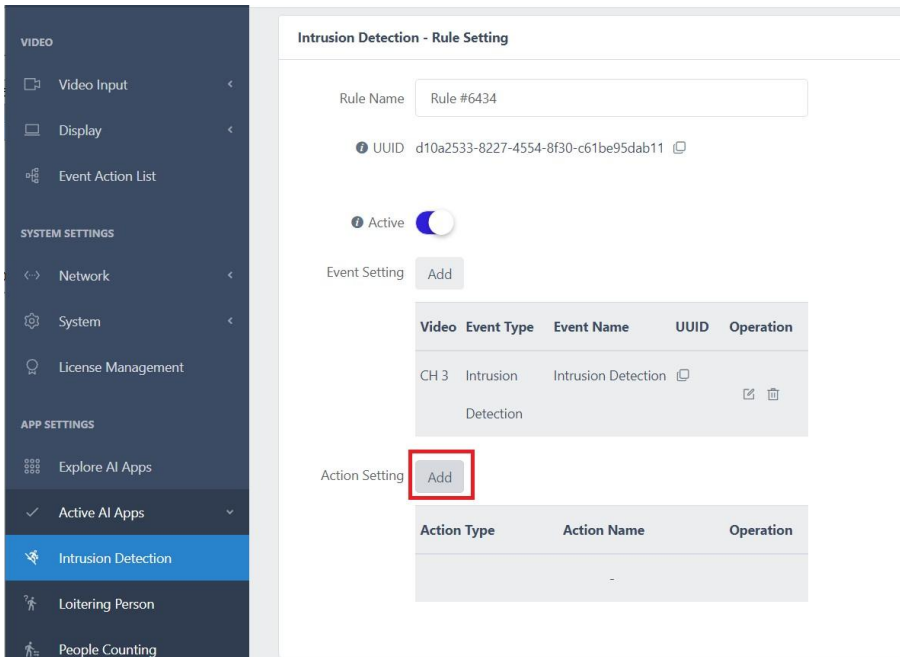
The screenshot displays the configuration interface for Channel 3. The left sidebar contains a menu with the following sections: VIDEO (Video Input, Video Stream, False Alarm Reduction), DISPLAY (Display, Event Action List), SYSTEM SETTINGS (Network, System, License Management), and APP SETTINGS (Explore AI Apps). The 'Video Stream' option is selected. The main panel is titled 'CH 3' and contains two sections: 'Attribute' and 'Video Source'. The 'Attribute' section has a 'Channel Name' field with the value 'Office'. The 'Video Source' section includes a 'URL' field with the value 'rtsp://192.168.103.222/live/main', a 'Transport' dropdown menu set to 'TCP', an 'HTTP(S) Port' field with the value '0', an 'Authentication' checkbox, 'Username' and 'Password' fields, and a 'Video Type' dropdown menu set to 'Normal (Min.1280x720, M'.

Attribute	
Channel Name	Office

Video Source	
URL	rtsp://192.168.103.222/live/main
Transport	TCP
HTTP(S) Port	0
Authentication	☐
Username	
Password	
Video Type	Normal (Min.1280x720, M

2) Set up the AI App

Select the desired AI App and set the AI event for the channel.
In the Actions Setting, click the Add button to add the Avigilon action handler.



Intrusion Detection - Rule Setting

Rule Name: Rule #6434

UUID: d10a2533-8227-4554-8f30-c61be95dab11

Active: ☒

Event Setting: [Add](#)

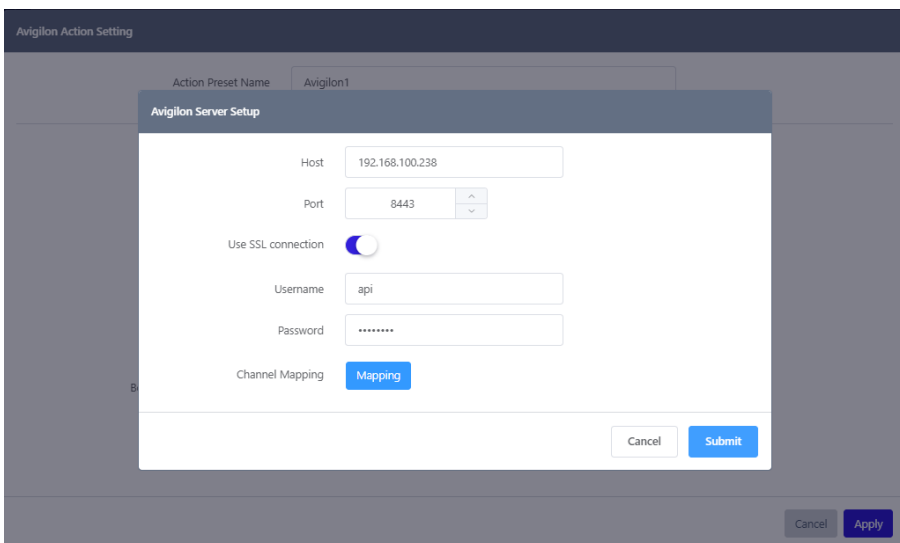
Video	Event Type	Event Name	UUID	Operation
CH 3	Intrusion	Intrusion Detection		Edit Delete

Action Setting: [Add](#)

Action Type	Action Name	Operation

3) Enter the Avigilon ACC VMS Server Information

Enter the IP address of the Avigilon ACC VMS and other server information. Then click the channel "Mapping" button.



Avigilon Action Setting

Action Preset Name: Avigilon1

Avigilon Server Setup

Host: 192.168.100.238

Port: 8443

Use SSL connection: ☐

Username: api

Password:

Channel Mapping: [Mapping](#)

[Cancel](#) [Submit](#)

[Cancel](#) [Apply](#)

Enter the Camera Logical ID of Avigilon ACC VMS.

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Note: If you enter the IPCAM's Logical ID information instead of the AIBOX-PRO's Logical ID in the camera mapping information, it operates as the Case2 **integration type**.

Channel Mapping

1 CH	3001
2 CH	3002
3 CH	3003
4 CH	3004
5 CH	3005
6 CH	3006
7 CH	3007
8 CH	3008

Close

For the "Alarm ID" property, input the name of the "Alarm" that you added in Avigilon ACC. In this guide, we have entered it as "AI Event".

If you select 'Add Channel Number,' the channel number will be automatically added to the Alarm ID.

For example) Channel 1: AI Event1, Channel 2: AI Event2, Channel 8: AI Event8

Avigilon Action Setting

Action Preset NameAvigilon1

Avigilon Server192.168.100.238:8443Edit

Usernameapi

Only one Avigilon server can be used.

Alarm IDAI EventAdd Channel Number

Use BookmarkEnabled

Bookmark MessageCH[{ch}] - {(event_name)} - {(iso8601)}Set

Test EventCH 1Test

CancelApply

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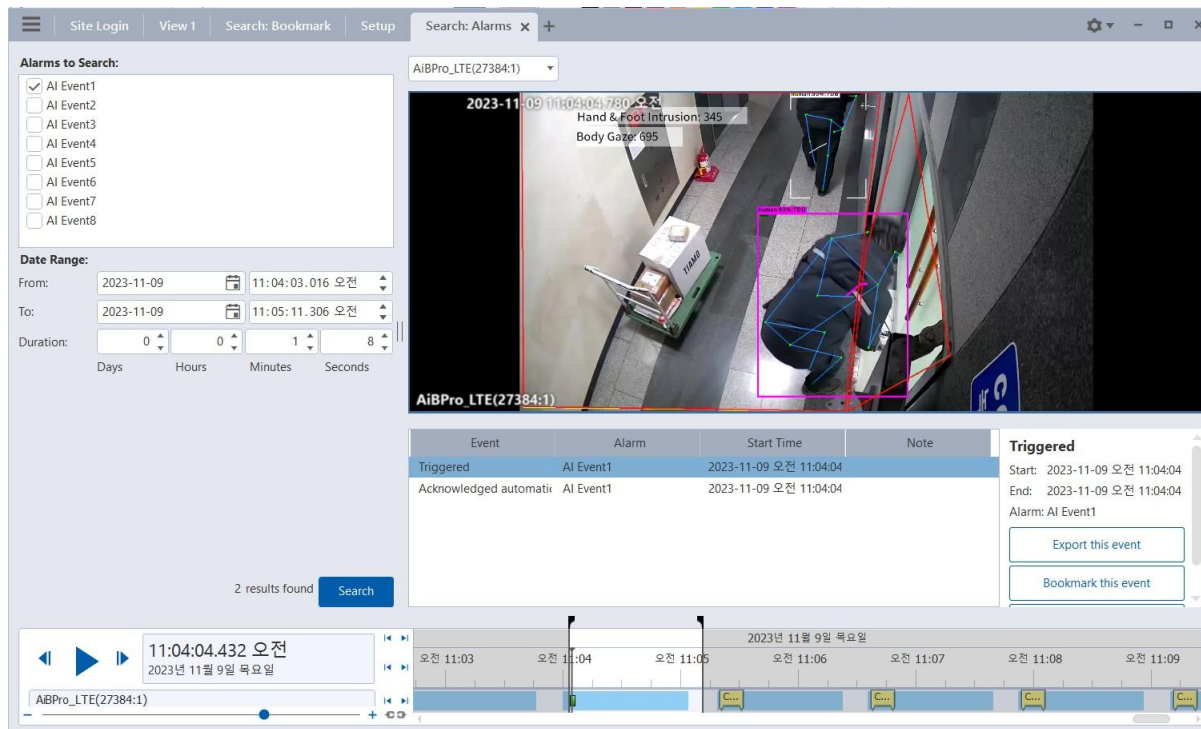


The Bookmark Message field can be utilized in various ways. You can enter event texts, LPR information, etc., so you can send additional information in the Avigilon ACC VMS.

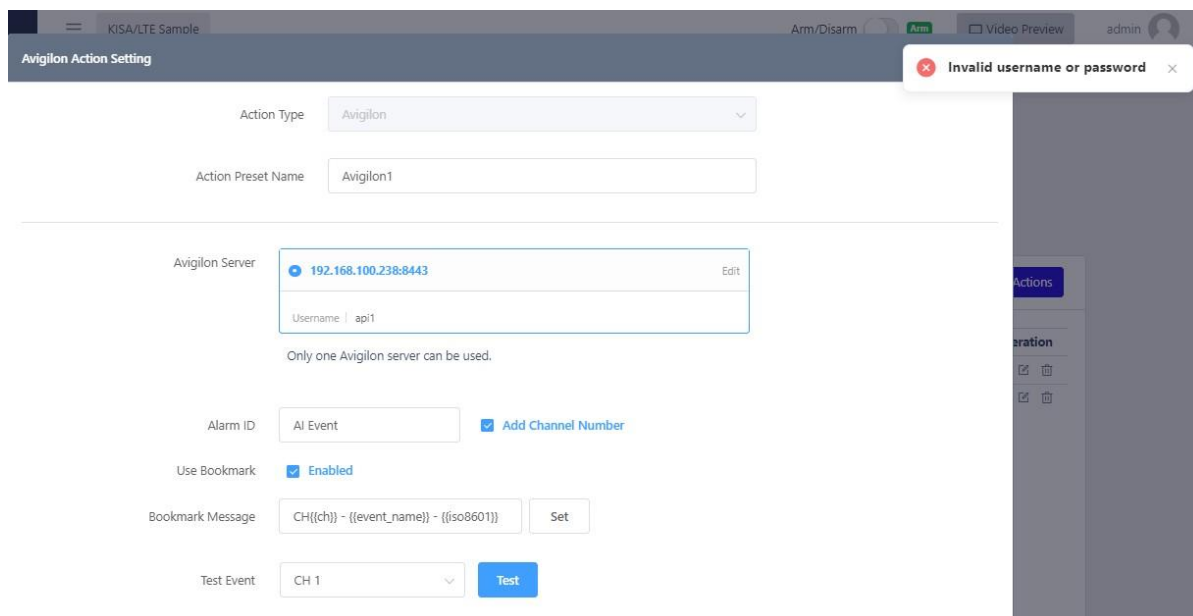
The image contains two side-by-side screenshots of the Avigilon ACC VMS configuration interface. Both screenshots show a dark header bar with the word "Object" on the left. The left screenshot shows a "String Construction" dropdown menu open, displaying a list of templates: "Simple msg template", "Simple msg template(Json)", "Basic Object msg template", "Object msg template(Json)", "Simple LPR msg template", "Basic LPR msg template", and "LPR msg template(Json)". Below the dropdown is an "Editable Box" containing the text "4P)" and a "Message Example" field containing "456". The right screenshot shows the "String Construction" dropdown set to "Simple LPR msg template". Below it is a "Select to add tokens" dropdown and an "Editable Box" containing the template code: `{{(LIST OBJECTS[PARAM=COMMA])}}
{{(OB[LP_TEXT_DETECTED])}}{{(LIST
OBJECTS[PARAM=COMMA])}}`. The "Message Example" field contains the text "DR161AR, FR809XE".

Note: If you want to set the Object property differently for each AI App, you can create a separate Avigilon Action handler for each AI App.

By pressing the "Test" button, you can check the Test Event in the Avigilon ACC Client.



If the test fails, please refer to the error message that appears at the top right of the screen and check the settings. You can verify various issues such as VMS connection failure, authentication failure, incorrect Alarm ID, or incorrect Logical ID of the video.



If the event test is successful, check the "Activate Avigilon action handler" checkbox and press the "Apply" button to save the handler settings.

Action Setting

Action Type

Avigilon

- Check the target action you want to apply to this rule.
- You need to choose one action.

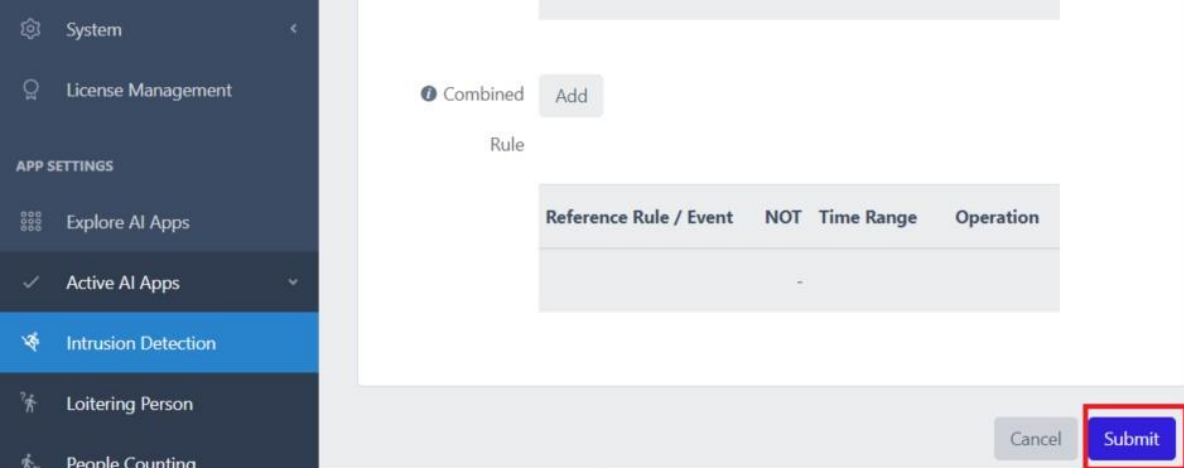
Avigilon Action Add

	Name	Operation
☒	Avigilon1	  

Cancel

Apply

Finally, press the "Submit" button located at the bottom of the AI App settings to save all configurations.



System

License Management

APP SETTINGS

Explore AI Apps

Active AI Apps

Intrusion Detection

Loitering Person

People Counting

Combined Add

Rule

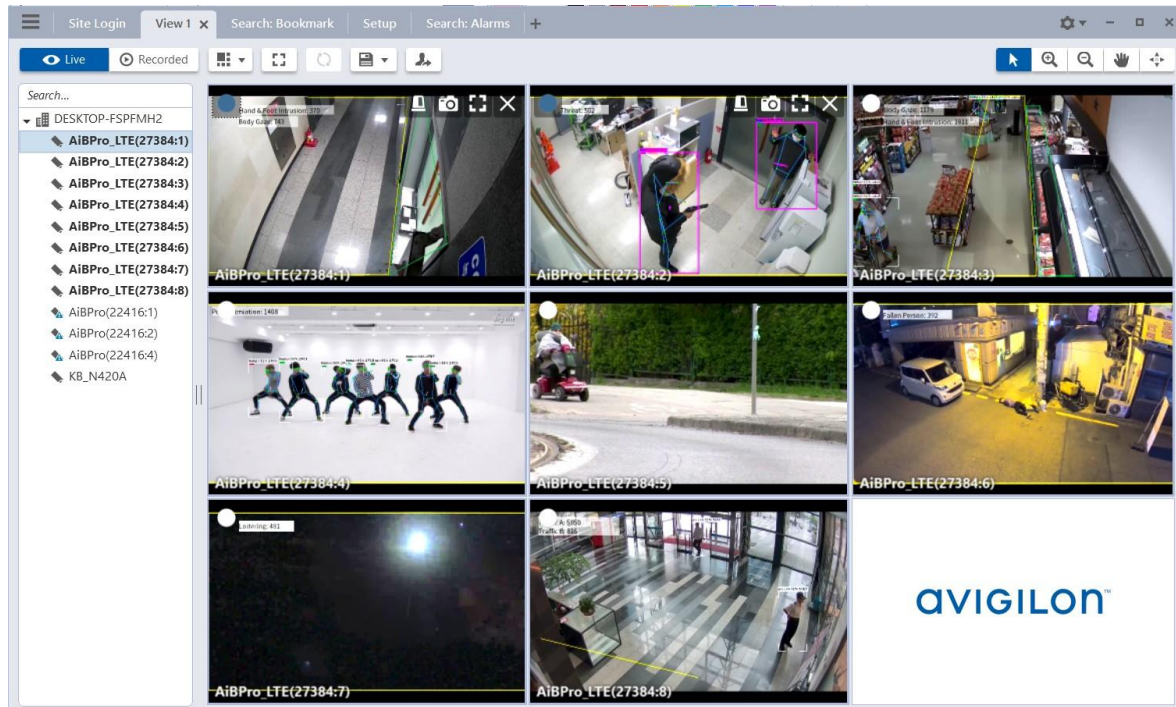
Reference Rule / Event	NOT	Time Range	Operation

Cancel Submit

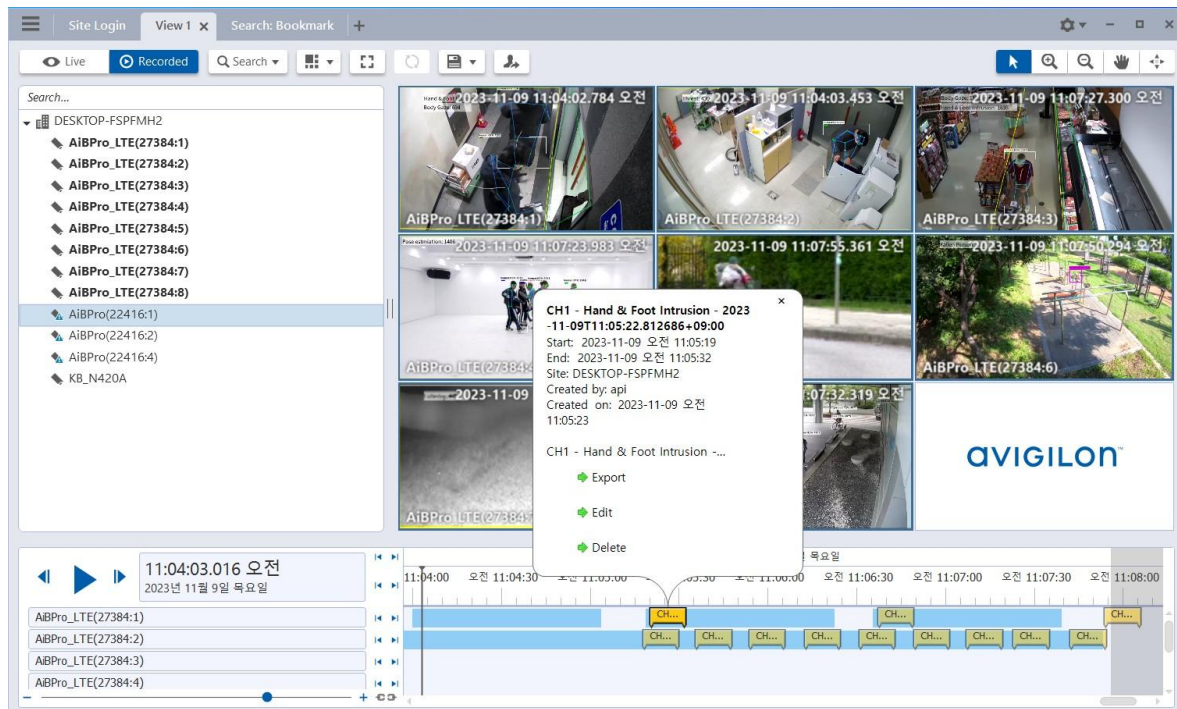
3. Demo

3.1 Live/Recorded

In the live view of Avigilon ACC, you can check object recognition information through the annotated video provided by AiBOX-PRO, and a pink BBox appears when an event occurs.

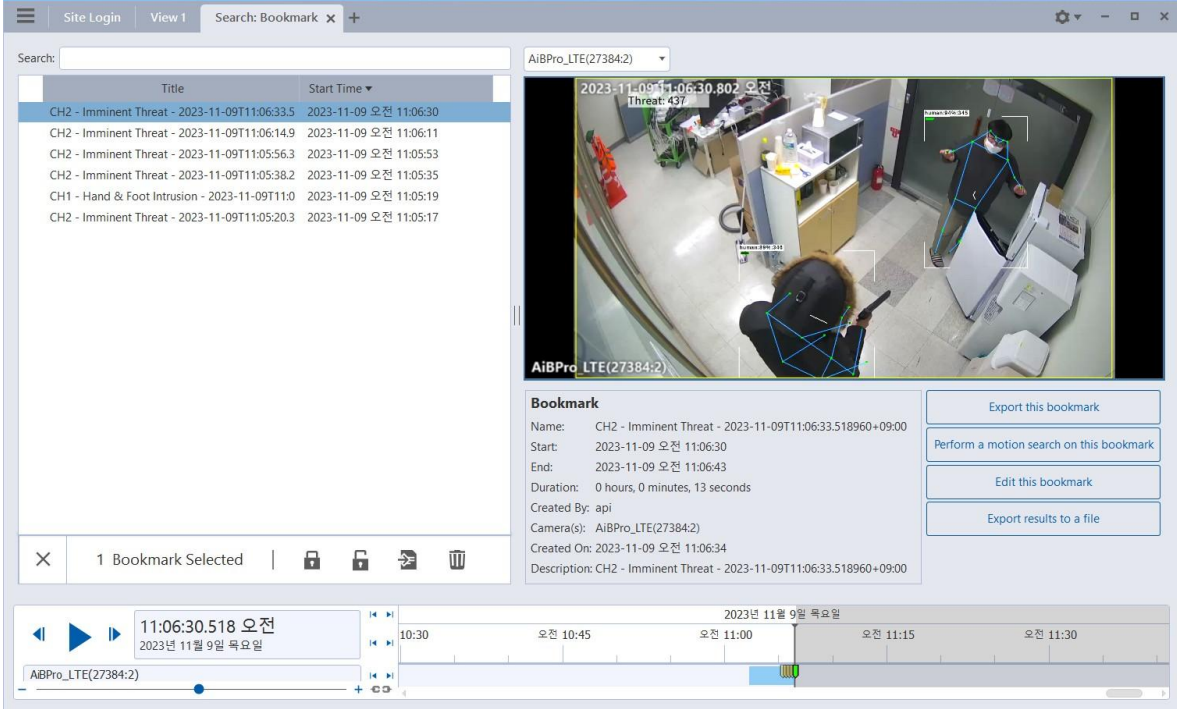


In the recorded data screen of Avigilon ACC, when an AI Event occurs, a bookmark icon appears on the timeline information at the bottom of the screen, and by clicking on the bookmark, you can view the details of the AI Event.



3.2 Search

In the bookmark search screen, you can search for AI Events that have been automatically bookmarked when they occur. By utilizing the Bookmark Message in AIBOX-PRO's Avigilon settings, you can dynamically generate various information. For example, using the LPR (License Plate Recognition) information template, you can find the license plate information through bookmark search.



The screenshot displays the AIBOX-PRO Avigilon search interface. The top navigation bar includes 'Site Login', 'View 1', and a search bar with 'Bookmark' entered. Below the navigation bar, there is a search results table on the left and a video preview on the right.

Title	Start Time
CH2 - Imminent Threat - 2023-11-09T11:06:33.5	2023-11-09 오전 11:06:30
CH2 - Imminent Threat - 2023-11-09T11:06:14.9	2023-11-09 오전 11:06:11
CH2 - Imminent Threat - 2023-11-09T11:05:56.3	2023-11-09 오전 11:05:53
CH2 - Imminent Threat - 2023-11-09T11:05:38.2	2023-11-09 오전 11:05:35
CH1 - Hand & Foot Intrusion - 2023-11-09T11:05:20.3	2023-11-09 오전 11:05:19
CH2 - Imminent Threat - 2023-11-09T11:05:20.3	2023-11-09 오전 11:05:17

The video preview shows a security camera feed from 'AiBPro_LTE(27384:2)' with a timestamp of '2023-11-09 11:06:30.802 오전'. The video shows a person in a dark jacket and mask walking through a doorway. The video is labeled 'Threat: 437'.

Below the video preview, there is a 'Bookmark' section with the following details:

- Name: CH2 - Imminent Threat - 2023-11-09T11:06:33.518960+09:00
- Start: 2023-11-09 오전 11:06:30
- End: 2023-11-09 오전 11:06:43
- Duration: 0 hours, 0 minutes, 13 seconds
- Created By: api
- Camera(s): AiBPro_LTE(27384:2)
- Created On: 2023-11-09 오전 11:06:34
- Description: CH2 - Imminent Threat - 2023-11-09T11:06:33.518960+09:00

On the right side of the bookmark details, there are four buttons: 'Export this bookmark', 'Perform a motion search on this bookmark', 'Edit this bookmark', and 'Export results to a file'.

At the bottom of the interface, there is a timeline showing the search results. The timeline is labeled '2023년 11월 9일 목요일' and shows a range from 10:30 to 11:30. A specific event is highlighted at 11:06:30.518 오전, 2023년 11월 9일 목요일.

3.3 Alarm Manager

In the Alarm Manager, by clicking on an individual alarm, you can check detailed event occurrence information with recorded video.

