

# Guide to Powering Agent Vi Analytics on Cognnyte's VMS

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# 1 Overview

Integration of Agent Vi's savVi with Cognyte's VMS offers:

- Real-Time Detections and Alerts. Events of interest are sent to the Cognyte VMS Review
- Video Search. Recorded video is queried and events of interest are located and extracted from the Cognyte VMS recording server
- Business Intelligence. Statistical information such as counting data and average vehicle speed

These capabilities are available for cameras and encoders powered by Agent Vi's embedded Vi-Agent ("Optimized Deployment" for greater scalability) and for cameras managed by Cognyte VMS but not powered by Vi-Agent ("Flexible Deployment" using Vi-Agent Proxy to pull live video from Cognyte VMS).

## 1.1 About this Guide

This guide shows how to deploy and configure savVi and Cognyte's VMS for video analytics.

## 1.2 Version Compliance

- savVi versions 5.4, 5.5
- Check Agent Vi's website for supported VMS versions

## 1.3 Enabling Procedure

To enable analytics with Cognyte VMS:

1. Install savVi. For additional information, please refer to the Agent Vi online Certification Program, Installer course, Installation and Configuration lessons
2. Install Cognyte VMS SDK:

savVi integration with Cognyte VMS requires Cognyte SDK to be installed on all PCs running:

- Vi-Agent Proxy (VAP) -or-
- savVi-Manager and savVi-Analyst client applications -or-
- Vi-LBS service

SDK is unnecessary only if savVi and Cognyte VMS are installed on the same PC (see below).

The following SDKs (available for download on Agent Vi Partner Portal) are required:

- For Cognyte 6.4 SP3: Cognyte 6.4 SP3 - SDK 64.3.2811 and RU3 64.3.3008
- For Cognyte 7.5 SP1: Cognyte 7.5 SDK 75.1.7623
- For Cognyte 7.6: SDK 76.0.575 and Plugin
- For Cognyte 7.7: SDK 7.7.11225.3

3. For integration of **savVi version 5.4** with **Cognyte VMS version 7.6**,  
Extract the VI\_VAPVerintPlugin.dll file from the **Cognyte 7.6 SDK 76.0.575 and Plugin** zip file

For integration of **savVi version 5.5** with **Cognyte VMS version 7.5 SP1**,  
Extract the VI\_VAPVerintPlugin.dll file from the **Plugin for savVi 5.5 and Cognyte 7.5 SP1** zip file

Perform the following:

In all machines on which savVi is installed:

- Stop all ViAgentProxy Windows service(s)
- Stop the VIVMSManager Windows service
- Close the savVi-Manager and savVi-Analyst GUI clients, if opened. This stopped all processes which use the plugin DLL
- Open the "C:\Program Files (x86)\AgentVi\savVi\vi-agentproxy\Plugins" folder. This is the default location. The actual folder may be different
- Find the existing VI\_VAPVerintPlugin.dll file and MOVE it to another folder, for backup only. Do not rename it at the original folder
- Copy the new VI\_VAPVerintPlugin.dll to the "C:\Program Files (x86)\AgentVi\savVi\vi-agentproxy\Plugins" folder
- Open the "C:\Program Files (x86)\AgentVi\savVi\vi-client\plugins" folder. This is the default location. The actual folder may be different
- DELETE the existing VI\_VAPVerintPlugin.dll file. Do not rename it at the original folder, and there is no need to backup this second copy of the same DLL
- Copy the new VI\_VAPVerintPlugin.dll to the "C:\Program Files (x86)\AgentVi\savVi\vi-client\plugins" folder. The new patch DLL is now replaced both copies of the old one
- Start the VIVMSManager Windows service
- Start all ViAgentProxy Windows service(s)
- Open the savVi-Manager, savVi-Analyst GUI clients, if needed

For integration with **Cognyte VMS version 7.7** – just install the SDK

4. Use savVi-Manager to configure the connection with Cognyte VMS server and to add cameras. For additional information, please refer to the Agent Vi online Certification Program, Installer course, VMS Integration lesson
5. When deploying real-time detections, configure Cognyte VMS to receive analytics events (see [Configuring Cognyte VMS for Analytics Events](#))
6. Ensure that all Agent Vi's client/server machines as well as all Cognyte VMS's client/server machines are continuously time-synchronized by a single NTP server

**Note:** Refer also to section Specific Installation and Configuration Aspects below for additional considerations specific to the savVi-Cognyte VMS integration.

## 2 Specific Installation and Configuration Aspects

### 2.1 VMware environment

Read this section if you're installing savVi on a VMware VM environment.

If you install savVi in Virtual Machine environment, using VMware vSphere 6.0 or later, and set it to work in Multicast mode, set the Multicast filtering mode from "**Basic Multicast Filtering**" to "**Multicast Snooping**". This setting will allow exceeding 32 multicast groups defined in the basic settings. To enable this configuration, you will need a **VMware vSphere Enterprise Plus** license

### 2.2 All-In-One Installation

Read this section if you're installing savVi and Cognyte VMS on the same PC ("All-in-One").

An All-In-One installation is for deployments in which Cognyte VMS and savVi can be installed and run on a single PC. Note that in addition to the standard installation steps:

- savVi must be installed on the PC *only after* Cognyte VMS is installed
- During installation of savVi, you may be prompted that port **8080** is being used by another program. If so, provide an alternative port number, e.g., **8082**.

### 2.3 Cognyte's Encoders

When deploying Agent Vi analytics for Cognyte's S1808e and S1816e encoders powered by the embedded Vi-Agent, note:

- The encoders deploy two Vi-Agent entities. Both must be connected to savVi's Vi-Server
- The first entity handles analytics for channels 1,2,3,4 and communicates with Vi-Server via TCP port 15030 (in both encoders)
- In S1808e, the second Vi-Agent entity handles analytics for channels 5,6,7,8 and communicates with Vi-Server via TCP port 25030
- In S1816e, the second Vi-Agent entity handles analytics for channels 9,10,11,12 and communicates with Vi-Server via TCP port 25030

### 2.4 Cognyte's S5120 IP Camera

When Cognyte's S5120 IP cameras are deployed with embedded Vi-Agent, make sure that the streaming frame rate does not exceed 15 FPS if the camera resolution for either the live or the recording stream is 1080p

### 2.5 Cognyte's V4530 IP Camera

When Cognyte's V4530 IP cameras are deployed with embedded Vi-Agent, make sure that the streaming frame rate does not exceed 30 FPS if the camera resolution for either the live or the recording stream is 3MP

### 3 Configuring Cognyte VMS for Analytics Events

This section shows how to configure Cognyte VMS for analytics events to be sent and displayed in the VMS.

- **To trigger analytics events in Cognyte VMS:**
  1. Define an event in Cognyte VMS (see Section [3.1](#))
  2. Define a scenario in Cognyte VMS, linked to the above Cognyte VMS event (see Section [3.2](#))
  3. Link savVi analytics rules with Cognyte VMS events (see Section [3.3](#))
  4. View analytics events in Cognyte VMS (see Section [3.4](#))

**Note:** It's sufficient to define a single Cognyte VMS Event/Scenario pair to trigger alarms for all savVi's analytics events, for all cameras.



For many deployments and use-cases, this can be the default configuration. You can choose, to define additional Cognyte VMS Event/Scenario pairs if you want to associate specific Cognyte VMS actions for certain analytics events or cameras.

#### 3.1 Define a Cognyte VMS Event

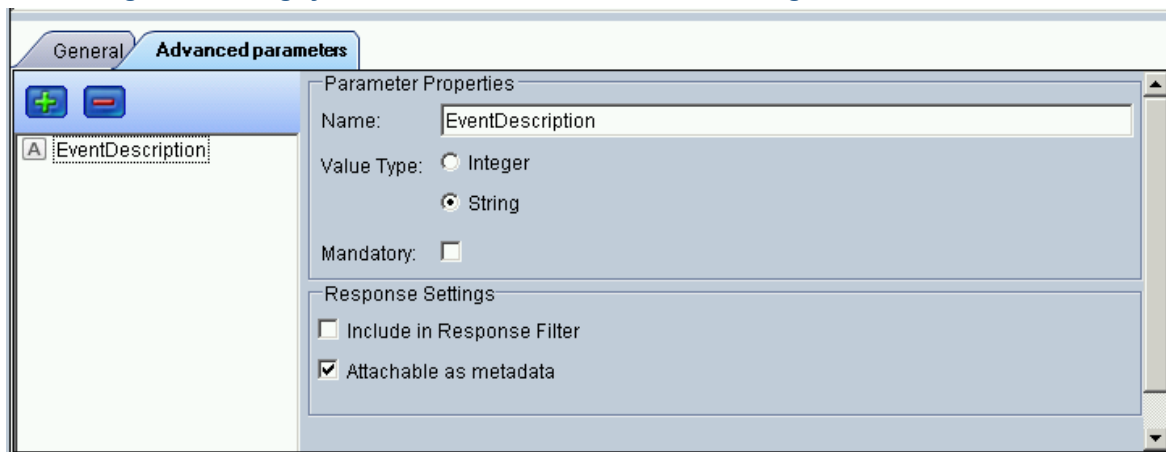
- **To define a Cognyte VMS event:**
  1. Log in to the Cognyte VMS Control Center.
  2. Select the **System Components** tab.
  3. Select the **Event Manager**
  4. Select **Custom Events**.

Figure 3-1: Cognyte VMS Control Center – Event Manager – Custom Events



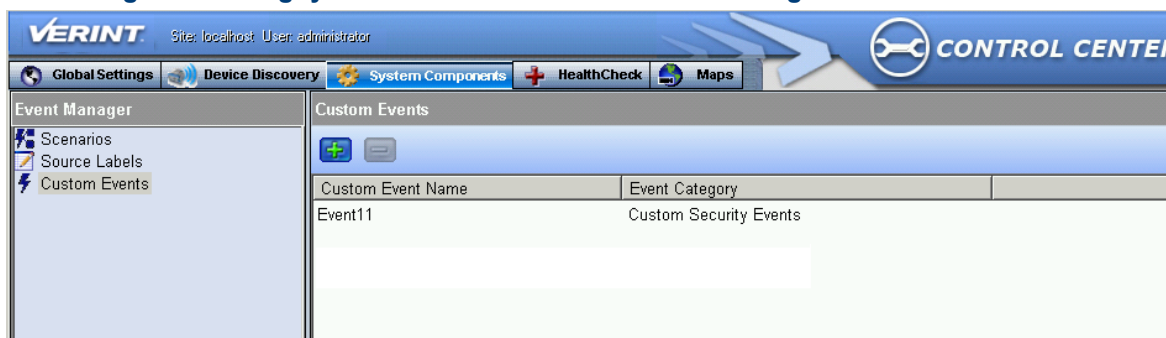
5. Click the  button to add a new custom event to Cognyte VMS.
6. Name the event (e.g., **Event11**).
7. Select **Custom Security Events** as the Event Category.
8. Select **an external event** as the Event Source Type.
9. In the event's **Advanced Parameters** tab, click the  button to add a named parameter to the new event. The parameter must be:
  - Named **EventDescription**
  - Of type **String**
  - **Attachable as metadata**

**Figure 3-2: Cognyte VMS Control Center – Event Manager – Event Parameters**




10. Click the **Apply** button to add the new event to Cognyte VMS:

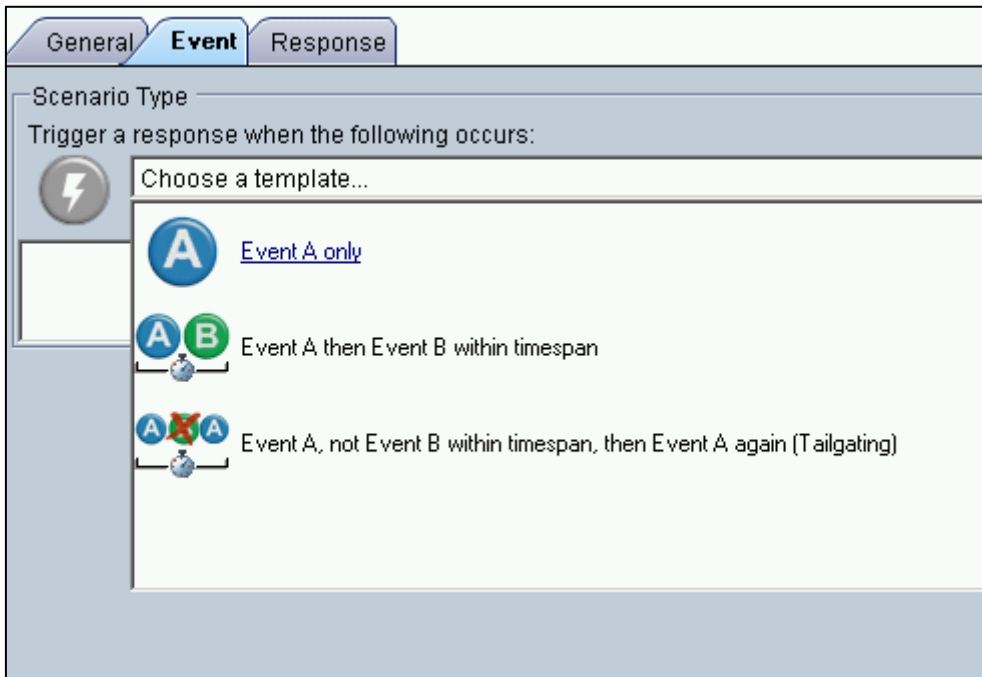
**Figure 3-3: Cognyte VMS Control Center – Event Manager – New Event Added**



## 3.2 Define a Cognyte VMS Scenario

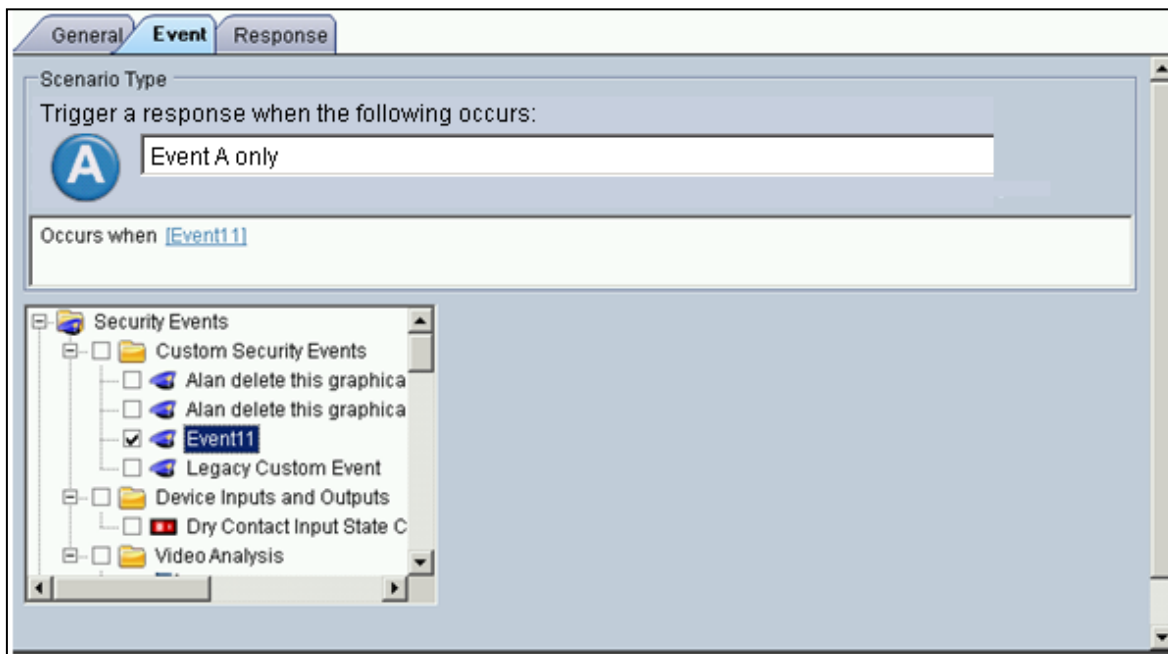
- **To define a Cognyte VMS scenario:**
  1. In the Event Manager, select **Scenarios** and click the  button to add a new scenario.
  2. Name the scenario (e.g., **Scenario11**)
  3. Click the scenario's **Event** tab:


**Figure 3-4: Cognyte VMS Control Center – Event Manager – New Scenario**



4. Under **Scenario Type**, select the first option - **Event A only**; an events tree appears. Note that for more advanced operations you can choose and configure the other options taking full advantage of Cognyte VMS capabilities.
5. In the Security Events tree, click to select the previously defined new custom event (**Event11**):

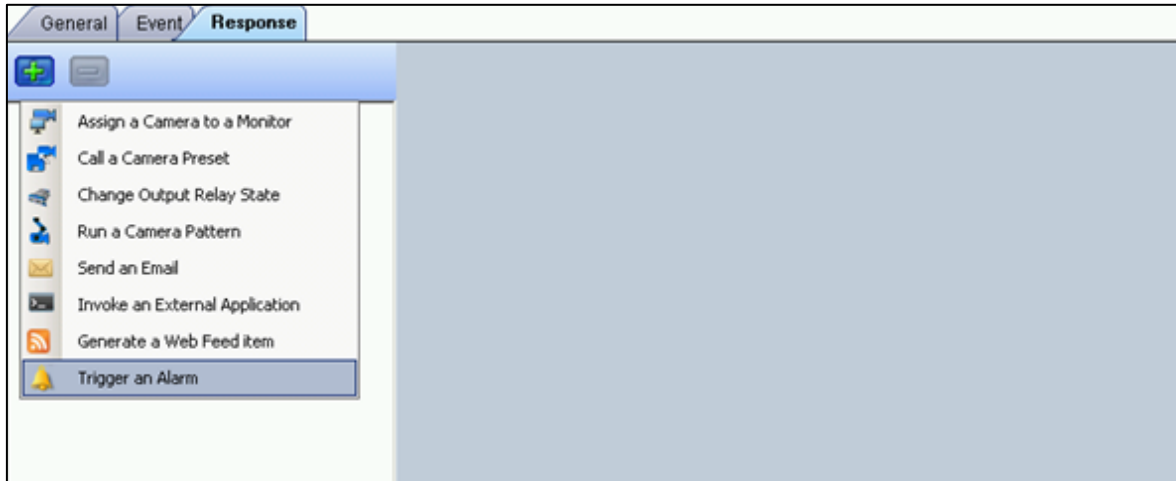
**Figure 3-5: Cognyte VMS Control Center – Event Manager – Select Event**



6. Click the scenario's **Response** tab.
7. Click the  button to add a response and select **Trigger an Alarm**:

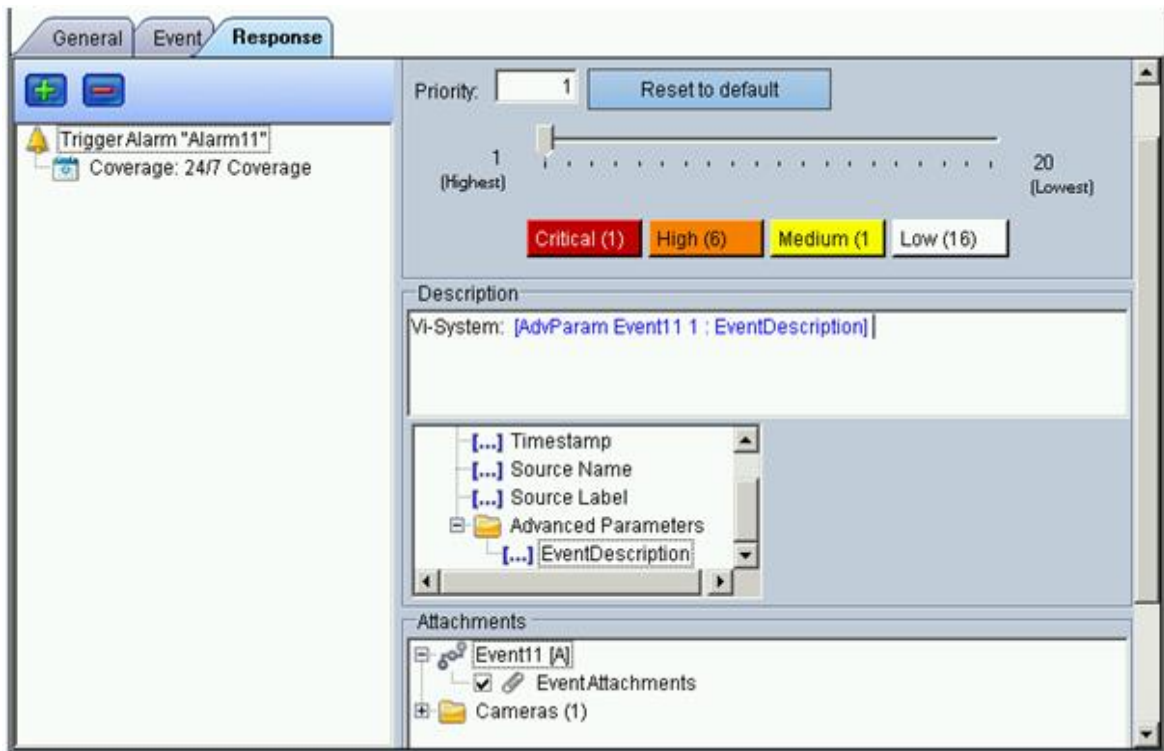


**Figure 3-6: Cognyte VMS Control Center – Event Manager - Response - Trigger an Alarm**



8. A response tree appears. In it, click to select the root item named **Trigger an Alarm**; the alarm properties are displayed.
9. Name the alarm (e.g., **Alarm11**)
10. Below the alarm's **Description** text box, select from the event's properties and click the event's **EventDescription** advanced parameter; it's added to the **Description** text box
11. Optionally, you can add free text in the **Description** text box as required
12. In the **Attachments** pane, expand 'Event11' and select the event's **Event Attachments**:

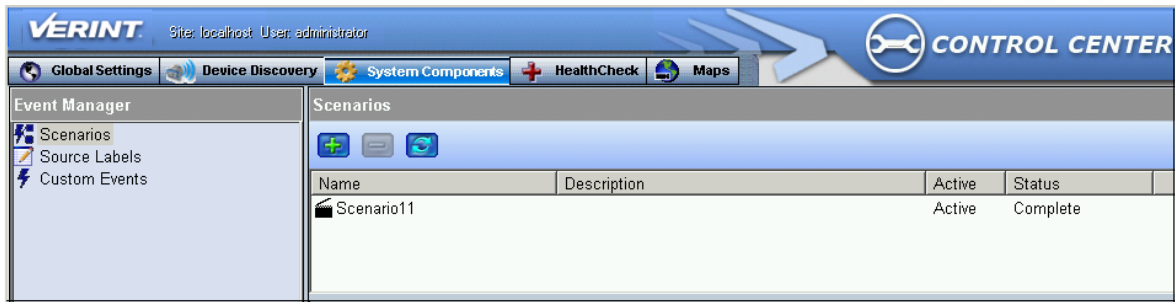
**Figure 3-7: Cognyte VMS Control Center – Event Manager - Attachments - Event Attachments**



13. Expand 'Cameras' and select the cameras assigned to savVi sensors that are configured to trigger events

14. Click the **Apply** button to add the new scenario to Cognyte VMS

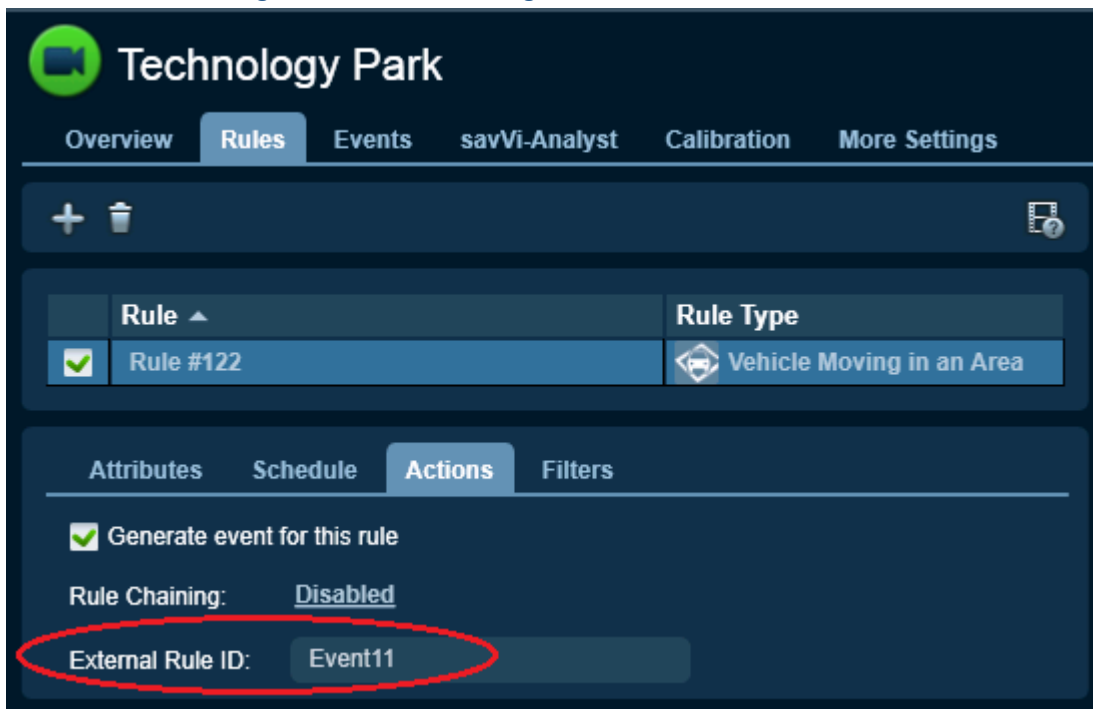
**Figure 3-8: Cognyte VMS Control Center – Event Manager – Scenario Added**



### 3.3 Link a savVi Rule with a Cognyte VMS Event

- To link a savVi rule with a Cognyte VMS event:
1. In savVi-Manager, navigate to **Sensor > Rules > Actions** for each rule that must trigger an event/alarm in Cognyte VMS and set **External Rule ID** to the Cognyte VMS event's name (**Event11** in the example here):

**Figure 3-9: savVi-Manager - External Rule ID**



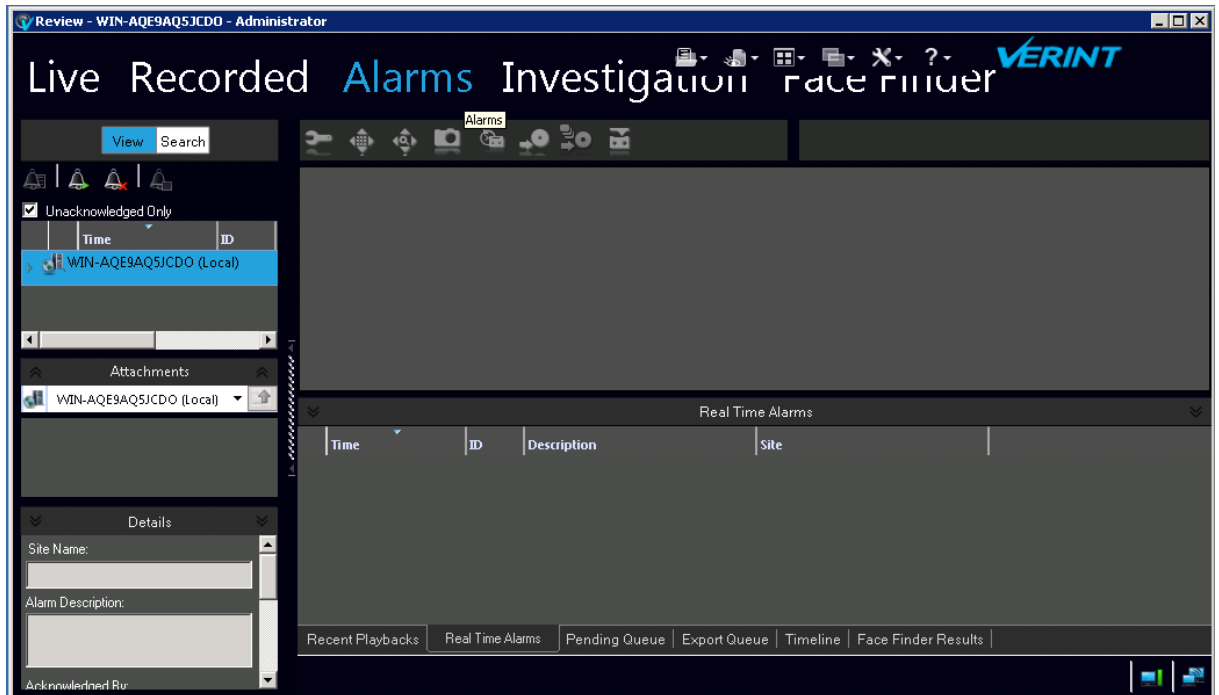
2. Click **Apply** to save the updated rule; you've successfully linked a savVi rule → Cognyte VMS event → a scenario → alarm in Cognyte VMS

### 3.4 Viewing Analytics Events in Cognyte VMS

View analytics events in Cognyte VMS to make sure that configuration and linkage were correctly performed.

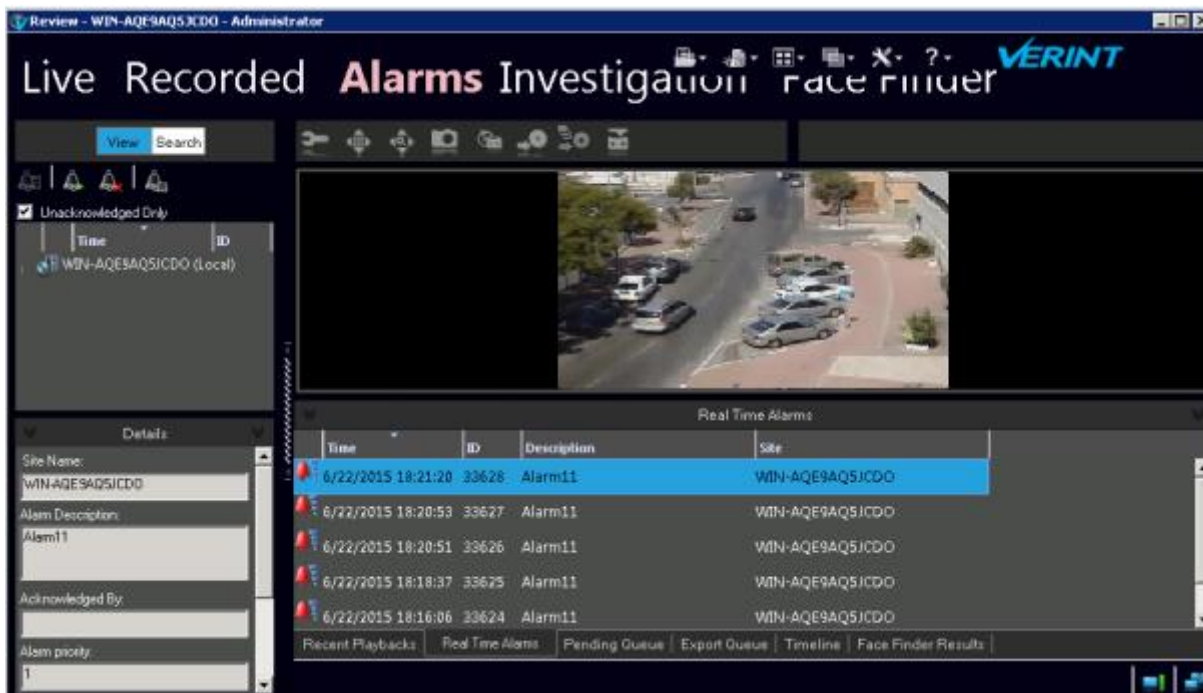
- **To view analytics events:**
  1. Log in to **Cognyte VMS Review**
  2. Select the **Alarms** tab:

Figure 3-10: Cognyte VMS Review – Alarms Tab



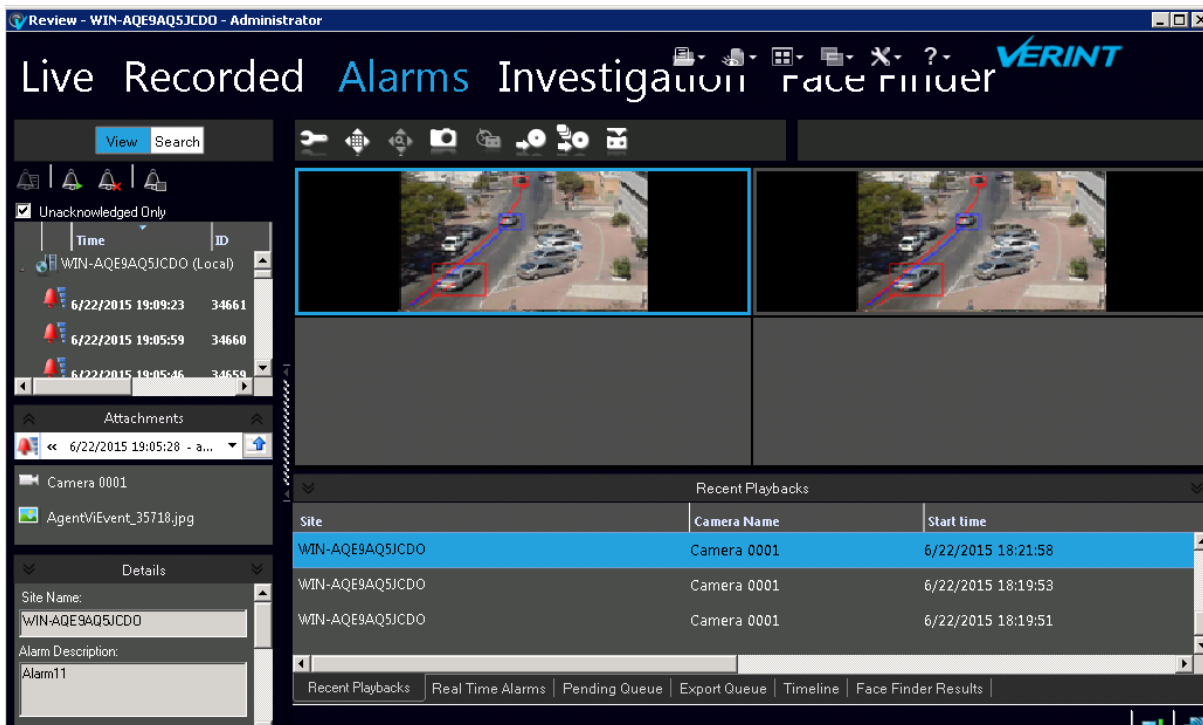
- When a savVi rule triggers an event, an alarm is displayed in Cognyte VMS Review:

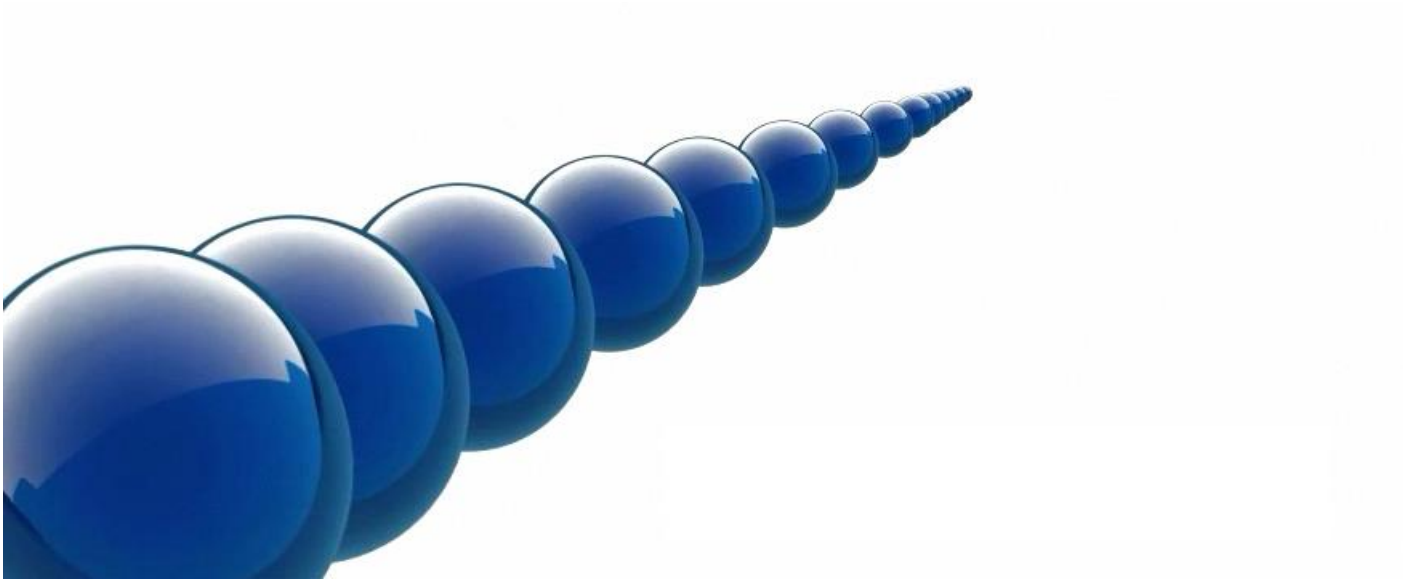
**Figure 3-11: Cognyte VMS Review – Alarm Displayed**



- Click an alarm to display video playback for the camera. Overlay is displayed only when Cognyte cameras/encoders are used

**Figure 3-12: Cognyte VMS Review – Event Playback**





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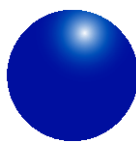
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