Avigilon Control Center™
System Integration Guide

with AMAG Symmetry™ Security Management System 9.0
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# Table of Contents

## Introduction
- What’s New ................................................................. 1
- Requirements ............................................................. 1
- For More Information ..................................................... 2

## Installation
- Upgrading the Integration ................................................ 3
  - From the Avigilon Control Center 5 Software .......................... 3
  - From the AMAG Symmetry Software 8.0.2 Onwards ..................... 3
- Installation ........................................................................ 3
  - Server ........................................................................ 3
  - Client ........................................................................ 4

## Configuration
- Adding an Integration User in the Symmetry Software .......................... 5
- Adding an Integration User in the Avigilon Control Center Software ...... 5
- Setting Up Gateway Alarms in the Avigilon Control Center Software .......... 6

## Setting Up Video Integration
- Assigning Logical IDs to Cameras ........................................ 7
- Adding Avigilon Recorder and Cameras to the Symmetry Software ........ 7

## Alarm Gateway
- Configuring Server Settings ................................................ 12
- Mapping Alarms .................................................................. 12
- Backing Up Mapped Alarms ................................................. 13
  - Restoring Mapped alarms ................................................ 15

## Using the Integration
- Monitoring Alarms ............................................................ 16
- Monitoring Video ............................................................. 16

## Troubleshooting
- Cannot Add Avigilon Cameras to the Symmetry Software .................... 17
- Purged Avigilon Alarms Still Present in the Symmetry Software .......... 17
- Mapped Avigilon Control Center System Alarms Displayed as Unknown .... 17
- Cannot Save Changes in the Configuration Tool ............................... 18
- Not Able to Zoom HD Pro camera in the Symmetry Software ............ 18
- Enabling Fisheye Camera Controls Inside the Symmetry Software .......... 20
- Unable to Connect AMAG Server from Avigilon to SMS Gateway application 21
Motion Alarms Are Not Showing in the Symmetry Software Even After Re-enabling from the Avigilon Recorder

Known Issues

- Image is Not Printing Correctly for the Paused Videos
- Avigilon Recorder Remains Available Even After Uninstalling the ACC™-AMAG Integration
- Symmetry Software Is Not able to Use the ACC Failover Connection
- Duplicate Avigilon Recorders in the Symmetry Software
Introduction

The AMAG Symmetry Security Management System and Avigilon Control Center (ACC) software integration allows for the two systems to combine alarm monitoring abilities. The integration includes:

- The Alarm Mapping Gateway software that enables specific device commands in the Symmetry software to be mapped to alarms created in the ACC software.
- The Video Integration software that allows you to monitor Avigilon cameras in the Symmetry software.

Both parts of the integration can be used together or separately.

What's New

- Support for video analytics alarms
- Ability to search for alarm mappings and Avigilon alarms
- Support for ACC Failover
- Support for H4 Fisheye Camera (De-Warping)
- Support for Idle Scene Mode/HDSM SmartCodec™

Requirements

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avigilon</td>
<td>ACC Server Software 6.6 or later.</td>
</tr>
<tr>
<td>Avigilon</td>
<td>Avigilon Third Party Integration License:</td>
</tr>
<tr>
<td></td>
<td>ACC6-AMAG-SMTRY</td>
</tr>
<tr>
<td>Avigilon</td>
<td>Avigilon AMAG software integration:</td>
</tr>
<tr>
<td></td>
<td>AmagSymmetryGateway90-6.6.2.4.exe</td>
</tr>
<tr>
<td></td>
<td>Installer includes:</td>
</tr>
<tr>
<td></td>
<td>• Alarm Mapping Gateway software.</td>
</tr>
<tr>
<td></td>
<td>• Video Integration software.</td>
</tr>
<tr>
<td>AMAG</td>
<td>Symmetry Server software 9.</td>
</tr>
</tbody>
</table>

For the Alarm Mapping Gateway software only:

| AMAG              | Symmetry XML Open Integration Module 9.    |
| AMAG              | Symmetry SDK License:                      |
|                   | XML-DEV-KIT-V9                             |

For the Video Integration software only:
<table>
<thead>
<tr>
<th>Vendor</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMAG</td>
<td>Symmetry Video Integration License: VID-CAM-xxx-V9</td>
</tr>
</tbody>
</table>

For More Information

For more information about the procedures outlined in this guide, refer to the following specific software documentation:

- *Avigilon Control Center Client User Guide*
- *Avigilon Control Center Server User Guide*
- *Symmetry Software User Guide*
- *Symmetry Security Management System Online Help*
Installation

Upgrading the Integration

From the Avigilon Control Center 5 Software

If you are upgrading to this version of the Avigilon AMAG integration software, be aware that this version of the integration is only compatible with the ACC 6 software.

NOTE: To preserve all of your current integration settings, you must upgrade to the ACC 6 software and make sure all servers in the site can be accessed by the integration. If a server is offline or inaccessible to the integration during the upgrade, the integration settings for that server are lost.

It is recommended that you back up a copy of all the alarm mappings before you upgrade the integration. The backup file for previous versions of the integration software may be labeled GatewayParam.xml or AlarmConfig.xml. Make sure the backup file is labeled correctly when you import it into the integration. For more information, see Backing Up Mapped Alarms on page 15.

NOTE: ACC 6 software provides the ability to organize multiple servers into sites and share settings between servers. To use this feature effectively, you must upgrade all servers in your site before upgrading the integration or all of the previous mappings may be lost.

When you upgrade the integration, the installer will shut down the integration Windows service. After the upgrade is complete, click Save and Apply in the Configuration Tool to use the updated configuration. To confirm that the integration has been configured correctly, see Configuring Server Settings on page 12.

From the AMAG Symmetry Software 8.0.2 Onwards

If you are upgrading the AMAG Symmetry software and the Video Integration software from version 8.0.2 to 9, uninstall the previous Avigilon Plugin and Alarm Mapping Gateway from Windows before installing the latest version of the software.

Installation

Server

Install the following on the same server:

- The Symmetry Server software.
- The XML Open Integration Module is required if you are installing the Avigilon AMAG Alarm Mapping Gateway software.
- (Optional) The Avigilon AMAG Video Integration software for viewing Avigilon video in the Symmetry software.

The following can be installed on any server on the same network:

- The ACC Server software.
- The Avigilon AMAG Alarm Mapping Gateway software.
Install the following as needed:

- Install the Symmetry Client software on the computers that require access to the Symmetry system.
- Install the ACC Client software on the computers that require access to the ACC System.
Configuration

The Avigilon AMAG integration software is used to direct alarm communication and video streams between the ACC software and the Symmetry software. Configure the two applications to perform the integration features.

Adding an Integration User in the Symmetry Software

To give the integration software access to the AMAG system, you need to add a user with access to all the Company Groups that the integration will link to and a user with access to the Symmetry database or SQL Server. See the Symmetry Software User Guide for details about how to add users.

The integration software needs a Symmetry user and a SQL Server user to connect to the Symmetry software.

Adding an Integration User in the Avigilon Control Center Software

To protect the security of the Avigilon Control Center software, add a user in the ACC Client software specifically for connecting the integration. The user you add will be used to connect the ACC system to the Avigilon integration software. See the Avigilon Control Center Client User Guide for more details.

This user must have the following permissions to enable all the integration features:

- View live images
  - Use PTZ controls
- View recorded images

This integration username and password is required to add Avigilon servers to the integration.

In the ACC Client software, complete the following steps:

1. In the Setup tab, select the site then click 
2. In the Groups tab, click .
3. In the following dialog box, select to copy the Standard Users group permissions.
4. In the Edit Group dialog box, give the new group a name then select the recommended permissions for the integration.
   Make sure only the required permissions are selected.
5. Click OK to save the new group.
6. Select the Users tab then click .
7. In the Add/Edit User dialog box, enter a Username:
8. In the Password area, complete the following fields:
   - **Password**: enter a password for the user.
   - **Confirm Password**: re-enter the password.
   - **Password never expires**: you may want to select this check box so that you do not need to update the ACC software password for the integration.

9. Select the Member Of tab and select the check box beside the group you created earlier in this procedure.
   The other two columns display the permissions linked to the selected group.

10. Click **OK**. The user is added to the system.

### Setting Up Gateway Alarms in the Avigilon Control Center Software

Alarms are manually created in the ACC Client software. Create the Avigilon Control Center alarms you want mapped to the device commands in the Symmetry software.

1. In the ACC Client software, open the site Setup tab and click 📣.
2. In the Alarms dialog box, click 📣.
3. On the Select Alarm Trigger Source page, select **External Software Event** from the Alarm Trigger Source: drop down list. Click 🔄 after you complete each page.
4. On the Select Linked Devices page, select the cameras to link to this alarm, and set the **Pre-Alarm Record Time:** and **Recording Duration:**.
5. On the Select Alarm Recipients page, select the ACC software user that was added for the integration. You can also add any other groups or users that need to be notified when this alarm is triggered.
6. (Optional) If you would like to trigger an action when an alarm is acknowledged, select **Activate selected digital output(s) on alarm acknowledgement** check box.
   a. Select the digital outputs to be activated and specify the duration.
   b. Select **Require user confirmation before activating digital output(s)** check box if the user needs to confirm the alarm before the digital output action is initiated.
7. Enter a name for the alarm and set the alarm priority. The alarm name is used to identify the alarm during the integration.
8. Ensure **Enable alarm** check box is selected then click ✅.
Setting Up Video Integration

After the Avigilon AMAG Video Integration installation is complete, install the vcredist_x64.exe and vcredist_x86.exe Microsoft Visual C++ 2013 Redistributable x64 and x86 packages present at the following location:

C:\Program Files (x86)\Security Management System

Once the installation is done, proceed with the video integration setup.

Assigning Logical IDs to Cameras

In the Avigilon Control Center Client software, assign a logical ID to each camera. The integration software only allows you to access cameras with a logical ID. By default, cameras do not have a logical ID.

1. In the ACC Client software, right-click a camera in the System Explorer and select Setup.
2. In the camera Setup tab, click General.
3. In the General dialog box, enter a Logical ID: for the camera. The logical ID must be unique number.

Adding Avigilon Recorder and Cameras to the Symmetry Software

If you want to monitor Avigilon cameras in the Symmetry software, you must first add the Avigilon server and cameras to the Symmetry system.

1. In the Symmetry software, select the Install tab then click Digital Video.
2. In the Install Video & Audio dialog box, select Avigilon Recorder then click New.

   NOTE: The Avigilon Recorder option is only listed if you have the Avigilon AMAG Video Integration installed on the Symmetry server.
3. Complete the following fields:

![Image of video server configuration screen]

a. **Video Server**: enter a name for the Avigilon server.

b. Under the Recorder Properties tab:
   - **IP Address**: enter the server’s IP address.
   - **Login Credentials**: enter the username and password you created in the ACC Client software. For more information, see *Adding an Integration User in the Symmetry Software* on page 5.
c. Under the Reporting tab:
   - In the Device Events area, select all the events you want reported in the Symmetry software. Make sure the Analytics check box is selected to receive video analytics device events in the Symmetry software.

![Symmetry Software Reporting Tab]

4. Click Save. The new server is now listed as an Avigilon Recorder.

   Repeat the previous steps until all the required Avigilon servers have been added. Be aware that you can only add a camera to the system after the connected server has been added to the system.

   Once an Avigilon server has been added to the Avigilon Recorder list, the Avigilon Camera option is displayed in the Install - Video & Audio dialog box.

5. In the Install - Video & Audio dialog box, select Avigilon Camera then click New.
6. Complete the following fields:

![Image of Avigilon Camera configuration settings]

- **Description**: give the camera a name.
- **Video Recorder**: select the server the camera is connected to.
- **Video Channel**: select the camera you want to see in the Symmetry software.
  
  **NOTE**: Only cameras with logical IDs are listed. For more information, see Assigning Logical IDs to Cameras on page 7.

- **If you are adding a PTZ camera**, select the Pan/Tilt/Zoom tab and enable the relevant PTZ controls.
e. If you are adding a video analytics device, select the Advanced Camera Properties tab and enable the **Analytics** option to display bounding boxes around classified objects.

7. Click **Save**. Repeat the previous steps until all the required cameras have been added.
Alarm Gateway

The Alarm Gateway is composed of two parts: a Windows service that runs automatically in the background, and a Configuration Tool software that is used to map alarms between the two systems.

Configuring Server Settings

Configure the Alarm Mapping Gateway to access the two applications.

The configuration application remembers the server configuration, so you do not need to repeat this procedure if the settings remain the same.

After you install the integration software, the Configuration Tool automatically opens. To access it manually, select All Programs or All Programs > Avigilon > Avigilon AMAG Symmetry Gateway > Configure Avigilon to AMAG Symmetry Gateway.

- If you upgraded your integration and all the configurations were successfully imported, you will automatically see the Configuration Tool window. Click Configure Connections.
- If this is a new installation, you will automatically see the Configure Connections dialog box.
  
a. Click Add.
b. In the following dialog box, enter the Avigilon server IP Address, UserName and Password, then click OK.
   
   Use the username and password you created for the integration. See Adding an Integration User in the Avigilon Control Center Software on page 5.

NOTE: If the Avigilon Control Center Server and the Avigilon AMAG Gateway Integration are installed on the same server, set the server IP Address as 127.0.0.1 instead of the actual IP address.
1. In the Configure Connections dialog box, complete the following fields:

- **AMAG Symmetry Server**: enter the Symmetry Server IP address or hostname.
- **AMAG Symmetry SDK User**: enter the Symmetry username you created for the integration. See ['Adding an Integration User in the Symmetry Software'](page) on page 5.
- **AMAG Symmetry SDK Password**: enter the password for the Symmetry user.
- **SQL Server Instance**: enter the IP address or hostname for the Symmetry database.
- **SQL Server Catalog**: enter the name of the Symmetry server catalog. It should be "multimax".
- **Use Integrated Security**: select this check box if your SQL credentials are the same as your Windows login.
- **SQL Server User Name**: enter your username for the Symmetry database.
- **SQL Server Password**: enter your password for the Symmetry database.

2. Click **Connect** to link the ACC software and Symmetry software with the integration. A popup message appears to notified you that the connection is successful.

3. Click **Done**. The Configuration Tool window is displayed.

The integration searches both software systems for alarms that can be mapped together.

### Mapping Alarms

In the Configuration Tool is a list of all the current alarm mappings, and all the available alarms from the ACC software and the Symmetry software.
If the Configuration Tool is not already open, select All Programs or All Programs > Avigilon > Avigilon AMAG Symmetry Gateway > Configure Avigilon to AMAG Symmetry Gateway.

To map alarms together, complete the following steps:

1. In the AMAG Symmetry area, set the device commands that will trigger an Symmetry alarm for the integration.

   The Symmetry software is pre-configured with a set of commands for the devices in your security system. For a detailed list of the available commands, see the Security Management System Online Help for more information.

   a. In the **Where** drop down list, select the device that this alarm will link to.
   b. In the **What** drop down list, select the command that triggers this alarm.
   c. If there is a user or role that needs to be associated with the alarm, the **Who** drop down list will auto-populate with the available options.

2. In the Avigilon area, select the alarm you want to map to. Listed here are the alarms you created in Setting Up Gateway Alarms in the Avigilon Control Center Software on page 6.

   **Tip:** Use the Search bar to find specific alarms in the list.

3. Click >>.
4. Click **Save**.
5. Repeat the previous steps until all the required alarms have been mapped.
6. Once all the required alarms have been mapped, click **Save and Apply**.

The Gateway Windows service is updated with all the new or changed mappings.
Backing Up Mapped Alarms

After you finish mapping all the alarms in the Configuration Tool, you can choose to back up a copy of the mappings.

If you are performing this procedure before upgrading the integration, be aware that backup files from previous versions of the integration may be labeled `GatewayParams.xml` or `AlarmConfig.xml`.

1. **Navigate to** C:\Program Files (x86)\Avigilon\Avigilon AMAG Gateway\.
   
   **NOTE:** The filepath may be different depending on how your system is configured.

2. Copy and paste the `AMAG8AlarmConfig.xml` file to a back up location.

**Restoring Mapped alarms**

When you have a backup copy of the mapped alarms, you can restore the mapped alarms any time.

1. **Locate your backup copy of the** `AMAG9AlarmConfig.xml` file.
   
   If you are restoring a backup from a previous version of the integration, locate your backup copy of the alarm mappings file and rename it `AMAG9AlarmConfig.xml`.

2. **Copy and paste the backup file into** the C:\Program Files (x86)\Avigilon\Avigilon AMAG Gateway\ folder.
   
   If prompted, allow Windows to overwrite the copy that is currently in the folder.

3. **Open the integration Configuration Tool.**
   
   The restored mappings should be displayed in the Alarm Mappings list.

4. **Click Save and Apply** to update the Gateway Windows service and apply the alarm mapping changes.
Using the Integration

Monitoring Alarms

Once the alarms from the ACC software and Symmetry software have been mapped together, you can begin to use the integration.

When an Symmetry alarm is triggered, it will activate the mapped ACC alarm and the configured alarm actions are initiated.

- To monitor alarms in the Symmetry software, see the alarm monitoring section of the Symmetry Software User Manual.
- To monitor alarms in the ACC Client software, see the alarms section of the Avigilon Control Center Client User Guide.

Monitoring Video

Once the video integration is set up in the Symmetry software, you can monitor video captured by Avigilon cameras in the Symmetry software. For more information about monitoring video, see the Digital Video management section of the Symmetry Software User Manual.
Troubleshooting

If the following troubleshooting solutions do not resolve your issue, contact Avigilon Technical Support – http://avigilon.com/support-and-downloads/.

Cannot Add Avigilon Cameras to the Symmetry Software

When you try to add Avigilon cameras to the Symmetry system, no cameras are listed in the Video Channel drop down list.

This occurs when the cameras in the Avigilon system do not have logical IDs. Only cameras with logical IDs are listed in the Symmetry software.

To assign a camera a logical ID, see Assigning Logical IDs to Cameras on page 7.

Purged Avigilon Alarms Still Present in the Symmetry Software

After you have acknowledged an alarm in the Avigilon Control Center Client software, you click Purge Alarm to clear the Alarms list. However, when you access the Symmetry software, the purged alarm is still listed as a blue alarm in the Alarms screen.

This occurs when a device that triggered the Symmetry alarm needs to be manually reset. For example, a window with a monitor point that has not been closed. The Avigilon Control Center software is able to acknowledge the Symmetry alarm but does not recognize that the device needs to be manually reset.

To clear the alarm from the Symmetry Alarms screen, manually reset the device then click Clear.

Mapped Avigilon Control Center System Alarms Displayed as Unknown

Mapped alarms in the Configuration Tool are labeled in red as “Unknown.” The Avigilon Control Center Server that the integration is connected to displays an “Error” status in the Configure Connections dialog box.

This issue occurs if the Avigilon Control Center Server has rebooted or is offline.

Perform the following steps to ensure the integration functions correctly:

1. Check that the Avigilon Control Center Server is online and connected to the local network.
2. When the Avigilon Control Center Server is back online, open the Configuration Tool and click Configure Connections.
3. If the Avigilon Control Center Server is online, the server status would be “Ready.” If it is not, check the server connectivity again.
4. Close the Configure Connections dialog box. The Configuration Tool should now display the correct alarm names.
5. Click Save and Apply to ensure the alarm mappings are active.
Cannot Save Changes in the Configuration Tool

When you click **Save and Apply** in the Configuration Tool, an error message is displayed. The issue did not occur when you first accessed to the Configuration Tool after the installation.

To work around this issue, perform any of the following options:

- Run the Configuration Tool as an administrator.
- Disable User Account Control (UAC) in your Windows system.

Not Able to Zoom HD Pro camera in the Symmetry Software

You can zoom an ACC camera by two ways:

- Camera lens zoom
- Digital output zoom

HD Pro camera has no camera lens zoom feature. Hence in ACC client, only digital output zoom feature is available for zooming.

In the Symmetry software, camera lens zoom can be controlled by using zoom controls present in the camera control panel of Virtual Matrix.
To control Digital zoom, you need to enable Digital Zoom from Install > Digital Video > Avigilon Camera and select Advance Camera Properties tab.

After enabling Digital Zoom feature, Zoom In/Out option will be visible on camera output stream to control Zoom In/Out.
Camera control panel’s Zoom In/Out option will be disabled if Enable Zoom option is unchecked for that particular camera in camera settings.

Enabling Fisheye Camera Controls Inside the Symmetry Software

Follow the below steps to enable Fisheye camera controls inside Symmetry software:

1. Log in to the Symmetry software.
3. Select the Avigilon Camera from the options.
4. Click on the New button.
5. Add Fisheye camera.
6. Go to Advanced Camera Properties.
7. Enable Digital Zoom.
8. Navigate to the Home > Video and Audio > Virtual matrix.
9. Drag the Fisheye camera to the camera frame.
10. Verify if the controls (e.g. zoom in/out, PTZ, Pan) are present for Fisheye camera in the video stream.

Unable to Connect AMAG Server from Avigilon to SMS Gateway application

If you are unable to connect AMAG server from Avigilon to SMS Gateway application, make sure SMSXMLWebSite certificate is placed under Trusted Root Certification Authorities folder. The certificate might be placed under Personal folder in some cases and will need to be moved to Trusted Root Certification Authorities folder.

Motion Alarms Are Not Showing in the Symmetry Software Even After Re-enabling from the Avigilon Recorder

Motion alarms are enabled by default in the Avigilon recorder. They can be disabled by simply unchecking the Motion Alarm check box. If the motion alarms are re-enabled and they are not showing up in the activity window, please restart the ACC server and Symmetry application.
Known Issues

Image is Not Printing Correctly for the Paused Videos

In the Symmetry software, if printout of a paused video is taken from the live video playback screen, the printed file will not display the correct image.

Avigilon Recorder Remains Available Even After Uninstalling the ACC™-AMAG Integration

Symmetry software doesn't allow the removal of installed plug-ins. Avigilon Recorder will remain available inside the Symmetry application even after un-installing the ACC-AMAG integration. Trying to unregister a DLL using RegPlugin.exe command i.e. regsvr32 /u AmagSMSVideoAvigilon.dll won't have any effect.

Although Avigilon Recorder is still available, trying to access the plug-in will throw an error.

Symmetry Software Is Not able to Use the ACC Failover Connection

When the primary and secondary cameras are added to the Symmetry software with ACC failover servers set up, both cameras will streaming video when both servers under the site are online.

Duplicate Avigilon Recorders in the Symmetry Software

Users is able to add duplicate Avigilon recorders in the Symmetry software.