Avigilon™ Control Center Core Client User Guide

Version 5.4.2

Avigilon Corporation
http://www.avigilon.com

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What is the Avigilon™ Control Center Client?

The Avigilon™ Control Center Client software works with the Avigilon™ Control Center Server software to give you access and control of your Avigilon High Definition Stream Management (HDSM)™ surveillance system.

The Client software allows you to view live and recorded video, monitor events, and control user access to the Control Center. The Client software also gives you the ability to configure your surveillance system.

The Client software can run on the same computer as the Server software, or run on a remote computer that connects to the Site through a local area network (LAN) or a wireless area network (WAN).

What you can do in the Client software depends on the Server software edition. There are three editions of the Server software available: Core, Standard and Enterprise. Visit the Avigilon website for an overview of the features available in each edition: **http://avigilon.com/products/video-surveillance/avigilon-control-center/editions/**

A copy of the Client software can be downloaded from the Avigilon website or installed with the Server software.

System Requirements

	Minimum requirements	**Recommended requirements**
Monitor resolution	1280 x 1024	1280 x 1024
OS	Windows Vista, Windows 7, Windows 8 (32-bit or 64-bit), or Windows 8.1	Windows 7 (64-bit)
CPU	Intel Dual Core 2.0 GHz processor	Quad Core 2.0 GHz
System RAM	2 GB	2 GB
Video card	PCI Express, DirectX 10.0 compliant with 256 MB RAM	PCI Express, DirectX 10.0 compliant with 256 MB RAM
Network card	1 Gbps	1 Gbps
Hard disk space	500 MB	500 MB

For More Information

Visit Avigilon at **http://www.avigilon.com/** for additional product documentation.

The Avigilon Training Center

The Avigilon Training Center provides free online training videos that demonstrate how to set up and use the Avigilon Surveillance System. Register online at the Avigilon Partner Portal site to begin: **http://avigilon.force.com/login**

Support

For additional support information, visit **http://avigilon.com/support-and-downloads/**. The Avigilon Partner Portal also provides self-directed support resources - register and login at **http://avigilon.force.com/login**.

Regular Avigilon Technical Support is available Monday to Friday from 12:00 a.m. to 6:00 p.m. Pacific Standard Time (PST):

- North America: +1.888.281.5182 option 1
- International: +800.4567.8988 or +1.604.629.5182 option 1

Emergency Technical Support is available 24/7:

- North America: +1.888.281.5182 option 1 then dial 9
- International: +800.4567.8988 or +1.604.629.5182 option 1 then dial 9

E-mails can be sent to: **support@avigilon.com**.

Upgrades

Software and firmware upgrades will be made available for download as they become available. Check **http://avigilon.com/support-and-downloads/** for available upgrades.

Feedback

We value your feedback. Please send any comments on our products and services to **feedback@avigilon.com**

Getting Started

Once the Avigilon™ Control Center Client software has been installed, you can start using the Avigilon High Definition Stream Management (HDSM)™ surveillance system immediately. Refer to any of the procedures in this section to help you get started.

Starting Up and Shutting Down the Control Center Client

The Control Center Client software can be started or shut down at anytime - video recording is not affected because it is controlled separately by the Server software.

Starting Up the Client Software

Perform one of the following:

- In the Start menu, select **All Programs** or **All Apps** > **Avigilon** > **Control Center Client**.

- Double-click the shortcut icon on the desktop.

- From the Avigilon Control Center Admin Tool, click **Launch Control Center Client**. For more information, see the *Avigilon Control Center Server User Guide*.

Log in to your Site when the Log In dialog box appears. For more information, see **Logging In to and Out of a Site**

Shutting Down the Client Software

1. In the top-right corner of the Client, select > **Exit**.

2. In the confirmation dialog box that appears, click **Yes**.

Logging In to and Out of a Site

To access any of the features in your Avigilon High Definition Stream Management (HDSM)™ surveillance system, you must log in to a Site.

The default administrator access uses *administrator* as the username and no password. To maintain the security of the administrator account, it is recommended that your system administrator immediately create a password for this account after the first login. Your system administrator can then create user accounts for other users.

Logging In

1. Open the Log In dialog box. The Log In dialog box automatically appears when the Client software is launched.

   To manually access the Log In dialog box, do one of the following:

- In the top-right corner of the Client, select ⚙ > **Log In...** to log in to all available Sites.

- In the System Explorer, right-click a Site and select **Log In...** to log in to the selected Site.

2. In the Log In dialog box, select a specific Site or select **All Sites** from the **Log in to:** drop down list.
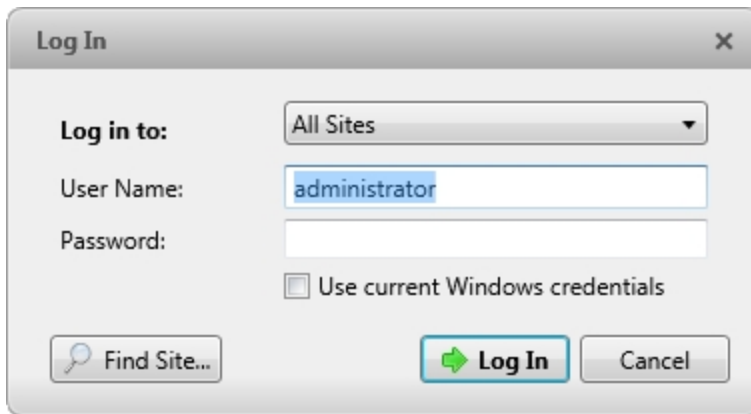
Figure 1: The Log In dialog box

Tip: If you accessed the Log In dialog box from a specific Site, you will not have the option of logging in to All Sites.

If the Site you want to log into is not shown, click 🔍 to discover the Site. For more information, see **Discovering Sites**.

3. Enter your **User Name:** and **Password:**. Or, select the **Use current Windows credentials** check box to automatically use the same username and password as your computer.

4. Click **Log In**.

After logging in the first time, you can set up automatic login from the Client Settings... dialog box. For more information, see **General Settings**.

Logging Out

You can log out of one or all Sites at any time.

To...	Do this...
Log out of one Site	1. In the System Explorer, right-click the Site and select **Log Out**.
Log out of all Sites	1. In the top-right corner of the Client, select ⚙ > **Log Out**. 2. In the confirmation dialog box, click **Yes**.

Navigating the Client

Once you log in, the Avigilon™ Control Center Client application window is populated with all the features that are available to you.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.
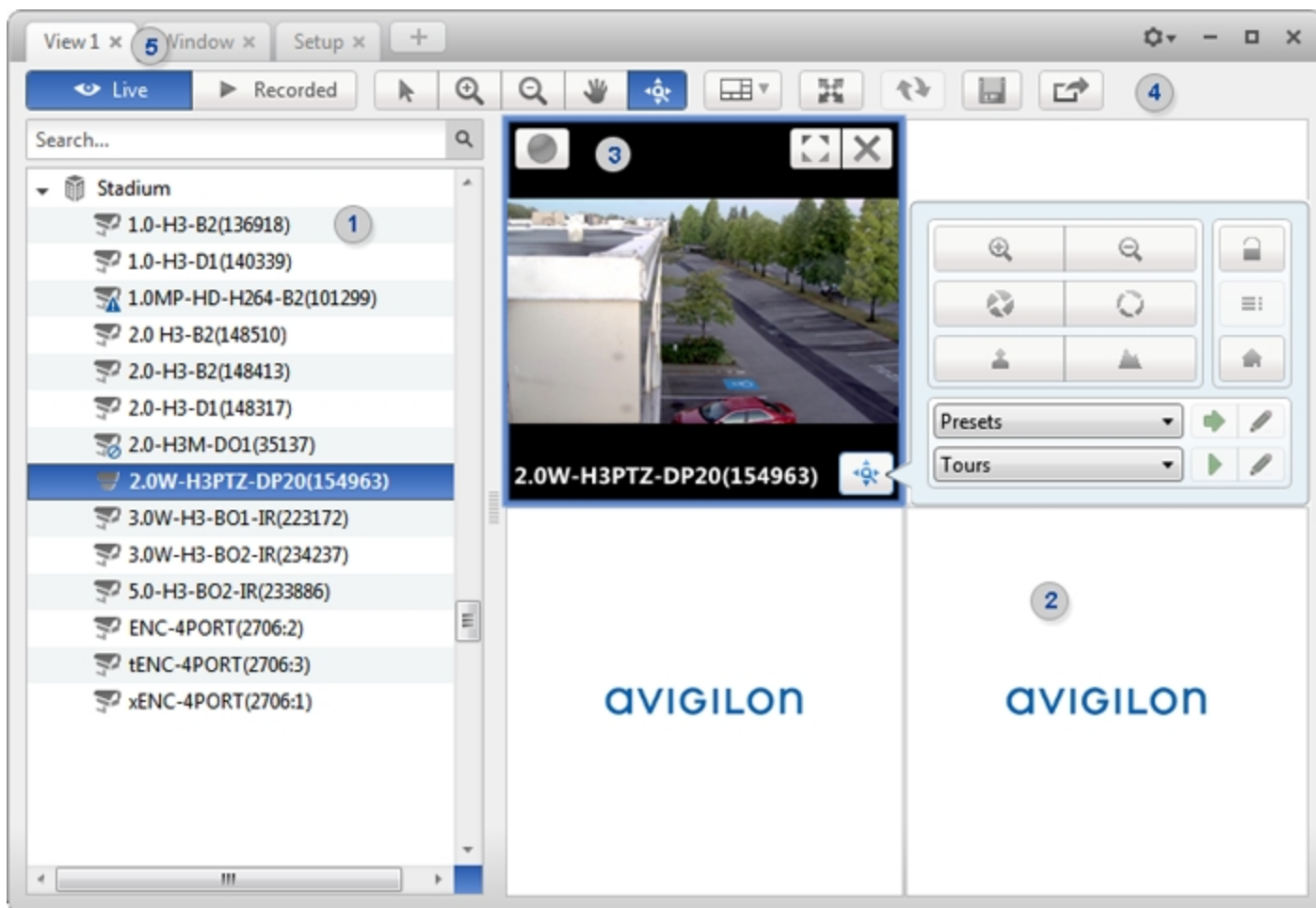
Figure 2: The Avigilon Control Center Client application window.

Application Window Features

	Area	Description
1	System Explorer	Displays all the elements in your surveillance system. Use the **Search...** bar to quickly locate anything that is available in the System Explorer. You can search for items by name, and devices can also be searched for by location, logical ID, serial number and IP address. **Tip:** The content of the System Explorer changes depending on the tab you have open. For example, servers are not listed in the View tab.
2	View tab	Allows you to monitor video and organize image panels. You can have multiple Views open at once.
3	Image panel	Displays live or recorded video from a camera. The video control buttons are displayed when you move your mouse into the image panel.
4	Toolbar	Provides quick access to commonly used tools.
5	Task tabs	Displays all the tabs that are currently open.
+	The New Task button	Opens the New Task menu so you can select and open new task tabs.

	Area	Description
		You can access advanced tools like Search and Export, or system administrative features like Site Setup.
⚙	The Application Menu menu	This menu gives you access to local application settings like Client Settings…. You can also open a new window from this menu.
10 ▼	System message list	The highlighted number shows the number of system messages that need your attention. Click the number to display the list of messages. The highlight color indicates the severity of the most recent message. • **Red** = Error • **Yellow** = Warning • **Green** = Information

System Explorer Icons

Icon	Description
🗄	A Site. Listed under a Site are all the connected devices and linked features in the system.
🗄	A server.
📹	A camera.
▽	A PTZ camera.
▦	An encoder.

Adding and Removing Cameras in a View

To monitor video, add a camera to a View. Camera video can be removed from a View at any time.

Adding a Camera to a View

Do one of the following:

- Drag the camera from the System Explorer to an empty image panel in the View tab.

- Double-click a camera in the System Explorer.

- In the System Explorer, right-click the camera and select **Add To View**.

    The camera is added to the next empty image panel in the View layout.

Tip: You can drag the same camera to multiple image panels to watch the video at different zoom levels.

Removing a Camera from a View

Do one of the following:

- Right-click the image panel and select **Close**.

- Inside the image panel, click .

Viewing Live and Recorded Video

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

When you monitor video, you can choose to watch live and recorded video in the same View, or only one type of video per View.

Once you've added cameras to the View, perform the following:

- To switch all of the image panels in the View between live and recorded video, click either **Live** or **Recorded** on the toolbar.

- To switch individual image panels between live and recorded video, right-click the image panel and select either **Live** or **Recorded**.

Image panels displaying recorded video have a **green** border.

Accessing the Setup Tab

The Setup tab is where you would configure the majority of your system – including Sites, servers and cameras.

Follow one of the following steps to open the Setup tab:

- At the top of the application window, click to open the New Task menu. When the menu appears, click .

- In the System Explorer, right-click the device you want to configure, then select **Setup**.
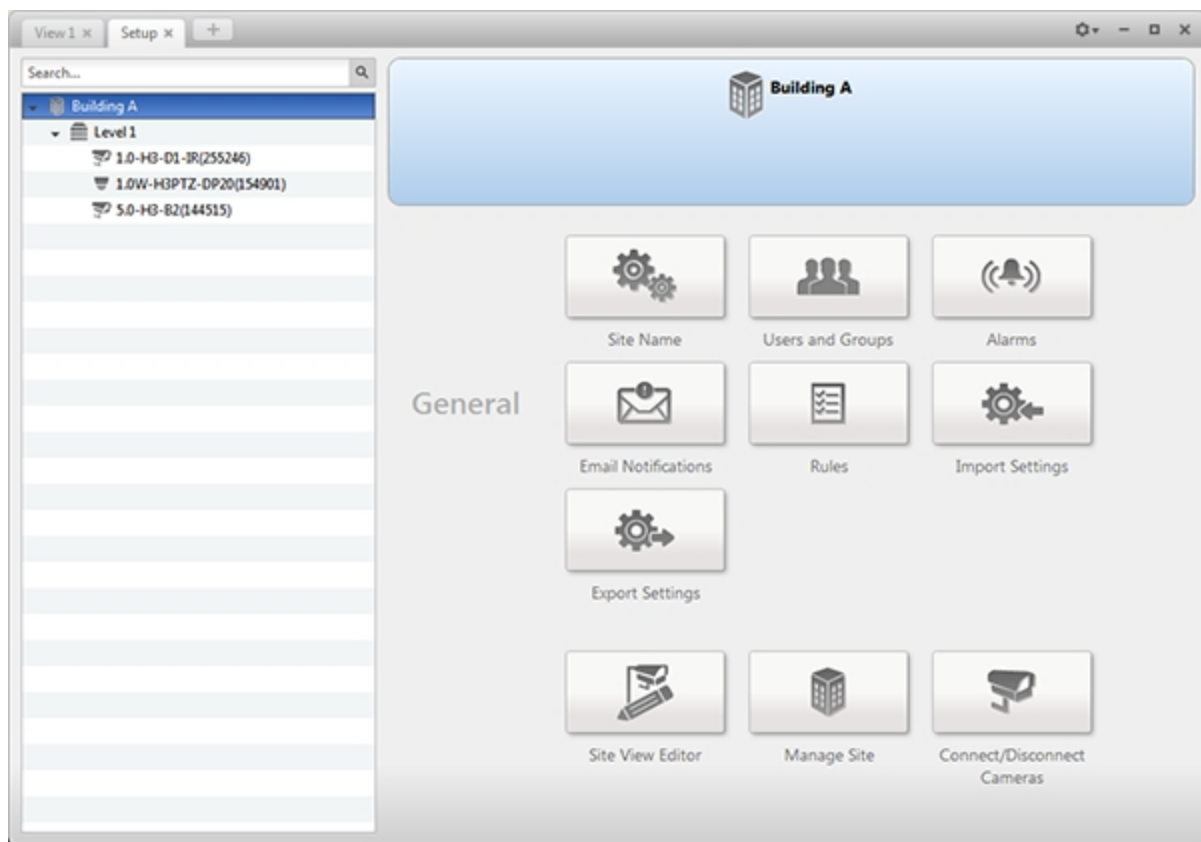
Figure 3: The Setup tab

In the Setup tab, the System Explorer is displayed on the left and the Setup options are displayed on the right. The Setup options change depending on the device that is selected in the System Explorer.

Managing a Site

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

The default settings in the Avigilon™ Control Center Client software allow you to start using the application immediately after installation. However, you may want to customize and set up your Site to reflect how the system will be used in daily operations.

In Avigilon Control Center 5, servers are maintained in clusters called Sites.

At the Site level, you can manage your server and device connections, as well as set up Site-wide system events.

At the server level, you can manage the recording and bandwidth for each of the server's connected cameras.

At the device level, you can edit the camera image quality and other device-specific features.

All the Site, server and device settings can be configured from the Setup tab.

Sites and Servers

In the Avigilon Control Center software, servers are organized in clusters called Sites. By organizing the system into clusters, you are able to control user access and system wide events through the Site settings. Site settings are stored on the server, or across all servers in a multi-server system.

Depending on your system and license edition, you may have multiple servers in a Site. When there are multiple servers in a Site, the Site is able to distribute tasks and system data between the servers so that the system can continue running even if a server fails.

Within a Site, each individual server is responsible for managing the devices that are connected to it. Specifically, the server controls video recording. Through the server settings, you control when video is recorded, how long it is stored, and how much bandwidth is used to stream video.

Discovering Sites

If your computer is on the same network segment (subnet) as a Site, that Site is automatically discovered and displayed in the System Explorer.

If the Site you want to access is not listed, it is because the Site is on a different subnet and must be manually discovered. There is no limit to the number of Sites that can be discovered by the Client software.

By default, when a server is first connected to the system, it is added to a Site with the same name. To locate a new server, you need to search for its Site.

1. Open the Find Site dialog box.

   - In the top-right corner of the Client, select ⚙ > **Log In...** . In the Log In dialog box, click 🔍 .

   - Or, select ⚙ > **Client Settings...** > **Site Networking**. In the Site Networking tab, click 🔍 .
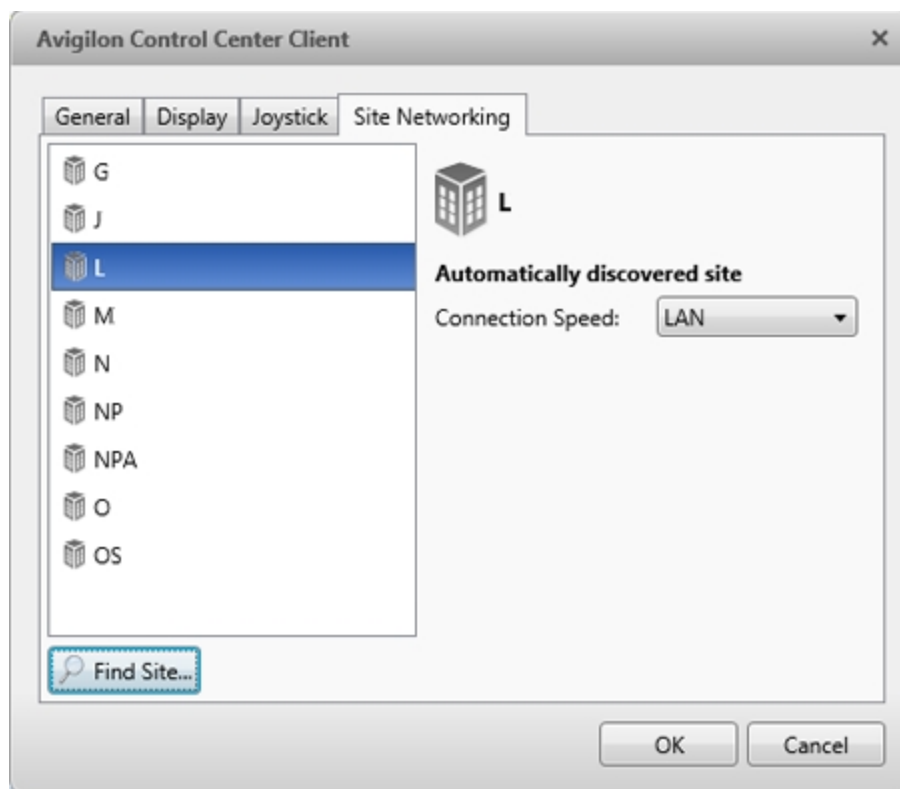
Figure 4: The Site Networking tab

2. In the dialog box, enter the **IP Address/Hostname:** and the **Base Port:** of the server in the Site you want to discover.
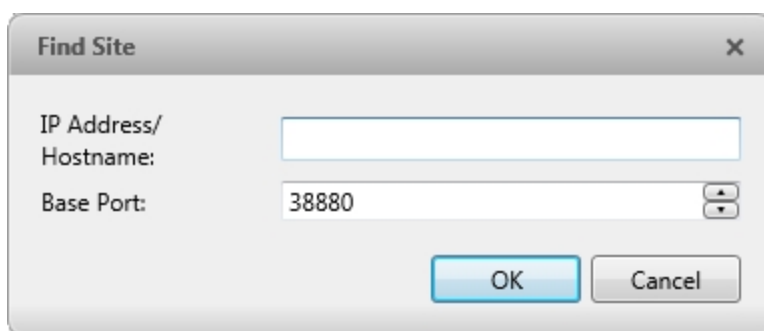
Figure 5: The Find Site dialog box

The base port is 38880 by default. You can change the base port number in the Avigilon Control Center Admin Tool. For more information, see *The Avigilon Control Center Server User Guide*.

3. Click **OK**.

If the Site is found, it is automatically added to the Site list in the Site Networking tab.

If the Site is not found, check the following then try again:

- The network settings are configured correctly.
- The firewall is not blocking the application.
- The Avigilon Control Center Server software is running on the server you searched for in step 2.

Sharing Site Settings Between Client Users

When a user sets up Sites on an Avigilon Control Center Client or Virtual Matrix Application, the following global settings are shared for all users that are logged in to that machine:

- Sites that have been manually discovered in the Site Networking tab in the Client Settings... dialog box will be visible to all users. Users will not be able to access the manually discovered Sites if they do not have the required access permissions.
- A Site's **Connection Speed:** settings in the Site Networking tab will be common to all users.

User permissions are as follows:

- **Administrators** - Can always read and write global LAN/WAN settings and manually add Sites.
- **Standard Users** - Can always read global LAN/WAN settings and manually add Sites. Sites added manually by Standard Users will default to WAN. Standard Users cannot change this.

Managing Site Logs

The Site Logs record events that occur in the Avigilon Control Center. This can be useful for tracking system usage and diagnosing issues.

You can filter the items displayed in the log and save the log to a separate file for sending to Avigilon support.

NOTE: The Site Logs maintain a record of system events for as long as video data is available or 90 days, whichever is longer.

1. In the New Task menu, click .
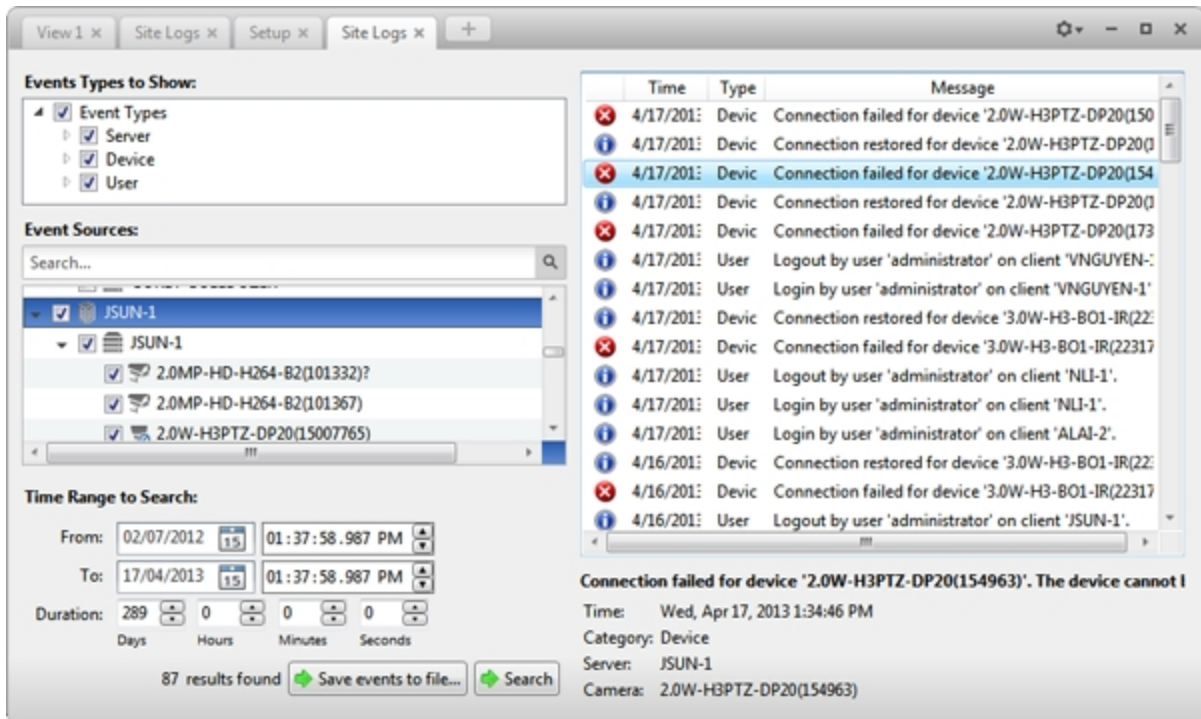
Figure 6: The Site Logs tab

2. In the Site Logs tab, select the **Event Types to Show:**.

3. Next, select the specific Sites, servers and devices whose logs you want to see.

4. In the **Time Range to Search:** area, set the date and time range of your search.

5. Click **Search**.

6. Select a result to display its event details.

7. To save the log search results, click **Save events to file...** and save the file. You can choose to save the search results as a text file or a CSV file.

Managing User Connections

If you find that too many users are logged in through the same username or inactive users are preventing active users from accessing a Site, you can force specific users to log out.

1. In the New Task menu, click .

2. In the User Connections tab, select a Site from the System Explorer to display a list of all the current users on the right.

Figure 7: The User Connections tab

- The users are listed by username and computer name so that users that share a login are displayed separately.

- The Login Duration column lets you know exactly how long that user has been logged in to the Site.

3. To force a user to log out of a Site, select a user then click **Log Users Out**.

Monitoring Server Status

To help you monitor the health of your Site, you can access a quick overview in the Server Status tab.

- In the New Task menu, click .
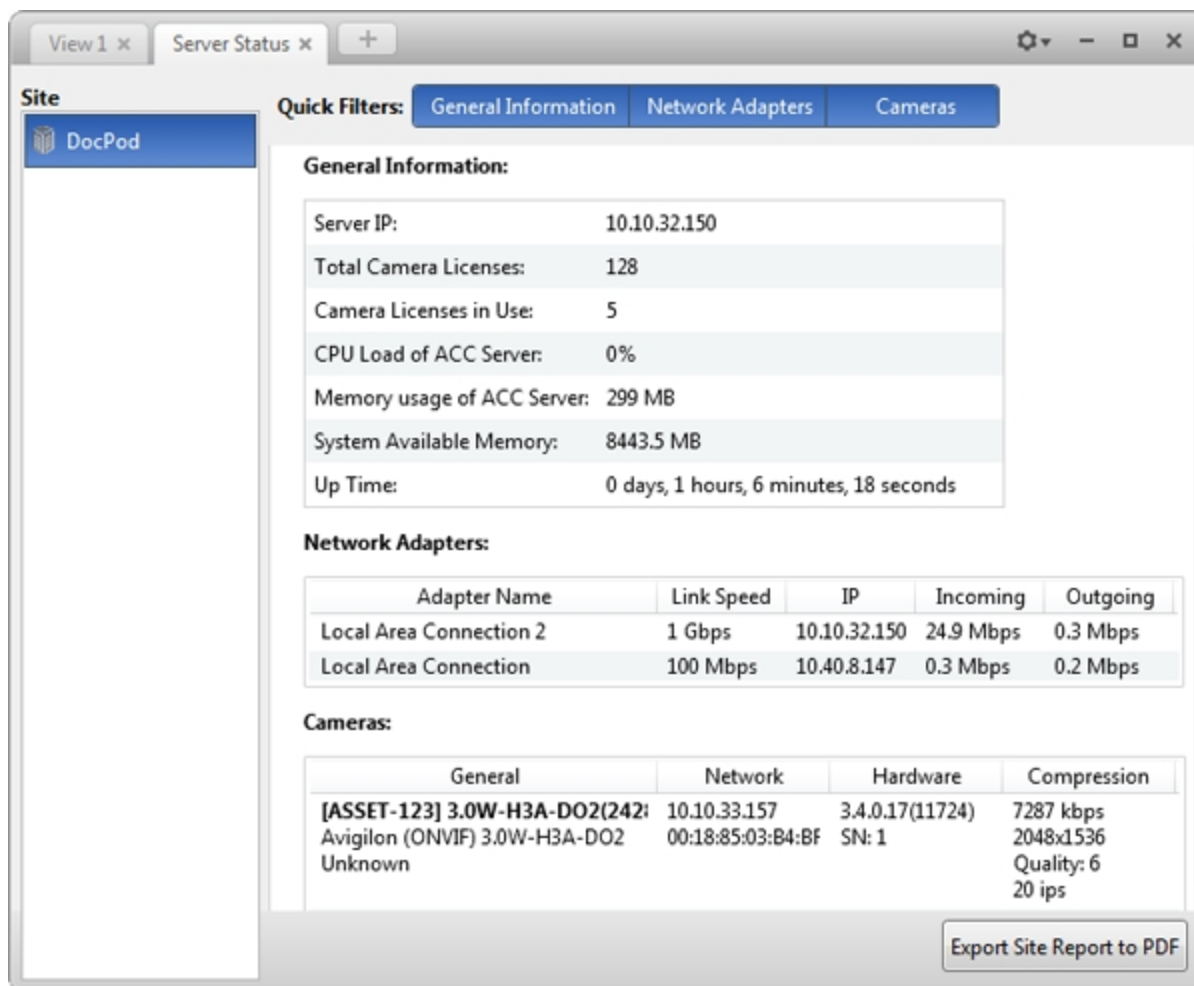
Figure 8: The Server Status tab

In the System Explorer, select a Site to display the statuses of the connected servers. At the top of the tab, click any of the **Quick Filters** to choose what type of information is displayed.

Listed information includes:

1. **General Information:** Information about the server you have selected.
   - **Server IP:** the server's IP address.
   - **Total Camera Licenses:** the total number of camera channel licenses that have been activated on the server.
   - **Camera Licenses in Use:** the number of cameras that are currently connected to the server.
   - **CPU Load of ACC Server:** the percentage of server processing power used by the AvigilonControl Center server software.
   - **Memory usage of ACC Server:** the amount of memory used by the AvigilonControl Center Server software.
   - **System Available Memory:** the amount of storage available for video recording.
   - **Up Time:** the amount of time the server has been running since it was last rebooted.

- **Network Adapters:** the networks that the server is connected to, including the IP address of the network connection, the network speed, and the amount of data passing through the connection.

2. **Network Adapters:**

   - **Adapter Name:** the name of the network adapter.

   - **IP:** the IP address of the network adapter.

   - **Incoming:** the speed of incoming data.

   - **Outgoing:** the speed of outgoing data.

3. **Cameras:** The devices that are connected to this server.

   - **General:** the name, model number, and location of the device.

   - **Network:** the IP and MAC addresses of the device.

   - **Network:** the serial number of the device.

   - **Compression:** the video compression rate, resolution, quality, and images per second (ips) of video streamed from the device.

Click **Export Site Report to PDF** to export the listed server information.

Site Settings

The settings stored at the Site level impact all users and devices within the Site.

These settings include user account information and email notifications. This is also where you can set up how the System Explorer is laid out, and where you can add or remove devices in a Site.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

Naming a Site

Give the Site a meaningful name so that it can be easily identified in the System Explorer. Otherwise, the Site uses the name assigned to the server it was originally discovered with.

1. In the Site Setup tab, click ⚙.

2. In the dialog box that appears, give the Site a name.
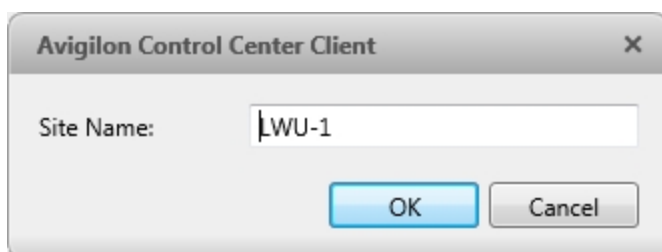
Figure 9: The Site Name: dialog box

Exporting Site Settings

You can export Site settings so that they can be backed up or used on a different Site.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

1. In the Site Setup tab, click ![gear export icon]

2. Select the settings you want to export.
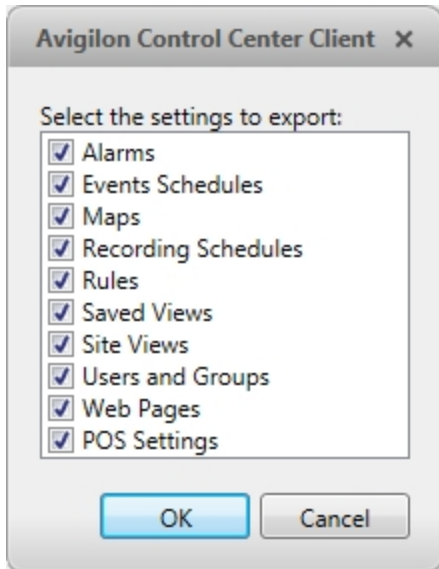
Figure 10: The Export Settings dialog box

3. Click **OK**.

4. In the Save As dialog box, name and save the file.

   Exported client settings can only be saved in Avigilon Settings File (.avs) format.

Importing Site Settings

You can import and use settings that were previously exported from a Site.

1. In the Site Setup tab, click ![gear import icon]

2. In the Select File to Import dialog box, find the Avigilon Settings File (.avs) you want to import then click **Open**.

   NOTE: .avc files are not compatible with this version of the Avigilon Control Center Client software.

3. Select the settings you want to import. Only the settings included in the .avs file are displayed.
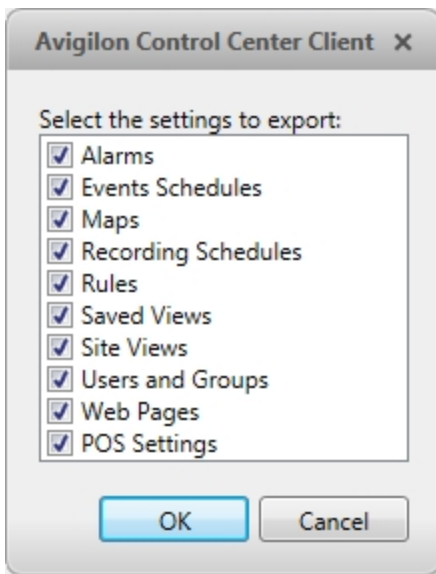
Figure 11: The Import Settings dialog box

4. Click **OK**.

    The settings are merged.

    - Unique settings are added to the Site.

    - If the settings are identical, only the current Site version is kept.

    - If an import setting and a Site setting have the same name but are configured differently, the import setting is added to the Site and renamed in this format: *<setting name>* (Import), like Email1 (Import).

    - User permission groups are merged.

        - If groups have the same name, the import settings are used and the users from both the import file and the current Site are added to the group.

        - Groups added from the import file automatically gain access to all the new devices that were added since the settings were exported.

    - Users with the same name will use the import settings, including passwords.

Connecting/Disconnecting Cameras and Devices

Cameras and other devices are connected to a Site through the linked servers. The server manages and stores the camera's recorded video, while the Site manages the events that can be linked to the camera's video.

You can connect and disconnect cameras and devices through the Connect/Disconnect Cameras... tab.

A camera's connection status is indicated by the icon beside the camera name in the System Explorer. The status icons may appear over any device icon in the System Explorer.

Icon	Definition
![camera icon] **Camera Connected**	The camera is connected to the server.
![camera upgrade icon]	The camera is connected to the server and is currently upgrading its

Icon	Definition
Camera Upgrading	firmware.
  Camera Connection Error	The camera cannot connect to a server. This may be because the camera is no longer on the network or there is a network conflict
  Camera Disconnected	The camera is disconnected but recorded video from the camera remains on the server.
No Icon	The camera is disconnected and no recorded video from the camera remains on the server.

Discovering a Device

When devices are connected to the network, they should be automatically discovered by the Client.

If a device is not automatically discovered, you can try to manually discover the device.

- In the Site Setup tab, click .

  In the Connect/Disconnect Cameras... tab, all Avigilon and ONVIF cameras that are connected to the same network segment (subnet) are automatically detected and appear in the Discovered Cameras list.

If the device you want to connect to is on a different subnet, or is manufactured by a third-party, do the following:

1. At the top of the Connect/Disconnect Cameras... tab, click **Find Camera....**

2. In the Find Camera dialog box, complete the following fields:

Figure 12: The Find Camera dialog box: Search Type - IP Address

Figure 13: The Find Camera dialog box: Search Type - IP Address Range

- **Search From Server:** select the server that you want the device to connect to.

- **Search Type:** select a search type.

- **Camera Type:** select the device's brand name.

    Tip: Select ONVIF to discover devices that are ONVIF complaint.

- **IP Address/Hostname:** (For IP Address search only) enter the device's IP address or hostname. The device and server's gateway IP address must be set correctly for the device to be found.

- **Start IP Address:** and **End IP Address:** (For IP Address Range search only) enter the start and end IP addresses. Only addresses in that range will be searched for the selected device type.

- **Control Port:** enter the device control port.

- Provide the **User Name:** and **Password:** for the device if required.

3. Click **OK**.

If the device is discovered, it will appear in the Discovered Cameras list. You can now connect the device to a server.

Connecting a Device to a Server

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

To access a device from a Site, it must be connected to server within the Site. The server manages and stores a camera's recorded video, while the Site manages the events that can be linked to a camera's video.

Once a device has been discovered on the network, it can be connected to the server. If you do not see a device you want to connect, see **Discovering a Device**.

1. In the Site Setup tab, click .

Figure 14: The Connect/Disconnect Cameras... tab

2. In the Discovered Cameras area, select a device then click **Connect...**.

   Tip: You can also drag the device to a server on the Connected Cameras list.

3. In the Connect Camera dialog box, select the server you want the device to connect to.
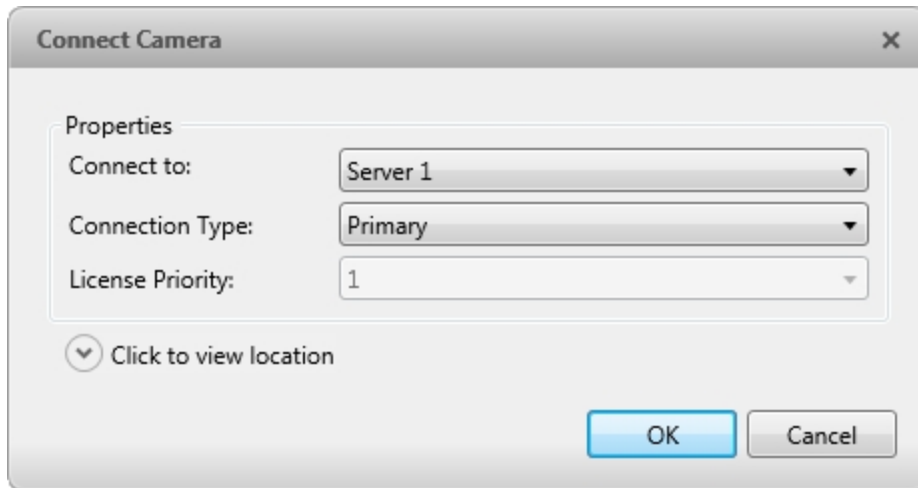
Figure 15: The Connect Camera dialog box

4. If you are connecting a third-party device, you may choose to connect the device by its native driver. In the **Camera Type:** drop down list, select the device's brand name. If there is only one option in the drop down list, the system only supports one type of driver from the device.

5. Click ⌄ to choose where the device appears in the System Explorer.

   - If your Site includes virtual sub-sites, select a location for the device. The list on the right updates to show what is stored in that directory.

   - In the Site directory, drag the device up and down to set where it is displayed.

   Tip: If the Site you want is not listed, you may need to connect the device to a different server. Make sure the selected server is connected to the Site you want.

6. Click **OK**.

7. If the device is password protected, the Camera Authentication dialog box appears. Enter the device's username and password, then click **OK**.

Connecting Cameras to a Video Analytics Appliance

If you have an IP model of the video analytics appliance, you do not need to physically connect the camera to the appliance, you can do so through the Video Analytics Configuration dialog box.

If you have an analog model of the video analytics appliance, the cameras are automatically associated with video analytics appliance channels. You do not need to connect cameras to video analytics appliance channels through the Video Analytics Configuration dialog box.

NOTE: The connecting camera and video analytics appliance must be on the same server.

1. Add the video analytics appliance to the server. For more information, see **Editing the Device Connection to a Server**.

2. Connect the required cameras to the same server as the video analytics appliance.

3. In the Setup tab, select a video analytics appliance camera channel.

Connecting Cameras to a Video Analytics Appliance

4. Click ![icon]. The Video Analytics Configuration dialog box opens.
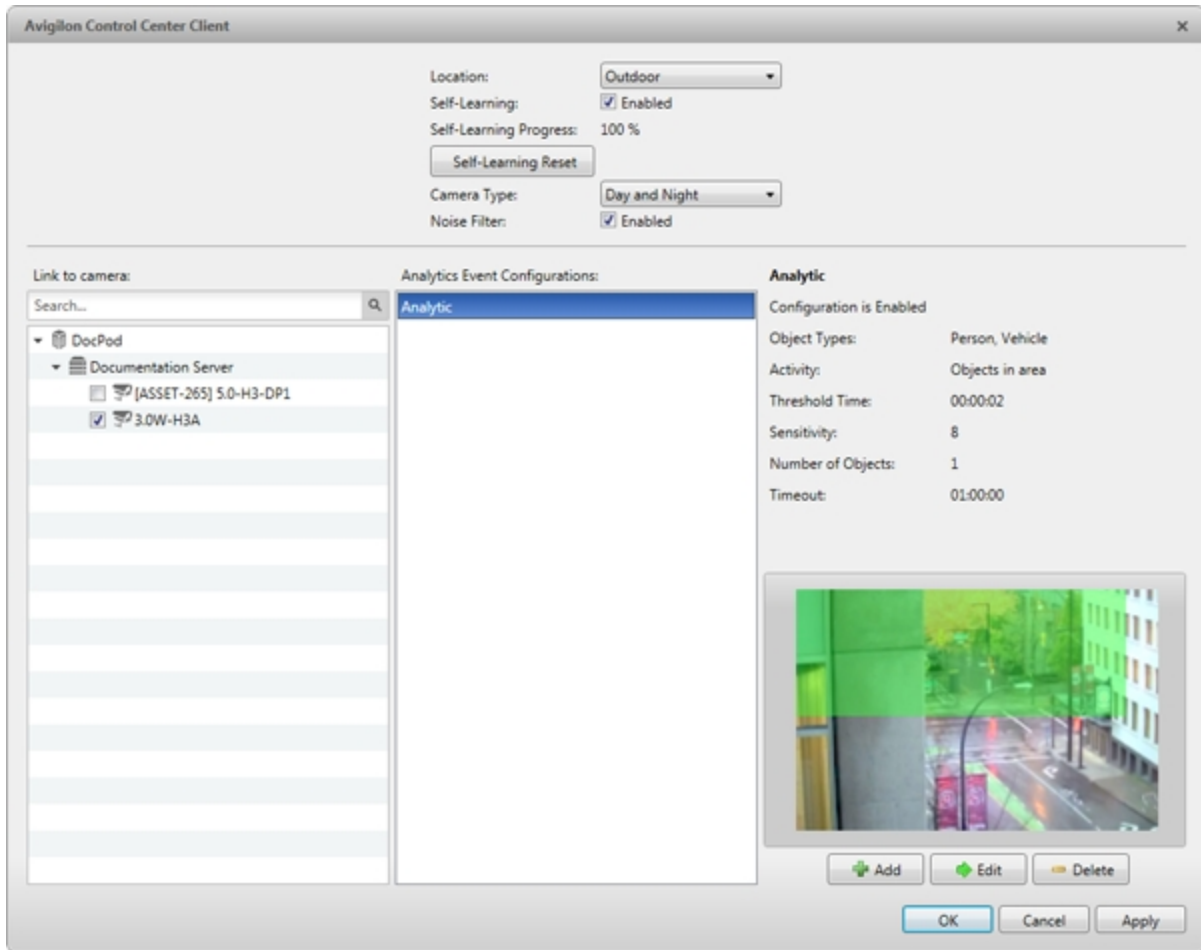
Figure 16: The Video Analytics Configuration dialog box

5. Select the check box beside the camera you want to assign to this camera channel.

   Tip: After connecting or disconnecting a camera to a video analytics appliance, you will need to reboot the video analytics appliance before making any further configuration changes to the device. This process will take about 5-10 minutes. It is recommended that you make all required connection changes before rebooting. For more information, see **Rebooting a Device**.

6. Click **OK**.

If the camera you link to has a resolution higher than 2.0 MP, the video analytics appliance will use the camera's secondary video stream.

NOTE: The video streamed from the video analytics appliance may not be in high definition because the video analytics appliance cannot stream video with a resolution higher than 2.0 MP. This does not affect the resolution of recorded video.

Editing the Device Connection to a Server

NOTE: You can only edit manually discovered device connections.

1. In the Site Setup tab, click ![camera icon] .

2. In the Connect/Disconnect Cameras... tab, select the device connection you want to edit from the Connected Cameras list.

3. Click **Edit...**. For details about the editable options, see **Connecting a Device to a Server**.

4. Click **OK**.

Disconnecting a Device from a Server

1. In the Site Setup tab, click ![camera icon] .

2. In the Connect/Disconnect Cameras... tab, select the device you want to disconnect from the Connected Cameras list, then do one of the following:

   - Click **Disconnect**. The device will be disconnected from the server and moved to the Discovered Cameras list.

   - Drag the device into the **Discovered Cameras** list.

Upgrading Camera Firmware

Camera firmware updates are typically included with the Avigilon™ Control Center Server update packages. Camera firmware updates are automatically downloaded and installed to the camera.

When the camera firmware is being upgraded, video from that camera cannot be displayed and the System Explorer will display ![icon] beside the camera name.

When the firmware upgrade is complete, the System Explorer will display ![icon] again and video from the camera will display.

Users and Groups

When users are added to the Avigilon Control Center, they are assigned to a group that defines their access permissions in a Site. Use the Users and Groups dialog box to create and manage users and groups.

Corporate Hierarchy

You can set up a Corporate Hierarchy to reflect your organization's structure.

The Corporate Hierarchy can only be accessed by users belonging to a group with the Setup sites and Setup corporate hierarchy privileges. Users cannot see groups of equal or higher rank than the group they belong to, unless they are part of an Unranked group. If users belong to multiple groups of different ranks, they will be able to view all ranks below the highest rank they belong to.

Adding and Editing Ranks

When you see the **Edit Corporate Hierarchy** option while configuring a group, you can select an existing Corporate Hierarchy or create a new Corporate Hierarchy.
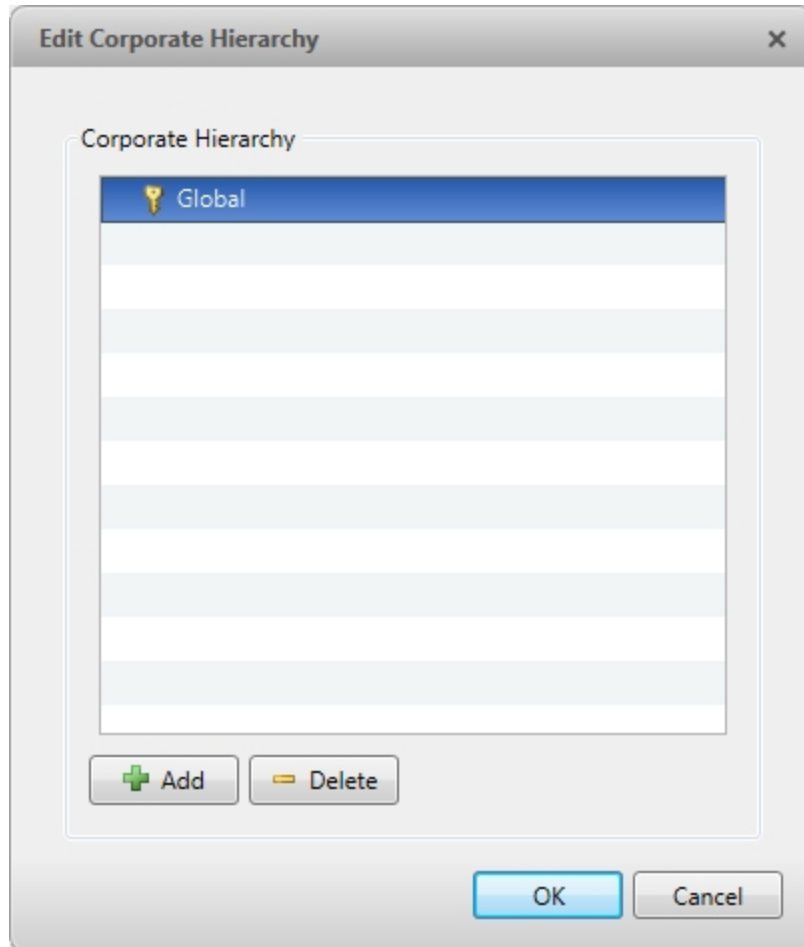
Figure 17: The Edit Corporate Hierarchy dialog box

NOTE: If you have not yet created a Corporate Hierarchy, a message will appear prompting you to create a new one. Click **Yes** to create a Corporate Hierarchy for this Site.

The default rank is **Global**. It is the highest rank in the Corporate Hierarchy.

6. To create a new rank, select **Global** and click [icon]. A **Add rank** will be created.

    NOTE: The Global rank cannot be deleted. It can only be renamed.

7. To rename a rank, double-click the name and enter a new name in the text field. Click anywhere outside the text field to save the new name.

8. Selecting a rank and clicking [icon] will create a new rank immediately below the rank you selected.

    NOTE: Ranks can only be added or deleted. They cannot be moved within the Corporate Hierarchy.
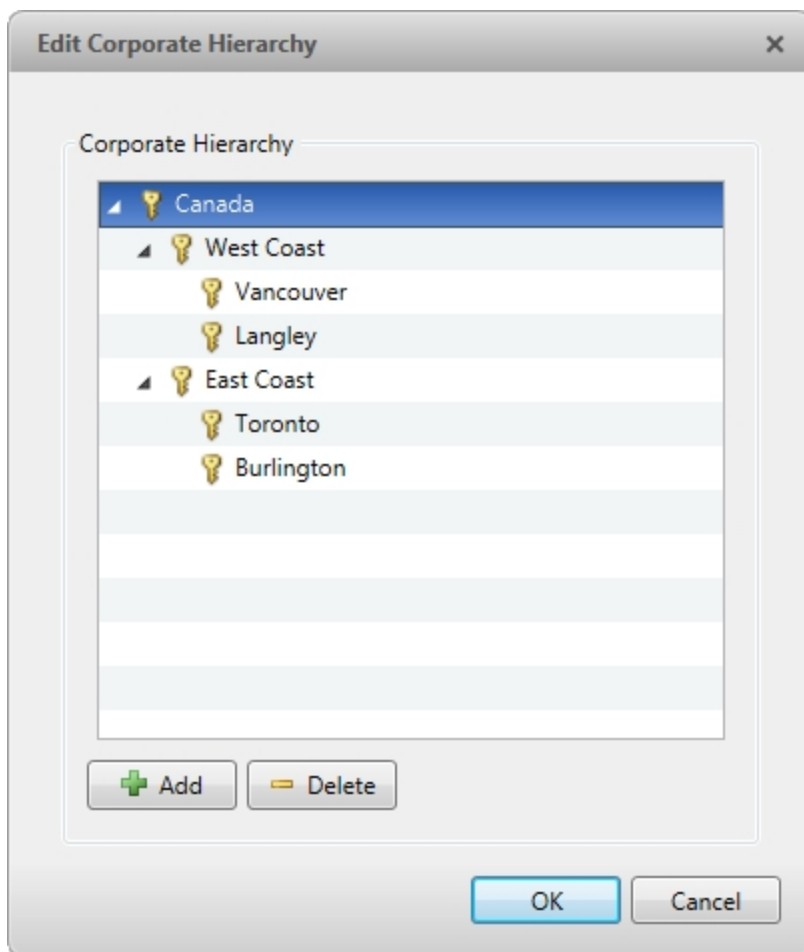
Figure 18: An example of a Corporate Hierarchy with multiple ranks that share a level. **Canada** is the highest, Global rank. **West Coast** and **East Coast** are of equal rank to each other, and one rank below **Canada**. Users belonging to **East Coast** cannot edit ranks below **West Coast** and vice versa.

Now that you've set up the Corporate Hierarchy, you can assign ranks to permission groups to define what users can access within the system. For more information, see **Users and Groups**.

Deleting Ranks

If a rank is deleted, groups in this rank are removed from the hierarchy and assigned an orphaned rank. An orphaned rank is the lowest rank possible and is only visible to Unranked and Global users.

Unranked and Global users can reassign group ranks at any time. Members of the orphaned rank have no Setup user and group settings privileges but still retain other privileges, e.g. viewing live video.

Deleting a rank will also delete all the ranks below it in the Corporate Hierarchy. Remotely synchronized users and groups may become inaccessible.

- To delete a rank, select it in the Corporate Hierarchy and click ▬.

Unranked Groups

The Unranked groups are not part of the Corporate Hierarchy. The Unranked rank cannot be deleted or edited.

Users belonging to Unranked groups are able to create and edit any ranked or Unranked groups and users if they have the **Setup user and group settings** privilege.

The default groups Administrators, Power Users, Restricted Users, and Standard Users are Unranked.

Adding a User

1. In the Site Setup tab, click [icon].

2. In the Users tab, click [icon].
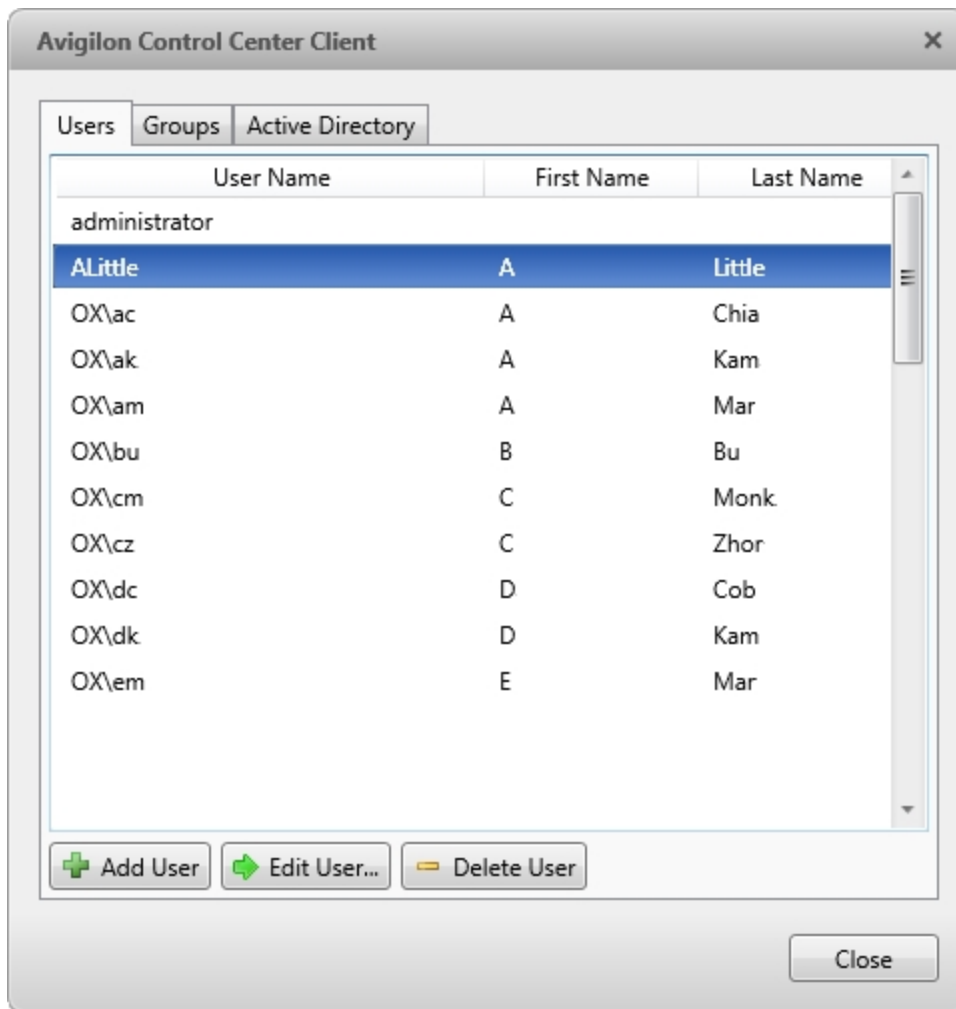
Figure 19: The Users and Groups dialog box

3. When the Add User dialog box appears, complete the User Information area.

Figure 20: The Add User dialog box, General tab

4. If you don't want this user to be active yet, select the **Disable user** check box. Disabled users are in the system but cannot access the Site.

5. In the Login Timeout area, select the **Enable login timeout** check box to limit the amount of time the user can be logged in while the Client is idle.

6. In the Password area, complete the following fields:

    - **Password:** enter a password for the user.

    - **Confirm Password:** re-enter the password.

    - **Require password change on next login:** select this check box if the user must replace the password after the first login.

Adding a User

- **Password Expiry (Days):** specify the number of days before the password must be changed.
- **Password never expires:** select this check box if the password never needs to be changed.

7. In the Member Of tab select the check box beside each access group the user belongs to.
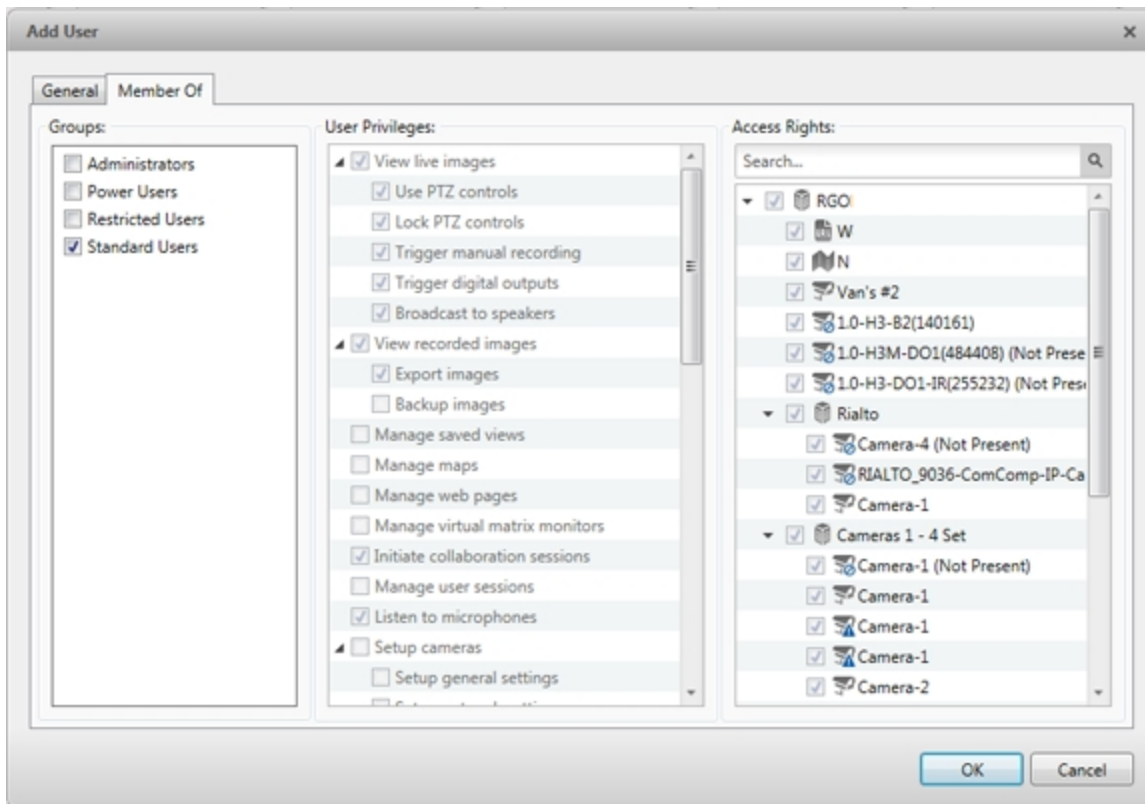
Figure 21: The Add User dialog box, Member Of tab

The other two columns display the permissions linked to the selected group.

8. Click **OK**. The user is added to the Site.

Editing and Deleting a User

You can edit and delete users as needed.

NOTE: Be aware that you cannot edit or delete users that belong to the same ranked group as you or higher. This also means that you cannot edit your own user account unless you are part of an Unranked group.

Tip: If a user has access to more than one Site, the changes to the user need to be made on each Site.

1. In the Site Setup tab, click [icon].

2. In the Users tab, select a user then perform one of the following:

- To edit the user's information, click [icon]. For details about the editable options, see **Adding a User**.

- To delete the user, click [icon].

Adding Groups

Groups define what features users have access to. Create new groups to change what users can access.

1. In the Site Setup tab, click .

2. Select the Groups tab and click .
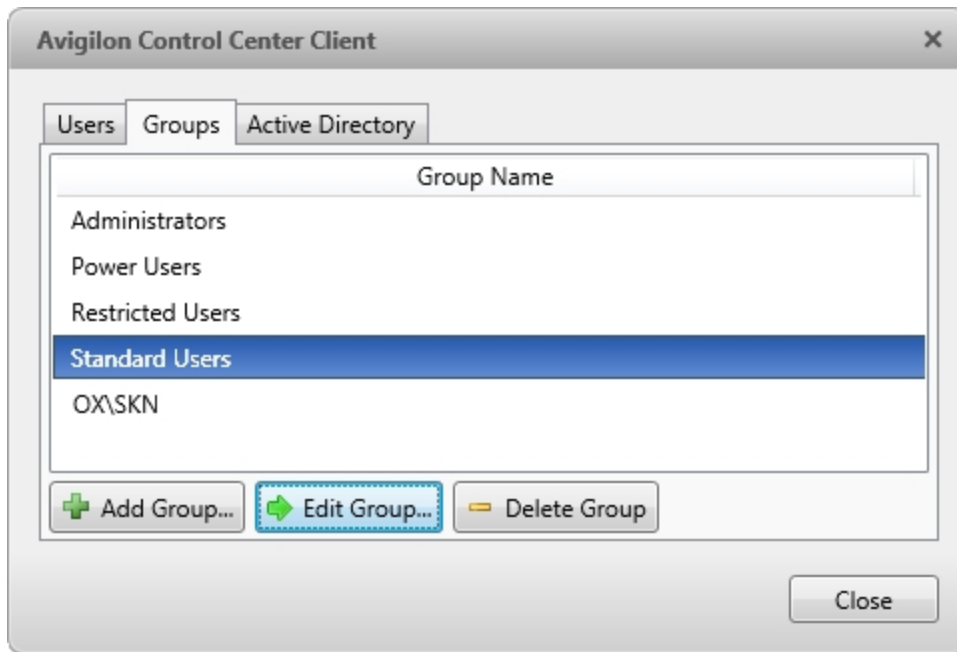
Figure 22: The Groups tab

3. Select an existing group to use as a template for your new group, then click **OK**.
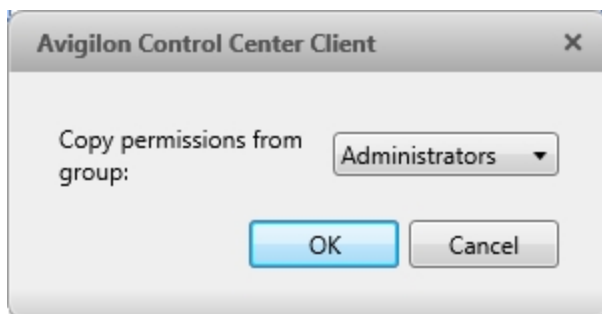
Figure 23: The Copy permissions from group: dialog box

4. In the Edit Group dialog box, complete the following:
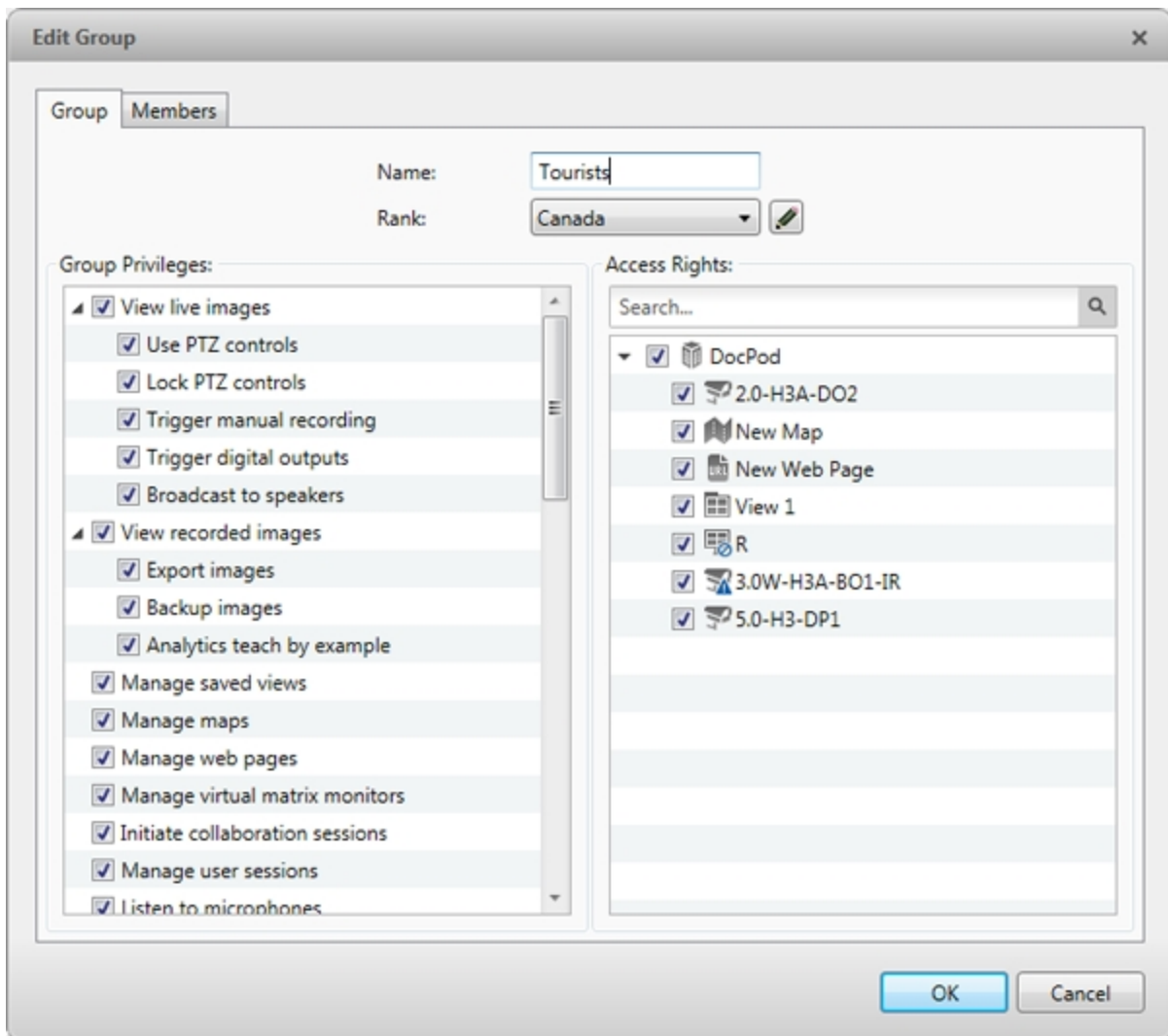
Figure 24: The Edit Group dialog box: Group tab

    a. Give the new group a name.

    b. Choose a rank for the group from the Rank: drop down list. To edit or view the entire Corporate Hierarchy, click   . For more information, see **Setting Up a Corporate Hierarchy** .

    c. Select the **Group Privileges:** and **Access Rights:** for the group. Clear the check box of any feature or camera you do not want the group to access.

5. Select the Members tab to add users to the group. If a user is added to the group through the Add User dialog box, the user is automatically added to the group's Members list. For more information, see **Adding a User**.
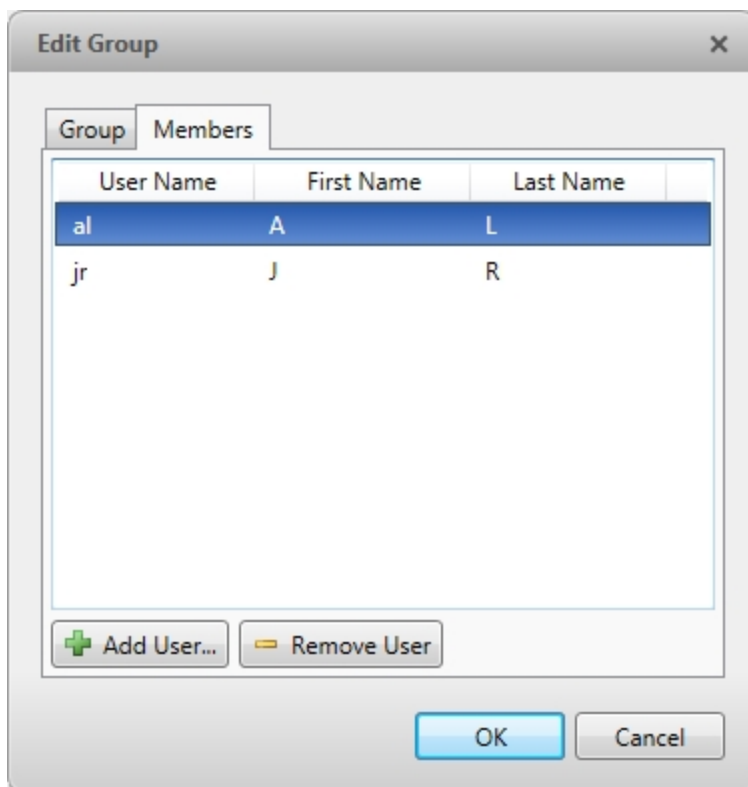
Figure 25: The Edit Group dialog box: Members tab

    a. Click ✚.

    b. Select the users that should be part of this new group. Only users that have been added to the Site are displayed.
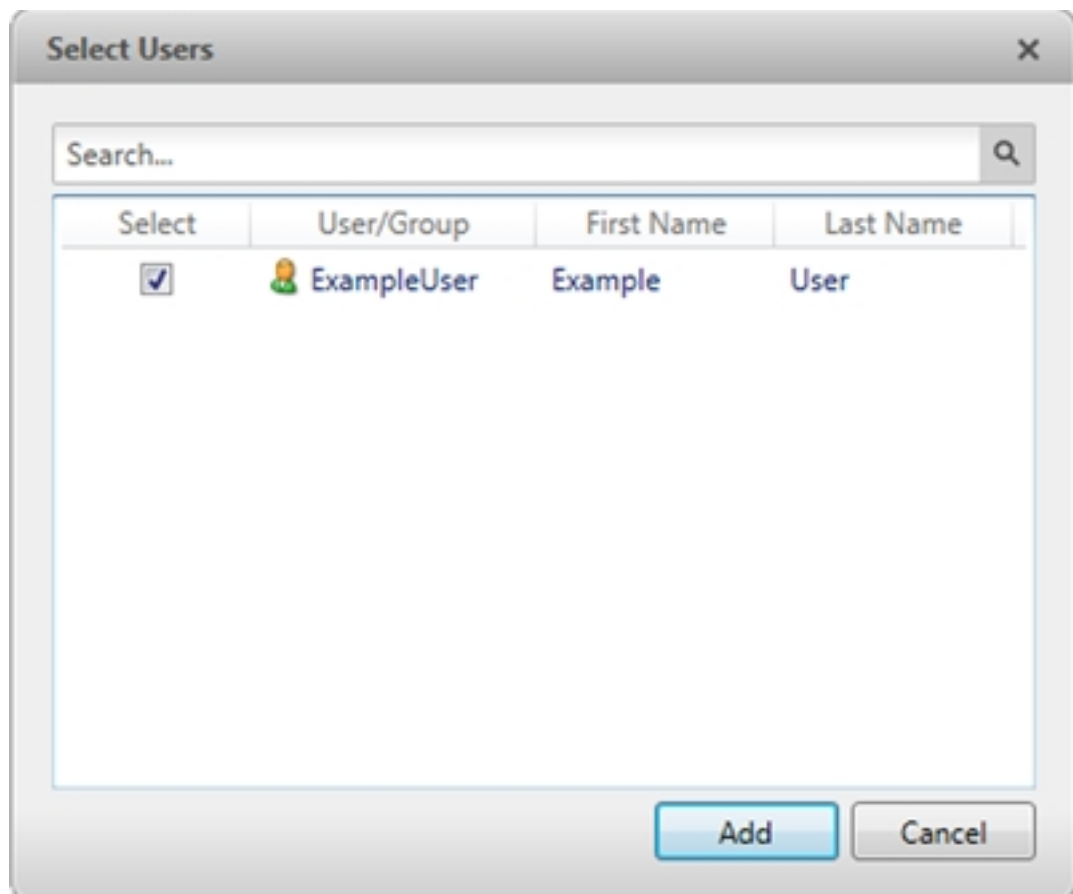
Figure 26: The Select Users dialog box

    c.   Click **Add**. The users are added to the Members list.

6. Click **OK** to save the new group.

Editing and Deleting a Group

You can change the access permissions for a set of users by editing their access group.

1. In the Site Setup tab, click .

2. Select the Groups tab.

3. Select a group and do one of the following:

- To edit the group, click . For details about the configurable options, see **Adding Groups**.

- To delete the group, click .

    NOTE: Default groups cannot be deleted.
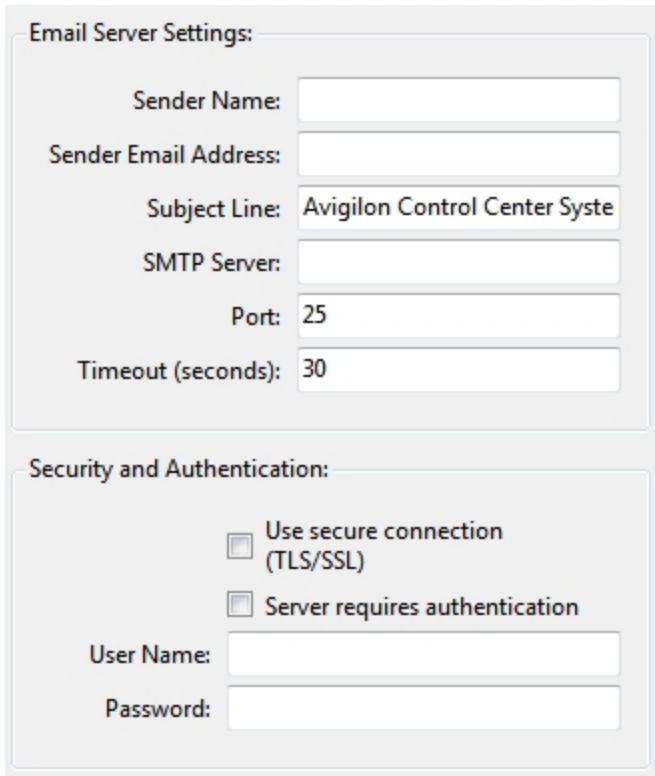
Email Notifications

Use the Email Notifications dialog box to set up the Site to send email in response to specific events. You can choose what events require email notifications and who receives the emails.

Setting Up the Email Server

To send email notifications, the Site must be given access to an email server.

1. In the Site Setup tab, click ✉. .

2. Select the Email Server tab.

Figure 27: The Email Notifications dialog box: Email Server tab

3. In the Email Server Settings: area, complete the following:

   a. **Sender Name:** enter a name to represent the Site in all email notifications.

   b. **Sender Email Address:** enter an email address for the Site.

   c. **Subject Line:** enter a subject line for all emails sent from the Site. The default subject is *Avigilon Control Center System Event*.

   d. **SMTP Server:** enter the SMTP server address used by the Site.

   e. **Port:** enter the SMTP port.

   f. **Timeout (seconds):** enter the maximum amount of time the server will try to send an email before it quits.

4. (Optional) If the email server uses encryption, you can select the **Use secure connection (TLS/SSL)** check box.

5. (Optional) If the email account has a username and password, select the **Server requires authentication**

check box.

    a.   Enter the **User Name:** and **Password:** for the email account.

6.   Click **OK**.

Configuring Email Notifications

In the Email Notifications dialog box, you can create email notification groups to specify who will receive email notifications when certain events occur.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

1.   In the Site Setup tab, click   .

2.   In the Email Notifications dialog box, make sure the Email Notifications tab is selected.

3.   Click .
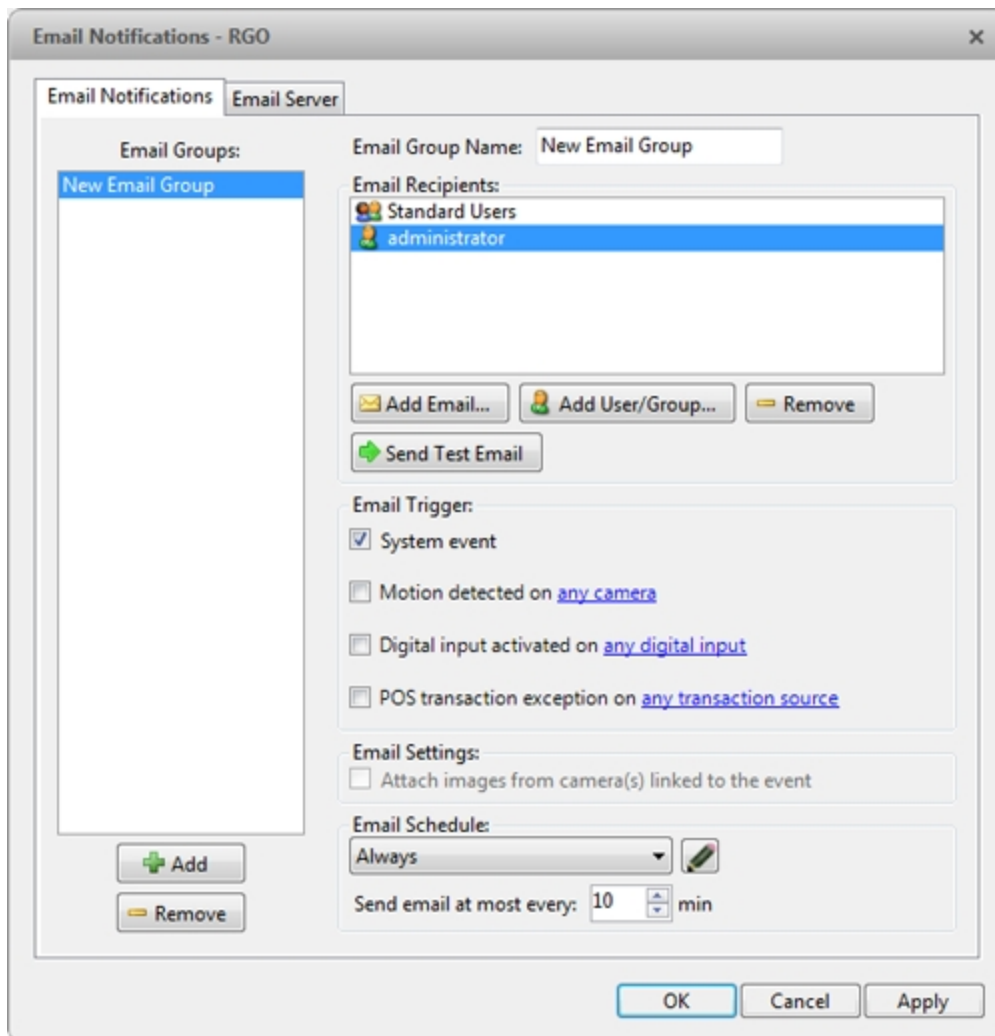
Figure 28: The Email Notifications dialog box

4.   Enter an **Email Group Name:**.

5. In the **Email Recipients:** area, add all the user, group, and individual emails that are part of this email group. Do any of the following:

   - Click ![icon] to add a Site user or access group. In the dialog box, select all the required users and groups then click **OK**.

   - Click ![icon] to add individual emails. In the dialog box, enter the email address, then click **OK**.

   Tip: Make sure the Site users in the Email Recipients: list have a valid email in their user account.

6. Click ![icon] to send a test email to everyone on the Email Recipients: list.

7. In the **Email Trigger:** area, select all the events that will trigger an email for this email group. Click the blue underlined text to define the event requirements.

8. To attach a snapshot of the email notification event, select the **Attach images from camera(s) linked to the event** check box.

   NOTE: This option is disabled if *Motion Detect* is not selected because there are no images associated with system events, digital inputs, or POS transaction exceptions.

9. In the **Email Schedule:** area, select a schedule for the email notification. For more information, see **Scheduling Site Events**.

10. To limit the number of emails sent, enter the minimum amount of time between each email in the **Send email at most every:** field.

11. Click **OK**.

Editing and Deleting an Email Notification

You can edit or delete email notifications as needed.

1. In the Site Setup tab, click ![icon].

2. In the Email Notifications tab, do one of the following:

   - To edit the email notification, select the Email Group from the **Email Groups:** list, then make the required changes. For details about the configurable options, see **Configuring Email Notifications**.

   - To delete the email notification, select the Email Group from the **Email Groups:** list, then click ![icon].

Scheduling Site Events

Site events are actions that can affect the entire Site, like email notifications. When you configure a Site event, you are given the option to assign a schedule to the event. Schedules control when events can occur — at specific times during a day or only on specific days.

When you see the **Schedule** option while configuring an event, you can select an existing schedule or create a new schedule.

Figure 29: Schedule option

- To use a preconfigured schedule, select an option from the drop down list. The default option is *Always*, which allows the event to run constantly.

- To change a schedule, select the schedule then click ✏ and select ✏ .

- To delete a schedule, select the schedule then click ✏ and select ▬ .

- To create a schedule, click ✏ then select ➕. When you see the Edit... dialog box, complete the following steps:
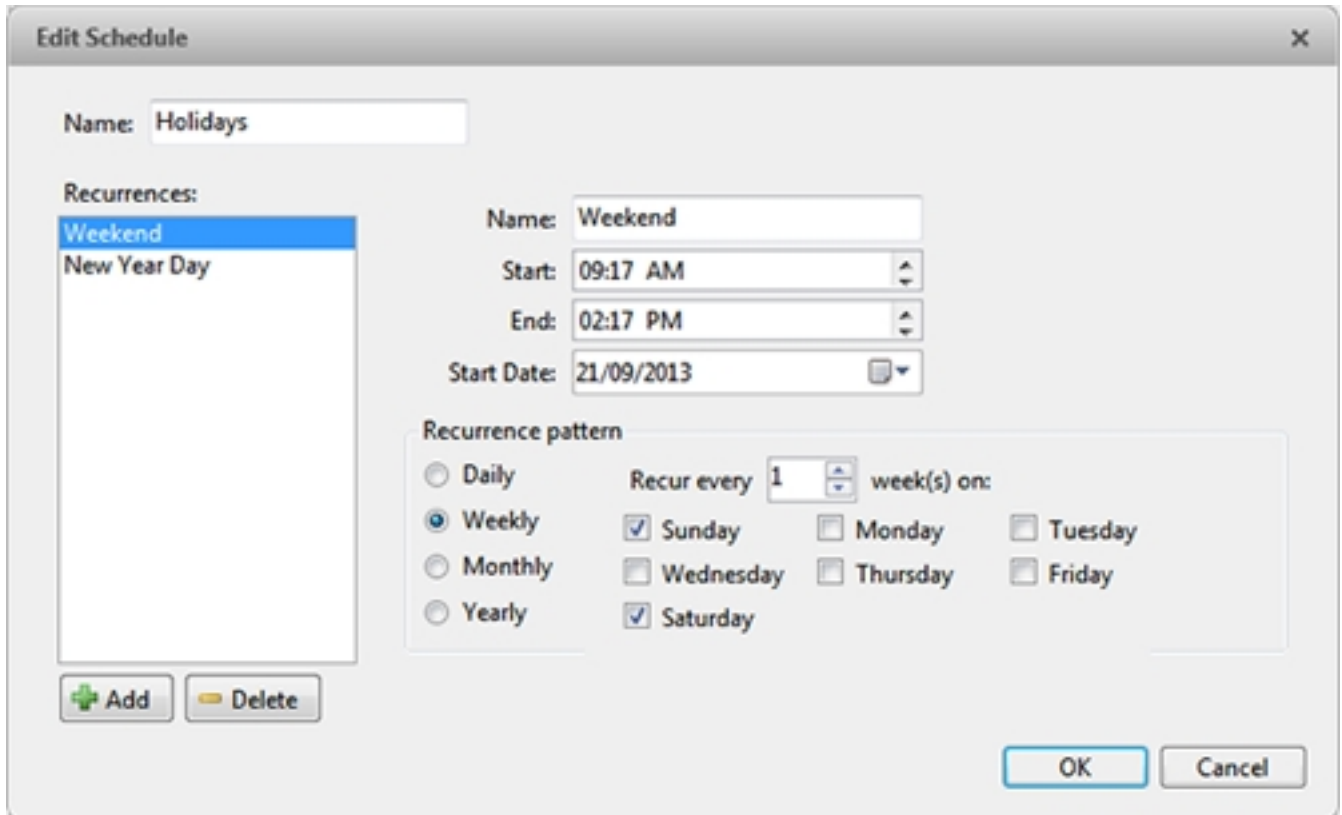
Figure 30: The Edit... dialog box.

1. Give the new schedule a name.

2. Give the recurrence a name.

   You can add multiple recurrences to create a detailed schedule. For example, you could create one recurrence to cover every weekend, plus extra recurrences to cover public holidays.

   - To add a recurrence, click ➕.

   - To delete a recurrence, select the recurrence then click ▬ .

3. In the **Start:** and **End:** fields, enter the time the recurrence will cover.

   Be aware that if you enter an End: time that is earlier than the Start: time, the event will span two days. For example, if the schedule is set to start at 12:00pm and end at 11:59am, the event is automatically enabled from 12:00pm on day 1 and will end at 11:59am on day 2.

4. In the **Start Date:** field, enter when the recurrence should begin.

5. In the Recurrence pattern area, schedule how often the event will be enabled during this recurrence.

Option	Description
Daily	The event is enabled during the same time every day. • Select the number of days between each schedule recurrence.
Weekly	The event is enabled during the same day and time every week. • Select the day(s) of the week, then select the number of weeks between each schedule recurrence.
Monthly	The event is enabled during the same day and time every month. • Select the specific day or weekday, then select the number of months between each schedule recurrence.
Yearly	The event is enabled during the same day and time every year. • Select the specific day or weekday and month, then select the number of years between each schedule recurrence.

6. Complete any other recurrences that have been added to the schedule.

7. Click **OK** to save the new schedule.

Server Settings

Server settings are related to video recording. This includes configuring the recording schedule, data aging, and bandwidth usage.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

Naming a Server

Give the server a meaningful name so that it can be easily identified in the System Explorer. Otherwise, the server uses the name that is assigned by Windows.

1. In the server Setup tab, click   .

2. In the dialog box that appears, give the server a name.

Server Settings
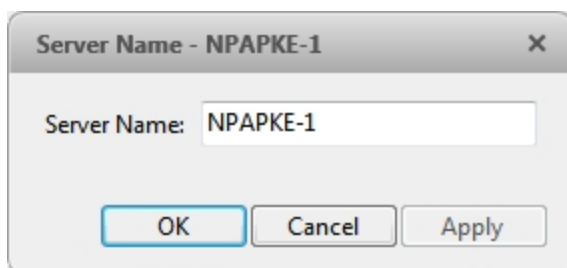
3. Click **OK**.

Recording Schedule

Use the Recording Schedule dialog box to set the recording schedule for cameras connected to the server. By default, the server is set to record motion and configured events when they occur.

Once the recording schedule is set, video is recorded automatically.

Setting Up a Weekly Recording Schedule

You can set up a weekly recording schedule by applying templates to cameras for each day of the week.

1. In the server Setup tab, click [icon] .

2. In the Recording Schedule dialog box, select a template from the Templates: pane.

3. In the Default Week area, click the days of the week this template applies to for each camera.

Figure 32: The Recording Schedule dialog box: Default Week

4. Click **OK**.

Using Templates to Modify the Recording Schedule

The recording schedule is set by using templates that tell cameras when and what to record. For example, you can create one recording schedule template for weekdays and another for weekends.

Adding a Template

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

1. In the server Setup tab, click [icon] .

2. In the Recording Schedule dialog box, click **Add Template** below the Templates: pane.
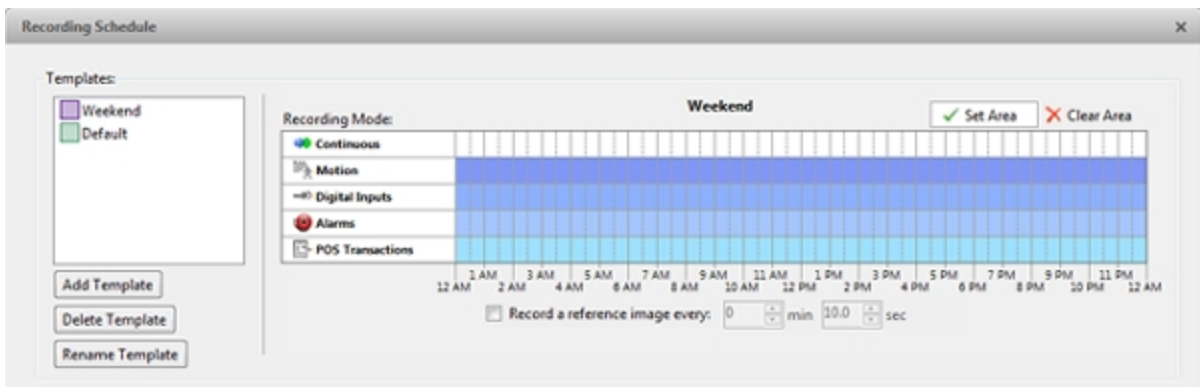
Figure 33: The Recording Schedule dialog box

3. Enter a name for the **New Template**.

4. Click the **Set Area** button, then click or drag the cursor across the **Recording Mode:** timeline to set the types of events that the cameras will record throughout the day. Individual rectangles on the Recording Mode: timeline will be colored if they have been selected.

Record Mode	Definition
Continuous	Record video constantly.
Motion	Only record video when motion is detected.

5. To disable recording in parts of the template, click the **Clear Area** button, then click or drag the cursor across the timeline to remove the set recording areas.

6. If cameras are *not* recording in Continuous mode all day, you can set cameras to record reference images between events in the recording schedule.

   - Select the **Record a reference image every:** check box then set the time between each reference image.

Editing and Deleting a Template

1. In the Setup tab, select the server you want to edit, then click .

2. In the Recording Schedule dialog box, select a template from the Templates: pane and do one of the following:

   - To edit a template, modify the schedule.

   - To rename a template, click **Rename Template** and enter a new name.

   - To delete a template, click **Delete Template**.

3. Click **OK** to save your changes.

Recording and Bandwidth

While the Recording Schedule dialog box sets when and what cameras record, the Recording and Bandwidth dialog box sets how long recorded video is stored.

Editing and Deleting a Template

In the Recording and Bandwidth dialog box, you can change the Data Aging settings and set the maximum record time for each connected camera.

1. In the server Setup tab, click ![icon] .
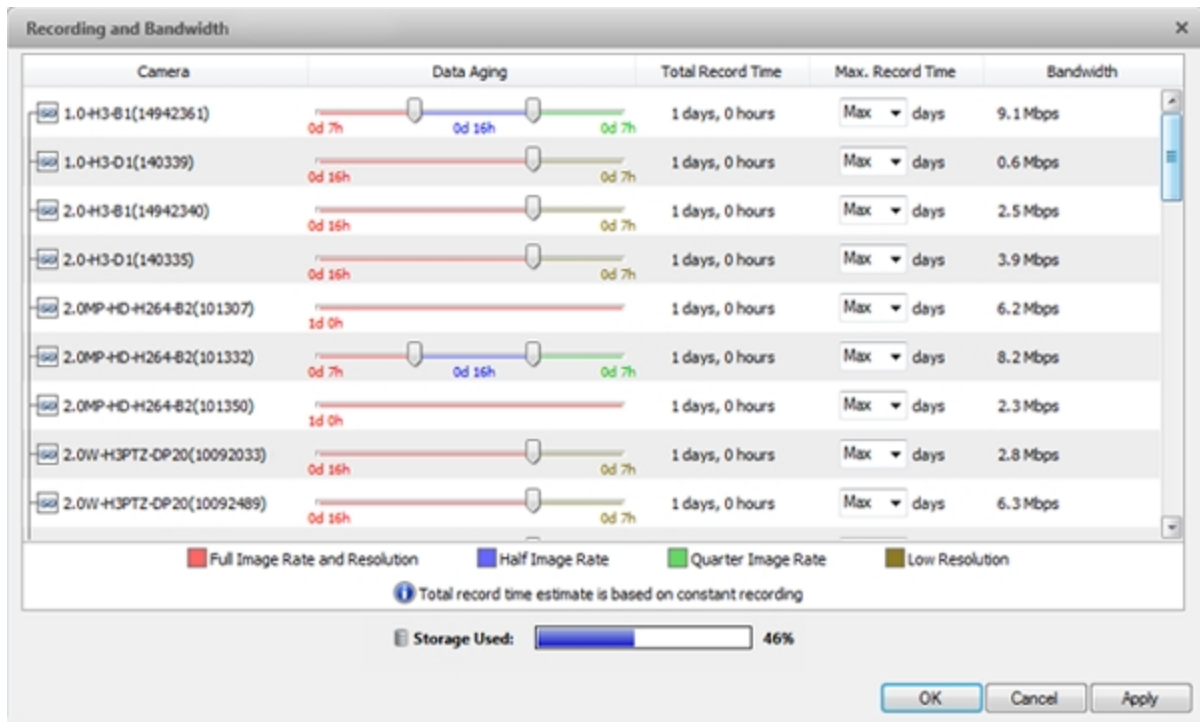
Figure 34: The Recording and Bandwidth dialog box

The Data Aging column shows an estimate of the recording time that is available at each image rate, given the amount of space on the server.

- For JPEG2000 or JPEG compression cameras, Data Aging is available at three rates:
  - **Full Image Rate and Resolution** keeps recordings at their original quality.
  - **Half Image Rate** discards half of the recorded data to make room for new recordings.
  - **Quarter Image Rate** keeps 1/4 of the original recorded data so that you can still see older video.

- For H.264 cameras that support Data Aging, Data Aging is available at two rates:
  - **Full Image Rate and Resolution** keeps the original high quality video and the secondary stream of low resolution video.
  - **Low Resolution** only keeps the secondary stream of low resolution video.

  NOTE: The Data Aging can only occur when the secondary stream is enabled.

- For H.264 cameras that *do not* support Data Aging, only the **Full Image Rate and Resolution** video is kept.

2. In the Data Aging column, move the sliders to adjust the amount of time video is stored at each image rate.

- To change the data aging settings for all linked cameras, move the slider for one linked camera and all linked cameras will be updated.

- To change the data aging setting for one camera, break the camera's link to other cameras by clicking the ⬚ icon to the left of its name, then make your changes.

3. In the **Max. Record Time**, manually enter a maximum record time or select one of the options from the drop down list for each camera.

   NOTE: If the time estimated in the Total Record Time column is shorter than what is set in the Max. Record Time column, the camera's actual recording time will be shorter than the Max. Record Time.

4. Click **OK**.

Device Settings

Device settings are used to adjust video quality and set up devices that can be connected to cameras and video analytics appliances. These settings include adjusting camera display quality, video compression, and image rate.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

NOTE: The dialog box may appear differently depending on the device. Options that are not supported by the device will be disabled or hidden.

General

Use the device General dialog box to set a device's identity and configure device PTZ settings. You can also reboot the device through the General dialog box.

Setting a Device's Identity

In a device's General dialog box you can give the device a name, describe the device's location, and give the device a logical ID. The logical ID is needed to control the device through keyboard and joystick commands.

NOTE: The dialog box may appear differently depending on the device. Options that are not supported by the device will be disabled or hidden.

1. In the device Setup tab, click

2. In the **Camera Name:** field, give the device a meaningful name to help you identify it. By default, the device model number is used as the device's name.

3. In the **Camera Location:** field, describe the device's location.

4. In the **Logical ID:** field, enter a unique number to allow the Client and integrations to identify this device.

5. (Cameras only) To disable the LEDs on a device, select the **Disable camera status LEDs**. This may be required if the device is installed in a covert location.

6. (Cameras only)If a device has a motorized zoom and focus lens, the **Enable PTZ controls** check box will be displayed. For more information, see **Configuring PTZ**.

7. Click **OK**.

Configuring PTZ

Use the camera General dialog box to enable and configure the motorized pan, tilt, zoom (PTZ) devices that may be connected to Avigilon™ cameras. PTZ devices are connected to Avigilon cameras through the RS-485 inputs.

Third-party PTZ camera controls cannot be configured through the Control Center software.

1. In the camera Setup tab, click ⚙.

2. In the PTZ area, select the **Enable PTZ controls** check box.

    NOTE: If the following options are not displayed, the camera only has a motorized zoom and focus lens that can be controlled through the PTZ Controls pane. Other PTZ controls will not be available.

3. In the **Protocol:** drop down list, select the appropriate PTZ protocol. The available protocols include:

    - AD Sensormatic
    - AXSYS
    - AXSYS DCU
    - Ernitec ERNA
    - Honeywell Diamond
    - Kalatel ASCII
    - Pelco D
    - Pelco P
    - TEB Ligne
    - Videotec MACRO
    - Videotec Legacy
    - Vicon extended
    - Vicon normal
    - JVC JCBP

4. Enter the **Dip Switch Address:**, **Baud Rate:**, and **Parity:** for the PTZ device.

5. Click **OK**.

Once PTZ has been configured, you can use the camera's PTZ Controls while you watch the camera's live video stream. For more information, see **Controlling PTZ Cameras**.

Rebooting a Device

You can restart all Avigilon devices through the device's General dialog box. This feature is not available for third party devices.

1. In the device Setup tab, click ⚙.

2. Click **Reboot Camera...**.

The device will disconnect from the Avigilon Control Center and shut down. When the device starts up again, the device should automatically reconnect with the Avigilon Control Center.

Network

Use the device Network dialog box to change how a device connects to the server network.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

1. In the device Setup tab, click ![globe icon] .

2. In the Network dialog box, select how the device obtains an IP address:

![Network dialog box showing Obtain an IP address automatically and Use the following IP address options, with IP Address 192.168.249.12, Subnet Mask 255.255.255.0, Gateway 192.168.249.1, Control Port 55080 Default: 55080, Enable Multicast checked with IP Address 239.213.149.191, TTL 1, Base Port 11016, Ports Used: 11016 - 11019, and OK, Cancel, Apply buttons]
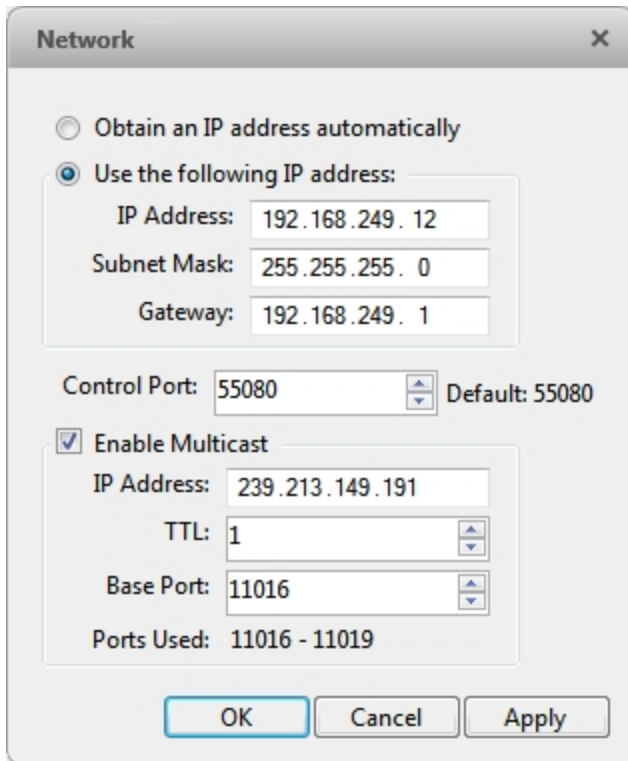
Figure 35: The Network dialog box

- **Obtain an IP address automatically:** select this option for the device to connect to the network through an automatically assigned IP address.

  The device will attempt to obtain an address from a DHCP server. If this fails, the device will obtain an address through Zero Configuration Networking (Zeroconf) and select an address in the 169.254.0.0/16 subnet.

- **Use the following IP address:** select this option to manually assign a static IP address to the device.

  Enter the **IP Address:**, **Subnet Mask:**, and **Gateway:** you want the device to use.

3. Select the **Control Port:** for connecting to the device. This port is also used for manually discovering the device on the network.

4. Click **OK**.

Image and Display

Use the Image and Display dialog box to control a camera's display settings for live and recorded video.

NOTE: The dialog box may appear differently depending on the device. Options that are not supported by the device will be disabled or hidden.

Changing Image and Display Settings

NOTE: The dialog box may appear differently depending on the device. Options that are not supported by the device will be disabled or hidden.

1. In the camera Setup tab, click .

2. In the Image and Display dialog box, make the required changes to adjust the camera's image settings. A preview of your changes is displayed in the image panel.

   Tip: Use the **Maximum Exposure:**, **Maximum Gain:**, and **Priority:** options to control low light behavior.

Figure 36: The Image and Display dialog box

Option	Description
Exposure:	You can allow the camera to control the exposure by selecting **Automatic**, or you can set a specific exposure rate.

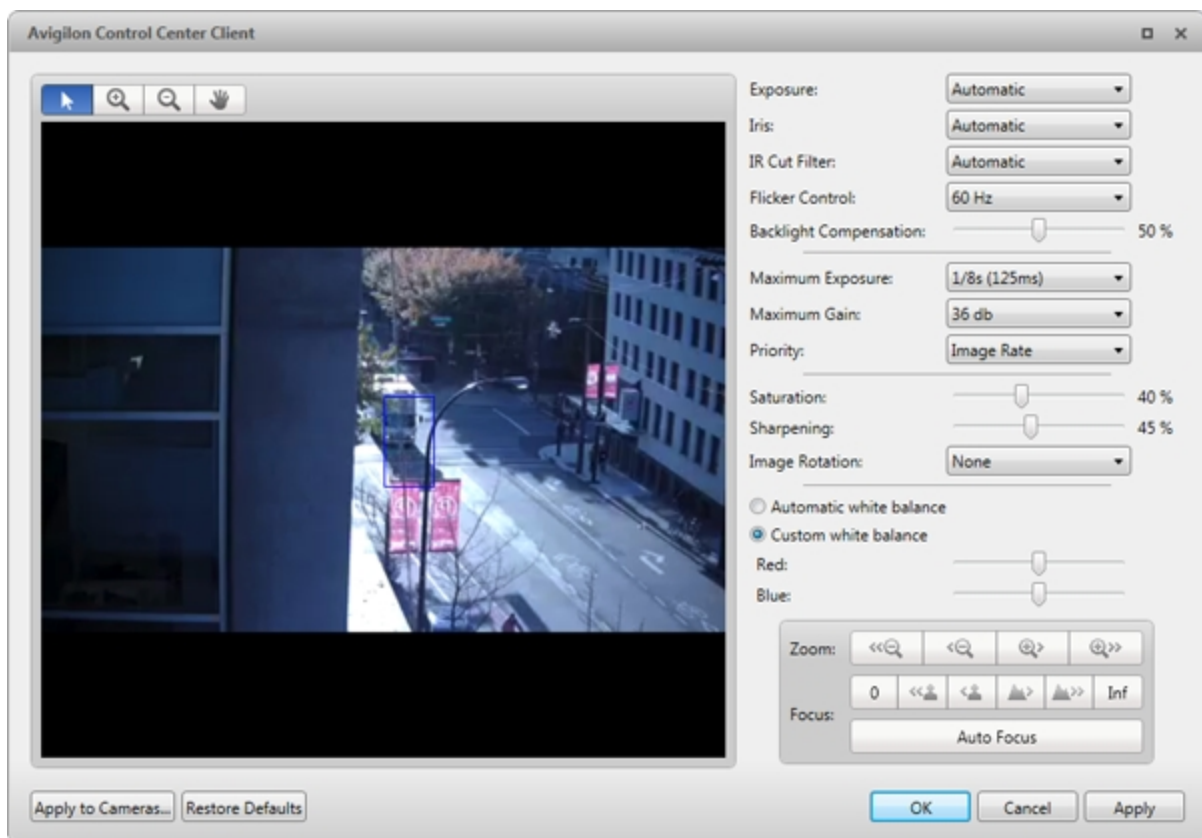| Option	Description
	NOTE: Increasing the manual exposure time may affect the image rate.
Iris:	You can allow the camera to control the iris by selecting **Automatic**, or you can manually set it to **Open** or **Closed**.
IR Cut Filter:	You can allow the camera to control the infrared cut filter by selecting **IR Cut Filter:**, or set the camera to **Color** or **Monochrome** mode.
Flicker Control:	If your video image flickers because of the fluorescent lights around the camera, you can reduce the effects of the flicker by setting the **Flicker Control:** to the same frequency as your lights. Generally, Europe is **50 Hz** and North America is **60 Hz**.
Backlight Compensation:	If your scene has areas of intense light that cause the overall image to be too dark, move the **Backlight Compensation:** slider until you achieve a well exposed image.
Enable Wide Dynamic Range	Select this box to enable automatic color adjustments through Wide Dynamic Range (WDR). This allows the camera to adjust the video image to accommodate scenes where bright light and dark shadow are clearly visible.
Maximum Exposure:	You can limit the automatic exposure setting by selecting a **Maximum Exposure:** level. By setting a **Maximum Exposure:** level for low light situations, you can control the camera's exposure time to let in the maximum amount of light without creating blurry images.
Maximum Gain:	You can limit the automatic gain setting by selecting a **Maximum Gain:** level. By setting a **Maximum Gain:** level for low light situations, you can maximize the detail of an image without creating excessive noise in the images.
Priority:	You can select **Image Rate** or **Exposure** as the priority. When set to **Image Rate**, the camera will maintain the set image rate as the priority, and will not adjust the exposure beyond what can be recorded for the set image rate. When set to **Exposure,** the camera will maintain the exposure setting as the priority, and will override the set image rate to achieve the best image possible.
Saturation:	You can adjust the video's color intensity by moving the **Saturation:** slider until the video image meets your requirements.
Sharpening:	You can adjust the video sharpness to make the edges of objects more visible. Move the **Sharpening:** slider until the video image meets your requirements.
Image Rotation:	You can change the rotation of captured video. You can rotate the video 90, 180, or 270 degrees clockwise.
White Balance	You can control white balance settings to adjust for differences in light. You can allow the camera to control the white balance by selecting **Automatic**

Option	Description
	white balance, or select **Custom white balance** and manually set the **Red:** and **Blue:** settings.

3. To focus the camera, see **Zooming and Focusing the Camera Lens**.

4. Click **Apply to Cameras...** to apply the same settings to other cameras of the same model.

5. Click **OK**.

Zooming and Focusing the Camera Lens

If the camera has remote zoom and focus capabilities, you can control the camera's zoom and focus through the Image and Display dialog box.

1. In the camera Setup tab, click .

2. If the camera has a built-in auto-focus feature, you can choose one of the following:

    - **Continuous Focus:** the camera will automatically focus itself whenever the scene changes. Skip the following steps.

    - **Manual Focus:** you can manually focus the camera through the **Focus:** buttons. Once the focus is manually set, it will not change.

3. While you watch the preview in the image panel, complete the following steps to zoom and focus the camera:

    a. Use the **Zoom:** buttons to zoom in to the distance you want to focus.

4. In the **Iris:** drop down list, select **Open**. When the iris is fully open, the camera's depth of field is the shortest.

5. Use the **Focus:** buttons until the image becomes clear.

Focus Buttons

Button	Description
Auto Focus	The camera will automatically focus one time.
0	The camera will focus as close to zero as possible.
«👤	Large step toward zero.
‹👤	Small step toward zero.
🏔›	Small step toward infinity.

Button	Description
![Large step button]	Large step toward infinity.
![Inf button]	Infinity.

6. Click **Apply to Cameras...** to apply the same settings to other cameras of the same model.

7. Click **OK**.

Dewarping a Panomorph Lens
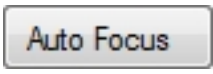
If your camera uses a fisheye or panomorph lens, you may choose to dewarp the image through the Avigilon™ Control Center software.

NOTE: The dialog box may appear differently depending on the device. Options that are not supported by the device will be disabled or hidden.

1. In the camera Setup tab, click [icon] .

2. In the Image and Display dialog box, select the **Lens Type:** used by the camera.

   If the Lens Type list is empty, contact Avigilon Technical Support and request that support for your camera and lens model be added to the application.
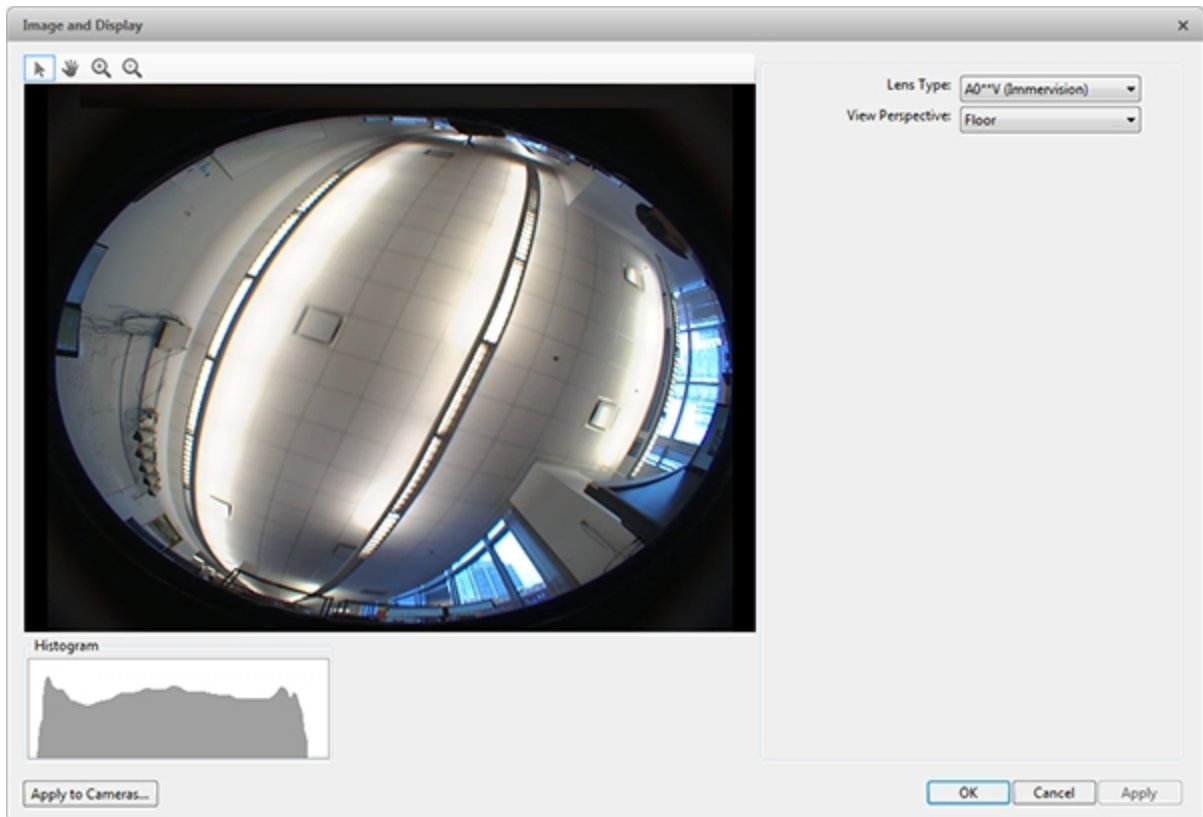
Figure 37: The Image and Display dialog box for panoramic lens configuration

3. In the **View Perspective:** drop down list, select one of the following options:

- **Floor:** select this option if the camera is installed to look up.

- **Ceiling:** select this option if the camera is installed to look down.

- **Wall:** select this option if the camera is installed to look at the horizon.

4. If available, edit the image and display settings that are supported by the Lens Type:.

5. Click **OK**.

The system dewarps the lens image based on the way it is installed. You will be able to control how video is display in an image panel through the PTZ controls.

Compression and Image Rate

Use the camera Compression and Image Rate dialog box to modify the camera's frame rate and image quality settings for sending image data over the network.

NOTE: The dialog box may appear differently depending on the device. Options that are not supported by the device will be disabled or hidden.

For more information about the supported compression technologies, see the **Understanding Compression Technologies for HD and Megapixel Surveillance** white paper on the Avigilon website.

1. In the camera Setup tab, click ![IPS icon] .
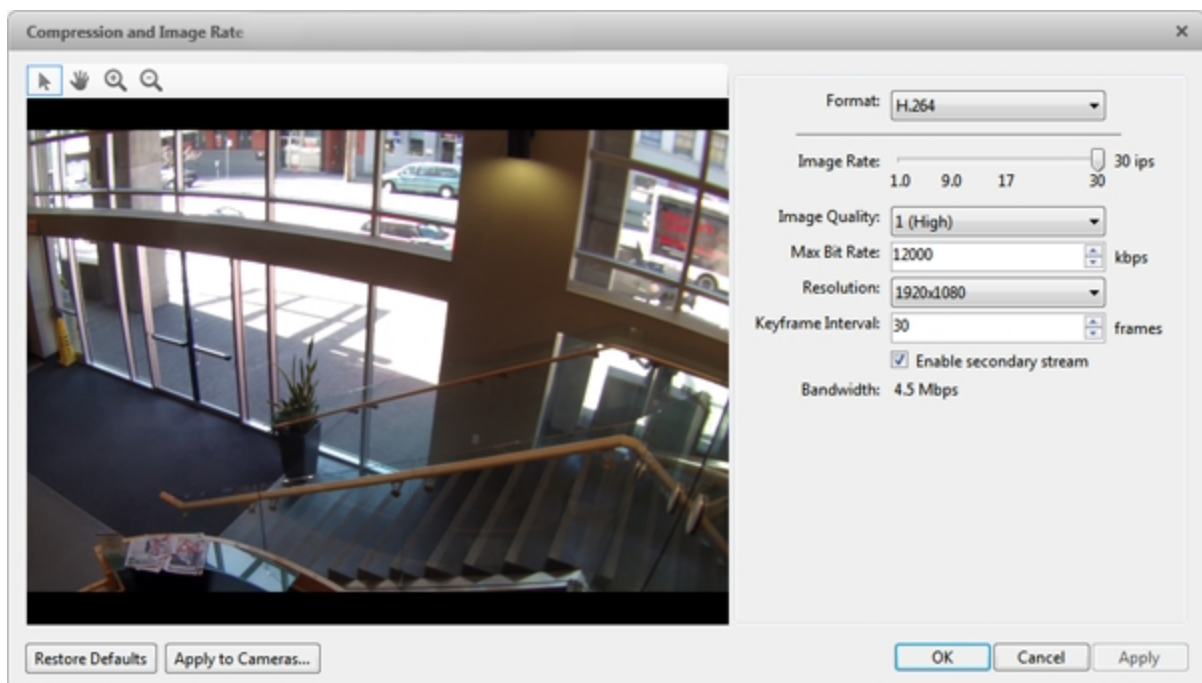
Figure 38: The Compression and Image Rate dialog box.

The Bandwidth: area gives an estimate of the bandwidth used by the camera with the current settings. Adjust the settings as required.

NOTE: For cameras capable of maintaining multiple streams, the settings in this dialog box only affect the primary stream.

2. In the **Format:** drop down list, select the preferred streaming format.

3. In the **Image Rate:** bar, move the slider to select the number of images per second (ips) you want the camera to stream over the network.

   For H.264 cameras and encoders, the image rate setting must be divisible by the maximum image rate. If you set the slider between two image rate settings, the application will round to the closest whole number.

4. In the **Image Quality:** drop down list, select an image quality setting. An image quality setting of **1** will produce the highest quality video and require the most bandwidth. The default setting is **6**.

5. In the **Max Bit Rate:** drop down list, select the maximum bandwidth the camera can use in kilobits per second (kbps).

6. In the **Resolution:** drop down list, select the preferred image resolution.

7. In the **Keyframe Interval:** drop down list, enter the preferred number of frames between each keyframe.

   It is recommended that you have at least one keyframe per second. So, if the image rate is set to 30 ips, you should enter **30** for the Keyframe Interval: setting.

8. If your camera supports multiple video streams, you can select the **Enable secondary stream** check box.

   When enabled, the secondary stream is a lower resolution video stream that is used by Avigilon's HDSM feature to maximize bandwidth and storage efficiencies.
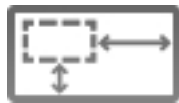
9. Click **Apply to Cameras...** to apply the same settings to other cameras of the same model.

10. Click **OK**.

Image Dimensions

Use the Image Dimensions dialog box to set the image dimensions for the camera. You can crop the video image to help reduce bandwidth and increase the maximum image rate.

NOTE: This feature is only available for JPEG2000 cameras.
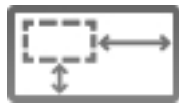
1. In the camera Setup tab, click .

2. In the Image Dimensions dialog box, adjust the image dimensions by doing one of the following:

   - Drag the edges of the image until the video is cropped to fit your requirements.

   - Change the values for the **Top:**, **Left:**, **Width:**, and **Height:** fields.
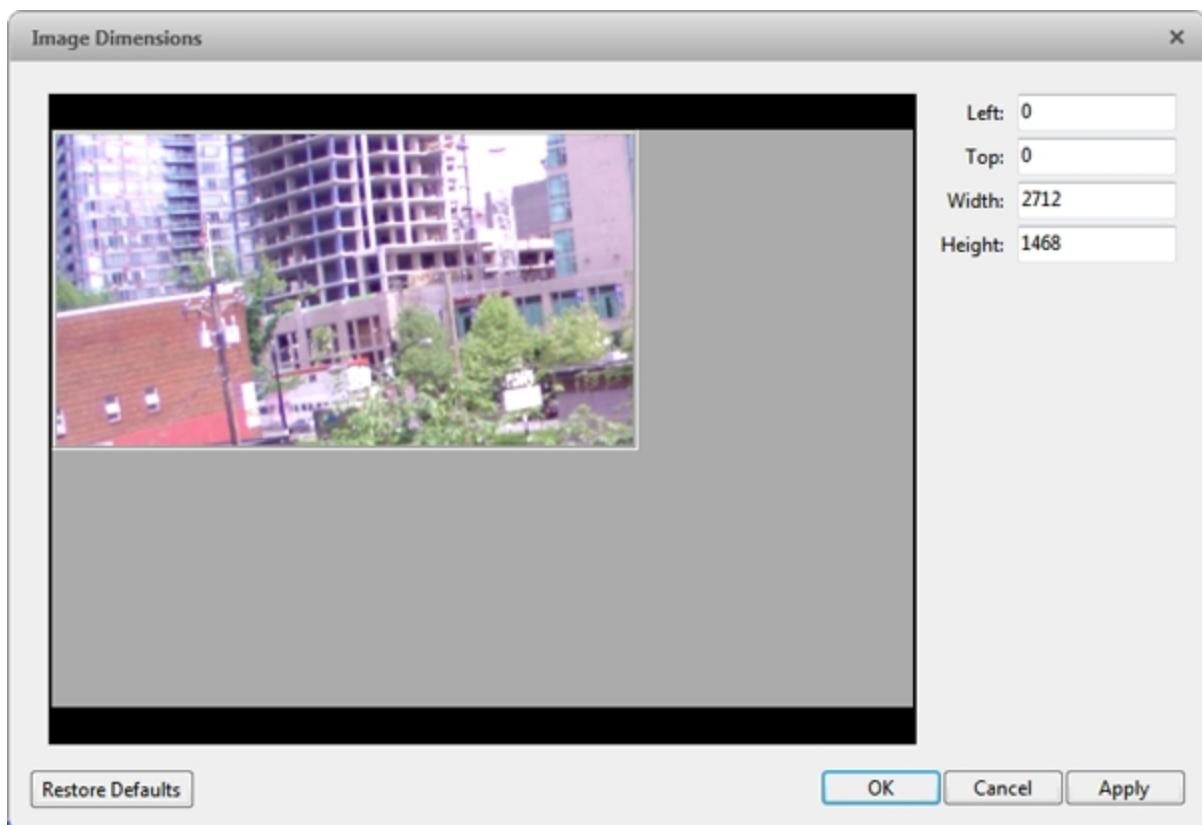
Figure 39: The Image Dimensions dialog box

3. Click **OK**.

Motion Detection

In the Motion Detection dialog box you can define specific pixel motion detection areas and configure the camera's sensitivity and threshold for pixel motion.

If you have a video analytics device, you can configureclassified object motion detection. For more information, see **Setting Up Classified Object Motion Detection**.

Selecting a Pixel Motion Detection Area

In the Motion Detection dialog box, you can set the green pixel motion detection areas in the camera's field of view. Pixel motion detection is ignored in the areas not highlighted in green.

1. In the camera Setup tab, click .

2. Use the tools below the image panel to define the green pixelmotion detection area:

- : Click this button then draw green rectangles to define the pixel motion detection areas. You can draw multiple rectangles to create your pixel motion detection area.

- : Click this button and draw rectangles to erase sections from the pixel motion detection area.

- : Click this button and manually draw pixel motion detection areas with your mouse. This tool allows you to be very specific and highlight unusual shapes.

- : Click this button to highlight the entire image panel for pixel motion detection.

- : Click this button to clear the image panel of all pixel motion detection areas.

Tip: Avoid areas with continuous pixel motion, like a TV or computer monitor, so that the camera is not constantly detecting unimportant pixel motion events.
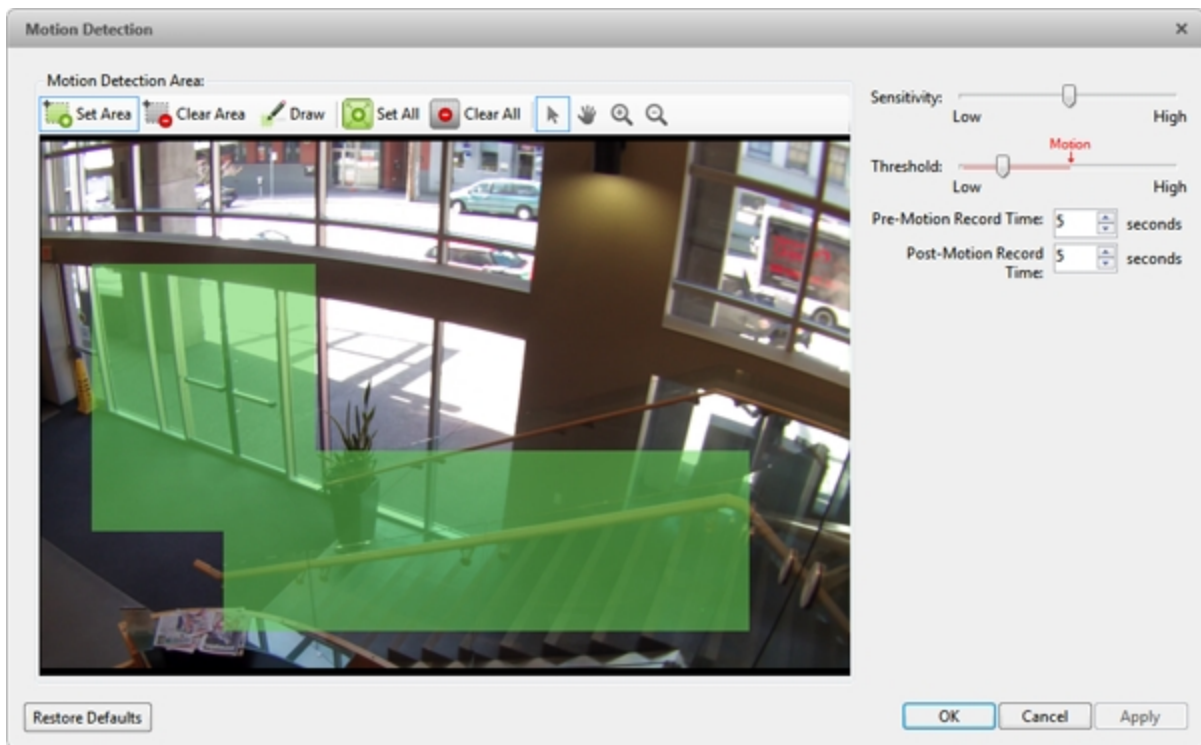
Figure 40: The Motion Detection dialog box

3. Click **OK**.

To define the sensitivity and threshold of the pixel motion detection area, see **Controlling Pixel Motion Sensitivity and Threshold**.

Controlling Pixel Motion Sensitivity and Threshold

In the Motion Detection dialog box, you can control the camera's sensitivity and threshold for pixel motion. You can also define how long video is recorded before and after each pixel motion event.

1. In the camera Setup tab, click ![icon].
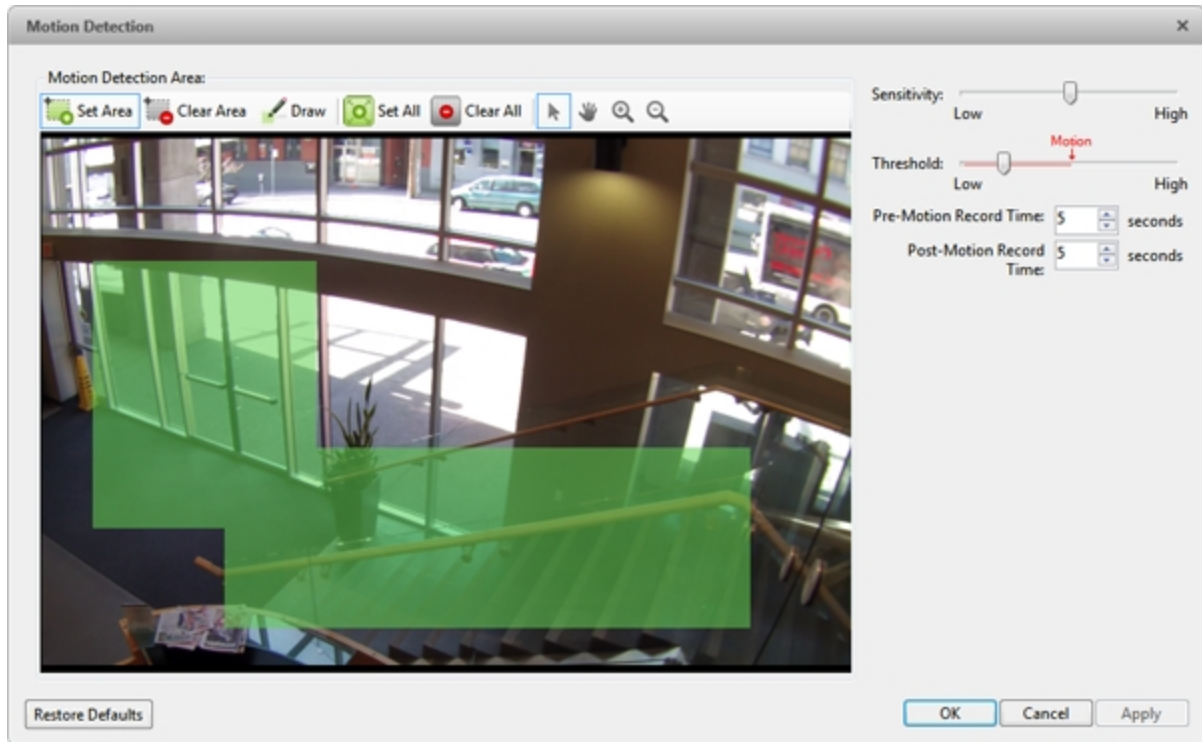
Figure 41: The Motion Detection dialog box

2. Move the **Sensitivity:** slider to adjust how much each pixel must change before it is considered in motion.

   When the sensitivity is High, even small movements are detected - like dust floating immediately before the camera lens.

   Move the slider to Low to avoid triggering pixel motion detection.

3. Move the **Threshold:** slider to adjust how many pixels must change before the image is considered to have pixel motion.

   When the threshold is High, only large motions are detected - like a truck driving across the scene.

   Tip: The **Motion** indicator above the Threshold: slider will move to indicate how much motion is occurring in the current scene. Only when the Motion indicator moves to the right of the Threshold: marker will the camera detect the pixel motion.

4. In the **Pre-Motion Record Time:** and **Post-Motion Record Time:** fields, specify how long video is recorded before and after the pixel motion event.

5. Click **OK**.

Adaptive Video Analytics

Adaptive video analytics is available on adaptive video analytics devices, including Rialto™ Video Analytics Appliances and Avigilon™ cameras with adaptive video analytics.

Configuring Video Analytics Device Location

NOTE: Changing the location of a video analytics device deletes existing teach data for that device.

1. In the device Setup tab, click .

   The Video Analytics Configuration dialog box opens.
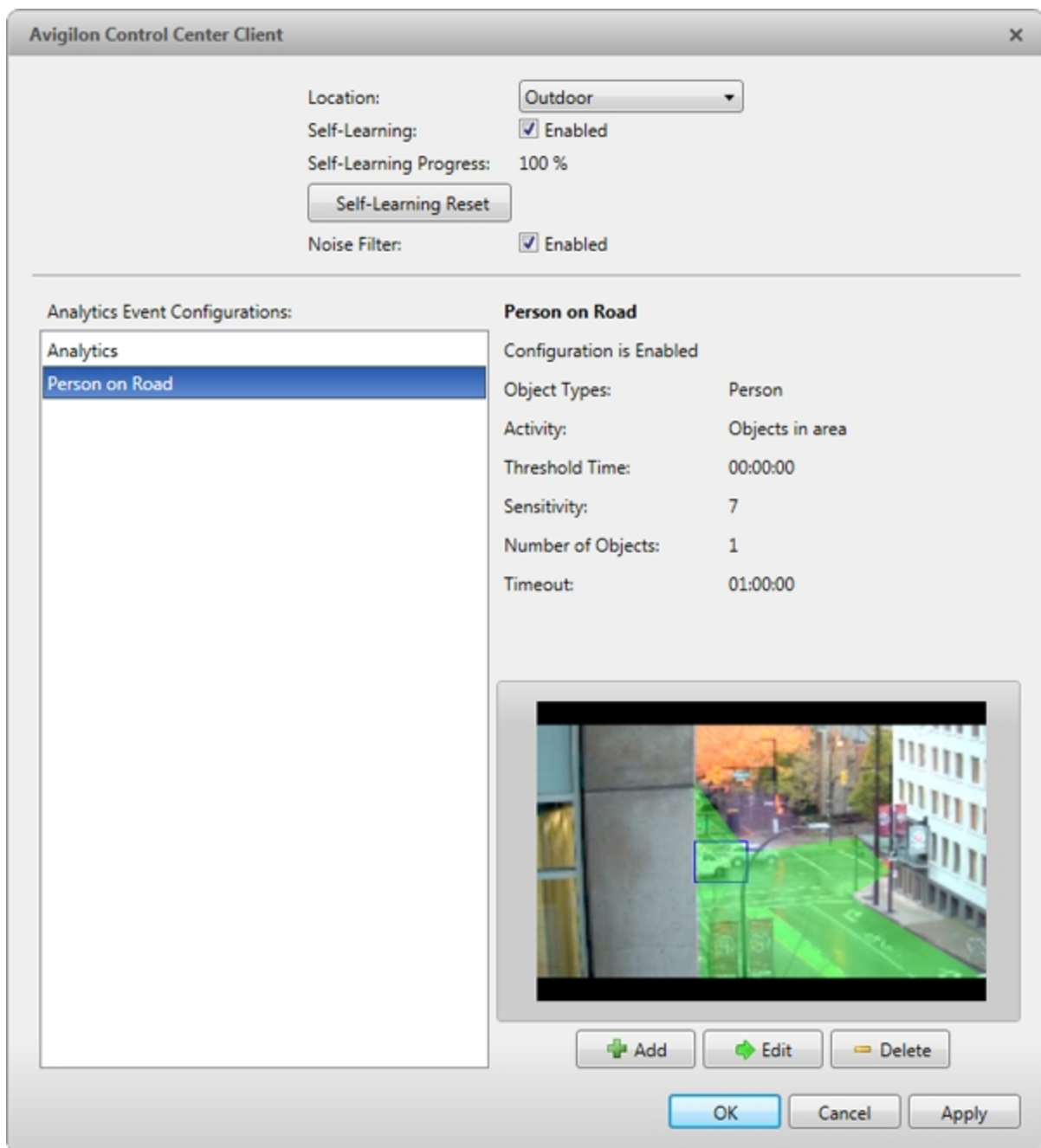
Figure 42: The Video Analytics Configuration dialog box

2. From the **Location:** drop down menu, select one of the following options:

- **Outdoor** - Use for outdoor scenes. This setting detects humans and vehicles.

- **Large Indoor Area** - Use for indoor scenes with a width of 1.5 m (5 ft) or more. Vehicle detection is disabled.

- **Indoor Overhead** - Use when camera is mounted overhead, with its field of view capturing the tops of people's heads. This setting is useful for counting people. Vehicle detection is disabled.

Configuring Video Analytics Device Location

Configuring the Camera Type

To improve the analytics detection accuracy of a video analytics appliance, you can choose the type of video sent by each connected camera to the appliance.

1. In the device Setup tab, click [icon].

   The Video Analytics Configuration dialog box opens.
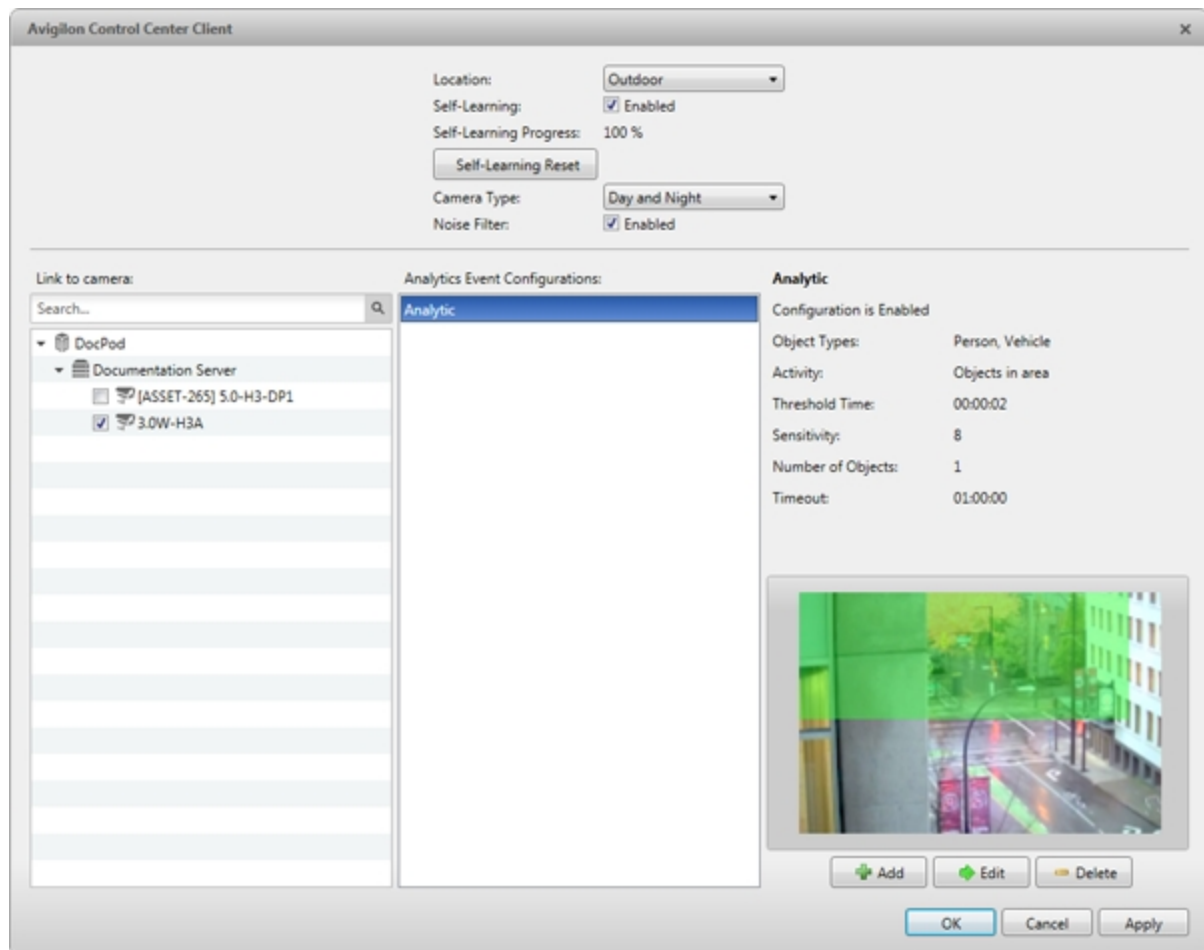
Figure 43: The Video Analytics Configuration dialog box

2. In the **Camera Type:** drop down list, choose one of the following options:

   - **Day and Night** - the video analytics appliance automatically detects if the video is in color or black and white.

   - **Color** - the video analytics appliance is configured to analyze color video. It automatically detects if the video is daytime or nighttime.

     If the camera location is configured as Large Indoor Area or Indoor Overhead, the video analytics appliance is configured to analyze daytime video.

- **Black and White** - the video analytics appliance is configured to analyze black and white video.
- **FLIR** - the video analytics appliance is configured to analyze forward looking infrared (FLIR) video.

Using the Color Noise Filter

If the video analytics device is too sensitive and falsely detects motion as classified objects, enable the color noise filter. This is helpful for scenes with a lot of light and small, irrelevant motion, such as tree leaves on a sunny day.

- At the top of the Video Analytics Configuration dialog box, select the **Noise Filter:** check box. Make sure the check box is checked.

If the video analytics device is not sensitive enough and does not detect relevant classified objects, disable the color noise filter.

- At the top of the Video Analytics Configuration dialog box, select the **Noise Filter:** check box. Make sure the check box is unchecked.

Configuring Video Analytics Device Self-Learning

When self-learning is enabled, the video analytics device will perform initial self-calibration for the scene in its field of view. This can significantly improve classification accuracy of humans and vehicles.

NOTE: Enabling and disabling self-learning does not affect the Teach By Example feature.

Enabling Self-Learning

1. In the device Setup tab, click   .

   The Video Analytics Configuration dialog box opens.

Figure 44: The Video Analytics Configuration dialog box

2. At the top of the dialog box, select the **Self-Learning:** check box. Make sure the check box is checked.

Self-Learning Progress

- **0% - 33%** - The device is in the initial learning stage where it begins to gather information on the scene.
- **34% - 66%** - The device is calibrating itself using the data it has gathered on the average person and average vehicle in the scene.
- **67% - 100%** - The device has established a high level of classified object detection accuracy based on its self-learning.

Tip: To further improve the detection accuracy of the device, use the Teach By Example feature. For more information, see **Teach By Example**.

NOTE: If after the device has reached a 100% Self-Learning Progress: level it has low classified object detection accuracy, an error may have occurred during installation. Contact Avigilon Technical Support.

Disabling Self-Learning

NOTE: Disabling self-learning may result in more classified objects being falsely detected.

You should disable self-learning in the following situations:

- If you do not expect any humans or vehicles in the device's field of view.
- If humans and vehicles in the field of view move at multiple height levels, such as people on a staircase.

1. In the device Setup tab, click ![icon] .
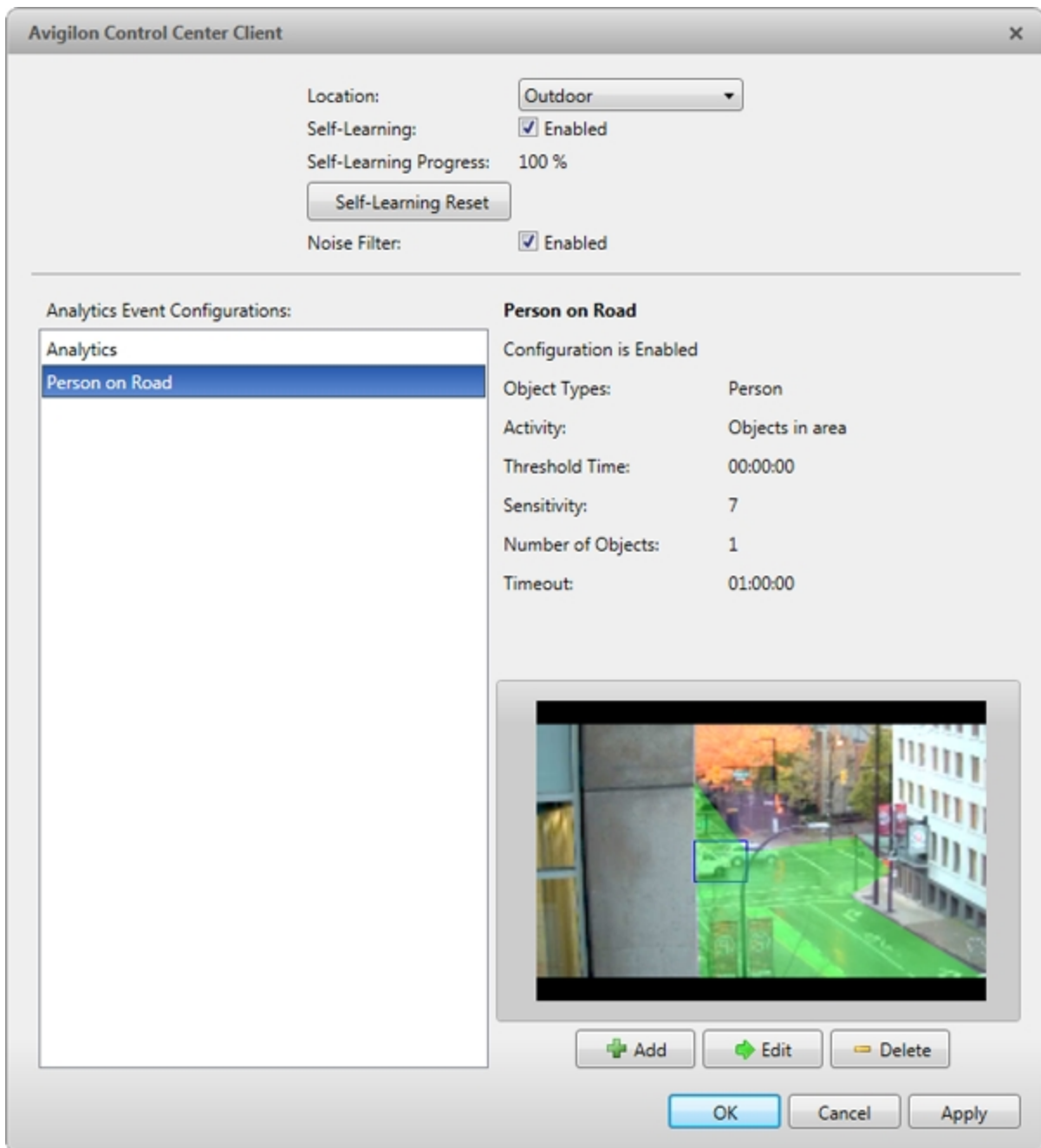
   The Video Analytics Configuration dialog box opens.
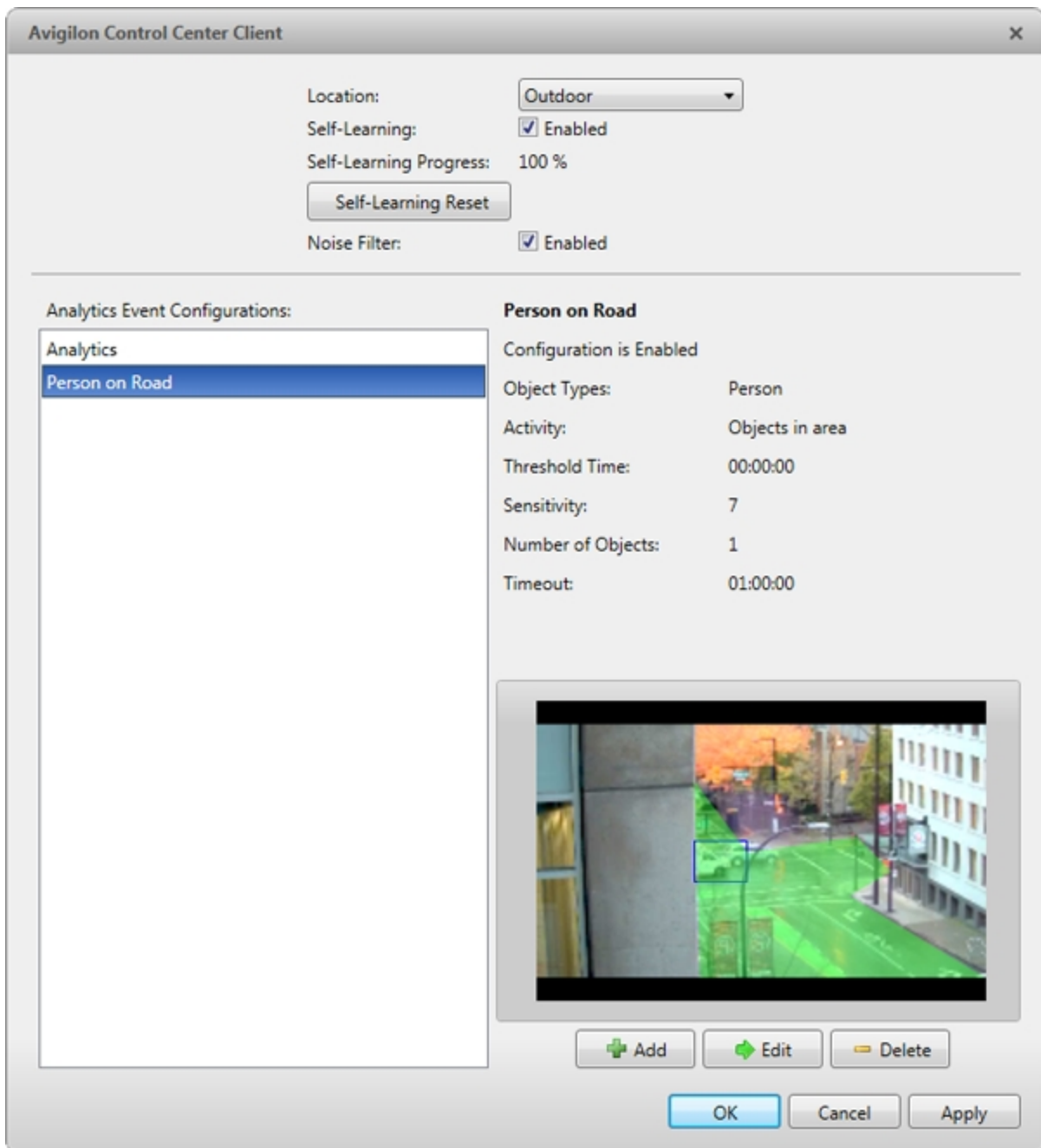
Figure 45: The Video Analytics Configuration dialog box

2. At the top of the dialog box, select the **Self-Learning:** check box. Make sure it is unchecked.

Resetting Self-Learning

When self-learning is reset, all previous self-learning data for the device is deleted.

You should reset self-learning when the field of view of the device is changed to ensure classified object detection accuracy.

1. In the device Setup tab, click .

   The Video Analytics Configuration dialog box opens.

Figure 46: The Video Analytics Configuration dialog box

2. At the top of the dialog box, click **Self-Learning Reset**.

3. In the confirmation dialog box that appears, click **Yes**.

Resetting self-learning creates an event that appears in the Site Logs.

Setting Up Classified Object Motion Detection

The Avigilon™ adaptive video analytics devices use adaptive video analytics to intelligently detect relevant motion, such as a person or vehicle, while ignoring irrelevant movement, such as a moving tree. This allows you to receive events, trigger alarms and rules, and record video only when human or vehicle motion requires your attention.

1. In the device Setup tab, click [icon] .
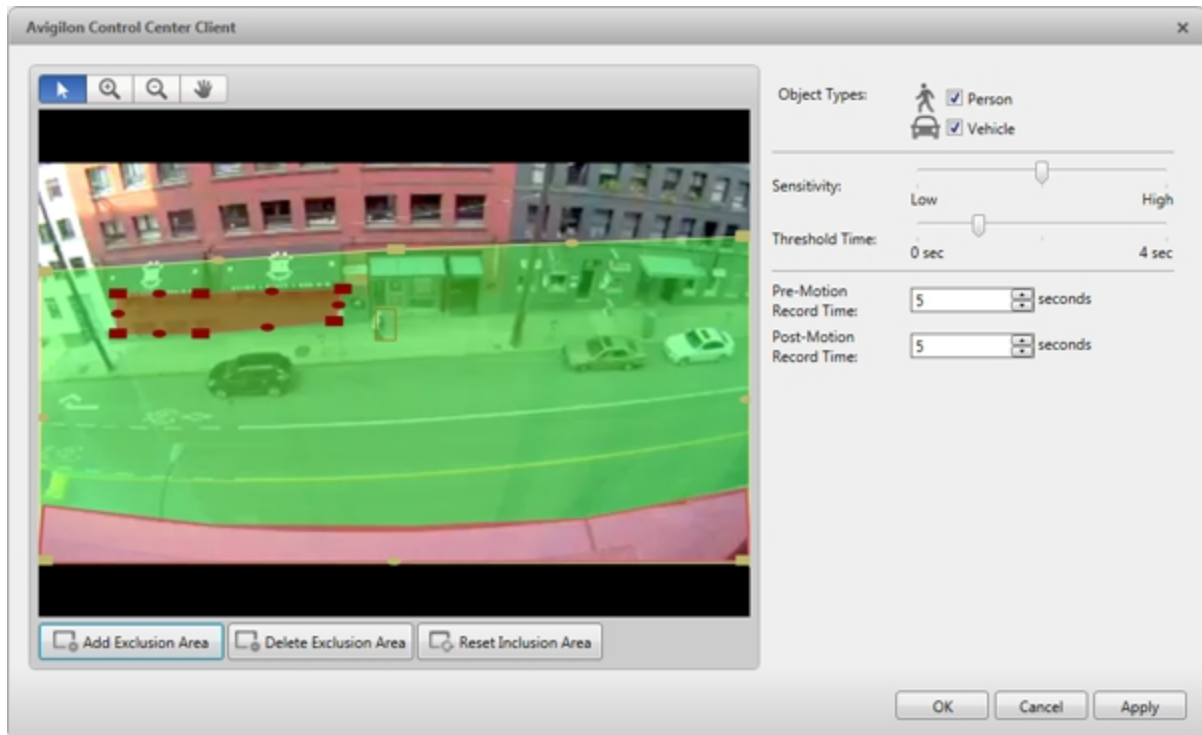
Figure 47: The Classified Object Motion Detection dialog box

2. To configure classified object motion detection, do the following:

Configuring Classified Object Motion Detection Settings

1. Select the **Person** and/or **Vehicle** check boxes to enable the detection of people and/or vehicles.

2. Move the **Sensitivity:** slider to adjust how sensitive the video analytics device is to the detection of classified objects.

3. Move the **Threshold Time:** slider to adjust how long an object must be moving before it triggers Classified Object Motion Detection.

4. In the **Pre-Motion Record Time:** and **Post-Motion Record Time:** fields, specify how long video is recorded before and after a classified object motion detection event.

5. Click **Apply** to save your settings.

Next, define the Classified Object Motion Detection area.

Selecting the Classified Object Motion Detection Area

By default, the camera's entire field of view is highlighted in green. You can set the camera's Classified Object Motion Detection area by changing the green overlay. Feet or wheels in the green overlay will trigger Classified Object Motion Detection. Classified object motion will not be detected in areas not highlighted in green.

1. Use the image panel tools to define the green overlay:

    - To change the shape or size of the green overlay, click and drag any of the yellow markers on the border. Extra markers are automatically added to help you fine tune the shape of the overlay.

    - To move the green overlay, place the cursor over the green overlay until the cursor changes into a hand or pan symbol. Then, click and drag the green area to the desired location.

    - : Click this button to add an exclusion area. The exclusion area is added inside the green overlay.

        - Classified object motion in the exclusion area will not be detected. The exclusion area can be modified in the same way as the green overlay.

        - To set an exclusion area, move and resize the exclusion area as required then click anywhere on the green overlay.

        - To edit an exclusion area, double-click the exclusion area then modify as required.

    - : Select an exclusion area then click this button to remove the exclusion area.

    - : Click this button to restore the default green overlay.

2. Click **OK**.

Video Analytics Event Configuration

On each Avigilon™ adaptive video analytics device, you can set up specific video analytics events to detect a variety of human and vehicle activity within a scene.

Adding Video Analytics Events

Before you can add video analytics events to rules and alarms, they must first be created for each video analytics device.

1. In the device Setup tab, click .

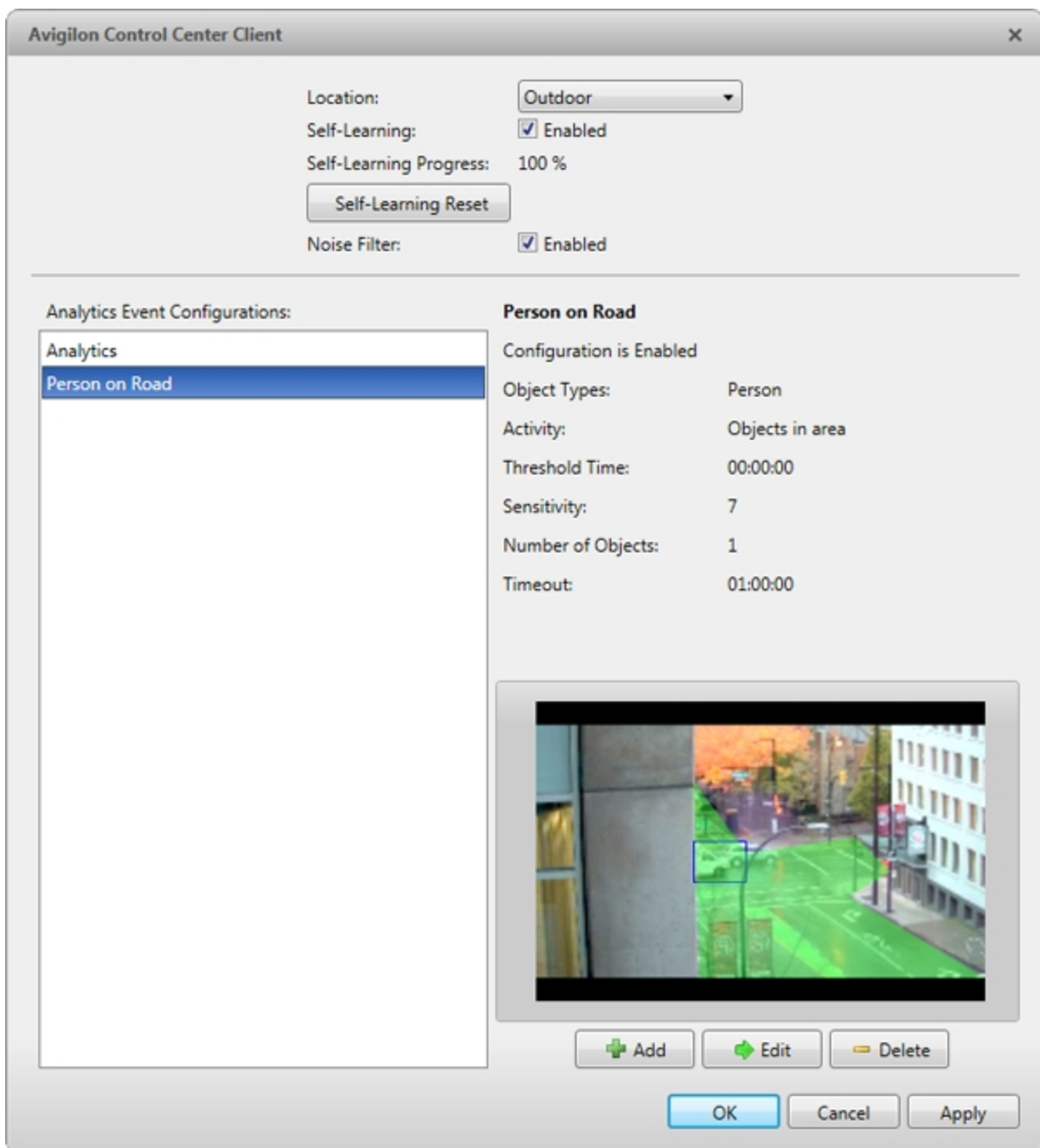   The Video Analytics Configuration dialog box opens.

Figure 48: The Video Analytics Configuration dialog box

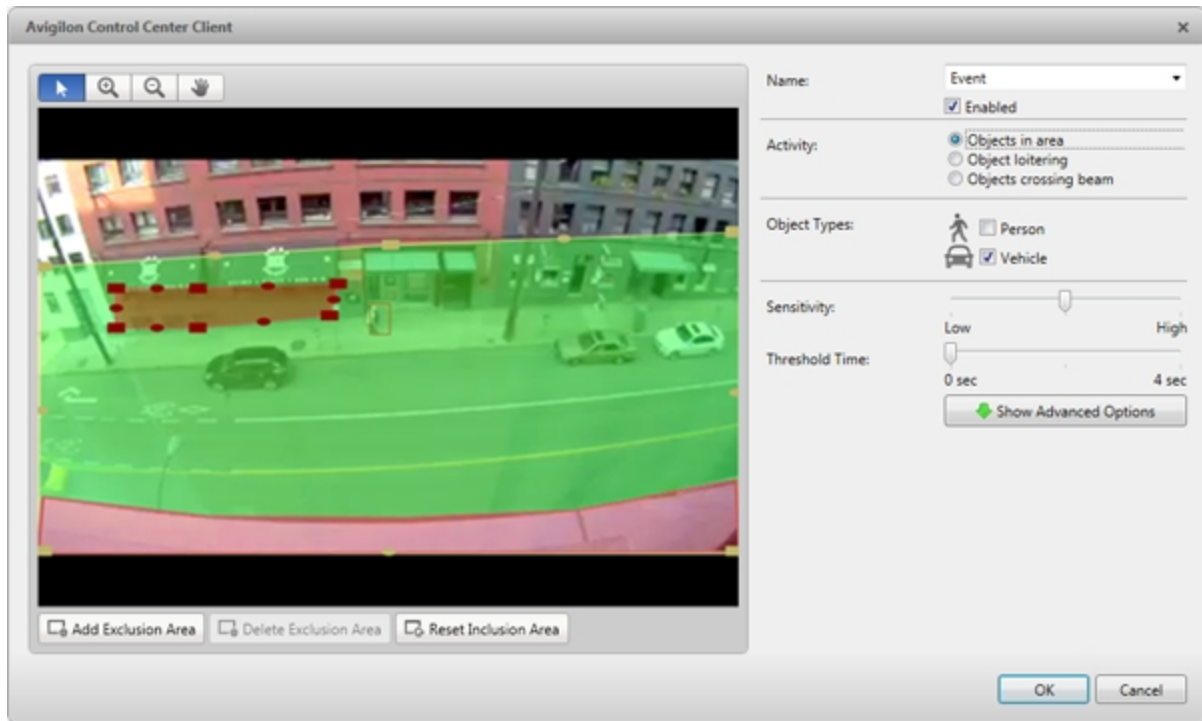2. Click ![plus icon]. The Add a Video Analytics Event dialog box opens.

Figure 49: The Add a Video Analytics Event dialog box.

3. Enter a name for the video analytics event.

4. Select the **Enabled** check box. If the check box is clear, the video analytics event will not detect or trigger any events.

5. In the Activity: area, select one of the following options:

   - **Objects in area** – the video analytics event will only trigger when a selected object moves in the specified region of interest.

     In the image panel, define the region of interest. The green overlay can be configured like the Classified Object Motion Detection feature. For more information, see **Setting Up Classified Object Motion Detection**.

   - **Object loitering** – the video analytics event will only capture people or vehicles that stay within the region for an extended amount of time.

     In the image panel, define the specific area of interest. The green overlay can be configured like the Classified Object Motion Detection feature. For more information, see **Setting Up Classified Object Motion Detection**.

   - **Objects crossing beam** – the video analytics event will only trigger when people or vehicles cross the green beam in the pointed direction.

     In the image panel, move or resize the green beam as needed:

- To move the line, click and drag the green beam in any direction.
- To change the length or rotate the beam, click one end of the beam and stretch or rotate the beam.
- To change the direction of the beam, click .
- To detect objects traveling in either direction of the beam, click .

Depending on the selected video analytics activity, some of the following options may not be available.

6. To view more Activity: options, click .For a description of each Activity: option, see **Video Analytics Event Descriptions**.

7. In the **Object Types:** area, select and/or .

8. Move the **Sensitivity:** slider to adjust how sensitive the video analytics device is to the detection of classified objects.

9. Move the **Threshold:** slider to adjust how long an object must be moving before it triggers a video analytics event.

10. In the **Number of Objects:** field, enter the minimum number of persons or vehicles that must be in the scene to trigger the video analytics event.

11. In the **Timeout:** field, enter the maximum length of a video analytics event. After this time, if the event is still active it will trigger a new event.

12. Click **OK**.

Editing and Deleting Video Analytics Events

1. In the device Setup tab, click .

2. In the following dialog box, select a video analytics event from the Analytics Event Configurations: list and do one of the following:

   The dialog box may look different depending on the type of video analytics device.

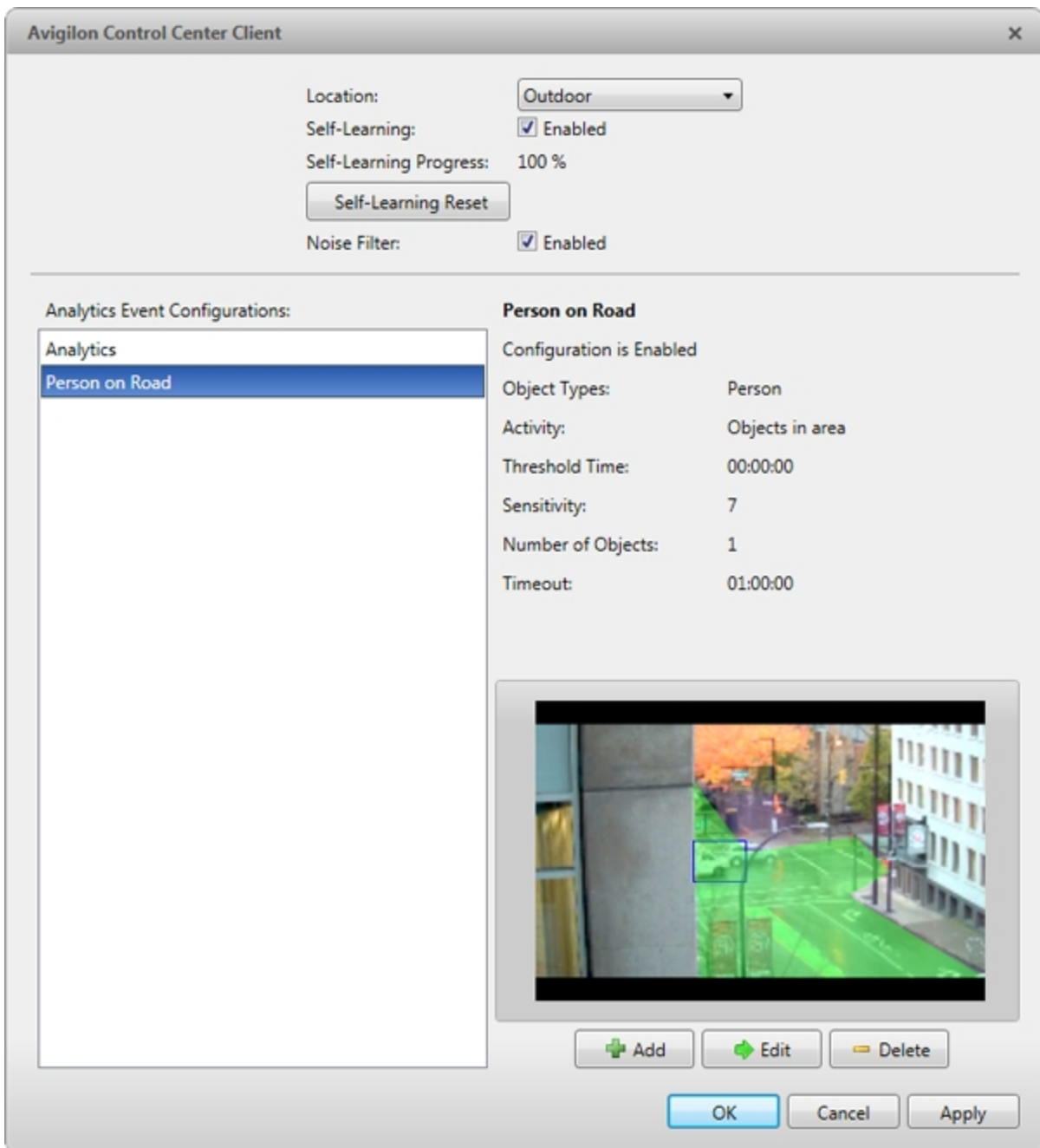**Figure 50:** The Video Analytics Configuration dialog box for a video analytics camera.

- To edit the video analytics event, click ⮕. In the following dialog box, make the required changes. For more information, see **Adding Video Analytics Events**.

  NOTE: If you change the name of the event, any rules or alarms linked to the event may no longer function.

- To delete the video analytics event, click ▬.

Teach By Example

You can improve the accuracy of classified object detection by using the Teach By Example feature. You can assign true or false Teach Markers to the objects detected by an Avigilon™ adaptive video analytics device, then apply the Teach Markers to train the video analytics engine of the Avigilon™ adaptive video analytics device.

NOTE: The Teach Markers are local to a single server and are created for individual cameras. They are not shared between servers or cameras.

Accessing the Teach By Example Tab

NOTE: To access the Teach By Example tab, a user must belong to a group with the Teach by example permission.

From the Teach By Example tab, you can assign and apply Teach Markers.

1. In the device Setup tab, click   .
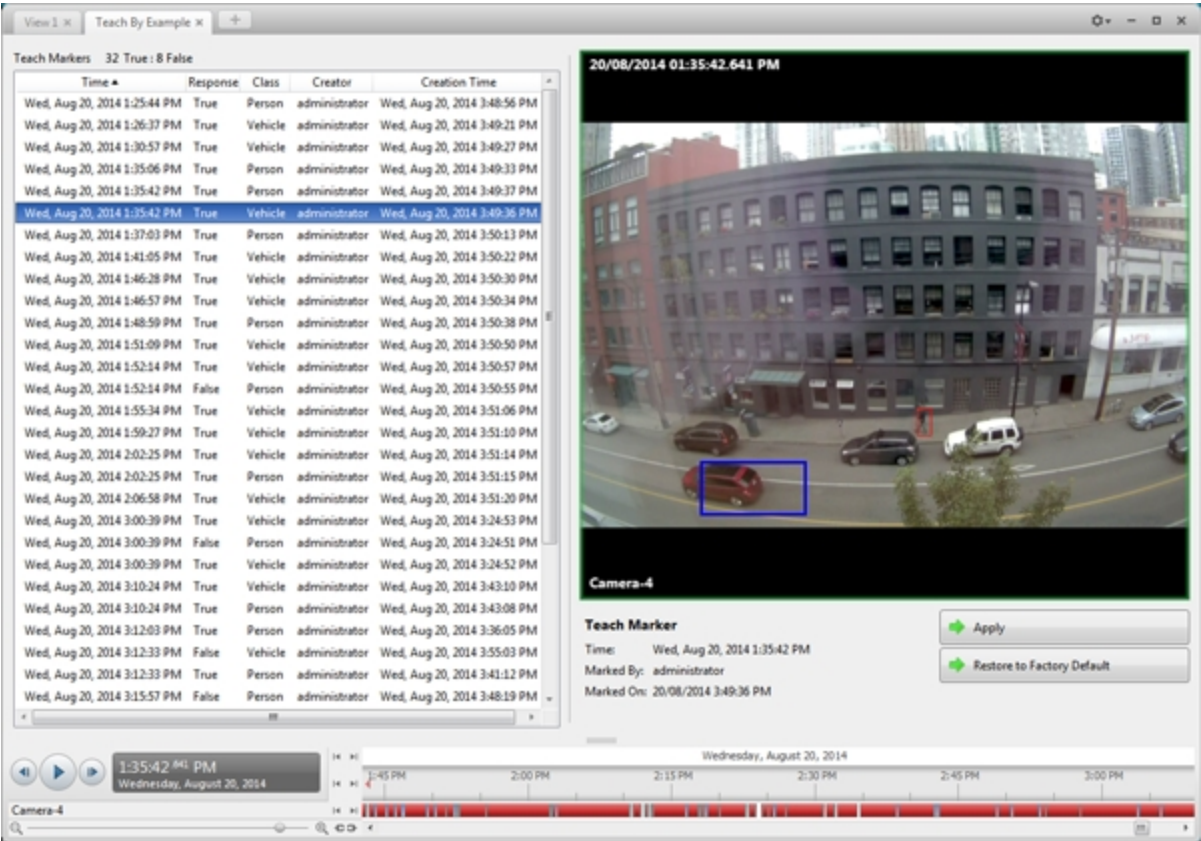
   The Teach By Example tab opens.

Figure 51: The Teach By Example tab

Assigning Teach Markers

In the Teach By Example tab, recorded video is shown in the image panel. Objects detected by the video analytics device are outlined in red bounding boxes (for humans) or blue bounding boxes (for vehicles).

Figure 52: A detected classified object outlined in a blue bounding box.

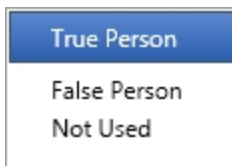1. Click inside a bounding box to open the object's Teach Markers menu.

Figure 53: A Teach Markers menu

2. Select one of the following options:

    The options differ depending on whether the object has been classified as a vehicle or a person.

    - **True Person/True Vehicle** - Select this option if the video analytics device has correctly identified this object as a person or vehicle.

    - **False Person/False Vehicle** - Select this option if the video analytics device has incorrectly identified this object as a person or vehicle.

    - **Not Used** - Select this option if you do not want to use this object as a teaching sample.

    You can change Teach Markers at any time. The newest rating will override previous ones.

You can have a maximum of 50 true Teach Markers and 50 false Teach Markers per camera at a time. You need at least 30 true Teach Markers and 30 false Teach Markers per camera to teach a video analytics device.

The number of true and false Teach Markers already marked is displayed above the **Teach Markers** list.

Applying Teach Markers

NOTE: The user who assigns the Teach Markers can be different from the user who applies them to the video analytics device.

In the Teach By Example tab, you can apply Teach Markers to teach the video analytics device.
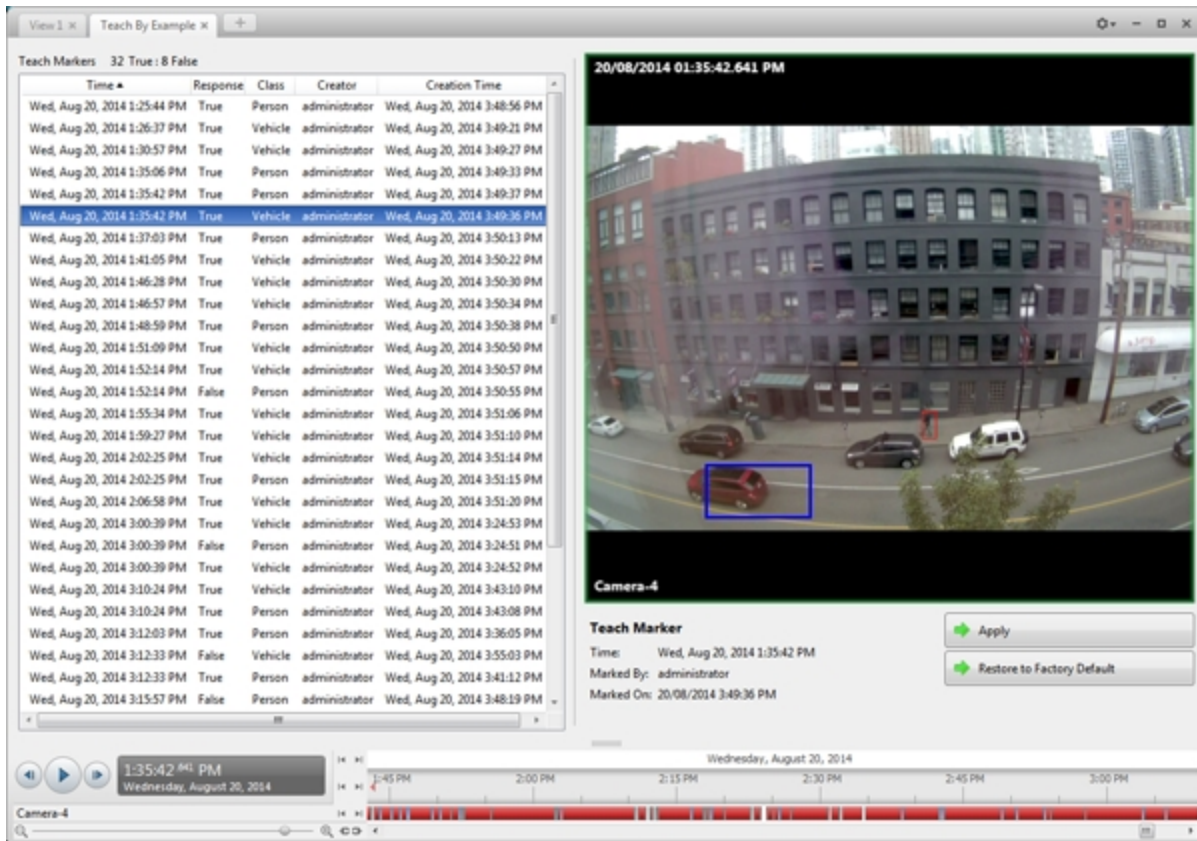

Figure 54: The Teach By Example tab

- Select a marker from the Teach Markers list to view it. The associated video is displayed in the image panel. The details are displayed below.

  You can sort the Teach Markers in ascending or descending order by **Time**, **Response**, **Class**, **Creator**, or **Creation Time** by clicking the column headings.

- To apply Teach Markers to a video analytics device, click **Apply**. The video analytics device will now use the listed markers to improve its classified object detection accuracy.

  NOTE: To apply Teach Markers, you need a minimum of 30 true Teach Markers and 30 false Teach Markers. If you do not have the minimum required, you will see an error message.

  When you apply Teach Markers, they are removed from the Teach Markers list.

- To reset the video analytics device's teach state click **Restore to Factory Default**. This will not delete any Teach Markers from the Teach Markers list, only clear the settings that were applied to the video analytics device.

Privacy Zones

You can set privacy zones in the camera's field of view to block out areas that you do not want to see or record, like bathroom entrances and other private areas.

Adding a Privacy Zone

NOTE: You can add up to 4 privacy zones per camera.

1. In the camera Setup tab, click ⬚.

2. In the Privacy Zones dialog box, click ➕ and a green box will appear on the image panel.
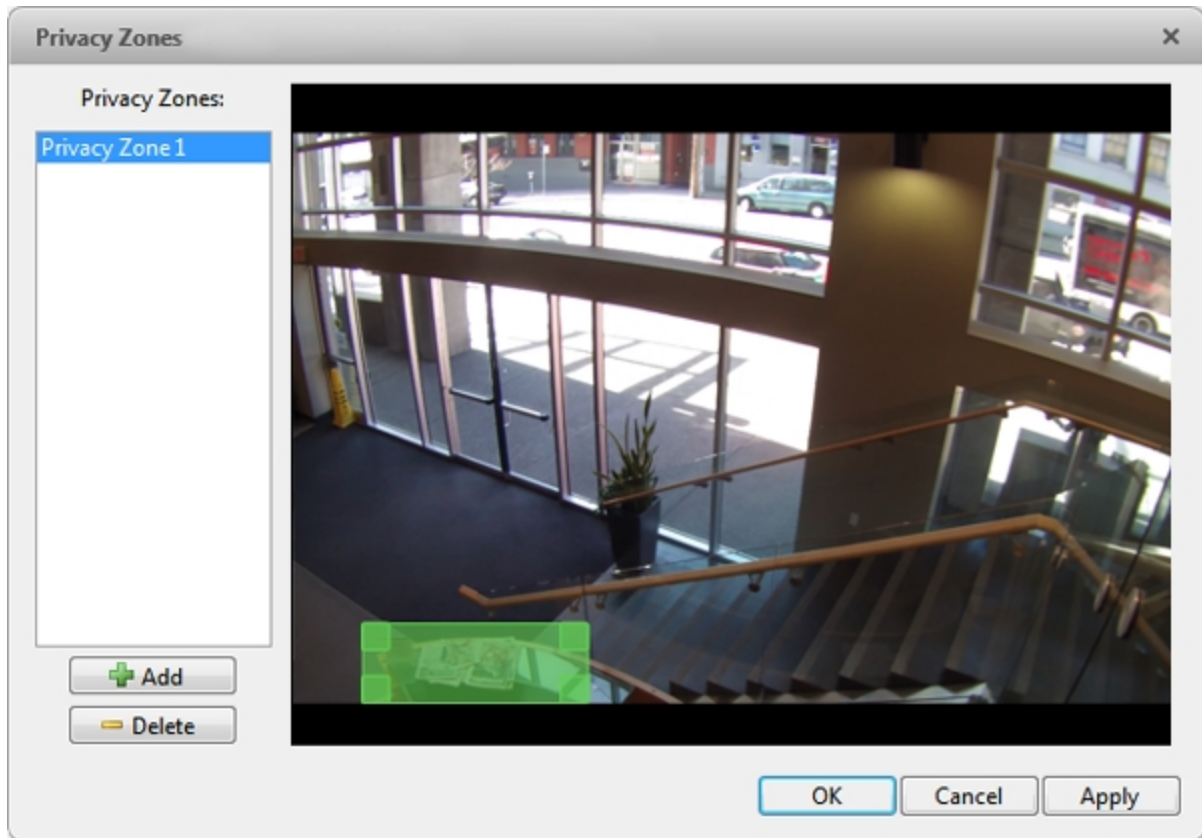

Figure 55: The Privacy Zones dialog box

3. Move and resize the green box until it covers the area you want to block out.

4. Click **OK**.

Editing and Deleting a Privacy Zone

1. In the camera Setup tab, click ⬚.

2. In the Privacy Zones dialog box, select a privacy zone from the Privacy Zones: list and do one of the following:

   - To edit the privacy zone, adjust the green box in the image.

   - To delete the privacy zone, click ➖.

3. Click **OK** to save your changes.

Manual Recording

When you trigger manual recording in an image panel, you are telling the camera to record video outside of its recording schedule. Manual recording continues until it is stopped, or until the maximum manual recording time is reached.

To set the maximum manual recording time, follow these steps:

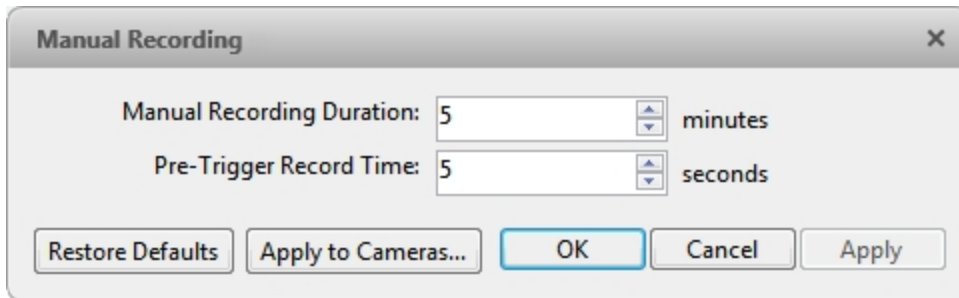1. In the camera Setup tab, click .

Figure 56: The Manual Recording dialog box

2. Specify the following:

    - **Manual Recording Duration:** enter how long the camera should record if recording is not manually stopped.

    - **Pre-Trigger Record Time:** enter the amount of time video is recorded before manual recording is activated.

3. Click **Apply to Cameras...** to apply the same settings to other cameras of the same model.

4. Click **OK**.

For more information on manually recording video, see **Triggering Manual Recording**.

Client Settings

The Client Settings… are used to set your preferences for your local copy of the Client software. This includes saving your password, setting the language, saving your last window layout, configuring your joystick, and manually adding and removing Sites.

General Settings

Use the General settings to set your local Client preferences. Any changes you make will only affect this copy of the Client software.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

1. In the top-right corner of the Client, select ⚙ > **Client Settings…**.

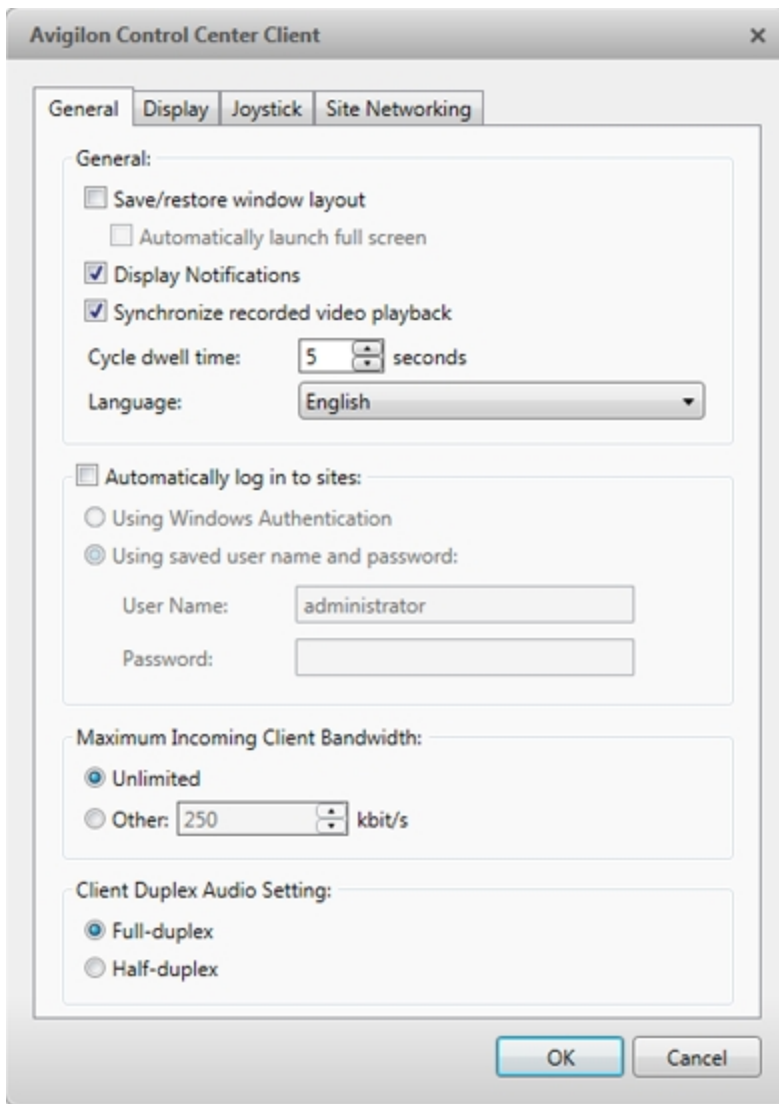2. In the General tab, make any required changes:

Figure 57: The Client Settings... dialog box

- **Save/restore window layout:** Select this check box if you want the Client to remember your layout preferences.

- **Automatically launch full screen:** Select this check box if you want the Client to automatically launch in full screen mode each time it starts.

- **Display Notifications:** Select this check box if you want the Client to display system messages. System messages are listed in the red box at the top-right corner of the Client - click the red box to see the messages. System messages notify you of Site events, system events and possible device connection issues.

  If this check box is cleared, all system messages are hidden.

- **Cycle dwell time:** Enter the number of seconds the Client waits before it cycles to a different View tab. For more information, see **Cycling Through Views**.

- **Language:** Select a language from the drop down list to change the Client language. Select

Windows Default for the Client to use the same language as the operating system.

- **Automatically log in to sites:** Select this check box to automatically log in to all Sites you can access. Select the type of login you use:

    - Select **Using Windows Authentication** if you use your Windows login to access Sites.
    - Select **Using saved user name and password:** if you use your Avigilon Control Center username and password.

- In the **Maximum Incoming Client Bandwidth:** area, you can set how much bandwidth is received by the client. This includes video streaming.

    You can select **Unlimited** or **Other:**, and specify the maximum bandwidth allowance in kilobits per second (kbit/s).

3. Click **OK** to save your changes.

Joystick Settings

There are two types of joysticks supported by the Client: standard Microsoft DirectX USB joysticks and the Avigilon USB Professional Joystick Keyboard.

Access the Joystick settings to install the required drivers and configure your joystick options.

Configuring an Avigilon™ USB Professional Joystick Keyboard For Left-Hand Use

The Avigilon USB Professional Joystick Keyboard is a USB add-on that contains a joystick for controlling zooming and panning within image panels, a jog shuttle for controlling the Timeline, and a keypad programmed with the Client's keyboard commands. Refer to **Keyboard Commands** for the keypad commands that control the Client.

By default, the keyboard is installed in right-hand mode. Change the Joystick settings to configure it for left-hand mode.

1. Connect the keyboard.

2. In the top-right corner of the Client, select ⚙ > **Client Settings... > Joystick**.

    If the keyboard is not automatically detected, an error message will appear. Click **Scan for Joysticks...**.
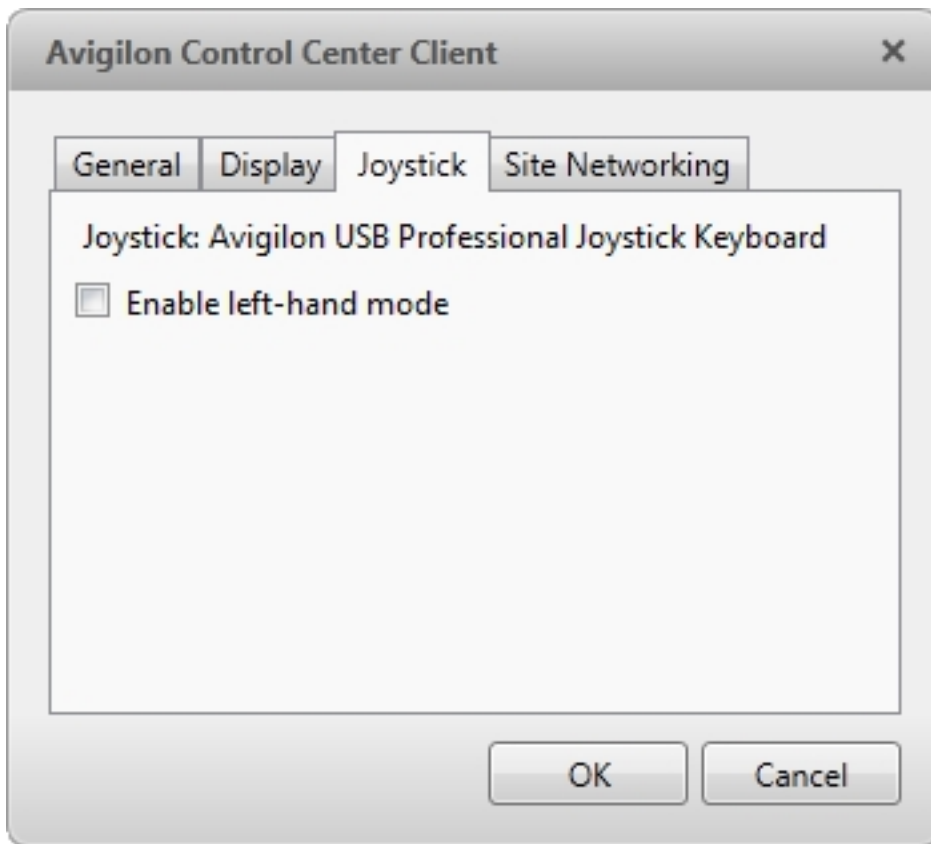
    Otherwise, the following option is displayed.

Figure 58: The Joystick dialog box

3. Select the **Enable left-hand mode** check box.

4. Click **OK**. The keyboard is now configured for left-hand mode.

5. Rotate the keyboard until the joystick is on the left and the jog shuttle is on the right. Reinstall the keypad cover with the View button labels at the top.

For more information about the Avigilon USB Professional Joystick Keyboard, see the installation guide included with the device.

Configuring a Standard USB Joystick

Use the Joystick settings to configure the buttons used in your standard Microsoft DirectX USB joystick.

1. Connect the joystick. In the top-right corner of the Client, select ⚙ > **Client Settings** > **Joystick**.

2. If the joystick is not automatically detected, an error message will appear. Click **Scan for Joysticks...**.

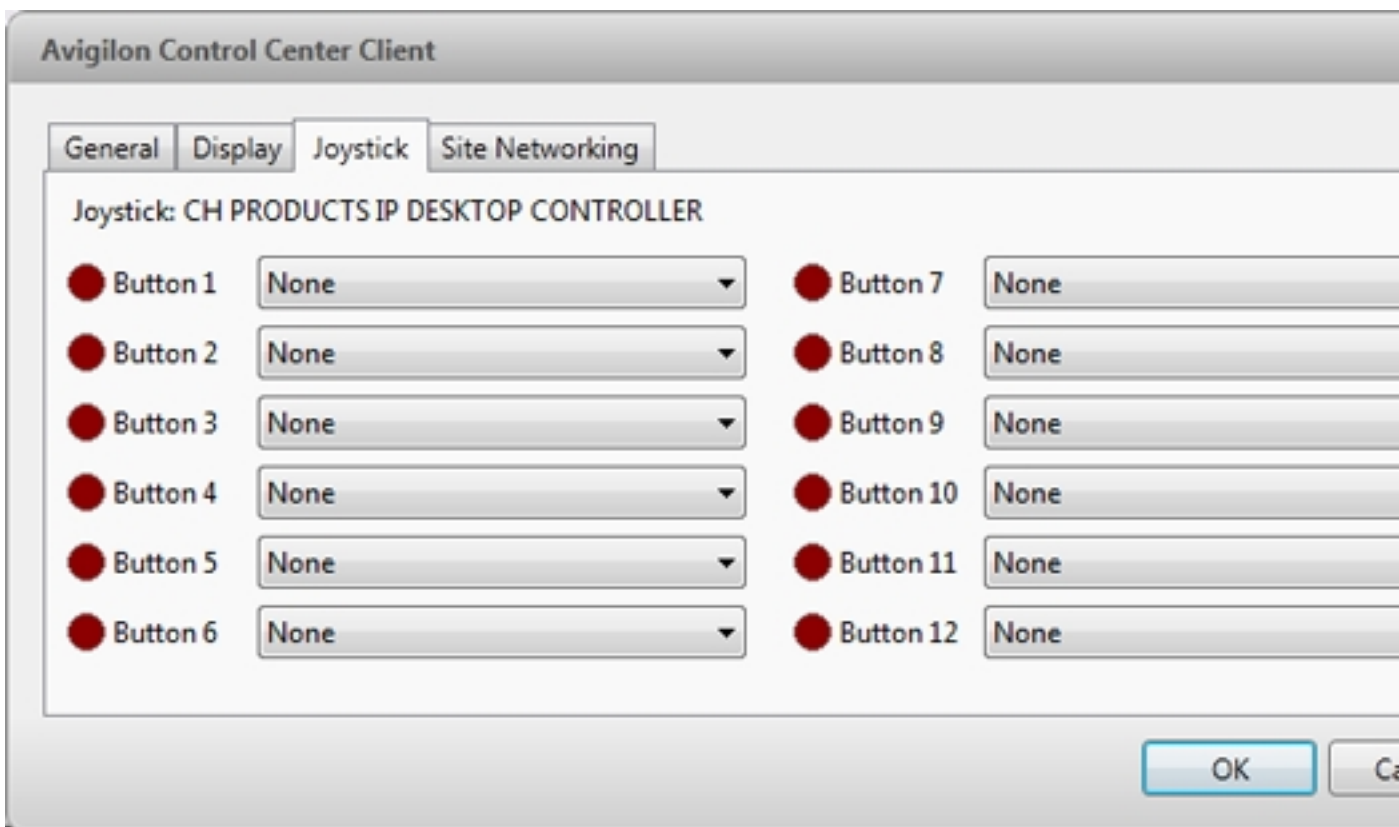   Otherwise, the following options are displayed:

Figure 59: The Joystick dialog box

3. Choose an action for each button on the joystick:

   a. Press a button on the joystick to highlight its label in the dialog box.

   b. Select an action for the button from the drop down list.

      Options include ways to control recorded video, Views, image panels, instant replay, audio, snapshots and PTZ.

   c. Repeat this procedure for each button on the joystick.

4. Click **OK**.

Video Display Settings

You can adjust the Client Display settings to improve how video is displayed on your monitor.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

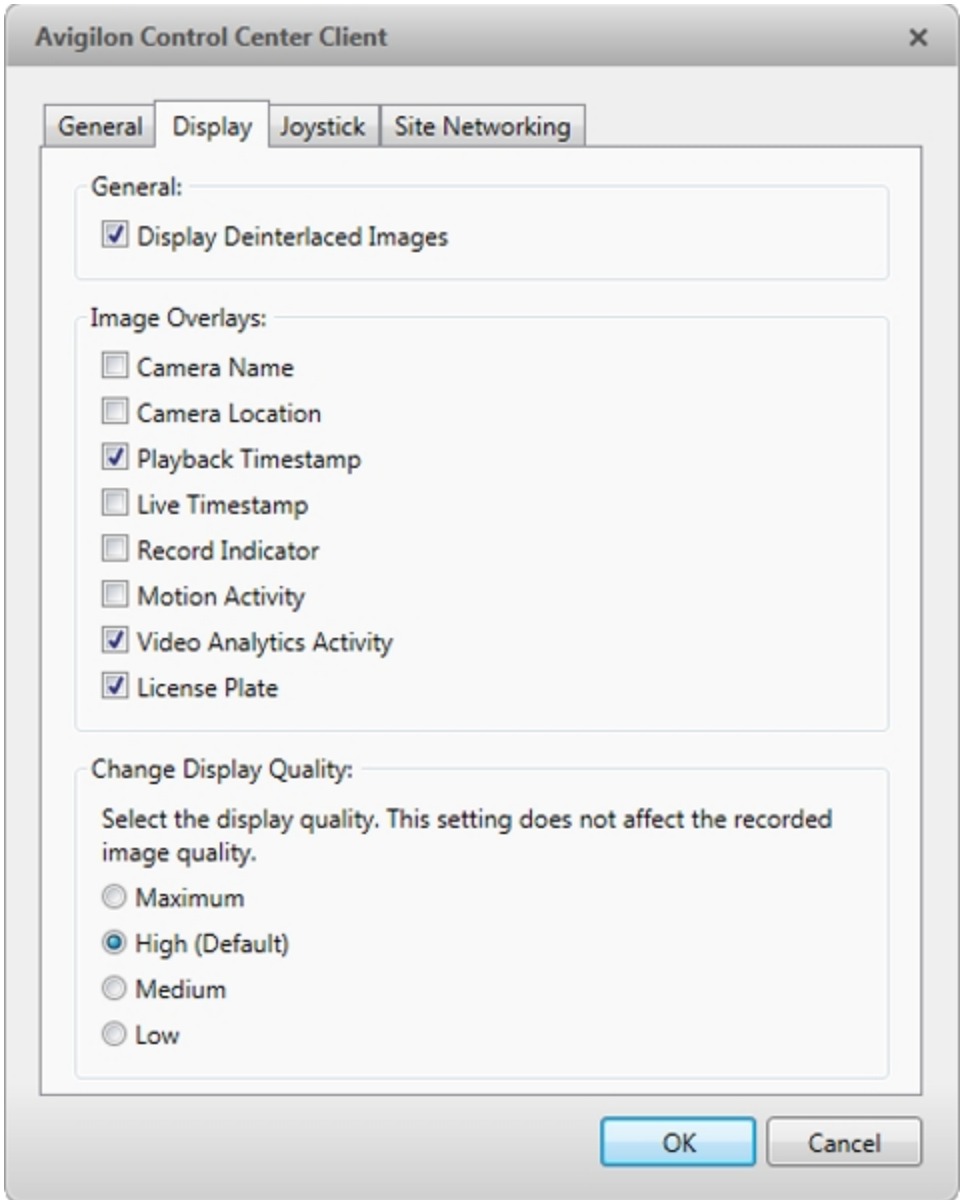1. In the top-right corner of the Client, select ⚙ > **Client Settings... > Display**.

Figure 60: The Display Settings tab

2. Follow any of the following procedures to adjust how video is displayed in image panels.

Displaying Analog Video in Deinterlaced Mode

Select the **Display Deinterlaced Images** check box if the analog video you are watching is showing interfacing artifacts. This setting will help improve video image and smooth out some of the artifacts.

Displaying Image Overlays

Select any of the Image Overlays: options to set the type of information that is displayed over video.

Overlay	Description
Camera Name	Displays the name assigned to the camera.

Overlay	Description
Camera Location	Displays the location assigned to the camera.
Playback Timestamp	(Recorded video only) Displays the exposure timestamp for the video.
Live Timestamp	(Live video only) Displays the current system date and time to the millisecond.
Record Indicator	(Live video only) Displays the recording status of a camera. The recording status is indicated by the round icon on the top left corner of the image panel. The color of the icon shows the camera's recording status. • 🔴 : recording triggered by a motion event • 🔵 : recording • ⚪ : not recording. Click this icon at any time to begin manual recording.
Motion Activity	Highlights motion in red.
Video Analytics Activity	Bounding boxes outline objects detected in the video. The color of the bounding box identifies the object type: • Red - a person • Blue - a vehicle The Video Analytics Activity overlay is only activated for video from a video analytics device.

Changing Display Quality

If your computer does not have enough network bandwidth or processing power, you may not be able to watch video at its full image rate and quality. You can configure the image panels to display video in high quality and low frame rate, or low quality and high frame rate.

Select a higher display quality setting if you need to see specific details or faces in the scene. Select a lower display quality setting if it's more important to see moving events as they occur.

The Change Display Quality: settings only affect the image panel display and do not affect the actual video quality or image rate between the camera and the server. Therefore, you can review recorded footage later to confirm what you saw in the image panel.

In the Change Display Quality: area, select one of the following options:

- **Maximum:** displays video at full resolution with the lowest image rate.

- **High (Default):** displays video at 1/4 resolution.

- **Medium:** displays video at 1/16 resolution.

- **Low:** displays video at 1/64 resolution with the highest image rate.

What are Views?

A View tab is where you watch camera video. Inside the View tab is a set of image panels that allows you to organize how video is displayed.

You can arrange image panels into different layouts to take advantage of different camera angles and save View layouts that you like.

For more information on controlling live and recorded video, see **Monitoring Video**.

Adding and Removing a View

View tabs allow you to customize how you monitor video. You can open a new View in the current window or open a View in a new window to make use of multiple monitors. Views can also be removed as required.

To...	Do this...
Open a new View tab	Click [+] > (eye icon) .
Close a View tab	On the View tab, click ✕ .
Open a new window	Select ⚙ > **New Window** A new window appears. You can now position this window to make use of multiple monitors.
Close a window	In the top-right corner of the window, click ✕ . **NOTE:** If you see a confirmation dialog box, it is because there is only one window open and closing this window will also close the application.

View Layouts

You can organize how video is displayed through View layouts. You can choose to display video in 1 - 64 image panels. You can also customize the shape of image panels to accommodate cameras that are installed vertically to capture long hallways.

There are 10 pre-configured layouts that you can edit to fit your needs.

Selecting a Layout for a View

You can organize how video is displayed by selecting a View layout. The figure below shows the default View layouts.

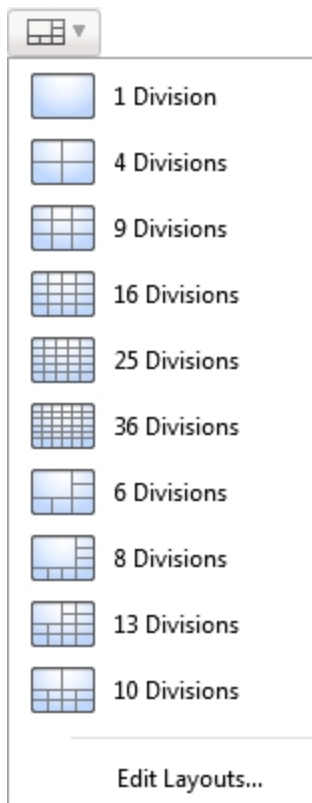- On the toolbar, select , then select one of the following layout options.

Figure 61: Layouts in the toolbar

Editing a View Layout

If the default View layouts do not fit your surveillance requirements, you can customize a View layout.

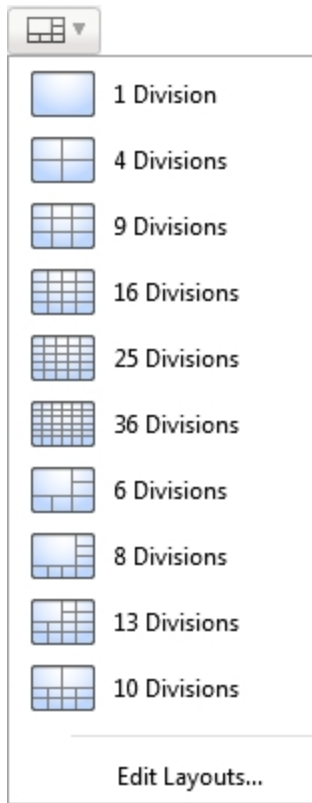1. On the toolbar, select > **Edit Layouts...**

Figure 62: Layouts in the toolbar

2. In the Edit Layouts dialog box, select the layout you want to change.
3. Enter the number of **Columns:** and **Rows:** you want in your layout.

4. In the layout diagram, do any of the following to further customize the layout.
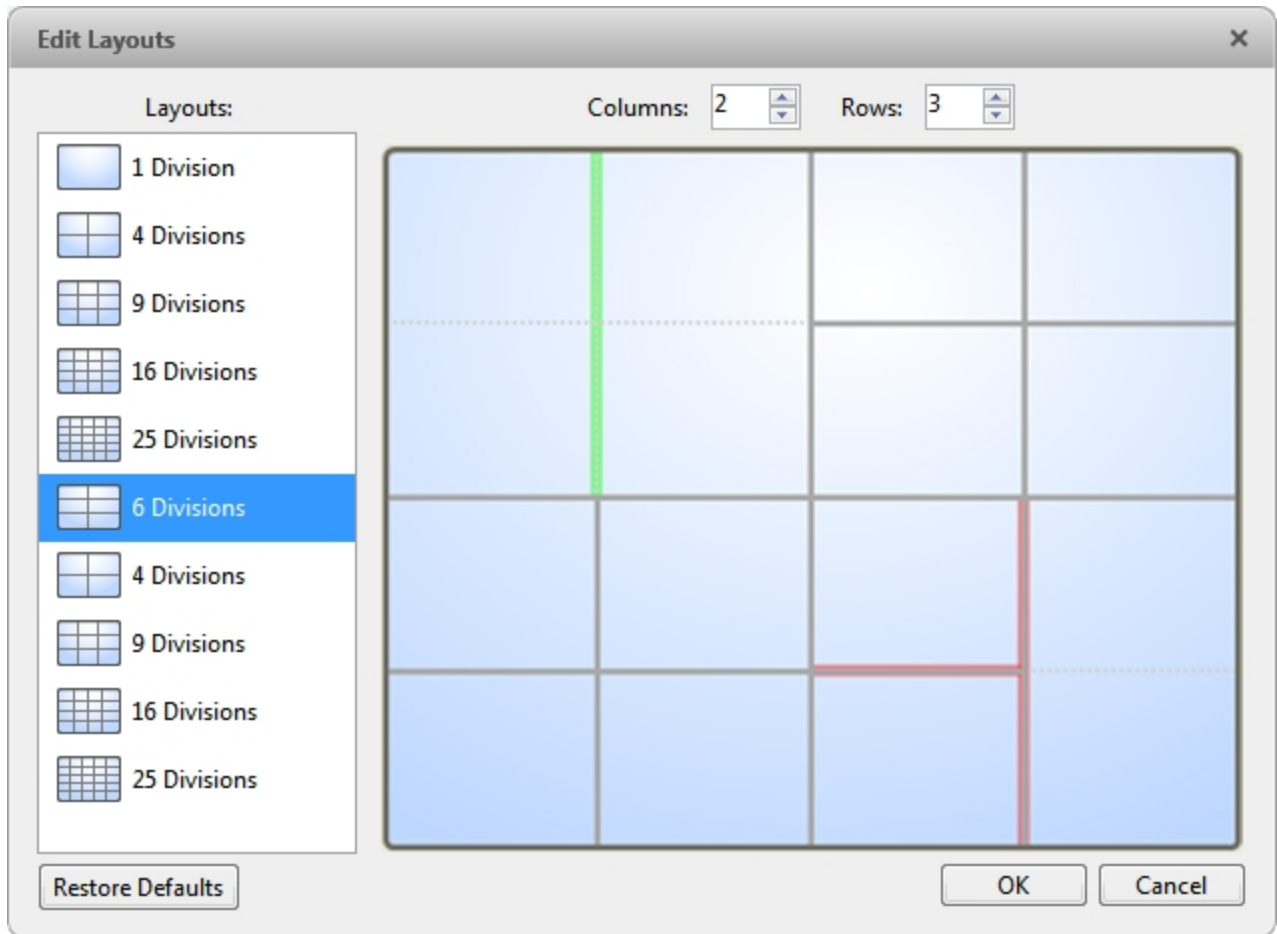

Figure 63: The Edit Layouts dialog box

- To create a larger image panel, select a gray line to delete the border between two image panels. When a line is highlighted in red, the line can be deleted.

- To restore an image panel, select a dotted line to divide a larger image panel into two. When a dotted line is highlighted in green, the line can be restored.

- To restore all default View layouts, click **Restore Defaults**. All custom layouts in the Layouts: list will be replaced.

NOTE: You can only add or subtract lines to create a rectangular shape.

5. Click **OK** to save your changes. The previous View layout has been replaced with your customized layout.

Tip: The keyboard commands used to access View layouts are linked to the layout's position in the Layouts: list. For example, if your custom layout is placed at the top of the Layouts: list (layout 1), you can press Alt + 1 to use that layout.

Making a View Full Screen

You can maximize a View to fill an entire monitor screen.

- On the toolbar, click ⧉ .

Ending Full Screen Mode

- While the View is in full screen mode, click ⧉ .

Cycling Through Views

If you have multiple Views open, you can cycle through the View tabs by displaying each one for a few seconds. This is useful when monitoring a large number of cameras.

- To activate the Cycle Views feature, click ⥮ .

To change the amount of time each View is displayed for, change the Cycle dwell time: setting. For more information, see **General Settings**.

Monitoring Video

Inside a View tab, you can monitor and control video from multiple cameras. Once you open a camera in a View tab, you can control the camera's live and recorded video stream. You also have access to the camera's PTZ controls and other playback settings.

To organize how video is displayed in the View tab, see **What are Views?**.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

Zooming and Panning in a Video

Use the zoom and pan tools to focus on specific areas in the live or recorded video stream.

Using the Zoom Tools

There are two ways to digitally zoom in and zoom out of a video image:

- Move your mouse over the video image, then rotate your mouse wheel forward and backward.
- On the toolbar, select or , then click the image panel until you reach the desired zoom depth.

Using the Pan Tools

There are two ways to pan through the video image:

- Right-click and drag inside an image panel
- On the toolbar, select , then click and drag the video image in any direction inside the image panel.

Maximizing and Restoring an Image Panel

You can maximize an image panel to enlarge the video display.

Maximizing an Image Panel

Do one of the following:

- Right-click an image panel and select **Maximize**.
- Inside the image panel, click .
- Double-click the image panel.

Restoring an Image Panel

In a maximized image panel, do one of the following:

- Right-click the maximized image panel and select **Restore Down**.

- Inside the image panel, click ⊿ ⊾.

- Double-click the image panel.

Making Image Panel Display Adjustments

You can change the image panel display settings to bring out video details that are hard to see with the image panel's default settings.

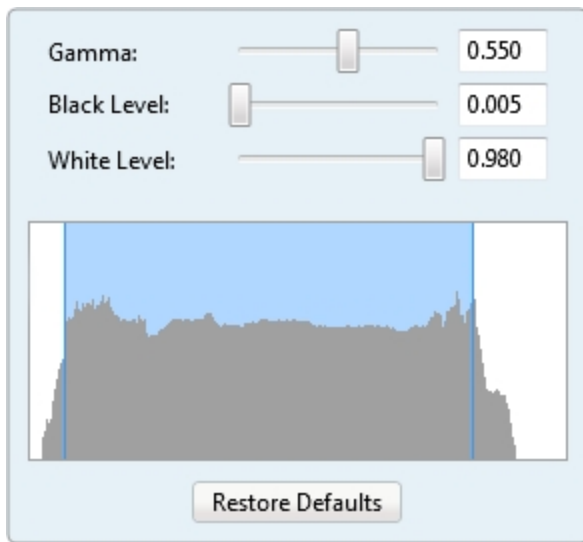1. Right-click an image panel and select **Display Adjustments...**.

Figure 64: The Display Adjustments... panel

   The Display Adjustments... settings are displayed in a floating pane immediately beside the image panel.

2. Move the sliders to adjust the **Gamma:**, **Black Level:** and **White Level:**.

   The image panel displays a preview of your changes.

3. Click **Restore Defaults** to clear your changes.

Controlling Live Video

In this section are features that are only available while monitoring live video.

Using Instant Replay

To review an event that just occurred, you can immediately access recently recorded video through the instant replay feature.

- Right-click the image panel and select one of the instant replay options:
    - **Replay - 30 Seconds**
    - **Replay - 60 Seconds**
    - **Replay - 90 Seconds**

The image panel immediately plays back the camera's most recently recorded video.

Triggering Manual Recording

Cameras are set to follow a recording schedule. If an event occurs outside the camera's recording schedule, you can click the record indicator icon to force the camera to record the event.For more information about recording schedules, see **Recording Schedule**.

The Record Indicator overlay must be enabled to use manual recording. For more information, see **Video Display Settings**.

Camera Recording States

Recording	Recording triggered by an event	Not recording

Starting and Stopping Manual Recording

In an image panel that is displaying video, do either of the following:

- In the top-left corner of the image panel, click to start manual recording.

    The recording indicator is highlighted in blue to show that the camera is recording. Manual recording continues until it is stopped or until the maximum manual recording time is reached.

- Click to manually stop video recording.

The maximum manual recording time is configured in the Manual Recording dialog box. For more information, see **Manual Recording**.

PTZ Cameras

PTZ cameras can be controlled through the image panel on-screen controls or by using the tools in the PTZ Controls pane.

Some tools and features may not be displayed if they are not supported by your camera.

Controlling PTZ Cameras

Pan, Tilt, Zoom (PTZ) controls allow you to control cameras with PTZ features. You can control a PTZ camera by using the on-screen controls or by using the tools in the PTZ Controls pane.

For other ways to use the PTZ Controls, see **Keyboard Commands**.

NOTE: For video analytics devices, classified object detection only works when the camera is in its Home position.

1. In the toolbar, click ⊕. PTZ controls are now enabled in image panels that are displaying PTZ video.

2. In the image panel, click ⊕.

   The PTZ Controls are displayed in a floating pane immediately beside the image panel.

   NOTE: The controls may appear differently depending on the camera. Some options are disabled or hidden if they are not supported by the camera.
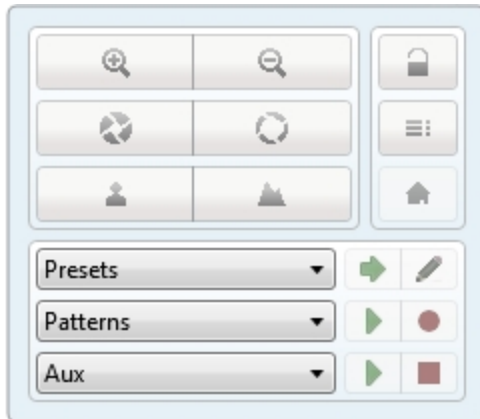

   Figure 65: The PTZ Controls

3. To pan or tilt, do one of the following:

   - In the image panel, drag your mouse from the center to move the camera in that direction. The farther the cursor is from the center of the image panel, the faster the camera will move.

   - If the camera supports Click to Center, click anywhere on the image panel to center the camera to that point.

   Figure 66: PTZ On-screen controls

4. Use the other PTZ controls to perform any of the following:

To...	Do this...
Zoom	- Click 🔍 to zoom in. - Click 🔍 to zoom out. - Click the image panel and use the mouse scroll wheel to zoom in and out. - If the camera supports Drag to Zoom, click and drag to create a green box to define the area you want to zoom in and see. - Right-click the image panel and select **Zoom Out Full**.
Control the iris	- Click to close the iris. - Click to open the iris.
Control the focus	- Click to focus near the camera. - Click to focus far from the camera.
Program a PTZ preset	1. Move the camera's field of view into position. 2. In the **Presets** drop down list, select a number then click . 3. In the dialog box, enter a name for the preset. 4. Select the **Set as home preset** check box if you want this to be the camera's Home preset. 5. Click **OK**.
Activate a PTZ preset	Select a preset then click .
Return to the Home preset position	If the PTZ camera supports a Home preset position, click to return the camera to its Home position.
Program a PTZ pattern	1. In the PTZ Controls pane, select a pattern number and click . 2. Use the PTZ controls to move the camera and create the pattern. 3. Click to stop recording the pattern.
Activate a PTZ pattern	In the PTZ Controls pane, select a pattern number and click . The pattern will repeat until the pattern is stopped or another pattern is run.
Program a PTZ tour	For more information, see **Programming PTZ Tours**.
Activate a PTZ tour	In the PTZ Controls pane, select a tour number and click .

To...	Do this...
	The tour will repeat until stopped or until other PTZ controls are used.
Activate an auxiliary command	1. Select an aux command number and click ![icon] . 2. Click ![icon] to turn off the auxiliary output.
Display the PTZ camera on-screen menu	1. Click ![icon] . 2. To move through the menu options, click any of the following: • Click ![icon] to move down the options. • Click ![icon] to move up the options. • Click ![icon] to confirm your selection. • Click ![icon] to cancel your selection.
Lock the PTZ controls	Click ![icon] . Other users will be unable to use the PTZ controls for this camera until you unlock the controls or log out.

Programming PTZ Tours

If the PTZ camera supports guard tours, the tours can be programmed through the PTZ controls pane. Tours allow the PTZ camera to automatically move between a series of preset positions, and can be set to pause at each preset for a specific amount of time for video monitoring.

NOTE: For video analytics devices, classified object detection only works when the camera is in its Home position.

1. Create all the PTZ presets you need for this tour.

2. In the PTZ Controls pane, select a tour number then click ![icon] . The Edit PTZ Tour dialog box is displayed.

Figure 67: The Edit PTZ Tour dialog box

3. In the Edit PTZ Tour dialog box, give the tour a name.

4. In the **Tour Pause Duration:** field, enter the amount of time before a tour repeats. Tours repeat until manually stopped, or until other PTZ controls are used.

5. In the **Tour Mode:** drop down list, select one of the following:

    - **Sequential:** the PTZ camera will go to each preset in the set order.

    - **Random:** the PTZ camera will go to each preset in random order.

6. Select the **Set as default tour** check box if you want this tour to run automatically.

    - The **Default Tour Idle Start Time:** field is now enabled. Enter the amount of time the PTZ camera must be idle before this tour automatically starts.

7. To add a preset to the list, click ✚.

    a. In the **Preset** column, select a preset from the drop down list.

    b. In the **Move Speed** column, enter how fast you want the PTZ camera to move to this preset. The

Programming PTZ Tours

higher the %, the faster the camera moves.

  c. In the **View Time** column, enter the amount of time you want the PTZ camera to stay at this preset position. The view time is 10 seconds by default.

  d. Repeat step 7 until all the presets for this tour have been added.

8. To remove a preset, select the preset then click ▬.

9. To re-order a preset, select the preset then click ⬆ or ⬇. The preset order only affects tours that use Sequential mode.

10. Click **OK** to save the tour.

Controlling Recorded Video

In this section are features that are only available while monitoring recorded video.

Playing Back Recorded Video

The Timeline displays when video was recorded and lets you control video playback.

The colored bars on the Timeline show the camera's recording history:

- A red bar shows the camera has recorded a motion event.

- A blue bar shows the camera has recorded video.

- White areas show periods of time during which the camera has not recorded any video.

- An yellow bar is a bookmark in the camera's recording history.

For more information about bookmarks, see **Bookmarking Recorded Video**.
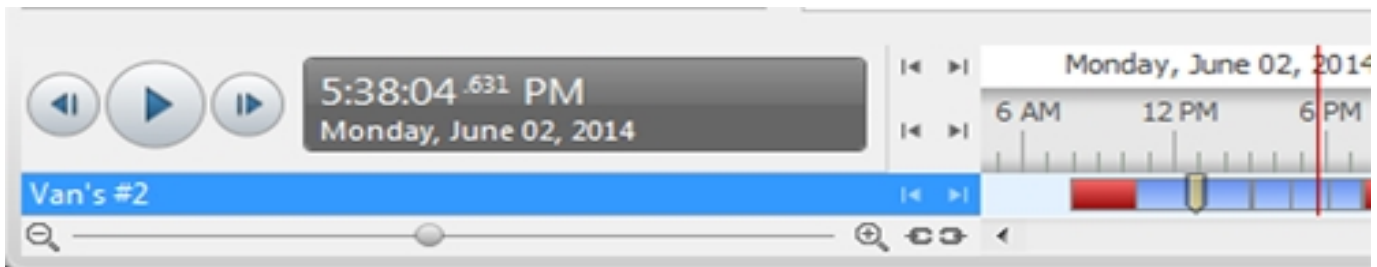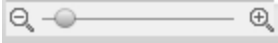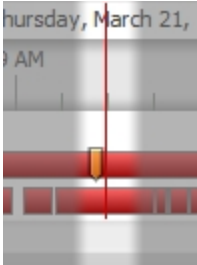
Figure 68: Playback controls on the Timeline

To...	Do this...
Select a playback time	- Click the dark gray date display and select a specific date and time. - Click a point on the Timeline.
Start playback	Click ▶. - Click ⏩ to fast forward. Tap the arrow again to increase the playback speed. - Click ⏪ to rewind. Tap the arrow again to increase the playback speed.

To...	Do this...
	You can play the video up to eight times the original speed.
Stop playback	Click ▐▐ . • Click ▐▶ to step forward one frame. • Click ◀▌ to step backward one frame.
Jump forward or backward on the Timeline	On the Timeline, click ◀▌ or ▐▶ to move to set points on the Timeline.
Zoom in or out of the Timeline	• Move the slider on the bottom left to zoom in or out on the Timeline. • Place your mouse over the Timeline and use the scroll wheel to zoom in or out on the Timeline. You can zoom in to a quarter of a second, and zoom out to see years if recorded video exists.
Center the Timeline on the time marker	Right-click the Timeline, and select **Center on Marker.**
Pan the Timeline	• Click and drag the time marker through the Timeline. • Move the horizontal scroll bar under the Timeline. • Right-click and drag the Timeline.

Synchronizing Recorded Video Playback

Synchronizing recorded video playback allows you to synchronize Timelines across multiple View, Alarm, and Search tabs while they are in recorded mode.

Synchronized recorded video playback is disabled by default. Once it is enabled, it will remain enabled until it is manually disabled.

NOTE: Tabs can only be synchronized to one time. You cannot synchronize groups of tabs to separate times.

Enabling Synchronized Recorded Video Playback

• To enable synchronized recorded video playback in all new View tabs, select ⚙ > **Client Settings... > General > Synchronize recorded video playback**.

Timelines will be automatically centered on the current time.

Enabling synchronized recorded video playback in the Client Settings... dialog box will not synchronize the Timelines of previously opened tabs. It will only synchronize new tabs that are opened after enabling synchronized recorded video playback. Previously opened tabs need to be synchronized individually.

- To synchronize playback between specific or previously opened tabs, click the gray ⚙ button on the tab Timeline.

Disabling Synchronized Recorded Video Playback

- Synchronized recorded video playback can be disabled for all new tabs by clearing the **Synchronize recorded video playback** check box in the Client Settings... dialog box. Previously synchronized tabs will remain synchronized.
- Synchronized recorded video playback can also be disabled in individual tabs.

  On a synchronized Timeline, click the blue ⚙ button. The button will turn gray to show that it is no longer synchronized. The Timeline will stay where it is, but will no longer be synchronized with other Timelines.

Bookmarking Recorded Video

You can add bookmarks to recorded video to help you find and review an event later. Bookmarked video can be protected against scheduled data cleanup so that the video is never deleted.

Adding a Bookmark

Tip: You can add a bookmark any time the Timeline is displayed.

1. Drag the time marker to where you want to start the bookmark, then right-click the Timeline and select **Add Bookmark**.

   The Edit Bookmark dialog box appears, and the bookmark time range is highlighted on the Timeline.
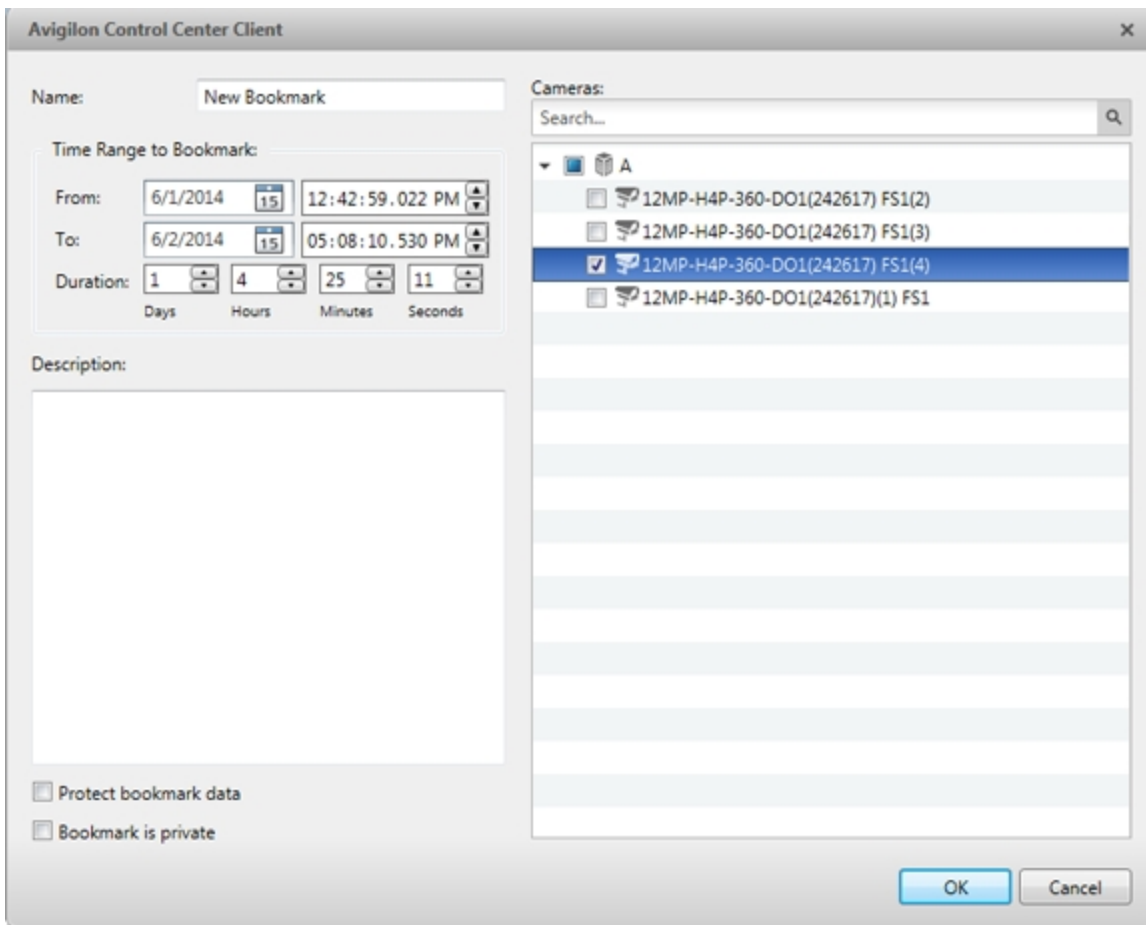
Figure 69: Edit Bookmark dialog box

2. Enter a **Name:** for the bookmark.

3. In the **Cameras:** pane, select all the cameras that need to be attached to this bookmark.

   NOTE: You can only bookmark multiple cameras from the same Site.

4. In the **Time Range to Bookmark:** area, enter the full duration of the bookmark.

   You can also move the black time range markers on the Timeline to adjust the time range.

5. In the **Description:** field, enter extra any information you want to include with the bookmark.

6. To protect the bookmark video from being deleted, select the **Protect bookmark data** check box.

   NOTE: Protected bookmarks are never deleted. Be aware that bookmarked videos take up space and can become the oldest video on the server.

7. To make the bookmark private, select the **Bookmark is private** check box. Private bookmarks are only visible to the user who marked the bookmark as private, and the system administrator. No one else will have access to the bookmark.

8. Click **OK**.

Adding a Bookmark

Exporting, Editing, or Deleting a Bookmark

1. Click the bookmark on the Timeline, then do one of the following:

door interruption
Start: Thu, Mar 21, 2013 9:46:19 AM
End: Thu, Mar 21, 2013 9:56:55 AM
Site: A
Created by: administrator
Created on: Mon, Jun 30, 2014 2:19:01
PM
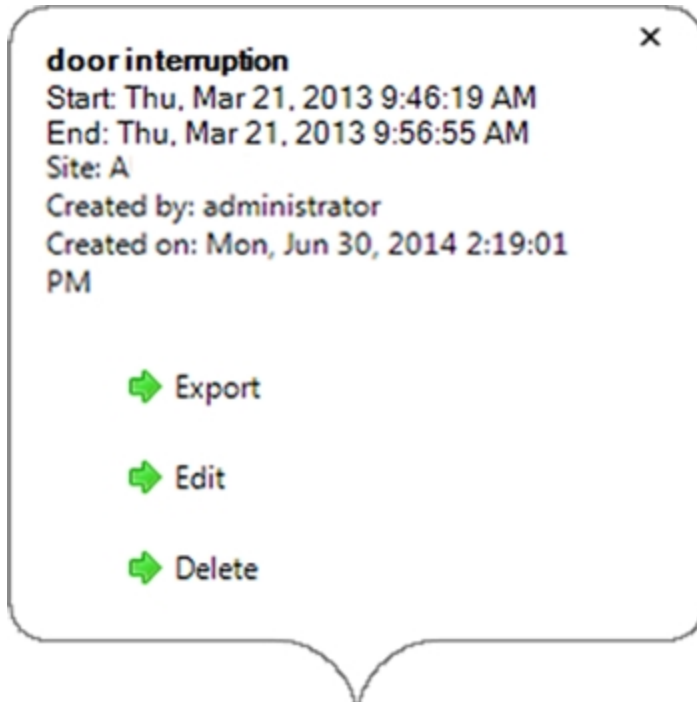
➡ Export

➡ Edit

➡ Delete

Figure 70: Pop-up Bookmark properties

To	Do this...
Export a bookmark	Click **Export**, then complete the Export tab.
Edit a bookmark	Click **Edit**, then make your changes.
Delete a bookmark	Click **Delete**. When the confirmation dialog box appears, click **Yes**.

When editing a bookmark, refer to **Adding a Bookmark** for details about the editable options.

When exporting a bookmark, refer to **Export** for information about the export options.

Search

You can quickly search for recorded video that is linked to an event or search through a camera's recording history.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

Performing a Bookmark Search

The Bookmark Search allows you to search for a specific bookmark.

1. In the New Task menu, click [book icon]

   The Search: Bookmark tab is displayed. All available bookmarks are listed on the left.
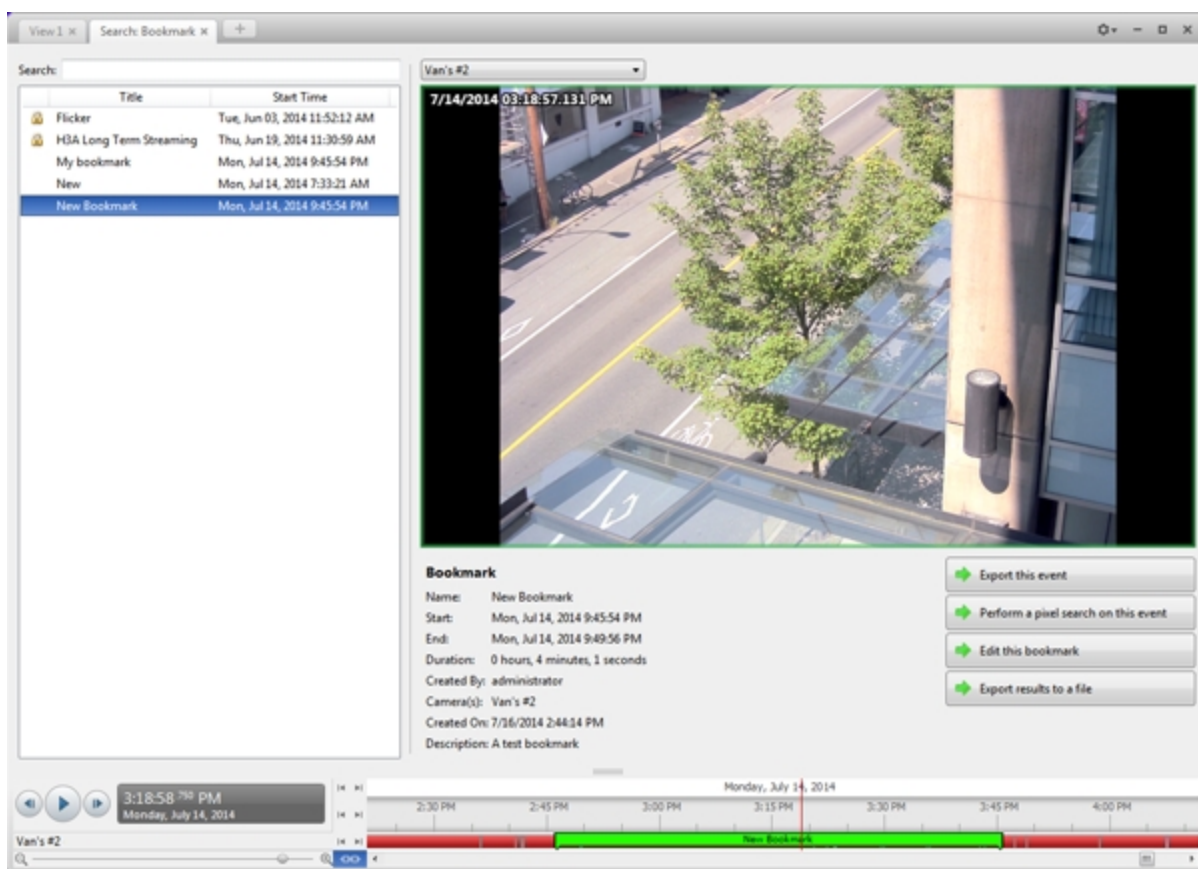
Figure 71: The Search: Bookmark tab

2. In the **Search:** field, enter any text that may appear in the bookmark's title, description, linked camera name, or the name of the user who created the bookmark.

   The search is automatically performed on all the listed bookmarks until only the matches are displayed.

Viewing Bookmark Search Results

1. In the Bookmark list, select a bookmark. The bookmark is highlighted on the Timeline and the video is displayed in the image panel. Details about the bookmark are displayed under the image panel.

2. Use the Timeline controls to review the event.

   For more information, see **Playing Back Recorded Video**.

3. If the search result is linked to multiple cameras, select a camera from the drop down list above the image panel to change the video that is displayed.

4. Click **Export this event** to export the selected bookmark.

5. If you want to further refine your search, click **Perform a pixel search on this event**. You can now search for pixel changes in the selected bookmarked video.

   For more information, see **Performing a Pixel Search**.

6. Click **Edit this bookmark** to edit the bookmark.

   For more information, see **Bookmarking Recorded Video**.

Performing an Event Search

The Event Search allows you to search for specific motion events.

1. In the New Task menu, click

   The Search: Event tab is displayed.
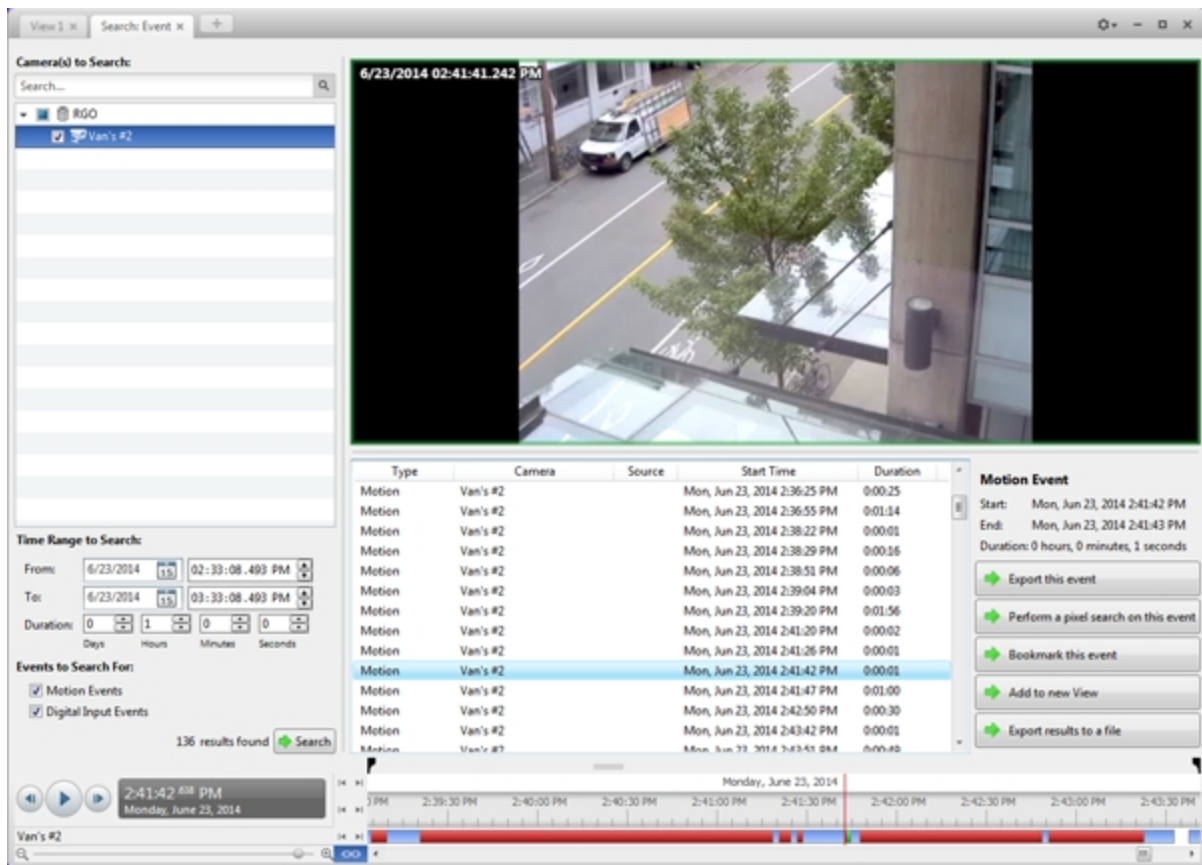
Figure 72: The Search: Event tab

2. In the **Camera(s) to Search:** area, select all the cameras you want to include in the search.

3. In the **Time Range to Search:** area, set the date and time range of your search. The time range is highlighted on the Timeline by the black time range markers. You can also drag the time range markers to modify the time range.

4. In the **Events to Search For:** area, select the types of events to include in the search.

5. Click **Search**.

Viewing Event Search Results

1. In the **Search Results** area, select a search result. The event is highlighted on the Timeline and the video is displayed in the image panel. Details about the search result are displayed to the right.

2. Use the Timeline controls to review the event.

    For more information, see **Playing Back Recorded Video**.

3. Click **Export this event** to export the selected event video.

    For more information, see **Export**.

4. If you want to further refine your search, click **Perform a pixel search on this event**. You can now search for pixel changes in the selected search result.

    For more information, see **Performing a Pixel Search**.

Viewing Event Search Results

5. Click **Bookmark this event** to bookmark the selected search result.

   For more information, see **Bookmarking Recorded Video**.

6. To export all listed search results, click **Export results to a file** and save the file. The search results can be saved as either a CSV or Text file.

Performing a Pixel Search

The Pixel Search allows you to search for tiny pixel changes in specific areas in the camera's field of view.

1. In the New Task menu, click

   The Search: Pixel tab is displayed.

Figure 73: The Search: Pixel tab

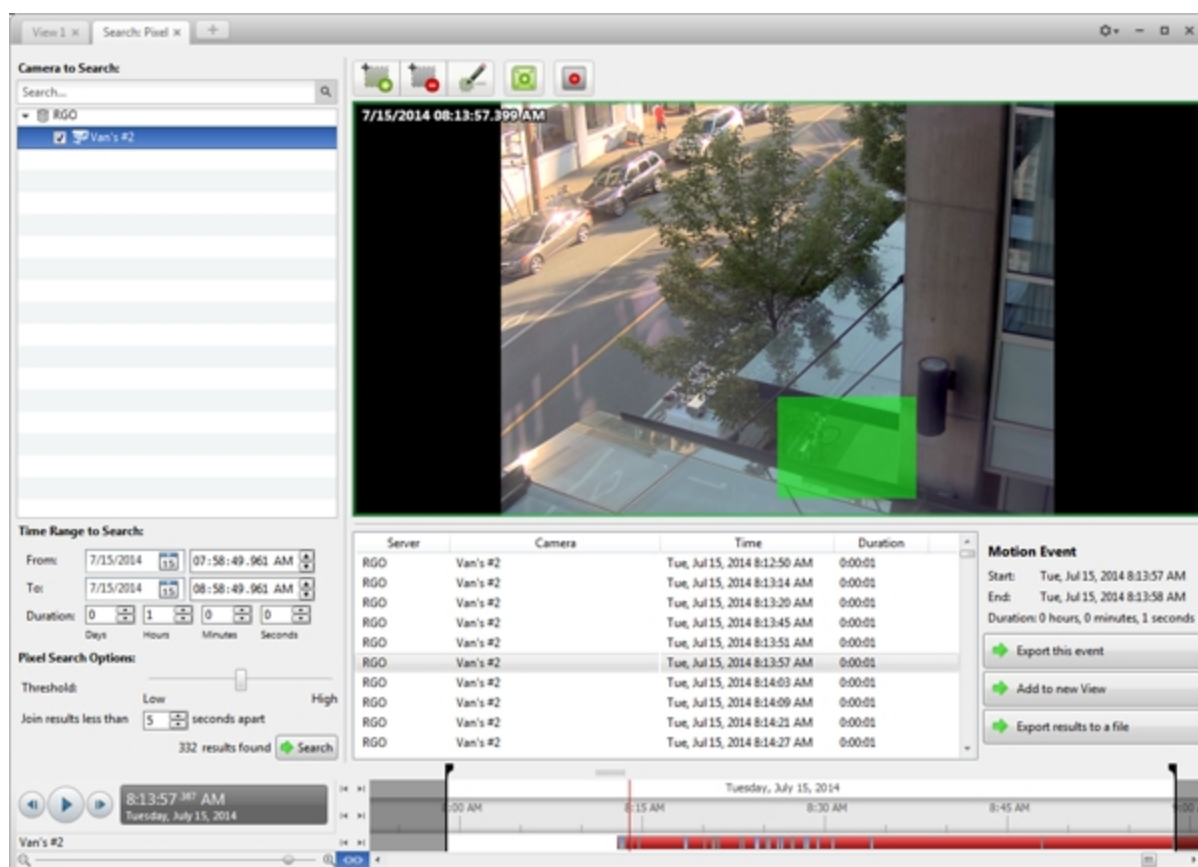   By default, the entire search image panel is highlighted in green.

2. In the **Camera to Search:** area, select a camera.

3. In the **Time Range to Search:** area, set the date and time range of your search. The time range is highlighted on the Timeline by the black time range markers. You can also drag the time range markers to modify the time range.

4. Define the pixel search area by using the motion detection tools above the image panel.

   Tip: If you are looking for something very specific, limit the green area to a dot to find what you're looking for more quickly.

5. In the Pixel Search Options: area, drag the **Threshold:** slider to select the amount of motion required to return a search result.

   A high threshold requires more pixels to change before results are found.

6. Enter a number in the **Join results less than** field to set the minimum number of seconds between separate search results. You can enter any number between 1-100 seconds.

7. Click **Search**.

Viewing Pixel Search Results

1. In the **Search Results** area, select a search result. The event is highlighted on the Timeline and the video is displayed in the image panel. Details about the search result are displayed to the right.

2. Use the Timeline controls to review the event.

   For more information, see **Playing Back Recorded Video**.

3. Click **Export this event** to export the selected event video.

   For more information, see **Export**.

4. To export all listed search results, click **Export results to a file** and save the file. The search results can be saved as either a CSV or Text file.

Performing a Thumbnail Search

The Thumbnail Search is a visual search that displays search results as a series of thumbnail images.

1. In the New Task menu, click .

   The Search: Thumbnails tab is displayed.
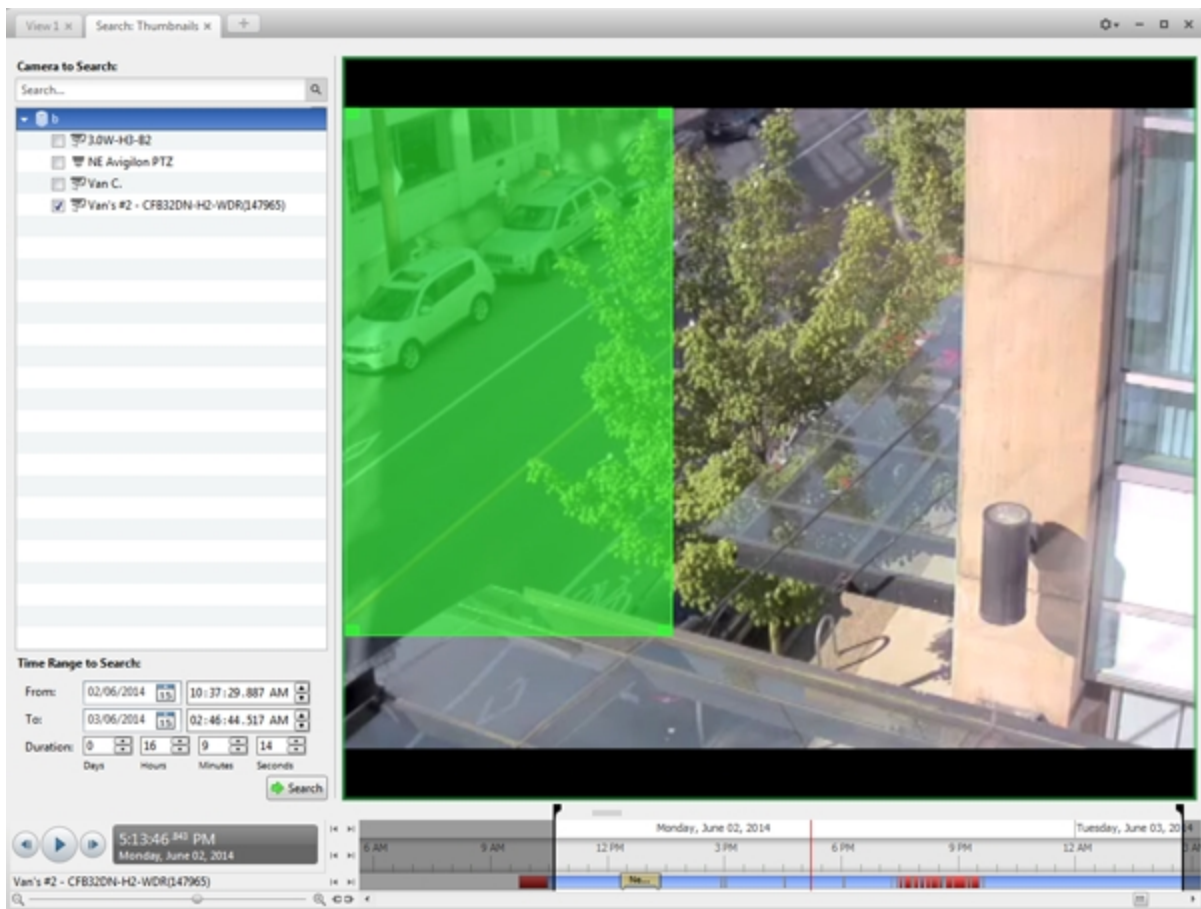
Figure 74: The Search: Thumbnails tab

2. In the **Camera to Search:** area, select a camera.

3. In the **Time Range to Search:** area, set the date and time range of your search. The time range is highlighted on the Timeline by the black time range markers. You can also drag the time range markers to modify the time range.

4. In the image panel, move or drag the edges of the green overlay to focus the search on one area in the video image. Only the area highlighted in green will be searched.

5. Click **Search**.

Viewing Thumbnail Search Results

The search results display thumbnails at equal intervals on the Timeline.

1. To change the size of the search result thumbnails, select **Large Thumbnails**, **Medium Thumbnails**, or **Small Thumbnails** from the menu above the search results.

Figure 75: The Search: Thumbnails results tab

2. Select a thumbnail to highlight the video on the Timeline.

3. Click **Step In**, or double-click the thumbnail to perform another search around the thumbnail.

   Click **Step Out** to return to the previous results page.

4. Click **Open In View** (after selecting a thumbnail) to open the recorded video in a new View.
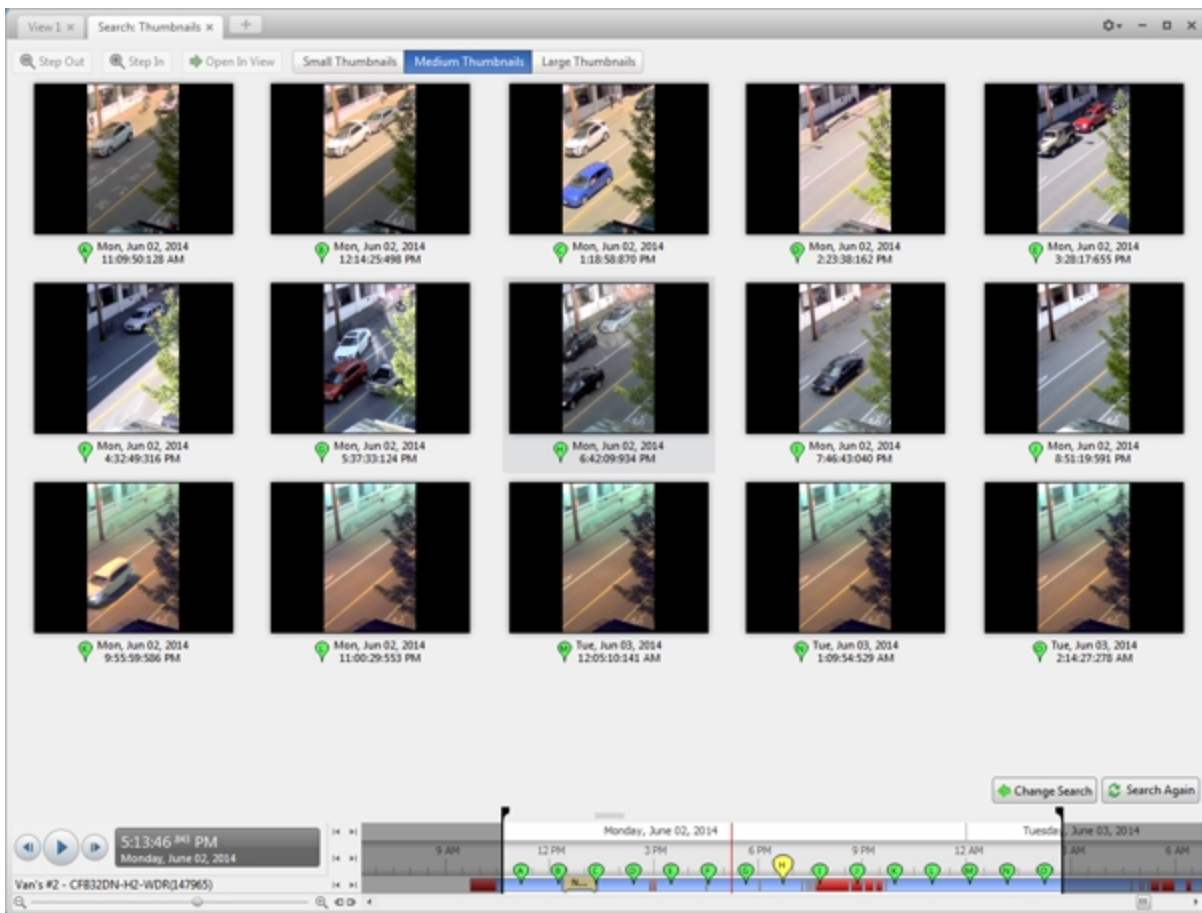
5. Click **Change Search** to change the search criteria.

Export

You can export video in multiple video and image formats. The Export tab can be accessed from bookmark options, the New Task menu, and any Search tab.

You can also export snapshots of an image panel as you monitor video.

Exporting Native Video

The Native (AVE) format is the recommended format for exporting video. You can export video from multiple cameras in a single file, and the video maintains its original compression. AVE video is played in the Avigilon™ Control Center Player, where the video can be authenticated against tampering and re-exported to other formats.

If there is audio linked to the video, the audio is automatically included in the export.

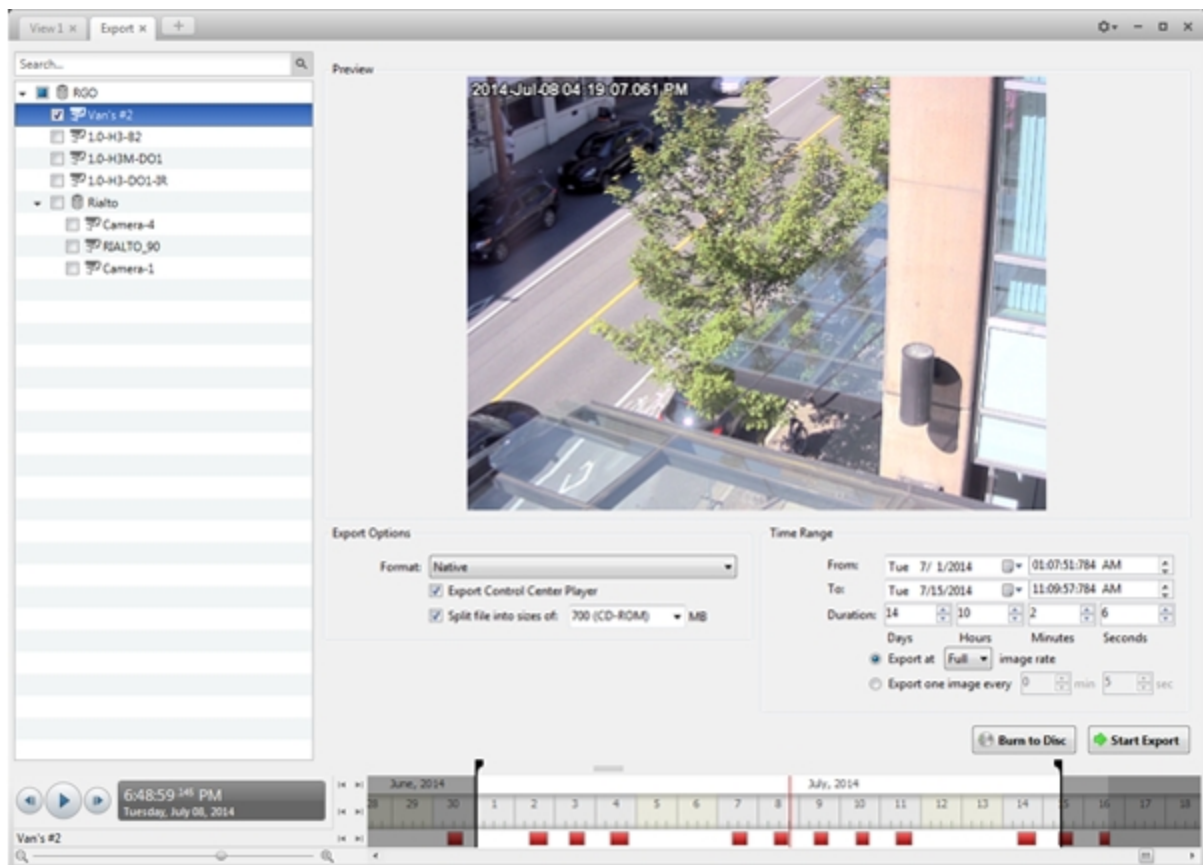1. In the New Task menu, click . The Export tab opens.

Figure 76: The Export tab for AVE export

2. In the **Format:** drop down list, select **Native**.

3. In the System Explorer, select the camera video you want to export.

4. To automatically divide the export into separate files, select the **Split file into sizes of:** check box, then select one of the options from the drop down list, or manually enter the size of each file in MB.

   This option allows you to export smaller files for storing in a flash drive or on optical media.

   This setting is automatically disabled if you choose to burn the export to disc because the system auto-detects the disc size.

5. Enter the **Time Range** you want to export. The **Time Range** is highlighted on the Timeline by black time range markers. You can also drag the time range markers to modify the time range.

6. Set the export image rate:

Option	Description
Export at _ image rate	Select this option to control how many images per second are exported. For example, the video is streaming at 30 images per second. If you select **1/2**, only 15 images for that second will be exported.
Export one image every _ min _sec	Select this option to control the time between each exported video image. For example, if you enter *5* min. *0* sec., only one image will be exported for every 5 minutes of video.

7. Click one of the following:

   - **Start Export**: to save the file locally.

     - In the Save As dialog box, name the export file and click **Save**.

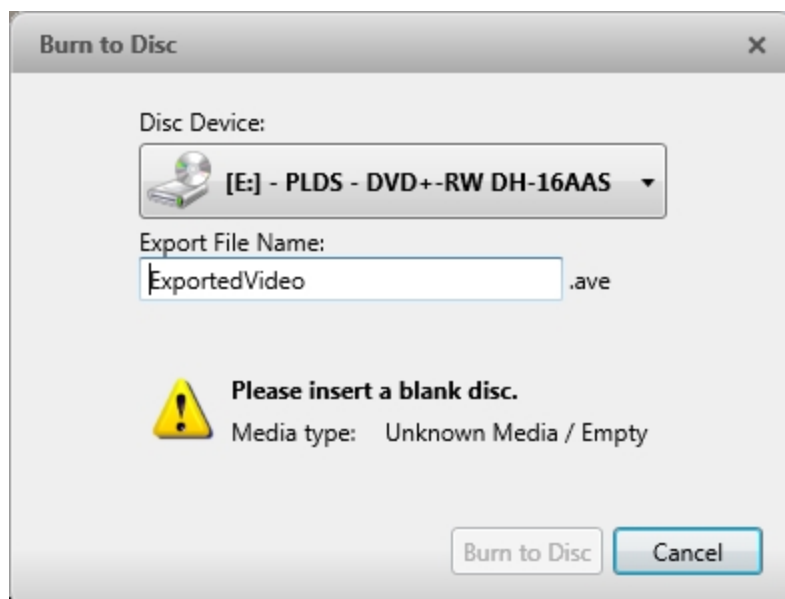   - **Burn to Disc**: to burn the file directly to disc media.

Exporting Native Video

a. When the dialog box appears, insert a disc and select the media burning drive.

b. Name the export file. The file name is automatically given a numbered suffix to help identify which file you are playing if the export spans multiple discs.

c. Click **Burn to Disc** to start the export. If this button is disabled, the disc may be corrupt or full.

d. Monitor the export progress to see if extra discs are required. When a disc is full, the export automatically pauses and you are asked to insert a new disc. After you insert a new disc, click **Resume Export**.

The number of discs required to export a video varies widely depending on the type of camera and disc used. Video is stored on the server with minimal compression to maximize the function of Avigilon's HDSM™ technology, so the size of an export can be quite large due to the camera's high megapixel resolution and frame rate.

Generally, if you export a 2 minute video from a 2MP H.264 HD camera into AVE format, you will export a 93 MB file. To reduce the number of discs required, you can lower the frame rate or use a disc type with a larger capacity. Be aware that reducing the frame rate too much may cause the exported video to be jerky or missing data.

8. When the export is complete, click **OK**.

Exporting AVI Video

Video exported in Audio Video Interleave (AVI) format can be played in most media players. Be aware that you can only export one video at a time in this format.

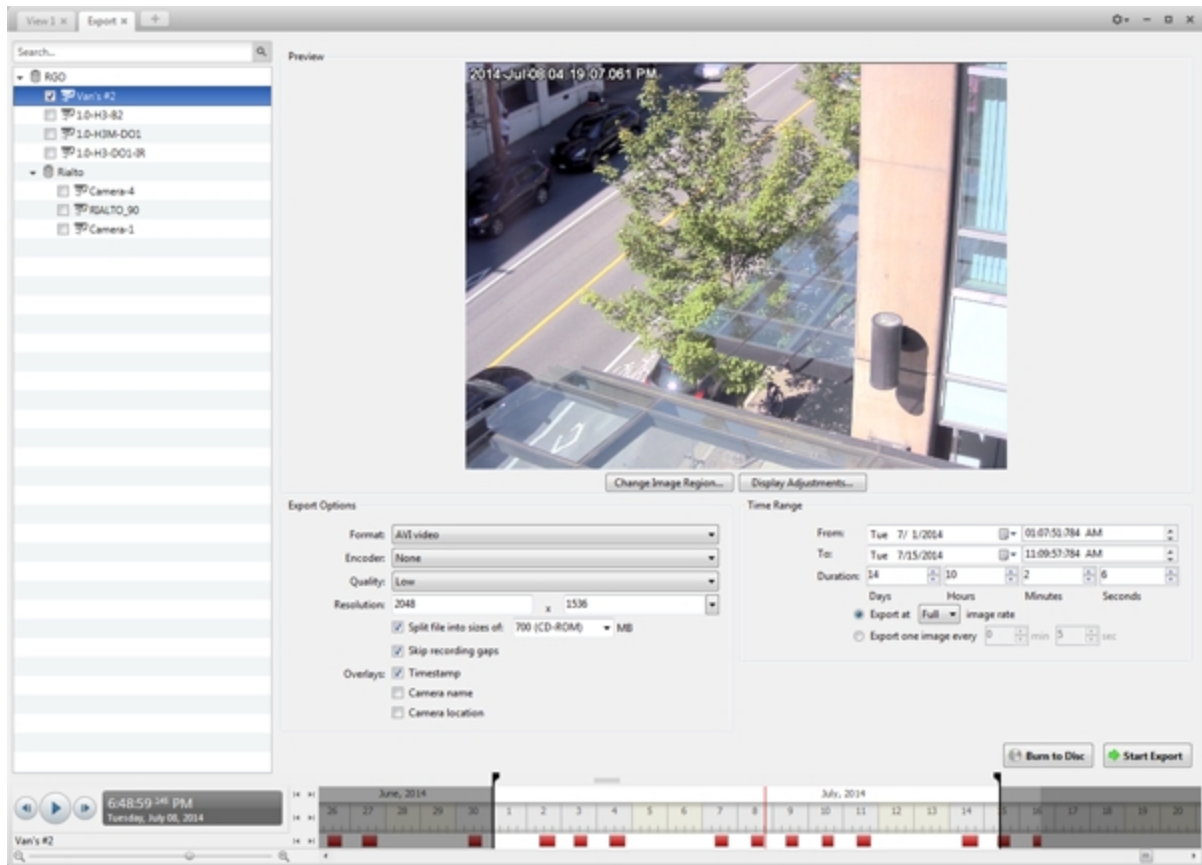1. In the New Task menu, click . The Export tab opens.

Figure 78: Export tab for AVI export

2. In the **Format:** drop down list, select **AVI video**.

3. In the System Explorer, select the camera video you want to export.

4. In the **Encoder:** field, select the compression used. The VC-1 (Windows Media Video) compression is included by default because it is tailored for high-resolution AVI encoding.

   If you are planning to burn the export to disc, it is important to select a compression method to help reduce the export size and maintain video quality.

5. In the **Quality:** drop down list, select the exported image quality level.

6. In the **Resolution:** field, select a resolution for the video image. You can manually enter the resolution or click the drop down arrow to select a standard resolution.

   NOTE: The Resolution: field automatically maintains the image aspect ratio.

7. To automatically divide the export into separate files, select the **Split file into sizes of:** check box, then select one of the options from the drop down list, or manually enter the size of each file in MB.

   This option allows you to export smaller files for storing in a flash drive or on optical media.

This setting is automatically disabled if you choose to burn the export to disc because the system auto-detects the disc size.

8. Select the **Skip recording gaps** check box to avoid pauses in the video caused by gaps in the recording.

9. Select the image overlays you want: **Timestamp**, **Camera name**, and **Camera location**.

    Select the **Video Analytics Activity** overlay to include video analytics bounding boxes with the video. These boxes cannot be hidden or removed from the exported video.

10. Enter the **Time Range** you want to export. The **Time Range** is highlighted on the Timeline by black time range markers. You can also drag the time range markers to modify the time range.

11. Set the export image rate:

Option	Description
Export at _ image rate	Select this option to control how many images per second are exported. For example, the video is streaming at 30 images per second. If you select **1/2**, only 15 images for that second will be exported.
Export one image every _ min _sec	Select this option to control the time between each exported video image. For example, if you enter *5* min. *0* sec., only one image will be exported for every 5 minutes of video.

12. Click **Change Image Region...** to only export part of the video image. In the **Change Image Region...** dialog box, move and resize the green overlay to select the region you want to export, then click **OK**. Only areas highlighted in green will be exported.

13. Click **Display Adjustments...** to adjust the **Gamma:**, **Black Level:** and/or **White Level:**.

14. Click one of the following:

    - **Start Export**: to save the file locally.

        - In the Save As dialog box, name the export file and click **Save**.

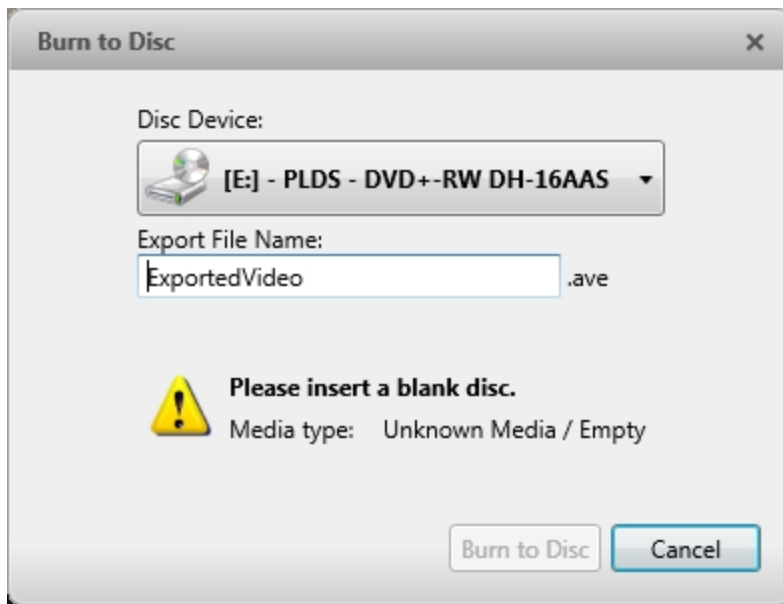   - **Burn to Disc**: to burn the file directly to disc media.

Figure 79: The Burn to Disc Dialog Box

     a. When the dialog box appears, insert a disc and select the media burning drive.

     b. Name the export file. The file name is automatically given a numbered suffix to help identify which file you are playing if the export spans multiple discs.

     c. Click **Burn to Disc** to start the export. If this button is disabled, the disc may be corrupt or full.

     d. Monitor the export progress to see if extra discs are required. When a disc is full, the export automatically pauses and you are asked to insert a new disc. After you insert a new disc, click **Resume Export**.

The number of discs required to export a video varies widely depending on the type of camera and disc used. Video is stored on the server with minimal compression to maximize the function of Avigilon's HDSM technology, so the size of an export can be quite large due to the camera's high megapixel resolution and frame rate.

Generally, if you export a 2 minute video from a 2MP H.264 HD camera into uncompressed AVI format, you will export a 2.7 GB file. If you select an **Encoder:** format and compress the video, you can export a 224 MB video at high quality. It is recommended that you always select an Encoder: format for AVI export to help significantly reduce the file size.

To further reduce the file size you can select a lower quality setting, lower the export frame rate, reduce the video resolution, or focus the export on a specific image region. Be aware that reducing each of the available settings too much may cause the export to be blurry or missing frames.

If it is important to have a high quality and full frame rate export, it is recommended that you use the AVE export format instead. AVE export intelligently compresses the video to create a smaller export file while maintaining video data so that you can search, re-export video, and authenticate the video against tampering through the Avigilon Control Center Player software.

15. When the export is complete, click **OK**.

Exporting a Print Image

You can export a frame of video directly to your printer or as a PDF, and include notes related to the image.

To print a photo of the video you are currently watching, take a snapshot. For more information, see **Exporting a Snapshot of an Image**.

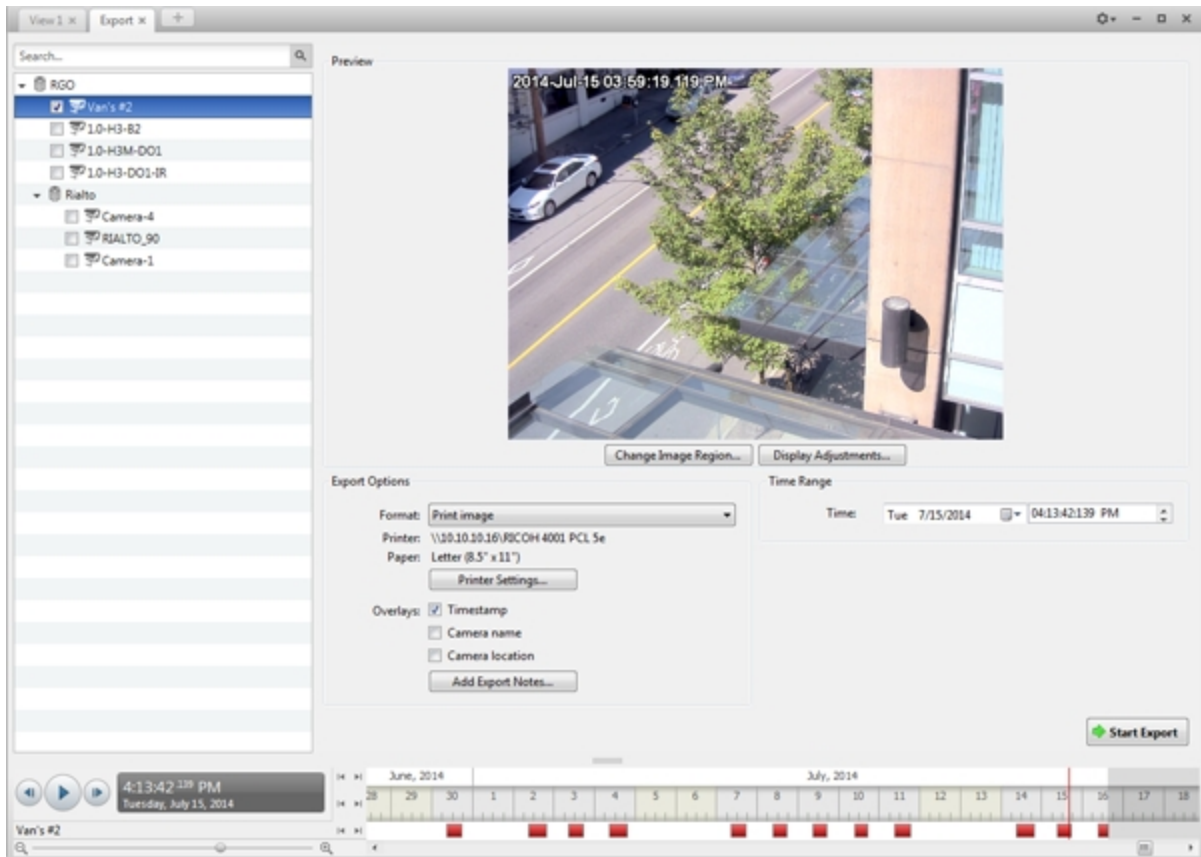1. In the New Task menu, click ![icon] . The Export tab opens.

Figure 80: Export tab for print image export

2. In the **Format:** drop down list, select **Print image** or **PDF file**.

3. In the System Explorer, select the camera video you want to export.

4. (Print Image Only) Click **Printer Settings...** to change the printer and paper size that the image is printed on.

5. Select the image overlays you want: **Timestamp**, **Camera name**, and **Camera location**.

6. Click **Add Export Notes...** to add notes about the exported image. The notes are added below the image.

7. In the **Time Range** box, enter the exact date and time of the video image you want to export.

8. Click **Change Image Region...** to only export part of the video image. In the **Change Image Region...** dialog box, move and resize the green overlay to select the region you want to export, then click **OK**. Only areas highlighted in green will be exported.

9. Click **Display Adjustments...** to adjust the **Gamma:**, **Black Level:** and/or **White Level:**.

10. Click **Start Export**.

   - If you are exporting a Print image, the image is sent to the printer.

   - If you are exporting a PDF file, save the image.

   The Preview area displays the video you are exporting.

11. When the export is complete, click **OK**.

Exporting a Snapshot of an Image

You can export a snapshot of any image panel with video. When you export a snapshot, you are exporting what the image panel is currently displaying.

1. To export a snapshot, do one of the following:

   - In the image panel, click .

   - Right-click the image panel and select **Save Snapshot**.

   The snapshot Export tab is opened, and the image you want to export is displayed.
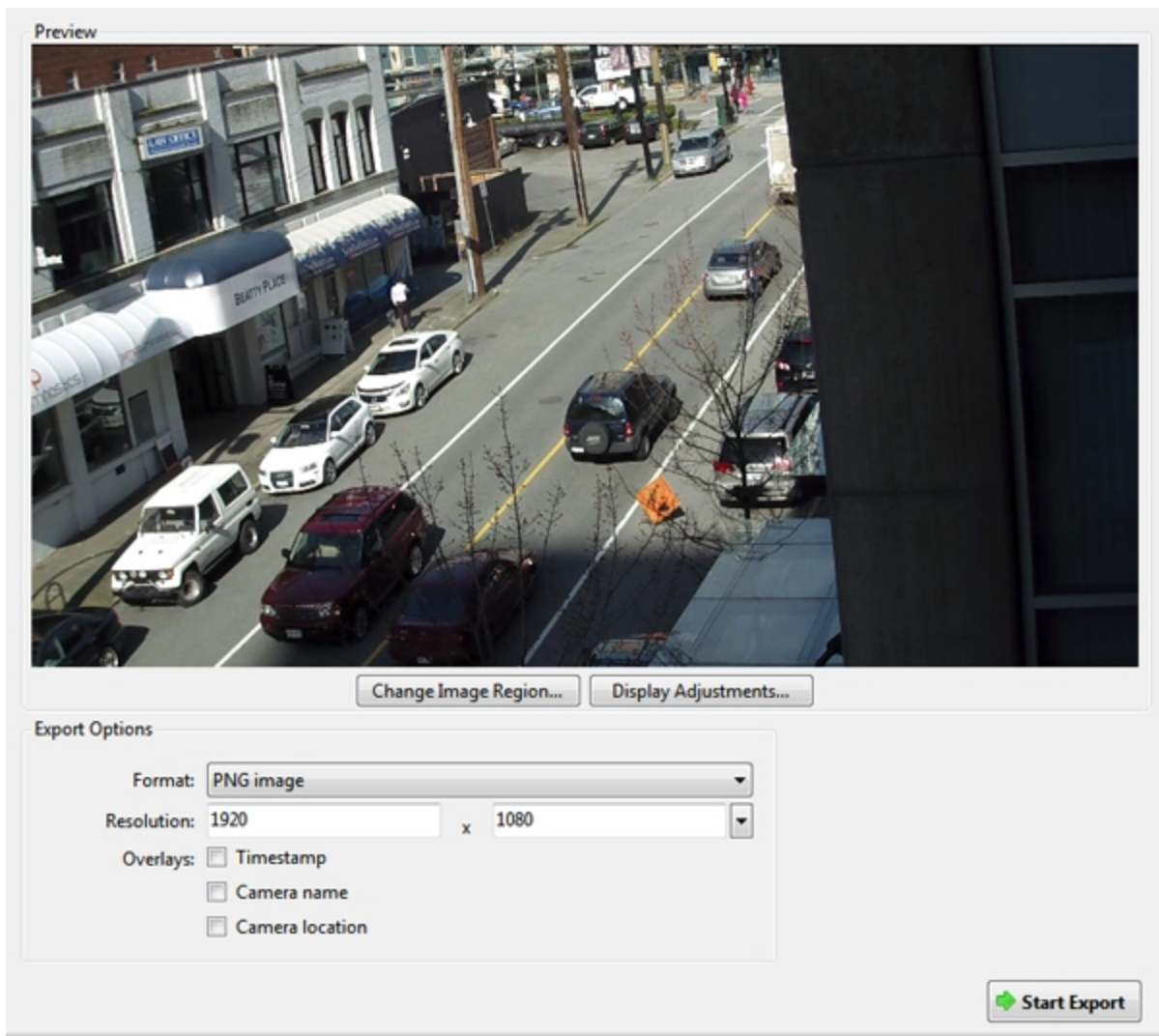
Figure 81: The Export tab for snapshot export

2. In the **Format:** drop down list, select an export format.

3. For the selected export format, define your preferences:

Format	Export options
Native **NOTE:** The Native format requires the Avigilon Control Center Player to view.	This is the recommended export format because the exported image maintains its original compression and can be authenticated against tampering in the Avigilon Control Center Player. • Select the **Export Control Center Player** check box if you want a copy of the Avigilon Control Center Player to be distributed with your Native image file.
PNG image	1. In the **Resolution:** field, select a resolution for the video image. You can manually enter the resolution or click the drop down arrow to select a standard resolution. NOTE: The Resolution: field automatically maintains the

Format	Export options
	image aspect ratio.
	2. Select the image overlays you want: **Timestamp**, **Camera name**, and **Camera location**.
	3. Click **Change Image Region...** to only export part of the video image. In the **Change Image Region** dialog box, move and resize the green overlay, then click **OK**. Only areas highlighted in green are exported.
	4. Click **Display Adjustments...** to adjust the **Gamma:**, **Black Level:**, and/or **White Level:**.
JPEG image	1. In the **Quality:** drop down list, select the exported image quality level.
	2. Set the image **Resolution:**.
	3. Select the image overlays you want.
	4. Click **Change Image Region...** to only export a part of the video image.
	5. Click **Display Adjustments...** to modify the image quality.
TIFF image	1. Set the image **Resolution:**.
	2. Select the image overlays you want.
	3. Click **Change Image Region...** to only export a part of the video image.
	4. Click **Display Adjustments...** to modify the image quality.
Print image	1. Click **Printer Settings...** to change the selected printer and paper size.
	2. Select the image overlays you want.
	3. Click **Add Export Notes...** to add notes about the exported image. The notes are printed below the image.
	4. Click **Change Image Region...** to only export a part of the video image.
	5. Click **Display Adjustments...** to modify the image quality.
PDF file	1. Select the image overlays you want.
	2. Click **Add Export Notes...** to add notes about the exported image.
	3. Click **Change Image Region...** to only export a part of the video image.
	4. Click **Display Adjustments...** to modify the image quality.

4. Click **Start Export**.

5. In the Save As dialog box, name the export file and click **Save**. If you are printing the snapshot, the image is sent to your printer instead.

The Preview area displays the snapshot you are exporting.

6. When the export is complete, click **OK**.

Exporting Still Images

Video can be exported as a series of still PNG images, JPEG images, or TIFF images. When you export a series of still images, you are exporting each frame of video as an independent file.

If you only want one photo of the video you are watching, take a snapshot. For more information, see **Exporting a Snapshot of an Image**.

1. In the New Task menu, click [icon]. The Export tab opens.
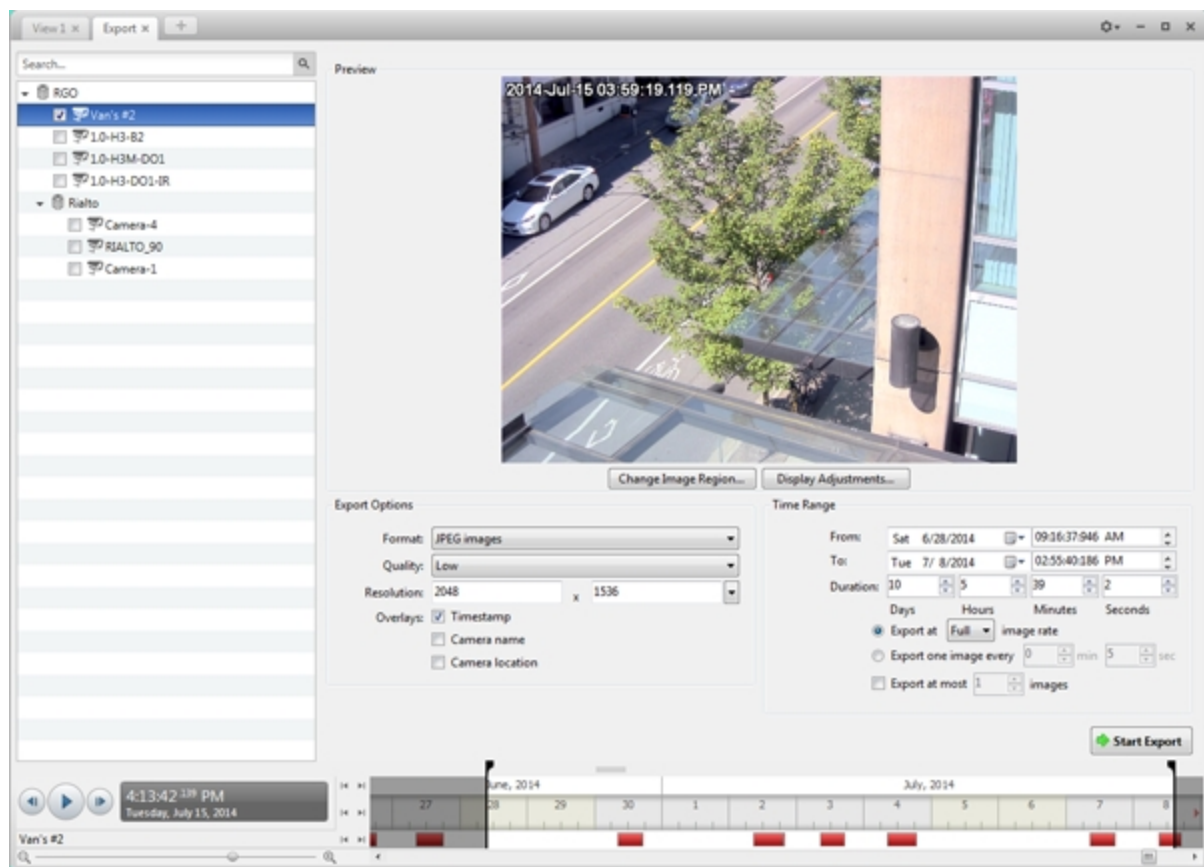
Figure 82: Export tab for still image export

2. In the **Format:** drop down list, select **PNG images**, **JPEG images**, or **TIFF images**.

3. In the System Explorer, select the camera video you want to export.

4. (JPEG only) In the **Quality:** drop down list, select the exported image quality level.

5. In the **Resolution:** field, select a resolution for the video image. You can manually enter the resolution or click the drop down arrow to select a standard resolution.

   NOTE: The Resolution: field automatically maintains the image aspect ratio.

6. Select the image overlays you want: **Timestamp**, **Camera name**, and **Camera location**.

7. Enter the **Time Range** you want to export. The **Time Range** is highlighted on the Timeline by black time range markers. You can also drag the time range markers to modify the time range.

8. Set the export image rate:

Option	Description
Export at _ image rate	Select this option to control how many images per second are exported. For example, the video is streaming at 30 images per second. If you select **1/2**, only 15 images for that second will be exported.
Export one image every _ min _sec	Select this option to control the time between each exported video image. For example, if you enter *5* min. *0* sec., only one image will be exported for every 5 minutes of video.

9. To limit the number of images that are exported, select the **Export at most _ images** check box and enter a number.

10. Click **Change Image Region...** to only export part of the video image. In the **Change Image Region...** dialog box, move and resize the green overlay to select the region you want to export, then click **OK**. Only areas highlighted in green will be exported.

11. Click **Display Adjustments...** to adjust the **Gamma:**, **Black Level:** and/or **White Level:**.

12. Click **Start Export**.

13. In the Save As dialog box, name the export file and click **Save**.

    The Preview area displays the video you are exporting.

14. When the export is complete, click **OK**.

Exporting Still Images

Appendix

Event and Trigger Descriptions

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have the required user permissions.

In this section are descriptions of the options available in the Site setup when configuring Alarm triggers, Email Notification triggers, Group Permissions, and Rule Events and Actions.

Video Analytics Event Descriptions

The following table shows the Activity: options that can be used as triggers when configuring video analytics events. These triggers are based on the activity of detected classified objects.

NOTE: All events are reset when their duration reaches the specified Timeout: period.

For more information, see **Adding Video Analytics Events**.

Activity:	Description
Objects in area	The event is triggered when the specified Number of Objects: is detected in the region of interest. **NOTE:** Additional objects past the specified Number of Objects: that are detected in the region of interest will not trigger the event until it is reset. The event is reset when the Number of Objects: in the region of interest falls below the specified Number of Objects:.
Object loitering	The event is triggered after an object is detected in the selected region of interest for longer than the specified Threshold Time:. The event is reset when the object leaves the region of interest.
Objects crossing beam	The event is triggered when the specified Number of Objects: have crossed the beam that has been placed in the camera's field of view. The beam can be unidirectional or bidirectional. **NOTE:** Additional objects past the specified Number of Objects: that cross the beam will not trigger the event until it is reset. The event is reset when it times out.
Object appears or enters area	The event is triggered by each object that enters the region of interest. This event can be used to count objects.
Object not present in area	The event is triggered when no objects are present in the region of interest.
Objects enter area	The event is triggered when the specified Number of Objects: have entered the region of interest.
Objects leave area	The event is triggered when the specified Number of Objects: have left the region of interest.
Object stops in area	The event is triggered when an object in a region of interest stops moving for the specified Threshold Time:.

Activity:	Description
Direction violated	The event is triggered when an object moves in the direction specified by the Prohibited Direction: wheel in the Video Analytics Configuration dialog box.

Email Notification Trigger Descriptions

The following table shows the email notification trigger options that are available when you set up an email notification. For more information about setting up an email notification, see **Configuring Email Notifications**.

Email Notification Trigger	Description
System event	Email notifications are sent when one of the following rule events occurs: • Server application starting up • Server application shutting down • Server application terminated unexpectedly • Server application low on resources • Server application installation error • Server connection lost • Server hardware event • Connection created to standby server • Connection removed from standby server • Connection failure • Connection restored • Network connection found • Network connection lost • Network packet loss acceptable • Network packet loss unacceptable • License expires soon • License expired • Database error • Data initialization error • Data volume size reduced • Data write error • Data upgrade started • Data upgrade completed • Data upgrade failed • Data volume failed • Data volume recovered • Data recovery started

Email Notification Trigger	Description
	• Data recovery completed
	• Data recovery failed
	• Firmware upgrade failed
	• Recording interrupted
	• Recording resumed
Motion detected on _	An email notification is sent when camera motion detection has started. You can select the camera.
Digital input activated on _	An email notification is sent when a digital input has been activated. You can select the digital input.

Group Permission Descriptions

The following table shows the options that are available when you set up a permission group. For more information about setting up a permission group, see **Adding Groups**.

Group Permission		Description
View live images		Allows users to watch a camera's live video stream in a View.
	Use PTZ controls	Allows users to use a camera's PTZ controls.
	Lock PTZ controls	Allows users to lock a camera's PTZ controls.
	Trigger manual recording	Allows users to trigger manual recording while watching video in a View.
View recorded images		Allows users to watch a camera's recorded video in a View.
	Export images	Allows users to export recorded images.
	Backup images	Allows users to back up recorded images.
	Teach by example	Allows users to access the Teach By Example tab.
Manage user sessions		Allows users to log other users out of the Site.
Listen to microphones		Allows users to listen to microphones that are connected to a camera.
Setup cameras		Allows users to configure cameras.
	Setup general settings	Allows users to edit a camera's General dialog box.
	Setup network settings	Allows users to edit the Network dialog box.
	Setup image and display settings	Allows users to edit the Image and Display dialog box.
	Setup compression and image rate settings	Allows users to edit the Compression and Image Rate dialog box.
	Setup image dimension settings	Allows users to edit the Image Dimensions dialog box.

Group Permission		Description
	Setup motion detection settings	Allows users to edit the Motion Detection dialog box.
	Setup privacy zone settings	Allows users to edit the Privacy Zones dialog box.
	Setup manual recording settings	Allows users to edit the Manual Recording dialog box.
Setup sites		Allows users to configure Sites.
	Setup name	Allows users to edit the Site name.
	Manage site	Allows users to add servers to the Site.
	Setup site view	Allows users to organize the order of cameras in the System Explorer.
	Setup user and group settings	Allows users to edit the Users and Groups dialog box.
	Setup Active Directory Synchronization	Allows users to set up Active Directory Synchronization.
	Setup corporate hierarchy	Allows users to edit the Edit Corporate Hierarchy dialog box.
	Setup email settings	Allows users to edit the Email Notifications dialog box.
	View site logs	Allows users to view Site Logs.
	Connect and disconnect cameras	Allows users to connect and disconnect cameras to servers.
	Import and export settings	Allows users to import and export configuration settings.
	View Server Status	Allows users to see Server Status details.
Setup servers		Allows users to configure servers.
	Setup name	Allows users to edit the server name.
	Setup schedule settings	Allows users to edit the camera Recording Schedule .
	Setup recording and bandwidth settings	Allows users to edit the camera Recording and Bandwidth settings.
	Setup scheduled backup settings	Allows users to set up Scheduled Backup .

Updating the Client Software

Avigilon™ Control Center Client software updates are typically included with the Avigilon™ Control Center Server update packages. When you first open the Client software, the following dialog box will appear if a Client software update is available:
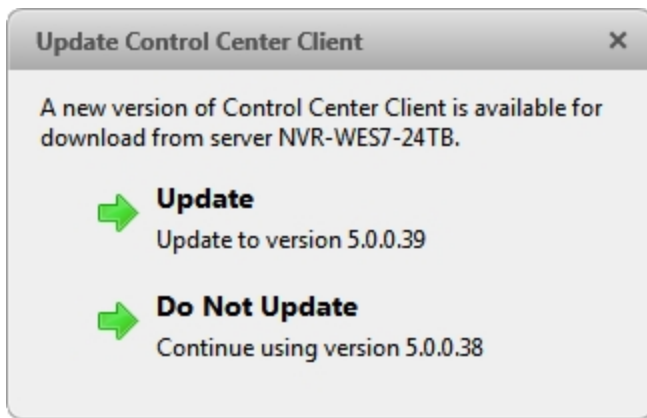
Figure 83: The Update Control Center Client dialog box

- Click **Update** to allow the Client software to update. The software update is automatically downloaded. The following dialog box will appear to show the download progress:
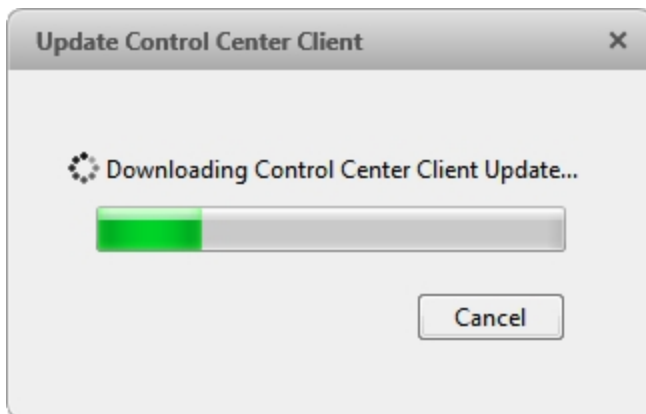
Figure 84: The Update Progress dialog box

When the update has finished downloading, click **Update Control Center Client**. When the installation wizard appears, follow the prompts to complete the update.

- Click **Do Not Update** to continue working with the Client software without updating. The Client software will not be updated, and you can continue working with the software as before.

The Client software can also be downloaded from the Software Updates & Downloads page of the Avigilon website: **http://avigilon.com/support-and-downloads/for-software/software-updates-and-downloads/**

Accessing the Control Center Web Client

You have the option of accessing cameras in your Site through the Web Client. The Web Client is a simplified version of the Client software. It allows you to monitor your surveillance system, search for video events and export recorded video outside the Client software.

NOTE: You cannot modify any system settings through the Control Center Web Client.

To access the Web Client, you need the IP address and port number of the server in your Site. The IP address is listed in the server's Setup tab in the Avigilon Control Center Client. The port number can be found in the Admin Tool under **Settings > Network**.

1. To access the Web Client, open Internet Explorer (version 6+) and enter the address of your Web Client in the following format:

   http://<server ip address>:<port number>/

   (For example, http://192.168.2.62:38880/)

   If you have not accessed the Web Client before, you may be prompted to install the required plug-in software before the Web Client will open.

2. When the login screen appears, enter your username and password for the Site.

The Web Client will open in your browser, and you can access the video and cameras that are connected to the server.
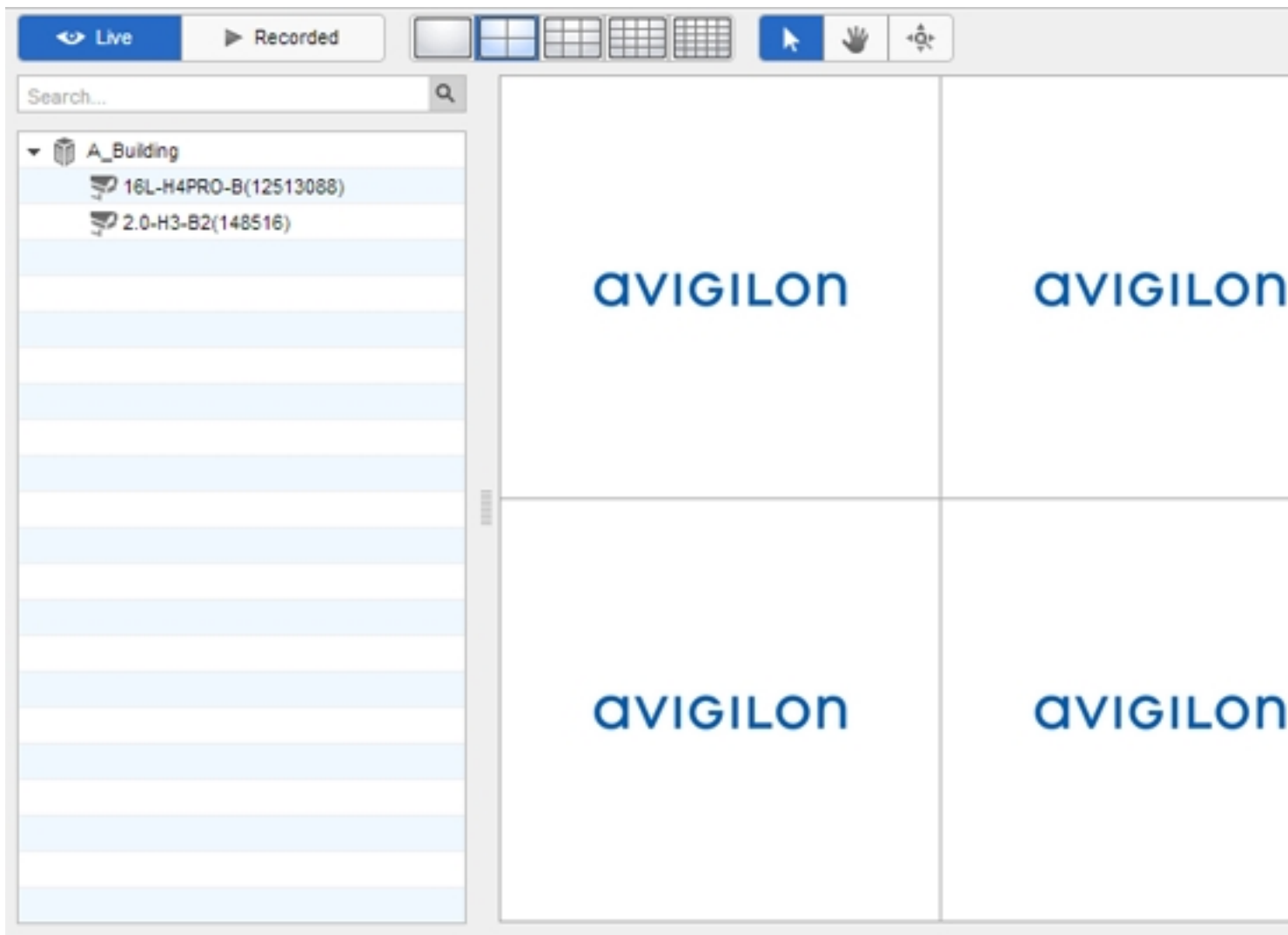
Figure 85: The Avigilon Control Center Web Client

Accessing the Control Center Web Client

Reporting Bugs

If an error occurs in the Avigilon Control Center, you can contact Avigilon Technical Support at
support@avigilon.com or +1.888.281.5182 option 1.

To help diagnose your problem, the Avigilon Technical Support team may ask you to provide a System Bug
Report. The System Bug Report is a zip file generated by the Avigilon Control Center Client software that
contains the system log and error reports for each of the servers that you can access.

To generate a System Bug Report:

1. Select ⚙ > **System Bug Report...**.

2. When the Download System Bug Report dialog box appears, click **Download**.

3. In the Save As dialog box, name the file and click **Save**.

4. Once the System Bug Report has downloaded successfully, click **Close**.

Keyboard Commands

Use any of the keyboard commands below to help you navigate the Avigilon™ Control Center Client software.

The Key Combination column shows the commands used on a standard keyboard, while the Keypad
Combination column shows the commands used on an Avigilon USB Professional Joystick Keyboard.

NOTE: Some features are not displayed if the server does not have the required license, or if you do not have
the required user permissions.

Image Panel & Camera Commands

Command	Key Combination	Keypad Combination (Image Panel buttons)
Select an image panel Image panel # is displayed after pressing the first key.	* + *<image panel #>* + Enter	**SELECT** + *<image panel #>* + **ENTER**
Add a camera to the View The camera's *logical ID* is required.	/ + *<logical ID>* + Enter	**CAMERA** + *<logical ID>* + **ENTER**
Select the next image panel	Tab	
Select the previous image panel	Shift + Tab	
Clear image panel selection	* + 0 + Enter	**SELECT** + 0 + **ENTER**
Remove camera from the selected image panel	Backspace	**CLOSE**

Command	Key Combination	Keypad Combination (Image Panel buttons)
Maximize/Restore the selected image panel	Ctrl + E	
Replay 30 seconds	Ctrl + ,	
Replay 60 seconds	Ctrl + .	
Replay 90 seconds	Ctrl + /	
Add a bookmark for selected camera **NOTE:** For recorded video only.	Ctrl + B	
Start/Stop manual recording for the selected camera	R	
Take a snapshot of the selected image panel	F4	

View Tab Commands

Command	Key Combination	Keypad Combination (View buttons)
Select the next View	Ctrl + Tab	
Select the previous View	Ctrl + Shift + Tab	
Jump to View #_	Ctrl + 1 to 9	
Start/Stop cycle Views	Ctrl + Y	
Open a new View	Ctrl + T	
Close current View	Ctrl + W	
Open a new window	Ctrl + N	
Switch current View to display live video	Ctrl + L	
Switch current View to display recorded video	Ctrl + P	
Remove all cameras from the current View	Ctrl + Backspace	
Full screen a View/End full screen	F11	

View Layout Commands

NOTE: Customized View layouts are linked to their position in the Layouts list. For example, if your custom layout is placed at the top of the Layouts list, you can use the keyboard command for layout 1 to select the custom layout.

Command	Key Combination	Keypad Combination (View buttons)
Change to layout 1	Alt + 1	LAYOUT 4 + PREV 1
Change to layout 2	Alt + 2	LAYOUT 4 + NEXT 2
Change to layout 3	Alt + 3	LAYOUT 4 + OPEN 3
Change to layout 4	Alt + 4	LAYOUT 4 + LAYOUT 4
Change to layout 5	Alt + 5	LAYOUT 4 + 5
Change to layout 6	Alt + 6	LAYOUT 4 + CLOSE 6
Change to layout 7	Alt + 7	LAYOUT 4 + 7
Change to layout 8	Alt + 8	LAYOUT 4 + 8
Change to layout 9	Alt + 9	LAYOUT 4 + 9
Change to layout 10	Alt + 0	LAYOUT 4 + 0
Change to next layout	Alt +]	
Change to previous layout	Alt + [	
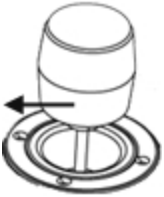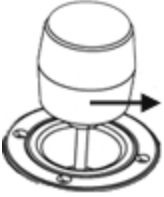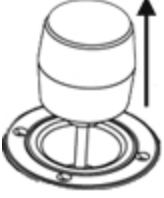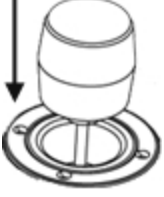
Playback Commands

Command	Key Combination	Keypad Combination (Timeline buttons)
Play/Pause video playback	Spacebar	⏸▶
Increase playback speed	Page Up	
Decrease playback speed	Page Down	
Step to next frame	Shift + ➡	▶
Step to previous frame	Shift + ⬅	◀
Go to next event	Alt + ➡	
Go to previous event	Alt + ⬅	

Command	Key Combination	Keypad Combination (Timeline buttons)
Go forward one second	Ctrl + ➜	
Go forward five seconds	Ctrl + Shift + ➜	
Go backward one second	Ctrl + ←	
Go backward five seconds	Ctrl + Shift + ←	
Zoom in on the Timeline	Ctrl + Alt + +	
Zoom out on the Timeline	Ctrl + Alt + −	
Scroll forward on the Timeline	Ctrl + Alt + ➜	
Scroll backward on the Timeline	Ctrl + Alt + ←	
Move the Timeline marker forward		
Move the Timeline marker backward		
Go to the start of the Timeline	Ctrl + Alt + Home	
Go to the end of the Timeline	Ctrl + Alt + End	
Center the Timeline on the time marker	Ctrl + C	

PTZ Commands (Digital and Mechanical)

Command	Key Combination	Keypad Combination (PTZ buttons)
Toggle PTZ controls	Ctrl + D	
Zoom in	+	

Command	Key Combination	Keypad Combination (PTZ buttons)
Zoom out	–	
Pan center	←	
Pan right	→	
Tilt up	↑	
Tilt down	↓	
Open iris	Home	
Close iris	End	
Focus near	Insert	
Focus far	Delete	
PTZ menu left	←	
PTZ menu right	→	
PTZ menu up	↑	

Command	Key Combination	Keypad Combination (PTZ buttons)
PTZ menu down	↓	
Activate preset	Q + *<Preset #>*	PRESET + *<Preset #>* + ENTER
Run pattern		PATTERN + *<Pattern #>* + ENTER
Start auxiliary	W + *<Aux #>*	START ▶ + *<Aux #>* + ENTER
Stop auxiliary	E + *<Aux #>*	STOP ■ + *<Aux #>* + ENTER

PTZ Commands (Digital and Mechanical)