



Orchid Alto VMS Administrator Guide

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IPConfigure

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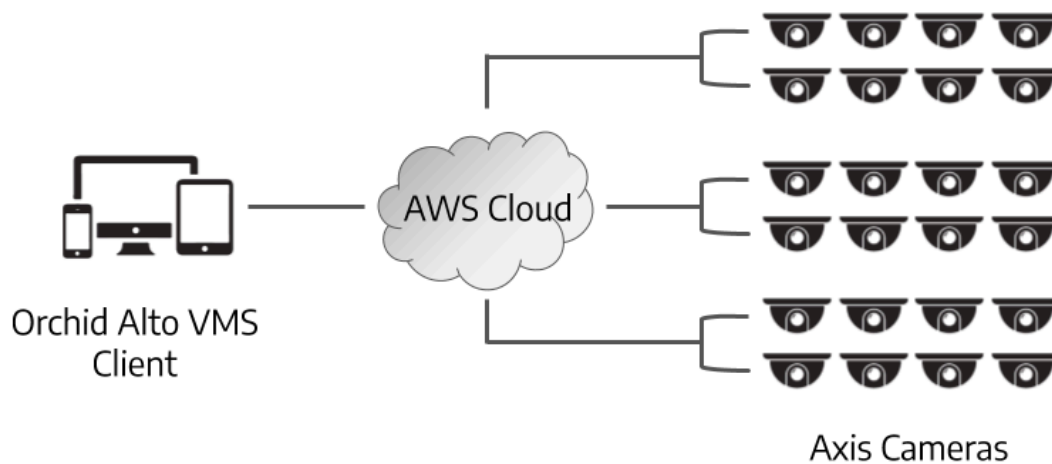
Introduction

Thank you for your interest in IPConfigure's Orchid Alto Video Management System. This guide should provide you with everything you need to know as you prepare the system for readiness. We'll begin with an overview of the product and the Administrator guide. Then we'll review how to prep your cameras for the Orchid Alto VMS system. Once the cameras are ready, we'll switch our focus to the Orchid Alto VMS software. We'll start by providing a few basics about navigating the software. Then we'll explain how to add cameras and users. We'll also cover *Camera Groups*, *Permissions*, *Notifications*, and other advanced topics to help you manage and understand the system.

About Orchid Alto VMS

Orchid Alto VMS is the newest addition to the Orchid product family. This product exclusively supports Axis cameras (using ACAP version 2.0 or newer, and Axis firmware 6.x or greater), and provides video recording directly to the cloud. Accessible via an intuitive web browser interface, Orchid Alto VMS allows users to view live and recorded video from virtually any web-enabled device.

Orchid Alto VMS is an enterprise software developed to integrate cameras from multiple locations into one seamless management system. Designed to work across a variety of network topologies, Orchid Alto VMS is the perfect solution for a variety of organizations, large and small.



About the Orchid Alto VMS Administrator Guide

The Orchid Alto VMS Administrator Guide is designed for IPConfigure dealers, integrators, or system administrators and is intended to cover the topics that deal with system administration and features that are not part of everyday operation.

This guide includes information on the following topics:

- Configuring Cameras for Alto
- How to Sign into the Orchid Alto VMS Software
- Getting Started
- About the Recording service servers
- Creating and Managing Users
- Creating and Managing Camera Groups
- Managing Stages
- Creating and Managing Permission Groups
- Defining Notifications
- Advanced Settings
- Advanced Topics
- Additional Support

For details on everyday tasks regarding the *Stage*, *Timeline Bar*, and viewing/recording video, please refer to the [Orchid Alto VMS User Guide](#).

Configuring Cameras for Orchid Alto VMS

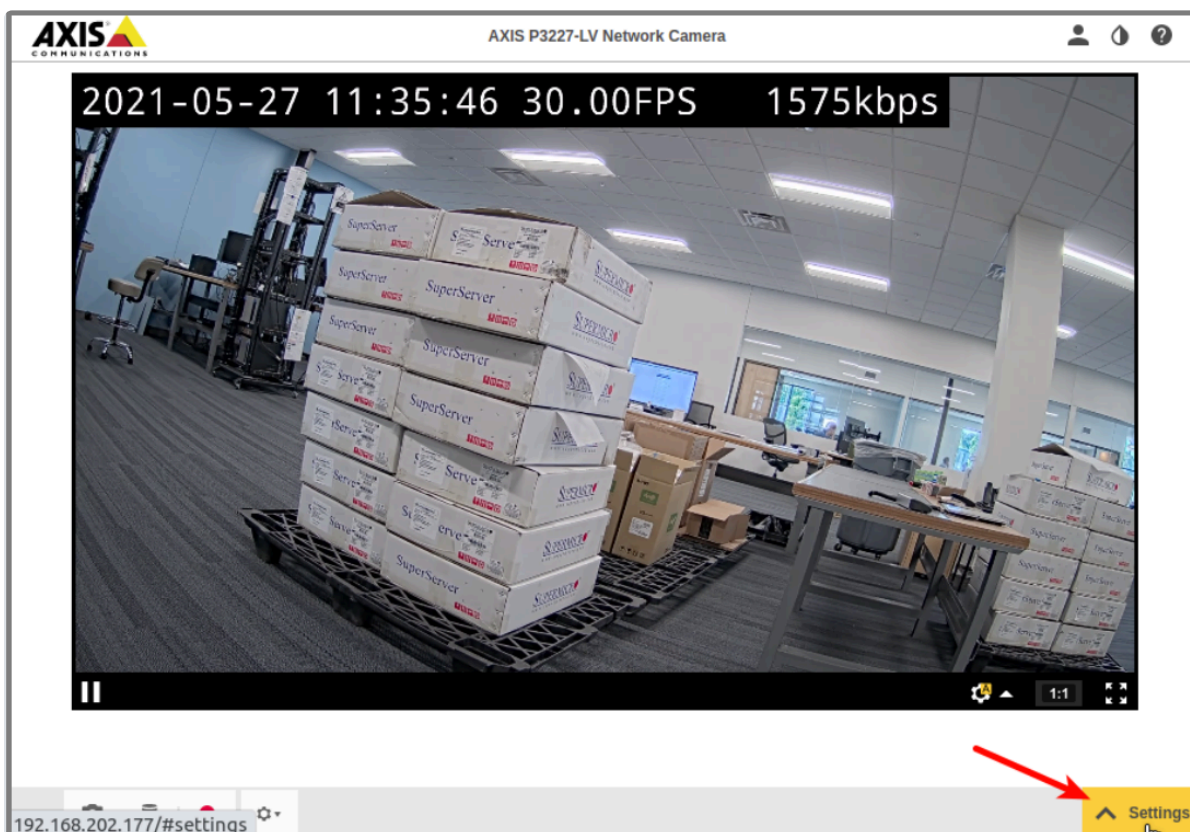
Orchid Alto VMS exclusively supports Axis cameras (using ACAP version 2.0 or newer, and Axis firmware 6.x or greater). Each of these cameras will need to be configured individually to work with Alto. Once we complete this series of steps, we'll be able to add the cameras to the Orchid Alto VMS system.

For additional information on this process, please refer to the following Knowledge Base article: [Orchid Alto VPN Connector For Axis Cameras](#).

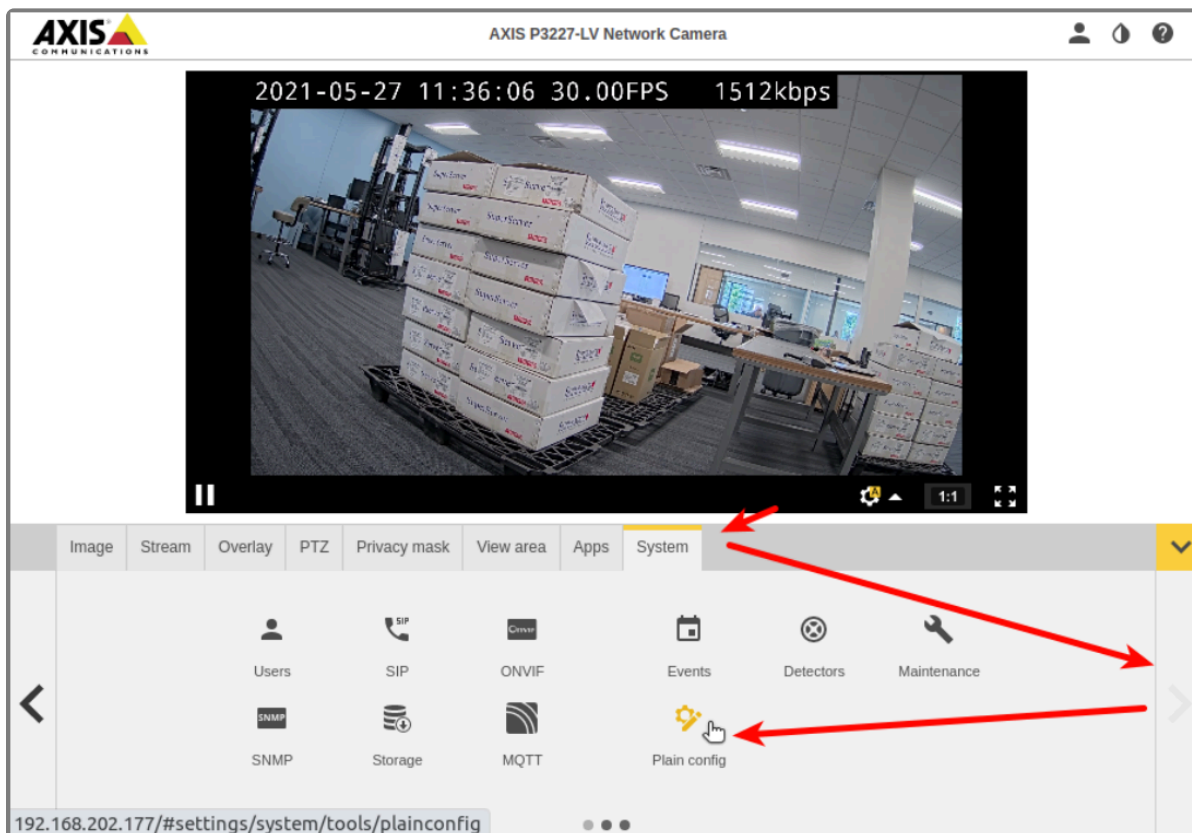
- ✿ If the camera has a static IP address, it will need to have a Domain Name System (DNS) server set. If the camera is using Dynamic Host Configuration Protocol (DHCP), it will probably have a DNS server by default.

Installing the Orchid Alto VPN Connector ACAP

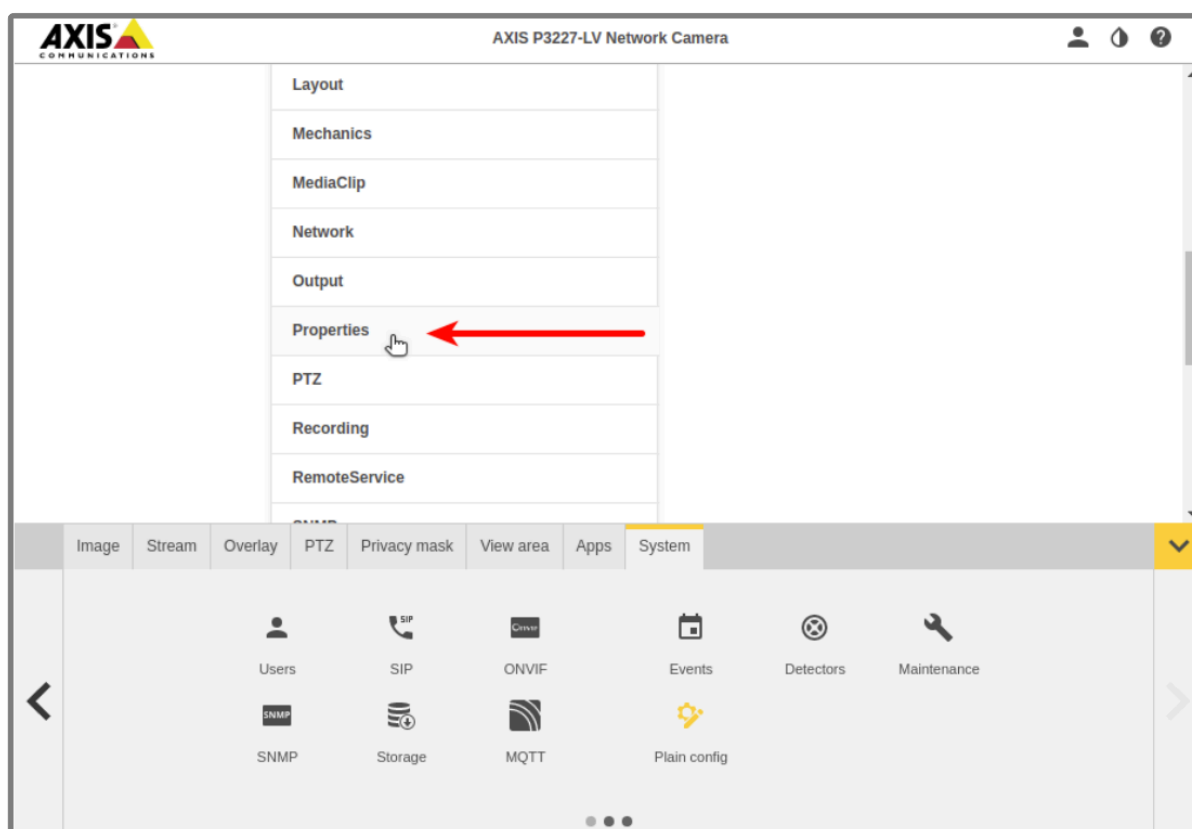
1. From the Axis camera web interface, navigate to *Settings*.



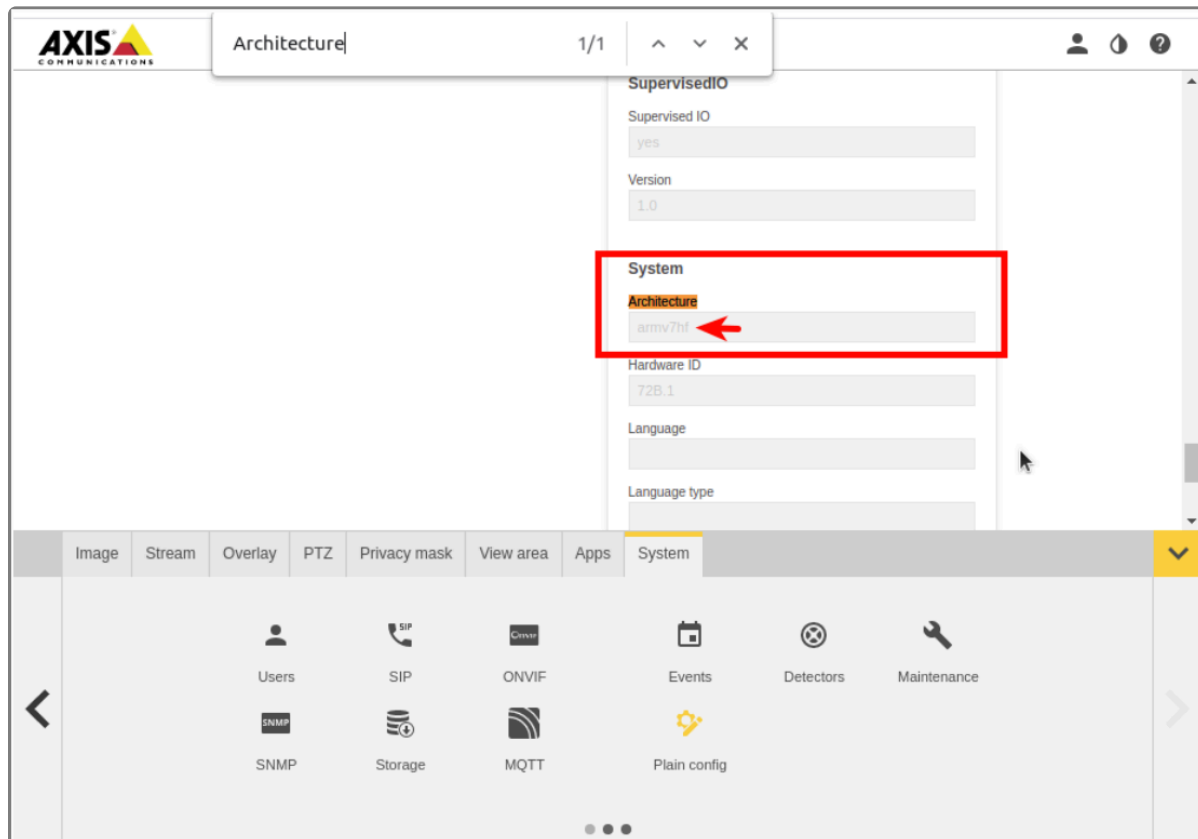
2. Select the *System* tab, then click on *Plain Config*. (You might have to scroll to the right to find it.)
3. Click "Got it," if prompted.



4. Now select *Properties*.



5. Once you're on the Properties page, scroll down to find *Architecture*. (In your browser, you may press **Ctrl+F** to search for *Architecture*.)



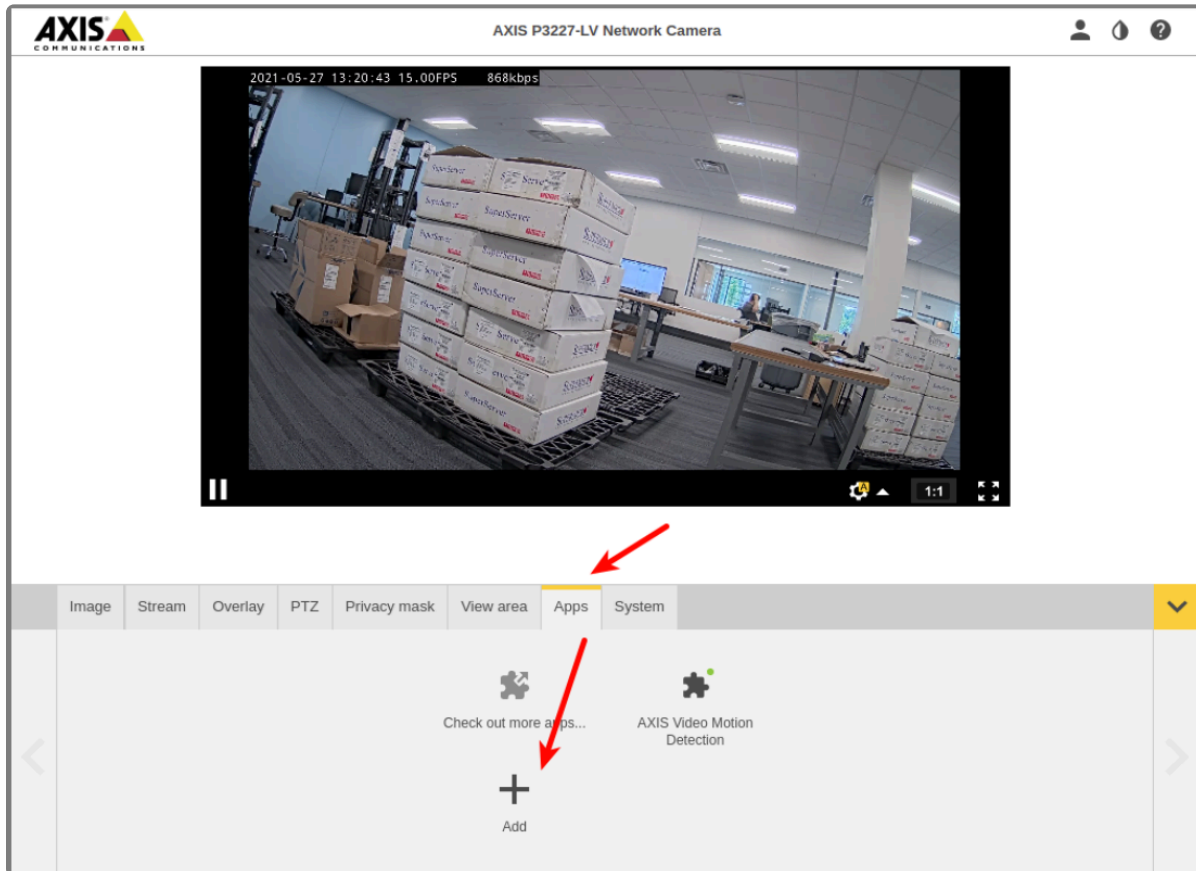
6. In this example, the camera's CPU architecture is **armv7hf**. (Make note of this; you'll need it later.)

Download the ACAP Installer

1. Using your web browser, navigate to: <https://download.ipconfigure.com/alto-acap/>
 - a. There are six versions of the installer available. Make sure that you download the version that matches the camera's architecture (as found previously).
 - b. If your camera uses an armv7hf CPU, you have two options: one for supporting ACAP version 2, and another supporting ACAP version 3. If in doubt, download the ACAP 2 version.

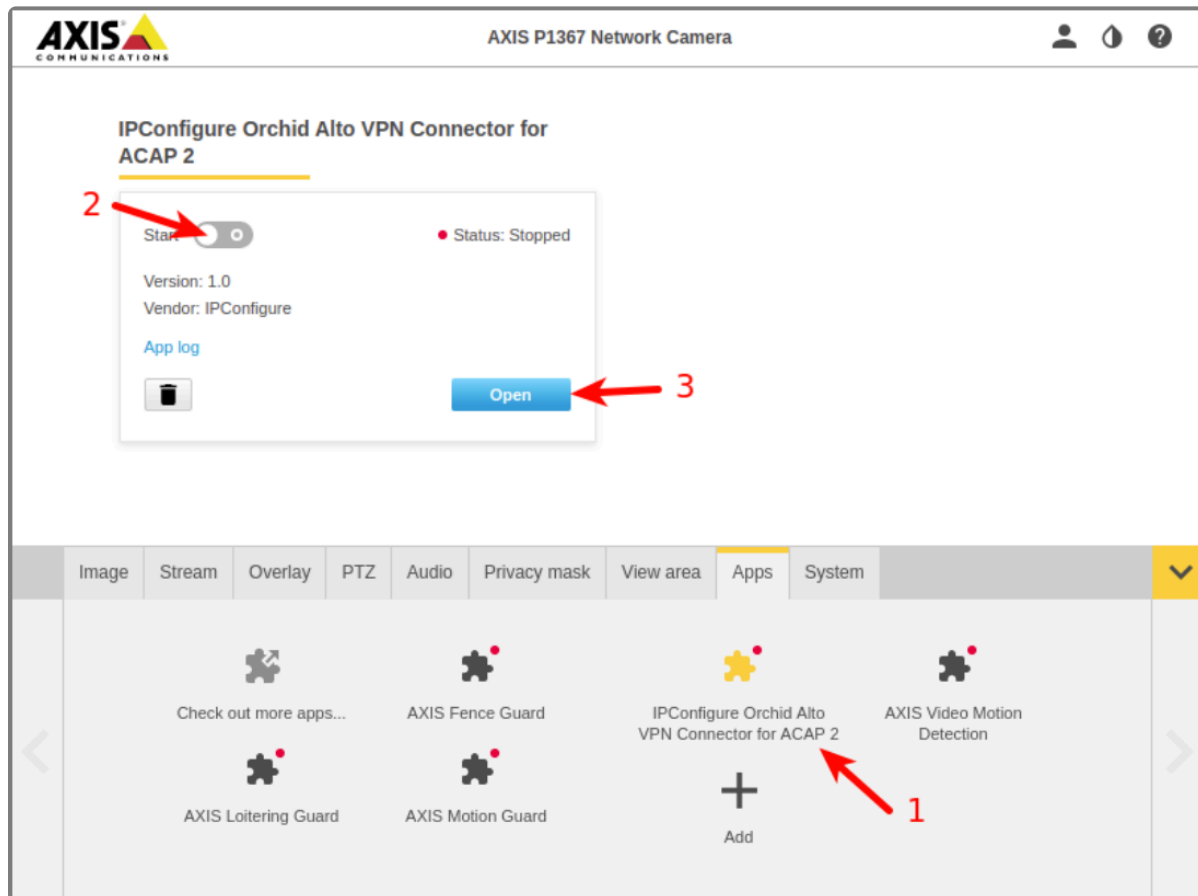
Install and Start the ACAP

1. Now that you have downloaded the installer, navigate to *Settings* on the camera's web interface, then click the *Apps* tab.



2. Click the **Add** button.
3. From the *Add* dialog, find the downloaded *.eap* file and click **Install**.

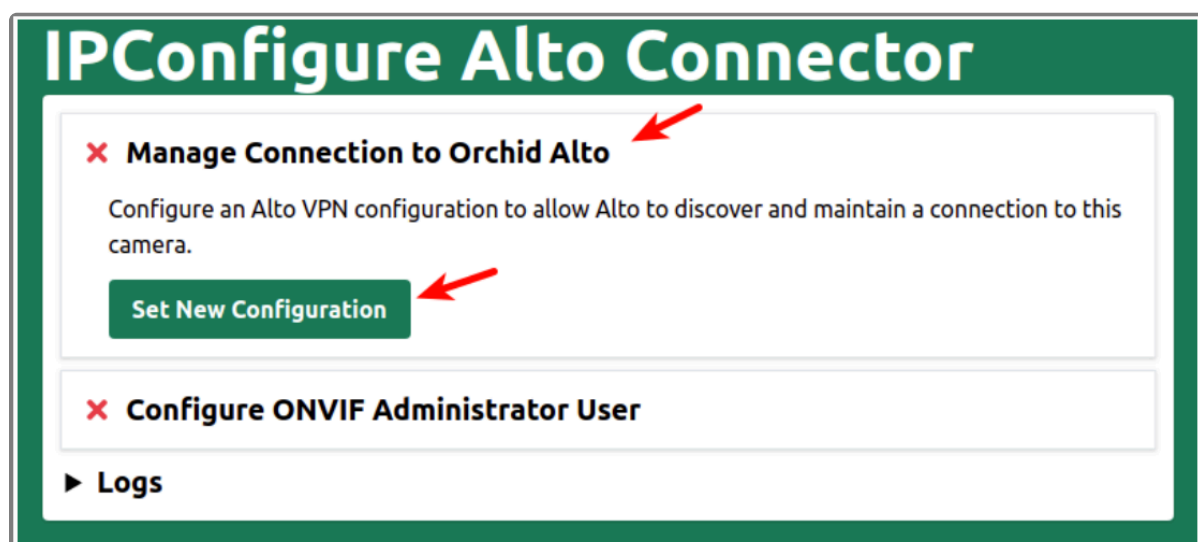
Once the file is installed, you will see *Orchid ACAP VPN Connector* listed as one of the installed Apps.



4. Click on the App name.
5. Click **Start** (to start the App).
6. Then click **Open** (to open the configuration interface).

Set the Tunnel Configuration File

Once the App is open, you should see the *IPConfigure Alto Connector* dialog.

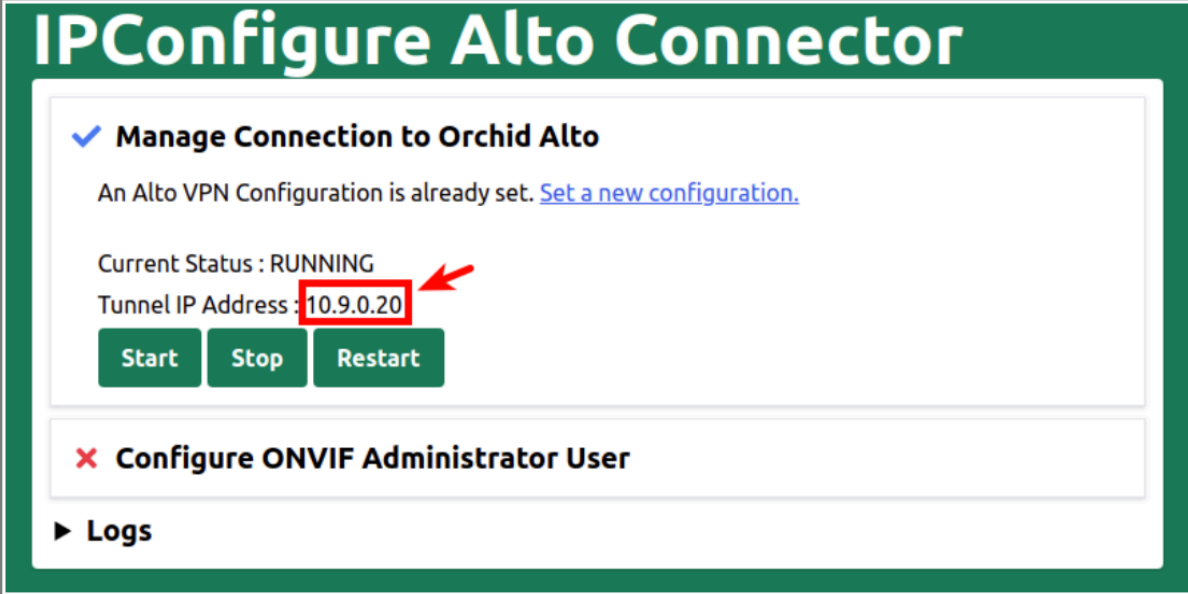


1. Click on *Manage Connection to Orchid Alto*, then click the **Set New Configuration** button.

2. Select the `.conf` file you received when you purchased your Alto service. This will set a unique `.conf` VPN configuration file for the camera (which is required for every camera).

* If you don't have the `.conf` file, contact IPConfigure Support.

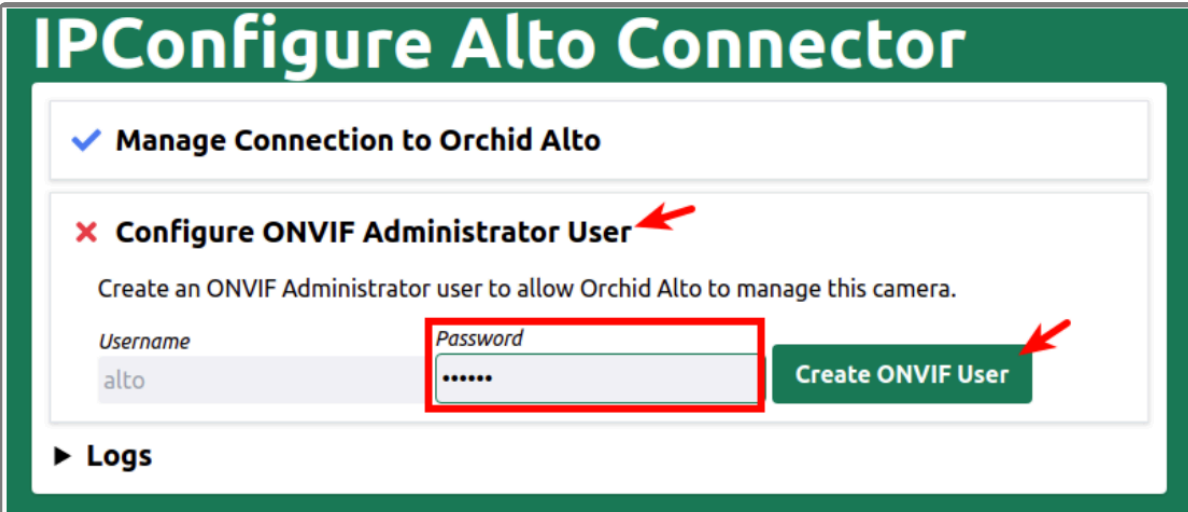
Once the configuration file is set, the Alto Connector will confirm that your camera's VPN connection is *Running*. You will also see a unique Tunnel IP Address that has been assigned to the camera. (Make note of this; you will need it later.)



The screenshot shows the 'IPConfigure Alto Connector' window. The title bar is green with white text. The main content area has a white background. At the top, there is a green checkmark icon followed by the text 'Manage Connection to Orchid Alto'. Below this, it says 'An Alto VPN Configuration is already set. [Set a new configuration.](#)'. The 'Current Status' is 'RUNNING'. The 'Tunnel IP Address' is '10.9.0.20', which is highlighted with a red box and a red arrow points to it. Below the IP address are three green buttons: 'Start', 'Stop', and 'Restart'. At the bottom, there is a red 'X' icon followed by the text 'Configure ONVIF Administrator User'. Below that is a 'Logs' link with a right-pointing triangle icon.

Set an ONVIF Password

1. Using the IPConfigure Alto Connector dialog, click on *Configure ONVIF Administrator User*.



The screenshot shows the 'IPConfigure Alto Connector' window. The title bar is green with white text. The main content area has a white background. At the top, there is a green checkmark icon followed by the text 'Manage Connection to Orchid Alto'. Below this, there is a red 'X' icon followed by the text 'Configure ONVIF Administrator User'. Below this, it says 'Create an ONVIF Administrator user to allow Orchid Alto to manage this camera.' There are two input fields: 'Username' with the value 'alto' and 'Password' with a masked password '.....'. The 'Password' field is highlighted with a red box and a red arrow points to it. To the right of the input fields is a green button labeled 'Create ONVIF User' with a red arrow pointing to it. At the bottom, there is a 'Logs' link with a right-pointing triangle icon.

2. Click into the *Password* field and enter a password, then click the **Create ONVIF User** button. (Make

note of this; you will need it in the next section.)



Be sure to complete all of these steps, and record the necessary information as you go along. This will help to ensure that the cameras can be added to Orchid Alto VMS successfully.

Accessing Orchid Alto VMS

Orchid Alto VMS can be accessed easily through a number of web browsers, such as the latest versions of Chrome or Firefox. The latest version of Chrome is recommended.



The following web browsers are explicitly *not* supported: Internet Explorer 11, Firefox 52 ESR, and any Google Chrome version older than version 48.

Accessing the Sign In Screen

1. To open Orchid Alto VMS on a client device, first open your web browser. (See the next topic for additional information on browsers.)
2. Type `https://<your-id>.ipconfigure.com` into the web browser address bar (where `<your-id>` is the system identifier assigned to your Orchid Alto VMS system).
3. You will be prompted to sign into Orchid Alto VMS.

A Quick Word on Web Browsers

Orchid Alto VMS supports Web Real-Time Communication (WebRTC). This technology allows for viewing full-bandwidth, live and recorded H264 video streams within a web browser (without the need to download a plugin). Orchid Alto VMS with WebRTC mode is available in the following browsers:

- (Preferred) Google Chrome, version 66 or higher, in a MacOS, Windows, or Linux desktop environment, or on a mobile device
- Latest version of Safari (mobile and desktop)
- Latest version of Mozilla Firefox
- Latest version of Microsoft Edge

✿ The following web browsers are explicitly *not* supported: Internet Explorer 11, Firefox 52 ESR, and any Google Chrome version older than version 48.

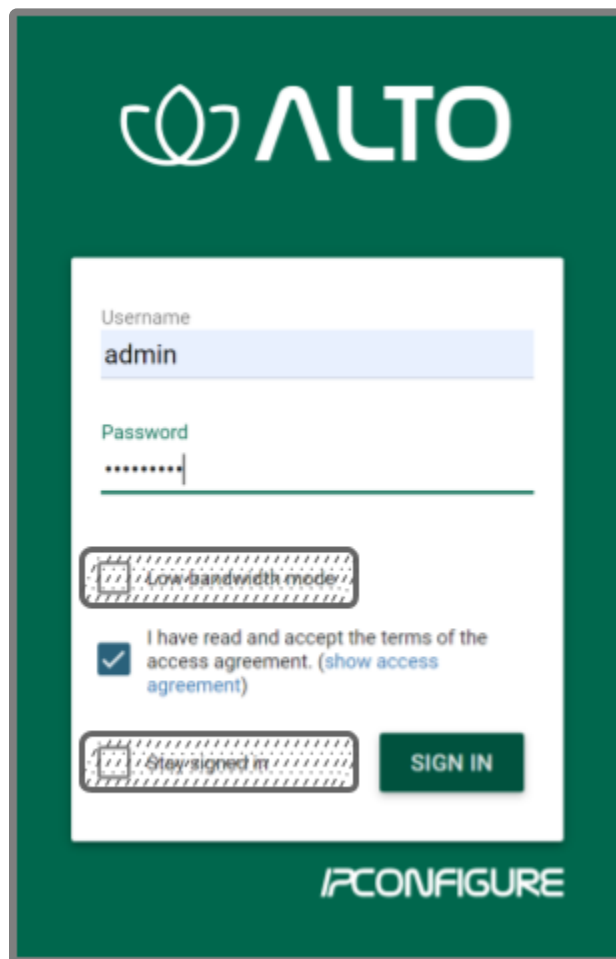
Signing In

Orchid Alto VMS offers multiple ways to sign in, and will allow mixed authentication modes. So, multiple sign-in modes may be available on your system.

Orchid Alto VMS supports each of the following external authentication providers:

- Google
- Azure Active Directory

Your Administrator should advise which sign-in method is right for you.

The image shows the login interface for Orchid Alto VMS. It features a dark green background with the 'ALTO' logo at the top. The login form is a white rectangle in the center. It contains a 'Username' field with 'admin' entered, a 'Password' field with masked characters, a 'Low bandwidth mode' checkbox, a checked checkbox for 'I have read and accept the terms of the access agreement. (show access agreement)', a 'Stay signed in' checkbox, and a 'SIGN IN' button. The 'IPCONFIGURE' logo is at the bottom right of the form.

* The username and password are both case sensitive.

Standard Sign In

1. Enter your username and password in the fields provided. (This information should be provided to you

by your Orchid Alto VMS Administrator.) If you are the Administrator and this is your first time signing in, enter the username **admin** and the default Administrator password provided by IPConfigure Support.

* For improved security, after this initial sign in, Administrators should not use the default *Admin* account. Instead, each Administrator should create an individual User account. If you sign in as the default Administrator, when you sign out, you will automatically sign out any other Administrator users that are signed in with the default Administrator credentials.

2. Mark the *I have read and accept...* checkbox to acknowledge that you accept the terms of the access agreement.
3. Press **Sign In**.

Sign In with Google

With this method, you will be able to sign into Orchid Alto VMS using your existing Google credentials (eliminating the need for yet another password). This requires that IPConfigure Support has enabled Google Authentication, and an Orchid Alto VMS user is linked to your Google account.

1. Mark the *I have read and accept...* checkbox to acknowledge that you accept the terms of the access agreement.
2. Press the **Sign In With Google** button.
3. A Google sign in screen will appear. Select the Google account that you associate with Orchid Alto VMS. If you are already signed into the selected Google account, Orchid Alto VMS will open.
4. If you are not already signed into Google, enter your password and press the **Next** button. Orchid Alto VMS will open.

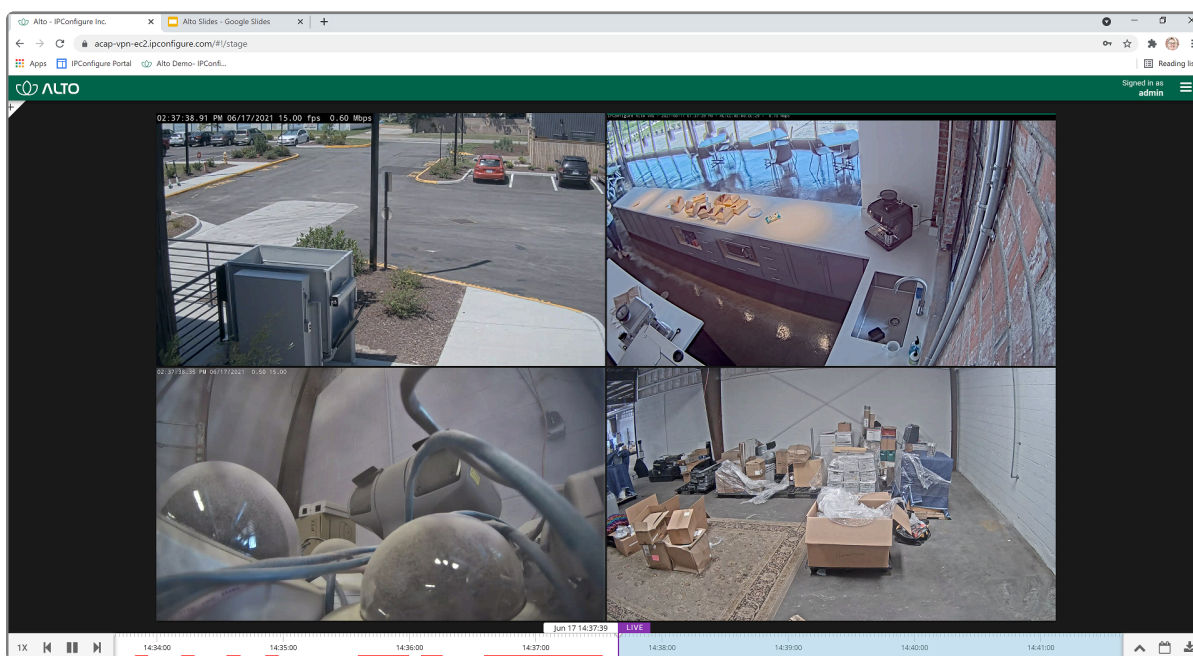
Sign In with Azure Active Directory

With this method, you will be able to sign into Orchid Alto VMS using your existing Azure Active Directory credentials. This requires that IPConfigure Support has configured the system to work with your Azure Active Directory.

1. Mark the *I have read and accept...* checkbox to acknowledge that you accept the terms of the access agreement.
2. Press the **Sign In With Azure** button.
3. A Microsoft sign in screen will appear. Click on the Azure account that you associate with Orchid Alto VMS. Orchid Alto VMS will open.

Getting Started

After you sign in, Orchid Alto VMS will open at the *Stage* screen where you may begin to configure and use the Orchid Alto VMS system. Orchid Alto VMS does not require activation because no software licenses are required. The Orchid Alto VMS product is a Cloud Recording and Storage service, and a lot of the configuration has been performed by IPConfigure Support. So as soon as you sign in, you will be able to start customizing the system, and viewing live and recorded video.

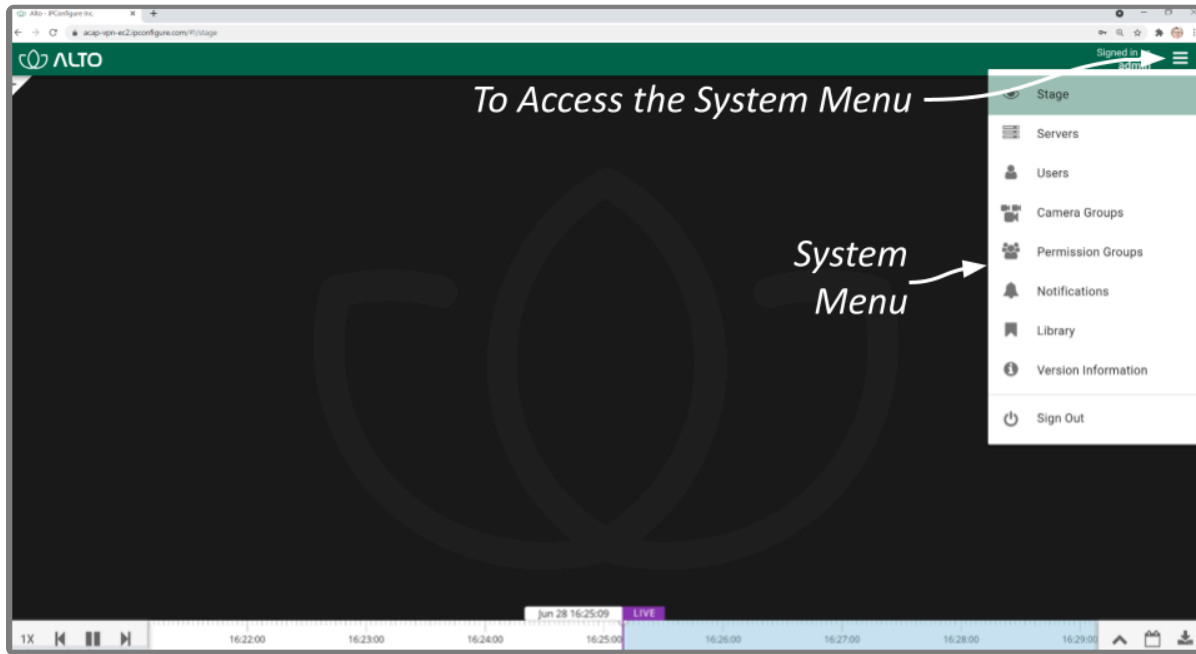


Accessing the System Menu



This is the **Hamburger** icon.

1. To open the *System Menu*, click the **Hamburger** icon in the top-right corner.



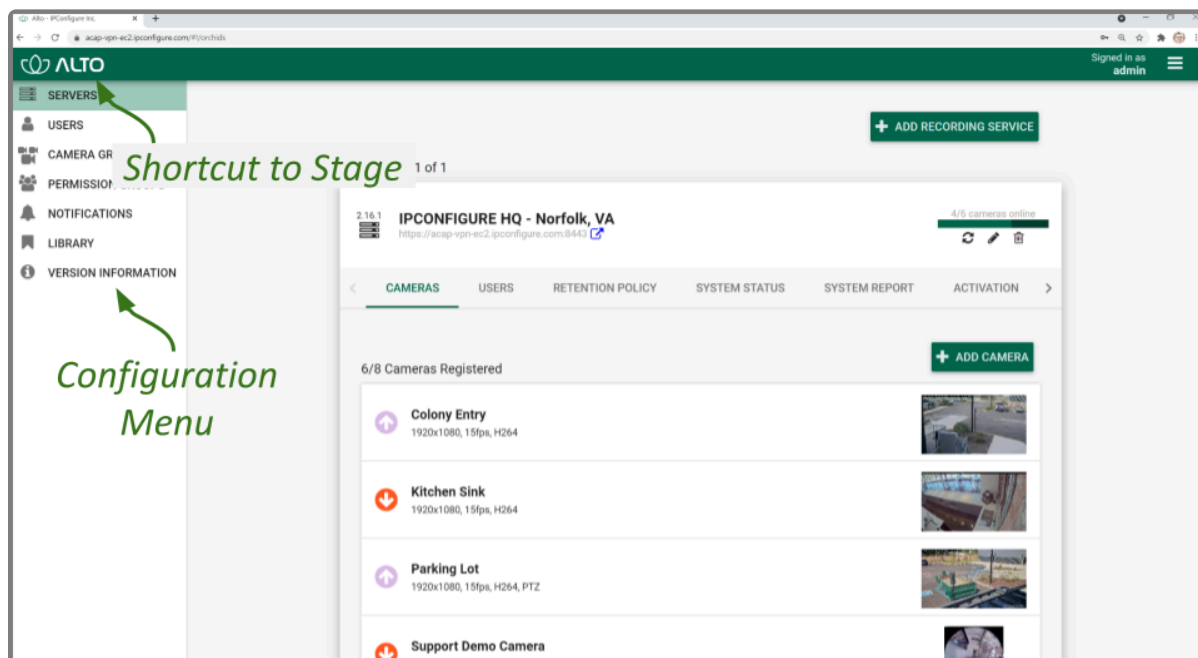
The *System Menu* is the primary navigation menu and will always be available. It allows the Administrator to access all of the software features like the *Stage*, *Servers*, *Users*, *Camera Groups*, *Permission Groups*, *Notifications*, the *Library*, *Version Information*, and *Sign Out*. The *System Menu* contains only those items for which the signed in user has permissions. (Access to the *Stage* and *Sign Out* is available to all users, but only via the *System Menu*.)

Accessing the Configuration Menu

1. To open the *Configuration Menu*, go to the *System Menu*, then click on any of the available selections except *Stage* or *Sign Out*.

The *Configuration Menu* is a secondary navigation menu that will not be available when the *Stage* is open. It allows the Administrator to access all of the software features except the *Stage* and *Sign Out*. For users without Administrator permissions, the *Configuration Menu* will only contain access to *Version Information*.

When you are using Orchid Alto VMS on a PC (and the web browser is set to zero or minimal zoom), once you access the *Configuration Menu*, it will remain visible on the left side of the screen until you return to the *Stage* or *Sign Out*.



✿ **Shortcut:** If you need to get back to the *Stage* and prefer to bypass the *System Menu*, just click on the Orchid Alto header.

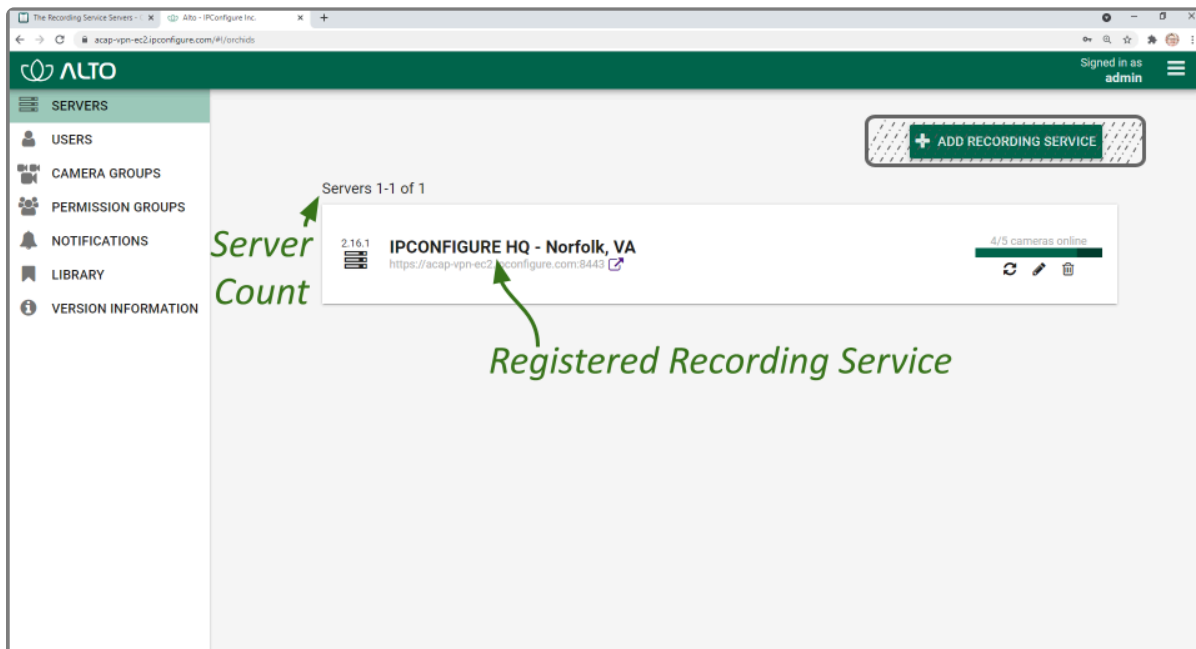
The Recording Service Servers

The *Servers* screen provides a list of all of the registered Recording service servers. This screen offers access to many of the administrative features at the server level.

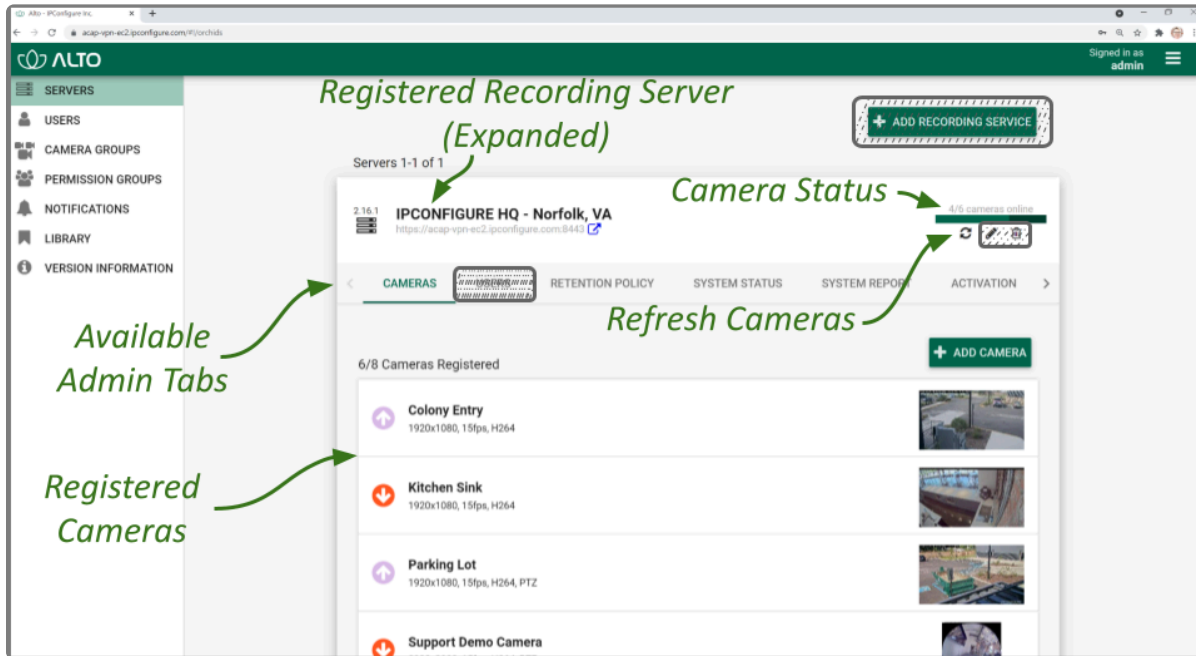
1. To access the *Servers* screen, open the *System Menu* in the top-right corner of the screen, then select *Servers*.

✿ You must be a member of an Administrator group to access the Servers screen.

✿ The Orchid Alto VMS is a managed system. Adding, editing or deleting a Recording service must be performed by IPConfigure Support staff.



When you click on any server listed, it will expand to display the available administrative tabs, starting with the *Cameras* tab. You can use these tabs to review the status of the system and perform some tasks at the server level.

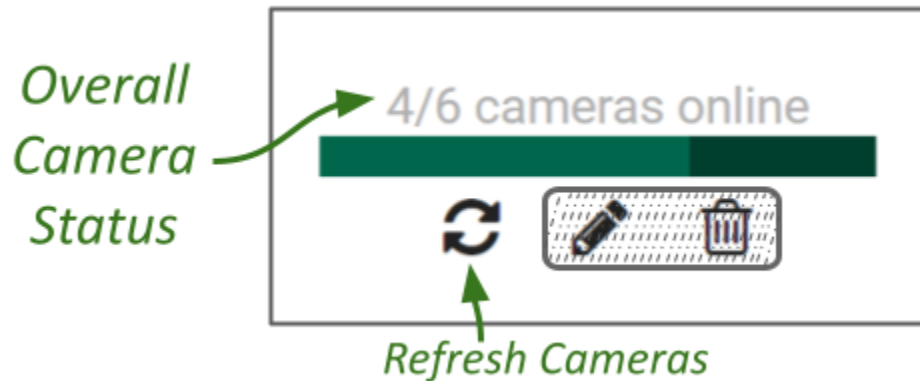


Refresh Cameras



This is the **Refresh Cameras** icon.

On the right side of the *Servers* screen, you will notice that for each Recording service server, the software will indicate how many of the server's cameras are online (such as 4/4 cameras online, or 8/10 cameras online).



If you observe that one or more cameras are offline, do the following:

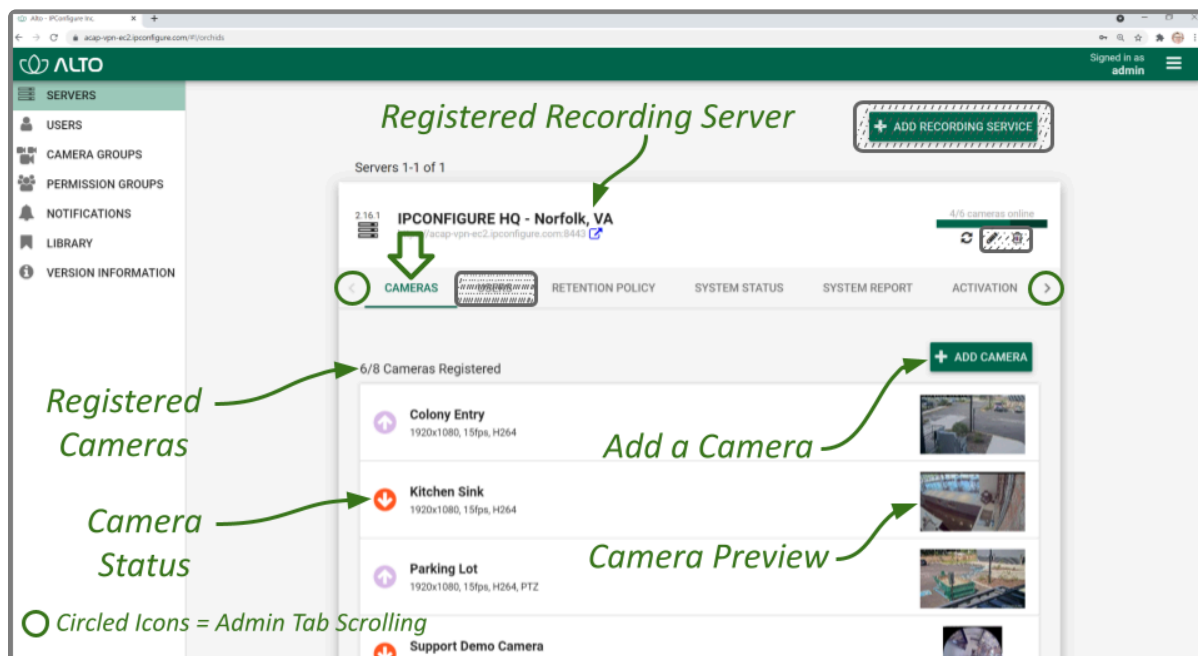
1. To see which cameras are offline, click on the server name, or anywhere on the server's entry to expand the entry to list all of the cameras. If a camera is offline, the arrow at the left of the camera name will be red and pointed down. (A thumbnail for the camera may be displayed, but a stream preview will be unavailable.)
2. To get the latest camera status, press the **Refresh Cameras** icon. (If a camera doesn't respond, please refer to the [Advanced Topics](#) section.)

The Cameras Tab

The *Cameras* tab provides you with a list of all the cameras registered to the Recording service server, and allows you to add and delete cameras and configure camera stream settings.

✿ Even though you can work with the cameras within Orchid Alto VMS, the camera streams will be recorded in the cloud.

1. Once you access the *Servers* page, select a server and click on the *Cameras* tab.



The *Cameras* tab opens with a list of cameras that have already been registered, if any. For each camera, this screen provides the camera status, a few of the camera stream settings, and a camera preview. From here you can add, delete and edit camera stream settings.

Add Cameras

Adding a Camera to Orchid Alto VMS

* Orchid Alto VMS is designed exclusively for Axis cameras that support ACAP 2.0 or newer, and Axis firmware 6.x or greater.

* Remember: You must configure each of the cameras to work with Orchid Alto VMS before you can perform the steps listed below. Please refer back to the [Configuring Cameras](#) topic for details.

Register Your Camera in Orchid Alto VMS

This series of steps will explain how to add your camera to the Orchid Alto VMS system.

1. Using your web browser, log into your Alto system using the Administrator username and password you were given when you signed up for Alto.
 - a. The path to your system should look like this: *https://<your-id>.ipconfigure.com* (where <your-id> is the system identifier assigned to your Orchid Alto VMS system).
2. When Alto opens, click on the menu icon in the top-right corner of the screen, then select *Servers*.
3. Click on the Alto recording server to expand it, then click the **Add Camera** button.
 - a. If you have multiple, numbered recording servers, add new cameras to the highest numbered recording server.
4. The *Register Cameras* screen will open in Auto mode. Select the **Manual** tab.

Register Cameras

AUTO **MANUAL** ← *Select Manual Mode*

Register Camera

Driver: ONVIF

ONVIF Discovery URL: http://10.9.0.20/onvif/device_service ← *Enter Tunnel IP Address*

Camera Name *: New Alto Camera ← *Enter Camera Name*

Credentials

Username: alto ← *Username Must Be "alto"*

Password: ← *Enter Password from Step 2 in Previous Section*

CANCEL REGISTER

5. Select the *ONVIF* driver from the drop-down list.
6. In the ONVIF Discovery URL field, enter the camera's *Tunnel IP Address* as part of the URL. (Refer to your notes from the *Camera Configuration* process.)
7. Enter a unique name for the camera. This will allow you to distinguish the camera from other cameras set up within the Recording service server.
8. In the *Username* field, type *alto*.
9. In the *Password* field, enter the ONVIF password you set for this camera. (Refer to your notes from the *Camera Configuration* process.)
10. Once all settings are entered, press the **Register** button to add the camera to Alto.

When complete, the new camera will be added to the list of registered cameras. You may now add another camera, or review/edit the camera stream settings.

✿ If you have any trouble adding cameras, refer to the [Trouble Adding a Camera](#) topic.

Edit Camera Stream Settings



This is the **Edit** pencil icon.

After a camera has been added to a Recording service server, settings such as the stream resolution and frame rate can be updated through the camera stream's configuration.

Orchid Alto VMS places limits on some of the camera settings in order to maintain overall system performance. These limits are defined with each of the applicable camera settings. If you enter values in excess of these limits, the system will automatically adjust the settings to comply.

1. From the list of registered cameras on the server's *Cameras* tab, click the name of the camera you want to edit. (The list will expand to display all of the information for the selected camera. This includes the camera name, the tunnel IP address, and all of the available streams.)

The screenshot displays the configuration page for a camera named 'Parking Lot'. The interface includes several sections with green annotations:

- Selected Camera:** Points to the camera name 'Parking Lot' at the top left.
- General Camera Info:** Points to the 'Camera Information' section, which includes fields for Camera Name, Camera Model (AXIS P5655-E), and Stream Status (running).
- Recording Statistics:** Points to the 'Recording Statistics' section, which displays the Camera RTSP URL and Alto Proxy RTSP URL.
- Stream in Use:** Points to the 'Streams' section, which contains a table of active streams.
- Add Stream:** Points to the '+ ADD STREAM' button.
- Advanced Settings:** Points to the 'Advanced Settings' section, which includes options for FISHEYE DEWARPING and MOTION DETECTION.
- Delete Camera:** Points to the 'DELETE CAMERA' button in the Actions section.
- Copy, Edit, or Delete Stream:** Points to the icons (copy, edit, delete) for individual streams in the Streams table.

Primary	Name	Configuration	Actions
	profile_1 h264	1280x720, 15fps, H264 Continuous recording with motion detection	
	profile_1 jpeg	1280x720, 15fps, JPEG Continuous recording with motion detection	
	stream_40ac9d1a	800x450, 15fps, H264 Continuous recording with motion detection	
	stream_832791de	1280x720, 10fps, H264 Continuous recording with motion detection	

Camera Information

1. To change the camera name, click the **Edit** pencil to the right of the camera name. Enter a new name in the *Camera Name* field and press the **Update Camera** button.
2. This screen also displays the camera model and the status of the camera stream in use. These settings are informational and cannot be altered here; please refer to the [System Status](#) section for status descriptions.

Recording Statistics

The next thing you'll notice are the Recording Statistics. This section can be expanded to show the average percentage of packet loss and the average bit rates for the recording stream. These values are typically used for troubleshooting. (For more details, please refer to the [Checking for Packet Loss](#) topic.)

Camera Stream Settings



A **camera stream** is a profile with all of the basic settings used by the Recording server to record video from the camera. The stream currently being used, the primary stream, is indicated by a darkened camera icon.

1. To select a new stream, click the **Camera** icon located to the left of the name of the stream you want the Recording server to record with.
2. To edit a stream, click the **Edit** pencil icon which is located to the right of the stream name. After clicking the **Edit** icon, a screen will appear with all of the stream settings available for editing.

Stream Settings

Name*
profile_1 h264

Recording Style
Continuous recording with motion detection ▾ Motion Style ▾ Server ▾

Video Settings

Encoder
H264 ▾

Bit Rate
1000

Frame Rate
15

GOV Length
30

Profile
High

Resolution
1280x720 ▾

Quality
65

Audio Settings

Encoder
none ▾

Low-bandwidth Settings

Decode all frames

CANCEL UPDATE STREAM

3. Review or change the stream name so users can easily identify the camera stream.
4. Review or change the *Recording Style* for the camera stream.

Recording Style

You may choose between one of five different *Recording Styles*. Refer to the descriptions below (and the table that follows) before making your selection.

- **Continuous Recording with Motion Detection:** The Recording server will continuously record video from the camera and perform motion detection. This is the default and recommended setting.
- **Continuous Recording without Motion Detection:** The Recording server will continuously record video from the camera, but will not perform motion detection. This option offers a modest reduction in CPU load on the Recording service server.
- **Continuous Recording with Motion Adaptive Frame Rate:** The Recording service will record at a higher frame rate while motion is detected, and a different (slower) frame rate while no motion is detected. These frame rates are user-selectable (as shown in the screenshot following the table). Due to the way H264 compresses video, this recording style typically shows significant savings in disk usage only for inexpensive cameras with noisy sensors, or cameras in low-light environments.

- **Proxy Only:** The Recording server will provide live video from the camera but will not record video.
- **Recording Only When Motion Detected:** The Recording server will only record video from the camera when motion is detected. This may result in a reduction in cloud storage usage, however, motion detection accuracy may vary and result in video loss.

	Continuous recording with motion detection – Default	Continuous recording without motion detection	Continuous recording with motion adaptive frame rate	Proxy only, no video will be recorded	Recording only when motion is detected
Recording and playback are available	Yes	Yes	Yes	No	Yes – When motion is detected
Thumbnail previews are available	Yes	Yes	Yes	No	Yes

Motion Style

If you choose a *Recording Style* with motion detection, Orchid Alto VMS will allow you to select either camera-based or server-based motion detection for each camera stream.

Server-based motion detection (which is the default) means that the Orchid Alto VMS software will determine if motion occurs in the recorded video. In this case, the Orchid Alto VMS server will analyze consecutive frames of video for changes that would indicate motion. With this *Motion Style*, you may take advantage of advanced Motion Detection settings that permit you to select which regions of the camera view are eligible for motion detection, and the minimum object size that qualifies for motion detection.

Camera-based motion detection means that one of the camera's metadata events will be used to detect motion. This can be accomplished in a variety of ways, and will vary by camera. Typically these metadata events will come from the camera's built-in motion detection scheme. In other instances, the camera's I/O port may be connected to an external passive infrared (PIR) sensor that will detect motion. In any case, the camera-based motion detection feature can provide better support for very high resolution cameras, especially, 360-degree cameras. Any adjustments to the camera-based motion detection will have to be performed through the camera's web interface.

5. Use the *Recording Style* drop-down list to select a new recording style.
6. If you select a *Recording Style* that includes motion detection, you may need to make additional selections.
 - a. Use the *Motion Style* drop-down list to select a motion style. Options include *Camera* and *Server* (the default).
 - i. If you select the *Camera* motion style, use the *Camera Event* drop-down list to select the criteria the camera will use to detect motion. Available selections will vary based on the camera and may require some experimentation.

Camera Type	Event	Description
Axis	<i>RuleEngine/VMD3/vmd3_video_1, VideoSource/MotionAlarm, RuleEngine/MotionRegionDetector/Motion</i>	These three event types will work for camera-side motion detection. They differ slightly with the data types used in their message data, but all three use the VMD engine because they are only available if VMD is installed and running. If in doubt, select <i>RuleEngine/VMD3/vmd3_video_1</i> .
Axis	<i>VideoAnalytics/MotionDetection</i>	This is for cameras with built-in motion detection that pre-dates VMD support. The three Axis events listed above are preferred, if available.
Axis	<i>Device/Sensor/PIR</i>	Use this event type only if you know for certain that PIR sensors are built into your camera. Almost all cameras report this, even cameras that are not equipped with PIR sensors.
Axis	<i>Device/IO/Port, Device/IO/VirtualPort</i>	For cameras using external PIR sensors, this is usually the event that corresponds to movement (e.g. closed circuit = no motion, and open circuit = motion). The difference between <i>Port</i> and <i>VirtualPort</i> depends on how your PIR sensor has been configured. If unsure, try both.

- If you select the *Continuous recording with motion adaptive frame rate* recording style, you will need to set both the *Frame Rate During Motion* and the *Frame Rate During Non-Motion*. (The *Frame Rate During Motion* will dictate the available settings for the *Frame Rate During Non-Motion*. Allowable settings for the *Frame Rate During Non-Motion* range from 1 up to a setting that is less than or equal to the *Frame Rate During Motion*.)

Stream Settings

Name*
profile_1 h264

Recording Style
Continuous recording with motion adaptive frame rate

Motion Style
Server

Frame Rate During Motion
15

Frame Rate During Non-Motion
1.00

Additional Settings

Video Settings

Encoder
H264

Bit Rate
1000

Frame Rate
These values can be manipulated above while Motion Reduction is selected.

GOV Length
These values can be manipulated above while Motion Reduction is selected.

Profile
High

Resolution
1280x720

Quality
65

Audio Settings

Encoder
none

CANCEL UPDATE STREAM

* If you selected server-based motion detection, you may use the advanced *Motion Detection* settings on the *Camera Configuration* screen to further customize motion detection.

- Continue to review and change camera stream settings for video and audio as needed. Refer to the definitions below for help in selecting settings.

Video Settings

Each camera type reports its own default values provided by the camera manufacturer. Use those default values unless they conflict with the stated maximum settings allowed by Orchid Alto VMS.

- **Encoder:** The type of compression used for the camera's video. The Recording service server only supports H264 video.
- **Bit Rate:** The target data size (in kilobits per second) of the compressed video. Increasing this value will typically improve image quality at the expense of increased storage usage and reduced retention. This setting is limited to 1000 kbps. (If you enter a value in excess of this limit, the system will

automatically adjust the setting to comply.)

- **Frame Rate:** The number of frames per second transmitted within the video stream. Most users are best served by values between 7 and 12. Higher frame rates provide more video detail at the expense of reduced video retention and increased bandwidth usage. This setting is limited to 15 fps. (If you enter a value in excess of this limit, the system will automatically adjust the setting to comply.)
- **GOV Length:** When using H264 compression, this value specifies how often the camera sends a full image frame (instead of a “change frame” which only describes differences between frames). For example, if this is set to 15, the system will send a full image frame once every 15 frames. Be aware of how this setting may impact video quality. As the GOV length decreases, the system will need to send more keyframes of video (within the set bit rate). This may result in a loss of quality for those keyframes. The default value is recommended.
- **Profile:** When using H264 compression, this specifies an H264 Profile of either Baseline, Main, or High. Higher profiles offer better compression (which means increased retention and lower bandwidth usage) at the expense of increased CPU utilization when decoding video. The highest available profile is recommended.
- **Resolution:** The resolution of video transmitted by the camera. Higher values increase video detail at the expense of reduced video retention and increased bandwidth usage. This setting is limited to 1920×1080 (or 2 Megapixel resolution). (If you enter a value in excess of this limit, the system will automatically adjust the setting to comply.)
- **Quality:** This value affects how much the video is compressed. Higher values increase video quality at the expense of increased storage requirements (and thus reduced video retention). The default value is recommended.

Audio Settings (if supported)

Audio control is not supported at the Player/Stage level. However, the Recording server is still recording audio for those cameras that support it, and this audio will be available in exported video files. Future versions of Orchid Alto VMS will support audio over WebRTC.

These Audio Settings will appear on the screen only if the camera supports audio and will determine how the Recording server records the audio. Each camera type reports its own default settings. Use those default values unless otherwise noted.

- **Encoder:** The type of compression used by the camera’s audio. Orchid Alto VMS supports “None” (audio is disabled), G711, and AAC (recommended if audio is desired).
 - **Bit Rate:** The target data size (in kilobits per second) of the compressed audio. The default value is recommended.
 - **Sample Rate:** Affects the quality of recorded sound. The default value is recommended.
9. Once the stream settings have been updated, click the **Update Stream** button to save the new stream settings. It may take a few seconds for the settings to change based on the camera being updated.
 10. You may review the impact that the stream settings have on video playback for each camera. Simply click on the corresponding thumbnail to watch a current live video feed.

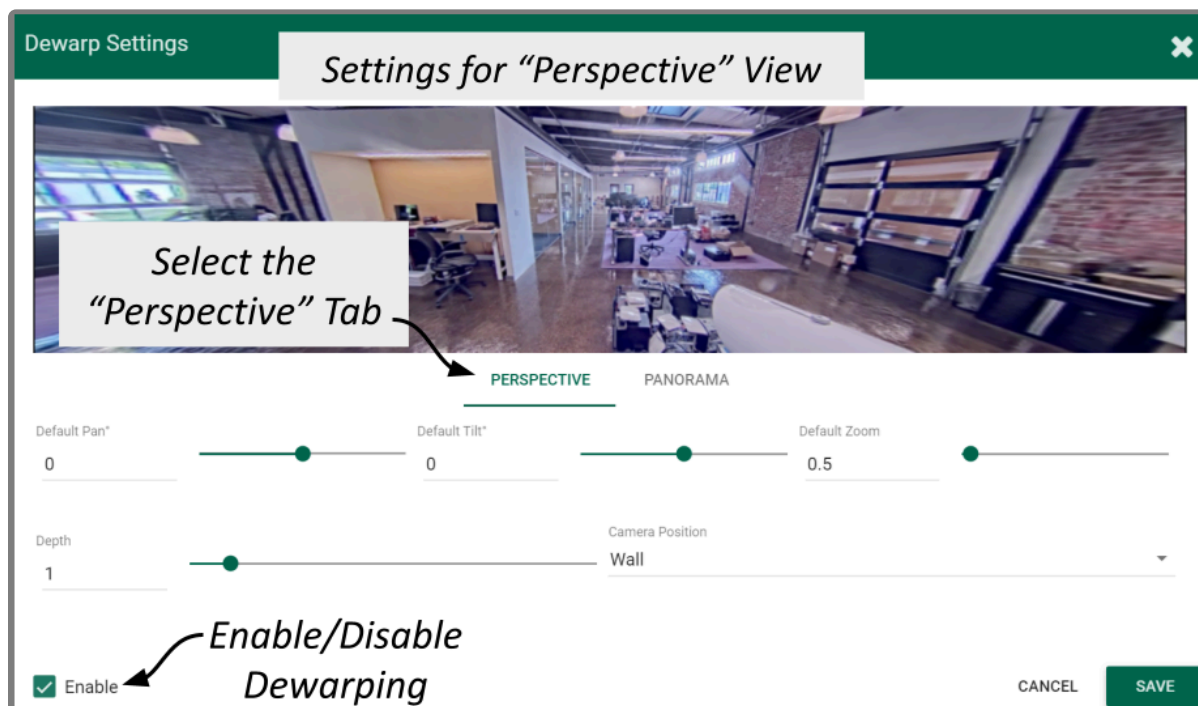
Advanced Settings: Fisheye Dewarping

The Camera Configuration screen includes Fisheye Dewarping which allows you to manipulate video from fisheye cameras for display on the Player. This feature provides three viewing options: Off , Perspective, and Panorama. This means that you can view the standard fisheye view, or one of two “flattened” views.

For any fisheye camera, the Dewarp Settings allow you to enable or disable the dewarping features, and set a default view for the associated Player.

Perspective

1. At the *Camera Configuration* screen, click the camera you want to edit. Then click the *Fisheye Dewarping* link to open the *Dewarp Settings* screen.



2. Select the *Perspective* tab.

Use the *Perspective* screen to enter settings for the *Perspective* view of the selected camera. The *Perspective* view is a flattened version of the available video from the fisheye camera for which you select a portion of the image as the default view to be displayed on the Player. (The perspective view can also be changed at the Player, but that will not change the default.)

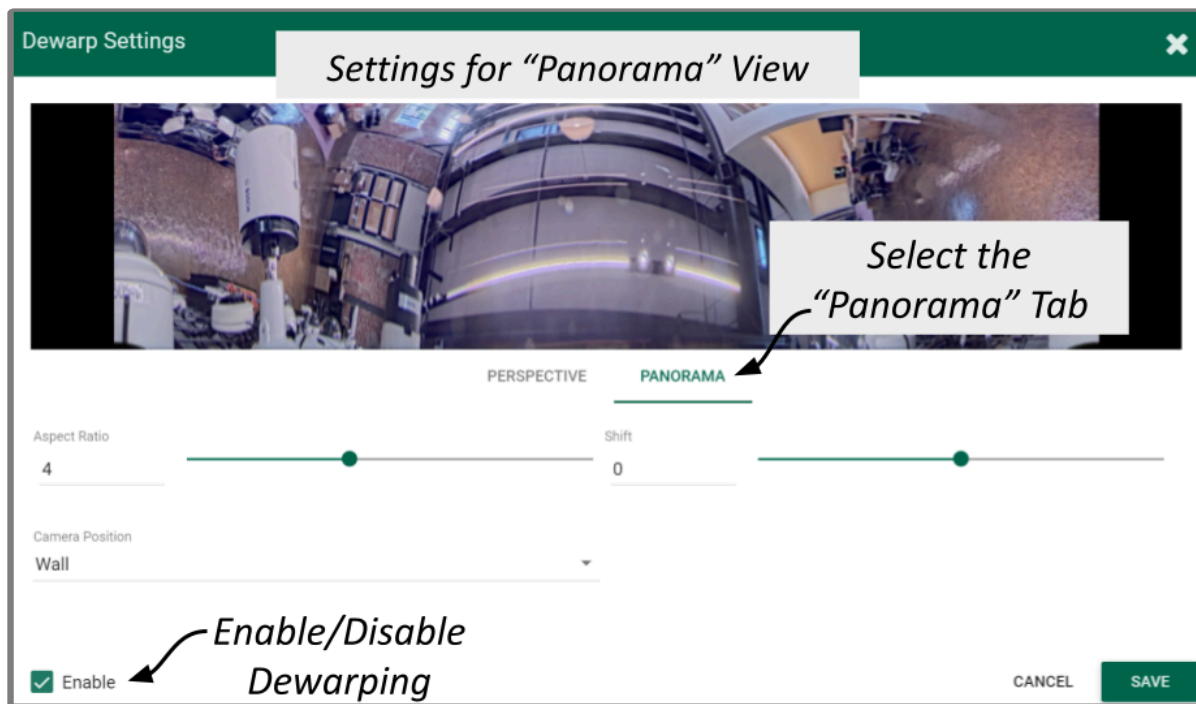
3. Mark the *Enable* checkbox to activate the *Dewarp Settings* (both *Perspective* and *Panorama*) for this camera. (If this is not marked, Dewarping features will not be available at the Player.)
4. Use the *Default Pan* slider to move the camera to the right and left to set the default view.
5. Use the *Default Tilt* slider to move the camera up and down to set the default view. (Be aware that it is possible to tilt the view beyond the capability of the camera; if this happens, portions of the screen will

appear black.)

6. Use the *Default Zoom* slider to zoom into or out of the image to set the default view. (Be aware that it is possible to zoom beyond the capability of the camera; if this happens, portions of the screen will appear black.)
7. Use the *Depth* slider to stretch or compress the image height to set the default view. (This can cause extreme image distortion at the bottom and top ends of the scale. The default value is likely the best setting.)
8. Use the drop-down list to select the camera's mounting location as *Ceiling*, *Floor*, or *Wall*. (This setting will impact how the software displays the camera image.)
9. Press the **Save** button to save your settings, or **Cancel** to exit without saving.

Panorama

1. Select the Panorama tab.



Use the Panorama screen to enter settings for the default Panorama view of the selected camera. The Panorama view is a flattened version of the available video from the fisheye camera. This view displays the entire image and cannot be altered at the Player.

2. Mark the Enable checkbox to activate the Dewarp Settings (both Perspective and Panorama) for this camera. (If this is not marked, Dewarping features will not be available at the Player.)
3. Use the Aspect Ratio slider to change the amount of Player area the image will fill. You might take some time to experiment with this setting, but the points below describe how it works.
 - a. At the high end of the scale, the image will fill the length of the Player, but the height of the image will be condensed.
 - b. At the center of the scale, the image will fill the length of the Player, and the height of the image

will be at its least distorted.

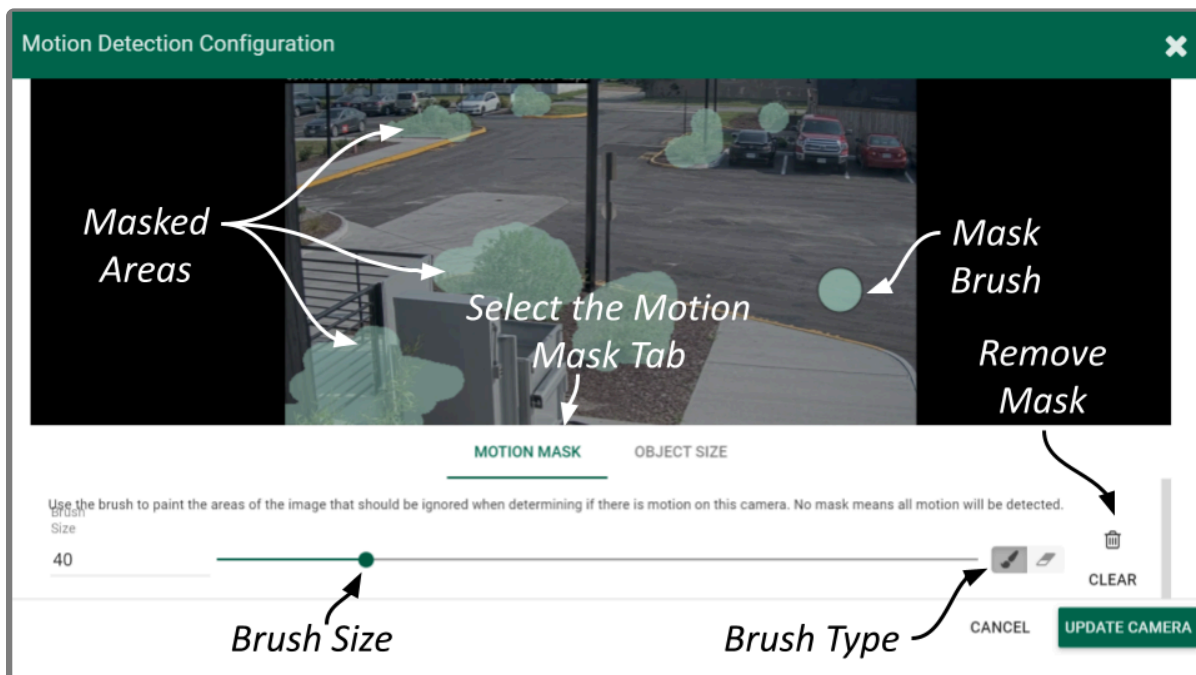
- c. As you move from the center of the scale to the low end, the height of the image will stretch toward the top and bottom of the Player.
 - d. From the point that the image fills the Player, if you continue to move to the bottom of the scale, the image width will shrink until the image disappears.
4. Use the *Shift* slider to adjust the center point of the image. (If there is a certain part of the image that you prefer at the center of the Player, use the slider to make this adjustment.)
 5. Use the drop-down list to select the camera's mounting location as *Ceiling*, *Floor*, or *Wall*. (This setting will impact how the software displays the camera image.)
 6. Press the **Save** button to save your settings, or the **Cancel** button to exit without saving.

Advanced Settings: Motion Detection

The *Camera Configuration* screen includes *Motion Detection Settings* which allow you to apply camera-specific motion detection settings. The *Motion Detection Configuration* screen provides two tools to reduce the number of “nuisance” motion captures: *Motion Mask* and *Object Size*.

Motion Mask

1. At the *Camera Configuration* screen, click the camera you want to edit. Click the *Motion Detection* link to open the *Motion Detection Configuration* screen.



2. Select the *Motion Mask* tab (just underneath the video image). Use this screen to change the way motion detection is applied to the selected camera.

By default, all cameras are set to detect motion. When motion is detected, a motion event is recorded and will appear on the *Timeline Bar* (which is intended to make video review easier). But sometimes, the camera captures too much motion. There may be objects in the video, like trees, banners, or balloons, that move constantly, increasing the number of motion events to such a degree that it actually makes video review more tedious.

The *Motion Mask* tool allows you to “paint” over one or more areas of the video image, making those areas invisible to motion detection. (You will still see all of the video, but the motion capture feature will ignore the masked area.)

3. Select the *Brush Type*.
 - a. The paint brush will add a masked area to the video image. This area will be ignored by the

motion detection feature.

- b. The eraser will remove masked area from the video image. This area will now be evaluated during motion detection.
4. Adjust the *Brush Size* using either of the following methods.
 - a. Click in the *Brush Size* field and enter a new number or use the up and down arrows to increase or decrease the size of the brush.
 - b. Click and drag the slider to increase or decrease the size of the brush.
5. Position your cursor over the video image and you'll see a green circle (the mask paint brush) or a pink circle (the mask eraser). (Adjust the brush size if needed.)
6. Click and drag the brush across the video image to change the masked area.
 - a. If you selected the paint brush, you will add masking to the image.
 - b. If you selected the eraser, you will remove masking from the image.
7. To remove the entire mask, click the **Clear** button.
8. To save the mask (or the cleared image), click the **Update Camera** button.

✿ Due to the variability of the video image that comes with PTZ cameras, the *Motion Mask* feature should not be used with PTZ cameras.

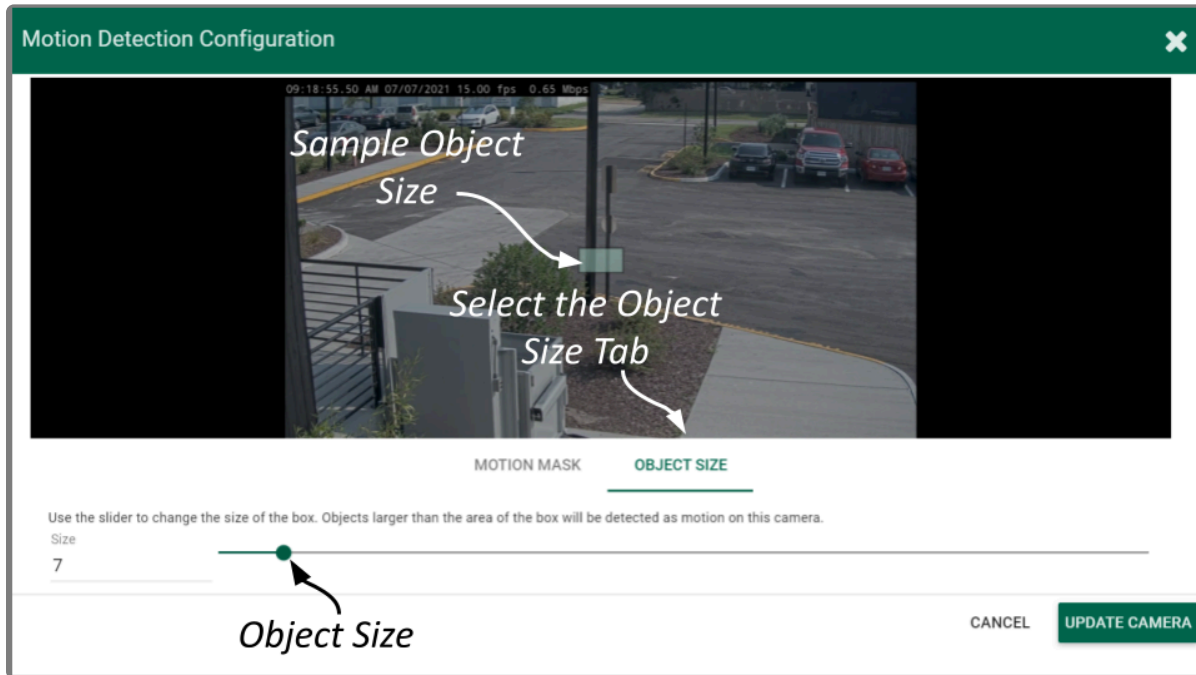
✿ There are some circumstances that will inhibit motion detection. If the motion enters and exits the video image very quickly, the system may not see enough of the frames to detect the motion. If this becomes an issue, you may want to consider reducing the stream GOV setting (which results in more keyframes), or enable the *Decode all frames* option. Keep in mind, however, that this will put additional load on the server.

Object Size

The *Object Size* tool allows you to modify motion detection based on area. This tool instructs the software to ignore the movement of any objects with a smaller area than the selected object size (like small animals and robot vacuum cleaners). (You will still see all of the video, but the motion capture feature will ignore the small stuff.)

1. Select the *Object Size* tab (just underneath the video image). Notice the green square in the center of the video image. This represents the defined object area. Objects of equal or lesser area will be ignored by motion detection.

For example, if the selected object size (area) is 100, the software will ignore objects with an area of 100 or less. This includes objects that are 10×10 , 20×5 , 30×3 , 45×2 and so on (each of which have an area of 100 or less).



2. Adjust the *Object Size* using either of the following methods.
 - a. Click in the *Size* field and enter a new number or use the up and down arrows to increase and decrease the area.
 - b. Click and drag the slider to increase and decrease the area.
3. To activate motion detection for objects of all sizes, set the *Size* to zero.
4. To save the *Object Size* settings, click the **Update Camera** button.

* When selecting the *Object Size*, it may be better to keep it small. As this selection gets larger, the system ignores more motion events (which may be detrimental to your overall objective).

* The *Motion Mask* and *Object Size* tools can be used together to completely customize motion detection for each camera.

Working with Camera Streams

Add a Stream



Usually you will not need to add a stream unless your camera does not come configured with any streams by default.

















1. From the *Camera Information* screen, press the **Add Stream** button to add a new stream for the selected camera. The *Stream Settings* screen will open, allowing you to enter and modify the settings for the stream.
2. When all settings have been entered, press the **Add Stream** button to add the new profile to the *Streams* list for the selected camera.

Copy Stream to Cameras



This feature is a great shortcut to use if you have multiple, similarly configured cameras to set up. Once you complete a stream settings profile for one camera, you can copy all (or part) of that profile to one or more cameras with one click.

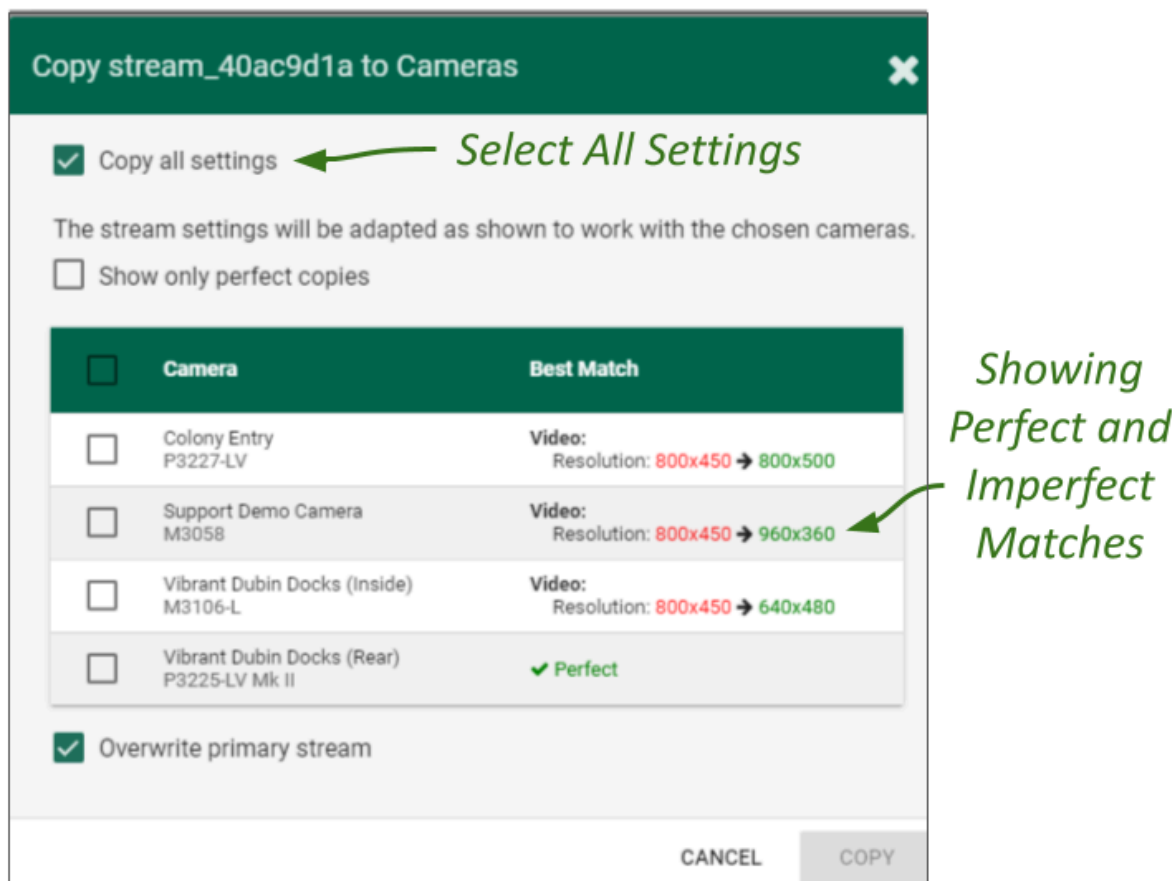
1. From the list of registered cameras on the *Cameras* tab, click the name of the camera you want to use as a model.
2. Then add or edit a camera stream that contains the settings you would like to copy to other cameras.
3. Once your template profile is complete, click the **Copy Stream to Cameras** icon for the stream you want to copy.

Primary	Name	Configuration	
	profile_1 h264	1280x720, 15fps, H264 Continuous recording with motion detection	  
	profile_1 jpeg	1280x720, 15fps, JPEG Continuous recording with motion detection	  
	stream_40ac9d1a	800x450, 15fps, H264 Continuous recording with motion detection	  
	stream_832791de	1280x720, 10fps, H264 Continuous recording with motion detection	  

Copy
Stream



A screen will appear that will allow you to edit and complete the profile transfer to selected cameras.



The screen lists all of the cameras that have been added to the system. It also provides comments to show which cameras are good candidates for the stream settings (which may help you decide if you want to copy all of the settings to all of the cameras.) For each camera that is not a perfect match, Orchid Alto VMS will pick the stream setting that is the closest match and indicate how the stream settings will be modified for that camera.

There are several reasons why profile matches might not be perfect. For instance, maybe the model camera is configured to use a higher resolution than is supported by the target cameras. In this case, Orchid Alto VMS will choose the closest available resolution on the target cameras.

The appearance of this screen will change as different settings are selected. Depending on how many cameras have been added and which settings are selected, you may need to scroll down to see all of the cameras and settings.

Copy stream_40ac9d1a to Cameras

☐ Copy all settings

Setting

☐ Recording Style

☐ Motion Style

☒ Video Settings [Show 8 hidden fields](#)

☐ Audio Settings [Show 1 hidden field](#)

☐ Decide as primary **Disabled**

The stream settings will be adapted as shown to work with the chosen cameras.

☐ Show only perfect copies

Camera	Best Match
<input type="checkbox"/> Colony Entry P3227-LV	Video: Resolution: 800x450 → 800x500
<input type="checkbox"/> Support Demo Camera M3058	Video: Resolution: 800x450 → 960x360
<input type="checkbox"/> Vibrant Dublin Docks (Inside) M3106-L	Video:
<input type="checkbox"/> Vibrant Dublin Docks (Rear) P3225-LV Mk II	

☒ Overwrite primary stream

CANCEL COPY

4. Mark the *Copy all settings* checkbox to copy all of the stream settings. (These will be copied to all of the cameras selected in the lower half of the screen.)
5. Leave the *Copy all settings* checkbox unmarked if you want the ability to choose which settings will be copied.
 - a. Mark the *Setting* checkbox if you decide to copy all of the settings anyway.
 - b. Mark the checkbox for any of the individual categories that you want to copy (including *Recording Style*, *Video Settings*, and *Audio Settings*).
 - c. You may expand the *Video* and *Audio Settings* categories to select individual settings within each, if needed. (Click on the *+Show hidden fields* link to expand the list and the *-Hide fields* link to condense the list.)
6. Mark the *Show only perfect copies* checkbox if you want the software to list only those cameras that can implement the new profile settings exactly. (This checkbox will not appear if all or none of the camera streams are a perfect match.)
7. Mark the *Camera* checkbox if you want to copy settings to all of the cameras in the list. Leave the *Camera* checkbox unmarked if you want the ability to choose which cameras will receive the stream settings.
8. Mark the *Overwrite primary stream* checkbox if you want these stream settings to replace the existing

primary stream settings on every camera selected. Leave the *Overwrite primary stream* checkbox unmarked if you simply want to add this as a new stream option for each of the selected cameras. (When left unmarked, the Recording server will not record from this new stream.)

9. Once your selections are complete, click the **Copy** button to send the stream settings to the selected cameras. It may take a few minutes for the settings to change based on the number and type of cameras being updated.
10. When the copy process is complete, click the **Done** button.

Removing a Stream



This is the **Delete / Trash Can** icon.

1. To remove a single camera stream, go to the *Streams List* for a given camera and identify the stream you want to delete.

Primary	Name	Configuration	
	profile_1 h264	1280x720, 15fps, H264 Continuous recording with motion detection	<div>Locked Stream</div> <div> </div>
	profile_1 jpeg	1280x720, 15fps, JPEG Continuous recording with motion detection	<div> </div>
	stream_40ac9d1a	800x450, 15fps, H264 Continuous recording with motion detection	<div>Delete Stream</div> <div> </div>
	stream_832791de	1280x720, 10fps, H264 Continuous recording with motion detection	<div> </div>

2. Click the **Trash Can** icon to the right of the selected stream. The software will ask you to confirm that you want to delete the stream. Press **Delete** to confirm. This cannot be undone.

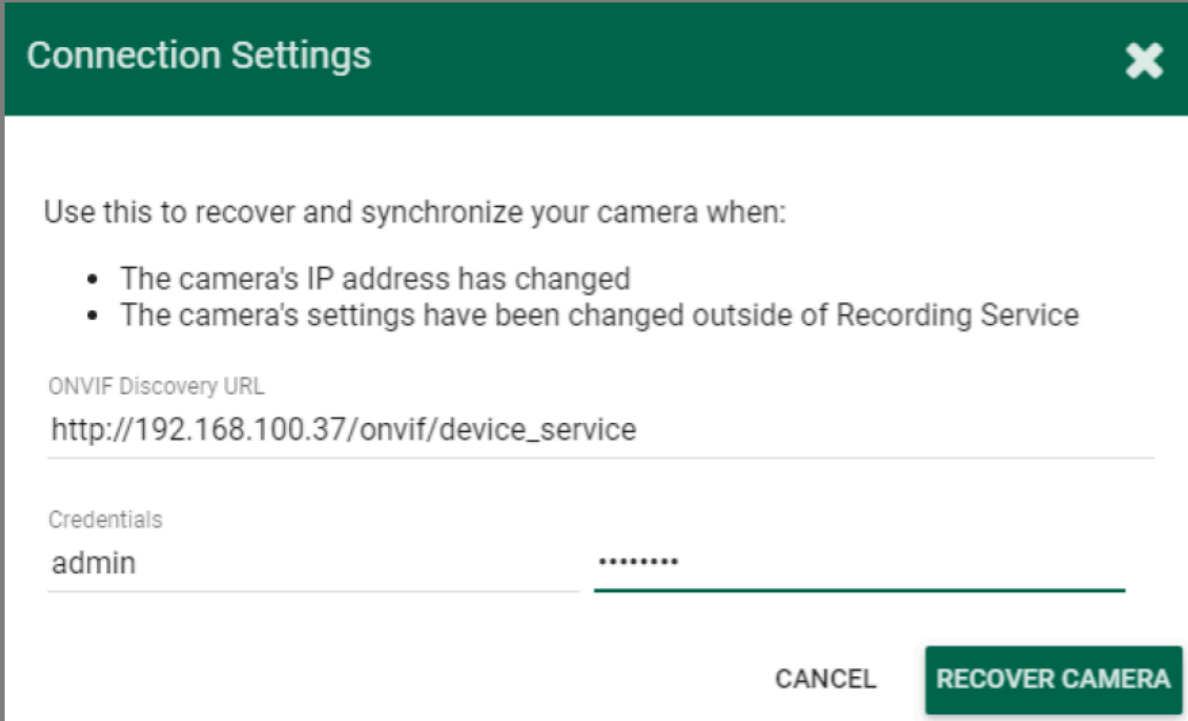


A red Lock icon indicates that the stream cannot be deleted. This locked state is dictated by the camera and cannot be changed.

Recovering a Camera

If someone edits camera settings (including the IP address) directly at the camera, Orchid Alto VMS may be unaware of the new settings and may lose its connection with the camera. To remedy this, Orchid Alto VMS provides access to the *Recover Camera* feature.

1. To recover a camera, click the name of the camera you want to recover from the list of registered cameras on the *Camera Configuration* screen.
2. Press the **Recover Camera** button at the bottom of the expanded camera entry. The *Connection Settings* screen will appear.



The screenshot shows a dialog box titled "Connection Settings" with a close button (X) in the top right corner. The dialog contains the following text and fields:

- Use this to recover and synchronize your camera when:
 - The camera's IP address has changed
 - The camera's settings have been changed outside of Recording Service
- ONVIF Discovery URL:
- Credentials:
- At the bottom right, there are two buttons: "CANCEL" and "RECOVER CAMERA".

3. To refresh the camera settings, simply enter the credentials for the camera, then press the **Recover Camera** button. (The software will pull the camera settings directly from the camera.)
4. To reconnect with the camera, replace the camera's IP address (with the new one) in the camera's URL field. Then enter the credentials for the camera and press the **Recover Camera** button. (The software will reconnect with the camera at its new IP address, and will also pull the camera settings from the camera.)

Removing Cameras

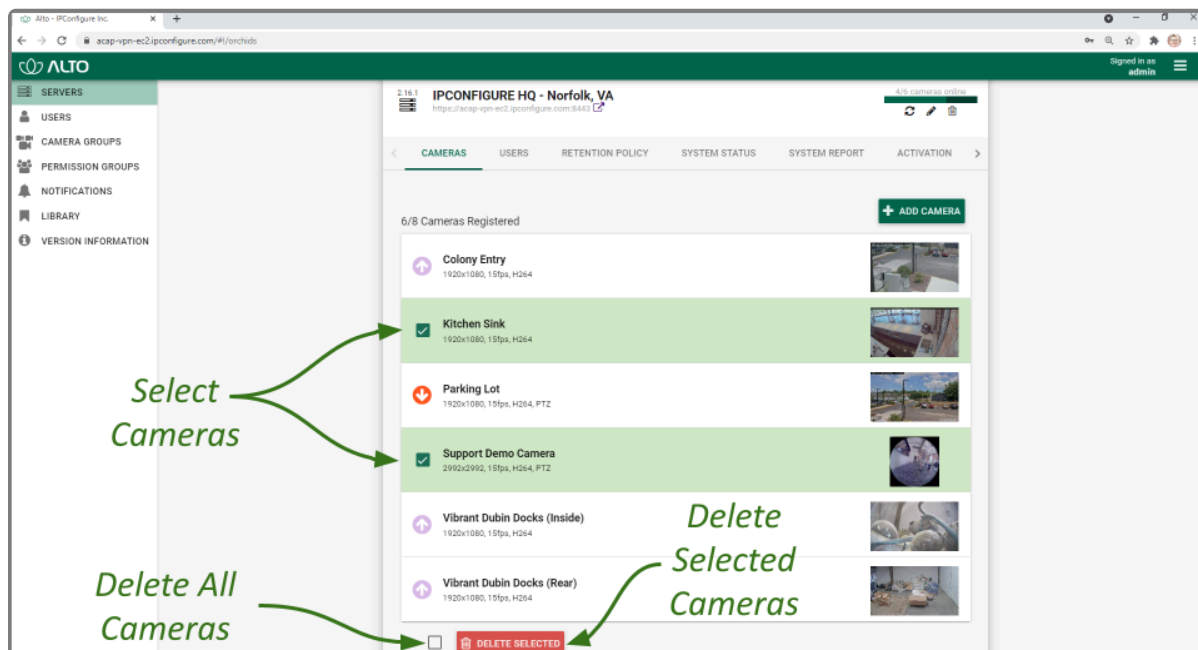
Removing a Single Camera

1. To remove a single camera, do either of the following:
 - a. From the list of registered cameras on the server's **Cameras** tab, position the cursor over the arrow to the left of the camera you want to delete; the arrow will change into a checkbox. Mark the checkbox, then press the **Delete Selected** button at the bottom of the list. The software will ask you to confirm that you want to delete the camera. Press **Delete** to confirm. Once a camera is removed, it is no longer available for viewing, playback, recording, export, etc. This cannot be undone.
 - b. From the camera's settings screen, click the **Delete Camera** button (located at the bottom of the screen). The software will ask you to confirm that you want to delete the camera. Press **Delete** to confirm. Removal may take a few moments.

Removing Multiple Cameras

Multiple cameras can be removed from Orchid Alto VMS at the same time, if needed.

1. From the list of registered cameras on the server's **Cameras** tab, first select the cameras you want to delete. (For each camera you want to delete, position the cursor over the arrow to the left of the camera name; the arrow will change into a checkbox. Mark the checkbox.)



2. Once your selections are complete, click on the **Delete Selected** button at the bottom of the list. The software will ask you to confirm that you want to delete the cameras. Press the **Delete** button to confirm. Once the cameras are removed, they are no longer available for viewing, playback,

recording, export, etc. This cannot be undone.

3. To delete ALL of the cameras in the list of registered cameras, mark the *Delete Selected* checkbox at the bottom of the list, then click on the **Delete Selected** button. The software will ask you to confirm that you want to delete the cameras. Press the **Delete** button to confirm. Once the cameras are removed, they are no longer available for viewing, playback, recording, export, etc. This cannot be undone.

The Retention Policy Tab

The *Retention Policy* feature found on the Recording service allows Administrators to manage video archive retention on a stream by stream basis as well as review current and projected storage utilization.

About Video File Retention

To maintain a system for video file retention, the Recording service determines how much storage space is available in the cloud. By default, the Recording service will retain videos until your storage space is 99% full (the *Cleaner Threshold*), at which point it will begin deleting the oldest videos to make room for new videos. The available video storage space is divided among all the cameras that have been added to the Recording service based on equal days of retention; however, based on individual camera settings, this doesn't mean that each camera will require the same amount of storage space.

If no camera-specific retention settings have been entered, the Recording service will grant each camera the same number of days of video retention. Since each camera may have different settings (such as recording style, frame rate, etc.), and those settings impact video file size, the amount of space required for the same number of days will vary.

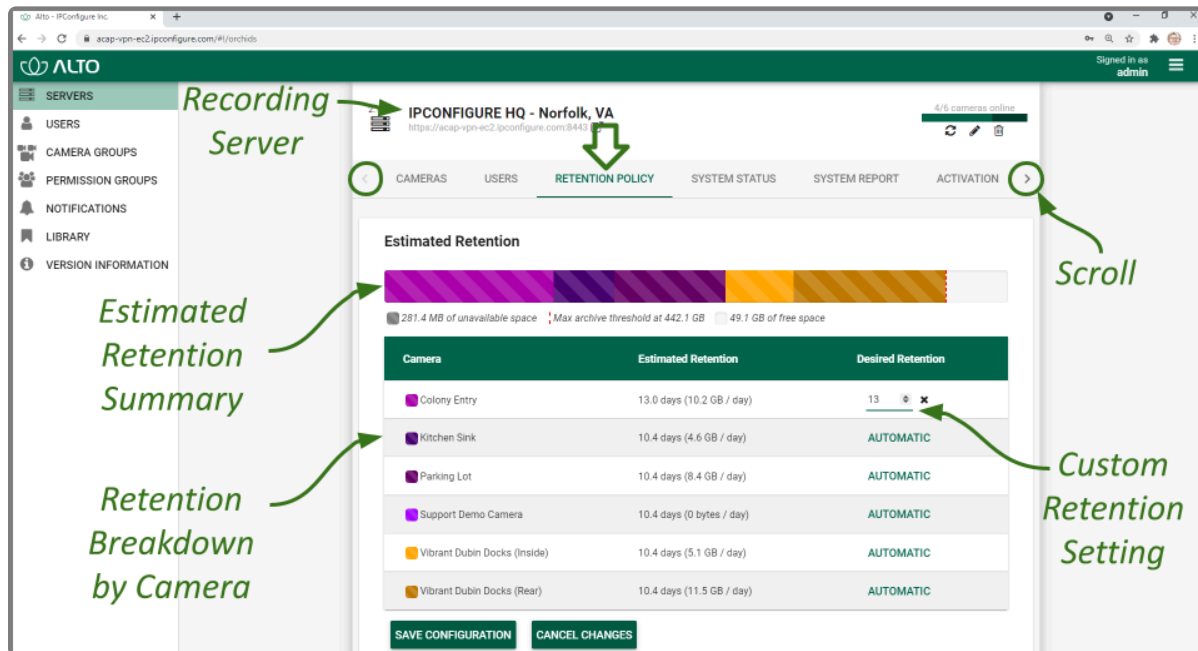
In some applications, there may be cameras for which increased file retention is critical. For these cameras, the Administrator may set specific, minimum retention settings. In these cases, the retention settings for the remaining cameras will be adjusted automatically to share the remaining balance of available storage before the *Cleaner Threshold* is met.

When video storage usage reaches the retention limit, the Recording service will create free space by removing the oldest archives first. The system will ensure, however, that the minimum desired retention settings that have been set are maintained, assuming sufficient storage space is available.

To change the 99% *Cleaner Threshold* setting, contact IPConfigure Support.

Accessing the Retention Policy

1. From the *Servers* page, select a server and click on the *Retention Policy* tab.



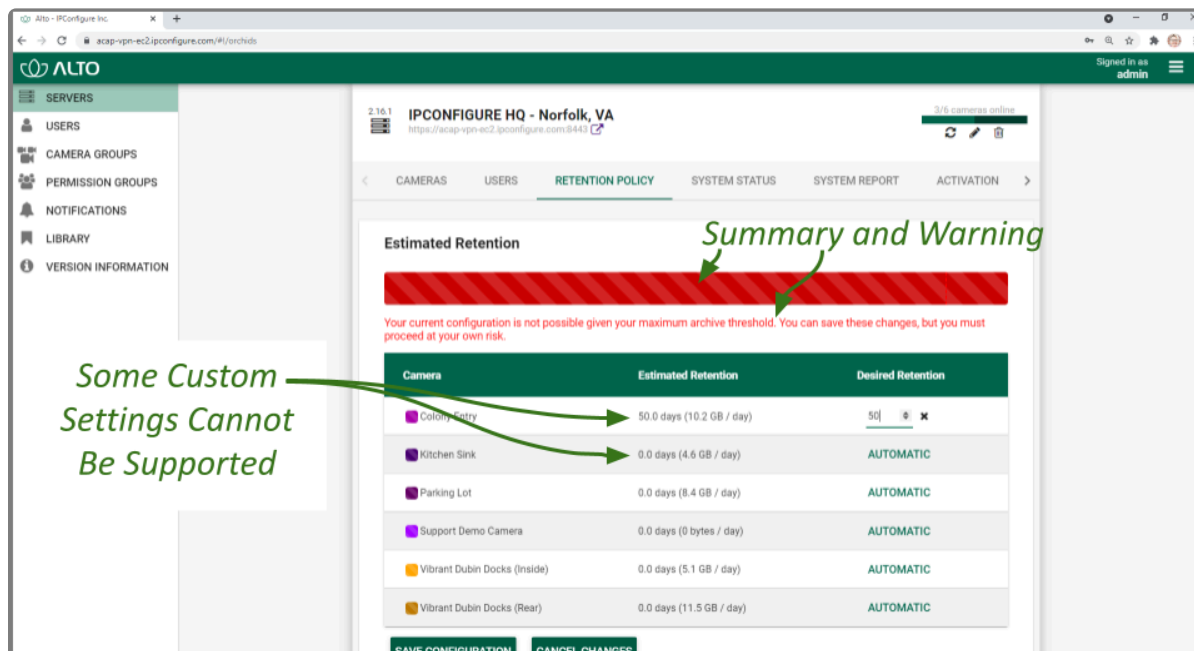
At the top of the *Retention Policy* tab, the system displays a summary of estimated storage space usage. Use the cursor to hover over the colored regions of the summary graphic to view the estimated storage space usage for each camera.

- **Unavailable space:** This space is marked in grey. It is already in use by other applications and is unavailable to the Recording service for storing video.
- **Video data:** This space is marked in various bright colors representing each camera. This space is filled with videos that are managed by the Recording service. To make space for new video, the oldest videos are continuously and automatically deleted as the *Cleaner Threshold* is reached.
- **Cleaner Threshold:** By default, the Recording service will attempt to make sure that no more than 99% of your storage space is used. This threshold is marked on the bar by a red dotted line. To change the 99% *Cleaner Threshold* setting, contact IPConfigure Support.
- **Free space:** This storage space is not in use by the Recording service or any other program.

Changing Desired Retention Settings

1. To edit the minimum Desired Retention setting for any given camera, click on the corresponding **Automatic** button.
2. Type in a new setting to represent the number of days of video that will be kept for this camera. The remaining estimated retention will automatically be recalculated for all cameras that do not have a manually specified retention setting.

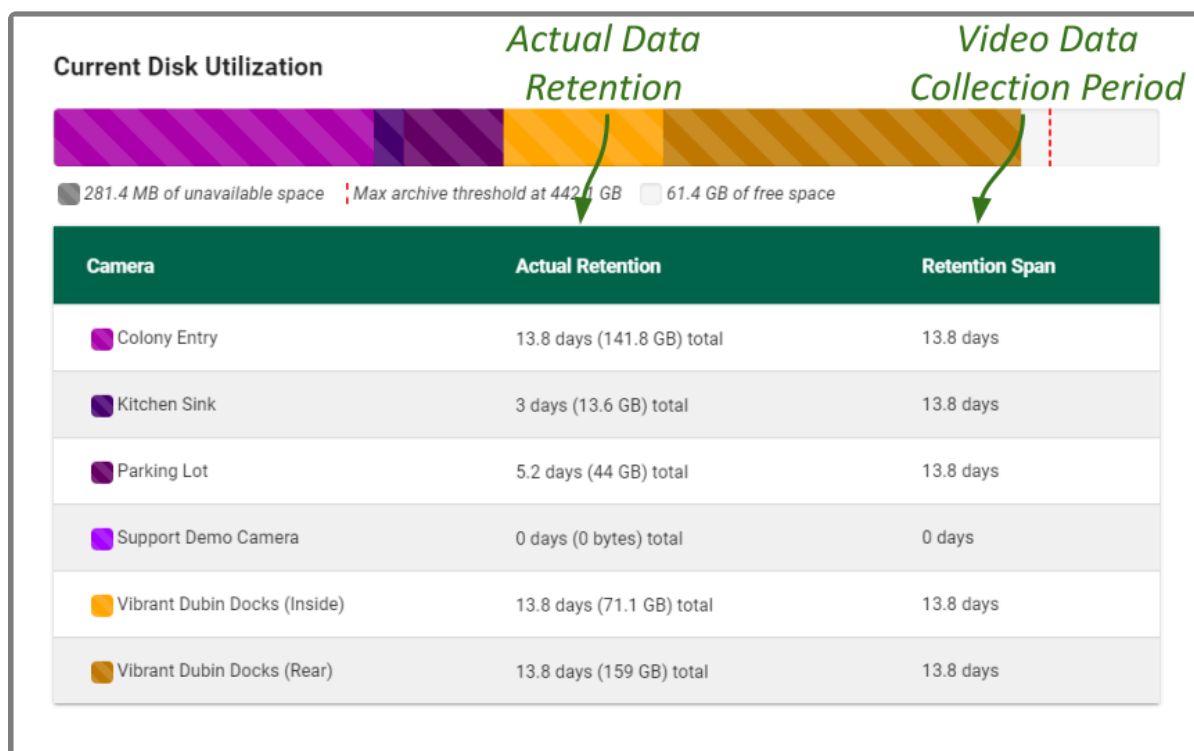
If your new setting requires more storage than is physically available in the cloud, the system will flag an error (as pictured below). To fix this, you'll need to reduce the desired retention to an acceptable level or add more available storage.



- Repeat steps 1 and 2 for each camera that requires minimum retention settings.
- To undo the last setting you changed, press the **Cancel Changes** button at the bottom of the list.
(You can only use this feature before you save the new configuration.)
- Once all settings have been entered, press the **Save Configuration** button at the bottom of the list.
- To quickly change any setting back to *Automatic*, click the **X** button next to the setting and then press the **Save Configuration** button.

Reviewing the Current Disk Utilization

The bottom half of the *Retention Policy* tab displays how the storage space is actually being used. Use the cursor to hover over the colored regions of the summary graphic to view the actual storage space usage for each camera.



The *Current Disk Utilization* section displays a summary of actual storage space usage which includes unavailable space (space used by the operating system and other files), space occupied by video files, and a buffer of free space. It then provides a usage breakdown by camera. This information can be very helpful in diagnosing retention issues.

The *Actual Retention* column shows how many days worth of video is being stored per camera. It also includes how much disk space each camera is consuming. The *Retention Span* column shows the number of days over which the video files have been recorded. This data point is especially helpful for those cameras that are set to record only when motion is detected. For example, let's say that one of the cameras has an actual retention reading that is 0.5 days (compared to the others which have 3.6 or more). The *Retention Span* should confirm that the system has been monitoring the camera for about the same amount of time as the other cameras.

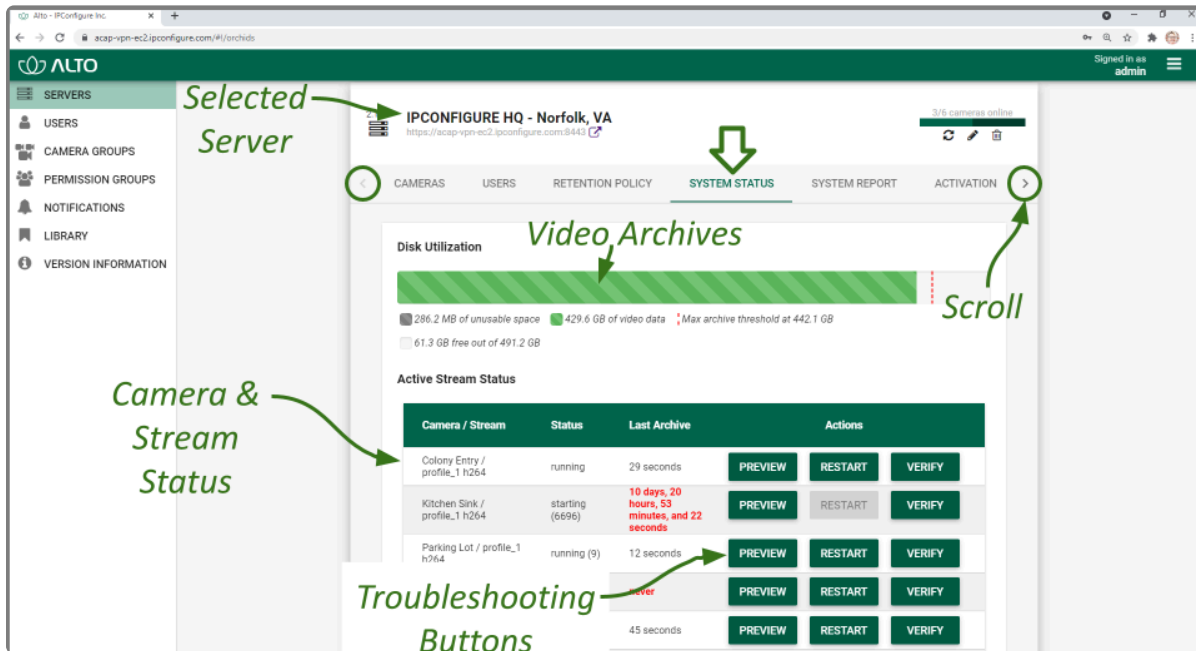
You may also use this breakdown to determine if any of the cameras are using excessive storage space. If this is the case, you can then take steps to re-configure the camera (by changing either the minimum desired retention settings or the camera stream settings) and fix the problem.

The System Status Tab

The *System Status* tab provides an overview of the status of the video storage location and the active streams running on the Recording service.

Accessing the System Status Report

1. Once you access the *Servers* page, select a server and click on the *System Status* tab.



The *Disk Utilization* section summarizes how the storage space is being used.

- **Unavailable space:** This space is marked in grey and is already in use by other applications; it is unavailable to the Recording service for storing video.
- **Video data:** This space is marked in green. This space is filled with videos that are managed by the Recording service. To make space for new video, the oldest videos are automatically deleted as the *Cleaner Threshold* is reached.
- **Cleaner threshold:** By default, the Recording service will attempt to make sure that no more than 99% of your storage space is used. This threshold is marked on the bar by a red dotted line. (To change the *Cleaner Threshold* setting, contact [IPConfigure Support](#).)
- **Free space:** This storage space is not in use by the Recording service or any other program.

Reviewing the Active Stream Status

The *Active Stream Status* section of the *System Status* tab shows a list of all the active camera streams on the Recording service, their current status, and how long ago the last archive was saved for that stream. A

stream can have the following statuses:

- **Running:** The stream is currently active and running properly without any errors. It is actively recording and saving video (if configured to do so).
- **Restarting:** The stream is restarting automatically and should be active again within a few seconds.
- **Idle:** The camera is not responding after being restarted by the Recording service multiple times and the camera status should be manually verified.
- **Stopping:** The camera stream has been shut down and is in the process of writing the video file. (This will typically happen because another stream has been selected as the primary stream.)

The *Last Archive* field will typically display the amount of time that has passed since the last archive was saved. If the Recording service has never saved an archive for the camera stream, the software will display *Never* in the *Last Archive* column. The Recording service writes video archives every minute, so any camera whose *Last Archive* is more than a minute old will be flagged in red, as this indicates video may not be recording.

Troubleshooting the Camera Stream Status

If there are any issues with the streams, you can troubleshoot the issue within the Recording service by using the **Preview**, **Restart**, and **Verify** buttons:

- **Preview:** View a live feed of the camera stream. If you are able to see moving video from the camera's feed, then the server and the camera are properly connected.
- **Restart:** Closes and restarts the camera stream. You can then use the *Preview* button to verify that the Recording service is receiving video from the camera stream without navigating back to the *Stage*.
- **Verify:** Pings the camera and confirms whether or not the Recording service can communicate with the camera successfully. This button will turn green after a successful validation. The button will turn red if the Recording service server is unable to communicate with the camera. (If the ping command is unsuccessful, the camera's IP address may have been changed directly at the camera. If this is the case, obtain the new IP address and use the *Recover Camera* feature to reconnect.)

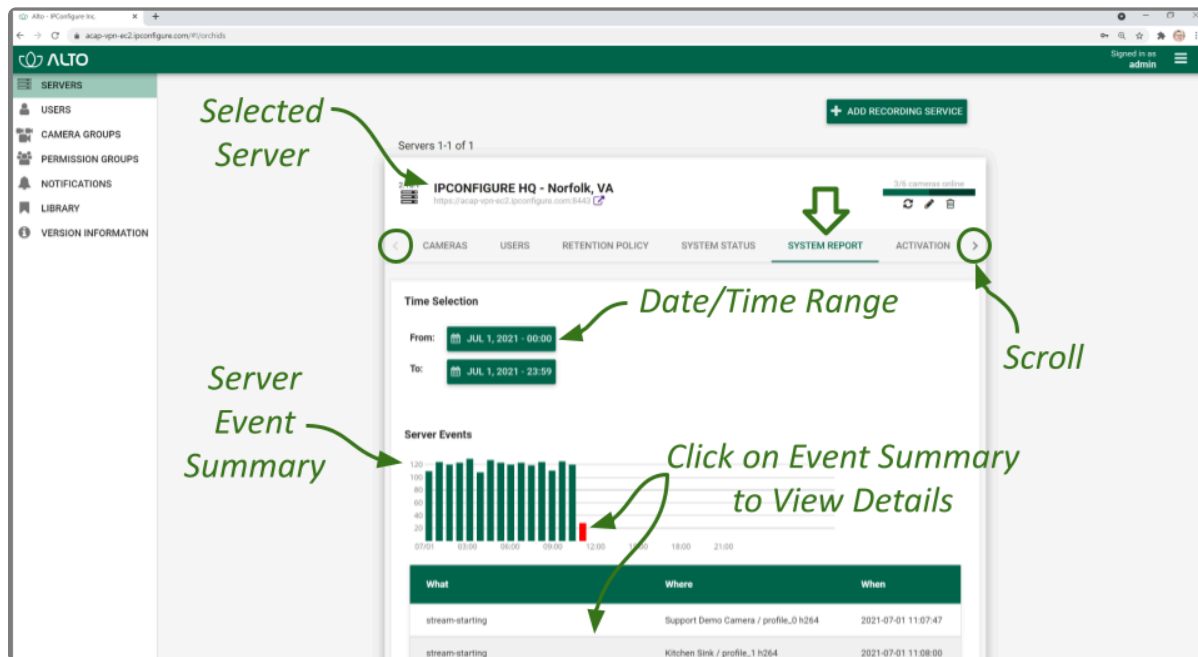
(Please refer to the [Advanced Topics](#) section for additional help.)

The System Report Tab

The *System Report* tab allows Administrators to view various types of events (such as camera streams starting and stopping) and camera stream statistics during a specified time period. This report also provides access to the Recording service system log.

Accessing the System Report

1. From the *Servers* screen, select a server and click on the *System Report* tab.



Working with the Server Events and Stream Statistics

By default, the *System Report* will provide a report for the current date (from 12:00 AM to 11:59 PM).

1. To select a new date range for the report, use the **From** and **To** buttons to select the new dates/times for the report in the pop-up calendar and then press the **Go** button. As soon as new dates are chosen, the report will update the *Server Events* and *Stream Statistics* sections.

The *Server Events* graph will display the date and time along the x-axis and the number of events that occurred on the y-axis. For each time period on the *Server Events* graph, a vertical bar will appear if at least one event occurred during that time frame.

Server events include the following:

- **Start:** The Recording service was started. (System provides the time.)

- **Stop:** The Recording service was stopped. (System provides the time.)
- **License Changed:** The Recording service license has been added, removed, or updated.
- **Trusted Issuer Created:** This indicates that Orchid Alto VMS has registered (added) this Recording service.
- **Trusted Issuer Removed:** This indicates that the Orchid Alto VMS server has detached from this Recording service.

Stream events include the following:

- **Stream-starting:** The stream was started. (System provides the stream name and time.)
 - **Stream-error:** The stream posted an error. (System provides the stream name, time, and error message.)
 - **Failover Failed:** The stream encountered a storage device failure. (System provides the stream name and time.)
2. To view specific details on server events, click on any of the vertical bars. (The selected bar will appear in red.) The server event details for the selected time period will appear in a table beneath the graph.
 3. If there are multiple events within a selected time period, you may double-click on the vertical bar to zoom in for more detail on the time frame.

The *Stream Statistics* section lists each of the active camera streams in the Recording service. For each stream, the Recording service will show how many megabytes of video was recorded, the length of the recorded video, and how much of the recorded video contained motion.

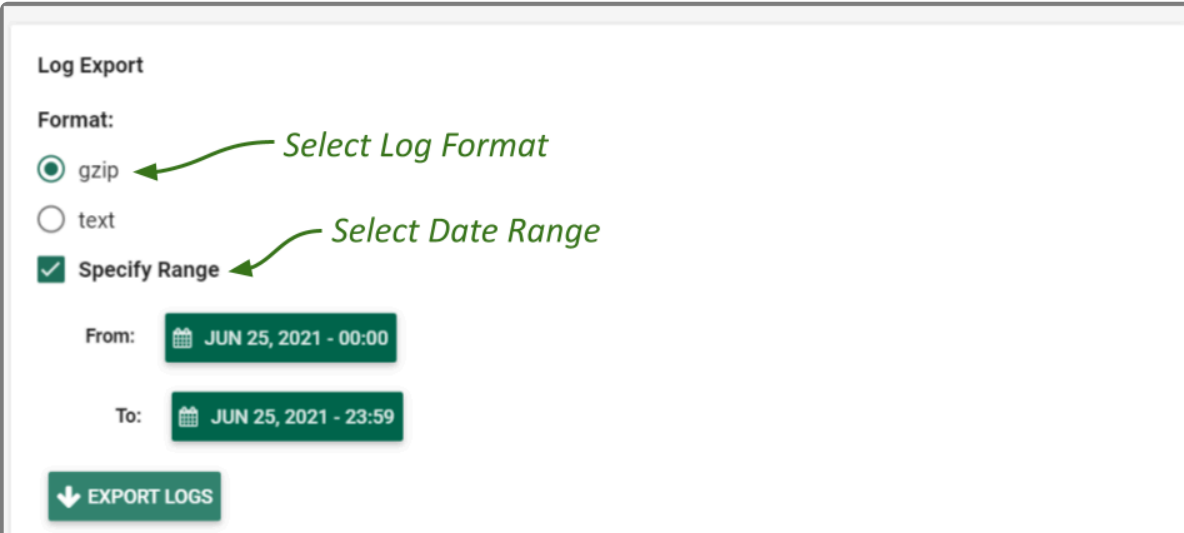
Displays Statistics for Each Active Camera Stream

Stream Statistics			
Camera / Stream	MB Recorded	Video Recorded	Motion Recorded
Colony Entry / profile_1 h264	6,996	13 hours, 50 minutes, and 28 seconds	51 minutes, and 22 seconds
Kitchen Sink / profile_1 h264	0	0 seconds	0 seconds
Parking Lot / profile_1 h264	2,253	5 hours, 15 minutes, and 9 seconds	1 hour, 49 minutes, and 46 seconds
Support Demo Camera / profile_0 h264	0	0 seconds	0 seconds
Vibrant Dubin Docks (Inside) / profile_1 h264	3,205	13 hours, 50 minutes, and 51 seconds	10 seconds
Vibrant Dubin Docks (Rear) / profile_1 h264	6,748	13 hours, 50 minutes, and 23 seconds	17 seconds

Working with the Log Export

The bottom half of the *System Report* includes the *Log Export* feature. This feature allows you to view and export Recording service system logs into a compressed file or plain text. These logs contain advanced troubleshooting information and are useful when trying to diagnose issues with the Recording service.

✿ The *Timeline Bar* displays the time on the client machine while system reports and logs are based on the server time. If there is a discrepancy, and you need to view the time difference, click the **Clock** icon (that would appear next to the software name in the Orchid Alto VMS screen header).



1. Select the format you wish to use for the log export:
 - a. **gzip**: This option will download the latest log from the Recording service into a compressed file, allowing it to be viewed on other computers. The gzip-compressed file can be extracted using the gunzip command on Linux or a utility such as 7-zip on Windows.
 - b. **text**: This option will display the log within the browser without downloading any files. This file is likely to be very large when a narrow date range is not specified.
2. To specify a date/time range for the log, mark the *Specify Range* checkbox. Then use the **From** and **To** buttons to select the start and end dates/times.
3. Once your selections are complete, click the **Export Logs** button.

The Activation Tab

The *Activation* tab allows you to review current license information for the Recording service server.

* IPConfigure Support staff are responsible for adding, updating, and removing licenses. The Activation tab should be considered for your reference only. Do not attempt to add, update, or remove a license.

About Licenses

Every Recording Service must have an Alto license. This license sets the number of cameras the Recording Service can support, and provides a necessary link to the Orchid Alto VMS.

Accessing the Activation Tab

1. Once you access the *Servers* screen, select a server and click on the *Activation* tab.

21.6.2 IPCONFIGURE HQ - Norfolk, VA
https://acap-vpn-ec2.ipconfigure.com:8443

5/5 cameras online

< CAMERAS RETENTION POLICY SYSTEM STATUS SYSTEM REPORT **ACTIVATION** >

Recording Service Activation

Recording Service has **been activated**.

Edition	Cameras Licensed	Archive Retention	Support Expiration	Activation Code
alto	5/16	Unlimited	Tuesday, September 14, 2032 UTC	B715D-3F6DF-13FAB-F0F5C

Thank you!

IPConfigure Will Add, Update, and Remove Licenses

UPDATE LICENSE REMOVE LICENSE

The Activation tab provides some helpful information:

- **Cameras Licensed:** This shows the number of cameras that have been configured and the number of cameras allowed. (If the system lists 6/8, this means that 6 cameras have been added out of the 8 cameras allowed.)
- **Archive Retention:** This should be listed as *Unlimited*, meaning that there is not a global limit on

archives; the cloud storage space is only limited by the amount of storage you have purchased, per camera.

- **Support Expiration:** This indicates the date on which your support agreement will expire. Your support agreement must remain current in order to install software updates. (As long as you remain on the Orchid Alto cloud recording plan, your support will not expire.)



If you have any questions about the license information, please contact [IPConfigure Support](#).

The Advanced Settings Tab

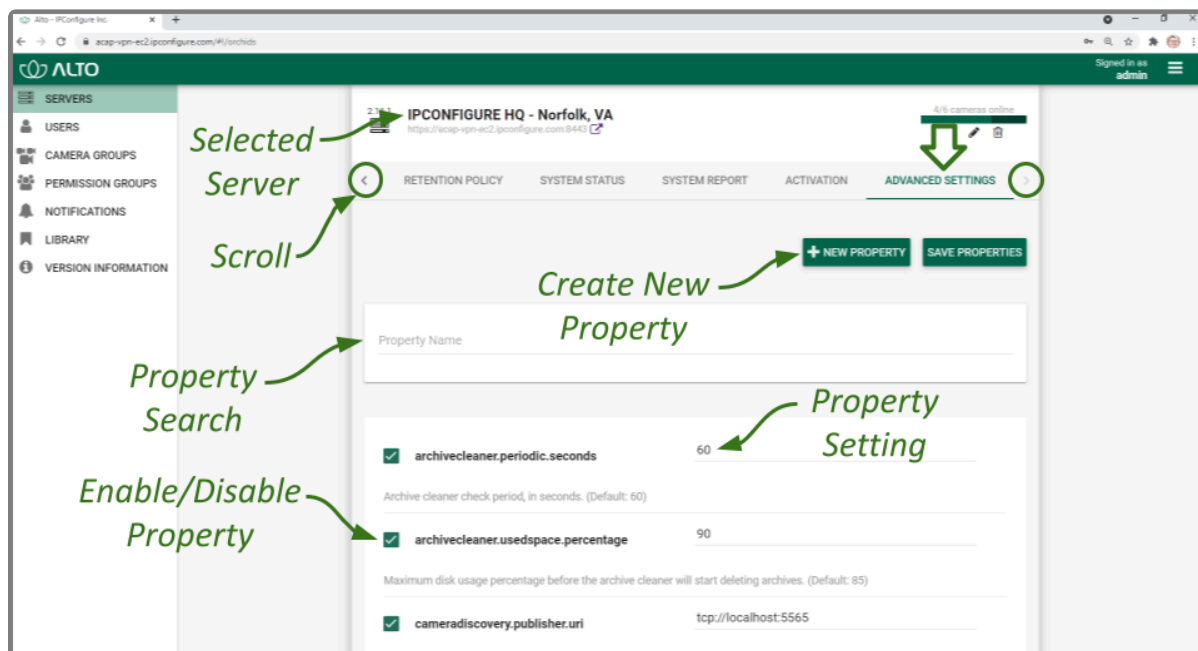
The *Advanced Settings* tab provides Administrators with direct access to the Recording service properties file, allowing for quick and easy modifications for many of the properties.

✿ An Administrator is the only role with the ability to access the *Advanced Settings* feature.

Accessing the Advanced Settings Tab

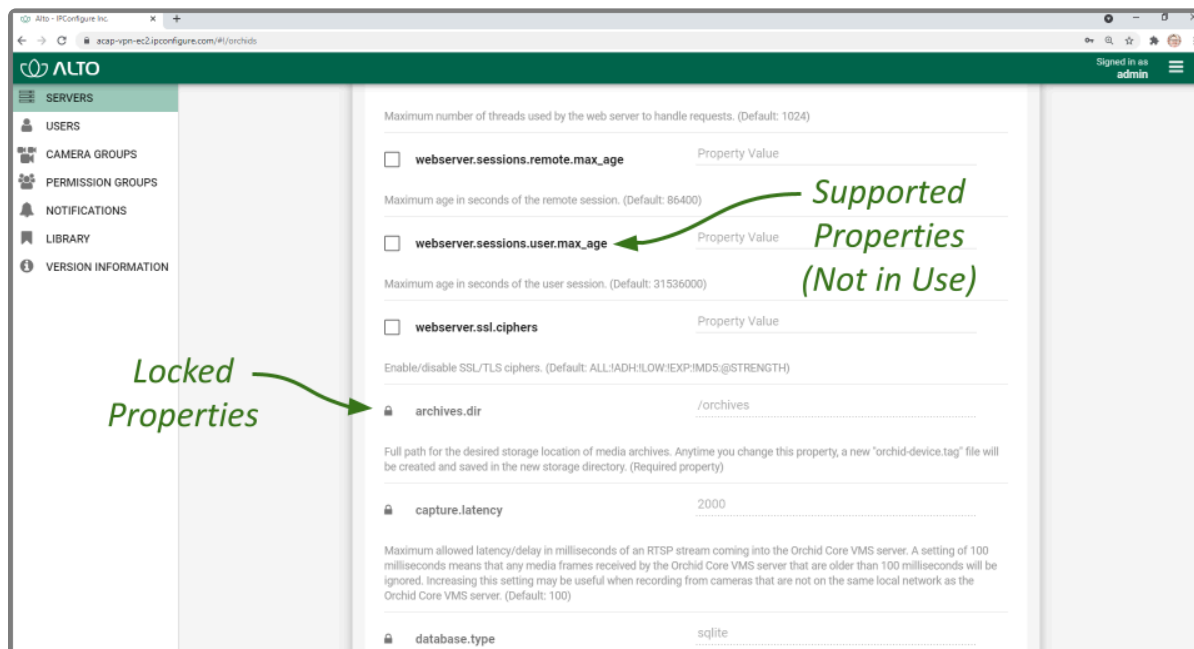
1. Once you access the *Servers* screen, select a server and click on the *Advanced Settings* tab. (You may have to use the Admin tab scroll button to see the *Advanced Settings* tab.)

The Advanced Settings screen lists all of the supported configuration properties, and allows you to add and edit properties. A marked checkbox indicates that the setting is currently in use.







If you scroll down toward the bottom of the list you will find properties that are unmarked and locked (as in the image below).

An *unmarked* checkbox indicates that the setting is supported, but is not currently being used. A *locked* setting represents a setting that is critical for system reliability and stability. These settings can only be changed by editing the configuration file directly, and are therefore only accessible by IPConfigure Support personnel.



If you need to change any of the locked properties, please contact [IPConfigure Support](#).

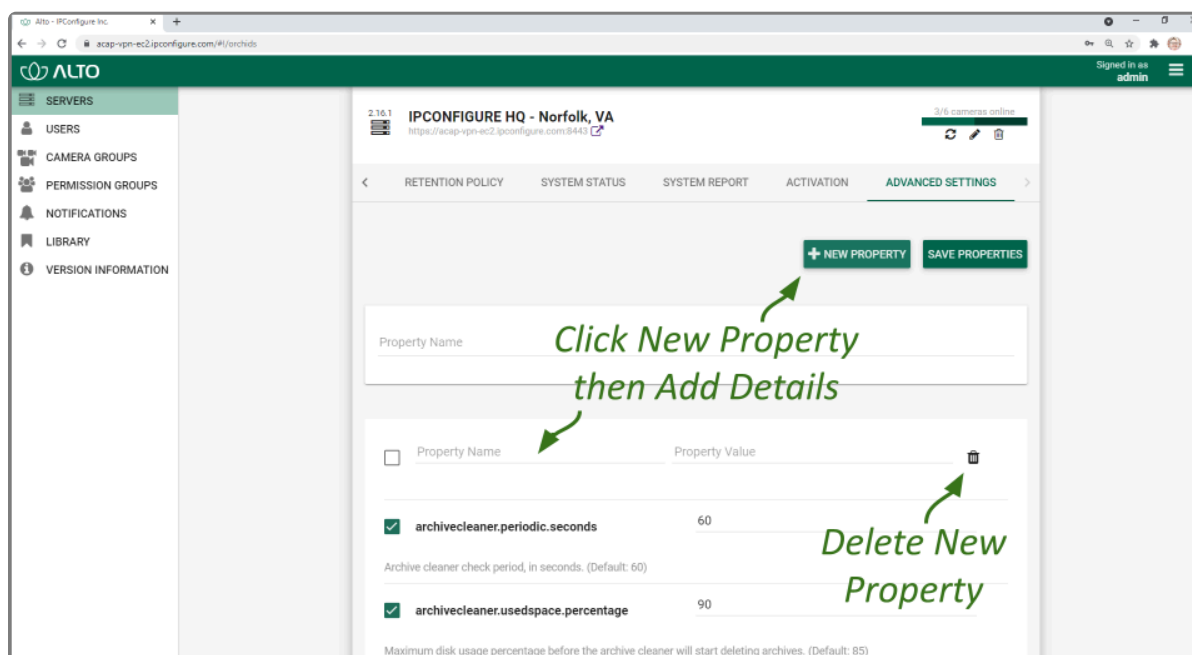
Working With Advanced Properties

	This is the Add icon (for adding new properties).
	This indicates the property is in use.
	This indicates that the property is supported, but not in use.
	This indicates that the property must be changed by IPConfigure Support personnel.

Creating a New Property

The *Advanced Settings* feature allows Administrators to add new, undocumented properties to the Configuration file.

1. Click the **New Property** button at the top of the *Advanced Settings* screen. A new, blank property field will appear at the top of the list.

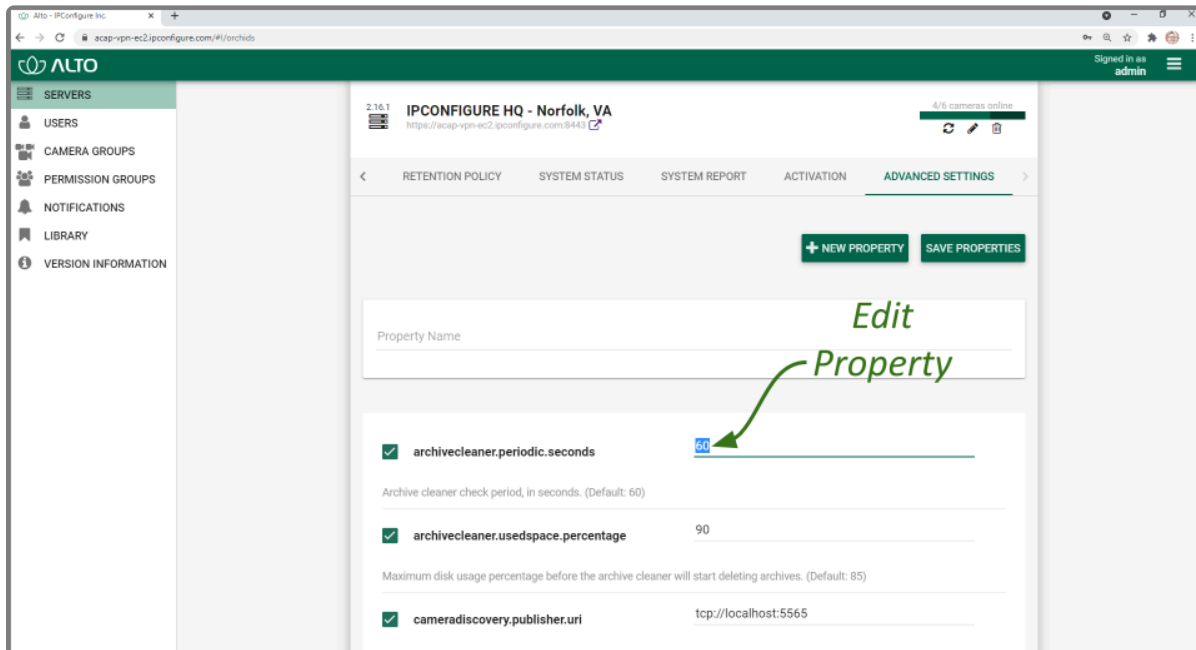


2. Mark the checkbox to activate the new property. (The property must be enabled and saved in order to be added to the Properties list.)
3. Enter a name for the new property in the *Property Name* field. [Property names are not allowed to contain colons (:), equals signs (=), blank spaces, or control characters.]

4. Click the **Tab** key to move to the *Property Value* field.
5. Enter a value for the property.
6. Click the **Tab** key to move to another field.
7. If you decide not to add the new property, just click the **Delete (Trash Can)** icon.
8. If you have no other changes to make, click the **Save Properties** button. Be sure to complete the save (as described later).

Editing Advanced Properties

1. To change an active property, click into the field displaying the property value.



2. Type in a new value.
3. Click the **Tab** key to exit the field or click into another field.
4. If you have no other changes to make, click the **Save Properties** button. Be sure to complete the save (as described later).

Activating a New Property

1. To activate an unused property, click the checkbox to add a mark.
2. Click into the *Property Value* field and enter a new value.
3. Click the **Tab** key to exit the field or click into another field.
4. If you have no other changes to make, click the **Save Properties** button. Be sure to complete the save (as described later).

De-Activating a Property

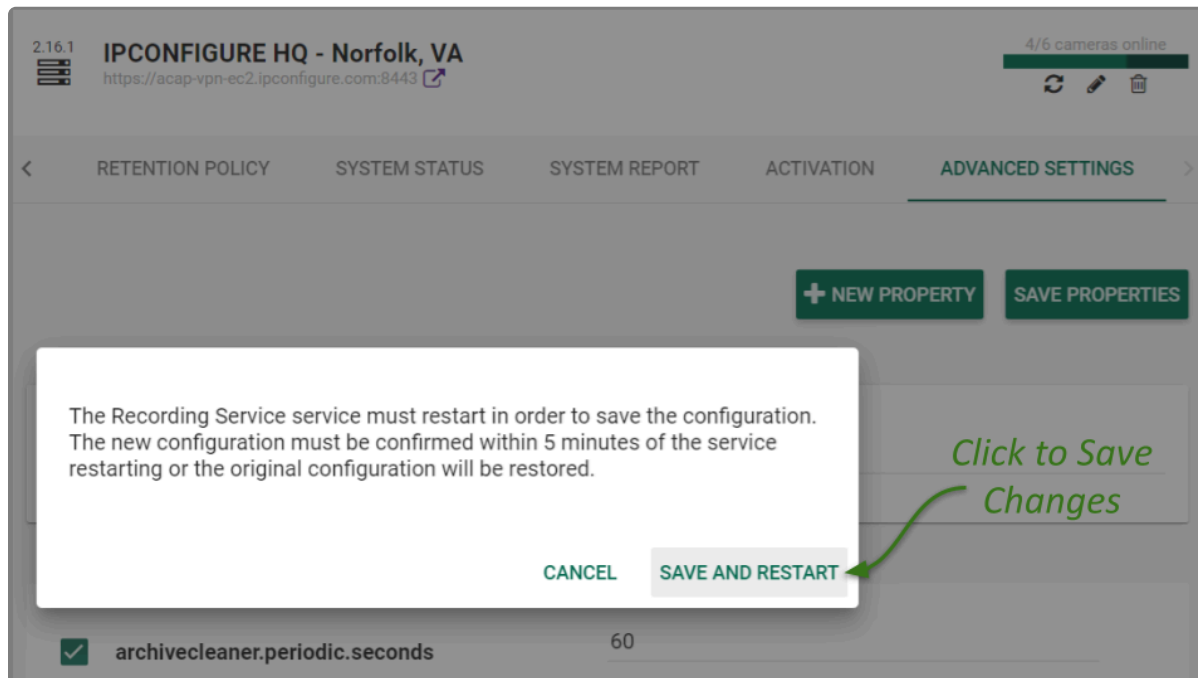
1. To de-activate a property currently in use, click the checkbox to remove the mark.
2. If you have no other changes to make, click the **Save Properties** button. Be sure to complete the

save (as described below).

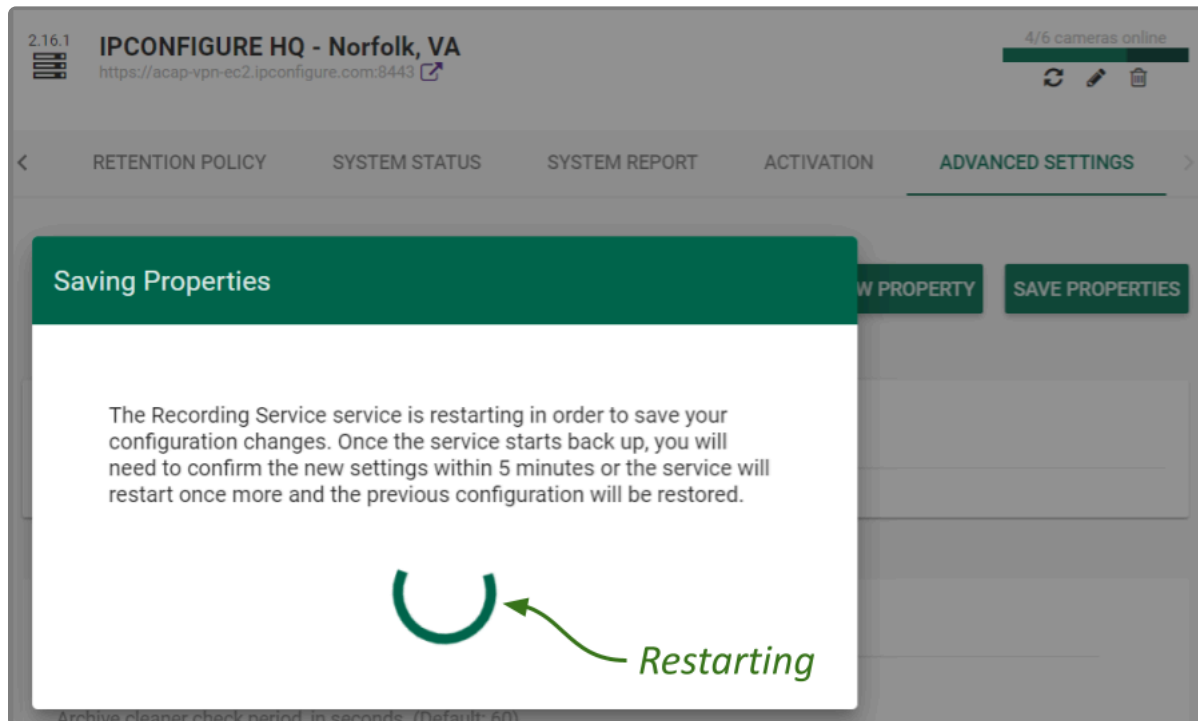
Saving Changes to Advanced Properties

Anytime you make changes to these properties, the Recording service must be restarted in order for the changes to take effect. Be sure to follow this procedure completely to ensure changes are saved.

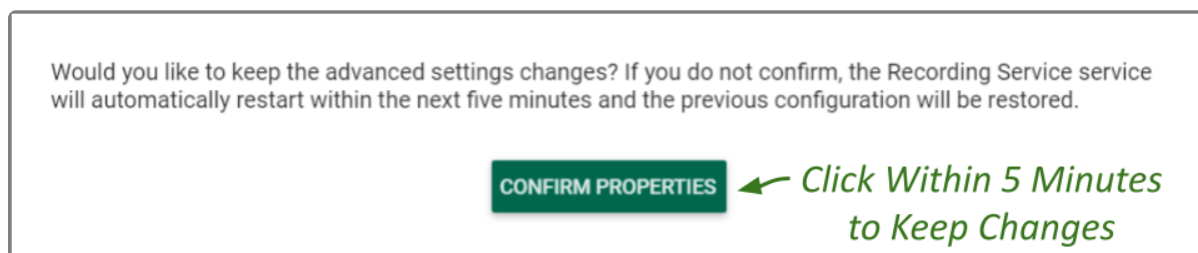
1. To save changes, click the **Save Properties** button. You'll receive a message that asks you to confirm changes and begin the restart.



2. Click the **Save and Restart** button to save your changes. The service will restart (as shown in the image below.)



- When the restart is complete, you must instruct the system to keep the changes. (You must do this within 5 minutes or the changes will be discarded.) Click the **Confirm Properties** button (shown below) to keep the new settings.

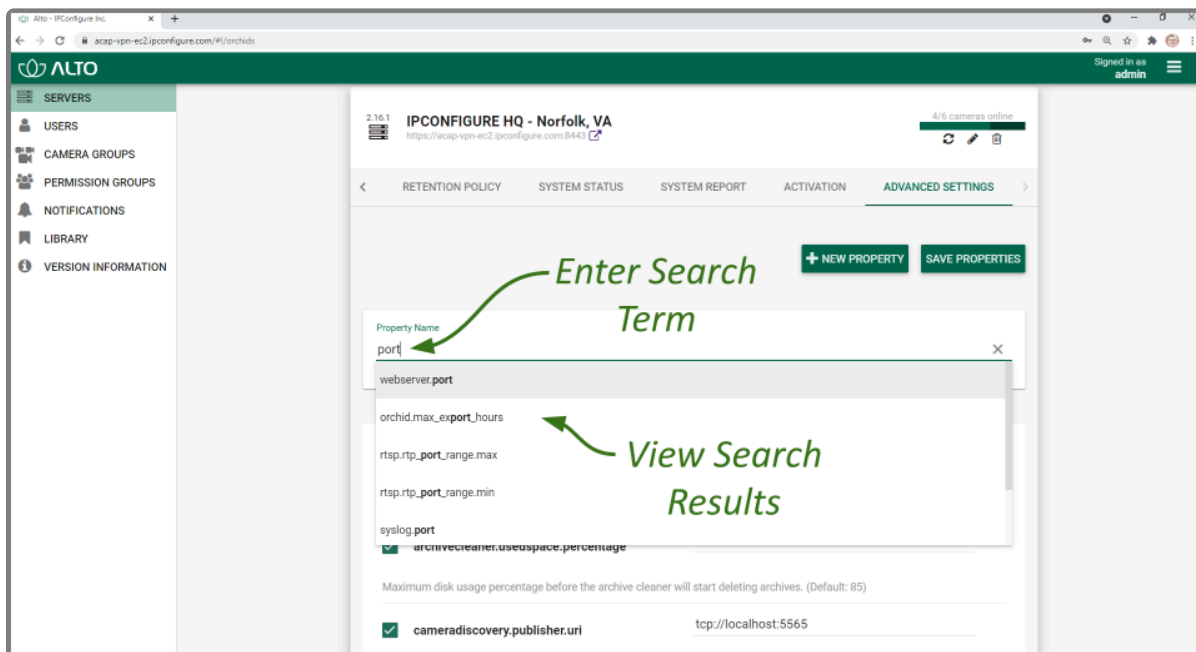


Advanced Properties Search Feature

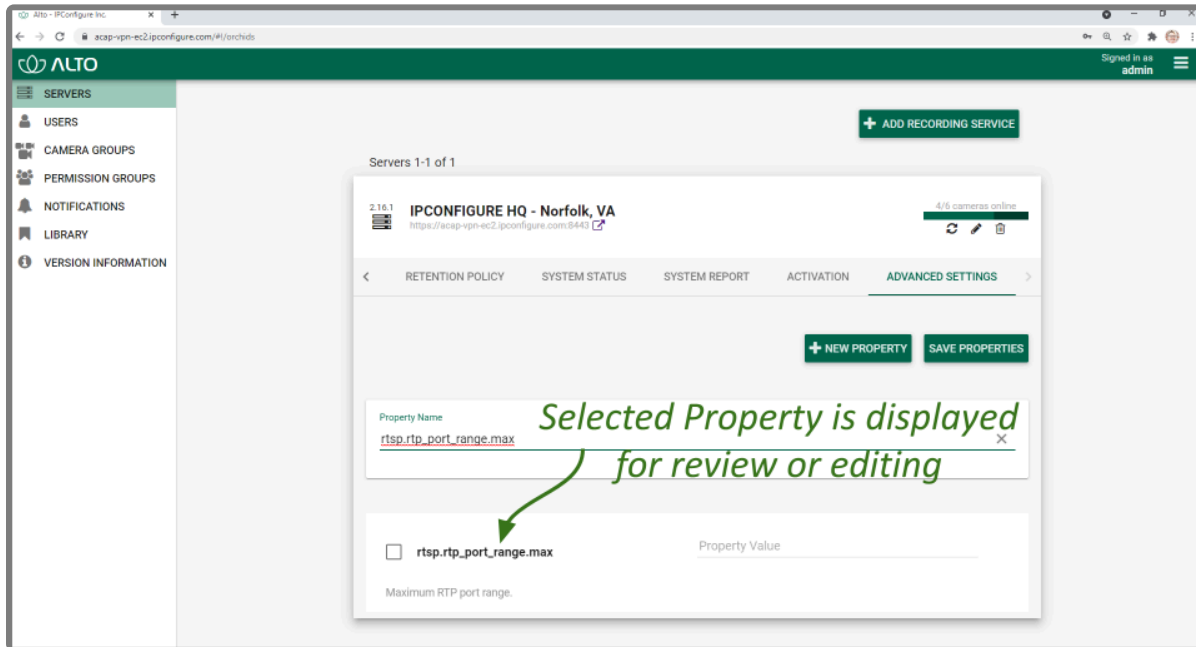
If you need to find a specific property quickly, the *Advanced Settings* screen includes a search feature. The *Property Name* field appears at the top of the screen and supports a single-term search.

1. Click into the *Property Name* field to start your search.
2. Type one word that identifies what you're looking for. (In the example below, we entered *port* as the search term.)

The software will automatically list all of the properties that match the search term.



3. If the list of results contains the property you are looking for, click on that result. The selected property will be displayed for review or editing.



4. If the list of results does not contain the property you are looking for, enter a new search term in the *Property Name* field.
5. To return to the complete *Advanced Settings* property list, clear the *Property Name* field by clicking the **X** at the right end of the field.

Creating and Managing Users

Once installation is complete, Orchid Alto VMS is configured with one Alto administrator user by default; this user is created during installation and cannot be removed. Additional users for Orchid Alto VMS can be created with varying levels of privileges through the *Users* option on the *System Menu*.

Permissions for Alto users are handled using a combination of the *Users* and the *Permission Groups* features. Any Alto user that is configured in the system will be able to sign into Orchid Alto VMS. The user will not have access to any cameras or video, however, until the Administrator assigns them as a member of one or more *Permission Groups*. (Please refer to the [Permission Groups](#) section for details regarding planning and creating *Permission Groups*.)

✿ You must be a member of an Administrator group to create and manage users.

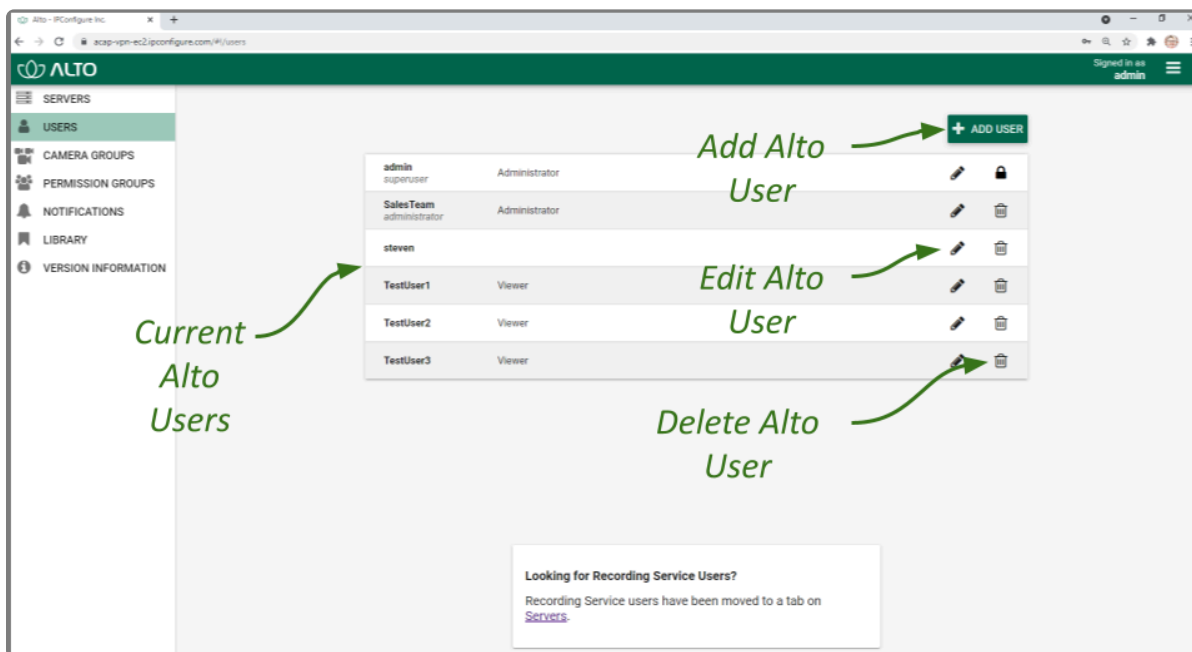
✿ After initial sign in, Administrators should not use the default Admin account. Instead, each Administrator should create an individual User account as part of an Administrator group. If you sign in as the default Administrator, when you sign out, you will automatically sign out any other Administrator users that are signed in with the default Administrator credentials.

✿ If Orchid Alto VMS is configured to work with one of the external authentication options (such as Azure Active Directory), the *Alto Users* list may include locally added Alto users, but won't list individual users from the external authentication sources. This is because all of the external users originate as users that already exist in the external system.

Access the Orchid Alto VMS Users List

1. Open the *System Menu* in the top-right corner of the screen and select *Users*.

The Orchid Alto VMS *Users* screen will list all of the Alto Users that have been added and the *Permission Groups* to which they are assigned.



Add a New Orchid Alto VMS User



This is the **Add** icon.

1. Click the **Add User** button in the top-right corner of the Alto *Users* list. A *New User* screen will open.

New User for Alto

Username * *Enter Username and Email* Email Address
TestUser4 TestUser4@ipconfigure.com
9 / 30

Groups
Viewer X Search for a Group *Select Applicable Permission Groups*

Password * Confirm Password *

CANCEL ADD USER

2. Enter the username you would like to set for the new user in the *Username* field.
3. Enter an email address for the new user. (The email address is not a required field, but it is important in a couple of situations. If the user will be signing in via Google authentication, the email field must match the user's Google email address for successful sign in. If the user is going to be selected as a recipient of a *Notification*, they must have an email address. The system will only allow one user per email address.)
4. Click in the *Groups* field to select all of the *Permission Groups* that apply to the new user. These selections will determine what the user will have access to. As soon as you select a *Permission Group*, another list will appear so you can make another selection (if needed). If you have not yet configured any *Permission Groups*, you can leave this field blank for now. (See notes below.)
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a *Permission Group*, click the **X** to the right of the *Permission Group* name.



These *Permission Groups* are established using the *Permission Groups* selection on the *System* menu. For more details, please refer to [Permission Groups](#).



The software provides two locations at which you may assign user permissions. With the *User* feature, you assign user permissions (indirectly) by selecting the *Permission Group(s)* to which the user belongs. With the *Permission Groups* feature, you assign users as

members of *Permission Groups* with specific abilities and access. While you don't have to select any *Permission Groups* immediately upon adding a user, until you do, the new user will not have access to any features, servers or video.

5. Enter the password for the new user into the two fields labeled *Password* and *Confirm Password*.
6. Click the **Add User** button at the bottom of the screen to create the new Orchid Alto VMS user.

The new user will now appear in the *Users* list and will have immediate access to Orchid Alto VMS.

Superuser Status

Orchid Alto VMS allows the creation of a Superuser. Superuser status is reserved for users that are assigned to an administrator permission group, and can only be assigned and modified by IPConfigure Support staff.

Edit Existing Users



This is the **Edit** pencil icon.

Nothing is set in stone for Orchid Alto VMS users and almost all of the user settings can be updated, as needed. The only user that cannot be completely edited is the default *admin* user. While the password can be updated, the username cannot be changed.

1. To edit a user, click the **Edit** pencil icon to the right of the user you want to update. The *User* screen will open.
2. Edit any of the available fields, as needed.
3. Click the **Update User** button. All of the changes will be effective immediately.

Delete Existing Users



This is the **Delete / Trash Can** icon.

1. To delete an existing user, click the **Trash Can** icon to the right of the username.
2. Orchid Alto VMS will ask you to confirm that you would like to remove the user.
3. Click the **Delete User** button to confirm you want the user removed. It will be permanently erased.

Creating and Managing Camera Groups

The Administrator has the ability to create *Camera Groups*. These *Camera Groups* add convenience and flexibility for the User, and allow you to further customize the Orchid Alto VMS system.

Using *Camera Groups* adds dimension to the *Camera Bag*, allowing you to view cameras sorted both by server and in customized groups. This helps to simplify the user experience in a variety of situations, especially in large systems, or in systems with similarly configured facilities. For example, let's say your Orchid Alto VMS system has cameras from multiple retail locations with the same basic footprint and setup. You could configure *Camera Groups* that represent common areas from each retail location, like entrances, loading docks, merchandise checkouts, etc. Now when you go to the *Camera Bag*, selecting common cameras for the *Stage* is simple because they are already assembled in *Camera Groups*. (Combine this with the *Stages* feature for increased benefit.)

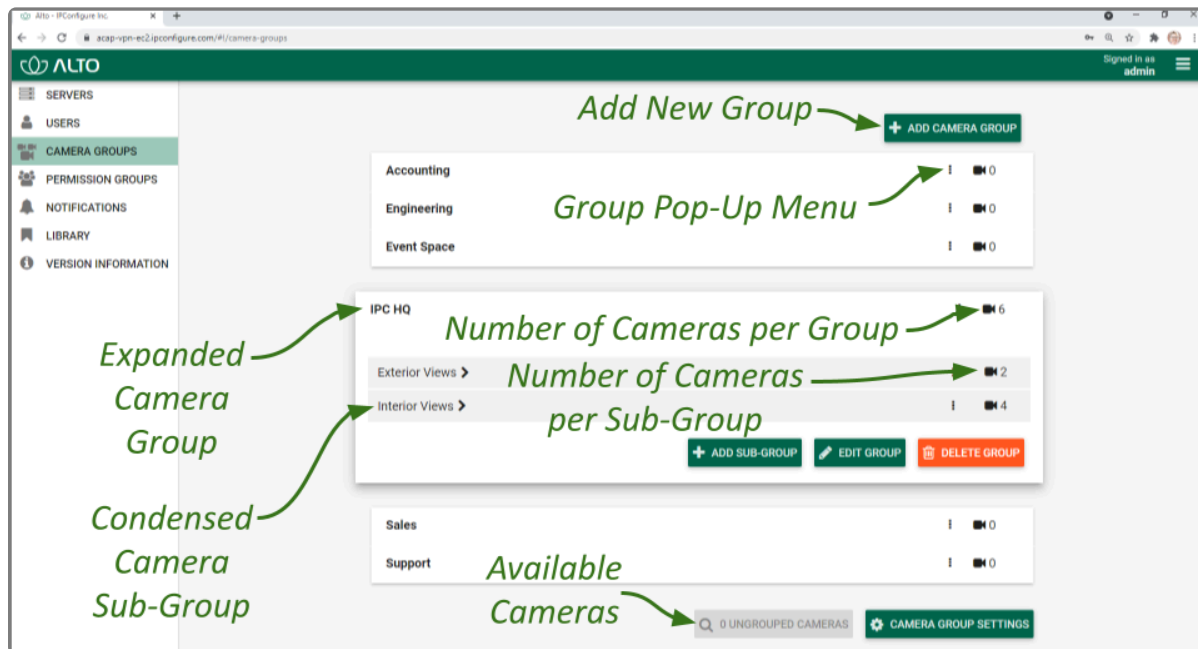


You must be a member of an Administrator group to add and manage *Camera Groups*.

Access the Orchid Alto VMS Camera Group List

1. Open the *System Menu* in the top-right corner of the screen and select **Camera Groups**.

The Orchid Alto VMS *Camera Groups* screen will appear. This screen displays a list of all the current *Camera Groups* and gives you the ability to add, edit, and delete them.



A quick look around...

- Click on any row that represents a *Camera Group* to expand or collapse the *Camera Group* details.
- For a top-level *Camera Group*, the number of cameras in the *Camera Group* includes the cameras in the top-level *Camera Group*, plus the number of cameras in each Sub-Group.
- To manage top-level groups, you may use the buttons or the pop-up menu.
- To manage Sub-Groups, use the pop-up menus.

Add a Camera Group



This is the **Add** icon.

1. Click the **Add Camera Group** button in the top-right corner of the *Camera Groups* screen. A *New Camera Group* screen will open.

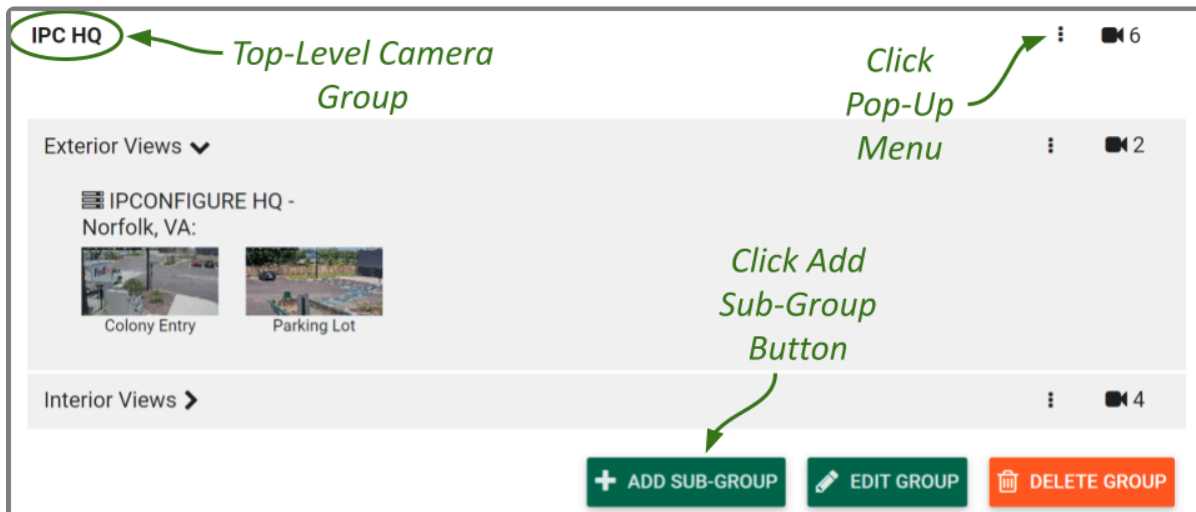
2. Enter a name for the new *Camera Group*.
3. Click in the *Servers and Cameras* field to select a server/camera from the drop-down list. Repeat this to add additional servers/cameras.
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a server/camera, click the **X** to the right of the server or camera name.
4. Click the **Add Group** button to save the new *Camera Group*. The new *Camera Group* will appear in the *Camera Groups* screen.

Add a Camera Sub-Group



This is the **Add** icon.

1. Once you have added a *Camera Group*, you may add Sub-Groups. First, click on the *Camera Group* row to expand the *Camera Group* details.



2. Then open the *New Camera Group* screen by doing either of the following:
 - a. Click the **Add Sub-Group** button at the bottom of the *Camera Group* details.
 - b. Click the pop-up menu to the right of the *Camera Group* name and select **Add Sub-Group**.
3. Use the *New Camera Group* screen to configure the Sub-Group. (It works just like adding a top-level *Camera Group*).
4. Click the **Add Group** button to add the Sub-Group.

Here's an example of a *Camera Group* with two Sub-Groups:

IPC HQ

Top-Level Group


6


Exterior Views ▾

Sub-Group

2

IPC HQ -
Norfolk, VA:


Colony Entry



Parking Lot


Interior Views ▾


Sub-Group


4

IPC HQ -
Norfolk, VA:



Kitchen Sink



Support Demo C...


Vibrant Dubin Do...


Vibrant Dubin Do...

+ ADD SUB-GROUP

 EDIT GROUP

 DELETE GROUP

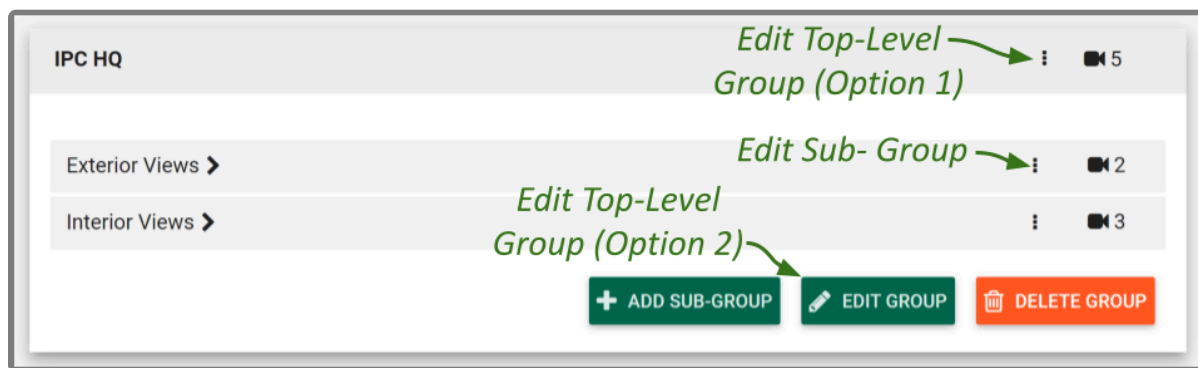
Edit Camera Group



This is the **Edit** pencil icon.

You can rename or change the cameras in a *Camera Group* at any time. You will use very similar processes to edit a top-level *Camera Group* and a Sub-Group.

1. To edit a top-level *Camera Group*, click on the *Camera Group*'s pop-up menu and select **Edit Group**, or expand the *Camera Group*, then click on the **Edit Group** button.
2. To edit a Sub-Group, click on the *Camera Group*'s pop-up menu and select **Edit Group**.
3. When you have finished making changes, click the **Update Group** button.



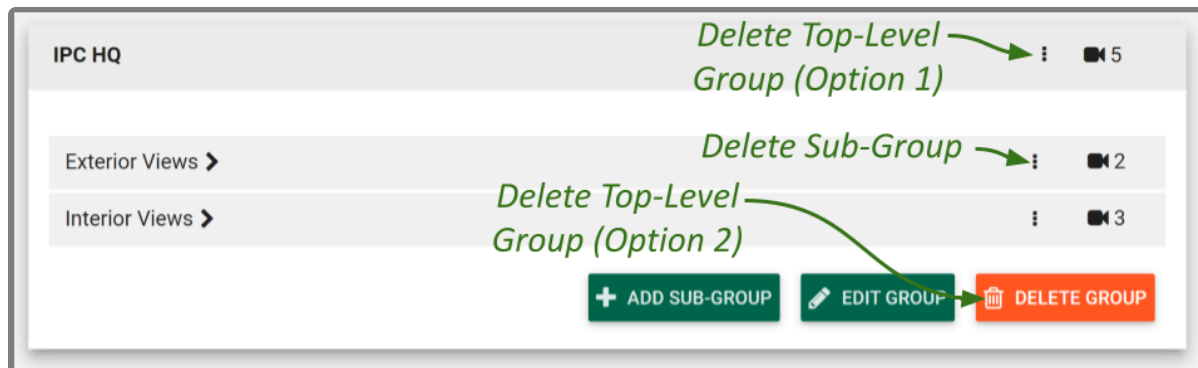
Delete a Camera Group



This is the **Delete / Trash Can** icon.

You can delete a *Camera Group* at any time. You will use very similar processes to delete a top-level *Camera Group* and a Sub-Group.

1. To delete a top-level *Camera Group*, click on the *Camera Group*'s pop-up menu and select **Delete Group**, or expand the *Camera Group*, then click on the **Delete Group** button. The system will ask you to confirm the deletion; click **Delete Group** again to remove the *Camera Group*.
2. To delete a Sub-Group, click on the Sub-Group's pop-up menu and select **Delete Group**. The system will ask you to confirm the delete process; click the **Delete Group** button to remove the Sub-Group.



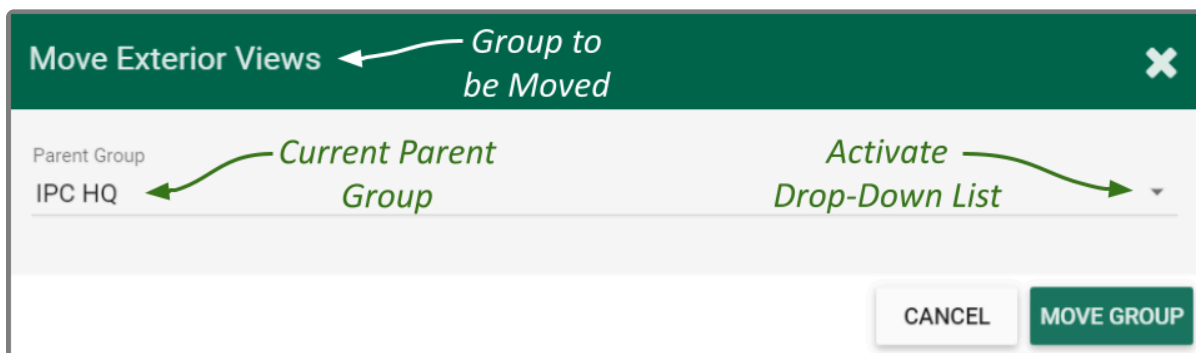
Deleting a *Camera Group* will also delete any of that *Camera Group*'s Sub-Groups.

Move a Camera Group

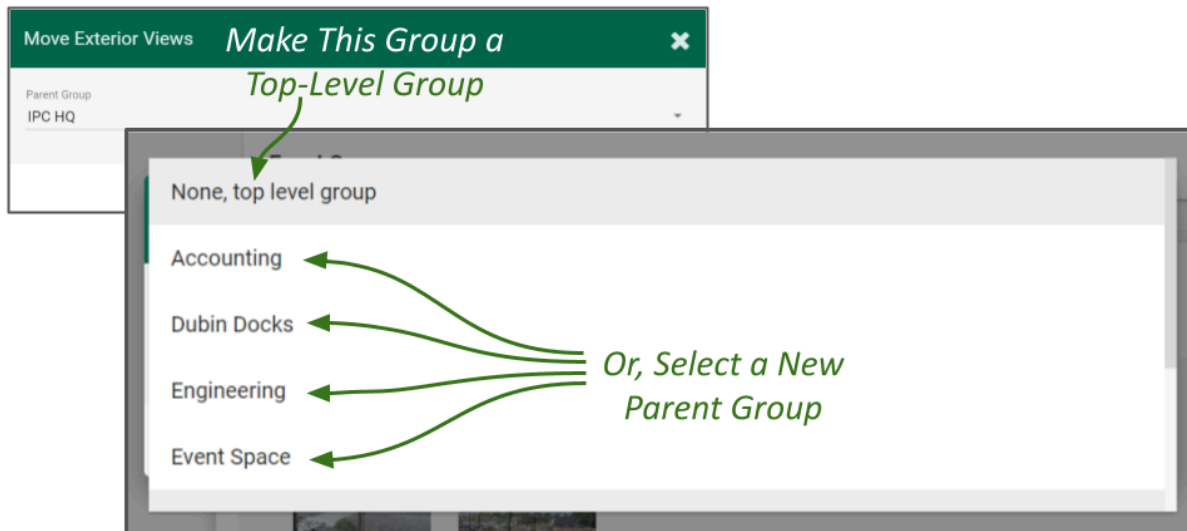
If you decide you need to re-organize your *Camera Groups*, you can do this pretty easily with the *Move Group* feature. This feature essentially just allows you to select a new parent *Camera Group* for an existing *Camera Group*. In doing so, you can transfer Sub-Groups to different top-level *Camera Groups*, turn top-level *Camera Groups* into Sub-Groups, and turn Sub-Groups into top-level *Camera Groups*.

1. To move a *Camera Group*, click on the *Camera Group*'s pop-up menu and select **Move Group**.

When the *Move* screen appears, check the *Parent Group* field. If you are moving a top-level *Camera Group*, the *Parent Group* field will display *None, top level group* (since the *Camera Group* currently does not have a parent). If you are moving a Sub-Group, the *Parent Group* field will display the name of the parent.



2. To make a move, click the *Parent Group* drop-down list to see available selections.



3. Select one of the available *Camera Groups* as the new parent *Camera Group*, or select *None* to make this a top-level *Camera Group*.
4. Once you've made your selection, click the **Move Group** button to complete the move.

Find Ungrouped Cameras



This is the icon that will search for **Ungrouped Cameras**.

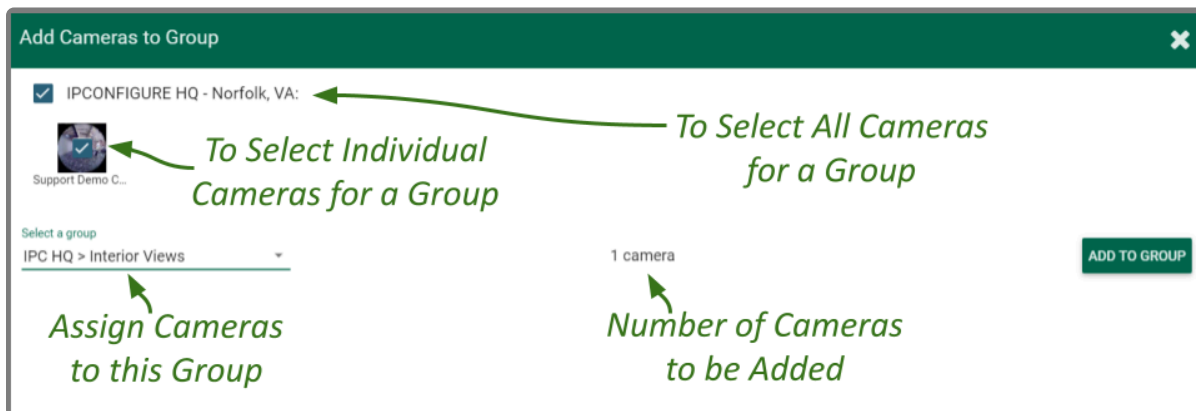
As you add and delete *Camera Groups*, Orchid Alto VMS will keep track of cameras that have not been assigned to a *Camera Group*. Accessing this list is easy and will help you complete your *Camera Groups*.



Camera Groups are optional and not every camera has to be added to a *Camera Group*. Be aware however, that if you have ungrouped cameras, and you have elected not to view servers in the *Camera Bag*, those ungrouped cameras will not be eligible for the *Stage*.

1. To view the list of ungrouped cameras, click the **Ungrouped Cameras** button at the bottom of the *Camera Groups* screen. (Notice that the button indicates how many cameras are ungrouped.)

The *Add Cameras to Group* screen will display all of the unassigned cameras by server. Use this screen to quickly assign cameras to the appropriate groups (as needed).



2. Select the cameras you want to assign to a group.
 - a. Mark the checkbox next to a server name to select all of its unassigned cameras for a group.
 - b. Mark individual checkboxes to pick and choose your cameras.
3. Use the *Select a group* drop-down list to select the *Camera Group* to which the selected cameras will be assigned. (The number of cameras slated for addition will be displayed next to the group name.)
4. Click the **Add to Group** button to complete the *Camera Group* assignment.

Camera Group Settings



This is the **Camera Group Settings** icon.

1. Click the **Camera Group Settings** button at the bottom of the *Camera Groups* screen.
2. Mark the *Show Servers in Bag* checkbox if you want the Servers to be displayed in the *Camera Bag* with the *Camera Groups*.
3. Leave the box unmarked if you want the *Camera Bag* to display *Camera Groups* only.
4. To save your settings, click the **Update Settings** button.

Camera Group Settings

☒ Show Servers in Bag

CANCEL

UPDATE SETTINGS



Be aware that if you have ungrouped cameras, and you have elected not to show servers in the *Camera Bag*, those ungrouped cameras will not be eligible for the *Stage*.

Creating and Managing Permission Groups

Orchid Alto VMS supports granular permissions through the *Permission Groups* feature. This means that Administrators may create custom permission sets, and will be able to:

- Define groups of users, each with different permissions
- Add *Permission Groups* as “users” of other *Permission Groups* (nested groups)
- Assign combinations of individual abilities (Live, Playback, PTZ, and Export)
- Grant and revoke permissions at both the server and camera levels

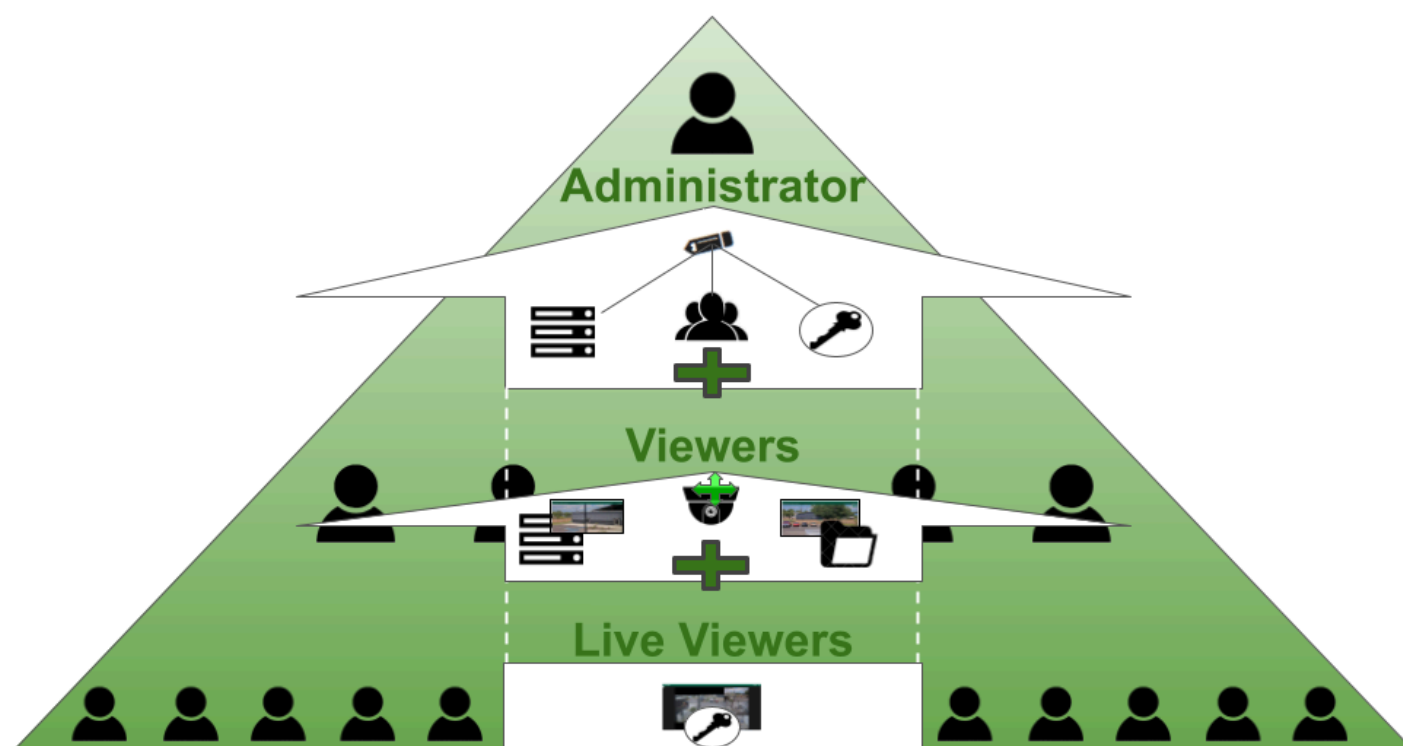
Using *Permission Groups* can decrease the Administrator’s workload by eliminating the need to enter every detail for each user, and reducing the need for future maintenance. A solid permission strategy, however, will require some planning.

✿ You must be a member of an Administrator group to add and manage *Permission Groups*.

- ✿ To configure Orchid Alto VMS to work with an external authentication provider (like Google or Azure Active Directory), IPConfigure Support staff must first configure the system to do so.
- ~To create *Permission Groups* for Azure Active Directory, please refer to the [Add a Permission Group for Azure Active Directory](#) section.
 - ~ You don’t have to create *Permission Groups* specifically for Google authentication. For each user that will sign in with Google, there should be an Orchid Alto VMS user linked to a Google account.

Orchid Alto VMS Default Permission Groups

Orchid Alto VMS is configured with three default *Permission Groups*: Live Viewer, Viewer, and Administrator. As indicated in the next diagram, these *Permission Groups* have increasing levels of permissions, and by design, the fewest number of people should have the most permissions. This represents what may be the simplest and best permissions structure for Orchid Alto VMS. In theory, you could just add members to each of these *Permission Groups* and be done. However, this diagram assumes that the default *Permission Groups* are sufficient and that all of the users should have access to all of the cameras on the Recording server (which may not apply in your organization).



In some organizations, *Permission Groups* may need to be restricted to certain abilities, servers and cameras. While these requirements may complicate the planning process for permissions, once a plan is in place, Orchid Alto VMS has the tools to make it happen. Refer to the *Tips* section for general suggestions on creating *Permission Groups*, and the remainder of this section for instructions on how to configure *Permission Groups*.

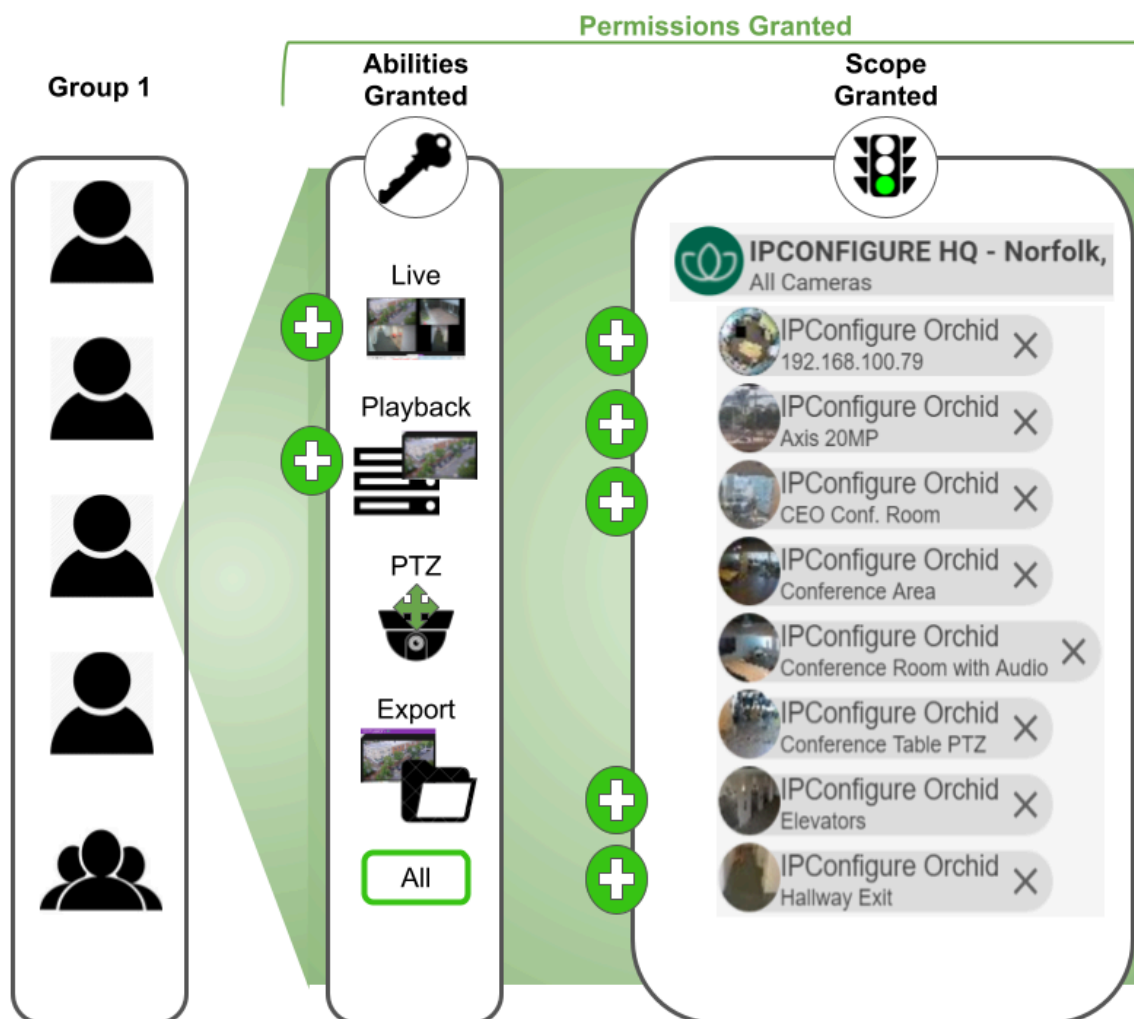
Custom Permission Groups

While you may want to utilize the Orchid Alto VMS Default Permission Groups, you also have the option of creating new, custom Permission Groups with defined abilities and camera access. For each Permission Group, there are several abilities that can be granted or revoked individually. These are as follows:

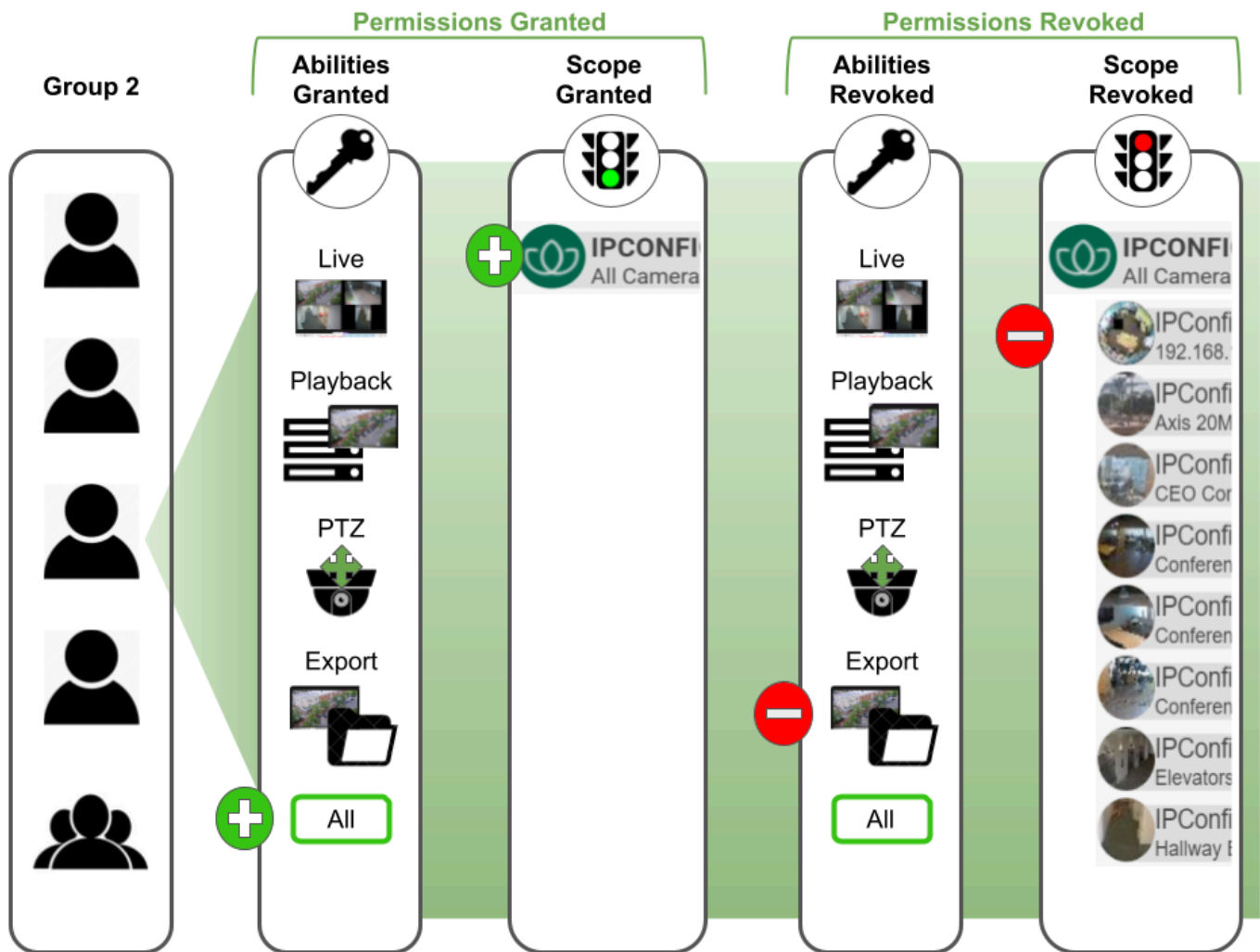
- **Live:** View live video.
- **Playback:** View archive video.
- **Export:** Export archive video.
- **PTZ:** Control PTZ cameras.
- **All:** All of the above.

Once the abilities have been selected, they can then be applied to some or all of the cameras, as needed. This is a powerful combination that can be used in a variety of situations, like dividing your organization into territories to be monitored by different *Permission Groups*, or for restricting user access to secure areas.

The diagram below shows a simple example in which a *Permission Group* (with both individual members and a member *Permission Group*) is granted two abilities; these abilities are extended to five of the cameras on the Recording server. In Orchid Alto VMS, this was accomplished using one permission set. Check out the next example to see what you can do when you start adding permission sets.



The next diagram shows a more complex example (but it's still easy to set up in Orchid Alto VMS). With one permission set, all of the abilities are granted to the *Permission Group* and these abilities are extended to all of the cameras on the Recording server (*All Servers/All Cameras*). But in this example, there needs to be one exception. To do that, another permission set is created to revoke permissions on one ability on one camera.



When you grant and revoke permissions, it is important to remember what that will mean to future system additions. In the example above, only one ability on one camera has been revoked. If you add a camera or a Recording server to the system, it will automatically have all of the permissions (because it is covered by the *All Servers/All Cameras* selection, and is not specifically chosen for a revoked permission).

Let's look at this example another way. Instead of using the revoke feature, we could grant all of the abilities to almost all of the cameras (by selecting the cameras one by one). In this case, if you add a camera or a Recording server to the system, it will not automatically have all of the permissions (because it is not covered by an *All Servers/All Cameras* selection, or specifically chosen for granted permissions).

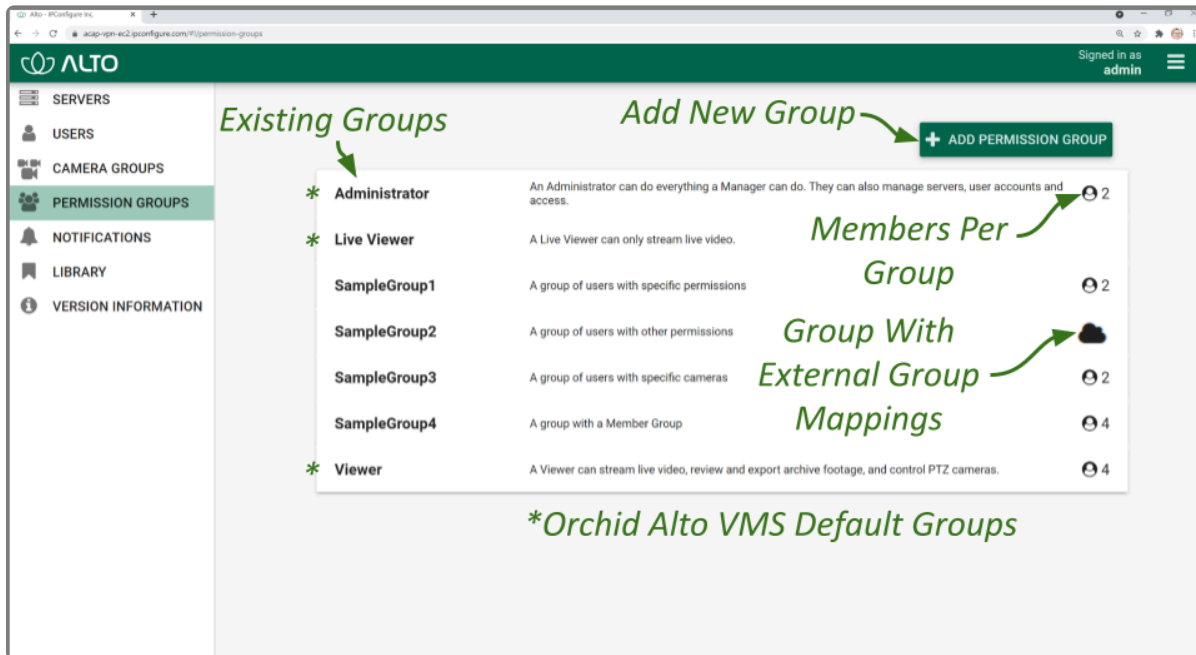
Tips for Creating Permission Groups

- Develop a plan for permissions before you start. Ask some basic questions:
 - Who needs to have access to everything? That will be your Administrator group.
 - Who are your Users and what do they need access to during the course of a normal day?
 - Are there any abilities that need to be off-limits to some users?
 - Are there any servers or cameras that need to be off-limits to some users?
- Consider using a few standard *Permission Groups* that may cover a majority of users. (Orchid Alto VMS Default *Permission Groups*, as discussed, include the following: Administrator, Viewer, and Live Viewer. These can be used as is, modified, ignored, or deleted.)
- Limit the Administrator group to as few members as possible.
- Refer to your organization's existing hierarchy to help determine permission levels for different users.
- Don't over-do it on permissions; grant users the least amount of permissions required to complete job duties.
- Try to design things so that each user is only in one *Permission Group*.
- If a user is a member of more than one *Permission Group*, remember that a permission granted in one *Permission Group* will override a permission revoked in another *Permission Group*.
- If you create a permission set that grants some abilities to *All Servers*, *All Cameras*, that permission set will automatically apply to any new camera you add to the system.
- The *Permissions Revoked* feature is especially useful when you have a large system of servers and cameras and just one (or a few) that need more restricted access. Instead of granting permissions to a large number of servers and cameras by selecting them one by one, grant the permission to *All Servers*, *All Cameras*, then revoke access to a select few.
- The system will allow some strange permission combinations, but it will typically give you hints to avoid them. For example, a *Permission Group* may have export abilities without playback abilities; this means a user can select and export a segment of recorded video without actually being able to view it until after it's exported.

Accessing the Permission Groups

1. Open the *System Menu* in the top-right corner of the screen and select *Permission Groups*.

The *Permission Groups* screen will initially include three Orchid Alto VMS Default *Permission Groups*. Once you start creating new *Permission Groups*, they will appear here as well. For each one, Orchid Alto VMS displays a description of the *Permission Group*, and the number of members that are currently assigned to it.



* You may use the default *Permission Groups* or add new ones as necessary.

* When configured for Azure Active Directory, this list will not indicate how many members are in each *Permission Group*. (For more details, please refer to the [Add a Permission Group for Azure Active Directory](#) section.)

Add an Administrator Permission Group



This is the **Add** icon.

1. Click the **Add Permission Group** button in the top-right corner of the *Permission Groups* list. A *New Permission Group* screen will open.

2. Enter a name and a description for the new *Permission Group* in the *Group Name* and *Group Description* fields.
3. Select a member for the new *Permission Group* by clicking on *Search for a User* to open a drop-down list of Orchid Alto VMS users. Find and click on a member. As soon as you select a member, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a member, click the **X** to the right of the member name.

* Available members (or Orchid Alto VMS users) are established with the *Users* feature found on the *System* menu. For more details, please refer to *Users*. Other potential members may come from authentication providers the system has been configured to use.

* The software provides two locations at which you may assign user permissions. With the *User* feature, you assign user permissions (indirectly) by selecting the *Permission Group(s)* to which the user belongs. With the *Permission Groups* feature, you assign users as members of *Permission Groups* with specific abilities and access. While you don't have to select any members immediately upon adding a *Permission Group*, until you do, the *Permission Group* will essentially be inactive.

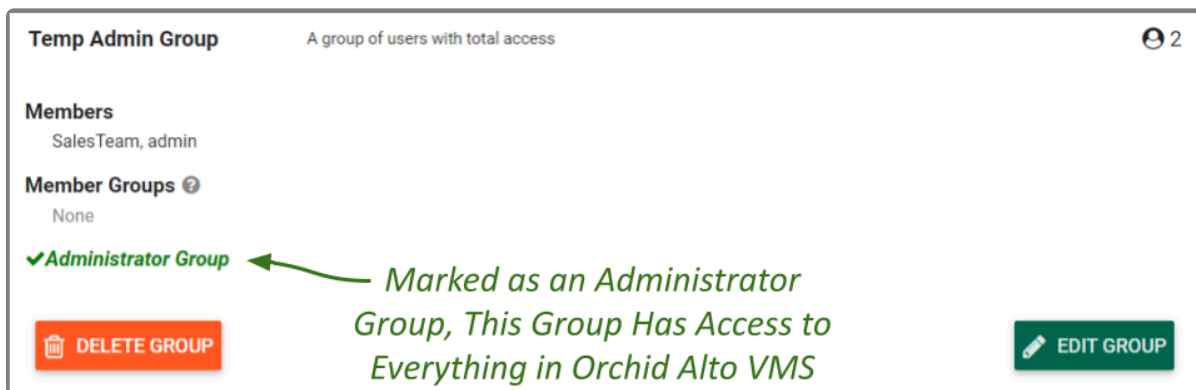
4. If members of this *Permission Group* will include other *Permission Groups*, click on **Search for a Group** to open a drop-down list of existing *Permission Groups*. Find and click on a *Permission Group*. As soon as you select a *Permission Group*, another list will appear so you can make another selection

(if needed).

- a. Press **Esc** if you don't need to make another selection.
- b. To remove a *Permission Group*, click the **X** to the right of the *Permission Group* name.

* If you add a *Permission Group* as a member of this *Permission Group*, the member *Permission Group* will automatically inherit the permissions of the main *Permission Group*. (This is probably not a common selection for an Administrator group.)

5. Since this *Permission Group* is an Administrator group, mark the Administrator Group checkbox. In addition to all-server access and video abilities, this *Permission Group* will be able to add and delete *Users*, *Permission Groups*, *Notifications*, and *Library Items*. (No other settings will be required.)
6. Once all settings are complete, press the **Save Group** button.



Add a Permission Group with Individual Members



This is the **Add** icon.

1. Click the **Add Permission Group** button in the top-right corner of the *Permission Groups* list. A *New Permission Group* screen will open.

The screenshot shows the 'New Permission Group' dialog box. It has a green header bar with a close button (X) in the top right. The main area is divided into several sections:

- Group Name***: A text field containing 'SampleGroup1'.
- Group Description**: A text field containing 'A group of users with specific permissions'.
- Members**: A section with a search bar labeled 'Search for a User' and a button 'TestUser1 X'.
- Member Groups**: A section with a search bar labeled 'Search for a Group'.
- Permissions Granted**: A green-bordered box containing a list of abilities: 'Live X', 'Playback X', 'PTZ X', and 'All Servers, All Cameras' (checked). There is a 'REMOVE' button and an 'ADONE' button.
- Permissions Revoked**: A pink-bordered box containing a message 'Need to revoke access to cameras or features?' and a '+ REVOKE PERMISSION' button.

Annotations with green arrows point to the following elements:

- 'Group Name & Description' points to the Group Name and Group Description fields.
- 'Select Members' points to the 'Search for a User' button.
- 'Abilities and Cameras' points to the 'All Servers, All Cameras' checkbox.

At the bottom right, there are 'CANCEL' and 'SAVE GROUP' buttons.

2. Enter a name and a description for the new *Permission Group* in the *Group Name* and *Group Description* fields.
3. Select a member for the new *Permission Group* by clicking on *Search for a User* to open a drop-down list of Orchid Alto VMS users. Find and click on a member. As soon as you select a member, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a member, click the **X** to the right of the member name.



Available members (or Orchid Alto VMS users) are established with the *Users* feature found on the *System* menu. For more details, please refer to *Users*. Other potential members may come from authentication providers the system has been configured to use.

- ✿ The software provides two locations at which you may assign user permissions. With the *User* feature, you assign permissions (indirectly) by selecting the *Permission Group(s)* to which the user belongs. With the *Permission Groups* feature, you assign users as members of *Permission Groups* with specific abilities and access. While you don't have to select any members immediately upon adding a *Permission Group*, until you do, the *Permission Group* will essentially be inactive.

By default, each new *Permission Group* will be granted *Live* abilities for *All Servers*, *All Cameras*.

4. To assign specific, limited permissions for this *Permission Group*, use the *Permissions Granted* and *Permissions Revoked* features.
5. After all of the permissions are set, press the **Save Group** button.

Permissions Granted

The *Permissions Granted* feature provides a way to grant custom combinations of abilities to selected servers and cameras. In the example below, the *Permission Group* is given the ability to view live video on all servers and cameras. With the addition of another permission set, this same *Permission Group* will be able to playback video from two of the cameras on the Recording server.

Permissions Granted

+

Abilities:
Live

Scope:
✓ All Servers, All Cameras

Add Abilities that Apply to All Recording Servers and Cameras

+

Abilities:
Playback X Type an Ability

Add Abilities that Apply to Specific Recording Servers and Cameras

Playback: consider also including Live [Add](#)

☐ All Servers, All Cameras

Servers and Cameras

IPCONFIGURE HQ - Norfolk, VA X
Colony Entry

IPCONFIGURE HQ - Norfolk, VA X
Parking Lot

Search

This Allows for Two or More "Grant" Permission Sets

REMOVE **^DONE**

+ GRANT ANOTHER PERMISSION

1. Go to the *Permissions Granted* box.
2. Select an ability for the new *Permission Group* by clicking on *Type an Ability* to open a drop-down list of abilities. Available selections include the following: *Live*, *Playback*, *Export*, *PTZ*, and *All* (which includes the other four abilities).
3. Click on the ability you want to grant. As soon as you select an ability, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove an ability, click the **X** to the right of the ability name.
4. Mark the *All Servers, All Cameras* checkbox if you want this permission set to apply to all of the cameras on all of the registered Recording servers. You may also select this option if you want this permission set to apply to most of the servers and cameras; you may use a *Revoke* permission set in conjunction with this one to eliminate the unwanted cameras. Keep in mind how this will impact cameras and servers that are added to the system later. (If marked, proceed to step number 7. If left unmarked, proceed to step 5.)

* If you create a *Permission Group* that uses the *All Servers, All Cameras* selection, that

Permission Group will automatically have the same access to any new cameras you add to the system.

5. Select specific servers and cameras for this permission set by unmarking the *All Servers, All Cameras* checkbox; then click on *Search* to open a drop-down list of registered servers and cameras. (Recording servers will be represented by an Alto logo; individual cameras will be represented by a thumbnail.)
6. Click on a server or camera. As soon as you select a server or camera, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a server/camera, click the **X** to the right of the server/camera name.
7. When the permission set is complete, press the **Done** button.

The screenshot shows a window titled "Permissions Granted ?" with a light green background. It contains two white rectangular boxes, each preceded by a green circle with a white plus sign. The first box shows "Abilities: Live" and "Scope: All Servers, All Cameras" with a pencil icon in the bottom right. The second box shows "Abilities: Playback" and "Scope: IPCONFIGURE HQ - Norfolk, VA: Colony Entry, Parking Lot" with a pencil icon in the bottom right. At the bottom center is a green button with a white plus sign and the text "GRANT ANOTHER PERMISSION".

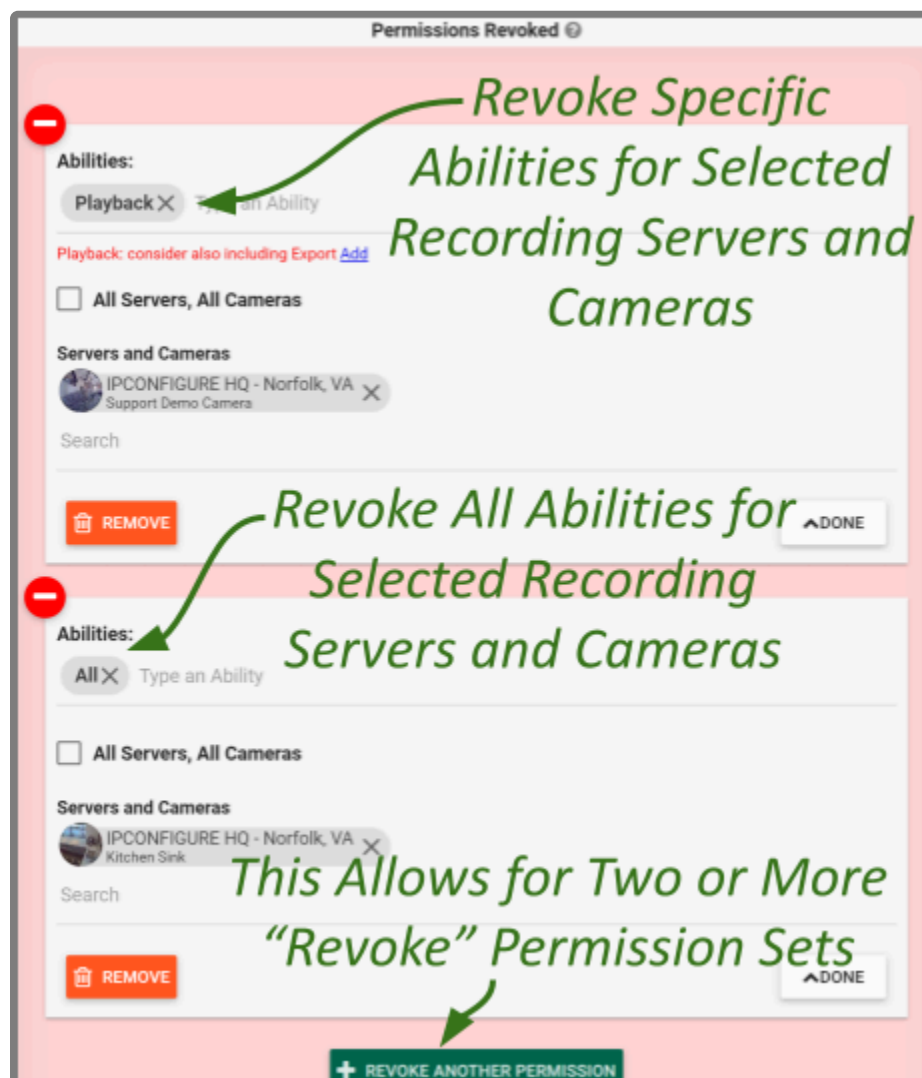
8. If you need to add another permission set for this *Permission Group*, click the **Grant Another Permission** button, then repeat steps 1 through 7.
9. To edit a permission set, click the **Edit** pencil that corresponds to the set you want to edit.

10. To delete a permission set, click the **Remove** button. (The set will be removed immediately.) If you don't see the **Remove** button, enter edit mode first by clicking the **Edit** pencil.

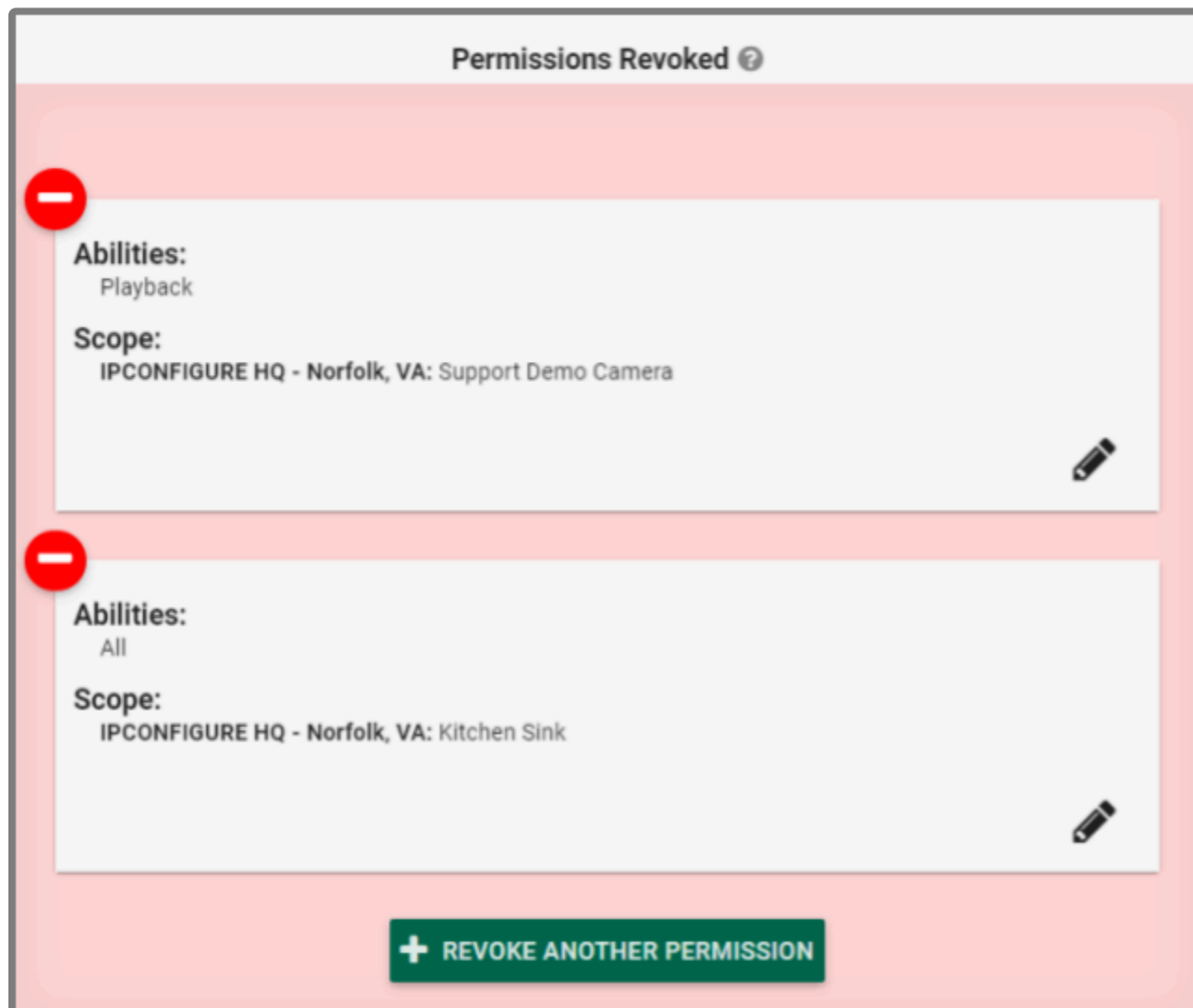
Permissions Revoked

The *Permissions Revoked* feature provides a way to eliminate the *Permission Group's* ability to do certain things for selected servers and cameras. This can be a great shortcut especially when, for example, there is only one camera out of many that requires some restricted access. In the sample below, the *Permission Group's* ability to view recorded video has been revoked on one camera. By adding another permission set, this *Permission Group* will lose all abilities for another camera.

* Although not shown here, this *Permission Group* was granted *All abilities* on *All Servers, All Cameras*. *Permissions Revoked* settings will override *Permissions Granted* settings. Keep in mind how these settings will impact cameras and servers that are added to the system later.



1. Go to the *Permissions Revoked* box.
2. Select the ability you want to take away from the *Permission Group* by clicking on *Type an Ability* to open a drop-down list of abilities. Available selections include the following: *Live*, *Playback*, *Export*, *PTZ*, and *All* (which includes the other four abilities).
3. Click on the ability you want to eliminate. As soon as you select an ability, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove an ability from the revoked list, click the **X** to the right of the ability name.
4. Mark the *All Servers*, *All Cameras* checkbox if you want this permission set to apply to all of the cameras on all registered Recording servers. (If marked, proceed to step 7. If left unmarked, proceed to step 5.)
5. Select specific servers and cameras for this permission set by unmarking the *All Servers*, *All Cameras* checkbox; then click on *Search* to open a drop-down list of servers and cameras. (Recording servers will be represented by an Alto logo; individual cameras will be represented by a thumbnail.)
6. Click on a server or camera. As soon as you select a server or camera, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a server/camera from the revoked list, click the **X** to the right of the server/camera name.
7. When the permission set is complete, press the **Done** button.



8. If you need to add another revoked permission set for this *Permission Group*, click the **Revoke Another Permission** button, then repeat steps 1 through 7.
9. To edit a permission set, click the **Edit** pencil icon that corresponds to the set you want to edit.
10. To delete a permission set, click the **Remove** button. (The set will be removed immediately.) If you don't see the **Remove** button, enter edit mode first by clicking the **Edit** pencil.

Add a Permission Group that Includes a Member Group



This is the **Add** icon.

1. Click the **Add Permission Group** button in the top-right corner of the *Permission Group* list. A *New Permission Group* screen will open.

2. Enter a name and a description for the new *Permission Group* in the *Group Name* and *Group Description* fields.
3. To add member *Permission Groups* to this *Permission Group*, click on *Search for a Group* to open a drop-down list of existing *Permission Groups*. Find and click on a *Permission Group*. As soon as you select a *Permission Group*, another list will appear so you can make another selection (if needed).
 - a. Press **Esc** if you don't need to make another selection.
 - b. To remove a *Permission Group*, click the **X** to the right of the *Permission Group* name.



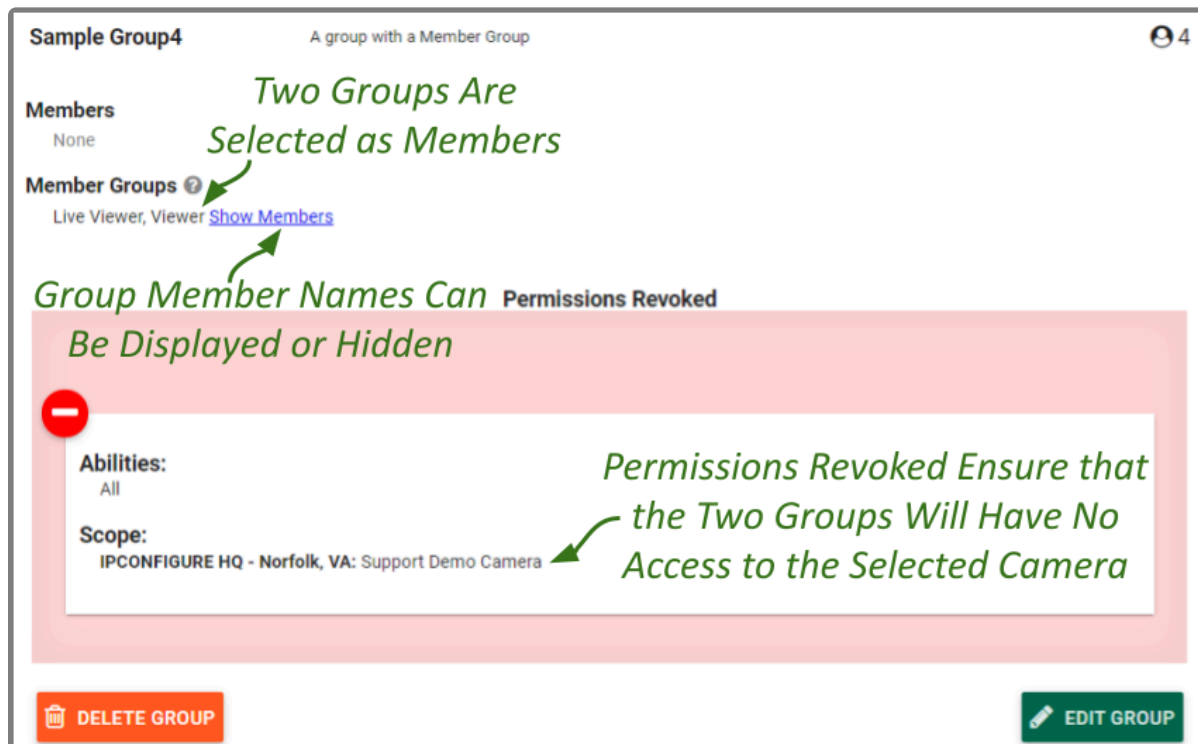
When you add a *Permission Group* as a member *Permission Group*, it will automatically inherit the permissions of the main *Permission Group*.



The software provides two locations at which you may assign user permissions. With the *User* feature, you assign user permissions (indirectly) by selecting the *Permission Group(s)*

to which the user belongs. With the *Permission Groups* feature, you assign users as members of *Permission Groups* with specific abilities and access. While you don't have to select any members immediately upon adding a *Permission Group*, until you do, the *Permission Group* will essentially be inactive.

4. To assign specific, limited permissions for this *Permission Group*, use the *Permissions Granted* and *Permissions Revoked* features.
5. After all of the permissions are set, press the **Save Group** button.
6. When the *Permission Group* appears in the *Permission Groups* list, click **Show Members** to display all of the users in the member *Permission Group*, or **Hide** to conceal them.



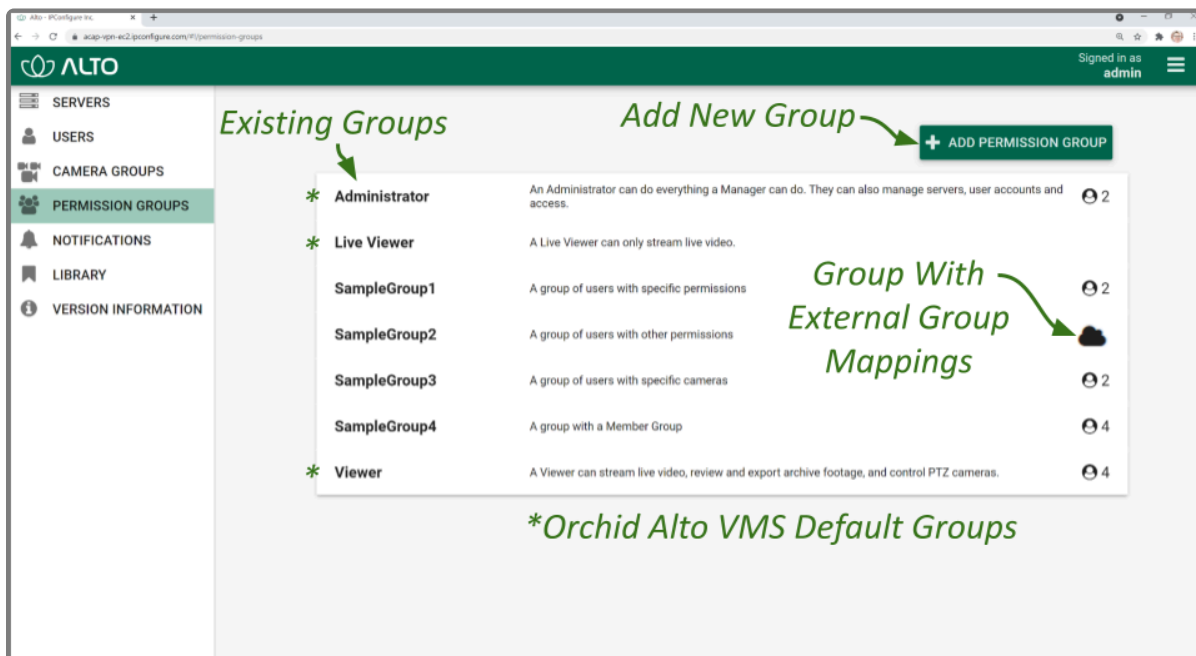
Permission Groups may contain a combination of individual members, member *Permission Groups*, and external groups.

Add a Permission Group for Azure Active Directory

+ This is the **Add** icon.

The *Permissions Group* screen lists all of the *Permission Groups* that have been added. For each of these *Permission Groups*, Orchid Alto VMS displays a description of the *Permission Group*. If IPConfigure has modified the Alto configuration file to add the Azure Active Directory properties, you may add *Permission Groups* that pull users from your Azure Active Directory.

✿ If you want to enable Azure Active Directory authentication, please contact [IPConfigure Support](#).



✿ You may use the default *Permission Groups* or add new *Permission Groups* as you deem necessary.

1. Click the **Add Permission Group** button in the top-right corner of the *Permission Groups* list. A *New Permission Group* screen will open.

2. Enter a name and a description for the new *Permission Group* in the *Group Name* and *Group Description* fields.
3. Click on **External Group Mapping**.
4. Click in the *Domain* field and enter the name of the domain in which your target Azure Active Directory users exist.
5. Click in the *Group* field and enter the name of the group in which your target Azure Active Directory users exist.
6. Click the **Add** icon to add this new external group. As soon as you add the new external group, another prompt will appear so you can enter another group (if needed).
 - a. If you don't have any additional external groups to add, simply click in the white space to the right of the *Domain* and *Group* fields.
 - b. To remove an external group mapping, click the **Delete/Trash Can** icon to the right of the group name.

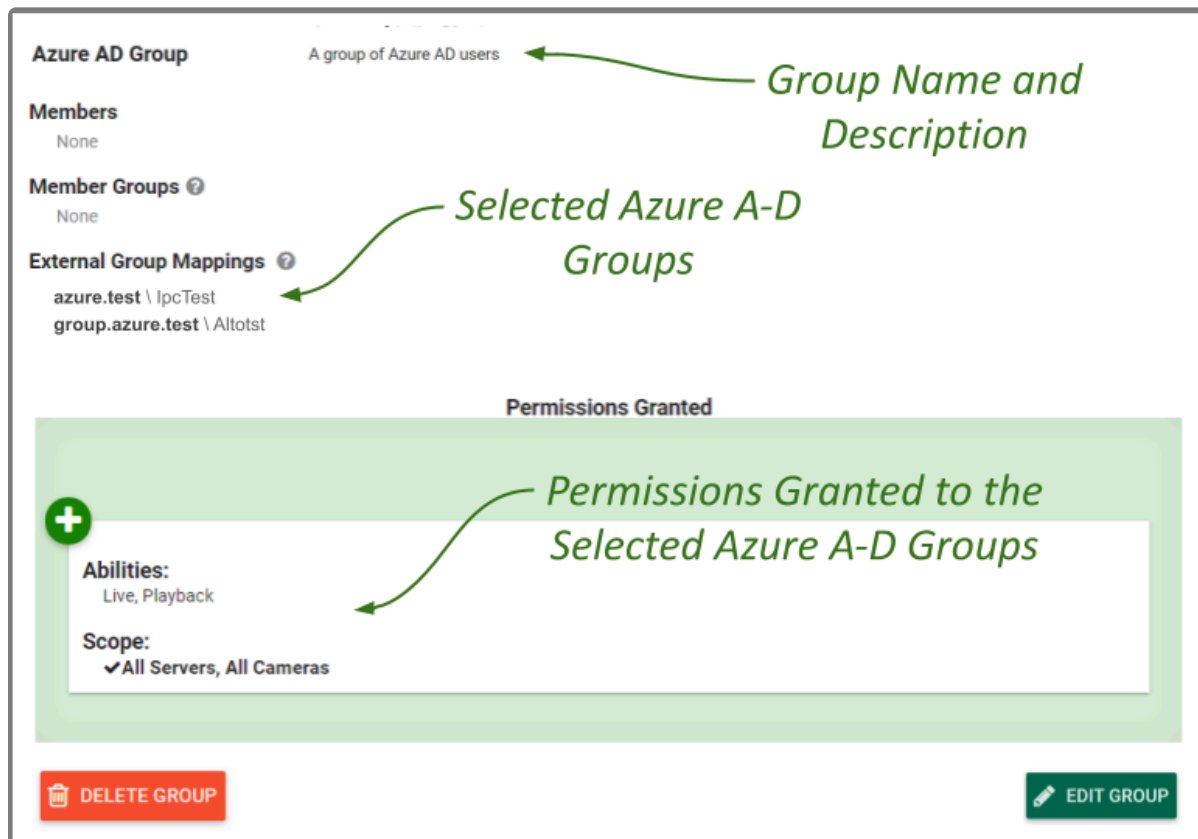


Available members for an Azure Active Directory *Permission Group* include all of the users that are already defined in your Azure Active Directory. For more details, please refer to your Azure Active Directory documentation.

7. If this *Permission Group* is going to have all of the permissions that an Administrator has (such as adding and deleting *Users* and *Permission Groups*), mark the *Administrator Group* checkbox. (If marked, no other settings will be required.)
8. If this *Permission Group* is going to have specific, limited permissions, use the *Permissions Granted*

and *Permissions Revoked* features.

9. After all of the permissions are set, press the **Save Group** button.



Edit Permission Group



This is the **Edit** pencil icon.

The *Permission Groups* can be changed at any time through the *Permission Groups* screen.

1. Click on one of the *Permission Groups* in the *Permission Groups* list. The entry will expand to display all of the *Permission Group* settings.
2. To edit the *Permission Group*, click the **Edit Group** button at the bottom of the expanded entry. The *Edit Group* screen will open.
3. Edit any of the available fields, as needed.
4. Click the **Save Group** button. All of the changes will be effective immediately.

Delete Permission Group



This is the **Delete / Trash Can** icon.

1. Click on one of the *Permission Groups* in the *Permission Groups* list. The entry will expand to display all of the *Permission Group* settings.
2. To delete the *Permission Group*, click the **Delete Group** button at the bottom of the expanded entry.
3. The software will ask for confirmation before deleting the *Permission Group*.
4. Click the **Delete** button. The *Permission Group* will be deleted immediately.

Notifications

Orchid Alto VMS Administrators have the ability to configure *Notifications*. A *Notification* will send an alert to selected recipients when a defined trigger event occurs. More specifically, the system may be configured to monitor for a camera or server becoming unavailable, a server error, or an I/O error.

In many cases, a single, somewhat global *Notification* will fulfill your needs. Other situations, however, may demand more flexibility. The *Notifications* feature manages these additional demands by allowing customized scope (one or more cameras, one or more servers), and combinations that use multiple triggers and actions.



Use of this feature is optional, but recommended by IPConfigure, because it can help to minimize gaps in video availability by identifying problems quickly.

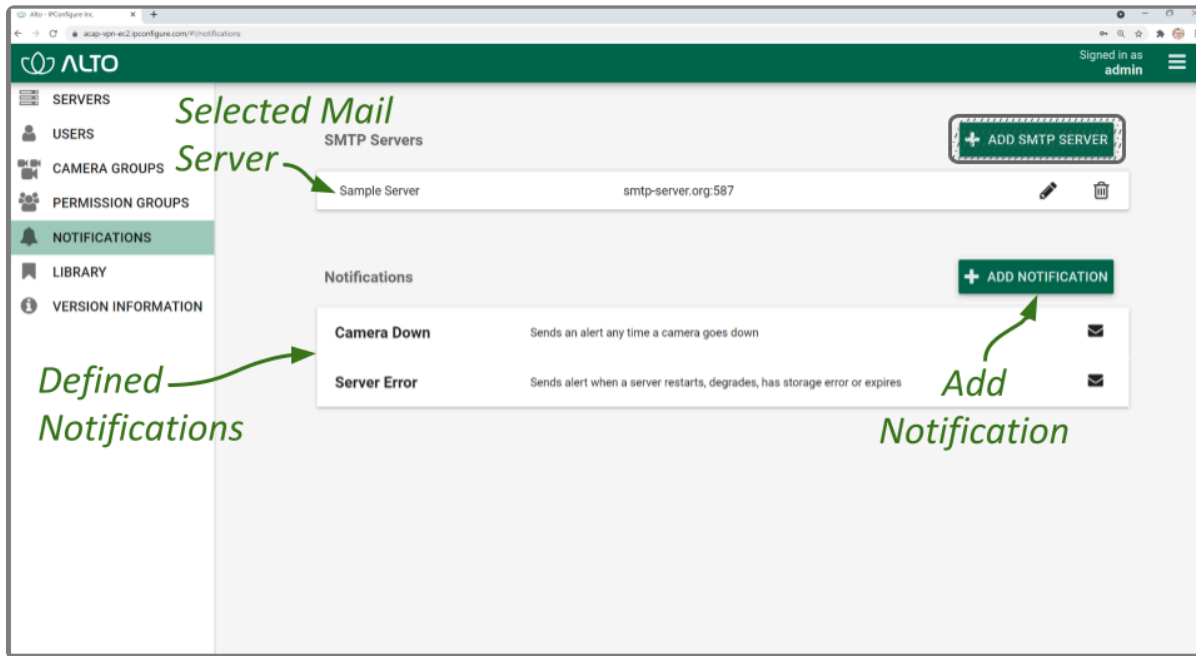


System Administrators will have the ability to configure Notifications, but first, IPConfigure Support personnel will need to configure the SMTP server and set a public URL (if desired) for the Alto server (which will be displayed in *Notification* emails).

Access the Notifications Screen

1. Open the *System Menu* in the top-right corner of the screen and select *Notifications*.

The Orchid Alto VMS *Notifications* screen will appear. This screen displays a list of all the current *Notifications*, and gives you the ability to add, edit, and delete them.



- Click on any row that represents a *Notification* to expand or collapse the *Notification* details. (When expanded, you may elect to delete or edit the *Notification*.)



Do not attempt to edit or delete the SMTP server selection. This will be set by IPConfigure Support and should remain as the default.

Add a Notification



This is the **Add** icon.

As mentioned earlier, you may configure one or more notifications, depending on your needs. We'll cover each of the basic options step-by-step to show what's available.

If you are trying to decide whether to create just one or multiple *Notifications*, you'll need to have an understanding of how they work. An *Immediate Email* alert is pretty simple; if a valid trigger event occurs, the system will send an email with details on the trigger event. If you set up a *Daily Email Digest* alert, the system will send a daily summary of the trigger events that have been defined within that *Notification* (even if none of the trigger events occurred). For example, assume you have a *Notification* that monitors for *Server Unreachable* events only. During the day, two *Camera Unreachable* events occur, but no *Server Unreachable* events occur. Your next *Daily Email Digest* will report that "No notifications were sent today" because it is only monitoring for *Server Unreachable* events. (As an added benefit, the *Daily Email Digest* will confirm that the alert system is working, even when no events occur.)

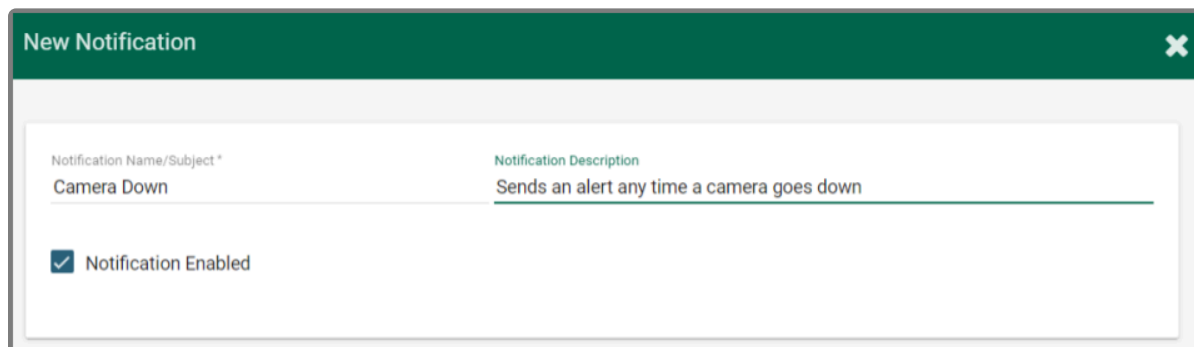
You'll also want to consider what recipients want or need to know. While front line people may want to be alerted each time a camera goes down, upper level personnel may only want to know if a server goes down (which is obviously a larger problem). In this situation, you would need to configure at least two *Notifications*: one Immediate alert that covers cameras (and perhaps servers), and one Immediate alert for servers.

You may, instead, have upper level personnel that prefer to receive a daily summary (that covers all types of issues). In this situation, you can simply add a *Daily Email Digest* action item to any or all of the defined *Notifications*.



The *Notification* dialog has several key sections: the description (at the top), one or more *Notification Triggers*, and one or more *Actions*. You may need to use the scroll bar along the right edge of the dialog to view and work with each of these elements.

1. Click the **Add Notification** button at the top-right corner of the *Notifications* list. The *New Notification* screen will open.



New Notification

Notification Name/Subject*
Camera Down

Notification Description
Sends an alert any time a camera goes down

☒ Notification Enabled

2. Enter a name for the *Notification* in the *Notification Name* field. (Email alerts sent for this *Notification* will use this *Notification Name* as the email subject.)
3. Enter a general definition for the *Notification* in the *Notification Description* field.
4. Mark the *Notification Enabled* checkbox to activate the *Notification*. (Remove the mark from the *Notification Enabled* checkbox to deactivate the *Notification*.)
5. Scroll down to the *Notification Triggers* section to continue.

Notification Triggers

In the *Notification Triggers* section, you may select one or more events that may initiate a *Notification*. (Notice that by default, the *New Notification* dialog includes a *Camera Unreachable* trigger, a *Server Unreachable* trigger, and a *Server Error* trigger. Scroll down to view all of these and remove any triggers that you don't wish to use.)

Camera Unreachable/Server Unreachable Trigger

1. Click on the *Trigger Event* drop-down list and select *Camera Unreachable* or *Server Unreachable*. The settings for the *Camera Unreachable* and *Server Unreachable* triggers are very similar.

New Notification

Notification Triggers

Trigger Event
Camera Unreachable

A notification will be sent when a camera becomes unreachable for 5 minutes.

Before another notification will be sent, the camera must be online for at least 5 minutes.

Cameras that become unreachable because a server becomes unreachable will not send notifications.

☐ Any Camera

Only These Cameras

- IPCONFIGURE HQ - Norfolk, VA Colony Entry
- IPCONFIGURE HQ - Norfolk, VA Parking Lot

Search

REMOVE

DONE

CANCEL SAVE NOTIFICATION

- Determine how long the camera/server must be unreachable before an alert is sent. Enter this number in the first minutes field.
- Determine how long the camera/server must be back online before another unreachable event may qualify as a trigger. Enter this number in the second minutes field. (These timing settings help to eliminate nuisance alerts.)
- Mark the *Any Camera* checkbox if you want to be alerted when any camera goes offline. (Mark the *Any Server* checkbox if you want to be alerted when any server goes offline.) Then you can click into the *Search* field if you want to exclude any cameras (or servers).
- Unmark the *Any Camera* (*Any Server*) checkbox if you prefer to select specific cameras (or servers) for the alert. Then click in the *Search* field to identify those cameras (or servers).
- Click the **Remove** button if you want to delete this trigger.
- Click the **Done** button if you want to save this trigger.
- If you would like to define another alert trigger, scroll to the next default trigger (if applicable), or click the **Add Another Trigger** button. (You may add multiple triggers, just keep in mind that they will all be sent to selected recipients. You may have to scroll down to find this button.)
- If you are finished with trigger settings, remove any unwanted triggers, then scroll down to the *Actions* section to continue.

Server Error Trigger

- Click on the *Trigger Event* drop-down list and select *Server Error*.

If you select a *Server Error* trigger, there are two events that will cause the system to send an alert.

- A selected Recording server restarts
 - At least one of a Recording server's cameras has a problem. (It is running and configured for Continuous Recording or Motion Adaptive Frame Rate, but no new video archives have been written in the last 3 minutes.)
2. Determine how long you want the system to wait (in minutes) before sending any other *Server Error* alert, then enter this number in the minutes field.
 3. Mark the *Any Server* checkbox if you want to be alerted when a *Server Error* occurs on any server. Then you can click into the *Search* field if you want to exclude any servers.
 4. Unmark the *Any Server* checkbox if you want to select specific servers for the alert. Then click in the *Search* field to identify those servers.
 5. Click the **Remove** button if you want to delete this trigger.
 6. Click the **Done** button if you want to save this trigger.
 7. If you would like to define another alert trigger, scroll to the next default trigger (if applicable), or click the **Add Another Trigger** button. (You may add multiple triggers, just keep in mind that they will all be sent to selected recipients. You may have to scroll down to find this button.)
 8. If you are finished with trigger settings, remove any unwanted triggers, then scroll down to the *Actions* section to continue.

I/O Error Trigger

1. Click on the *Trigger Event* drop-down list and select *I/O Error*.

New Notification

Trigger Event
I/O Error

A notification will be sent as soon as possible when video files cannot be written to disk due to insufficient storage throughput.

Notifications will be sent no more than once every 5 minutes.

☐ Any Server

Only These Servers

IPCONFIGURE HQ - Norfolk, VA X Search

REMOVE

DONE

+ ADD ANOTHER TRIGGER

If you select the *I/O Error* trigger, the system will send an alert if it detects that video files (for a selected server) cannot be written to the disk fast enough to complete the write.

- Determine how long you want the system to wait (in minutes) before sending any other *I/O Error* alert, then enter this number in the *minutes* field.
- Mark the *Any Server* checkbox if you want to be alerted when an *I/O Error* occurs on any server. Then you can click into the *Search* field if you want to exclude any servers.
- Unmark the *Any Server* checkbox if you want to select specific servers for the alert. Then click in the *Search* field to identify those servers.
- Click the **Remove** button if you want to delete this trigger.
- Click the **Done** button if you want to save this trigger.
- If you would like to define another alert trigger, scroll to the next default trigger (if applicable), or click the **Add Another Trigger** button. (You may add multiple triggers, just keep in mind that they will all be sent to selected recipients. You may have to scroll down to find this button.)
- If you are finished with trigger settings, remove any unwanted triggers, then scroll down to the *Actions* section to continue.

Actions

In the *Actions* section, you will select which alert type will be generated by the *Notification* and to whom the alert will be sent.

- Click on the *Trigger Action* drop-down list to select one of two options: *Immediate Email* or *Daily Email Digest*.

If you select *Immediate Email*, a *Notification* will be sent each time a valid trigger event occurs.

If you select *Daily Email Digest*, a *Notification* will be sent at the same time each day (at a selected time). This alert will summarize all of the alerts that were sent in the previous 24-hour period that pertain to this *Notification*. This alert will be sent even if no triggered alerts occurred (so you can tell that the system is working).

The screenshot shows the 'New Notification' dialog box with the following fields and annotations:

- Trigger Action:** Set to 'Daily Email Digest'.
- Send Digest At (EDT):** Set to '16 : 00'. An annotation 'Timing for Daily Digest' points to this field.
- Description:** 'A daily email containing a digest of all triggered events will be sent to Alto Users, Permission Group members, and any additional email addresses provided.'
- Users:** A search field with 'mhunt' entered. An annotation 'Select Internal Recipients' points to this field.
- Permission Groups:** A search field with the placeholder 'Search for a Group'. An annotation 'Select External Recipients' points to this field.
- Emails:** A search field with 'SampleUser@Biz.com' entered. An annotation 'Select SMTP Server' points to this field.
- SMTP Server:** Set to 'Sample Server'.
- SMTP From-Address:** Set to 'noreply@example.com'.
- Buttons:** 'REMOVE' (red) and 'DONE' (green).

2. If you select *Daily Email Digest*, use the *Send Digest At* field to define the send time for the daily alert.
3. Once the trigger action is selected, you need to select the recipients for the alert.
 - a. Click in the *Search for a User* field to select individual users as recipients.
 - b. Click in the *Search for a Group* field to select entire *Permission Groups* as recipients.
 - c. Click in the *Type an Email* field to enter the email addresses for external recipients.
4. The last action setting allows you to select the SMTP Server that will send the alert. If only one SMTP server was configured, it will already be selected for you. If you need to select a different one, click on the *SMTP Server* drop-down list to select it. (Remember: IPConfigure Support will need to configure your SMTP server.)
 - a. If you want to include a custom return email address with the alert, click in the *SMTP From-Address* field to enter it.
5. Click the **Remove** button if you want to delete this action.
6. Click the **Done** button if you want to save this action.
7. Click the **Add Another Action** button to define another action. (You may add multiple actions if, for example, you want to define both an *Immediate Email* and a *Daily Email Digest*, or if you are using different SMTP servers. You may have to scroll down to find this button.)
8. When you are finished with all of the settings, click the **Save Notification** button to keep this *Notification*. This new *Notification* will now appear in the *Notifications* list.

- ✿ Each *Notification* requires at least one completely defined trigger and one defined action (including at least one recipient with an email address). If any of these elements are missing, the *Notification* will be listed, but will display an error. Most of these incomplete *Notifications* will result in no alerts being sent. If the incomplete *Notification* is a *Daily Email Digest*, a daily alert will be sent that says no alerts were sent.

Edit Notification



This is the **Edit** pencil icon.

The *Notifications* can be changed at any time through the *Notifications* screen.

1. Click on one of the *Notifications* in the *Notifications* list. The entry will expand to display all of the *Notification* settings.
2. To edit the *Notification*, click the **Edit Notification** button at the bottom of the expanded entry. The *Edit* screen will open.
3. Edit any of the available fields, as needed.
 - a. The general details (name, description, enable/disable) are immediately available for editing.
 - b. To edit one of the triggers, click the **Edit** pencil icon at the lower-right corner of the trigger listing.
 - c. To add another trigger, click the **Add Another Trigger** button.
 - d. To edit one of the actions, click the **Edit** pencil icon at the lower-right corner of the action listing.
 - e. To add another action, click the **Add Another Action** button.
4. When all changes are complete, click the **Save Notification** button. All of the changes will be effective immediately.

Delete Notification



This is the **Delete / Trashcan** icon.

1. Click on one of the *Notifications* in the *Notifications* list. The entry will expand to display all of the *Notifications* settings.
2. To delete the entire *Notification*, click the **Delete Notification** button at the bottom of the expanded entry.
3. Click the **Delete** button to confirm. The *Notification* will be deleted immediately.

The Library Feature

Orchid Alto VMS supports the *Library* feature. This feature allows for exporting important video clips to Alto for long-term storage. These clips are automatically made available to all Orchid Alto VMS Administrators. (With a standard export, the video file is saved to the hard drive of the client machine that performed the export, which may not be readily accessible.)

The Orchid Alto VMS Library also supports saving these clips to an external cloud storage service. Available options include Box.com, Dropbox, Google Drive, Microsoft OneDrive, and others. With this option, exported clips will be sent directly to the external service for storage and sharing. This functionality requires some additional configuration that must be performed by IPConfigure Support.

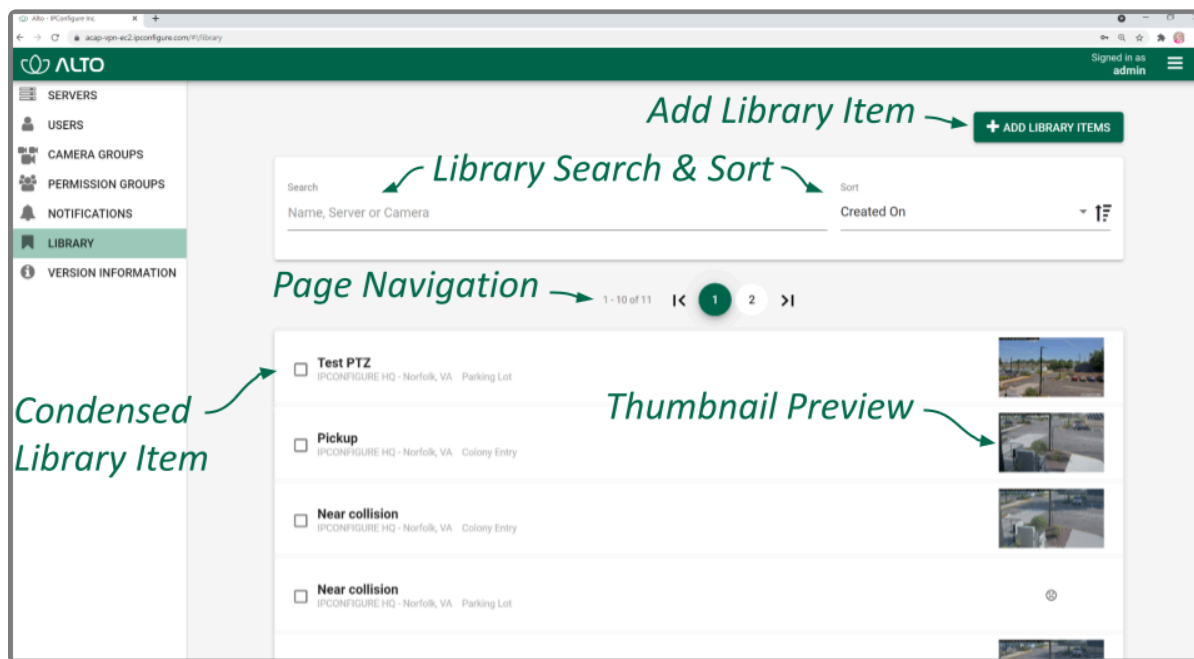


You must be a member of an Administrator group to export library items and to access the *Library* feature.



Access the Library Feature

1. Open the *System Menu* in the top-right corner of the screen and select *Library*.

The Orchid Alto VMS *Library* screen will appear. This screen displays a list of all the library items that have been saved (if any), and gives you the ability to add, search, sort, download, and delete them. (If your *Library* items are being stored in an external cloud storage location, the **Download** option is replaced by the **Open** option.)



Add an Item to the Library

	This is the Add icon.
	This is the Export icon.

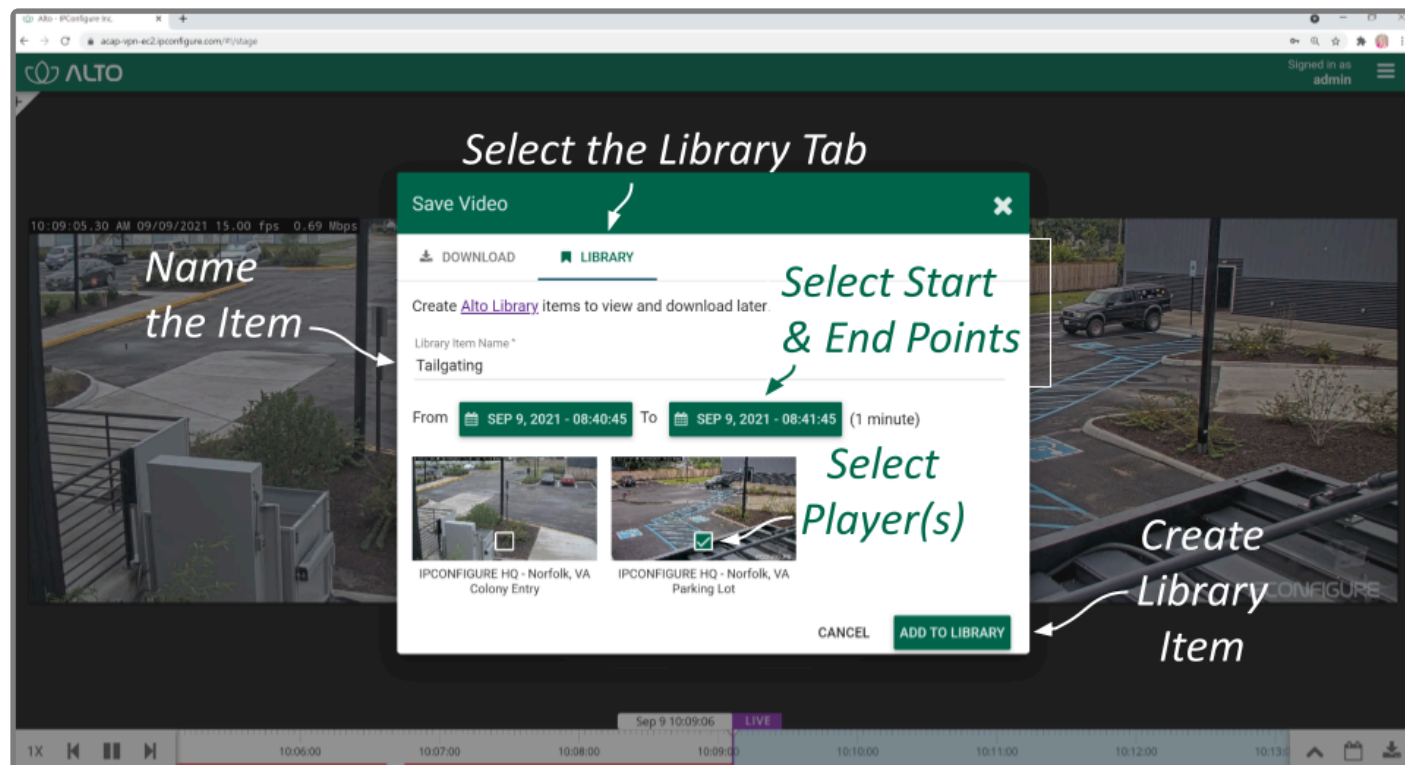
There are a couple of ways to add an item to the *Library* (for permanent storage or sharing). The first method is to export the *Library* item directly from the *Stage*, much like you would perform an export to your client device. The second method allows you to add the item from the *Library* screen.

Add Library Item via Export

If you want to add an item to the *Library* from the *Stage*, you'll need to start by using the *Export* feature. While the *Export* feature typically saves files to the client system hard drive, with the addition of the *Library*, Administrators will have the option to export video to Alto or to an external cloud storage service, if configured.

✿ You may use the Quick Export or the Timeline-based Export method to save an item to the *Library*. (The Quick Export method is described [here](#).)

1. First, be sure that the Players you need are on the *Stage*.
2. Click the **Export** icon on the *Timeline Bar*. The *Save Video* screen will appear.
3. Select the *Library* tab.



The *Library* tab will display a thumbnail representing each of the Players that were on the *Stage*. For each one, you will see a check box that allows you to select the Player for export.

4. First, enter a name for the *Library* item.
5. Click the first **Calendar** button (on the left) to select the date and time at which the video export will start.

The screenshot shows a 'From' dialog box for selecting a date and time. The date is set to September 9, 2021. The time is set to 08:40:45. The 'GO' button is highlighted in light gray.

When the calendar opens, you have the ability to select the date and time for the starting point for your video export.

6. Select the date and time, then click **Go**. (You may receive a warning that your selected range exceeds the allowable export duration. For now, proceed to the next step.)
7. Click the second **Calendar** button (on the right) to select the date and time at which the video export will end. Select the date and time, then click **Go**. (The export duration of the selected range will appear on the screen. If a warning still appears, you will need to shorten the export duration by selecting a new start or end time. The maximum allowable export is 48 hours per Player.)
8. Now that you have selected the range, select the Players you want to export by clicking on the check box associated with each Player. (If you select multiple Players, each of these *Library* items will have the same name.)
9. Click the **Save** button to begin the export. You will see a message that says the video is being sent to the *Library*.
10. Press the **Cancel** button to exit the *Save* screen without saving video.
11. To access the *Library* from here, do either of the following:

- a. Click the *Go to Library* link contained in the message (pictured below).
- b. Go to the *System Menu* and select *Library*.

The selected videos have been sent to the Library. [GO TO LIBRARY](#)

Add Library Item via the Library

1. From the *Library* screen, click the **Add Library Items** button. The *Add Library Items* screen will appear.

The screenshot shows the 'Add Library Items' form with the following fields and options:

- Library Item Name ***: A text input field containing 'Bugging out'. An annotation 'Enter Item Name' points to this field.
- From**: A date and time selector showing 'SEP 8, 2021 - 18:03:50'. An annotation 'Select Start & End Points' points to the 'From' and 'To' fields.
- To**: A date and time selector showing 'SEP 8, 2021 - 18:04:40' with a duration of '(50 seconds)'.
- Server ***: A dropdown menu showing 'IPCONFIGURE HQ - Norfolk, VA'. An annotation 'Select Server' points to this field.
- Video Selection**: A grid of video thumbnails with checkboxes:
 - Colony Entry (checked)
 - Parking Lot (checked)
 - Support Demo Camera (unchecked)
 - Vibrant Dubin Docks (Inside) (unchecked)
 - Vibrant Dubin Docks (Rear) (unchecked)An annotation 'Select Player(s)' points to the checkboxes.
- Buttons**: 'CANCEL' and 'ADD TO LIBRARY' buttons. An annotation 'Create Item' points to the 'ADD TO LIBRARY' button.

2. First, enter a name for the *Library* item.
3. Click the first **Calendar** button (on the left) to select the date and time at which the video export will start.

From ✕

SEP 2021 ◀ ▶

S M T W T F S

SEP 1 2 3 4

5 6 7 8 9 10 11

12 13 14 15 16 17 18

19 20 21 22 23 24 25

26 27 28 29 30

18 : 03 : 50

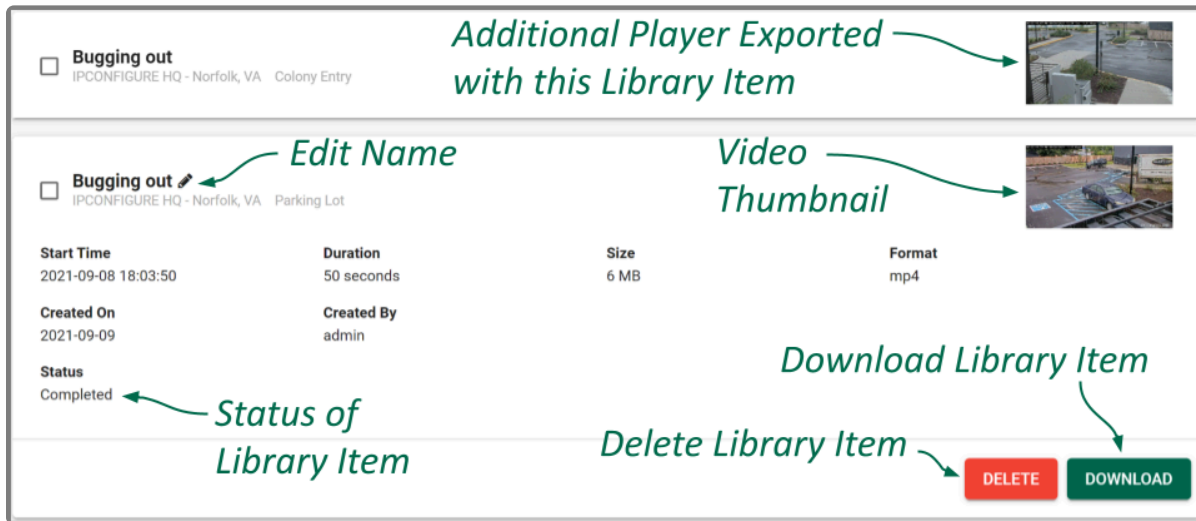
CANCEL GO

4. Select the date and time, then click **Go**. (You may receive a warning that your selected range exceeds the allowable export duration. For now, proceed to the next step.)
5. Click the second **Calendar** button (on the right) to select the date and time at which the video export will end. Select the date and time, then click **Go**. (The export duration of the selected range will appear on the screen. If a warning still appears, you will need to shorten the export duration by selecting a new start or end time. The maximum allowable export is 48 hours per Player.)
6. Next, select the server from which you want to capture video for the *Library*. Once you have selected a server, the screen will display a thumbnail representing each of the Players on the selected server.
7. Select the Players you want to export by clicking on the check box associated with each Player. (If you select multiple Players, each of these *Library* items will have the same name.)
8. Click the **Add To Library** button to begin the export. You will be able to watch the progress of the export on the *Library* screen.
9. Press the **Cancel** button to exit the screen without saving video.

Review a Library Item

After an item has been exported to the *Library*, you may review the details by accessing the *Library* screen.

- From the list of items on the *Library* screen, click the name of the one you want to review. (The list will expand to display all of the information for the selected item.)



This summary should provide all of the information you need to know about the *Library* item. The Recording server name and the camera name are listed just below the item name. The summary also includes a thumbnail image from the camera.

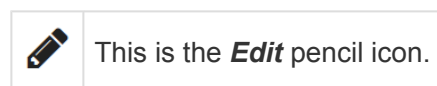
* In the example above, we actually selected two Players when we performed the export. Therefore, you see two *Library* items with the same name.

Additional item details include the following:

- **Start Time:** This represents the requested start time for the clip. (This may not necessarily reflect the actual start time for the video because there may be missing video. For example, the camera may have been down, or the camera is recording only when motion is detected.)
- **Duration:** The duration represents the length of the exported clip.
- **Size:** This is the size of the exported clip.
- **Format:** The format field displays the file type of the exported clip.
- **Created On:** This is the date on which the clip was exported.
- **Created By:** This shows the Alto username of the Administrator responsible for the export.
- **Status:** This indicates the status of the export process. Possible status messages include the following:
 - **Pending:** Indicates that the export process is getting ready to begin.
 - **Started:** Indicates the item is being exported to the *Library*.

- **Completed**: Indicates that the item has been exported successfully.
- **Failed**: Indicates that the export process was not successful.
- **Cancelled**: Indicates that the export process was cancelled by the user.

Edit the Item Name



1. To change the item name, click the **Edit** pencil icon to the right of the item name.
2. Enter a new name in the **Rename** field, then click the **OK** button.

A screenshot of a dialog box titled "Rename Library Item" with a dark green header bar containing a white close button (X). The main area has a light gray background. It features a label "Rename" in green text above a text input field. The input field contains the text "Bugging out_1". At the bottom right, there are two buttons: a "CANCEL" button in gray and an "OK" button in dark green.

Download the Library Item

✿ This direct **Download** option is only available if the *Library* items are being stored on Alto.

1. To download the *Library* item to your local hard drive, click the **Download** button. Orchid Alto VMS will begin downloading the file.
2. Go to your *Downloads* folder to find and play the downloaded video.

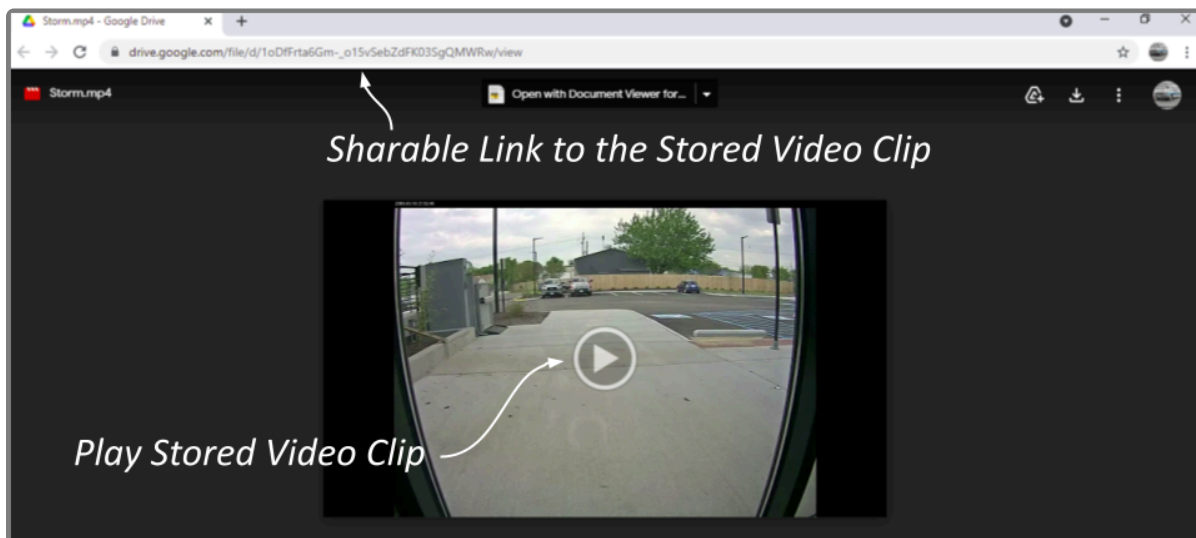
Open a Library Item

✿ This option is only available if the *Library* items are being stored in an external cloud storage location.

When *Library* items are being stored in an external cloud storage location, you'll notice that the **Download** button is replaced by an **Open** button.



1. To open the *Library* item, click the **Open** button.

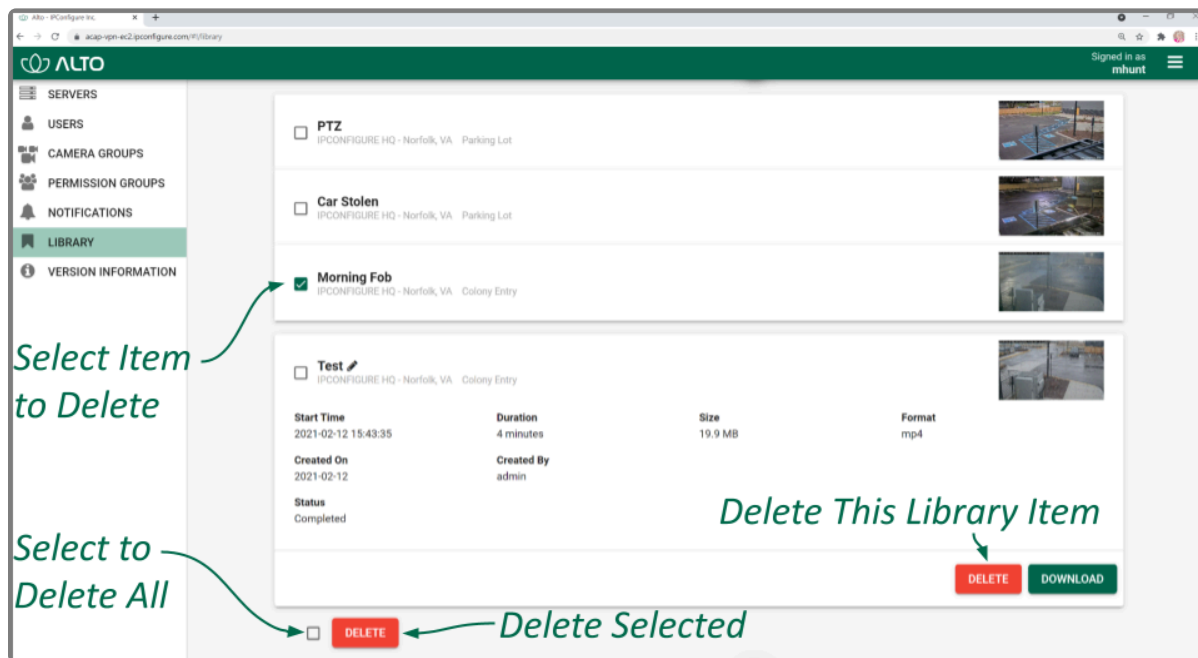


The clip will open in a browser tab provided by the external cloud storage application. (In this example, the chosen application is Google Drive.) Options provided by the cloud storage application may vary, but you will typically be able to view the video, share a link to the video, or download the video to a local storage location.

2. Use the on-screen controls to play or pause the video clip.
3. Copy the link to the video clip to share it with someone else. The recipient will be able to view the clip directly without requiring Alto or any special permissions.
4. Close the browser tab to close the video clip.

Delete a Library Item

Orchid Alto VMS offers several ways to delete an item from the Library.



Removing a Single Library Item

1. To remove a single Library item, do either of the following:
 - a. From the list of *Library* items, mark the checkbox of the item you wish to delete, then press the **Delete** button at the bottom of the list. Orchid Alto VMS will ask you to confirm that you want to delete the item. Press **OK** to confirm.
 - b. From the list of items on the *Library* screen, click the name of the one you want to delete. (The list will expand to display all of the information for the selected item.) Click the **Delete** button at the bottom-right of the expanded item to confirm the delete. Click **OK** to confirm the deletion.

Removing Multiple Library Items

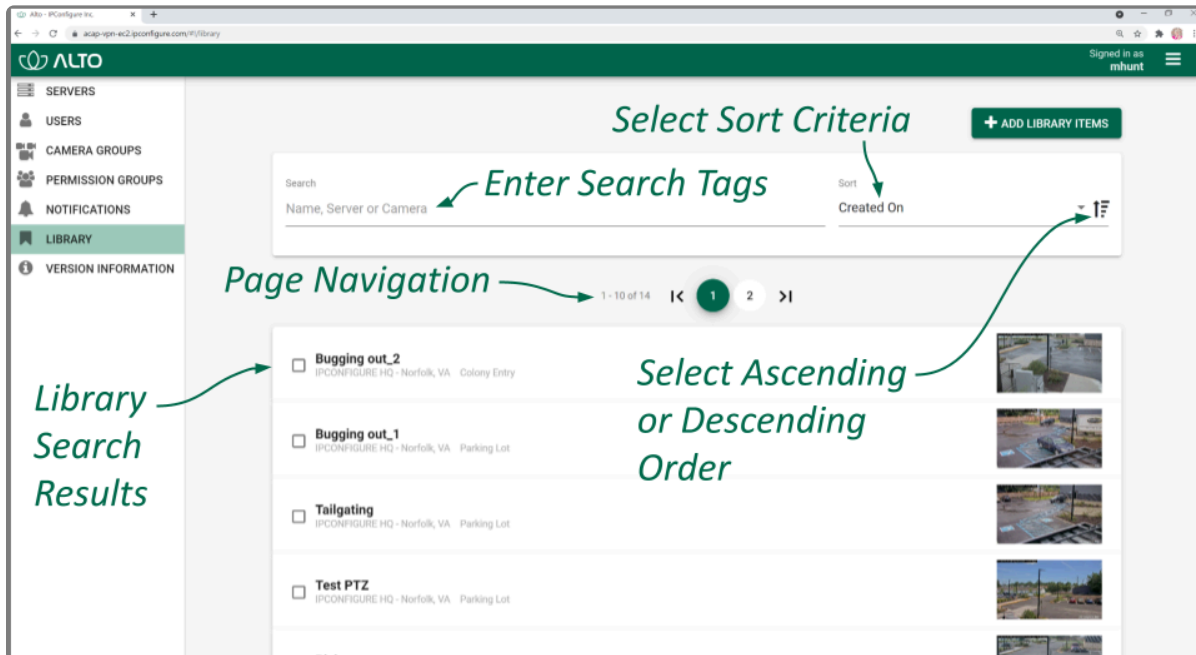
1. To remove multiple *Library* items, mark the checkbox for each of the items you wish to delete, then press the **Delete** button at the bottom of the list. Orchid Alto VMS will ask you to confirm that you want to delete the selected items. Press **OK** to confirm.

Removing All Library Items

1. To remove all of the *Library* items, mark the checkbox at the bottom of the list, then press the **Delete** button. Orchid Alto VMS will ask you to confirm that you want to delete the selected items. Press **OK** to confirm.

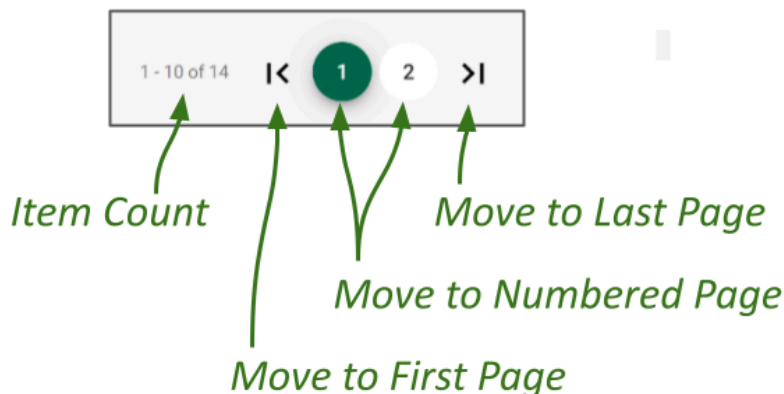
Search/Sort Library Items

If you have a large number of items in the *Library*, the search and sort tools can make it easier to find the items you're looking for.



Page Navigation

If you have more than ten *Library* items, the *Library* screen will automatically activate additional pages and the navigation tools. These navigation tools will help you move from page to page.

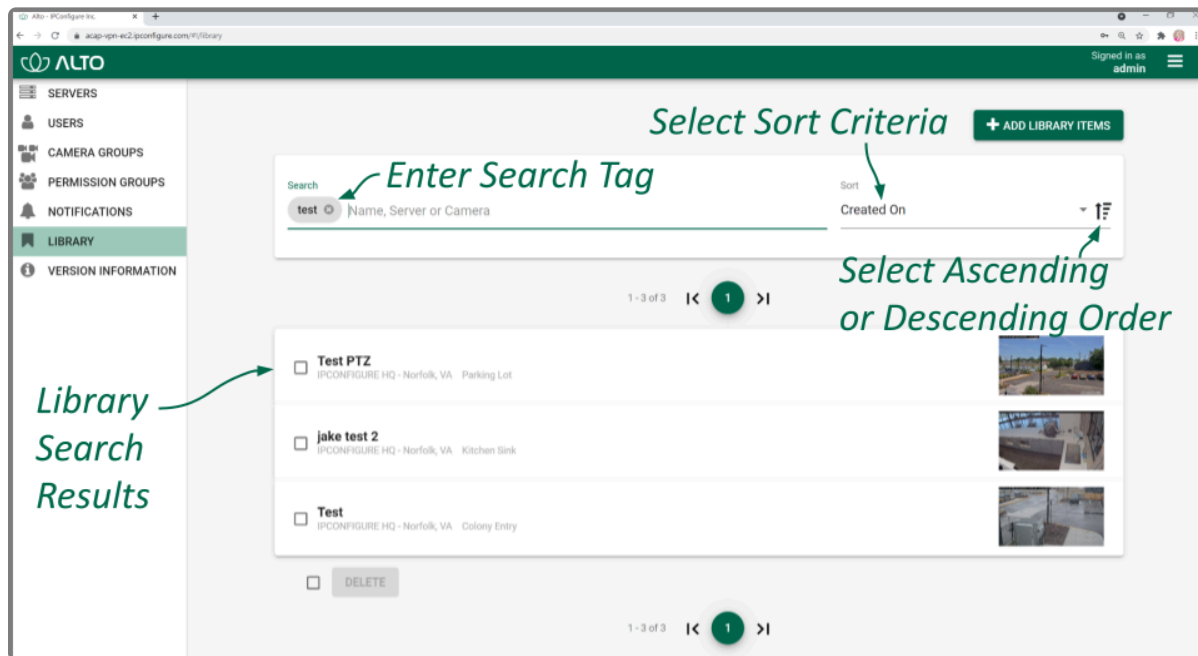


1. Use the arrows to move to the first page or the last page.
2. Use the numbered buttons to move to a specific, numbered page.


Search the Library

1. Click into the *Search* field to start your search.
2. Type one or more search tags (clicking **Enter** after each one). Search tags can include words in the item name, the camera name, or the server name.
 - a. A single search tag with multiple terms (words or numbers) will initiate a search for results that include all of the terms in the tag.
 - b. Multiple, single-term search tags will initiate a search for results that include at least one of those tags.

Each time you press **Enter**, the *Library* screen will update to display all of the items that contain the tag(s).



Sort the List

<div>Sort</div> <div>Created On</div>	This is the Sort Criteria drop-down list.
	This is the Sort Order icon.



1. Click on the **Sort Criteria** drop-down list to select one of the following sort options: Camera, Created By, Created On, Name, and Server.
 - a. **Camera**: This option will sort the list by camera name.
 - b. **Created By**: This option will sort the list by the users that exported the items.
 - c. **Created On**: This option will sort the list by the dates on which the items were exported.
 - d. **Name**: This option will sort the list by item names.

- e. **Server:** This option will sort the list by server names.
2. Click on the **Sort Order** icon to view the list in ascending or descending order. (Each time you click the icon, the order will switch.)

Other Administrator Features

There are a couple of features in Orchid Alto VMS that Administrators have special permissions for. These include the *Stages* feature and *PTZ Presets*. This guide will provide details that pertain solely to Administrators. Please refer to the [Orchid Alto VMS User Guide](#) for general operating instructions for these features.

Sharing Stages

	This is the World icon.
	This is the Locked icon.

All users have the ability to use the *Stages* feature, create their own *Stages*, and customize the *Stages* cycle. As an Administrator, you have the added ability to share *Stages* with other users. This gives you the opportunity to focus the team's attention in certain areas, if needed, and better manage the monitoring system.

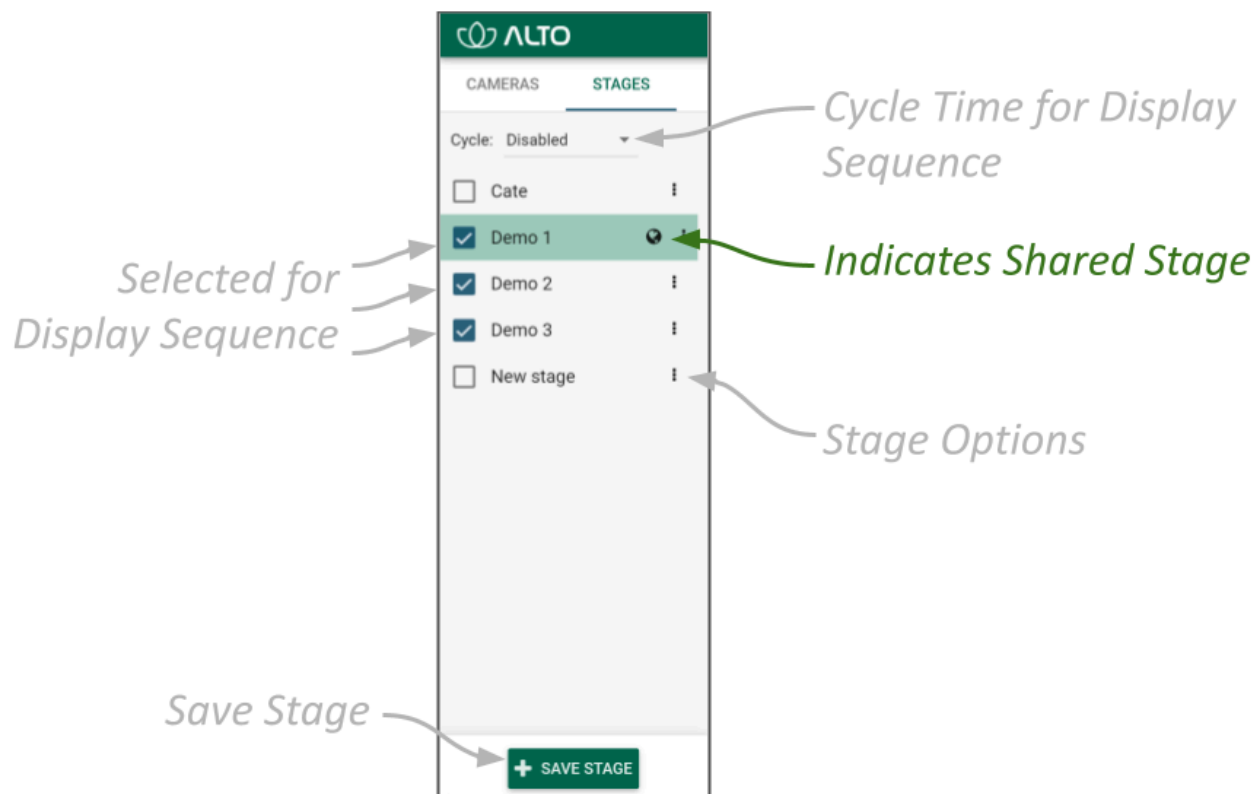
About the Stages Feature

The *Stages* feature allows you to create custom layouts for the *Stage* featuring Players that you select and arrange. You can then view your *Stages* on demand or as part of an automated cycle. This is a great tool for helping you and your monitoring team remain organized and efficient.

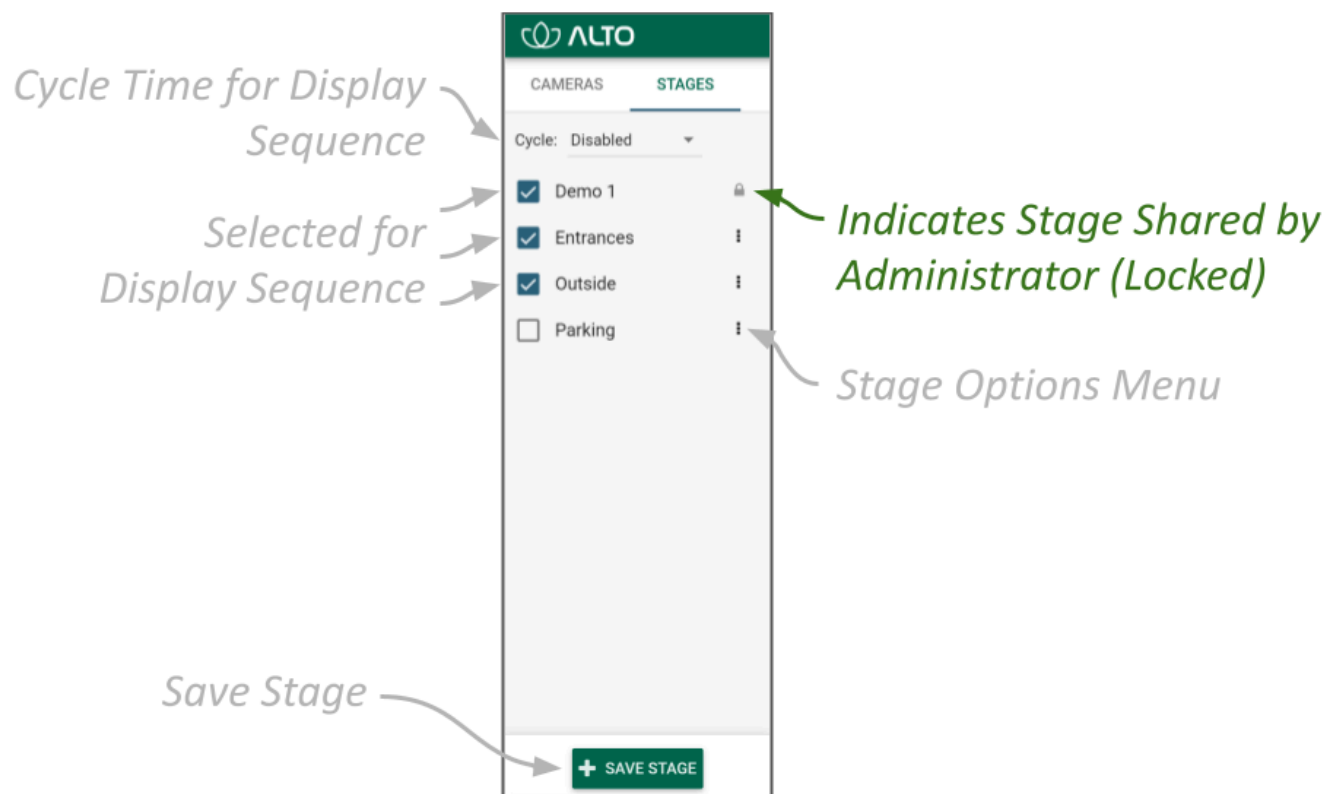
When a user creates and saves a *Stage*, it is saved in the user's account. When an Administrator shares a *Stage*, it is visible to every user that has access to at least one of the cameras in the *Stage*. Shared *Stages* do not override the *Permission Groups*; users will not see any cameras they don't have permission to see.

✿ If a *Stage* includes a PTZ camera (with or without presets), keep one thing in mind. When you add a camera to the *Stage*, you are adding the camera, not the camera's position. So when you view a *Stage*, the PTZ camera may or may not be in the same position as when it was added to the *Stage*.

As an Administrator, when you share a *Stage*, you will see a *world* icon that indicates that it is shared:

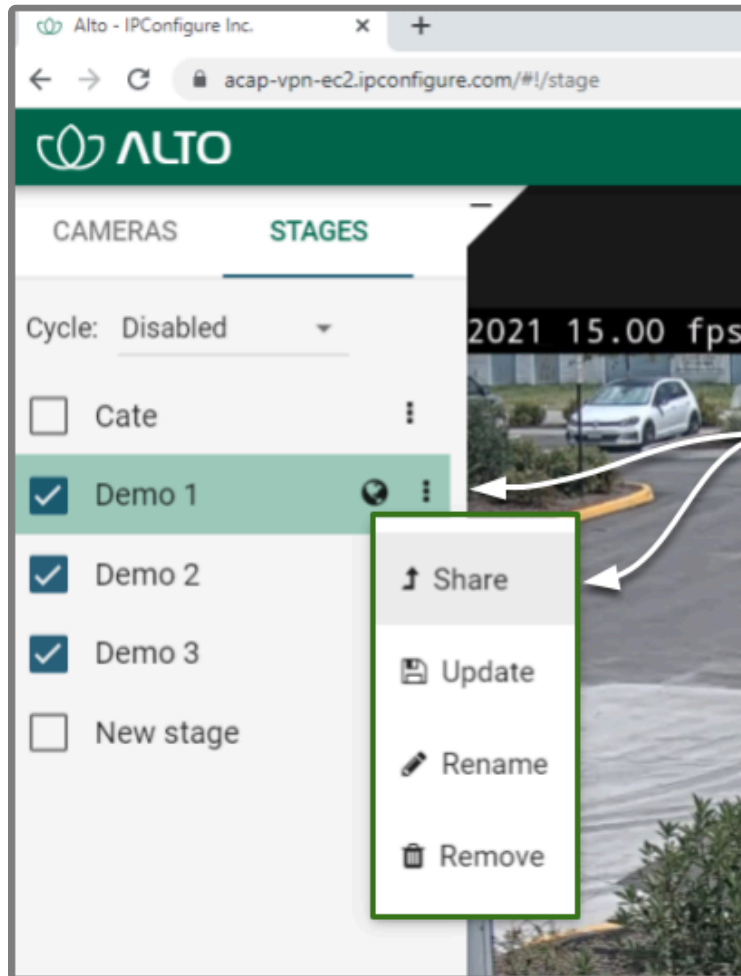


Users will see a **Lock** icon next to the shared Stage. They will not be able to modify or delete the Stage:



Sharing a Stage

When you access the *Stages* tab of the *Camera Bag*, you will notice that each of the *Stages* has its own pop-up menu (on the right edge of the list). The Administrator's version of the pop-up menu makes it easy to share a *Stage*.



*Click the Pop-up Menu,
Then Click Share*

1. Click on the pop-up menu that corresponds to the *Stage* you want to share.
2. Then click **Share**.

Revoking a Shared Stage

1. Click on the pop-up menu that corresponds to the *Stage* you want to un-share.
2. Click **Un-share**.

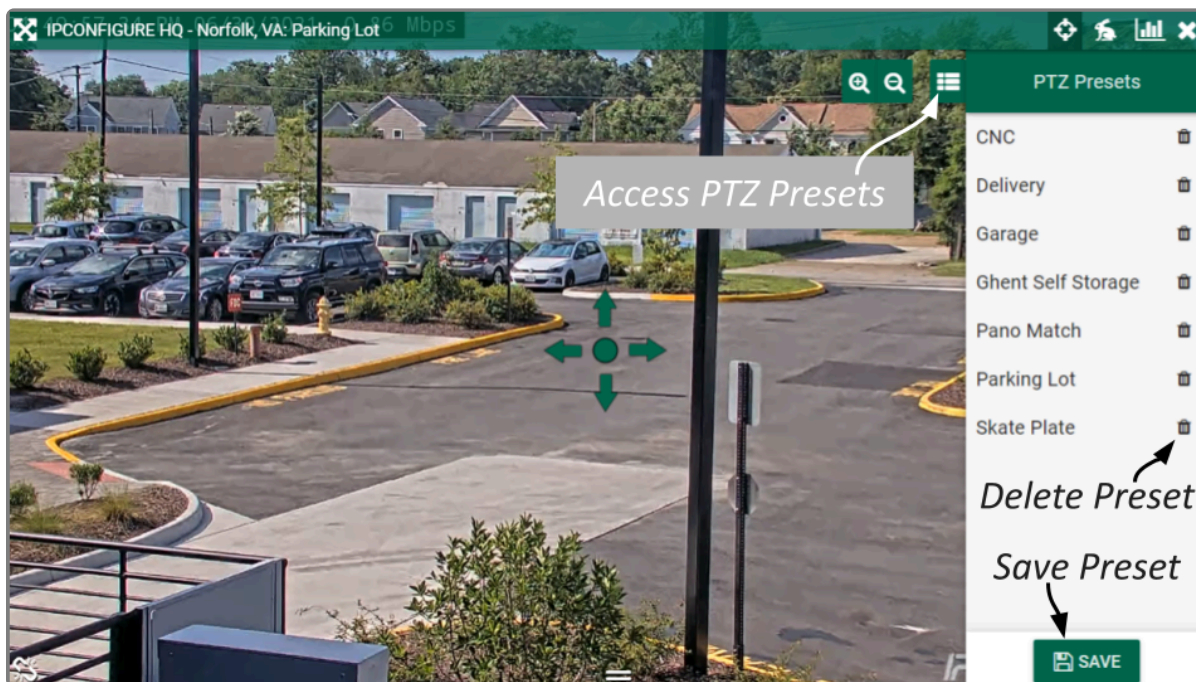
Managing PTZ Presets

All users that have permissions to control PTZ cameras will also have the ability to use the *PTZ Presets*. As an Administrator, you have the added ability to create the *PTZ Presets* that will be available to those other users. This provides you with another tool to focus the team's attention in certain areas, while eliminating the man-hours needed to manually reposition the camera every time.

* The *PTZ Presets Menu* will only be available if the camera supports presets, the PTZ controls are active, and an Administrator has saved at least one preset.

Adding and Deleting a Preset

1. Access the *PTZ Presets Menu* by activating the PTZ controls, then clicking on the **Hamburger** icon at the top-left of the Player. A list of existing *Presets* will appear.



2. To select a different preset view, click on any of the *Presets* in the list. The camera will respond by moving to the selected position.
3. To add a new preset, first use the pan, tilt, and zoom controls to situate the camera in the desired position. Then click the **Save** button. Enter a unique name for the new preset, then click the **Save** button again.
4. To delete a preset, click the **Trash Can** icon (to the right of the preset name), then click the **Delete** button.

Advanced Topics

As you work with Orchid Alto VMS, you may encounter issues that are not typical of daily operation and should be addressed by an advanced user. Please review these topics if you need extra help. For in-depth explanations and additional topics, we encourage you to check our [Knowledge Base](#).

Trouble Adding a Camera

If you're having trouble adding a camera to the system, refer to the list of common issues.

- Make sure you are adding an Axis camera that supports ACAP 2.0 or newer, and is running Axis firmware version 6.x or greater.
- Make sure that you have completed all of the configuration steps necessary to add the camera to Orchid Alto VMS. Please refer to the Knowledge Base article [Orchid Alto VPN Connector For Axis Cameras](#) for more details.
- Don't use the *Auto* tab to try to add cameras. Orchid Alto VMS does not currently support camera auto-discovery.
- Make sure all of the cameras are connected to the network.
- Make sure that the IP address is correct. (Remember: You need to use the *Tunnel IP Address* you set using the IPConfigure Alto Connector.)
- Make sure that the password is correct. (Remember: You need to use the password you set using the IPConfigure Alto Connector.)
- If a newly added camera doesn't produce video, there are several issues related to WebRTC that may be causing this. (Please refer to the [WebRTC Troubleshooting](#) section for additional help.)



If you need additional help adding cameras, please contact [IPConfigure Support](#).

Trouble Viewing the Camera Stream in Orchid Alto VMS

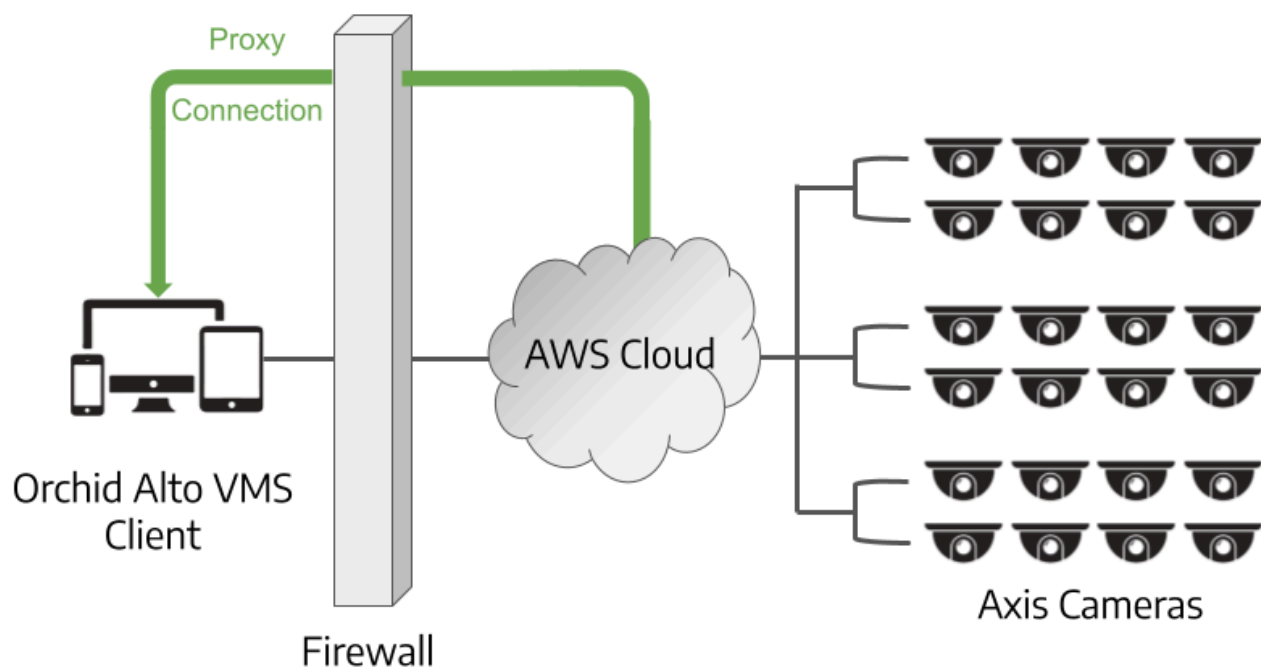
If Orchid Alto VMS is not receiving a live video stream from a camera on an available Recording server, the problem is likely due to a problem between the camera and the Recording server.

Possible Fixes

1. Try to refresh the camera in Orchid Alto VMS. (Refer to the instructions on how to [Refresh Cameras](#).)
2. Use the [System Status](#) feature to test the camera preview, restart the camera stream, or verify the network connection between the camera and Recording server.
3. You may also perform the check associated with [packet loss](#).
4. If the network connection is OK, but you still aren't getting video, physically check the camera to make sure it is intact and connected to power.


How Orchid Alto VMS's Proxy Works

The video streams you see in the Orchid Alto VMS user interface are optimally delivered to your web browser using Orchid Alto VMS's sophisticated routing engine. When a Recording server is registered in Orchid Alto VMS, a proxy connection becomes available from the Orchid Alto VMS server to the Recording server. When a Recording server is not directly accessible to your web browser (because it's behind a firewall, for instance), this connection allows Orchid Alto VMS to relay all the web and video data from the Recording server, through Orchid Alto VMS, to your web browser. This method eliminates the need to create and maintain firewall rules to provide access to the Recording servers and cameras.



If your web browser can communicate with a Recording server, video is delivered directly from the cloud to your client browser. This approach maximizes performance while minimizing bandwidth usage, hosting costs, and custom network configuration.

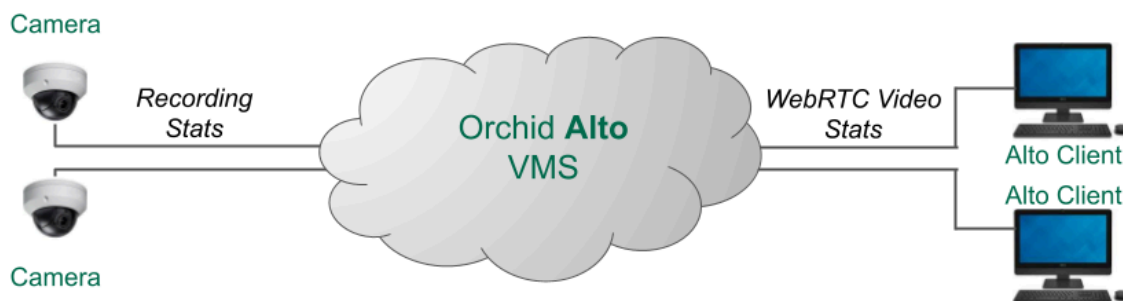
Checking for Packet Loss

	This is the Expand icon.
	This is the Statistics icon.

If video in Orchid Alto VMS is unavailable or degraded, you may be experiencing packet loss in either of the following places:

- Between the camera and Orchid Alto VMS
- Between the Orchid Alto VMS and the viewing client

The diagram below indicates which check methods can be used to test the different connections.



Run a Check Using the Recording Statistics

1. To view the Recording Statistics, go to the *Camera Configuration* screen and click on the **Expand** icon to view the Recording Statistics section.

Recording Statistics ▼		
Average Window	Packet Loss	Bitrate
1m	0%	727.8 Kb/s
5m	0%	724 Kb/s
15m	0%	724.1 Kb/s
Last Video File Written		
09/17/2021, 11:33:07 AM EDT - 5.4 MB		

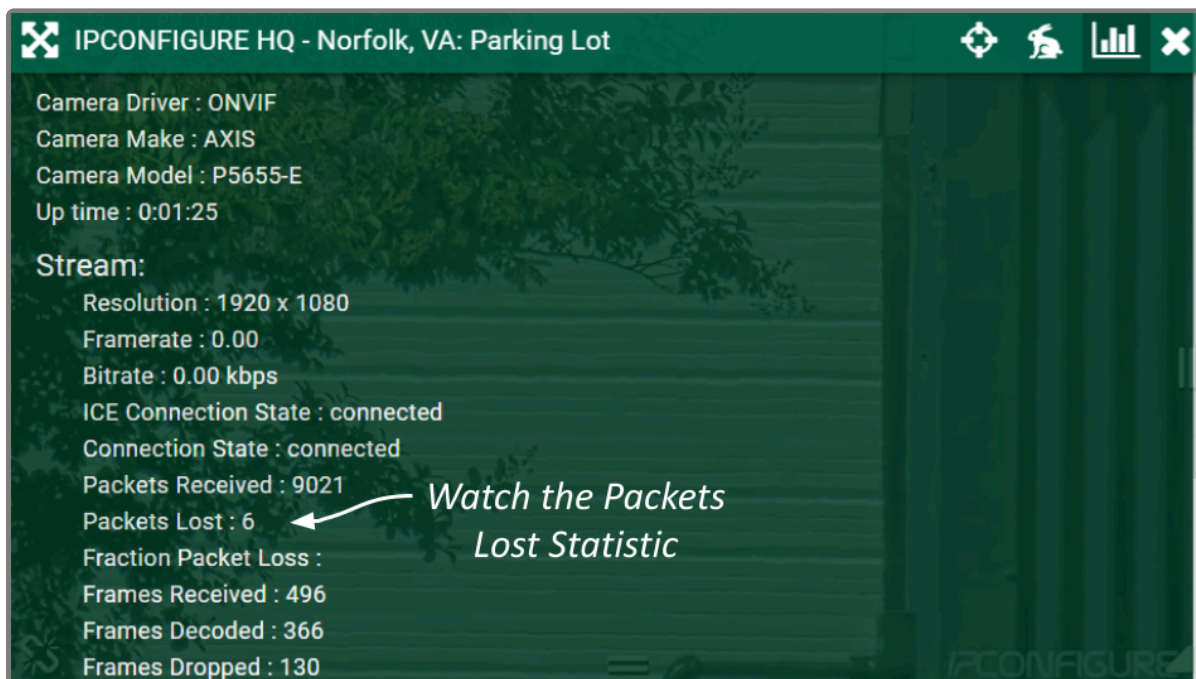
The Recording Statistics will provide the percentage of packet loss at the recording stream, averaged over three time periods: 1 minute, 5 minutes, and 15 minutes. A comparison of these averages may give you some indication of the transmission quality both currently and over a longer period of time.

The goal, of course, is to have zero percent packet loss on the recording stream so that the archived video is not degraded. The presence of packet loss, even a minimal amount, will have some impact on the quality of the archived video. Video degradation may result in some frames being unviewable, and some frames being marred by video artifacts. If packet loss is high enough, the system may not receive enough data to record any video.

When the Recording Statistics show that packet loss is present, review the three averages to assess the situation. If all of the averages are very low, this suggests that the recording stream has intermittent problems with minor levels of packet loss. In another example, if the 1-minute average is high and the 15-minute average is low, this may indicate that the camera stream is currently having an issue, but over longer periods, is likely transmitting without problems. However, if the 15-minute average is high and the 1-minute average is low, this may signal that the camera stream's connection is not sufficient, which may be a more significant problem, prompting further investigation.

Run a Check Using the Video Statistics

1. To view Player Statistics, go to the *Stage* and find the Player you need to check. Position the mouse over the image and click on the **Statistics** icon in the header.



If the Packets Lost stat increases continuously over a period of 30 seconds or more (versus an isolated burst), there may be a network problem that may prevent you from receiving good quality video. If the statistics do not show packet loss, but you still have video issues, contact [IPConfigure Support](#).

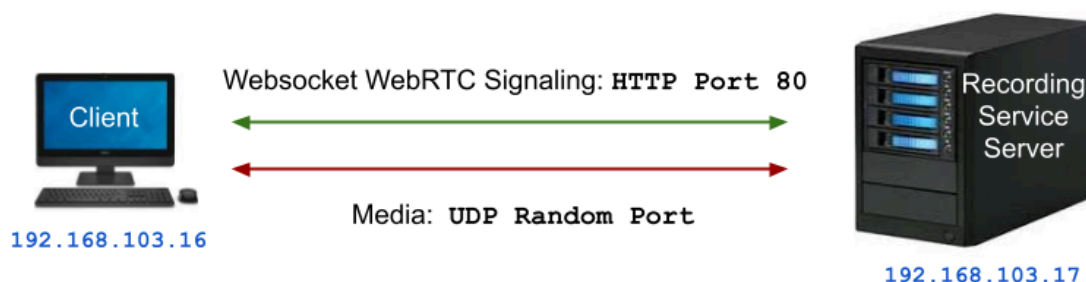
About WebRTC

Orchid Alto VMS supports Web Real-Time Communication, or WebRTC. WebRTC provides a method for connecting a Recording server with a client, so that the client may view good quality, live and recorded video. Although you may view video in Orchid Alto VMS, all of that video is coming through (and is stored by) the Recording server in the cloud. That's where WebRTC does its magic.

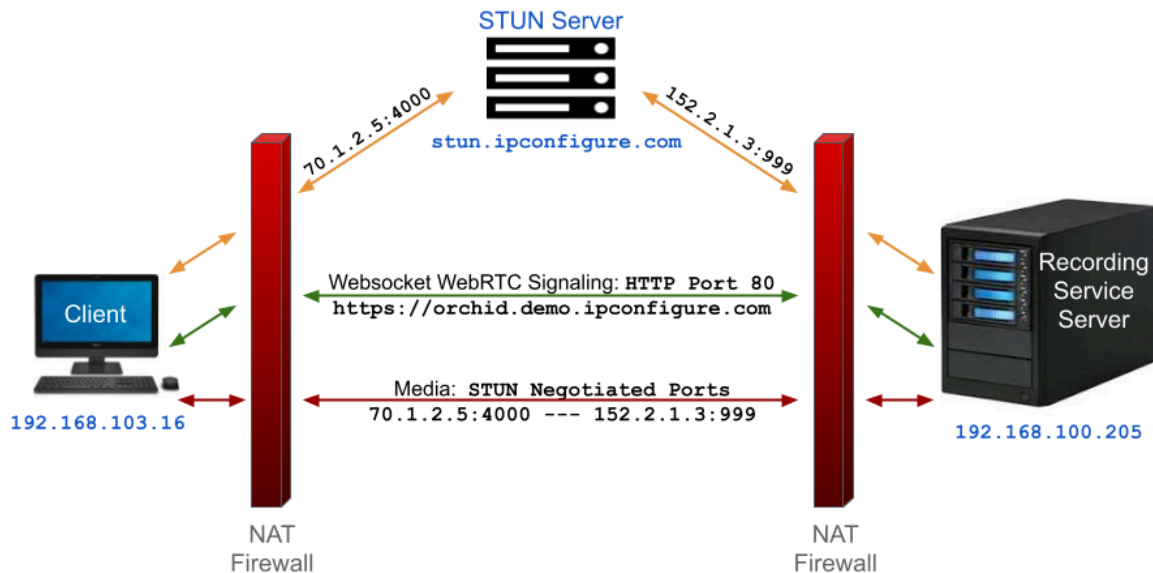
In WebRTC mode, the web browser decodes and renders video using accelerated Graphics Processing Unit (GPU) technology. This method requires fewer resources than software decoding which allows for good quality video for a greater number of Players.

Using Interactive Connectivity Establishment (ICE) and a Session Traversal Utilities for NAT (STUN) server, the system identifies and tests several connection candidates to find the best way to connect the server and client for direct media transfer. With a successful connection, WebRTC is able to break through the barriers that sometimes make cross-network communication difficult.

The diagram below illustrates a simple example of direct media transport. In this case, the server and the client are both on the same network, so there is no barrier to a direct connection.



The next diagram illustrates a more complicated situation. The server and the client are on different networks, and are each protected by a firewall. In this case, ICE identifies the best path for connecting the server and the client. Then a STUN server identifies the public IP addresses of the server and the client, and works out a way for them to connect. The media can then be transported between the server and client using the STUN-negotiated ports.

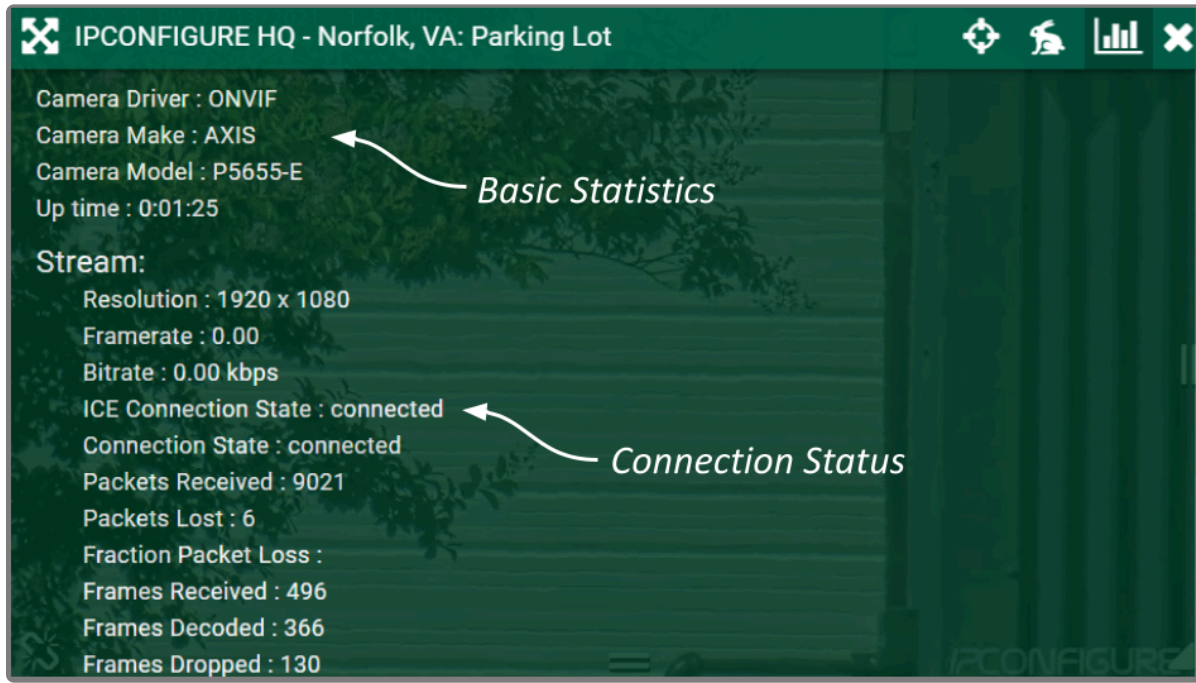


In order to use WebRTC with servers behind a firewall, Orchid Alto VMS must have access to a STUN server. By default, Orchid Alto will use `stun.ipconfigure.com`, which is publicly available on the internet.

WebRTC Statistics

Orchid Alto VMS supplies basic video statistics and WebRTC statistics. These statistics are available as an overlay on any Player and can be used in troubleshooting.

* Available statistics will vary depending on the web browser in use. (The examples below show the statistics available in Google Chrome.)

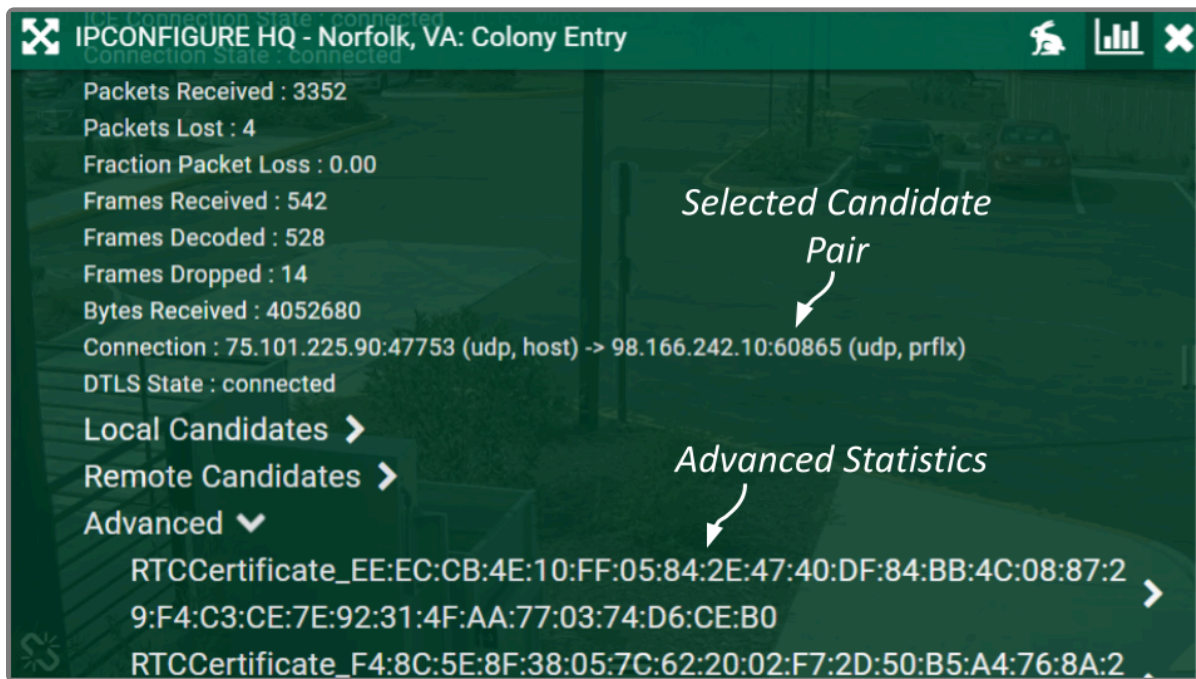


The statistics under the *Stream* heading may include the following:

- **ICE Connection State:** This indicates the state of the ICE connection. When “connected,” ICE has identified the best way to connect the server and client.
- **Connection State:** This indicates if there is a working connection between the server and the client.
- **Packets Received:** This represents the number of video data packets that are transferred from the server to the client.
- **Packets Lost:** This represents the number of video data packets that are dropped during the transfer from the server to the client. (If this number continues to increase, video quality will decrease.)
- **Fraction Packet Loss:** This represents the number of packets lost divided by the number of packets expected.
- **Frames Received:** This is the number of complete video frames that were transferred from the server to the client.
- **Frames Decoded:** This is the number of video frames that the client has decoded.
- **Frames Dropped:** This is the number of video frames that the client could not decode and were eliminated.
- **Bytes Received:** Total number of bytes transferred from the server to the client.
- **Connection:** This statistic provides the addresses of both the local and the remote candidates in use, which communications protocol is in use at each candidate, and the candidate types.
- **DTLS State:** This provides the status of the attempts to negotiate a secure connection.

Under the *Stream* group of statistics, Orchid Alto VMS displays additional WebRTC statistics that provide insight into the connection candidates that ICE has found and which ones are being used to transport video. Individual entries for the local candidate and remote candidate are presented, and provide the same information as the *Connection* statistic listed above.

The *Advanced* group of statistics provides very detailed information regarding the selected candidate pair, certificates, and video data transport.



For additional details on these and other WebRTC statistics, please refer to documentation that is readily available online. Here's a sample: <https://testrtc.com/webrtc-internals-documentation/>

WebRTC Troubleshooting

If you encounter trouble as you are running Orchid Alto VMS in WebRTC mode, refer to these troubleshooting tips. If you still cannot solve the problem, contact [IPConfigure Support](#).

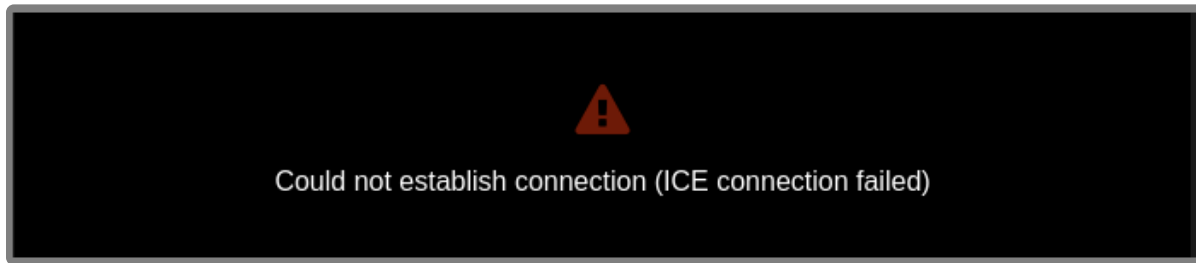
If you don't have video:

1. Activate the Player statistics to see if the *ICE Connection State* reads *connected*.
2. If the *Ice Connection State* does not read connected, then none of the connection candidates worked.
3. Make sure that the STUN server is properly setup and configured. (The Orchid Alto VMS properties file uses default settings to configure the STUN server. IPConfigure Support may need to review and revise the settings related to the STUN server.)

If you don't have video, but the *ICE Connection State* is connected:

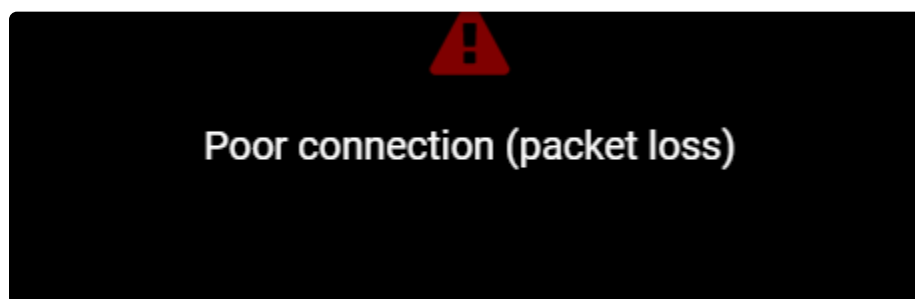
1. Check the *Bytes Received* stat.
2. If the system is receiving bytes, check for packet loss.
3. If packet loss exists, try lowering the bitrate (by editing the camera stream settings).

If this error appears, the system was not able to establish an ICE connection:



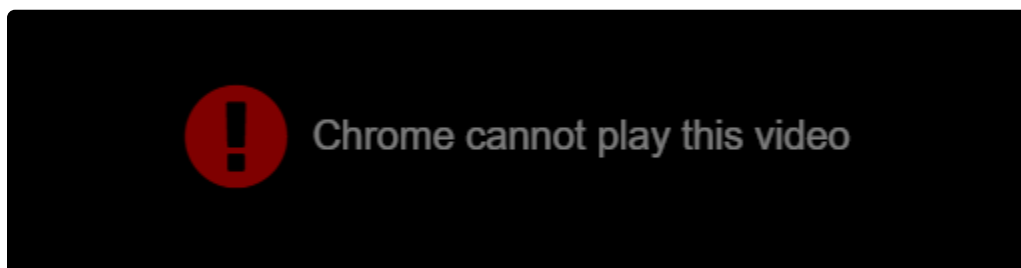
1. You may need to setup a STUN server. (Contact IPConfigure Support.)
2. The network may also need to be checked.

If this pop-up error message appears on a Player, the system may have already detected a certain level of packet loss:



1. Decrease the bitrate (by editing the camera stream settings).
2. Decrease the resolution (by editing the camera stream settings).
3. If neither of these solve the problem, contact IPConfigure Support.

If this pop-up error message appears on a Player, the system may not be decoding the video properly:



1. Decrease the bitrate (by editing the camera stream settings).
2. Decrease the resolution (by editing the camera stream settings).
3. If neither of these solve the problem, contact IPConfigure Support.

Video encoder:

WebRTC does not support JPEG or MPEG4, so it is important to make sure that the camera stream is set properly.

1. Open the *Stream Settings* screen to check the settings.
2. Make sure that the Encoder is set to H264.

GPU decoding:

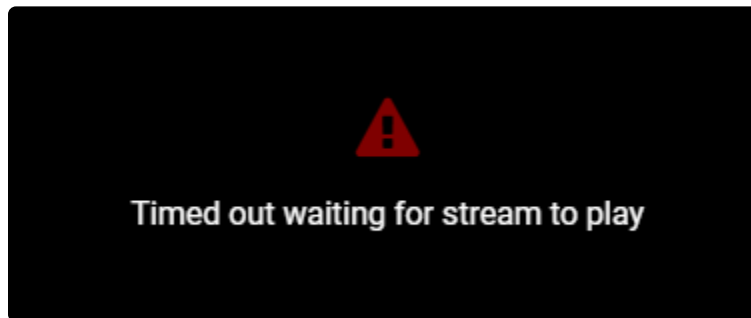
The web browser you are using may be utilizing GPU to decode video. Some cameras are not compatible with GPU.

1. If you have tried other fixes, try disabling GPU decoding in your web browser (on your client device). (Please refer to your web browser documentation for details.)

Troubleshooting

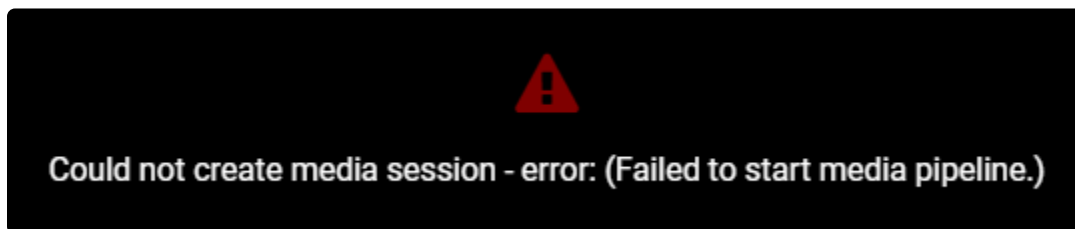
In addition to the WebRTC errors, there are some additional errors that you may encounter in Orchid Alto VMS. If these tips do not help, contact [IPConfigure Support](#).

If this error appears, it is taking too long for the system to receive enough video data to display the video:



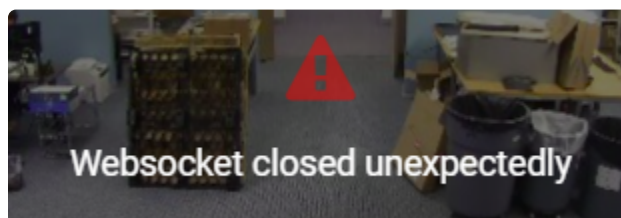
1. Decrease the bitrate (by editing the camera stream settings).
2. Decrease the resolution (by editing the camera stream settings).
3. If neither of these solve the problem, contact IPConfigure Support.

If this error appears, the system can no longer see the camera:



1. Use the *System Status* feature to check on the camera.
 - a. Click the **Restart** button to attempt to reconnect.
 - b. Click the **Verify** button to see if the camera is still connected to the network.
2. Check to see if the camera has power.

If this error appears, the backend server probably shut down the video stream:



1. Go to the *System Status* screen and use the troubleshooting buttons to check/restart the camera

stream. (This error is not likely to appear.)

If this error appears, the connection between the client and server has dropped:

Alto Service Unresponsive

It seems that the Alto server is offline or otherwise unreachable. The server should restart itself.


If this error persists or you do not know how to proceed, please open a ticket on our [support portal](#).



1. Press the **Reload** button to refresh the Orchid Alto VMS page (which may solve the problem).
2. If reloading doesn't solve the problem, contact IPConfigure Support.

Orchid Alto VMS – Technical Specs

The table below provides some of the key Orchid Alto system requirements and capabilities.

Compatible web browsers	The latest versions of Mozilla Firefox, Microsoft Edge, Safari (desktop and mobile), and Google Chrome (version 66 or higher on a desktop or mobile device)
Supported cameras	Any Axis Camera (supporting ACAP 2.0 or newer, and running Axis firmware 6.x or greater)
Network requirements	Requires a good connection between web browser and Orchid Alto VMS
Video decoding	Decoding is done on the client machine
Video quality	Native, unthrottled frame rate
Supported video file types	H264
Audio support	At the Stage (No); In recorded video (Yes)
PTZ camera support	Yes
Fisheye dewarping support	Yes
Video statistics	Yes
Mode indicator	

Additional Support

Orchid Alto VMS users with questions or issues should first contact their Company's Orchid Alto VMS System Administrator. Barring any internal corporate policies, an Administrator may escalate the technical support request.

- Tier 1 Support: Orchid Alto VMS System Administrator
- Tier 2 Support: Integrator or Dealer
- Tier 3 Support: IPConfigure Technical Support Resources

IPConfigure's Orchid Alto VMS Knowledge Base: The Orchid Alto VMS Knowledge Base is freely and publicly available on IPConfigure's support website, and includes detailed information for Orchid Alto VMS.

IPConfigure's Email-based Trouble Ticket System: Any Orchid Alto VMS customer with a valid Cloud Service Agreement can submit trouble tickets through the IPConfigure support website at <http://support.ipconfigure.com>. Orchid Alto VMS trouble tickets are resolved over email by IPConfigure's highly trained Technical Support Team. (Please refer to the last topic for detailed instructions.)

IPConfigure's Telephone Support Line: Customers with a valid Cloud Service Agreement may call IPConfigure's Telephone Support toll-free at 855-440-1077, or direct at 757-520-0587 (during the times listed below).

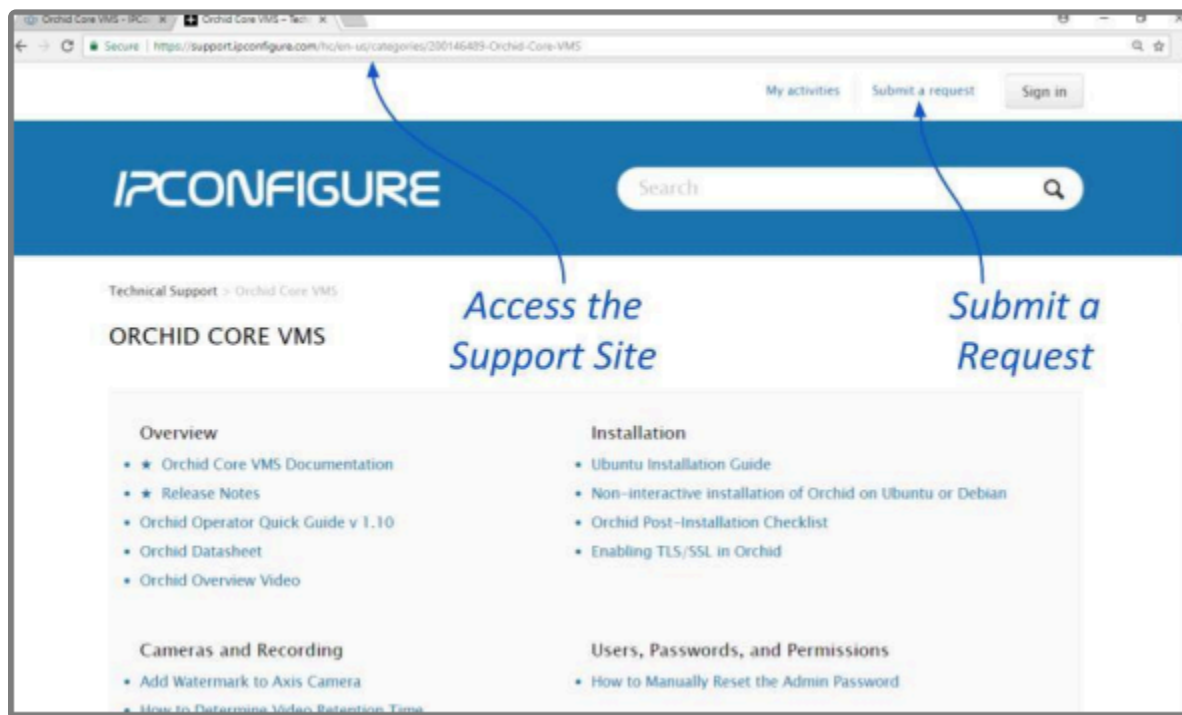
IPConfigure Technical Support Hours

IPConfigure's technical support hours are as listed below. For the most up-to-date version of our IPConfigure support schedule, please see support.ipconfigure.com.

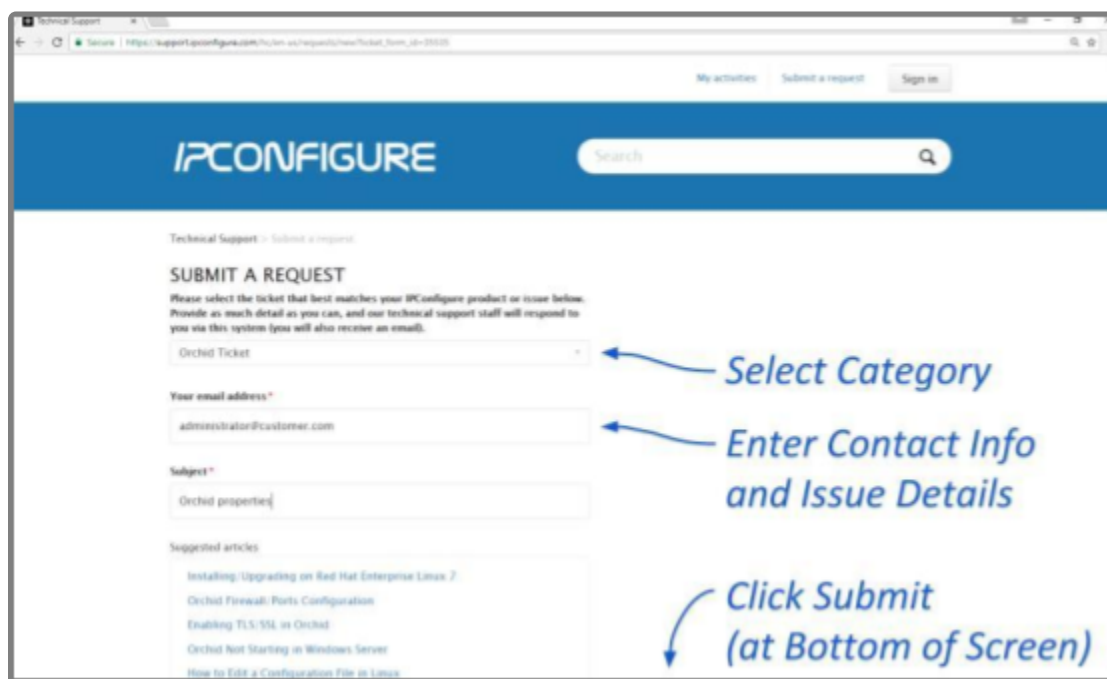
Sunday	Closed
Monday	9:00 AM to 8:00 PM EST
Tuesday	9:00 AM to 12:00 PM, 1:00 PM to 8:00 PM EST
Wednesday-Friday	9:00 AM to 8:00 PM EST
Saturday	Closed

How to Submit a Support Request

1. Visit our technical support site at: <http://support.ipconfigure.com>
2. Click on the *Submit a request* link in the top-right corner of the screen.



3. When the support request screen appears, use the drop-down list to select the product or issue that best matches your support need. (For Orchid Alto VMS, select Orchid ticket.)



4. Enter your contact information, a description of your question/problem, and the version number of

your Orchid Alto VMS software. So that IPConfigure's Technical Support Team can best assist you, please provide as much detail as possible about the problem. Attach screenshots and system logs as necessary.

To find the Orchid Alto VMS software version number, go to the *System Menu* and select *Version Information*.

5. Mark the *I'm not a robot* checkbox (if available).
6. When all available information has been entered, press the **Submit** button at the bottom of the screen.

IPConfigure Technical Support will respond to your request as soon as possible.