IPCONFIGURE

Orchid Core VMS Administrator Guide

Version 2.0.0

C O N T E N T S

About the Orchid Core VMS Administrator Guide

The Orchid Core 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:

- Logging into the Orchid Core VMS Software
- Getting Started
- Activating the Orchid Core VMS Software
- Creating and Managing Users
- Adding and Managing Cameras
- Understanding the Video Retention Policy
- Viewing System Status and System Report
- Advanced Topics
- Additional Support

How to Login

Orchid Core VMS can be accessed easily through any modern web browser, such as Chrome or Firefox. Firefox ESR is recommended (32-bit for Windows, 64-bit for Linux).

1. To view Orchid Core VMS, type the IP address of the computer (on which Orchid Core VMS is installed) in the web browser address bar. If Orchid Core VMS is being viewed on the same computer on which it is installed, you may use the Orchid Core VMS link in the system menu or the Desktop icon, if available.
2. You will be prompted to enter a username and password to sign into Orchid Core VMS. If you are the Administrator and this is your first time signing in, enter the username *admin* and the password you set when Orchid Core VMS was installed. If you are an Orchid Core VMS Manager, enter the username and password provided by your Administrator.
3. Press **Sign In**.
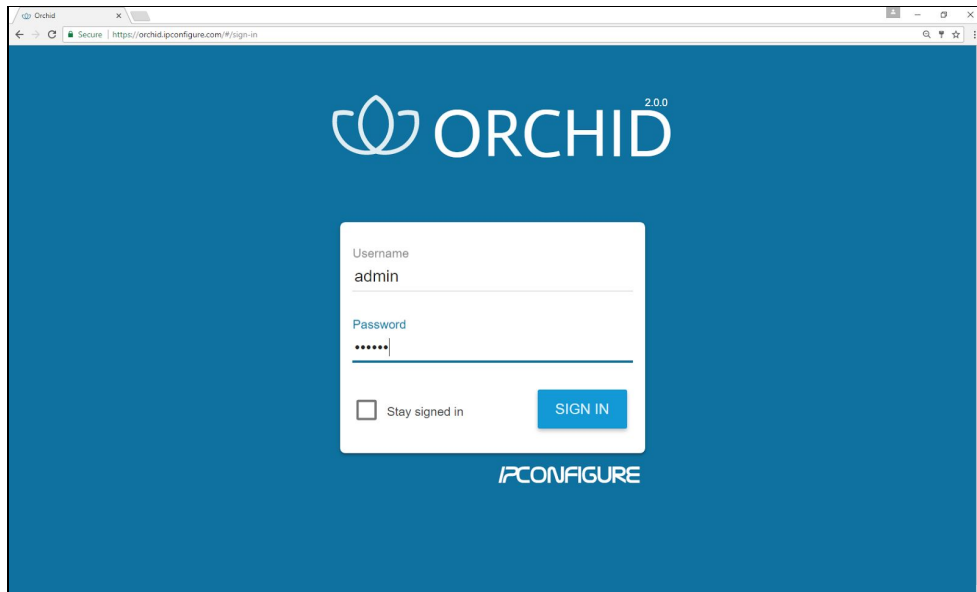
Note: The username and password are both case sensitive.

Note: If you are opening Orchid Core VMS in Microsoft Internet Explorer 11 or Mozilla Firefox ESR (32-bit on Windows, 64-bit on Linux), you can opt to run Orchid Core VMS in Low-bandwidth mode or Plugin mode. All other web browsers support Low-bandwidth mode only. (For more details, please refer to the Orchid Core VMS User Guide and the Advanced Topics section of this manual.)

Getting Started

Once you are logged in, you will be ready to work on activating your Orchid Core VMS license and configuring the Orchid Core VMS system. You'll learn much more about the user interface in the User Guide, but for administrative purposes, here's how to find what you need.

The *System Menu* (accessible from the top-right corner of the screen) is the primary navigation menu and will always be available. It allows the Administrator to access all of the software features like the stage, camera configuration, user management, reports, and sign out. For Managers, Viewers, and Live Viewers, the *System Menu* will contain only those items for which the user has permissions. (Access to the *Stage* and *Sign Out* are exclusively available on the *System Menu* and are available to all users.)

Accessing the System Menu

1. To open the *System Menu*, click on the **Hamburger** icon in the top-right corner of the screen.
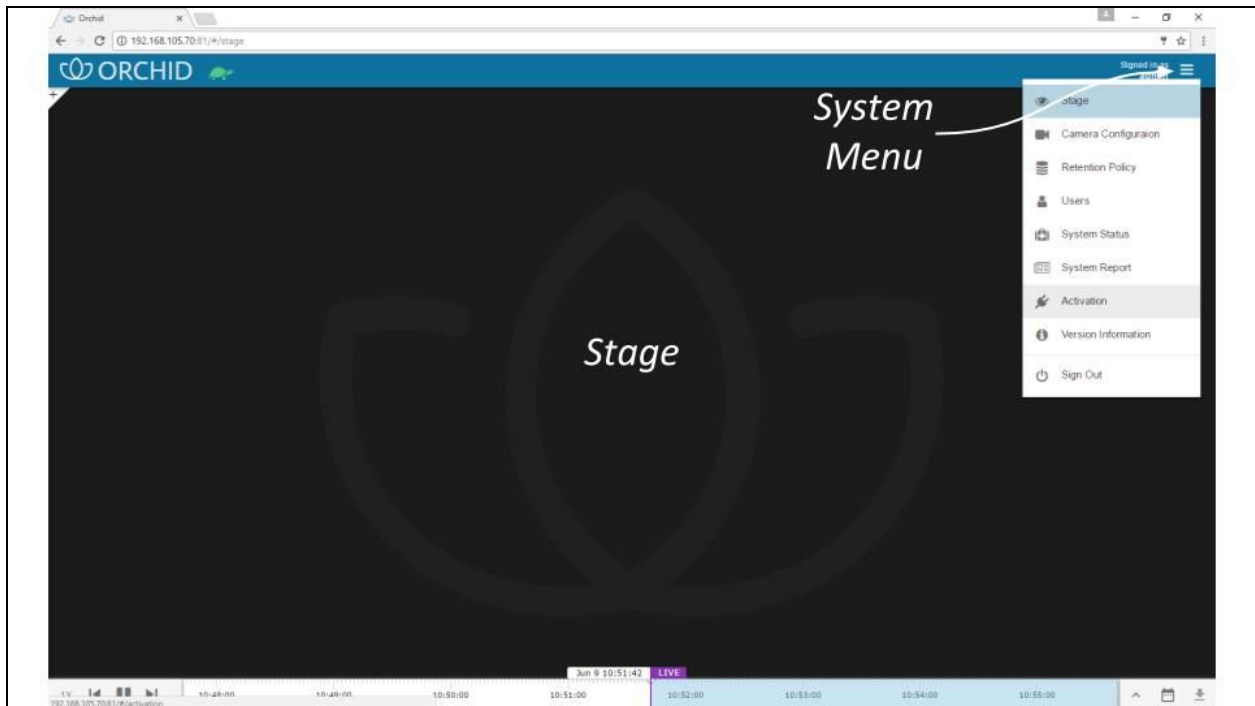
Accessing the Configuration Menu

1. To open the *Configuration Menu*, go to the *System Menu*, then click on any of the available selections <u>except</u> **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 Managers, Viewers, and Live Viewers, the *Configuration Menu* will contain only those items for which the user has permissions, and will not include the *Stage* and *Sign Out*.

   When you are using Orchid Core VMS on a PC, once you access the *Configuration Menu*, it will remain visible on the left side of the screen until you return to the Stage.
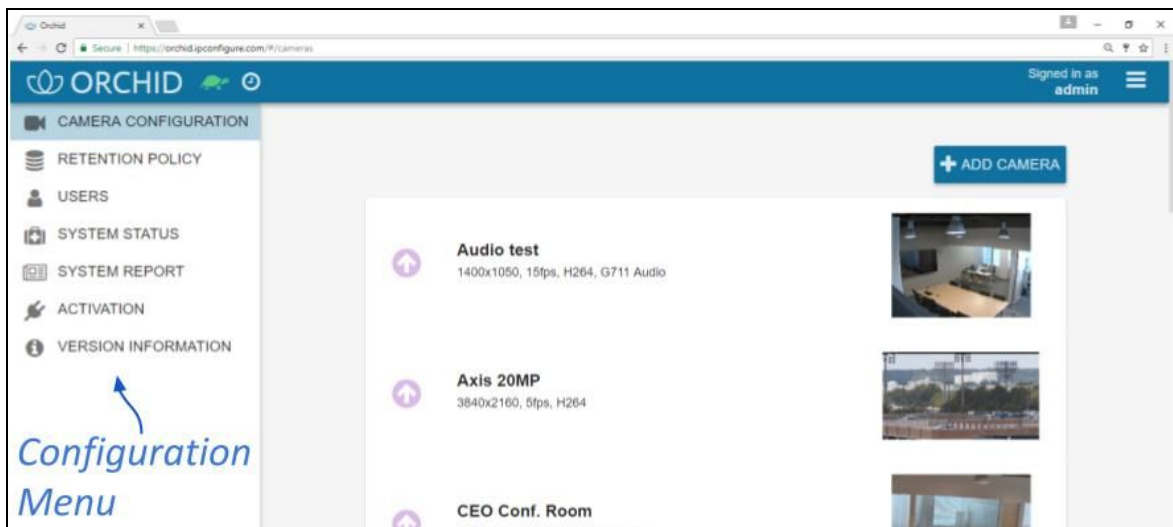
Activating Orchid Core VMS

In order to increase the number of cameras and features available in Orchid Core VMS, it must be activated with a valid *Core* or *Fusion* license.

Note: An Administrator is the only role with the ability to activate Orchid Core VMS.
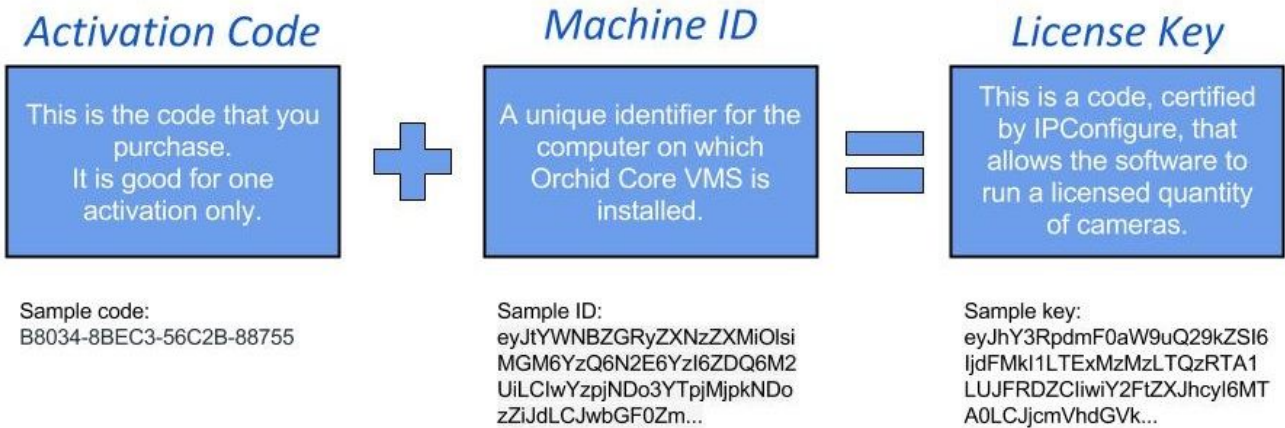
About Orchid Licenses

There are three types of Orchid licenses: Trial, Core, and Fusion. Each license type offers certain capabilities and restrictions.

- **Trial License**
    - When installed on a Windows x86-64 server or a Linux x86-64 server, the Trial license will allow up to four cameras, and up to 128GB of video archives. The Trial version can also be linked to Orchid Fusion VMS.
    - When installed on a Linux ARM embedded server, the Trial license will allow unlimited cameras and archives, but the Trial version cannot be linked to Orchid Fusion VMS.
- **Core License**
    - The Core license offers unlimited archives, but will limit the number of cameras allowed and cannot be linked to Orchid Fusion VMS.
- **Fusion License**

    - The Fusion license will limit the number of cameras allowed, but offers unlimited archives and can be linked to Orchid Fusion VMS.

Adding a License

When you purchase a license, you will be given an activation code. As indicated in the diagram below, the activation code is just the starting point in the process of adding a license. This code, after being paired with your Machine ID, will generate a license key.

Activation Code

This is the code that you purchase.
It is good for one activation only.

Sample code:
B8034-8BEC3-56C2B-88755

Machine ID

A unique identifier for the computer on which Orchid Core VMS is installed.

Sample ID:
eyJtYWNBZGRyZXNzZXMiOlsi
MGM6YzQ6N2E6YzI6ZDQ6M2
UiLCIwYzpjNDo3YTpjMjpkNDo
zZiJdLCJwbGF0Zm...

License Key

This is a code, certified by IPConfigure, that allows the software to run a licensed quantity of cameras.

Sample key:
eyJhY3RpdmF0aW9uQ29kZSI6
IjdFMkI1LTExMzMzLTQzRTA1
LUJFRDZCIiwiY2FtZXJhcyI6MT
A0LCJjcmVhdGVk...

1. Open Orchid Core VMS and login using an administrator level username and password.
2. Once logged into Orchid Core VMS, open the *System Menu* in the top-right corner of the screen and select **Activation**.

    Note: If Orchid Core VMS has not yet been activated, the licensing screen will show that Orchid Core VMS is using the Trial Edition.
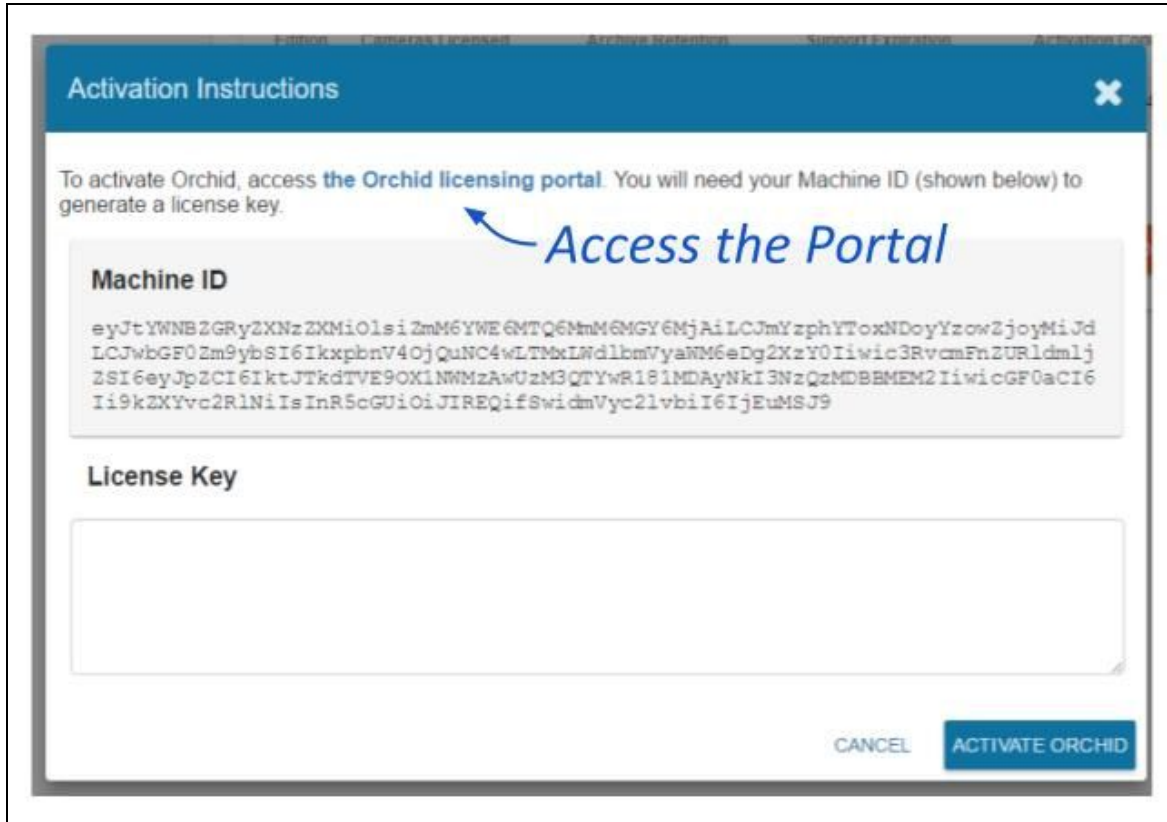
3. When the *Orchid Activation* screen appears, click the **Add License** button to activate a new license.

4. On the *Activation Instructions* screen, click the "*Orchid Licensing Portal*" link
    to continue the activation process. You can also access the license activation
    screen directly by going to www.orchidsecurity.com/activation.

Note: The computer you're using to view Orchid Core VMS will need an internet
connection in order to generate a license using the Orchid Core VMS Security
website. If the computer does not have an internet connection, please refer to the
Advanced Topics section for additional help.

5. Once the Orchid Licensing Portal loads, enter the Activation Code that was
    provided when you purchased your Orchid Core VMS license into the
    Activation Code field. (Sample code: B8034-8BEC3-56C2B-88755)

Orchid Activation

To generate a license key, enter your Activation Code and Machine ID. Enter a unique Location Description to associate the license key with a physical location. You can obtain an Activation Code by contacting a sales representative at www.ipconfigure.com.

Looking to use an add-on, upgrade, or renewal code? Click here.

Activation Code

Enter Activation Code

Machine ID

eyJtYWNBZGRyZXNzZXMiOIsiMDI6NDI6OWQ6ZDI6YzU6MjQiLCJjODo2MDowMDpjYjoxMj
pkOSJdLCJwbGF0Zm9ybSI6IkxpbnV4OjQuNC4wLTI3LWdlbmVyaWM6eDg2XzY0Iiwic3R
vcmFnZURldmljZSI6eyJpZCI6IkNvcnNhaXJfRm9yY2VfR1RfMTlyODc5Mz1wMDAwMTQ5N
DAyOEIiLCJwYXRRoIjoIL2RldI9zZGEiwidHIwZSI6IkhERCJ9LCJ2ZXJzaW9uIjoiMS4xIn0=

Location Description

e.g. Hot Dog Haven Store #12   Add Location

Activate License   Activate

6. Enter your Machine ID into the *Machine ID* field if it is not done already. (The Machine ID looks like a paragraph of random text. You will only need to manually enter the Machine ID if you accessed the licensing screen directly, rather than through Orchid Core VMS.)

7. Input a location description that specifies where your Orchid Core VMS server will be located. Common location descriptions are a shop name, number, or location.

8. Click the **Activate License** button to generate your new Orchid Core VMS license. If the license creation is successful, a screen will appear that indicates success and includes a License Key. (The License Key looks like a paragraph of random text.)
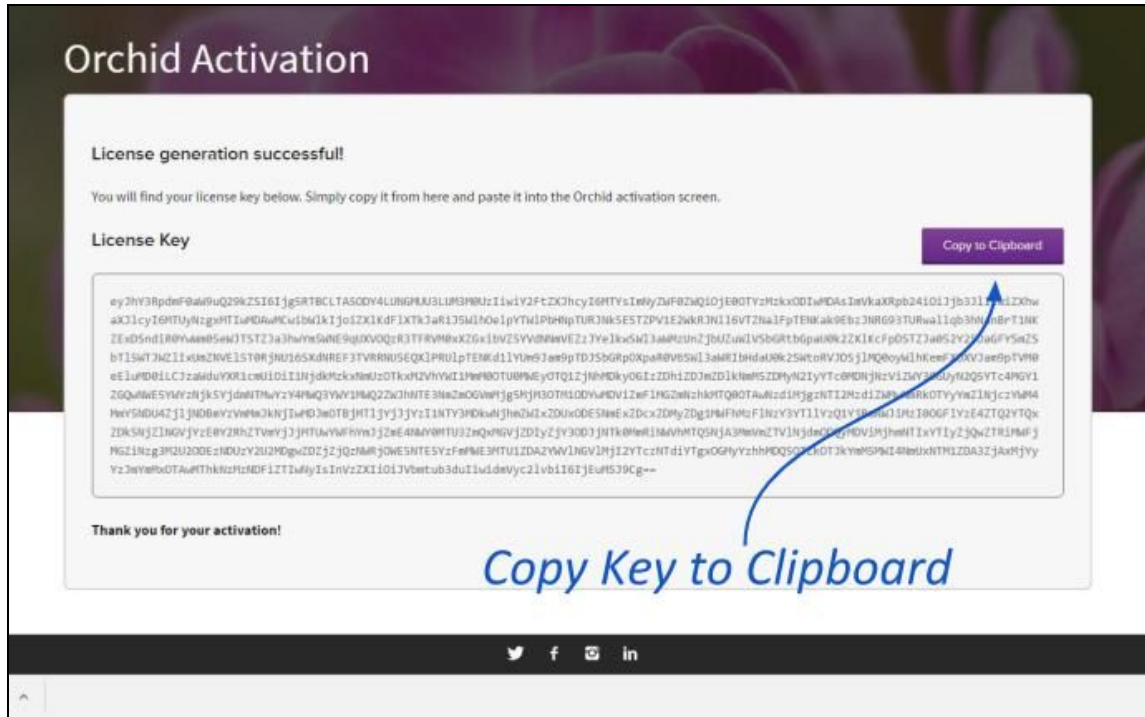
Note: If the activation code has already been used for another machine, then the license generation will fail saying "The provided activation code has already been paired with a different machine ID." If this happens, you'll need to either purchase a new Activation Code, or submit a ticket to the IPConfigure Technical Support Team.

9. Press the ***Copy to Clipboard*** button to copy the License Key text. Close the Orchid Core VMS Security screen and click into the *License Key* field on the *Activation Instructions* screen. Click ***CTRL+V*** to paste the text into the field.
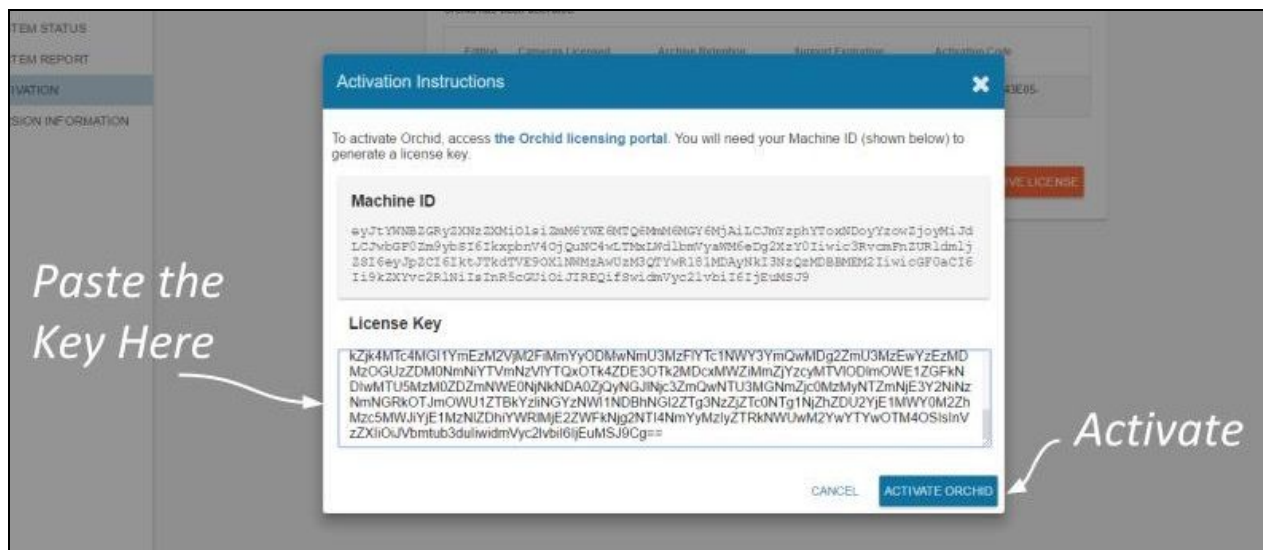
10. Click the **Activate Orchid** button to activate your new license key. If the activation was successful, you will see a message at the top of your screen saying "*Orchid has been activated.*"
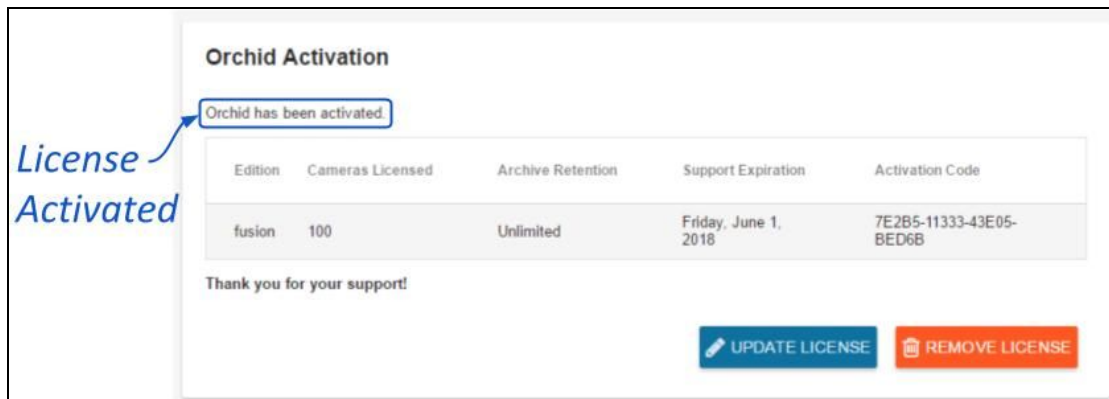
The Edition, Cameras Licensed, Archive Retention, and Support Expiration fields will all be updated to match the license you purchased.
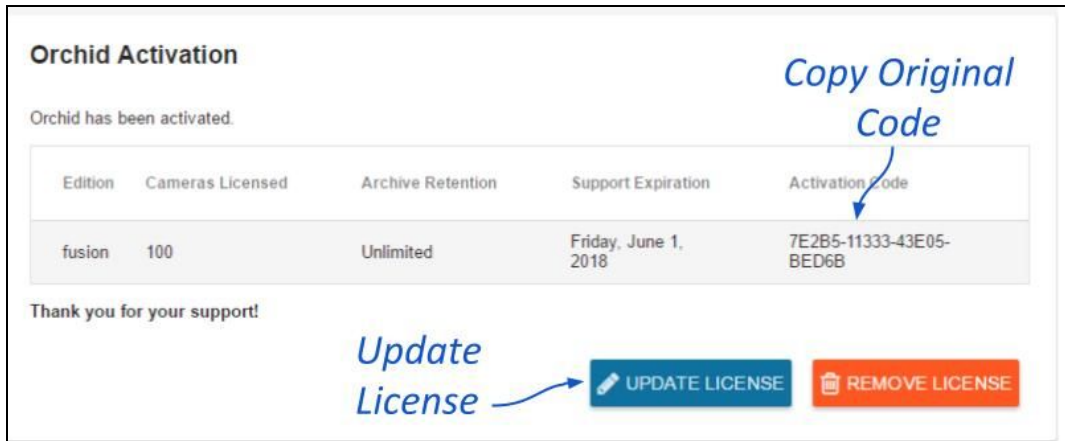
Modifying an Existing License

If you want to add more cameras to the system, upgrade from a Core license to a Fusion license, or simply extend your support agreement, you will need to modify an existing Orchid Core VMS license.
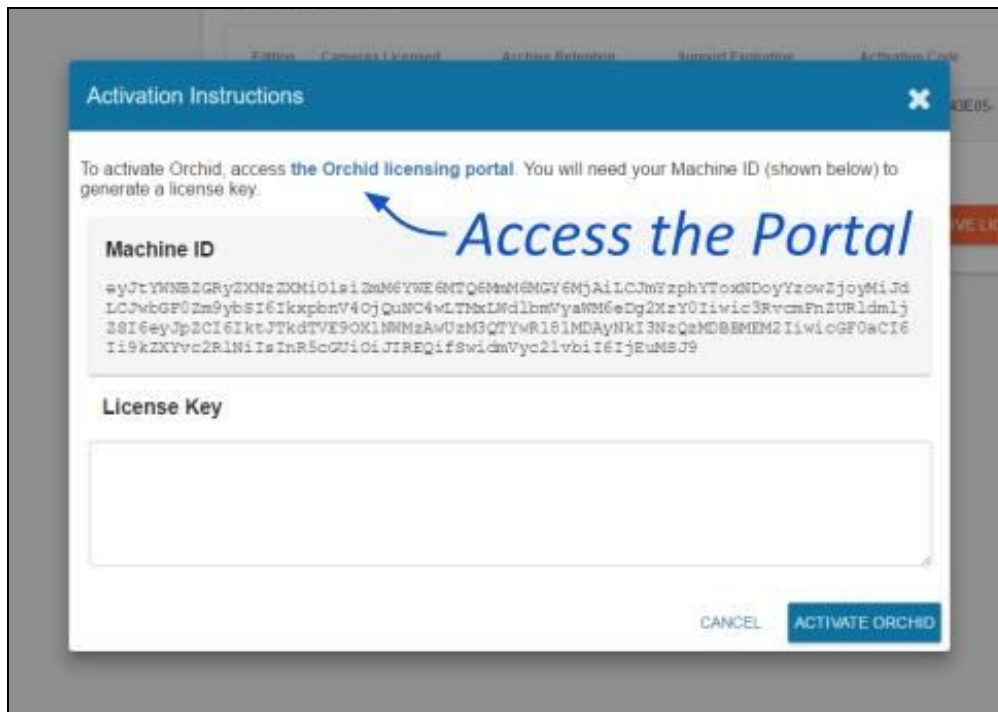
Note: A valid support agreement is required to install software updates. If your agreement expires, you will be able to install versions of the software that were released before your agreement expired, but you will not be able to install *new* software updates. (If you attempt to install software that was released *after* your support expires, your Orchid Core VMS server will not function properly; contact your IPConfigure sales representative to purchase an upgrade or renewal).

1. Open Orchid Core VMS and login using an administrator level username and password.
2. Once logged into Orchid Core VMS, open the *System Menu* in the top-right corner of the screen and select **Activation**.

3. When the *Orchid Activation* screen appears, click and drag over your original activation code to select it, then click **CTRL+C** to copy the code. (You will need this code later.)

4. Press the **Update License** button.
5. On the *Activation Instructions* screen, click the "*Orchid Licensing Portal*" link to continue the activation process. You can also access the license activation screen directly by going to www.orchidsecurity.com/activation.

6. Click on the link that says: "*Looking to use an add-on, upgrade, or renewal code? Click here.*"

7. Once you reach the *Renewal/Add-On* screen, go to the *Original Activation Code* field and click **CTRL+V** to paste the original code that you copied earlier.

8. Then go to the *Renewal/Add-On Code* field and enter the code that you just purchased.
9. Press the **Renew/Upgrade License** button.
10. Once the renewal is successful, press the **Copy to Clipboard** button to copy the License Key text. Close the Orchid Core VMS Security screen and click into the *License Key* field on the *Activation Instructions* screen. Then click **CTRL+V** to paste the text into the field.
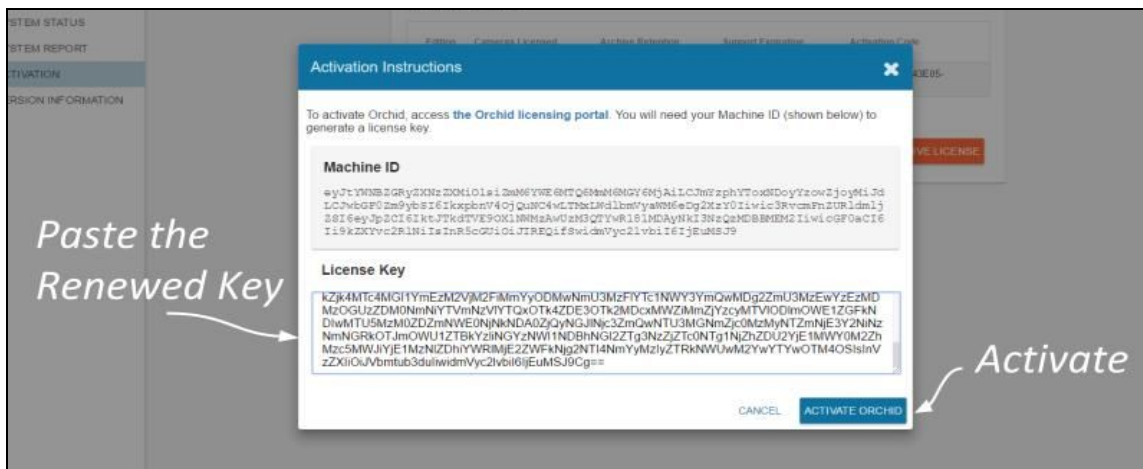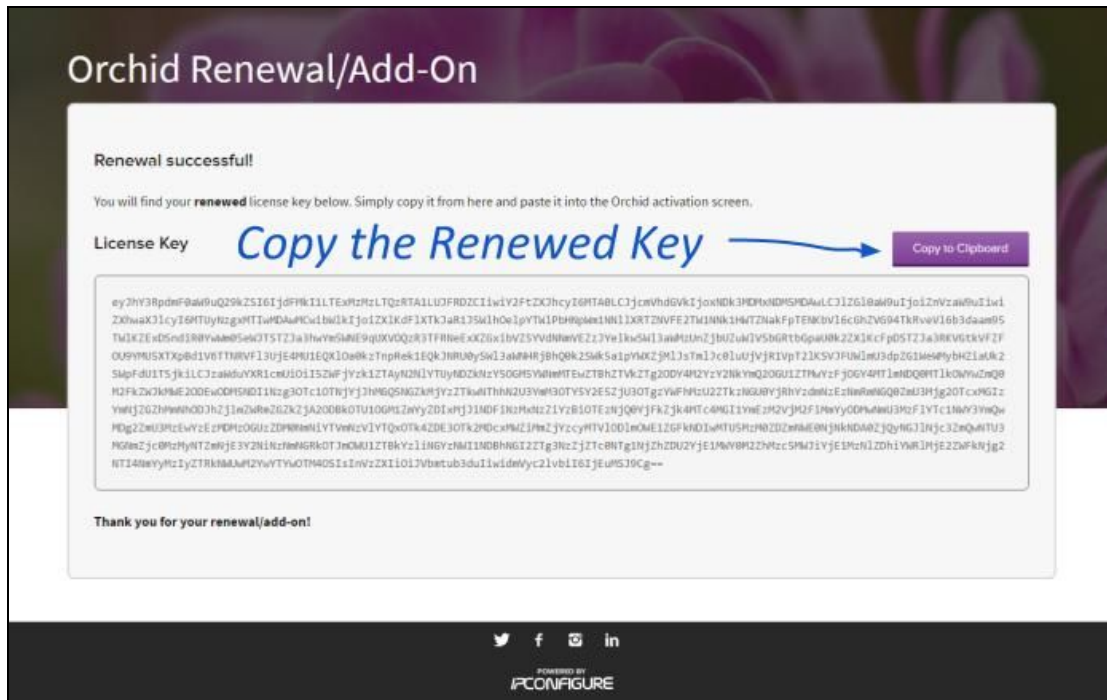
11. Click the **Activate Orchid** button to activate your new license key. If the activation was successful, you will see a message at the top of your screen saying "*Orchid has been activated.*"
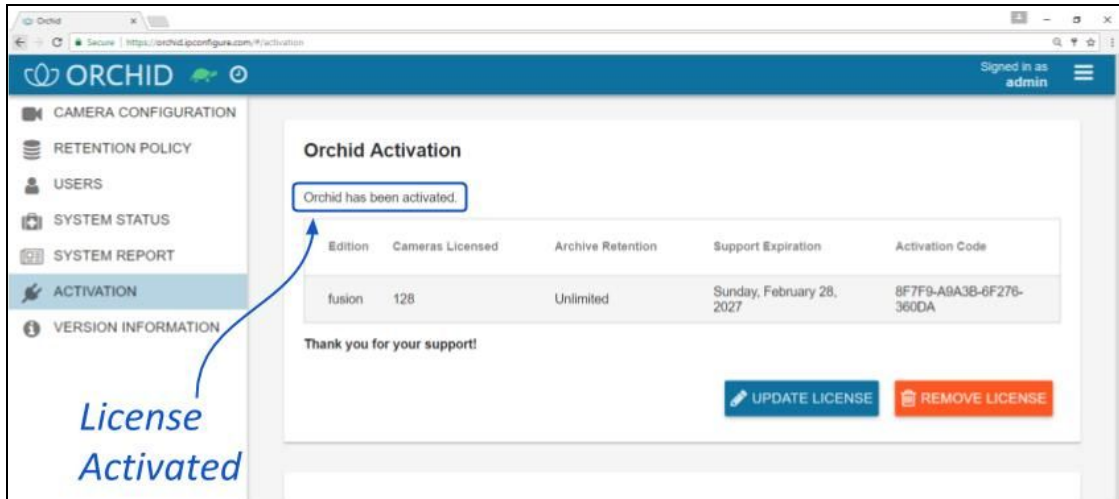
The Orchid Core VMS Activation screen should display updated information in the appropriate fields (to match the add-on, upgrade, or renewal you purchased).

Creating and Managing Users

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

Note: An Administrator is the only role with the ability to create and manage users.

About Orchid Core VMS User Roles

There are four different User roles in Orchid Core VMS, each with a different level of access:

- Live Viewer: A *Live Viewer* is only able to view live video.
- Viewer: A *Viewer* is able to view live and recorded video.
- Manager: A *Manager* can view live and recorded video, export video, view System Reports, and control PTZ players. (The Manager is not able to create or manage users or cameras.)
- Administrator: An *Administrator* is able to do everything within Orchid Core VMS, including activating Orchid Core VMS, adding new users and cameras, resetting passwords, and viewing System Reports.

User roles are set when you create new users, however, an Administrator may change the role of an existing user by clicking the ***Edit*** pencil icon. Find out more about editing users later in this section.

Access the Orchid Core VMS Users List

1. Login to Orchid Core VMS as the Administrator by entering the username *admin* and the password you set when Orchid Core VMS was installed.
2. Open the *System Menu* in the top-right corner of the screen and select ***Users***.

The Orchid Core VMS *Users* screen lists all of the users that have been added, their assigned roles, and descriptions of each of the four possible User roles.
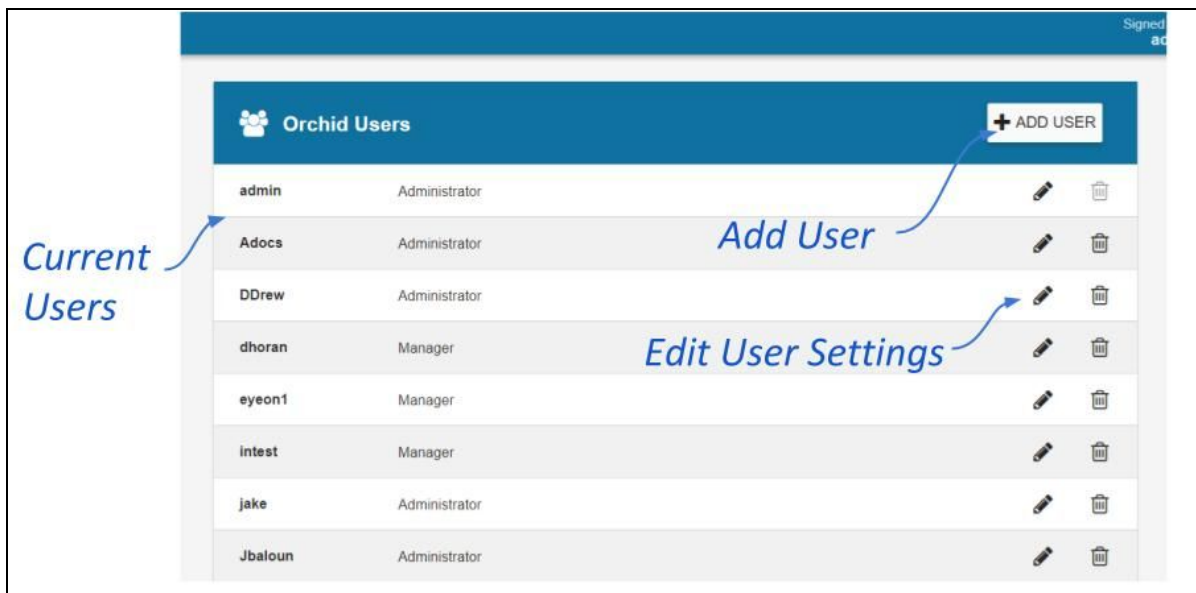
Adding a New User

1. Click the ***Add User*** button in the top-right corner of the Orchid Core VMS *Users* screen.
2. A *New User* screen will open. Enter the username you would like to set for the new user in the *Username* field.

3. Enter the password for the new user into the two fields labeled *Password* and *Confirm Password*.

4. Select a role for the new user from the *Role* drop-down list. (The role can be updated by an administrator at any time.)
5. Click the **Add User** button at the bottom of the screen to create the new Orchid Core VMS user.

    The new user will now appear in the list of users and will immediately have access to Orchid Core VMS.

Editing Existing Users

Nothing is set in stone for Orchid Core 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 and role 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.

Note: If you try to change your own password, Orchid Core VMS will automatically log you out.

Deleting Existing Users

1. To delete an existing user, click the **Trash Can** icon to the right of the username. Orchid Core VMS will ask you to confirm that you would like to remove the user. Once you confirm you want the user removed, it will be permanently erased.

Adding and Managing Cameras

The *Camera Configuration* screen is an important part of the Orchid Core VMS setup process. This screen provides a list of all of the registered cameras and a preview of each video stream. It is also the starting point for adding cameras, editing camera settings, and deleting cameras.

1. To access the *Camera Configuration* screen for Orchid Core VMS, open the *System Menu* in the top-right corner of the screen, then select **Camera Configuration**.

   Note: An Administrator is the only role with the ability to add and manage cameras.
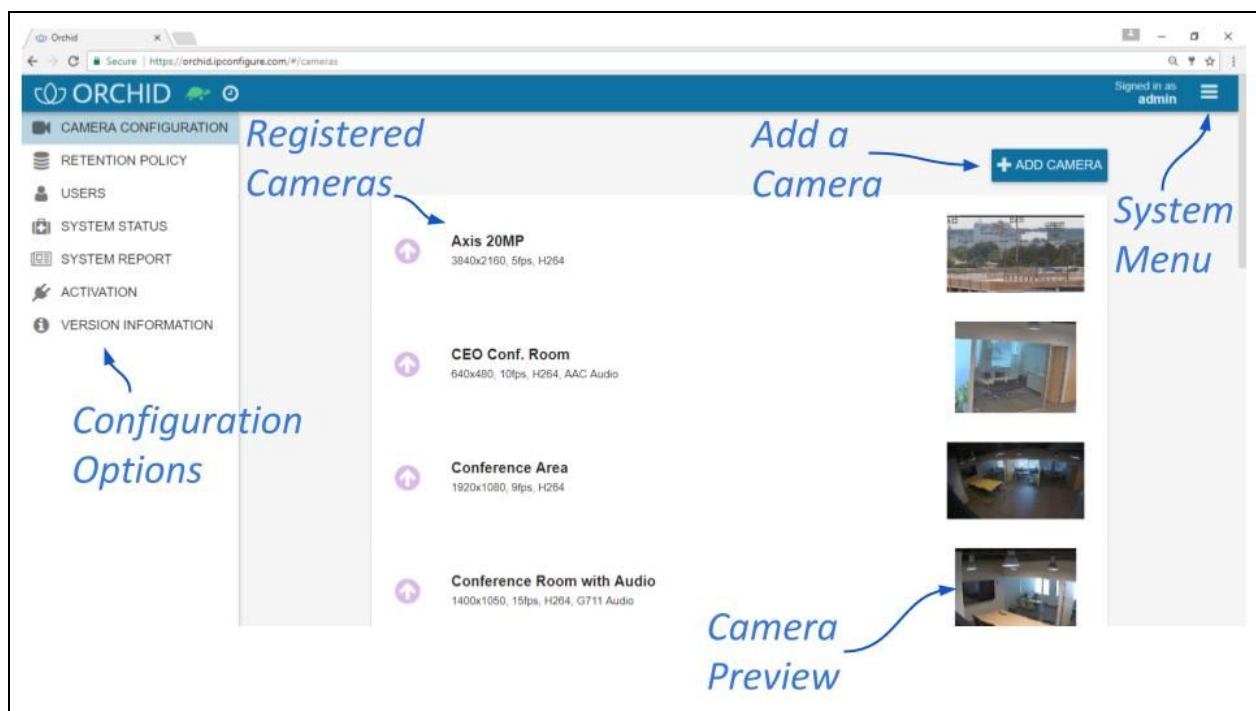

   The *Camera Configuration* screen will open with a list of cameras that have already been registered, if any. The process for adding most cameras is typically pretty simple, especially if the camera supports ONVIF auto-discovery.

Adding One or More Cameras (using Auto Mode)

1. From the list of registered cameras on the *Camera Configuration* screen, press the **Add Camera** button to access the *Register Cameras* screen. Orchid Core VMS will open the *Register Cameras* screen in *Auto* mode by default. This screen displays a list of all the cameras Orchid Core VMS was able to auto-discover.

    Note: In order for Orchid Core VMS to auto-discover cameras, they must support ONVIF auto-discovery and be located on the same network subnet. If you have cameras that are not automatically discovered, they can always be added manually.
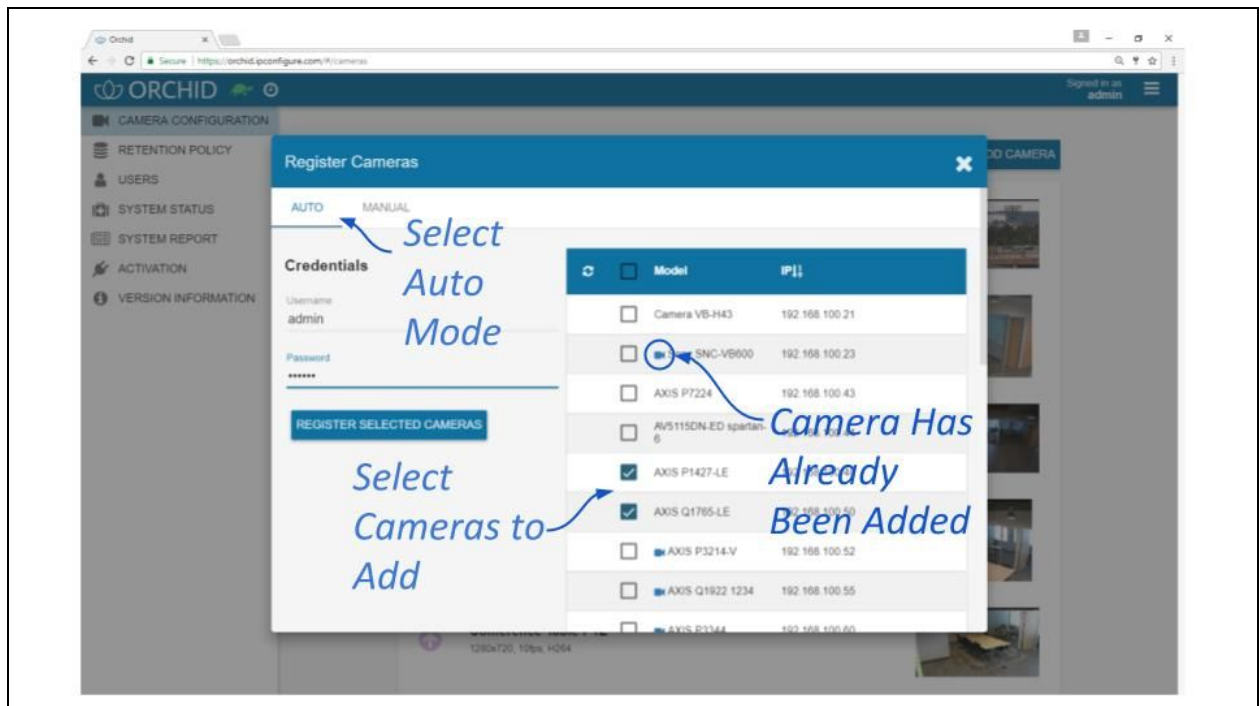
2. To add a new camera, mark the checkbox next to the camera. (You may select multiple cameras as long as they all use the same ONVIF username and password.)
3. Enter the ONVIF username and password that is setup on the camera(s) you would like to add.
4. Press the **Register Selected Cameras** button to add the cameras to Orchid Core VMS.

    Depending on the number of cameras being added, it may take a few minutes for Orchid Core VMS to add them successfully. When complete, Orchid Core VMS will show a list of all cameras that were successfully and unsuccessfully added. If Orchid Core VMS fails to add a camera, an error message will appear.

5. Go to each of the newly added cameras and enter a unique, descriptive name for each one. (Good camera names are important because they are searchable in Orchid Fusion VMS.) You should also review or edit the camera stream settings.

   Note: If these newly added cameras will use similar stream settings, use the Copy Stream to Cameras feature to configure multiple cameras at once. (This feature is only available on systems with a Fusion or Trial license.)

   Note: If you have any trouble adding cameras, please refer to the Advanced Topics section for additional help.

Adding a Single Camera (in Manual Mode)

In the event that Orchid Core VMS cannot auto-discover a camera, it can be added manually.

1. At the *Camera Configuration* screen, press the **Add Camera** button to access the *Register Cameras* screen. Orchid Core VMS will open the *Register Cameras* screen in Auto mode.
2. Select **Manual** mode.
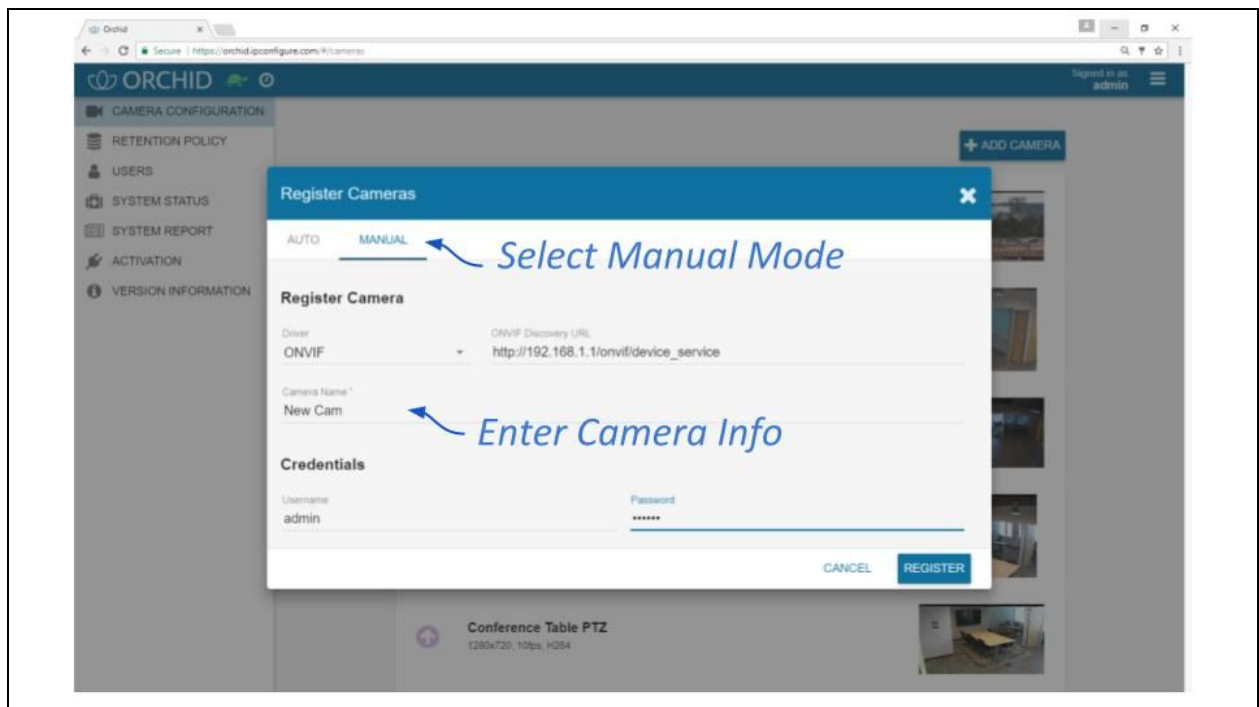
3. Select the appropriate driver (*ONVIF* or *RTSP*) from the drop-down list.

   Note: While the Generic RTSP driver is available when adding cameras manually, this is not always guaranteed to work due to the way different manufacturers handle RTSP streams. The recommended driver to use with Orchid Core VMS is ONVIF.

4. Enter the ONVIF Discovery URL, or the RTSP Stream URI (depending on the driver you specified) to match the correct address for the camera being added. Consult with the camera manufacturer's user guide, as needed, for the correct syntax of the address.
5. Enter a unique name for the camera. This will allow you to distinguish the camera from other cameras set up within Orchid Core VMS.
6. Enter the username and password that is setup on the camera being added.

   Note: For some ONVIF cameras, a separate username and password needs to be created specifically for ONVIF. (Please refer to the Advanced Topics section for more information.)

7. Press the ***Register*** button to add the camera to Orchid Core VMS.

   When complete, Orchid Core VMS will add the new camera to the list of registered cameras. If Orchid Core VMS fails to add a camera, an error message will appear explaining the issue.

8. Once the camera has been added, you should review or edit the camera stream settings.

   Note: If you have any trouble adding cameras, please refer to the Advanced Topics section for additional help.

Editing Camera Stream Settings

After a camera has been added to Orchid Core VMS, settings such as the stream resolution and frame rate can be updated through the camera stream's configuration. While this is true for most cameras, cameras added using the RTSP driver (old cameras and cameras that don't support ONVIF) cannot be edited through Orchid Core VMS. You will need to access those cameras directly to edit settings. (Refer to the camera manufacturer's documentation for more details.)

1. From the list of registered cameras on the *Camera Configuration* screen, 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, IP address, and all of the available streams.)
2. 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.
3. 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.
4. The RTSP URL status fields are typically used for troubleshooting. These allow for a comparison of the video coming from the camera and the video as received by Orchid Core VMS to determine where a problem might be occurring.
   a. The *Camera RTSP URL* (which contains the camera's IP address) represents the video stream that Orchid Core VMS is recording.
   b. The *Orchid Proxy RTSP URL* represents the video that Orchid Core VMS is showing on the stage. (For more details, please refer to the Advanced Topics section.)
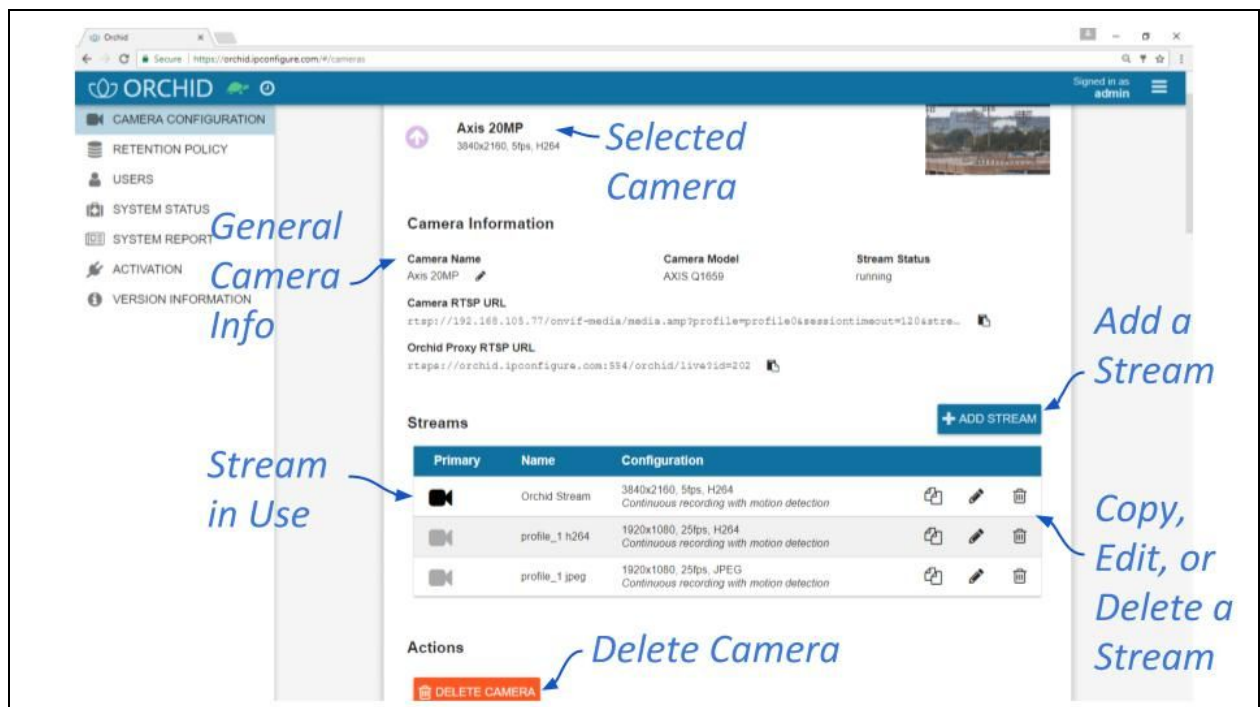
A **camera stream** is a profile with all of the basic settings used by Orchid Core VMS to record video from the camera. The stream currently being used by Orchid Core VMS, the primary stream, is indicated by a darkened camera icon.

5. To select a new stream, click the *Camera* icon located to the left of the name of the stream you want Orchid Core VMS to record with.

   Note: Only one stream per camera can be used at a time. However, multiple stream profiles from the same camera can be used if the camera is added to Orchid Core VMS multiple times. This feature is especially useful for cameras with multiple lenses.

6. 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.

7. Review or change the stream name so the camera stream is easily identifiable by Users.
8. Review or change the Recording Style for the camera stream.

   Orchid Core VMS allows you to choose between one of four different recording styles. Refer to the descriptions below (and the table that follows) before making your selection.

- **Continuous Recording with Motion Detection:** Orchid Core VMS will continuously record video from the camera and perform motion detection. This is the default and recommended setting.
- **Continuous Recording without Motion Detection:** Orchid Core VMS will continuously record video from the camera, but will not perform motion detection. This option offers a modest reduction in CPU load on the Orchid Core VMS server.
- **Continuous Recording with Motion Adaptive Frame Rate:** Orchid Core VMS will record at one (higher) frame rate while motion is detected, and a different (slower) frame rate while no motion is detected. 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:** Orchid Core VMS will provide live video from the camera but will not record video.

	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 and playback are available	Yes	Yes	Yes	No
Live view is available in low-bandwidth mode	Yes	No	Yes	No
Live view is available in plugin mode	Yes	Yes	Yes	Yes
Thumbnail previews are available	Yes	Yes	Yes	No

9. Continue to review and change camera stream settings for video, audio and bandwidth 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 otherwise noted.

- **Encoder:** The type of compression used for the camera's video. Orchid Core VMS supports MJPEG, MPEG4, and H264 (recommended).
- **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 disk usage and reduced retention. The default value is recommended.
- **Frame Rate:** The number of frames per second transmitted within the video stream. Most Orchid Core VMS 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.
- **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). Increasing the GOV will lower the bit rate since it reduces the frequency of the larger, full image frames. However, this may lead to situations in which a small amount of packet loss results in poor video quality for longer periods, or problems with delayed viewing. 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. Most Orchid Core VMS users are best served by resolutions between 1280x720 and 1920x1080.
- **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 Settings will appear on the screen only if the camera supports 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 Core 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.

Low-bandwidth Settings

- **Decode all frames:** This setting applies to viewing Live video in Low-bandwidth mode. When Decode all frames is *disabled*, Orchid Core VMS will display only full frames (per the configured GOV length) when viewing live video in Low-bandwidth mode. When Decode all frames is *enabled*, Orchid Core VMS will display every available frame from the camera (regardless of GOV length) when viewing live video in Low-bandwidth mode, assuming sufficient bandwidth exists. Decode all frames is disabled by default because enabling this setting will increase CPU use on your Orchid Core VMS server. (For more details on Low-bandwidth mode and Plugin mode, please refer to the Advanced Topics section.)

10. 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.
11. 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.

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. Orchid Core VMS will open a screen in which you will need 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 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. This shortcut is especially useful if you have added multiple cameras at once (using Auto mode).

Note: This feature is only available on systems with a Fusion or Trial license.

1. From the list of registered cameras on the *Camera Configuration* screen, 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.

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 Core 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 Core 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.

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**, **Audio Settings**, and **Decode all frames**).
    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 **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.
7. 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. (Orchid Core VMS will not record from this new stream.)
8. 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.
9. When the copy process is complete, click the **Done** button.

Cameras with Multiple Lenses

There are some camera models that have multiple lenses or offer multiple camera views (such as 180- or 360-degree cameras). To take advantage of this capability, you will need to do the following:

1. Add this camera to the system one time for each available lens.
2. Edit the properties for each of the cameras as follows:
   a. For ease of identification, provide similar but unique camera names. (For example: Tower1East, Tower1West, and Tower1North.)
   b. To ensure that you are able to view video from each of the available lenses, select a different primary stream for each of the cameras you added.

In the example below, a multi-lens camera has been added to the system 3 times. Each has a similar (but different) camera name, and each one has a different primary stream selected.

Note: If you find a Camera Stream profile called "multiview" (or something similar) in the list of stream names, select that as the Primary stream if you want to view/record all of the views as one stream. When you add this player to the stage, it will display all available views as one player.

IPConfigure Inc.
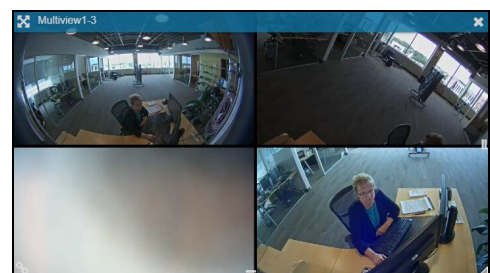
Removing a Stream 🗑

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

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

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

Removing a Camera

1. To remove a single camera, do either of the following:
   a. From the list of registered cameras on the main *Camera Configuration* screen, position the cursor over the Up 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. Orchid Core VMS 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). Orchid Core VMS 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 Core VMS at the same time, if needed.

1. From the list of registered cameras on the main *Camera Configuration* screen, first select the cameras you want to delete. (For each camera you want to delete, position the cursor over the Up arrow to the left of the camera name; the arrow will change into a checkbox. Mark the checkbox.)
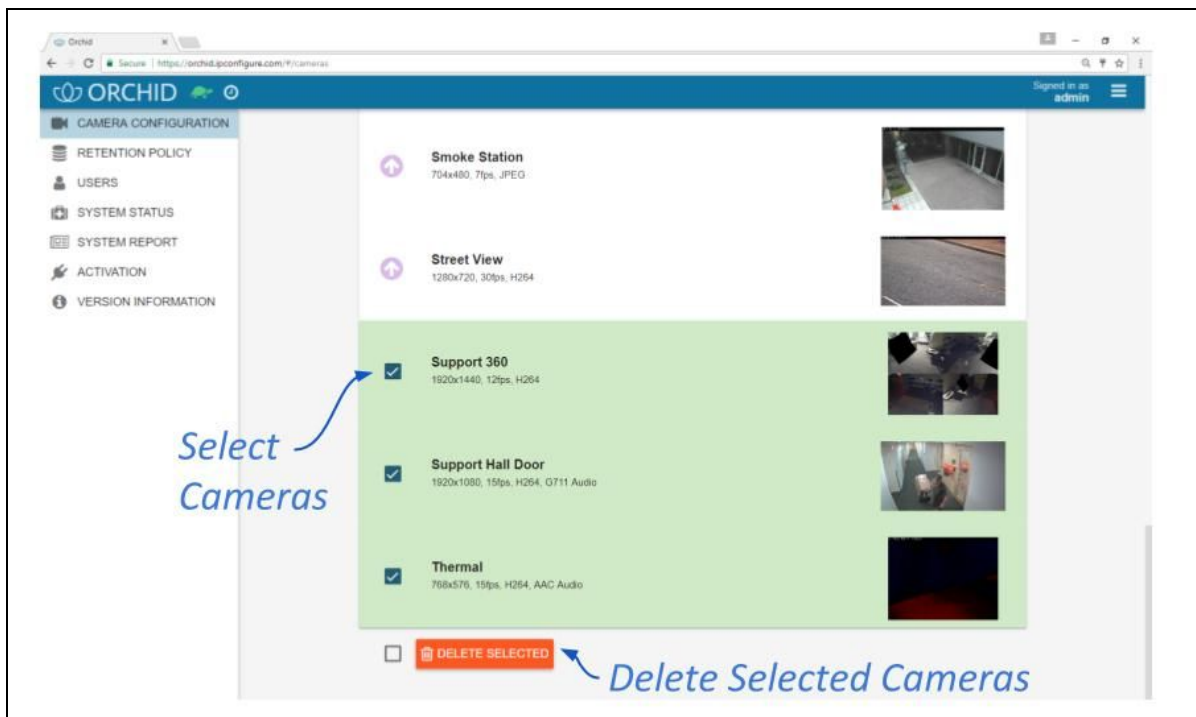
2. Once your selections are complete, click on the **Delete Selected** button at the bottom of the list. Orchid Core VMS will ask you to confirm that you want to delete the cameras. Press the **Delete** button to confirm. Once the cameras are removed, they are no longer available for viewing, playback, 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. Orchid Core VMS 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.

Retention Policy

The Retention Policy feature in Orchid Core VMS allows Administrators to manage video archive retention on a stream by stream basis as well as review current and projected disk utilization.

Note: An Administrator is the only role with access to the Retention Policy.

About Video File Retention

To maintain a system for video file retention, Orchid Core VMS determines how much disk space is available on the server. By default, Orchid Core VMS will retain videos until your hard disk is 85% 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 Orchid Core VMS 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 on the server.

If no camera-specific retention settings have been entered, Orchid Core VMS 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 disk usage reaches the retention limit, Orchid Core VMS 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 disk space is available.

To change the 85% Cleaner Threshold setting, please refer to the *How to Edit a Configuration File* section (for the appropriate operating system), and the *Orchid Core VMS Configuration Settings* section (both of which are in the Installation Guide).

Accessing the Retention Policy

1. To access the Retention settings for Orchid Core VMS, open the *System Menu* in the top-right corner of the screen, then select **Retention Policy**.

At the top of the *Estimated Retention* section, Orchid Core VMS displays a summary of estimated server space usage. Use the cursor to hover over the colored regions of the summary graphic to view the estimated server space usage for each camera.

● **Unavailable space:** This space on the disk is marked in grey. It is already in use by other applications and is unavailable to Orchid Core VMS for storing video.
● **Video data:** This space on the disk is marked in various bright colors representing each camera. This space is filled with videos that are managed by Orchid Core VMS. To make space for new video, the oldest videos are continuously and automatically deleted as the *Cleaner Threshold* is reached.
● **Cleaner Threshold:** By default, Orchid Core VMS will attempt to make sure that no more than 85% of your disk space is used. This threshold is marked on the bar by a red dotted line. To change the 85% Cleaner Threshold setting, please refer to the *How to Edit a Configuration File* section (for the appropriate operating system), and the *Orchid Core VMS Configuration Settings* section (both of which are in the Installation Guide).
● **Free space:** This is space on the disk not in use by Orchid or any other application.

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 on your disk, Orchid Core VMS 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.

3. Repeat steps 1 and 2 for each camera that requires minimum retention settings.
4. To undo the last setting you changed, press the **Revert Changes** button at the bottom of the list. (You can only use this feature *before* you save the new configuration.)
5. Once all settings have been entered, press the **Save Configuration** button at the bottom of the list.
6. 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* screen displays how the server space is actually being used. Use the cursor to hover over the colored regions of the summary graphic to view the actual server space usage for each camera.
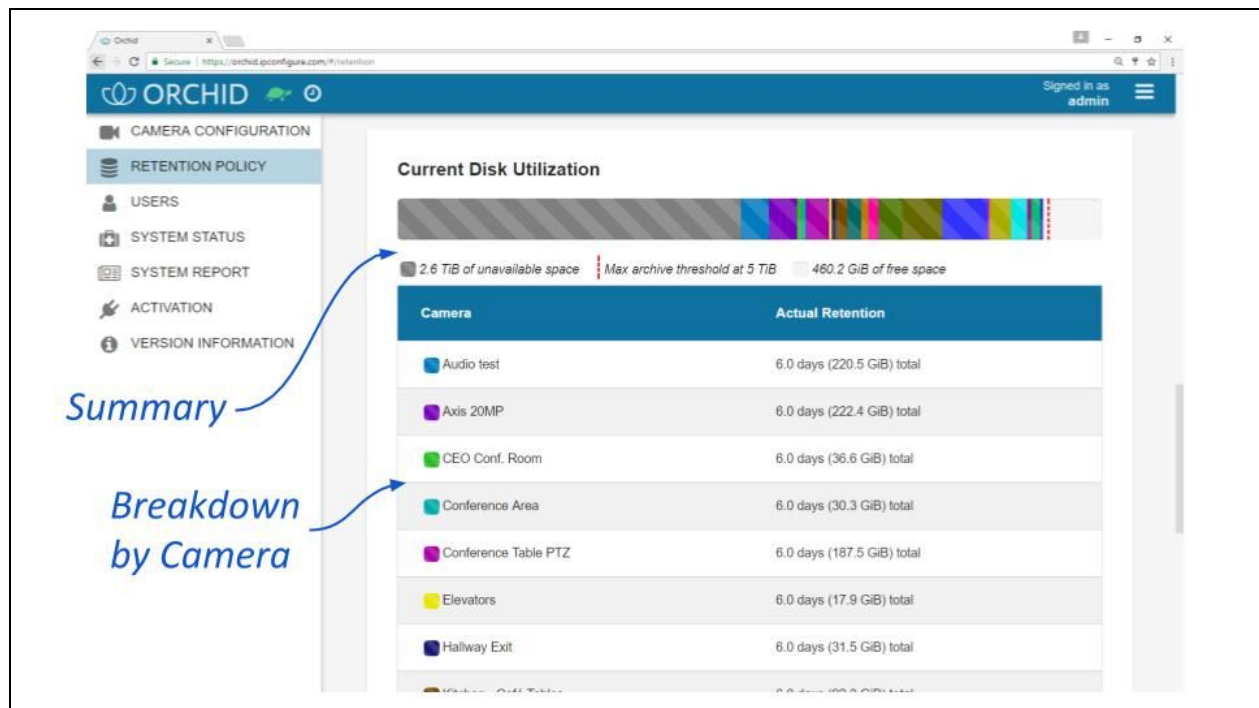
The *Current Disk Utilization* section displays a summary of actual server space usage which includes unavailable space (space used by the operating system and other files), space occupied by video files, and a buffer of free space. It then provides a usage breakdown by camera. This information can be very helpful in diagnosing retention issues. For example, if you think you are getting less video retention than you should, you can use this breakdown to determine if any of the cameras are using excessive disk 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.

Viewing the System Status

The System Status feature in Orchid Core VMS provides an overview of the current disk utilization of the video archives folder and the active streams running in Orchid Core VMS.

Note: Administrators and Managers are the only roles with the ability to access the System Status.

Accessing the System Status Report

1. To access the *System Status* report for Orchid Core VMS, open the *System Menu* in the top-right corner of the screen, then select **System Status**.

The *Disk Utilization* section summarizes how the server space is being used. If the overall amount of total disk space appears low, this may indicate that your recording drive(s) have gone offline and Orchid Core VMS is recording to some other location.

● **Unavailable space:** This space on the disk is marked in grey and is already in use by other applications; it is unavailable to Orchid Core VMS for storing video.

- **Video data:** This space on the disk is marked in green. This space is filled with videos that are managed by Orchid Core VMS. To make space for new video, the oldest videos are automatically deleted as the *Cleaner Threshold* is reached.
- **Cleaner threshold:** By default, Orchid Core VMS will attempt to make sure that no more than 85% of your disk space is used. This threshold is marked on the bar by a red dotted line. To change the 85% Cleaner Threshold setting, please refer to the *How to Edit a Configuration File* section (for the appropriate operating system), and the *Orchid Core VMS Configuration Settings* section (both of which are in the Installation Guide).
- **Free space:** This is space on the disk not in use by Orchid or any other application.

By default, the video archives folder can be found in the following locations:

- In Linux: /orchives
- In Windows: C:\orchives

Reviewing the Camera Stream Status Section

The *Active Stream Status* section of the *System Status* report shows a list of all the active camera streams in Orchid Core VMS, 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 being restarted automatically and should be active again within a few seconds.
- **Idle:** The camera is not responding after being restarted by Orchid Core VMS 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 Orchid Core VMS has never saved an archive for the camera stream, the software will display *Never* in the *Last Archive* column. Orchid Core VMS 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 Orchid Core VMS 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 Orchid Core VMS is receiving video from the camera stream without having to navigate back to the stage.
- **Verify:** Pings the camera and confirms whether or not Orchid Core VMS can communicate with the camera successfully. This button will turn green after a successful validation. The button will turn red if the Orchid Core VMS server is unable to communicate with the camera.

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

Viewing the System Report

The *System Report* feature in Orchid Core VMS allows Administrators and Managers 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 Orchid Core VMS system log.

Note: Administrators and Managers are the only roles with the ability to access the System Report.

Accessing the System Report

1. To access the *System Status* report for Orchid Core VMS, open the *System Menu* in the top-right corner of the screen, then select **System Report**.
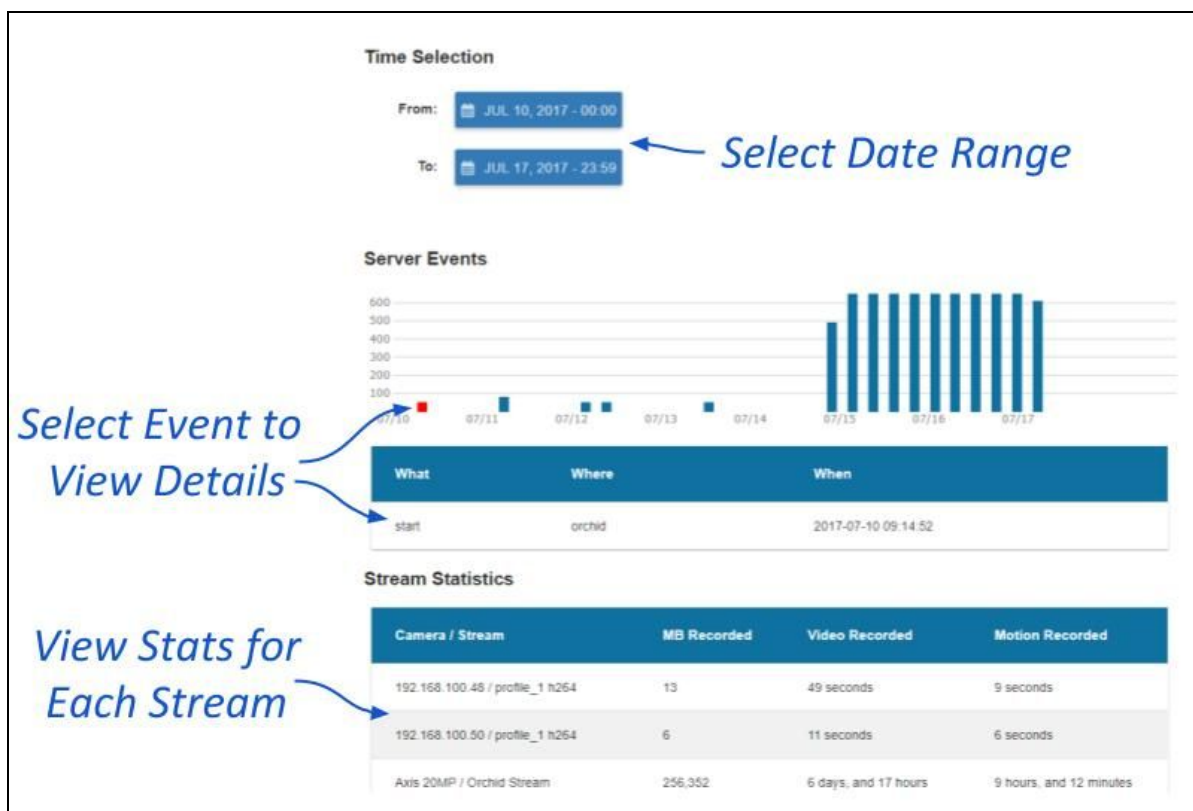
Working with the Server Events and Stream Statistics

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 Orchid Core VMS server was started. (System provides the time.)
   - Stop: The Orchid Core VMS server was stopped. (System provides the time.)

   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.)

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 Orchid Core VMS. For each stream, Orchid Core VMS will show how many megabytes of video was recorded, the length of the recorded video, and how much of the recorded video contained motion.

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 Orchid Core VMS system logs into a compressed file or plain text. These logs contain advanced troubleshooting information and are useful when trying to diagnose issues with Orchid Core VMS.

Note: The timeline displays the time on the client machine while system reports and logs are based on the server time. If there is a discrepancy, click the **Clock** icon (shown next to the tortoise in the image below) to view the time difference.
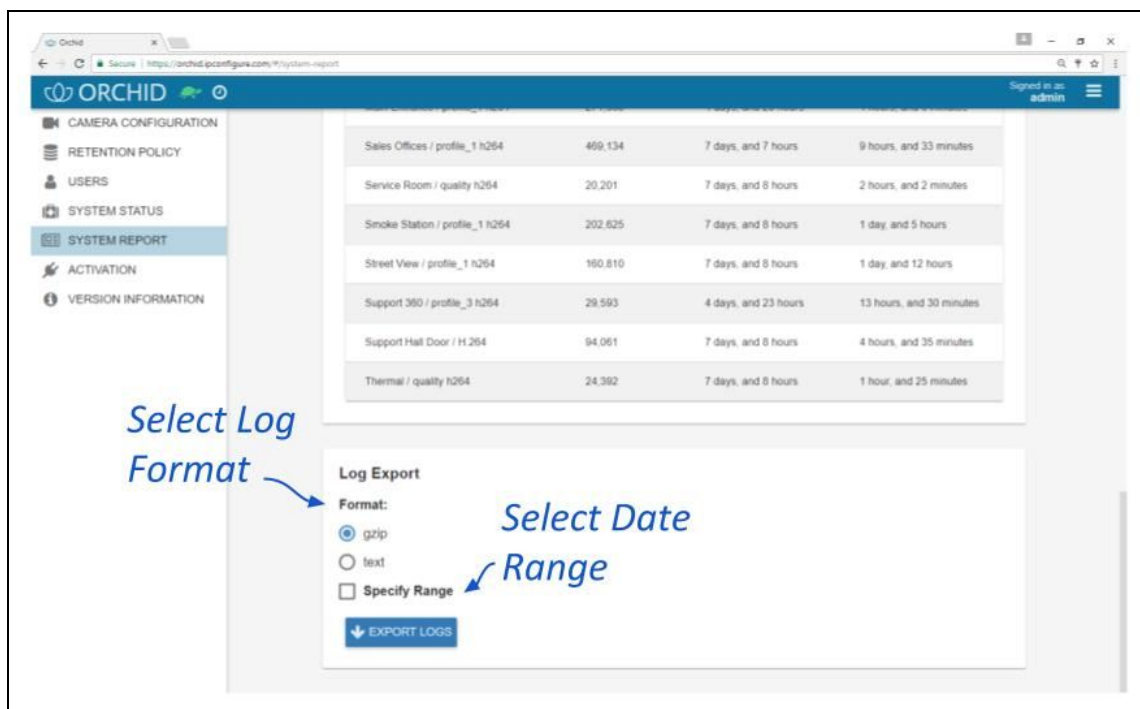
1. Select the format you wish to use for the log export:
   a. **gzip:** This option will download the latest log from Orchid Core VMS into a compressed file, allowing it to be viewed on other computers. The gzip-compressed file can be extracted using the `gunzip` command on Linux or a utility such as *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.

Advanced Topics

As you work with Orchid Core 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.

Activating Orchid Core VMS without an Internet Connection

If your Orchid Core VMS server cannot be connected to the internet, you will need access to the Internet from another device in order to activate Orchid Core VMS using the procedure below. (Many of the steps will be similar to the standard activation procedure.)

1. Open Orchid Core VMS and login using an administrator level username and password. (Refer to the Login section for detailed instructions.)
2. Once logged into Orchid Core VMS, open the *System Menu* in the top-right corner of the screen and select **Activation**.
3. Press the **Add License** button or, if licenses were previously installed and you are appending or adding additional licenses, the **Update License** button. (Only one of these buttons will appear for you to select.)
4. Copy your Orchid Core VMS server's Machine ID. (Click and drag from the beginning to the end of the text string, then click **CTRL+C** to copy it.)
5. Click **CTRL+V** to paste the ID into a text file on a USB drive that you can use on a computer with internet access.
6. Go to a computer with internet access and go to the following site: https://www.orchidsecurity.com/activation.
7. Paste your Machine ID into the proper field, enter the activation code and location description, and then press the **Activate License** button. Once you generate the license key, copy it to a text file on a USB drive and take it back to the Orchid Core VMS server.
8. Paste the license key from the USB drive into the *License Key* field in Orchid Core VMS, then press the **Activate Orchid** button.

Orchid Core VMS License Errors

In rare cases, Orchid Core VMS will flag a license error that causes the server to enter a degraded state (like that pictured below).
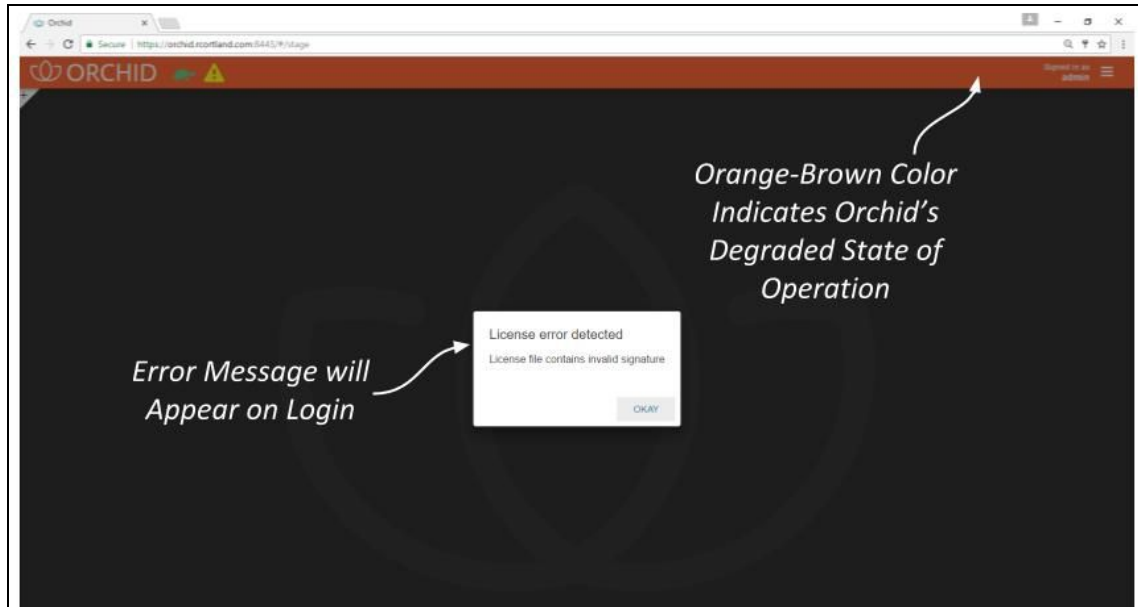
This can happen if the Orchid Core VMS database is moved to a different system after installation, or if multiple hardware components (like hard drives) are replaced on the Orchid Core VMS server. This causes the licensing information in Orchid Core VMS's database to no longer match the system on which Orchid Core VMS is installed. (These actions disrupt the Machine ID which is an integral part of the license information.)

In this degraded state, Orchid Core VMS does not record video but will allow for playback of existing recordings.

1. If this license error occurs, you will receive an error upon login. You can click
   OKAY to continue running Orchid Core VMS in this degraded state, but you
   will see differences in Orchid Core VMS's appearance and capabilities:
   ○ The dialog header will appear in an orange-brown color which indicates
     Orchid Core VMS is running in a degraded state.
   ○ Orchid Core VMS will not record any new video. (Previously recorded
     video, however, will be available for playback.)
2. Contact IPConfigure Technical Support for a new license.
3. Follow the Modifying an Existing License procedure to update your license.

Trouble Adding a Camera

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

- Make sure all of the cameras are connected to the network.
- If you are adding multiple cameras at once, make sure that they all use the same username and password, and they are all on the same subnet. You may also need to check to see if there are multiple IP addresses assigned to the Orchid Core VMS computer. If this is the case, you will likely have to revise the Orchid Core VMS properties. Please refer to the Knowledge Base article *Orchid Not Auto-Discovering Cameras* for more details.
- If you are adding a camera manually, make sure that the IP address is correct.
- If you can't find a specific camera on the *Register Cameras* screen, it may not support ONVIF auto-discovery. Switch to *Manual* mode and add the camera manually.
- If the camera is old or unusual, it may not support the ONVIF standard. In this case, you will need to register the camera manually, and you will need to select the *Generic RTSP* driver.
    - When you select this driver, Orchid Core VMS will automatically populate the *RTSP Stream URL* field. You'll need to update the IP address portion of that entry. You may also need to check the camera's documentation to ensure the syntax is correct.
    - If you add a camera using the Generic RTSP driver, you will not be able to configure the camera settings in Orchid Core VMS. Connect to the camera directly to configure settings.
- Axis cameras require that a special username and password be set on the camera for use with the ONVIF standard. Please refer to the Knowledge Base article *Unable To Add Axis Camera (Configure ONVIF User)* for more details.

Trouble Viewing the Camera Stream in Orchid Core VMS

If Orchid Core VMS is not receiving a live video stream from a camera:

- Use the System Status feature in Orchid Core VMS to test the camera preview, restart the camera stream, or verify the network connection between the camera and Orchid Core VMS. You may also perform the check associated with packet loss (below).

If you have issues with recorded video being unavailable, you may need to check a variety of things:

- Use the *Streams* section of Orchid Core VMS's Camera Configuration feature to make sure that the recording style is set to record video.
- Use Orchid Core VMS's Retention Policy to see how much video is actually being stored for any given camera. For critical cameras, you may need to increase the desired retention setting.
- There may be an issue with the system time setting on the Orchid Core VMS server. This can occur when the system time is reset (for daylight savings time, for example). To fix this issue, you should restart the Orchid Server service. (Refer to the Installation Guide for more details.) If that doesn't work, you should restart the computer on which Orchid Core VMS is installed.
- There may be an issue with packet loss due to network infrastructure. If the packet loss rate is high, Orchid Core VMS may not be able to successfully record the video. There are a couple of ways to check for packet loss. Please refer to the next topic for more details.

Checking for Packet Loss

If video in Orchid Core VMS is unavailable or degraded, you may be experiencing packet loss in one of two locations: either between the camera and Orchid Core VMS, or between Orchid Core VMS and the viewing client. The diagram below indicates which *check methods* are available to test the different connections.

Camera

Client

Orchid Core VMS Server

Plugin Video Stats

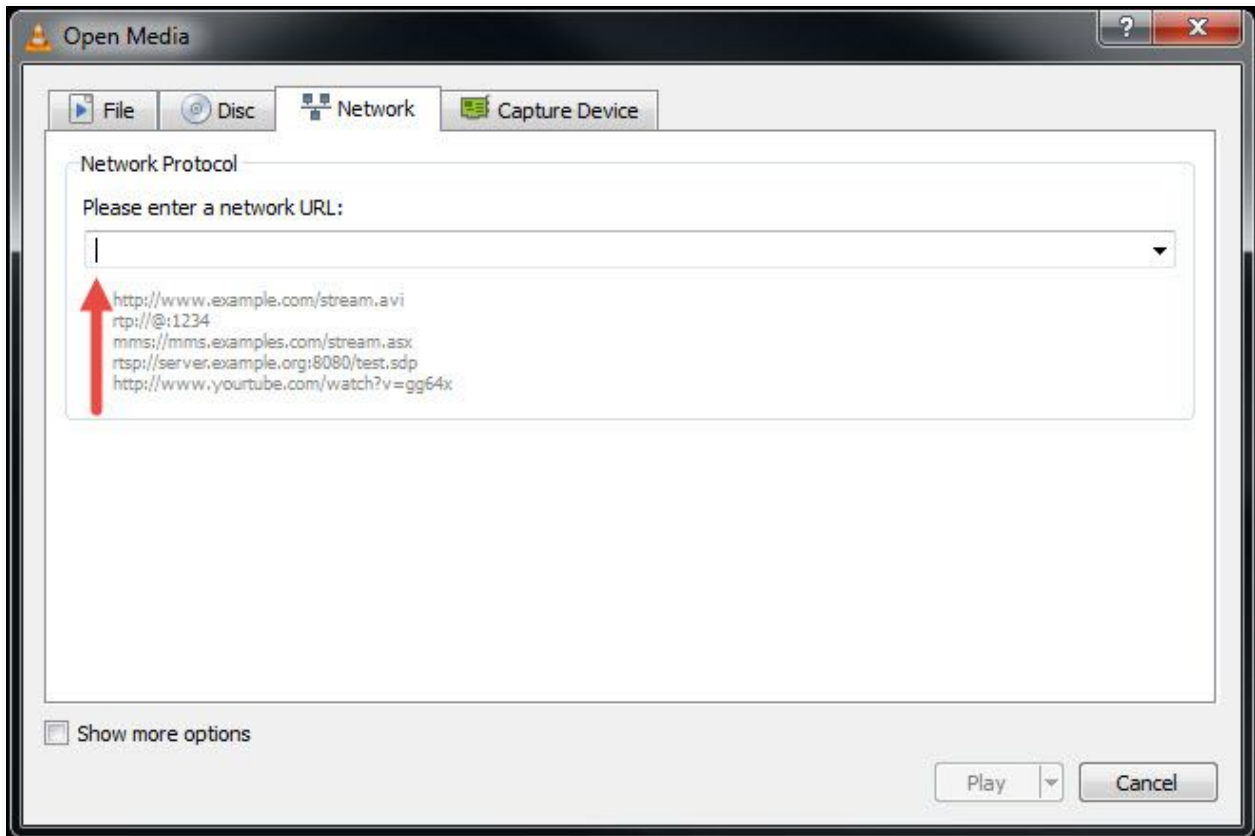Camera RTSP (VLC)

Orchid Proxy RTSP (VLC)
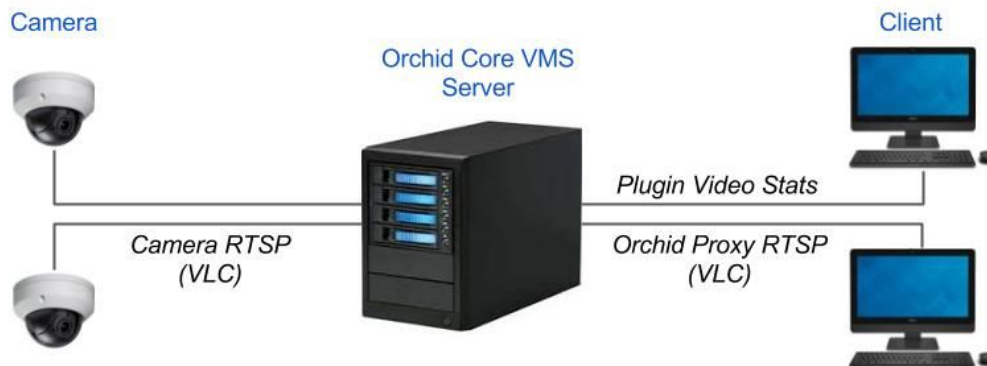
Run a Check Using VLC

Before starting this test, ensure you have VLC installed on the Orchid Core VMS server. For installation instructions, please visit VLC's documentation here:
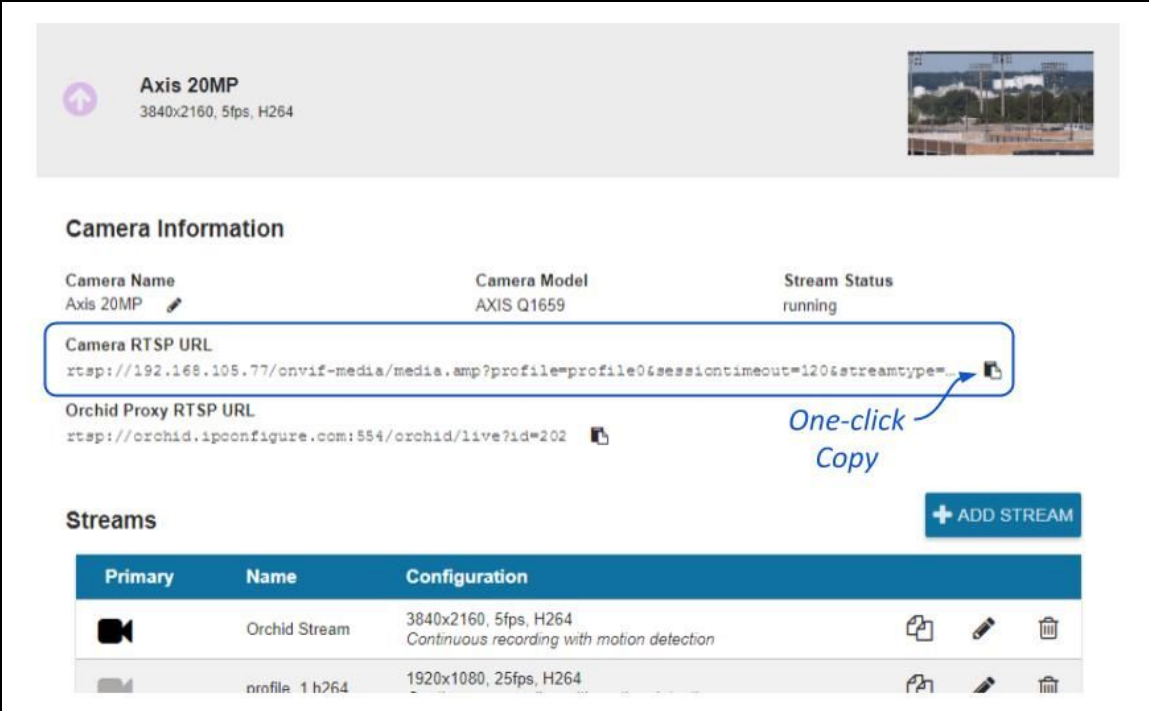
https://wiki.videolan.org/Documentation:Installing_VLC/

1. To start, open VLC on the Orchid Core VMS server. When VLC opens, click **CTRL+N** on the keyboard to open the *Open Media* window (shown below).

For this example, we'll check for packet loss between a camera and the Orchid Core VMS server.

2. In the *Please enter a network URL* field, enter the *Camera RTSP URL* for the camera you want to stream and enter the camera's RTSP credentials -- these are the credentials you used when you registered the camera to Orchid Core VMS. (You can copy this address from the *Camera Information* screen, or consult the manual provided by the camera's manufacturer for the exact RTSP URL to use for your camera.)

3. Click the **Play** button to start streaming the camera in VLC. Right-click on the video in VLC (or the blank black area if the video has not started playing) and select **Tools**, then **Media Information**. The *Current Media Information* window will open.

4. Click the **Statistics** tab. Under the video section, it will list the number of decoded blocks, displayed frames, and lost frames. If the *Lost* frames count is increasing, the video stream is dropping frames.
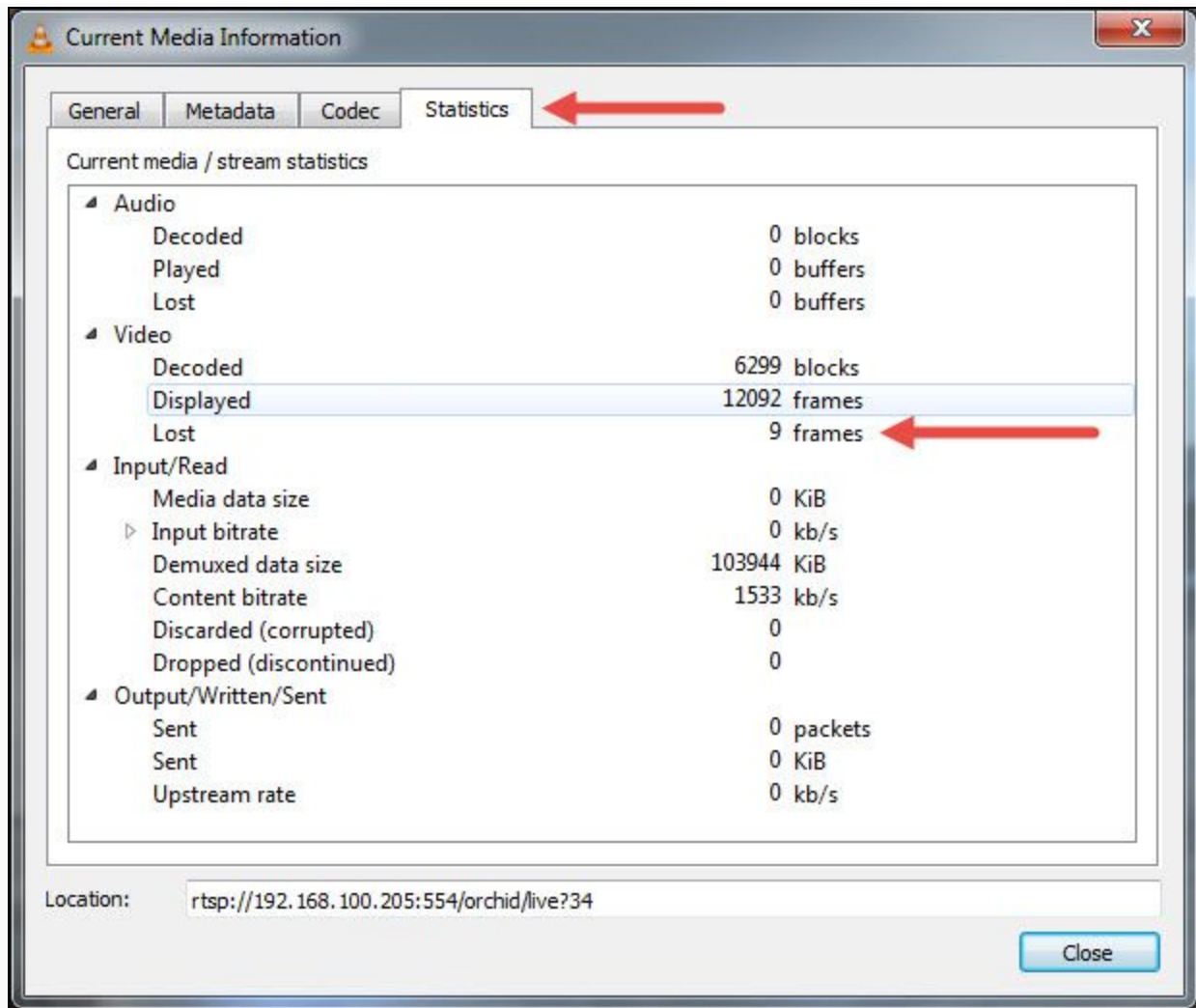
In this example, only 9 frames were lost after streaming for about five minutes. This is acceptable and will not prevent video from recording. However, if the number of lost frames is steadily increasing over a period of 30 seconds or more (as opposed to an isolated burst), there is a network issue that will prevent our software from successfully recording video from the camera.

Once network related issues are resolved and VLC is able to stream video from the camera without significant frame loss, Orchid Core VMS will be able to record the camera successfully.

Note: To check for packet loss between the Orchid Core VMS server and a client, run this same check using the *Orchid Proxy RTSP URL* address.

Run a Check Using Video Statistics

If you are running in Plugin mode, you will be able to access statistics for any of the players on the stage. This may help you in diagnosing issues between the Orchid Core VMS server and clients.

1. To view player statistics, position the mouse over the image and click on the **Statistics** icon in the header.
2. If the player is recording video and audio, two sets of statistics will appear on the overlay.

3. Observe the change in the statistics as the video plays. If either the *packets lost* or *jitter* stat increases continuously over a period of 30 seconds or more (versus an isolated burst), there may not be sufficient bandwidth between the Orchid Core VMS server and the Orchid Core VMS client.

Low-bandwidth Mode vs. Plugin Mode

Orchid Core VMS supports operation in both a Low-bandwidth mode and Plugin mode. Generally, for higher quality video and more features, Plugin mode is preferred. There are situations, however, in which Low-bandwidth mode is the better option (and in some cases, the only option).

The table below provides a high-level comparison between Low-bandwidth mode and Plugin mode.

	Low-bandwidth mode	**Plugin mode**
Compatible operating systems	Windows, Linux, macOS, iOS, Android	Windows, Linux
Compatible web browsers	All modern web browsers	Mozilla Firefox ESR 32-bit, Microsoft Internet Explorer 11
Requires FBGST plugin installation	No	Yes
Network requirements	Works well even on slow connections between web browser and Orchid Core VMS server	Requires a good connection between web browser and Orchid Core VMS Server
Video decoding	Decoding is done on the Orchid Core VMS server	Decoding is done on the client machine
Video quality	Frame rate that throttles to match available bandwidth	Native, unthrottled frame rate
Audio support	No	Yes
PTZ camera support	Yes	Yes
Video statistics	No	Yes
Mode is selectable (at login and per player)	No	Yes
Mode indicator		

Additional Support

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

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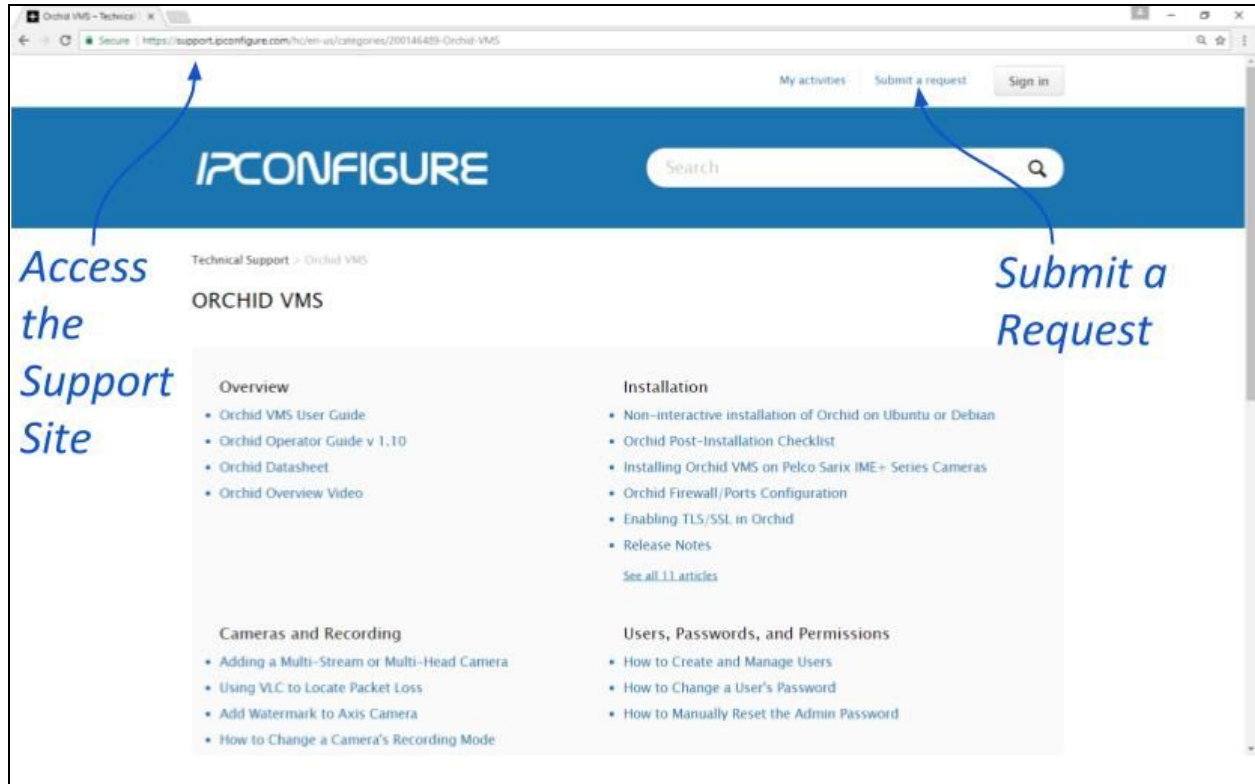- Tier 3 Support: IPConfigure Technical Support Resources

IPConfigure's Orchid Core VMS Knowledge Base: The Orchid Core VMS Knowledge Base is freely and publicly available on IPConfigure's support website, and includes detailed information for a variety of Orchid Core VMS issues. The Knowledge Base covers everything from basic Orchid Core VMS usage to advanced installation and configuration scenarios.

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

IPConfigure's Telephone Support Line: Customers with an Orchid Core VMS Express Support Agreement may call IPConfigure's Telephone Support toll-free at 877-207-1112 from 9am - 5pm EST M-F. Orchid Core VMS Express Support is complimentary for one year with all new Orchid Core VMS license purchases.

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.

4. Enter your contact information, a description of your question/problem, the version number of your Orchid Core VMS software, and your Orchid Core VMS server type. So that IPConfigure's Technical Support Team can best assist you, please provide as much detail as possible about the problem and attach screenshots and system logs.

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

5. When all available information has been entered, press the **Submit** button at the bottom of the screen.

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