Eagle Eye Application Note - AN086

Installing and Configuring Redundant Bridge and CMVR Systems

2025-09-04 Revision 2.0

Target Audience

This Application Note is intended for Eagle Eye Cloud VMS installers who need to set up a redundant system with an active failover appliance to ensure zero downtime. This configuration doubles both the number of subscriptions required and the cost of the subscriptions.

Introduction

Note: For simplicity, the term CMVR is used throughout this document, but this setup can apply to both CMVR and Bridge systems.

A redundant CMVR setup enables installers to add a second CMVR to an account, pairing it with an existing CMVR and cameras. The primary CMVR connects to cameras via ONVIF, while the redundant CMVR connects to the same cameras via RTSP. This eliminates camera downtime during CMVR maintenance or replacement.

With this redundant setup, you can swap out either the primary ONVIF CMVR or the RTSP CMVR as needed while keeping the other online to maintain continuous streaming and recording.

Equipment Requirements

You will need to assemble the equipment before setting up a redundant CMVR system.

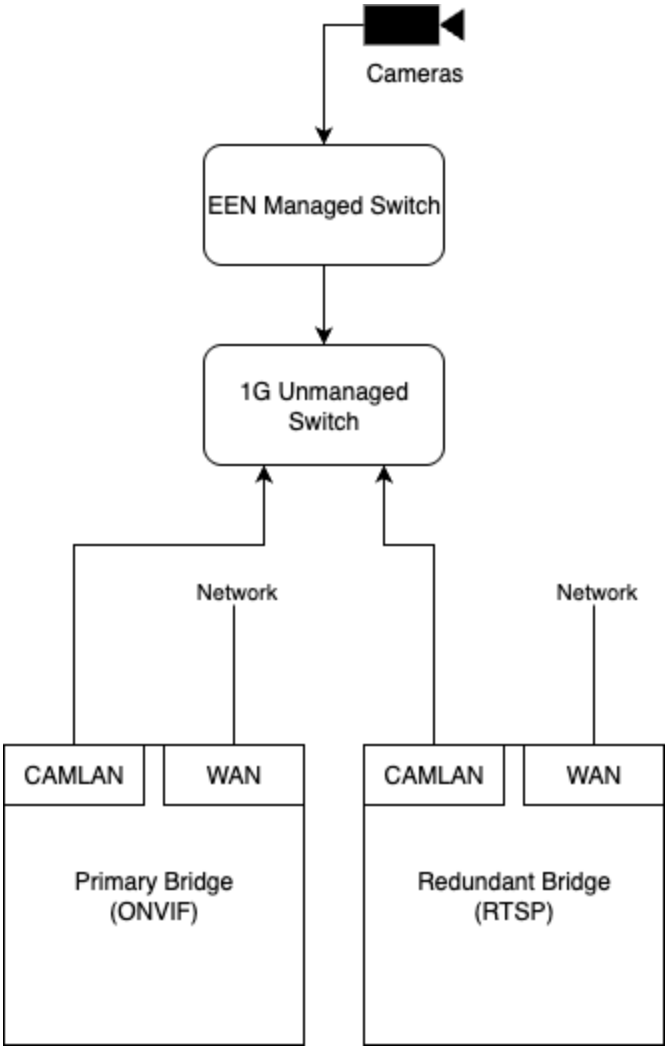
- 2 × CMVRs of equal capacity to handle the same number of cameras
  - One Primary CMVR
  - One Redundant CMVR
- ONVIF-enabled cameras: these cameras must be ONVIF Profile S compliant, have a usable MJPEG and H.264 profile, and be able to provide at least two streams from each

of these profiles. Dual H.264 and single-stream cameras are not recommended and likely will not work in this setup.
    - **Note**: All Eagle Eye Cameras can do this**.**
- 1 × EEN managed switch (ONVIF cameras) (optional)**:** This is optional for the setup but will provide the ability to power cycle cameras remotely from the VMS.
- 1 × 1G unmanaged switch (Combining CAMLANs from both CMVRs**):** If using more than one Eagle Eye Networks switch, it is recommended to use a 3rd party high-throughput switch as a muster point.

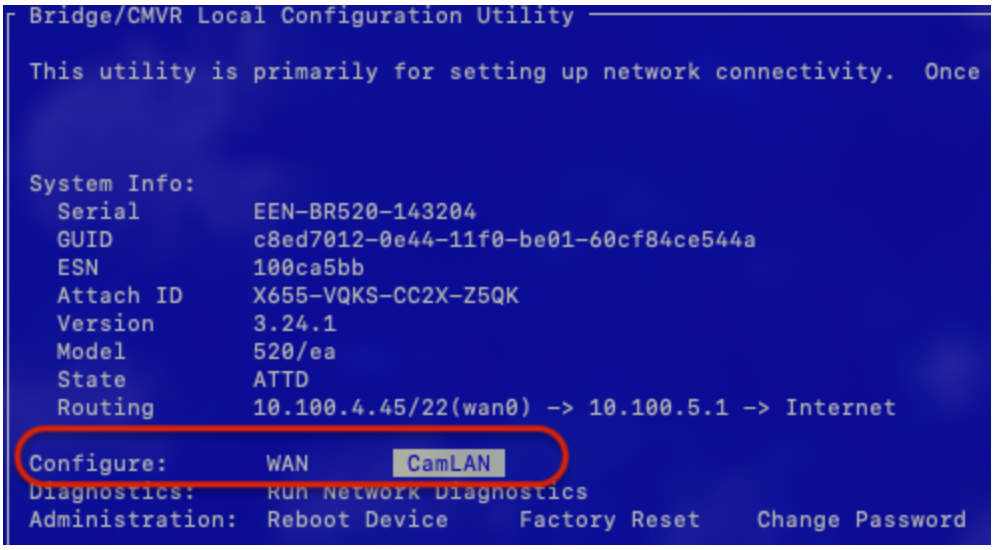
Set-up Instructions

Follow the instructions in this section to set up the redundant CMVR systems correctly.

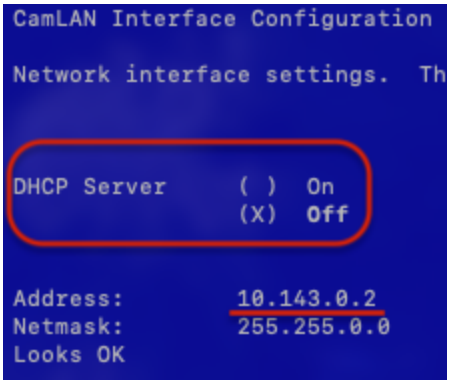
1. Log in to your Eagle Eye Networks Cloud VMS account.
2. Add the primary CMVR to the account.
3. Add the redundant CMVR to the account (denote this is the secondary CMVR with a "-2" at the end of the name or "- FO" to indicate it is the failover device)
4. Connect the network infrastructure:
    a. Connect both CMVR WAN ports to the network.
    b. Connect both CMVR CAMLAN ports to the 1G unmanaged switch.
        i. Only one CMVR can have DHCP; this should be the primary CMVR
        ii. The redundant CMVR will be configured to a static CAMLAN
    c. Connect an Eagle Eye Networks-managed switch to a 1G unmanaged switch
    d. Connect cameras to the Eagle Eye Networks managed switch
    e. Refer to the diagram below:


Cameras
EEN Managed Switch
1G Unmanaged Switch
Network
Network
CAMLAN
WAN
CAMLAN
WAN
Primary Bridge (ONVIF)
Redundant Bridge (RTSP)

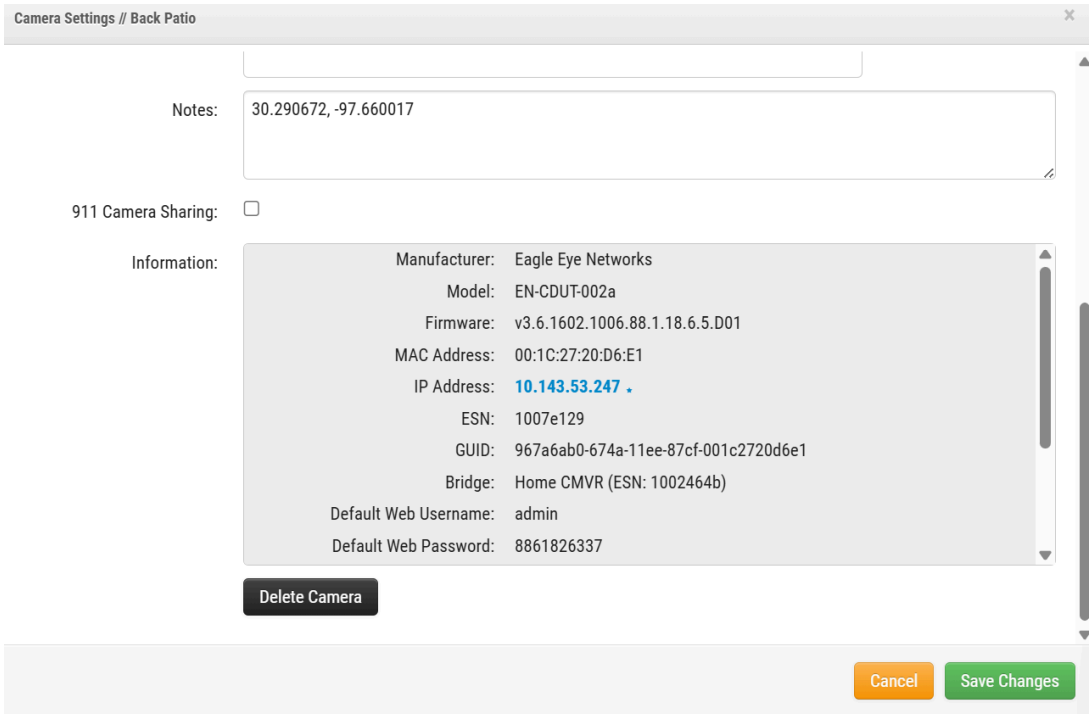
5. Configure the redundant CMVR. It is recommended to have a person on-site to configure this. However, this configuration can also be achieved by contacting support and letting them know the CamLAN on your CMVR needs to be set to static. To do this without tech support, follow the steps below.
    a. Using a wired USB keyboard and monitor onsite, perform the following steps below
        i. Plug the keyboard into the CMVR using a USB cable
        ii. Plug the Monitor into the CMVR using an HDMI cable
        iii. Power on the CMVR. Log in to the CMVR
            1. Username: **admin**
            2. Depending on the model, the password will either be the last 5 or 6 digits of the serial number.
                a. The serial number is a number like “EEN-BR520-123456”
                    i. In this case, the password would either be “23456” or “123456”
    b. The CMVR Configurator page will load
    c. Navigate to the CAMLAN sub-menu.



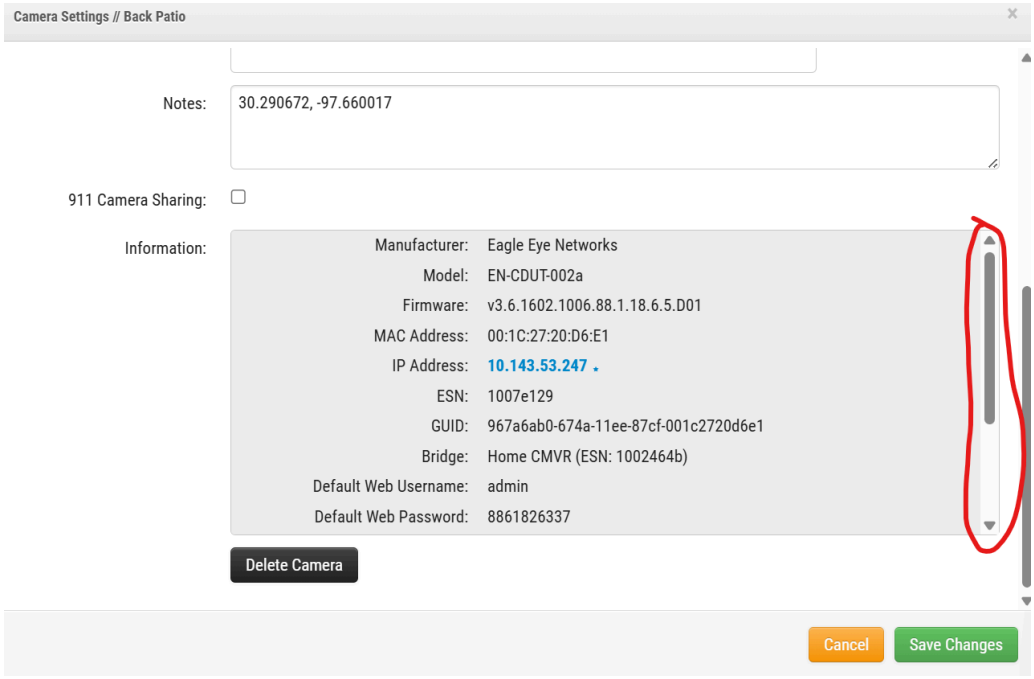
    d. Disable the DHCP server and increment the last digit of the IP address.



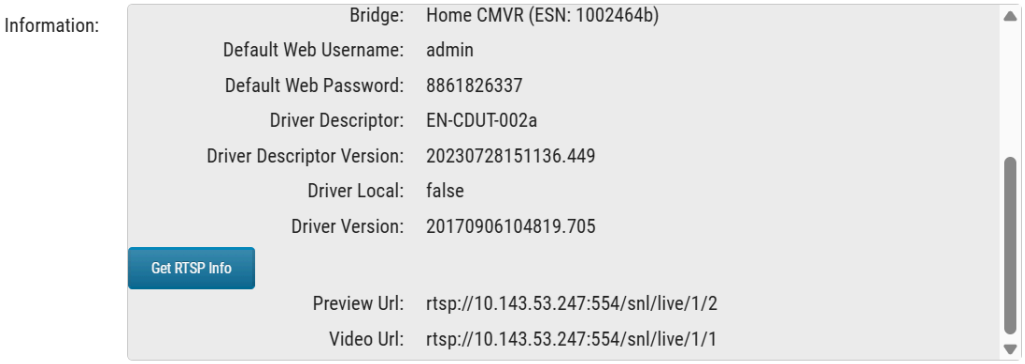
6. Once the secondary/redundant CMVR CamLAN is set to a static IP Address, add the cameras to the primary CMVR via ONVIF:
    a. From the Cloud VMS web interface Dashboard, attach cameras to the primary CMVR.
    b. Verify that the cameras are online and streaming video.
7. After cameras have been added to the primary CMVR, get their stream information:
    a. In the Classic Web Interface, navigate to the camera settings and click “Ctrl-D” on your keyboard. The page will refresh. Navigate back to the camera settings and scroll down to the *Information* box as shown below.



    b. Notice the scroll bar in the embedded box in the *Information* box.

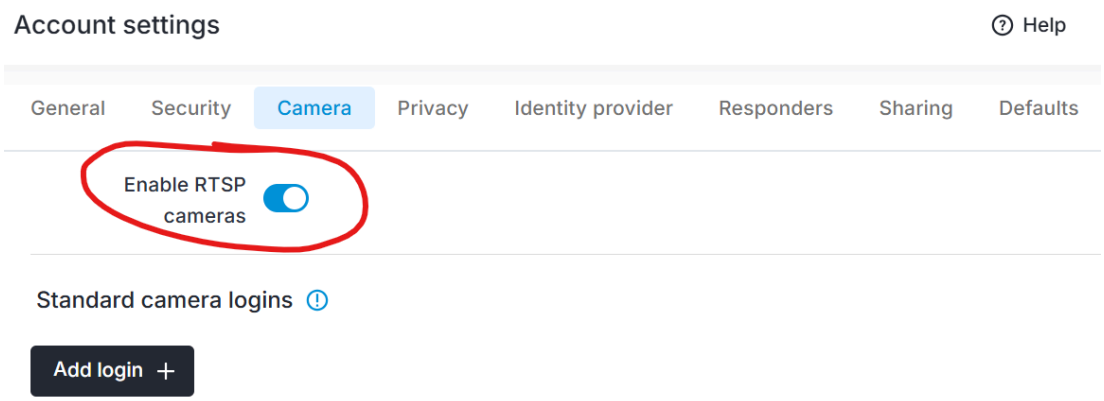


c. Scroll to the bottom of the **Information** box and click **Get RTSP Info**. Record both RTSP URLs.

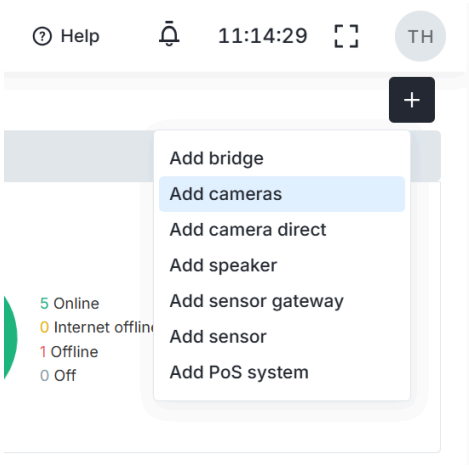


d. Repeat this process for each camera.

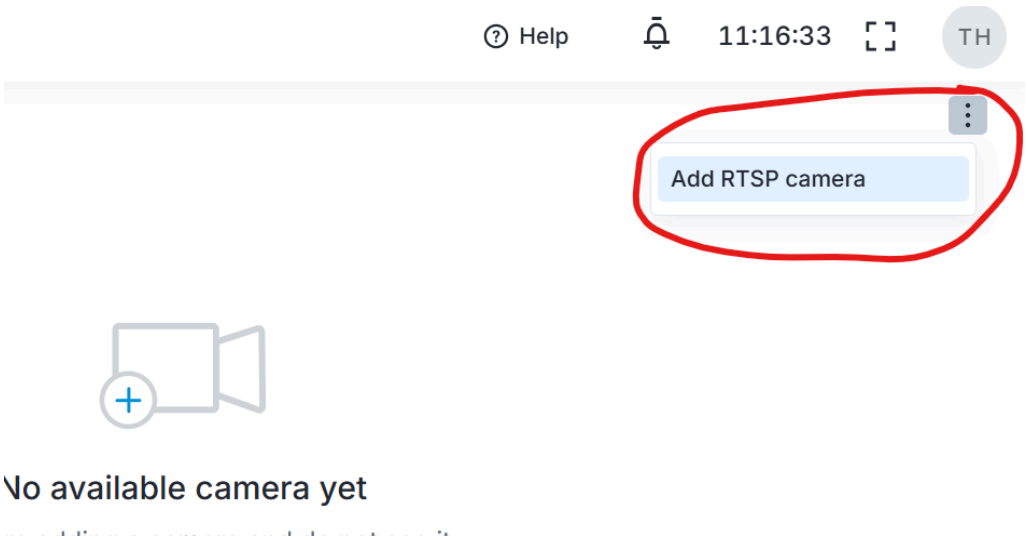
8. Add cameras to the redundant CMVR via RTSP.
   a. Navigate to the **Camera** tab under **Account Settings**. Toggle the **Enable RTSP Cameras** to **ON**. Then click **Save Changes**.



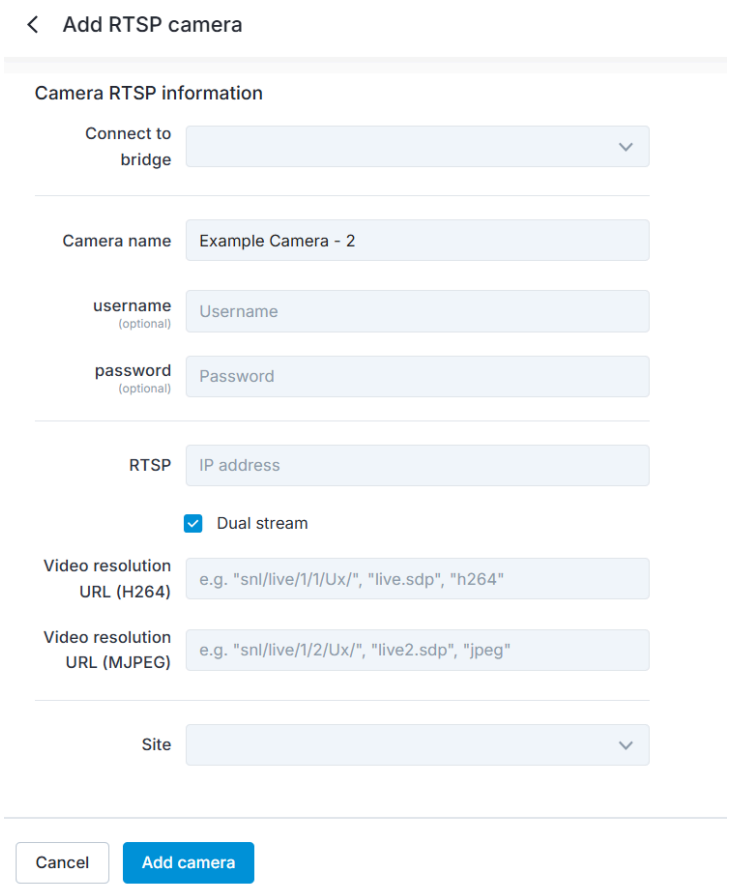
b. Return to the Dashboard and use the "+" sign in the top right-hand corner to select **Add Cameras**.



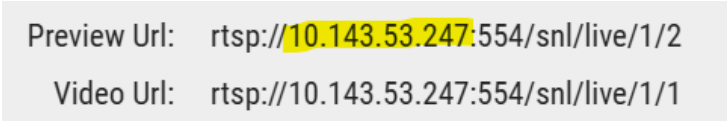
c. Then use the ⋮ icon to select **Add RTSP Camera**.



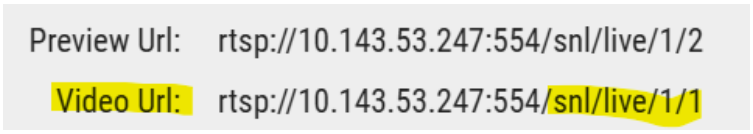
d. The screen below will load. See the details for what to enter into each field below.



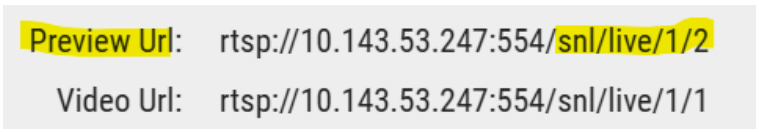
i. **Connect to CMVR:** Select the secondary/redundant CMVR
ii. **Camera Name:** It is recommended to use the same name the camera has on the primary CMVR but with an indicator this is the failover stream. This can be denoted with "- 2" or "- FO" (FO = failover).
iii. **Username:** Enter the camera's username.
iv. **Password:** Enter the camera's password.
v. **RTSP info (this will all be pulled from the URL recorded in step 7**
    1. **IP Address:** Enter the IP Address found in the URL



    2. **Dual Stream box must be checked as this will only work on cameras with box MJPEG and H.264 streams.**
    3. **Video Resolution URL (H264):** use the portion of the Video URL that follows the IP Address and Port number.



4. **Video Resolution URL (MJPEG):** use the portion of the Preview URL that follows the IP Address and Port number.



5. **Site:** Select the appropriate site based on the camera's location. **Note**: This should be the same as the camera on the primary CMVR.

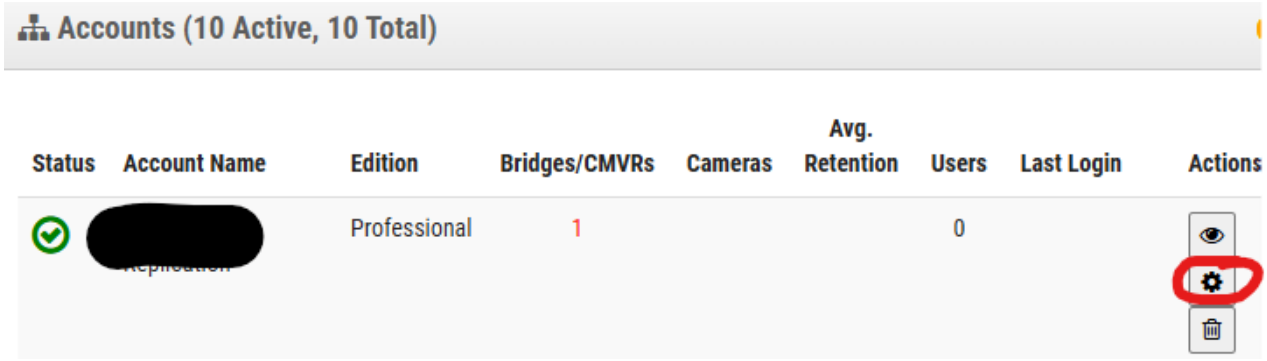
e. Select **Add Camera**.

9. Validate that the redundant CMVR is set up correctly and is operating as expected:
   a. Confirm that both CMVRs can access all cameras.
   b. Confirm that the ONVIF cameras are streaming and recording.
   c. Confirm that RTSP cameras are streaming and recording.

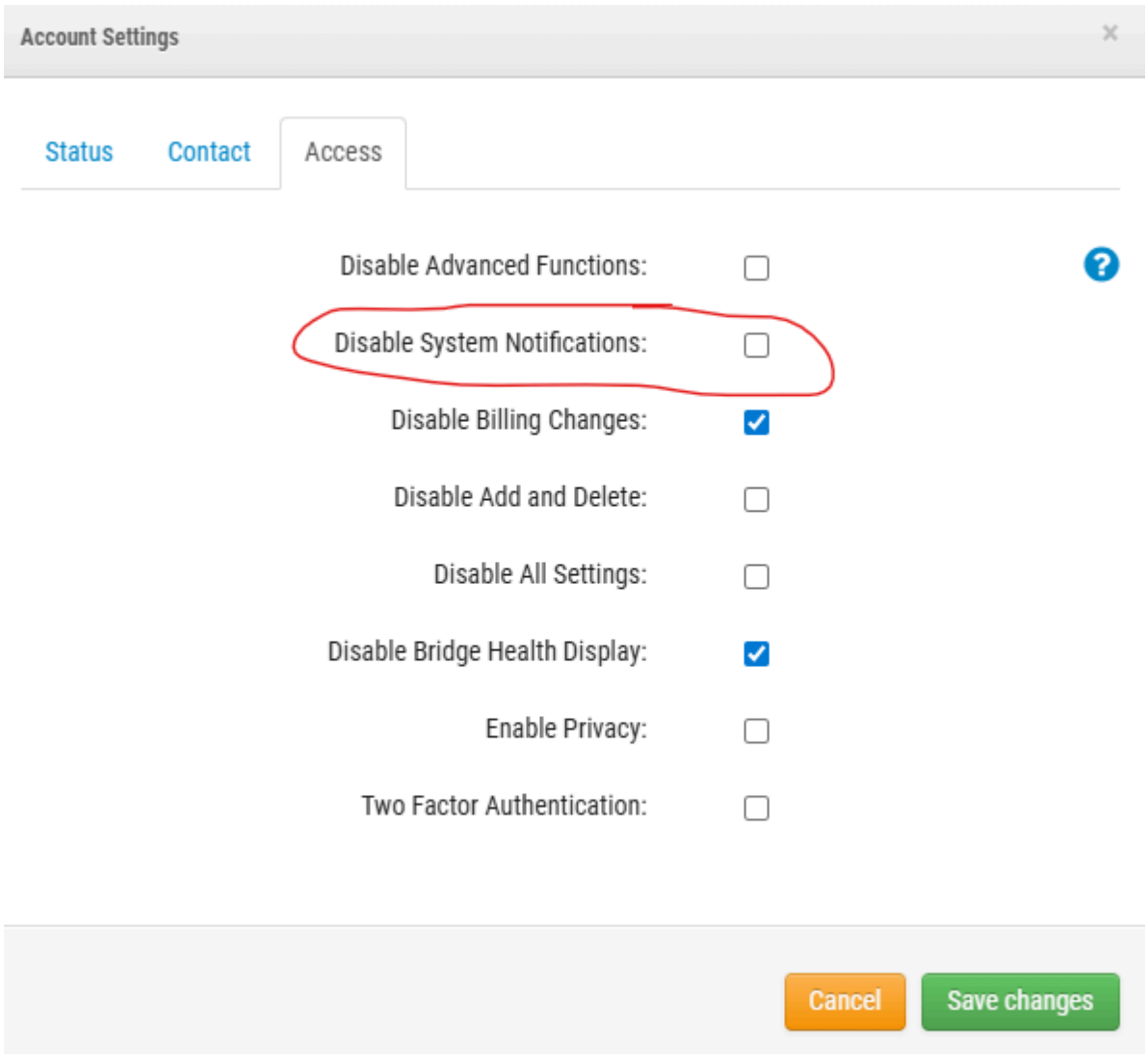
System Notifications

Notifications should be set up to alert the user when devices fall offline. This requires the box to be unchecked on the Reseller Dashboard for the account, and configured on the user's account that will be receiving the notifications.

1. First, select the settings button for the subaccount from the Reseller Dashboard.

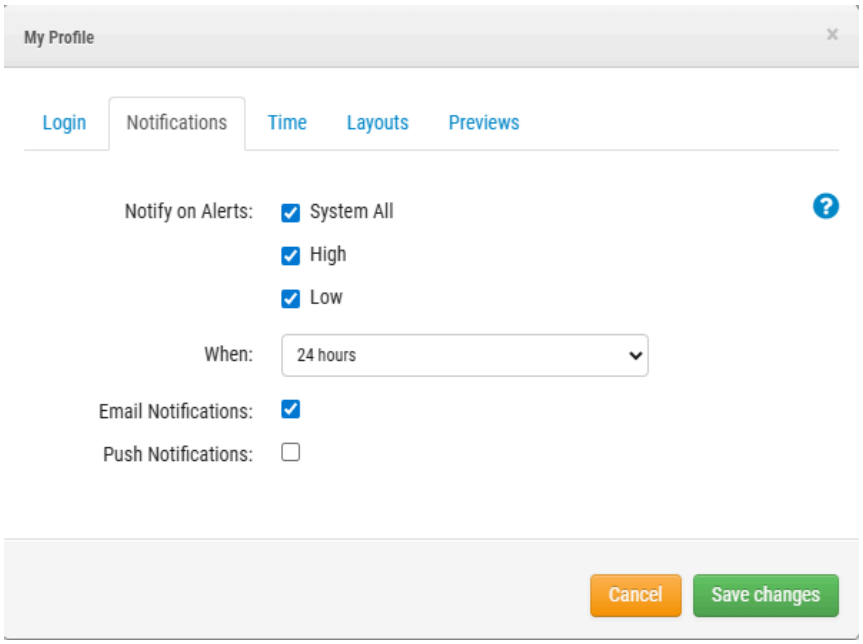


a. Open the Access tab and ensure the "Disable System Notifications" box is unchecked.



b. Save changes.

2. Next, notifications for the user's account must be set up by logging into that account and following the steps below.
    a. Navigate to the **Notifications** tab under **My Profile.** Check the **System All** box, and select the type of notification to receive.



b. Save Changes.

Failover Function

In the event a CMVR fails, a system notification will be sent to the user notifying them that the cameras on that CMVR are offline. Contact technical support to assist with troubleshooting. If it is confirmed that the CMVR has failed, a new CMVR will need to be ordered and installed to replace the old CMVR. The Bridge Swap feature can be used to replace the CMVR. All videos will be accessible on the device that did not fail.

Conclusion

This application note provides a comprehensive guide to setting up redundant CMVR systems, ensuring continuous video surveillance with active failover capabilities. By following these instructions, installers can implement a robust system that minimizes downtime and enhances the reliability of their Eagle Eye Cloud VMS installations. Remember that this configuration doubles the subscription costs due to the two CMVRs required.

For more information on adding cameras via RTSP, please see the app note linked here.