Eagle Eye Application Note - AN061

Eagle Eye Cloud VMS Local Viewing Solutions Leveraging Mobile Apps, Mac Minis, or PCs

2023-10-04   Revision 1.0

Target Audience

This Application Note is intended for administrator users of the Eagle Eye Cloud VMS who desire to create a viewing station or enable local video streaming for cameras that are on the local network and that function through a mobile or macOS device utilizing the Eagle Eye Viewer App (available from Apple App Store, Version 8.4.0 minimum). Knowledge of the network where the Eagle Eye Bridge/CMVR is installed is required, and network integrity should be considered as an important factor before deployment decisions have been made.

Introduction

The Eagle Eye Viewer application supports Full Video Quality, Full Frame Rate video (based on the camera's Full Video stream settings) from a locally accessible camera or cameras. These can be displayed in a configured Layout, which replaces the traditional Cloud Preview Layouts that display the Preview Video stream settings at 1 frame per second.

Cameras that are available to the user but not within the reach of the local network will load in the Layout from the cloud connection provided by internet access to the device. This greatly increases the capabilities for users with a compatible device to experience High quality, full-frame rate, low-latency video streams in Layout View, for security and/or operational purposes. At the time of this published App Note, only iOS or macOS versions of Eagle Eye Viewer support this feature. Updates for Android and Android Tablets are under development. Please contact your sales representative to learn of the current status.

Background

The Eagle Eye Viewer Application has historically been available as a tool for remote monitoring of the Eagle Eye Cloud VMS for users with mobile devices. With the introduction of QL Stream, Eagle Eye has

provided a resource to this application that makes it a viable Video Display for use within the local network that provides high quality, low latency video streams to the user's device, and is capable of granting users access with an appropriately configured layout.

Enabling the Feature and Startup Actions

To enable QL Stream Viewing within your Eagle Eye Viewer Application, you must already have a compatible Eagle Eye Bridge or CMVR running software version 3.15.3 or above. (Please refer to Eagle Eye Application Note - AN059 for more information.) The device user must also have permissions for "Bridges and Cameras" settings in their user profile for the Bridge/ CMVR to verify that the user's IP address is on the same network. The Bridge Settings menu can be enabled through the Eagle Eye Cloud VMS web application. In the future, support for enabling QL Stream from the Eagle Eye Viewer App will be added. Please contact your sales representative for current status.

Feature enablement for the Eagle Eye Viewer Application can be found within User Settings:
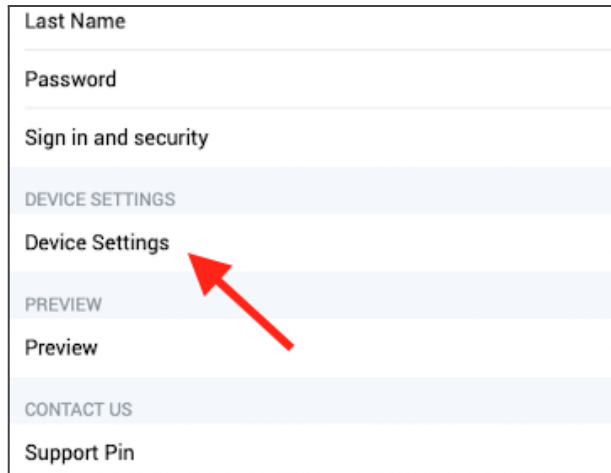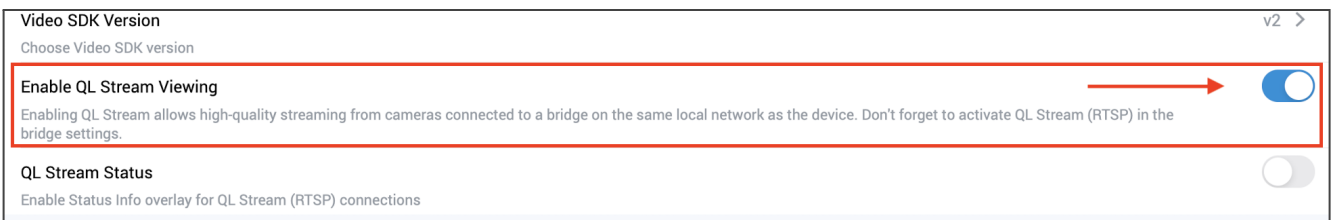
Click on the Left-Hand Menu Icon:

Click on Username:
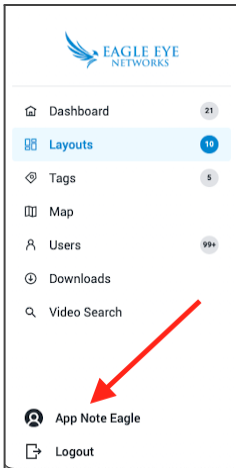

Then Click on Device Settings:

**Then Toggle to Enable QL Stream Viewing:**

This feature is specific to the User and the device the Application is installed on and does not enable QL Stream Viewing for the Account or for other Users.

If you do not already have a Layout created that includes only locally accessible cameras, you can quickly create one within the application by clicking the top-right menu, and selecting "New Layout." Note that the user must already have permissions to create layouts configured.
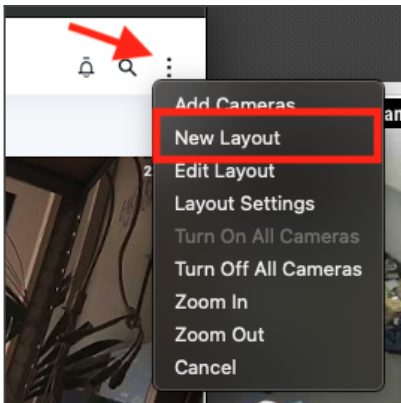
As soon as Layouts is opened, you will briefly see a notification within the App letting you know that RTSP connections are being established:
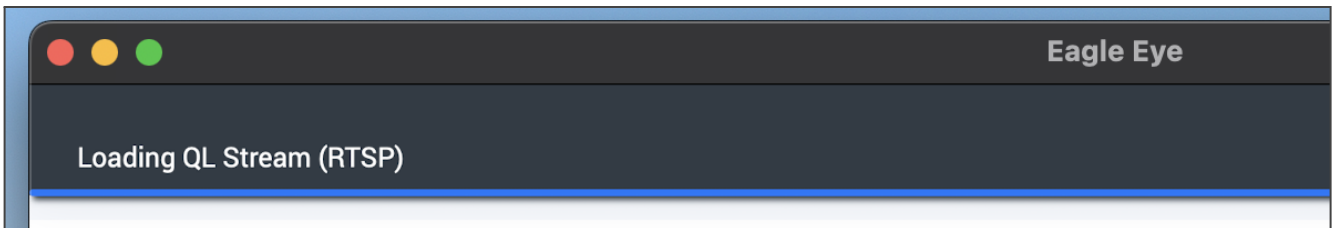
Cameras that are locally accessible will start to display in their Full Video profile settings (based on the account settings for each camera). This should happen within 10 seconds and the increased quality of the video stream should be evident to the viewer. The video will be displayed clearly and with very minimal latency.

If the streams do not connect, you will see a notice on the bottom of the video tile that the stream is disconnected. You can then reconnect the stream by clicking the "reconnect" option.

The Eagle Eye Cloud VMS will attempt to connect with non-local cameras and a warning may appear for up to 30 seconds on cameras that are not within the local network. Once the Application is aware that the cameras are not locally accessible, the message will disappear and the camera or cameras

will default to the Cloud Preview stream that the application traditionally uses in Layout view.

Layout Configuration and Device Limitations

High-resolution video streaming is resource intensive. To keep the application from overutilizing a device's capabilities, there are restrictions to the amount of Full Resolution, Full Frame Rate video that can be displayed. Fortunately, the Eagle Eye Viewer App version 8.4.0 available for iPhone, iPad and Mac has limitations in place to prevent overprocessing of video on the device requesting QL Stream Viewing.

Device Limitations:
- M1 series iPad, and M1/M2 Mac - 18 total megapixels (MP)
- M2 series iPad - 24 total MP
- Older-generation iPad & iPhone - 8 total MP

Local Viewing is best implemented when proper layouts are utilized for system performance and issue-free viewing. Although the device will revert to Cloud Preview streaming when its resources are exhausted, a layout requesting more video than the device can process has no way to decide which RTSP streams to establish in the layout. Because of this, iit will be the first cameras that connect, which is determined by the speed in which the camera data makes it to the device.

Eagle Eye suggests limiting the cameras within the Layout to include only cameras that require Full Video Resolution and to segment multiple local cameras into specific layouts. For example, a layout on an M1 iPad that includes nine 2MP cameras in a 3x3 display will effectively display all nine cameras in their full video profile. Or, if higher-resolution camera streams are used, a 4x 4MP camera layout will also work.

Because some Layouts are created for use with the Eagle Eye Cloud VMS web application (viewed from a web browser), the format may not create an optimal viewing experience on a smaller iPad screen. From within the Eagle Eye Viewer App, there is an option on the top-right menu to Zoom In/Out, which will resize the viewing window to better fit the screen.
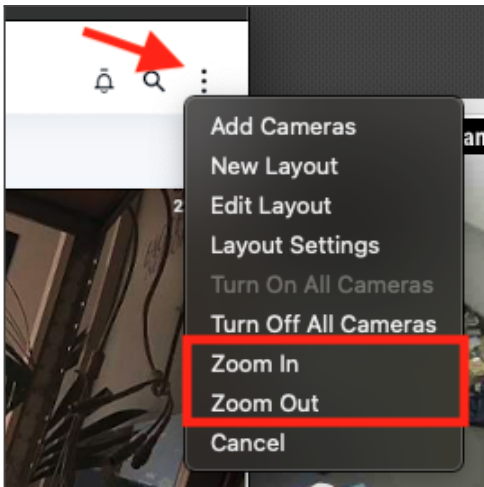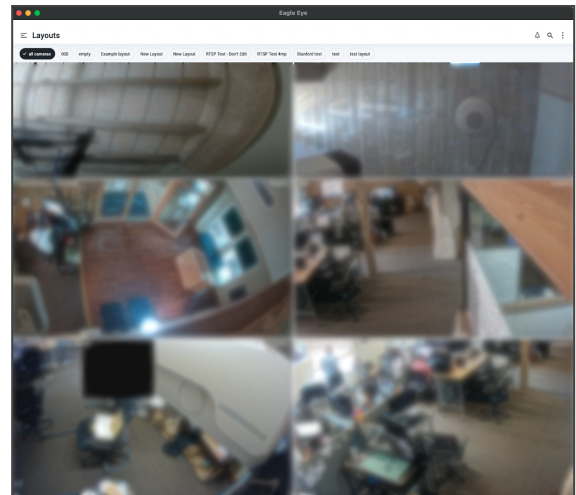
Example:

A "5-Across" Layout for the Web Application:
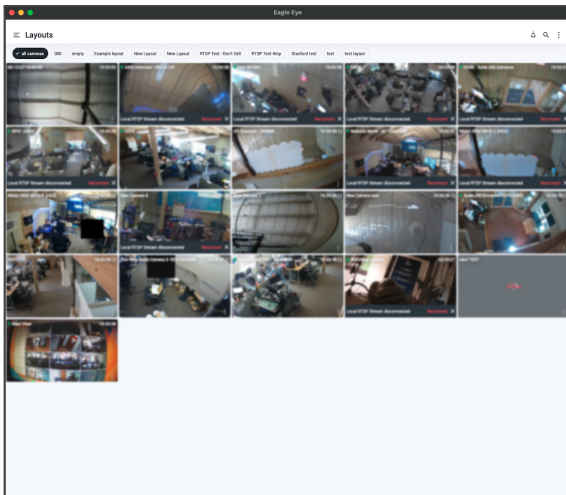
Zoomed In to create a "2-Across" view:

Troubleshooting and Notes

- **Network Connection:** In order to deliver RTSP streams from the Bridge/CMVR to another location, both devices must be able to communicate with each other on the network. A simple way to verify that the devices are able to communicate would be to ping the Bridge/CMVR's IP address from the device you want to connect with. If the devices do not ping successfully, the network topology needs to be investigated.

- **Streaming Issues:** If the RTSP stream experiences issues after a successful integration, one troubleshooting step is to restart the RTSP service on the Bridge. Restart the service by first unchecking the "Enable QL Stream (RTSP)" box in the Bridge settings through the Eagle Eye Cloud VMS web application, then save and exit. Finally, restart the RTSP service by going back into settings and re-checking the box for "Enable QL Stream (RTSP)."

- **Local Network:** The QL Stream (RTSP) URL uses UDP Port 8554. If this port is blocked in the local network for any reason, the person responsible for configuring the local network should determine whether or not to allow it for this feature.

- **User Access:** As a reminder, the User must have permission to update "Bridges and Cameras" settings in their Eagle Eye VMS User Profile for the Cloud VMS to verify that the user is on the same network as the Eagle Eye Bridge/CMVR.

- **Audio:** QL Stream is not currently capable of carrying audio from the camera stream to Local Displays. Contact your sales representative to confirm in advance if this is a need. Or, if Audio is needed for the Eagle Eye Viewer Application, it is recommended that this feature not be enabled for local cameras.