Secure Home Surveillance System Project

Hayden Phifer

About Me

6-year journey to bachelor's degree

- Changed majors 5 times
- When we realized getting a degree in 4 years wasn't realistic, my father told me to find a way to pay for college myself

Enlisted in the Army National Guard

- Needed to find way to support myself and pay for college

Returned after basic training and chose the fastest degree to finish: Aviation Management

- Not my first choice, but it would get me out of college ASAP

Reality check around graduation time

- Aviation career options did not fit my interests or passions, would have hated working in the industry

Immediate pivot to graduate school to realign into IT

- Graduate Certificate in Cybersecurity Management completed in May
- Master of Science in Information Management finishing in December

Continued service and upskilling

- Renewed Guard contract with path to retrain as Cyber Operations Specialist to further align my experience with IT
- Spent summer studying for and passing CompTIA's Security+ exam

Brief Overview

- Designed and Implemented a secure, local-only surveillance system
- Performs continuous video recording and automated backup/retention with no cloud dependence
- Remote viewing is only possible through encrypted VPN access, not through the internet or commercial vendor servers
- The system is designed to recover from failures automatically

Why I Chose This Project

I wanted a surveillance system that keeps footage local-only and privately controlled

Most commercial camera systems require

- Paid subscriptions
- Mandatory cloud storage
- No user-friendly customization or local retention options

Major vendors have had massive privacy failures, proving that cloud ≠ secure

- Ring doorbell illegally surveilled customers
- Verkada failed to secure cloud video storage
- Amazon keeps recordings forever, despite deletion requests

If I want privacy, I shouldn't have to give my data to someone else

Project Goals

- Private networked camera system with no internet access
- Store minimum of 24hrs of footage on 10+ year old PC I had in storage
- Remotely view the live footage, but not the stored footage
- Spend as LITTLE money as possible


HARDWARE

Camera

What I looked for in my camera

Open Network Video Interface Forum and Real Time Streaming Protocol	Able to function entirely offline	No mandatory subscriptions or cloud dependence	Locally controlled	Low cost

Reolink E1 Pro

Old Personal Computer

- Alienware X51 R3 from 2015
  - CPU: i7-7600
  - RAM: 16GB DDR4 @ 2133MHz
  - GPU: NVIDIA GTX 745
    - Old, but works for basic hardware encoding options
  - OS: Windows 10 Home → Windows 10 IOT Edition
    - Had to change editions with the sunset of official windows 10 support and security updates
  - Storage pool: 2TB hybrid drive
    - 12-14.5 days of maximum continuous recording
  - Power: small UPS with approximately 10 minutes of battery backup
  - Security: Bitlocker encrypted drive with maximum password length

Router

- What I looked for in a router
  - Can create isolated Virtual Local Area Networks
    - Physically and logically separate camera system from rest of home network
  - Supports WireGuard VPN
    - Faster, modern, more secure VPN with lowest overhead compared to older OpenVPN/IPSec standards
  - Complete control over my own network traffic and enterprise-level customization options
    - Stop the camera from being able to stream or be accessed from outside the network
    - See and analyze logs to ensure that nothing does leave the network
  - Can also handle the rest of my household wifi traffic
    - This was more than just a purchase I made for my project, the router would have to be able to support my entire network
- Ubiquiti's Unifi Dream Router 7


SOFTWARE

Router

Purpose

Network Segmentation: Put camera on isolated VLAN with nothing except PC running OBS

Firewall Policy: Restrict camera access to internet and other VLANs

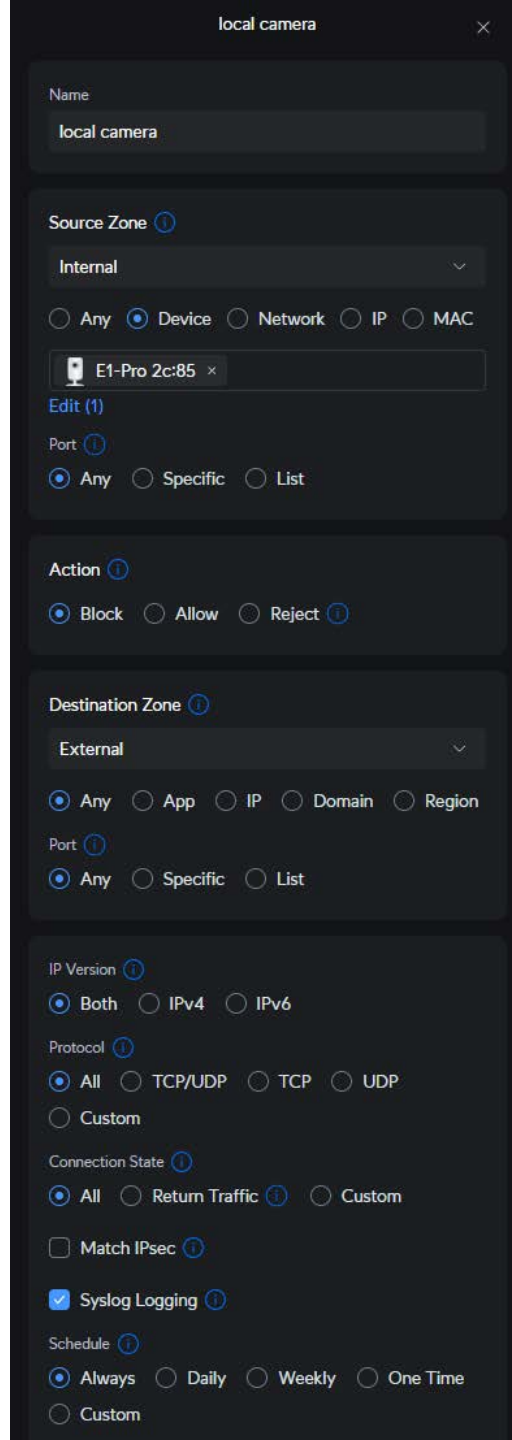
DHCP/DNS Control: Reserved static lease for camera so RTSP URL and OBS source never changed

WireGuard VPN: Created a WireGuard profile for my phone to reach the LAN privately and securiely

Key Settings

Network: Separate VLAN for home surveillance network, DHCP reservation

Firewall: Blocking all connections from camera to WAN (except to ntp server), block all connections from surveillance network to other networks and vise versa, block all access to camera from WAN.



Open Broadcaster Software (OBS) Studio

Overview

Free, open-source recorder and streamer

Can ingest RTSP feeds, screen recordings, media files, web browsers, audio inputs, and more

Allows plugins and has the option to stream, edit, and record source content

Why It Was Chosen

Easy to use with a small number of camera

Familiarity with the program from past interactions, and user-friendly interface

No overly complex setup and use like fuller NVR suites

Plenty of options with how to record and encode video

How It Was Used

Camera RTSP stream was added as a media source

Records as .mkv files so that any interruptions would not affect the entire video (unlike .mp4)

Open-source plugin added to ensure that stream refreshes periodically to prevent freezing

Cobian Reflector

At A Glance

- A backup scheduling tool that can run as a service
- Supports per-task encryption
- Retention by number of full copies rather than by age.
- Supports pre or post task events
- Has the ability to not touch in-progress/in-use files

Why It Was Chosen

- Could automate encryption and backup of OBS recordings
- Could run in the background as a service
- Can prune old data sets and prevent casual users from accessing files

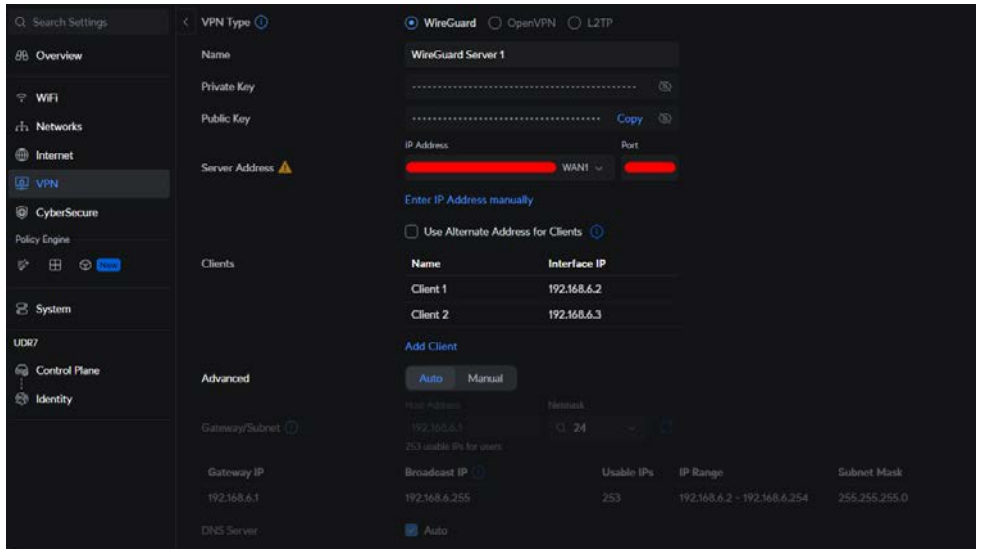
Configuration and Use

- Service Mode: Installed and run as a Windows Service for reliability without requiring logon
- Target and Security: Wrote to a dedicated vault folder on a fixed-letter drive with BitLocker enabled
- Task Options: No compression, AES-128 bit encryption, Volume Shadow Copy disabled, file named as date/time
- Schedule: Short timer corresponding to OBS segments to ensure that videos are immediately moved and encrypted
- Retention: Keeps 7 days worth of footage (168 one-hour OBS segments), deletes source after successful backup

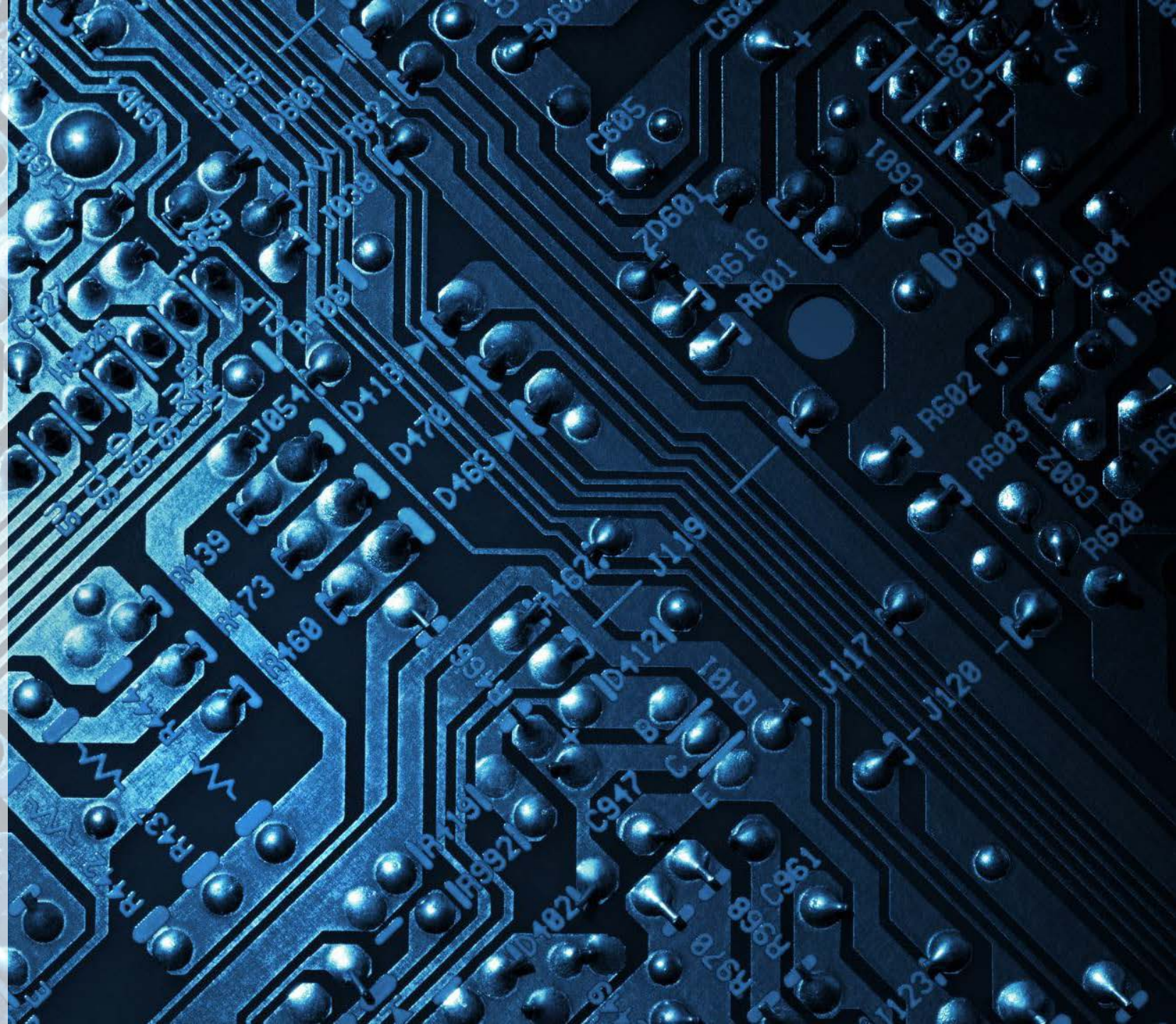
Wireguard VPN

- Overview
  - Modern, fast, secure, low-overhead VPN with smaller attack surface and simple onboarding
- Why It Was Selected
  - Runs natively on my Unifi router
  - Secure access to my network without exposing it to the public
  - Performs better and is easier to setup on mobile than OpenVPN or IPSec
- Use and Configuration

```
[Interface]
PrivateKey = [redacted]
Address = 192.168.6.4/32
DNS = 192.168.6.1

[Peer]
PublicKey = [redacted]
AllowedIPs = 0.0.0.0/0
Endpoint = [redacted]
```



THE REJECTS PILE



Software DVRs

AGENT DVR

What is Agent DVR?

- Windows-centric NVR with browser UI for live view and playback
- Works with most IP cameras via RTSP or ONVIF

Why I Rejected it

- Struggled to connect it to the camera via RTSP
- Couldn’t stream without paying
- If I paid, stream wouldn’t be secure and would be viewable to anyone who probed my network

SHINOBI

What is Shinobi?

- Open-source NVR designed for Linux
- Works with most IP cameras via RTSP and ONVIF
- Can only be installed on Windows via Docker

Why I Rejected it?

- Complex setup
- Lack of a true “set it and forget it” workflow
- Clunky UI and issues connecting the camera
- Required other software to run
- Lack of secure streaming option for phone

Routers

Spectrum Wave 2-SAC2V1A

- Free ISP-Provided Router
- No customization options
- Locked to single VLAN
- Wifi 5 Only
- Could not choose between 2.4GHz and 5GHz networks

ASUS RT-AX1800S

- Cheap Router
- No way to block devices from accessing internet
- Very poor logs
- Wifi 6
- Locked to a singular VLAN
- No VPN

ASUS RT-BE58U

- Medium cost Router
- Still no way to block devices from accessing internet
- Still very lucklaster logs
- Wifi 7
- Allowed creation of multiple VLANs, but no individual customization or control options
- Had built-in VPN options

Secure Streaming Software

JAMI

What is Jami?

- Free, open-source, peer-to-peer messenger for text, voice, and video
- End-to-end encryption
- No centralized server

Why Did I Initially Choose It?

- Fits privacy and security model: E2EE, no cloud storage, easy to setup, comes with app for both PC and iPhone

Why Did I Reject It?

- It was not a RTSP client, usage depended on screen sharing from PC
- My old PC couldn't handle doing recording with OBS, viewing with VLC media player, video calling with Jami, and encrypting/backups all at the same time
- Didn't enjoy using the app

OBS STUDIO + EXTERNAL SITE

OBS Studio

- Already using it to record
- Could also use it to stream with little additional overhead

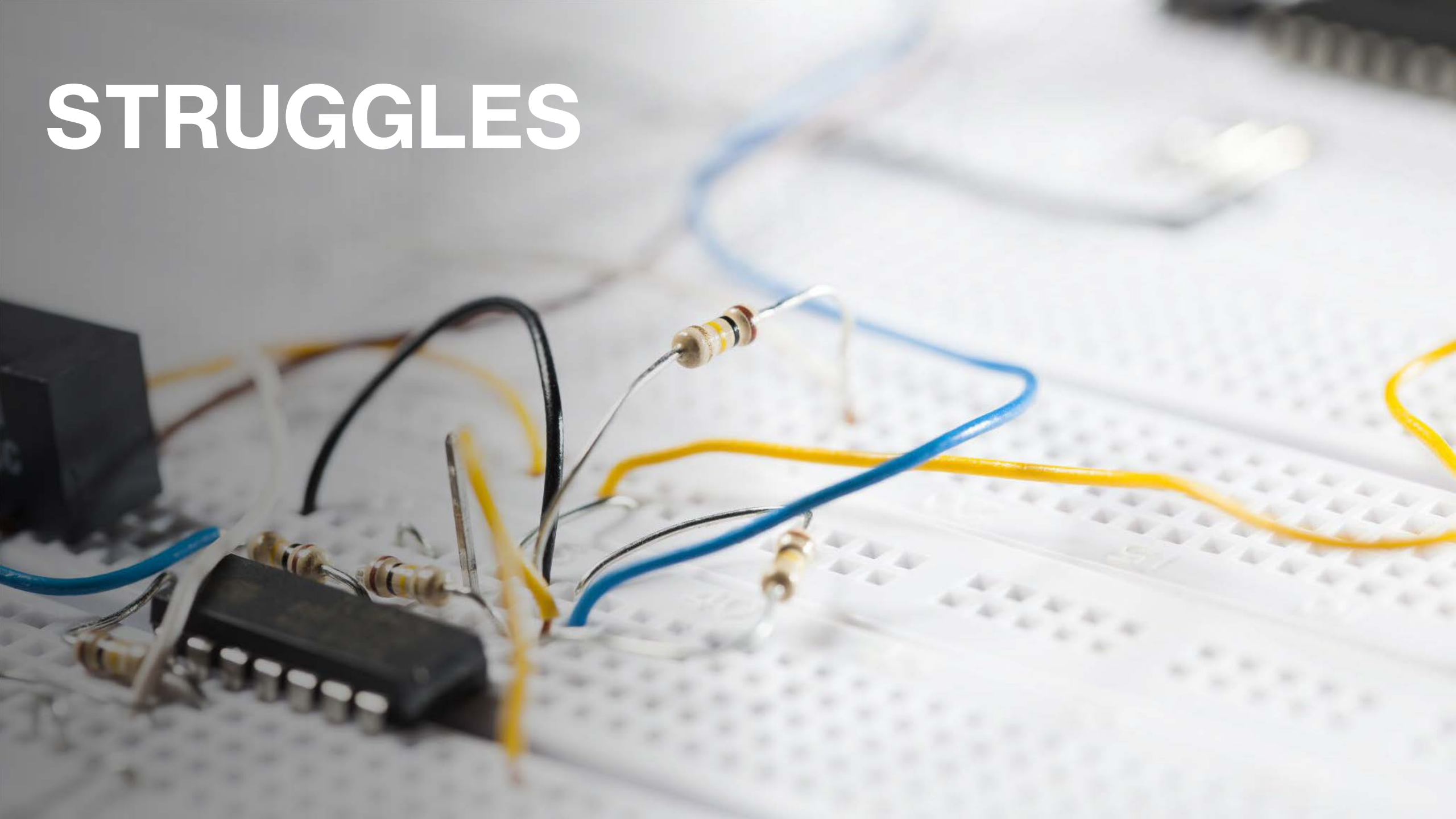
Stream to My Own Domain

- I already have my own domain, but no hardware
- Could buy/subscribe to cloud computing, but would still be entrusting my data to a third party
- Public exposure of the stream and of my home network if misconfigured

Stream to YouTube

- Could stream as either unlisted (no security, but I'm the only person with the link) or private (only people signed into google accounts that I authorize could view)
- Has DVR so I could pause, rewind, and fast forward through livestream for up to 12 hours of footage
- Stores my video on YouTube's servers
- Is against YouTube's terms of service

STRUGGLES



OBS Issues

Long-running RTSP sessions would randomly stall; OBS kept last good frame on screen instead of auto-recovering

- Tried to force reliable RTSP over TCP with longer timeouts, but that didn't fix it
  - Ffmpeg option: *rtsp_transport=tcp rtsp_flags=prefer_tcp stimeout=20000000 rw_timeout=20000000*
- Reduced buffering, set reset delay, allowed unlimited retries, changed rendering and encoding methods, etc. - but none of it worked
- Finally installed an OBS plugin that allowed me to refresh the media source every 5 minutes to fix any frozen frame issues

So many settings and customization options, it took weeks to test everything out and determine the optimal settings for my setup

- How many frames per second
- What resolution
- What type of media source to use
- Researching all the different encoder settings
- What filetype to record in

Selection Issues

Camera

Had to sift through hundreds of cheap cameras on amazon and decide on the best one based on the limited budget I gave myself

Router

Took 4 routers and lots of research before I finally discovered a router that actually did everything I needed

Companies frequently mislead or withheld information about router capabilities and abilities

NVR Software

Sifting through multiple different free and/or open-sourced options took a long time, and a lot of trial and error setting up

Got tired of trying to use all-in-one suites so I broke it up into the 3 functions I needed: recording, encrypted storage, and secure streaming

Remote Viewing Method

Thousands of apps that could have been used, hundreds with E2EE video calls/feeds, very few that could work unattended, even fewer that had methods of ensuring that only intended recipients could see camera feed

Wanted to use my own domain, but ultimately ran into an issue with equipment cost, the time it would take to setup my own equipment for this function, or trusting someone else to host everything

Secure Storage Issues

- Kept deleting files that were in-use until I did more research
- Takes a lot of processing power to encrypt and store videos
- Hundreds of folders created for backups

Cobian Reflector

- Had to adjust video length from 24 hours (7 neatly categorized videos) to hour long videos for Cobian Reflector
- Anyone can theoretically walk in and view/delete the video currently in progress
  - Trade off between .mkv and .mp4 files → resiliency vs security

Storage

- No way to encrypt the video recordings in real time

Encryption

Cost Issues

Camera

- Cheaper camera will overheat after a few days of continuous use
- Wi-Fi cuts out briefly (long enough to interrupt OBS recording)
- LAN was only possible AFTER setting camera up in the cloud

NVR

- Full-service NVRs that could do everything I wanted (Blue Iris, ZoneMinder, etc) were no longer an option
- Had to use multiple different programs instead of an all-in-one solution

Storage

- Had to use free Cobian Reflector instead of a paid backup/encryption solution
- Had to configure settings in Cobian Reflector, OBS, and Windows to make it work

Remote Viewing

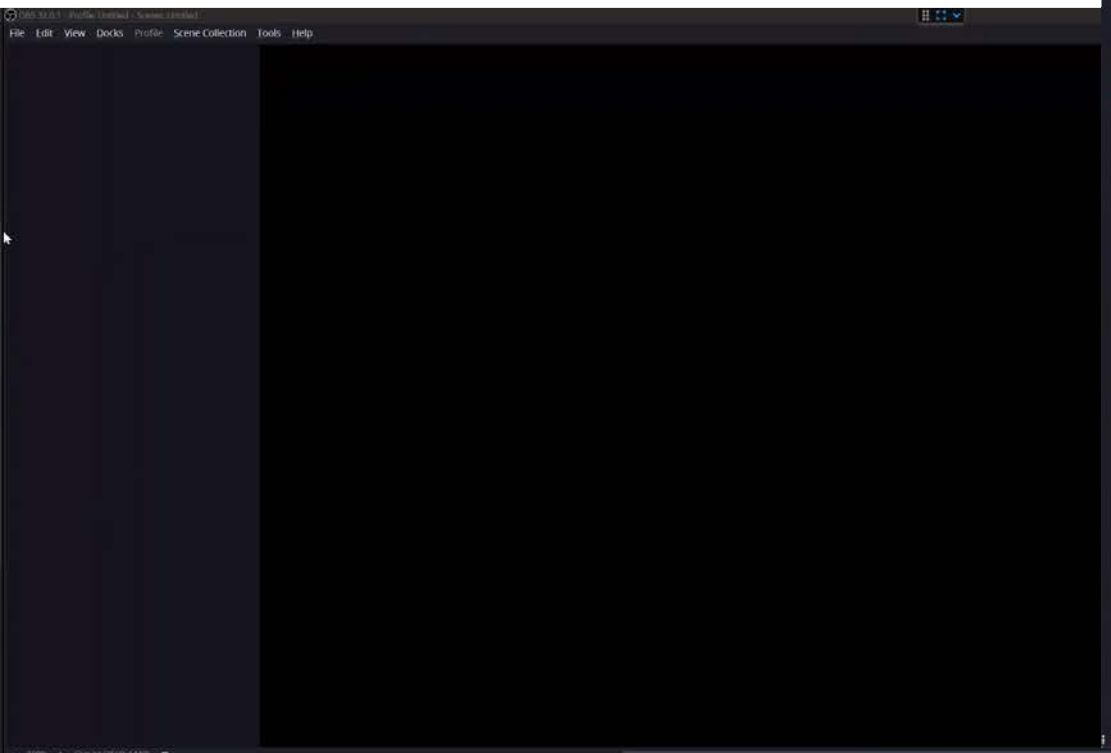
- Hard to find free options that didn't want to view/use my video or that wouldn't be illegal to use
- Many VPN services require payment

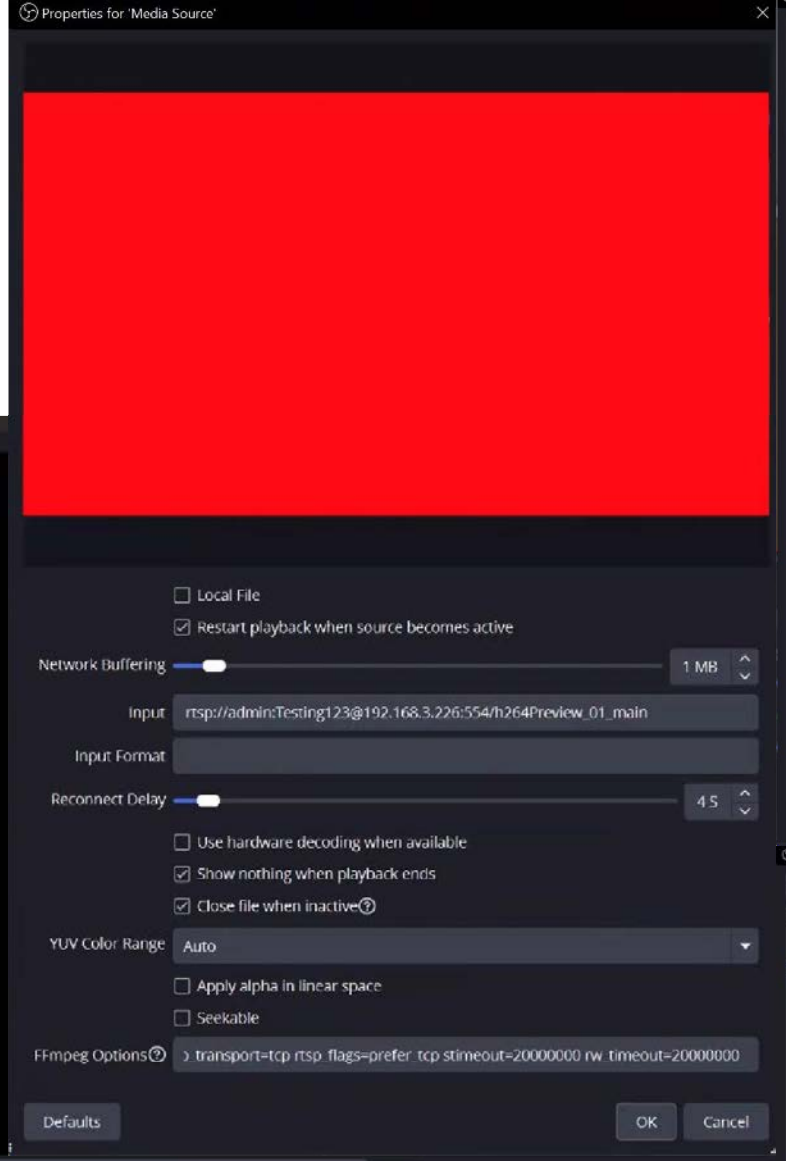
Lessons Learned

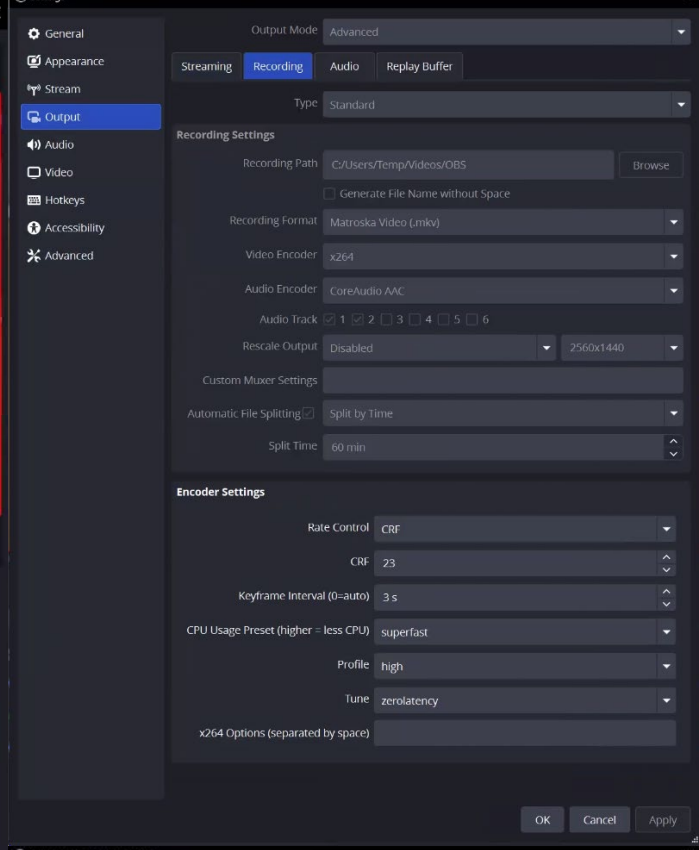
“Trust but verify” does not apply in the realm of privacy	Network logs show camera tried to send data to hundreds of IPs
Don’t always choose the first option	I’ve learned to keep researching to find the best option instead of the easiest option
Low budgets cost time	A higher budget would have allowed me to complete this project within a week, but instead it took months to research how to bring everything together to perform the task that a single paid software could have done
It’s more fun to learn by doing than learn by researching, but a lot less informative	While it was fun to play around with different software and settings at first, I found that without reading the product documentation or understanding the concepts behind it, that I struggled to make everything come together because I lacked key pieces of information

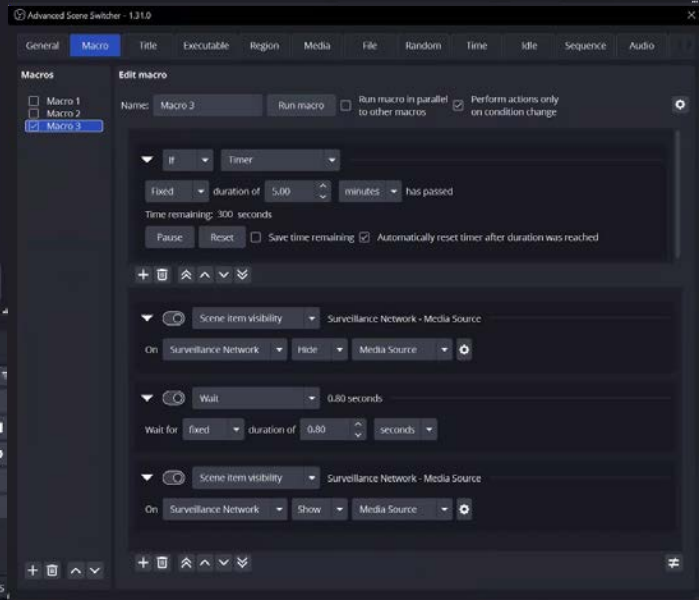
PRODUCT DEMONSTRATION

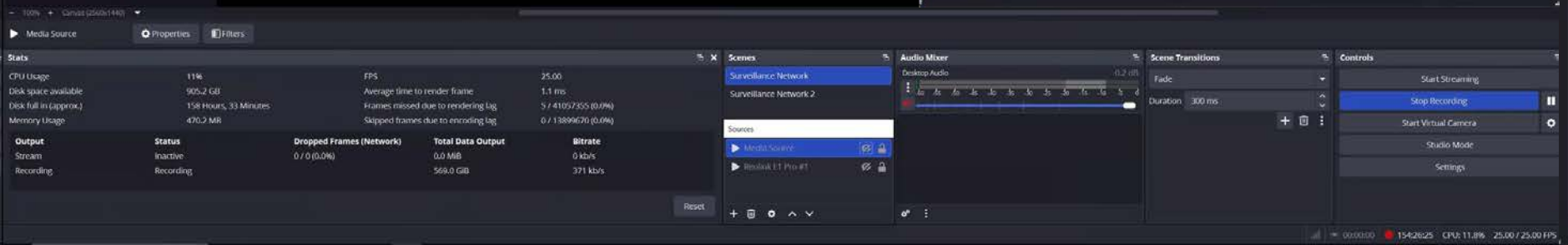
OBS Software



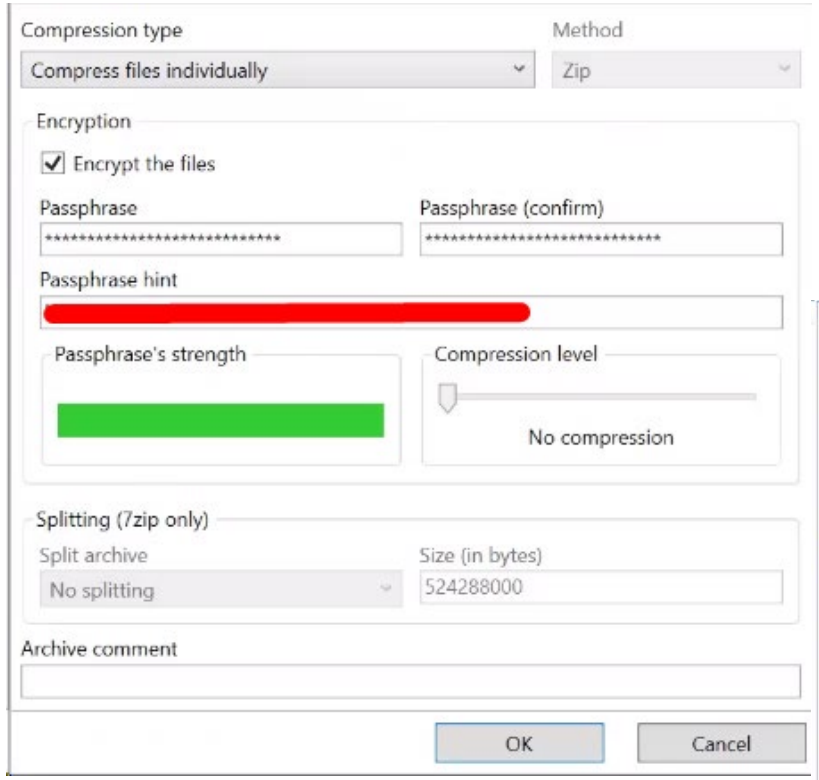


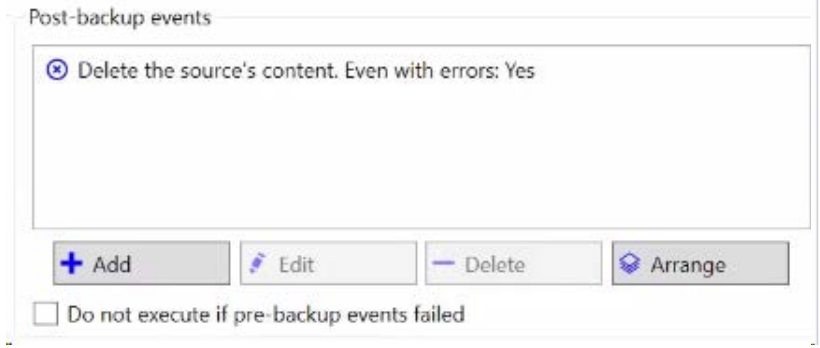






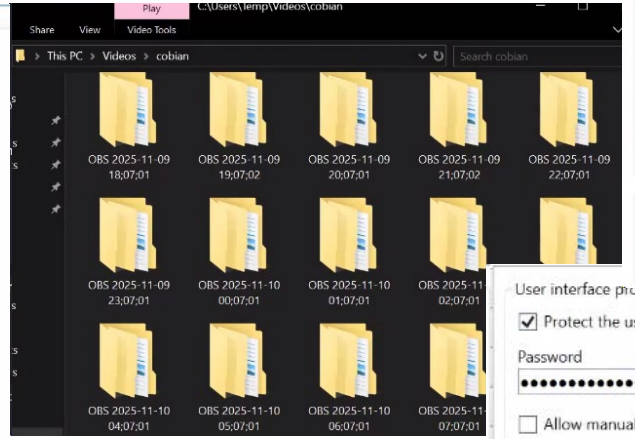
Cobian Reflector

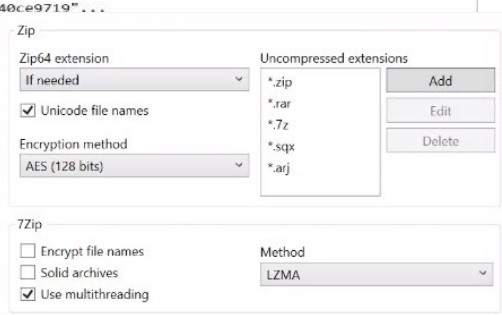


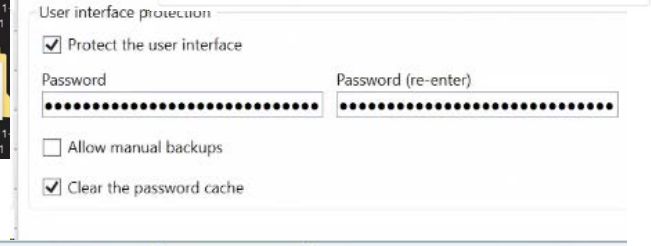



```
    2025-11-10 10:07:01 Backing up the task "nvr vault"
    2025-11-10 10:07:01 Applying the parameters to the task "nvr vault" (if any).
    2025-11-10 10:07:01 Starting the copy. The user running the task is: SYSTEM
    2025-11-10 10:07:01 The destination directory "C:\Users\Temp\Videos\cobian\OBS 2025-11-10 10;07;01" has been successfully created.
    2025-11-10 10:07:01 Backing up the directory "C:\Users\Temp\Videos\OBS" to "C:\Users\Temp\Videos\cobian\OBS 2025-11-10 10;07;01"...
ERR 2025-11-10 10:13:21 An error occurred while compressing the file "C:\Users\Temp\Videos\OBS\2025-11-10 10-05-04.mkv" into the archive: (32) The proces
    2025-11-10 10:13:21 The archive attribute for "C:\Users\Temp\Videos\OBS" has been removed.
    2025-11-10 10:13:21 The file attributes have been copied from "C:\Users\Temp\Videos\OBS" to "C:\Users\Temp\Videos\cobian\OBS 2025-11-10 10;07;01".
    2025-11-10 10:13:21 The timestamps have been copied from "C:\Users\Temp\Videos\OBS" to "C:\Users\Temp\Videos\cobian\OBS 2025-11-10 10;07;01".
    2025-11-10 10:13:21 Checking if there are empty subdirectories...
    2025-11-10 10:13:21 The directory "C:\Users\Temp\Videos\OBS" has been backed up.
    2025-11-10 10:13:21 [DEBUG] A sub-backup item has been added to the database.
    2025-11-10 10:13:21 [DEBUG] The actual path for the current sub-backup has been added to the database.
    2025-11-10 10:13:21 [DEBUG] A backup item has been added to the database.
    2025-11-10 10:13:21 Executing the post backup events...
    2025-11-10 10:13:21 Deleting the source directory "C:\Users\Temp\Videos\OBS"...
ERR 2025-11-10 10:13:21 An error occurred while deleting the source file "C:\Users\Temp\Videos\OBS\2025-11-10 10-05-04.mkv": (32) The process cannot acce
    2025-11-10 10:13:21 The content of the source directory "C:\Users\Temp\Videos\OBS" has been deleted.
    2025-11-10 10:13:21 The post-backup events have been executed.

    2025-11-10 10:13:21 ** Backup for the task "nvr vault" has ended **
    2025-11-10 10:13:21 ** Processed files: 2. Backed up files: 2. Created folders: 0. Backup size: 4.15 GB. **
    2025-11-10 10:13:21 ** Number of errors: 1. Time elapsed: 0 hours, 6 minutes, 20 seconds. **


    2025-11-10 10:13:22 The backup has ended. There are errors. Consult the log file.

    2025-11-10 10:13:22 [DEBUG] Getting the backup history for the task "10889e84-ea72-458e-a97b-563840ce9719"...
```

Property	Value
Task name	nvr vault
Task ID	10889e84-ea72-458e-a97b-563840ce9719
Source size	Not available
Files in source	Not available
Folders in source	Not available
Ignored files	Not available
Enabled task	Yes
Source	C:\Users\Temp\Videos\OBS
Destination	C:\Users\Temp\Videos\cobian
Group	(No group)
Backup type	Full backup
Include subdirectories	Yes
Create new separated backups	Yes
Use archive attributes	Yes
Use Volume Shadow Copies	No
Schedule type	Timer
Timer (minutes)	60
Compression type	Compress files individually
Compression method	Zip
Encrypt the files	Yes
Archive comment	
Number of filters	Inclusion: 0, Exclusion: 0
Number of events	Pre-backup events: 0, Post-backup events: 1
Mirror task (use with care!)	No
Use absolute paths	No
Always create top parent folder	Yes
Clear archive attribute (!)	Yes
Include backup type in the nam	No
Ignore empty directories	Yes
Run the task as some other user	No

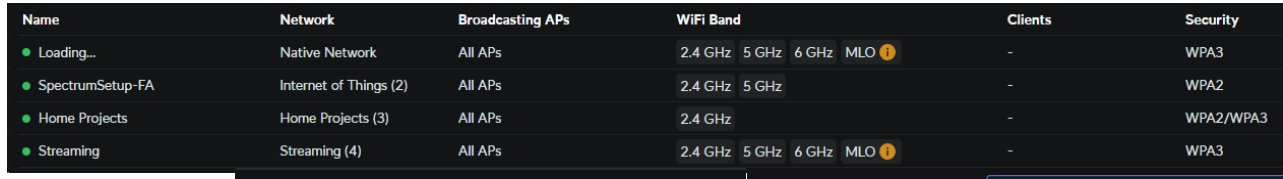




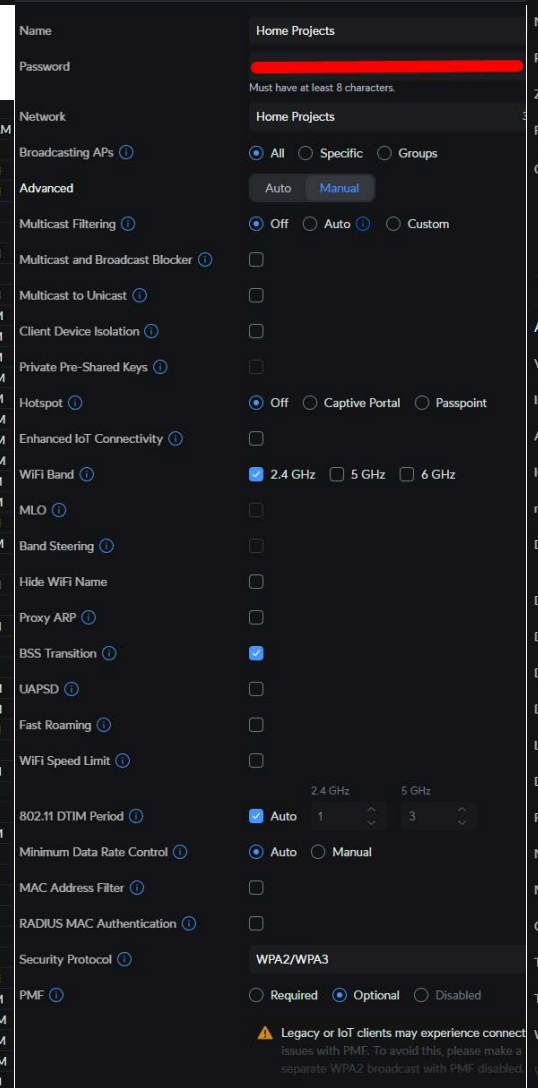


Timestamp	Type	Separated	Files	Size
11/8/2025 9:07:01 AM	Full backup	Yes	2	4.57 GB
11/8/2025 10:07:01 AM	Full backup	Yes	2	4.59 GB
11/8/2025 11:07:01 AM	Full backup	Yes	2	4.58 GB
11/8/2025 12:07:01 PM	Full backup	Yes	2	4.59 GB
11/8/2025 1:07:01 PM	Full backup	Yes	2	4.59 GB
11/8/2025 2:07:01 PM	Full backup	Yes	2	4.57 GB

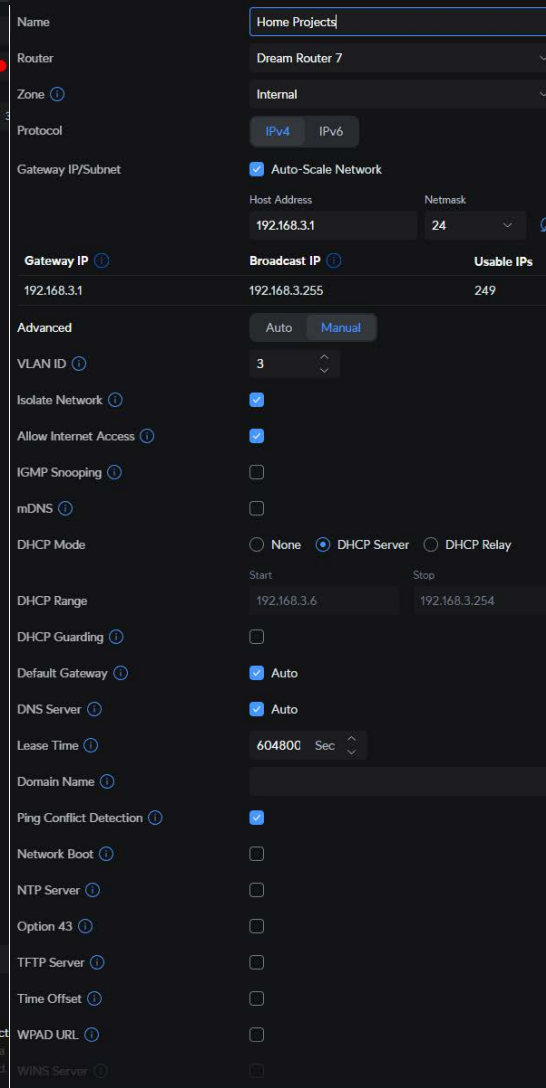
Unifi Router Settings



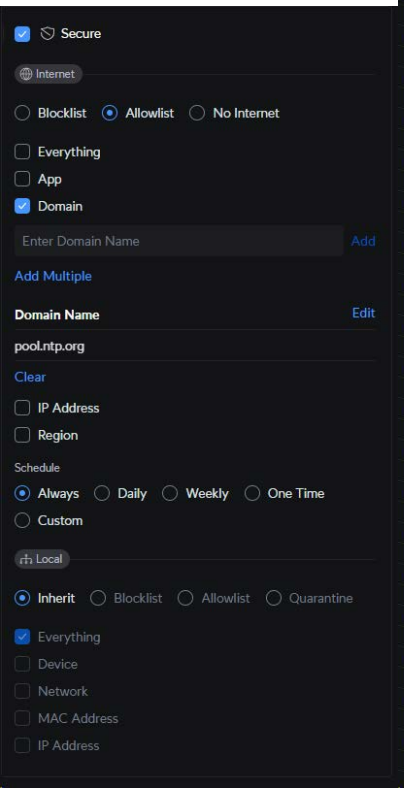
Name	Network	Broadcasting APs	WiFi Band	Clients	Security
Loading...	Native Network	All APs	2.4 GHz 5 GHz 6 GHz MLO	-	WPA3
SpectrumSetup-FA	Internet of Things (2)	All APs	2.4 GHz 5 GHz	-	WPA2
Home Projects	Home Projects (3)	All APs	2.4 GHz	-	WPA2/WPA3
Streaming	Streaming (4)	All APs	2.4 GHz 5 GHz 6 GHz MLO	-	WPA3



Name: Home Projects
Password
Must have at least 8 characters.
Network: Home Projects
Broadcasting APs: All | Specific | Groups
Advanced: Auto | Manual
Multicast Filtering: Off | Auto | Custom
Multicast and Broadcast Blocker
Multicast to Unicast
Client Device Isolation
Private Pre-Shared Keys
Hotspot: Off | Captive Portal | Passpoint
Enhanced IoT Connectivity
WiFi Band: 2.4 GHz | 5 GHz | 6 GHz
MLO
Band Steering
Hide WiFi Name
Proxy ARP
BSS Transition
UAPSD
Fast Roaming
WiFi Speed Limit
802.11 DTIM Period: Auto (2.4 GHz: 1, 5 GHz: 3)
Minimum Data Rate Control: Auto | Manual
MAC Address Filter
RADIUS MAC Authentication
Security Protocol: WPA2/WPA3
PMF: Required | Optional | Disabled
Legacy or IoT clients may experience connect
issues with PMF. To avoid this, please make a
separate WPA2 broadcast with PMF disabled



Name: Home Projects
Router: Dream Router 7
Zone: Internal
Protocol: IPv4 | IPv6
Gateway IP/Subnet
Auto-Scale Network
Host Address: 192.168.3.1
Netmask: 24
Gateway IP: 192.168.3.1
Broadcast IP: 192.168.3.255
Usable IPs: 249
Advanced: Auto | Manual
VLAN ID: 3
Isolate Network
Allow Internet Access
IGMP Snooping
mDNS
DHCP Mode: None | DHCP Server | DHCP Relay
DHCP Range: Start 192.168.3.6 – Stop 192.168.3.254
DHCP Guarding
Default Gateway: Auto
DNS Server: Auto
Lease Time: 604800 Sec
Domain Name
Ping Conflict Detection
Network Boot
NTP Server
Option 43
TFTP Server
Time Offset
WPAD URL
WINS Server



Secure
Internet
Blocklist | Allowlist | No Internet
Everything
App
Domain
Enter Domain Name — Add
Add Multiple
Domain Name — Edit
pool.ntp.org
Clear
IP Address
Region
Schedule
Always | Daily | Weekly | One Time
Custom
Local
Inherit | Blocklist | Allowlist | Quarantine
Everything
Device
Network
MAC Address
IP Address

Subcategory	Event Type	Description	Severity	Date / Time
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the camera test Firewall Policy.		Today at 9:22:22 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 69.89.207.99 by the local camera Firewall Policy.		Nov 9, 1:57:20 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 51.81.209.232 by the local camera Firewall Policy.		Nov 9, 12:57:15 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Nov 9, 8:23:20 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Nov 7, 8:22:16 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Nov 6, 8:22:21 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Nov 5, 8:22:20 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Nov 4, 8:22:10 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Nov 2, 8:22:26 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 31, 9:22:49 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 30, 9:23:18 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 29, 9:22:16 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 28, 9:23:49 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 27, 9:22:26 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 25, 9:22:04 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 23, 9:22:02 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 22, 9:22:28 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 21, 9:23:27 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 20, 9:22:51 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 19, 9:21:50 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 18, 9:22:44 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 17, 9:22:18 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.25.250 by the local camera Firewall Policy.		Oct 16, 9:22:01 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.18.24.250 by the local camera Firewall Policy.		Oct 15, 9:22:17 AM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 208.113.130.146 by the local camera Firewall Policy.		Oct 14, 3:25:43 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 50.251.160.20 by the local camera Firewall Policy.		Oct 14, 3:15:59 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 23.94.221.138 by the local camera Firewall Policy.		Oct 14, 3:05:17 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 155.248.196.28 by the local camera Firewall Policy.		Oct 14, 2:56:04 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 134.215.155.177 by the local camera Firewall Policy.		Oct 14, 2:50:28 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 172.235.60.8 by the local camera Firewall Policy.		Oct 14, 2:44:19 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 85.209.17.10 by the local camera Firewall Policy.		Oct 14, 2:34:13 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 23.142.248.9 by the local camera Firewall Policy.		Oct 14, 2:24:33 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 69.89.207.99 by the local camera Firewall Policy.		Oct 14, 2:19:05 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 64.44.115.65 by the local camera Firewall Policy.		Oct 14, 2:13:53 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 172.104.28.175 by the local camera Firewall Policy.		Oct 14, 2:05:42 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 23.157.160.168 by the local camera Firewall Policy.		Oct 14, 1:55:27 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 198.46.254.130 by the local camera Firewall Policy.		Oct 14, 1:49:56 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 170.187.142.180 by the local camera Firewall Policy.		Oct 14, 1:41:59 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 104.152.220.10 by the local camera Firewall Policy.		Oct 14, 1:34:03 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 204.197.163.71 by the local camera Firewall Policy.		Oct 14, 1:25:03 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 155.248.202.205 by the local camera Firewall Policy.		Oct 14, 1:14:19 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 50.117.3.95 by the local camera Firewall Policy.		Oct 14, 1:08:29 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 23.155.40.38 by the local camera Firewall Policy.		Oct 14, 12:58:17 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 23.95.35.34 by the local camera Firewall Policy.		Oct 14, 12:46:53 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 23.150.41.122 by the local camera Firewall Policy.		Oct 14, 12:40:18 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 192.189.65.187 by the local camera Firewall Policy.		Oct 14, 12:34:34 PM
Firewall	Blocked by Firewall	E1-Pro 2c:85 was blocked from accessing 170.187.142.180 by the local camera Firewall Policy.		Oct 14, 12:19:51 PM

- Demo video omitted in public version

View from Phone

View from Camera

- Demo video omitted in public version


ANY
QUESTIONS?