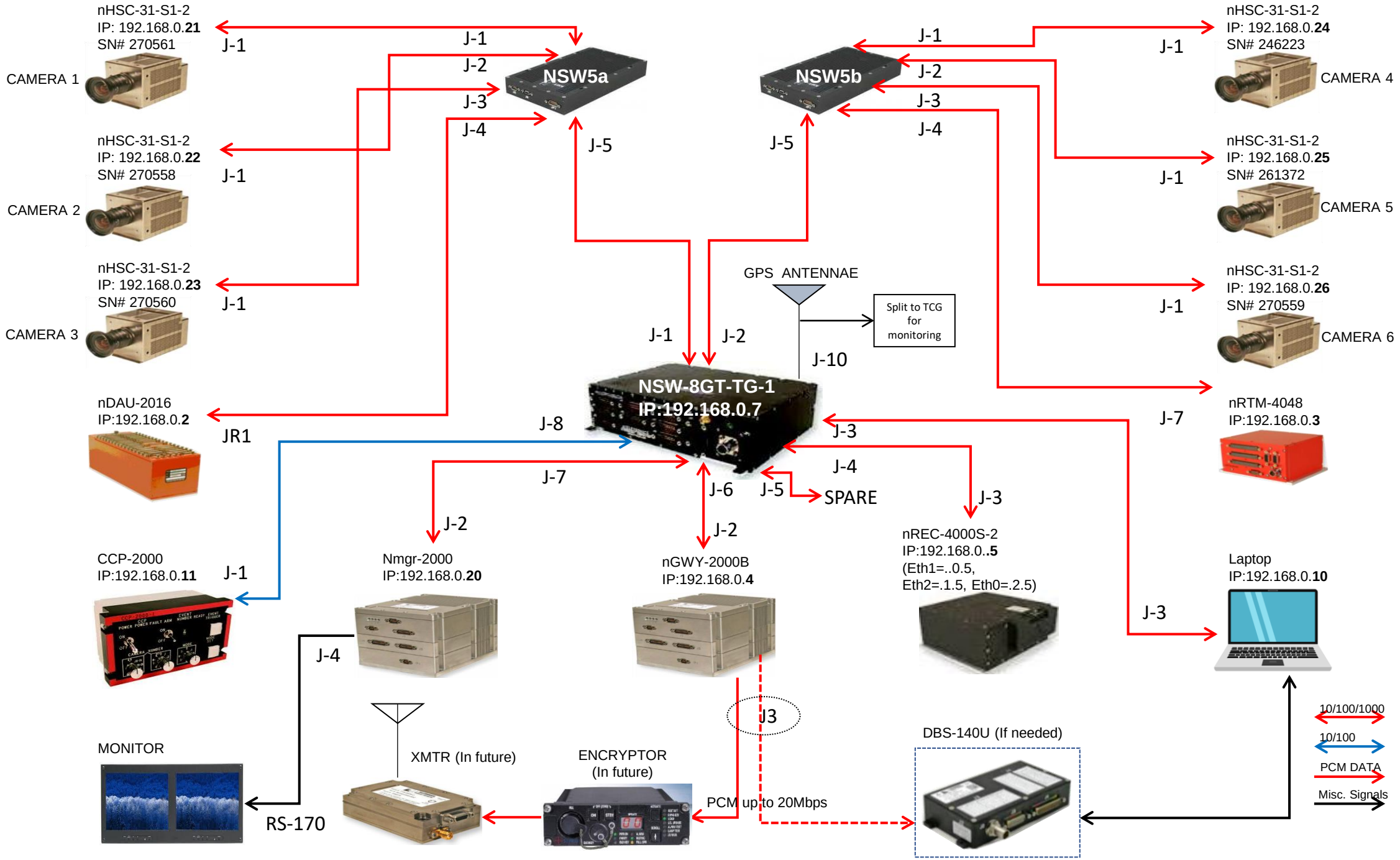
Network Instrumentation

With a little TTCWare thrown in

EAFB 6-High Speed Camera Network-based System Diagram(Connector & IP designates) as of 09/29/23



Equipment List

Item	Serial Number	IP Address	Firmware Ver
nDAU-2016 (PPC-520E-2)	255559	192.168.0.2	6526
nRTM-4048 (PPC-2048-1)	250679	192.168.0.3	6526
nGWY-2000B	254085	192.168.0.4	6842
nREC-4000S-2 (Eth1)	241652	192.168.0.5	6839
Eth0, Eth2		..2.5, ..1.5	
NSW-8GT-TG-1	255487	192.168.0.7	7021
nMGR-2000	246377	192.168.0.20	6842
nHSC-31-S1-2 Camera 1	270561	192.168.0.21	6839
nHSC-31-S1-2 Camera 2	270558	192.168.0.22	6839
nHSC-31-S1-2 Camera 3	270560	192.168.0.23	6839
nHSC-31-S1-2 Camera 4	246223	192.168.0.24	6839
nHSC-31-S1-2 Camera 5	261372	192.168.0.25	6839
nHSC-31-S1-2 Camera 6	270559	192.168.0.26	6839

nHSC-31-S1-2

Switch Centric

- 8-Port switch is the central most important piece of hardware as it handles all network traffic flows.
- TTCWare programs the switch for all multicast traffic.
- Any changes to hardware or capabilities require a recompile and reload.
- From the NSW-8GT-TG-D-1 Manual:
  - TTCWare automatically creates multicast routing rules for each data source in the project (recommended). Routing rules are automatically updated when any of the parameters that affect the routing are changed.

Configuring IEEE-1588 Time

The **Clock Mode** field determines how the device acquires its clock for timing and data tagging. Select **Boundary** if the device receives IEEE 1588 clocking from a master device and broadcasts the time to slave devices. Select **Grand Master** if this device is a master device and broadcasts clocking data to all other devices.

The **Sync Interval (Seconds)** field sets the number of seconds between the sync signals sent from the grandmaster device to the ordinary or static slave devices. Select **1**, **2**, **8**, **16** or **64** seconds using the drop-down menu.

Select the multicast group next to **PTP Domain** that this device will use. Retain **Default** or select **Alternate 1**, **Alternate 2** or **Alternate 3** using the drop-down menu.

PTP (Precision Time Protocol) uses one of four multicast groups to transmit time. The IP addresses associated with the groups are 224.0.1.129, (Default), 224.0.1.130 (Alternate 1), 224.0.1.131 (Alternate 2) and 224.0.1.132 (Alternate 3). Default is the recommended selection.

Switch Config