

MLP's items

AstroPix stall is still with us. It seems to have gotten worse? A few thousand events, down from what I remember as many hours before

Sentiment is that a firmware reload (rcdaq end-run but no reload/restart) will unlock it. Investigation is ongoing

I fixed a senior-moment type bug in the KCU start/stop sequence. Norbert had flagged the symptom that the data sending wouldn't stop. Seems fixed... final check pending

Also fixed the data compression that works now at all levels. Level 2 (using a particular algo in the LZO suite) had issues. Confirmed that it works now.

I enabled level-4 compression, which makes the data volume on disk go down to ~21% of the uncompressed volume. Remains to be seen if a) that compression ratio holds with busier beam data, and b) if we can sustain that most CPU-intensive level 4.

I ran the safe-delete procedure run this morning, disk down to 27% fill status

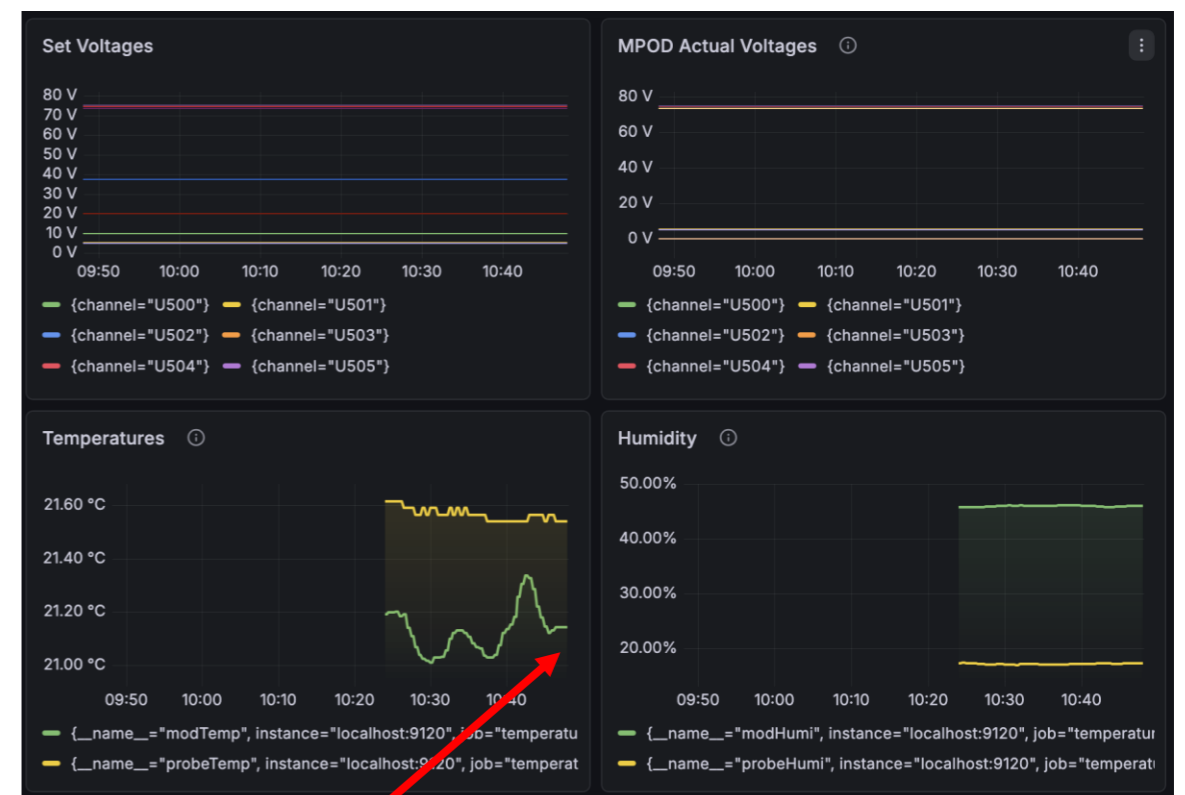
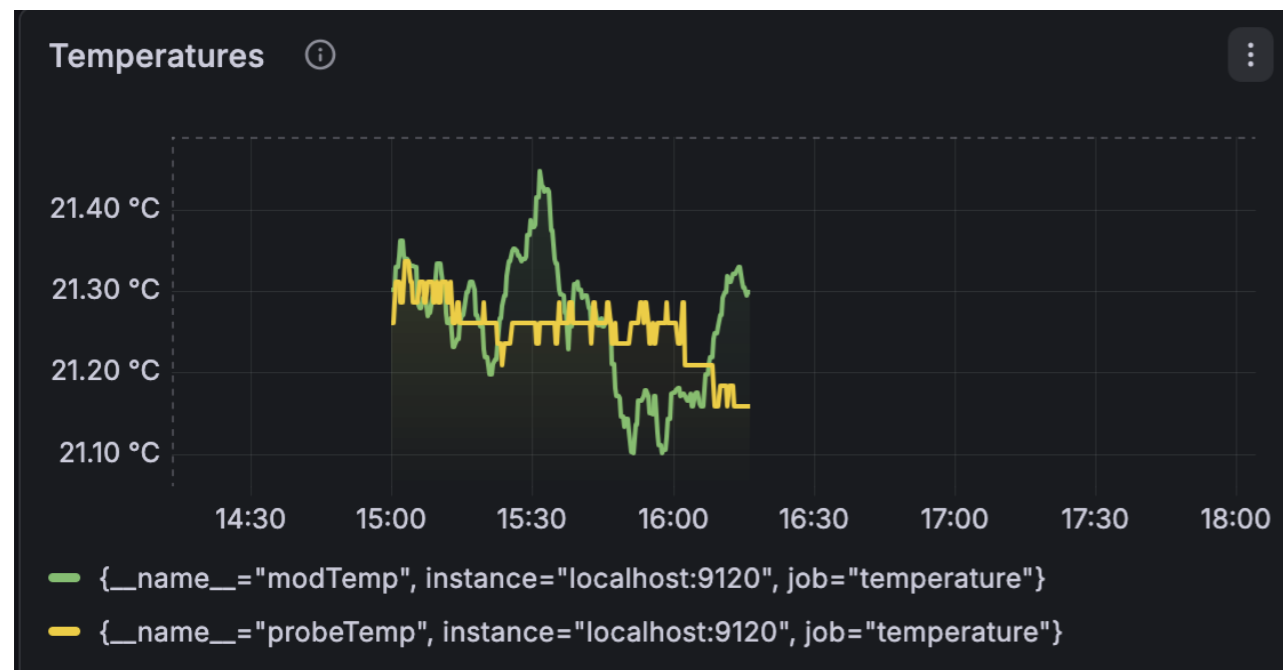
I also added the general meta-data (MPOD at this point, more to come) to all 4 RCDAQs, as discussed the other day. Changed packet id to 920 as 910 is taken for the KCU config readback

Grafana and env. data capture

We had the MPOD data for a while.

I took the temperature/humidity code and wrapped it in a Prometheus process for Grafana

There is a work-in-progress summary page:



The temp/humi readout stalled soon after, though. Henry unlocked it, we'll see if it holds

I have a suspicion that the code leaks file descriptors, didn't have time to investigate

But until proven stable, we cannot add this to RCDAQ's begin-run meta-data yet

All-in-one “exporters”

I made the Prometheus exporters to also provide the data as flat output as the /data URL, like

```
# curl localhost:9110/data
channel  outputVoltage  outputMeasurementSenseVoltage  outputCurrent  outputMeasurementCurrent
U500    10.0    0.02.50.0
U501    5.00.02.50.0
U502    5.00.00.100098  0.0
U503    5.00.00.50.0
U504    5.00.00.199951  0.0
U505    5.00.00.199951  0.0
U506    5.00.00.199951  0.0
U507    5.299805  5.299805  0.50.446045
U700    37.499996 0.053073  0.01  0.0
U701    74.5    74.500023 0.01  0.008664
...
```

... and the temp/humi readout that also gives “intdata” for number-level inclusion in RCDAQ with device_filenumbers:

```
# curl localhost:9120/data
modTemp: 21.22
modHumi: 45.82
probeTemp: 21.59
probeHumi: 17.48
```

```
# curl localhost:9120/intdata
2117
4592
2159
1745
```

But we need to know this is stable first (or have some sort of timeout).

Online Monitoring

I started to write in our document about “true online monitoring” – reading off the online stream, not files... to be completed

Based on Norbert’s and my “barebones” project, I made a unified KCU monitoring, works for both... not quite done, RSN

I don’t know enough about the AstroPix to contribute a lot here

And have to get up to speed on the CAEN stuff. Henry?

Related: I’m trying to prevent a side effect of the new VNC server on carbon (one is that the MacOS “Screen Share” doesn’t work) – the client doesn’t “zoom” but resizes the remote desktop, and throws off the careful placement of Canvases... trying to lock that down.