Systems testing in calibration lab

Jun 9 15:30 MDT

Since Friday, Jun 3 the four systems have been setup in the cal lab. In order to get cellular signal, external cellular antennas are mounted in the window, at a spacing of about 4 feet apart.

The bulk of the sensors were added on Monday, Jun 6, and by Tuesday we had all sensors connected, except for the leaf wetness sensor.

Encountered several issues

- loose RS232 connection on Licor 7500 (serial number ?)
- fix loose RS232 connection on prop vane (serial number ?)
- many reboots on ncar4, which is getting its power from aux1 on ncar2.

Cellular comms are not great. Using a browser to look at the router web page, shows that the cellular signals are good (70 - 80 %), but the throughput is not great - probably because they are interfering with each other. The connection to ncar2 and ncar4 has been the worst. Chris also noticed that their modems seem hotter to the touch.

Copying files with rsync was problematic. It worked well from 1 and 3, not so good from 2 and terribly from 4.
rsync from 4 showed about 3-4 kB/sec, and the copying of a file would generally fail after 15 minutes or so with a timeout error, even though the rsync timeout was set to 600 seconds.

So, I shut down modems 1-3 and then the rsync connection to 4 started working well, 40 kB/sec with no timeouts. So it seems that the cellular comm problems are related to the fact that the transmissions are interfering.

Would be nice to be able to test the systems at spacings more similar to what they will be in the field (or at least some thing like 50'). We'll see if that can be done.

More on ncar4 reboots:

- 6/10: Still giving problems
- 6/10: Tightened Viper power connector screw terminals. Still died.
- Noticed that for the past day the system is dying at 4 minutes after the hour. Previous to that it was dying about every 15 minutes. Every 15 minutes the system checks for internet connectivity, and after several minutes of trying will power down/up the router and modem. Perhaps that causes a power brownout and the system reboots.
- 6/10 12:36 MDT: switched to its own power supply instead of being daisy chained from aux1 on ncar2.