Jason-2 exploitation review
May 19-20, 2016

OSTM/Jason-2 NASA/JPL Mission Facility

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Agenda

- Instrument Operations
  - Responsibilities
  - Tools
- Archive status
- System Use
- Ground System Enhancements
- Jason-3 support
- Lessons Learned

Instrument Operations

- JPL instrument operations responsibilities
  - Fetch, extract, and make payload and housekeeping data available to GPSP and AMR instrument teams.
  - Monitor instrument health and status daily.
  - Alarm limit checking is done automatically and alerts are sent via email and/or SMS.
  - Support JPL instrument teams in calibration of their instruments' data.

Instrument Operations (2)

- Key Tools:
  - IDS (Instrument Data System) retrieves and processes payload and housekeeping data.
  - Cyclone monitors health/safety of GPSP and AMR instruments and notification in event of anomalies.
  - ARCS (Automated Radiometer Calibration System) creates coefficient files that help calibrate AMR instruments' data.

Instrument Operations (3)

- Health and safety limit checking:
  - Monitored daily by the JPL Instrument Operations teams (temperature, voltage, current, etc).
  - When limits are violated, alerts are automatically sent to the Ops team via email and/or SMS (Short Message Service).

NRT Health and Safety Report

AMR Limits

- AMR H-side Current
- AMR H-side Noise Source Temperature
- AMR H-side Receiver Temperature
- AMR H-side Waveguide Temperature
- AMR H-side Table Sequence
- AMR vs GPSP Timestamp Delta
- GPSP vs AMR Timestamp Delta

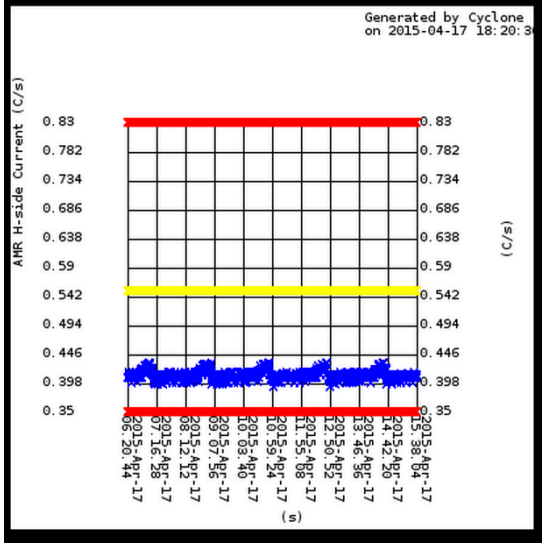
GPSP Thermal Limits

- GPSP-B Electronic Unit Temperature
- GPSP-B RF Temperature
- GPSP-B CV -15V Temperature
- GPSP-B CV +3.3V Temperature
- GPSP-B CV +5.0V Temperature
- GPSP-B DIG 1 Temperature
- GPSP-B DIG 2 Temperature

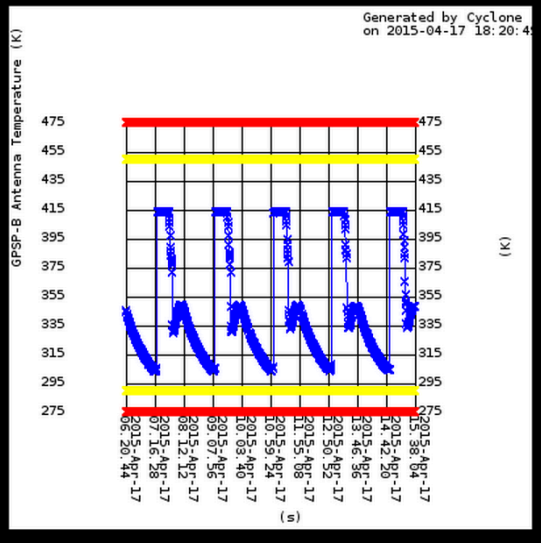
GPSP Electrical Limits

- GPSP-B Current
- GPSP-B -15V Voltage
- GPSP-B -15V Current
- GPSP-B +3.3V Voltage
- GPSP-B +5.0V Voltage
- GPSP-B +5.0V Current
- GPSP Max Sats Limit

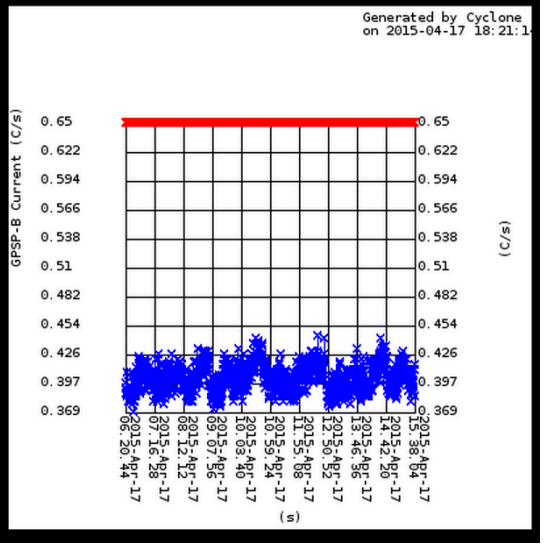
H-side Current



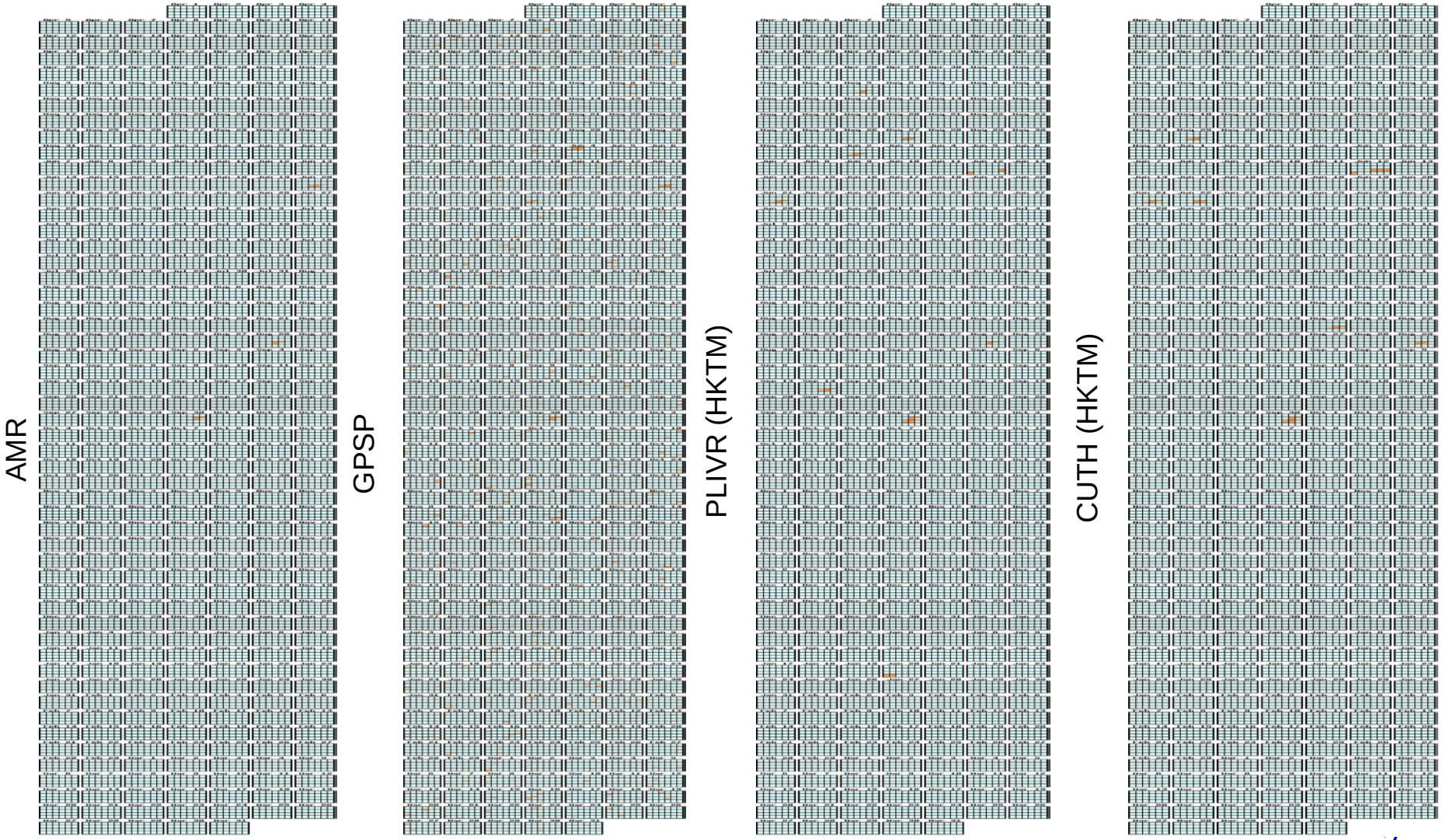
GPS-B Antenna Temperature



GPS-B Current

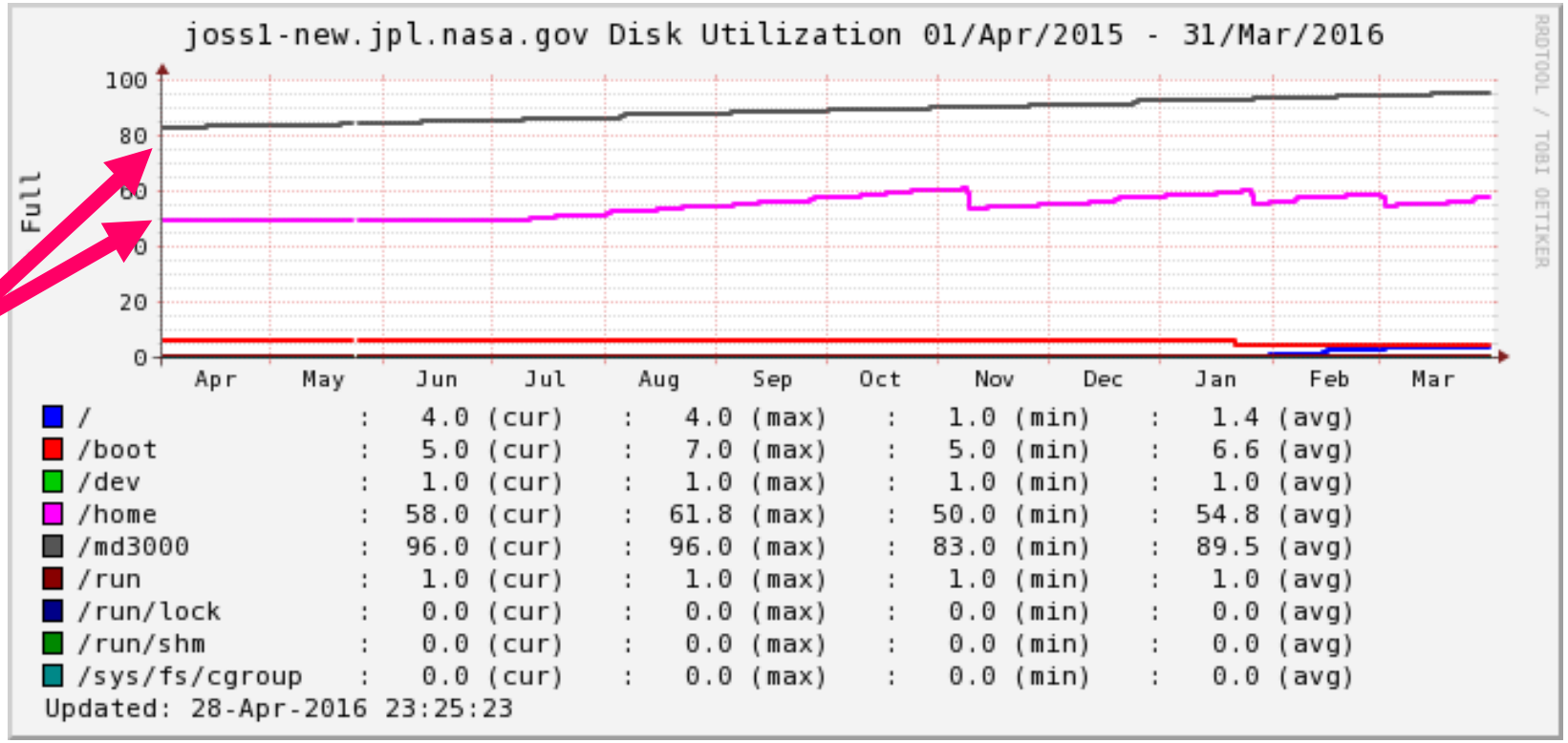


Archive Status (1 April – 31 March)

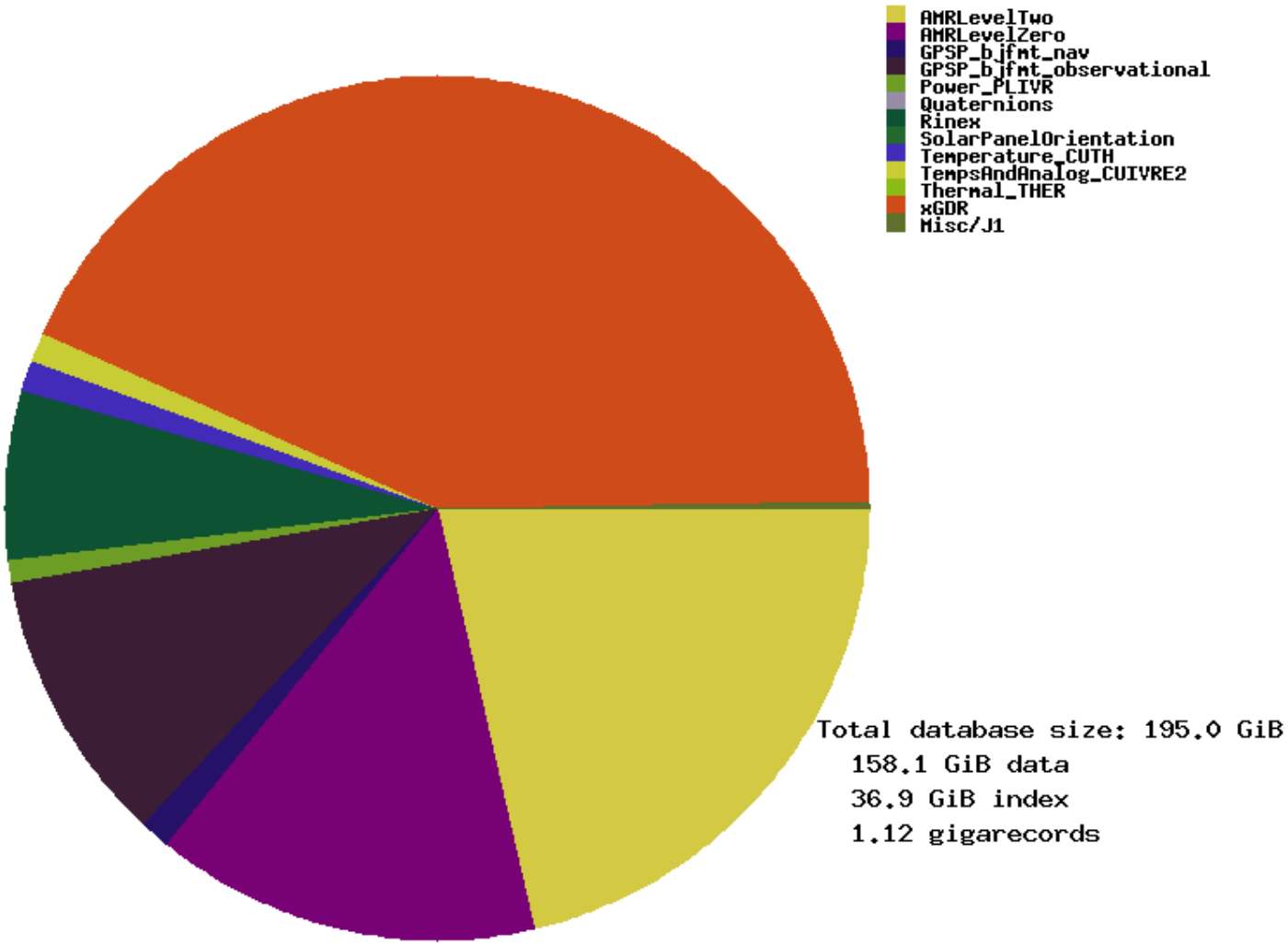


System Utilization

Main data archive



- Disk growth:
  - /md3000 ~4.6 GiB/day
  - /home ~7.7 GiB/day
- /md3000 will be full ~3 months, /home will be full in 3 years.
- Plan to get more disk space.



Total database size: 195.0 GiB
158.1 GiB data
36.9 GiB index
1.12 gigarecords

Ground System Enhancements in 2016

- Completed since last REVEX:
  - NJGS network merged in OPS.
  - Updated JxTCCS JAVA 8 in OPS.
  - Improved performance and error logging of AMR science processing software.
  - Replaced 6 out 12 old RAID disk drive.
  - Replaced PC JTCCS network card.

- Planned for 2016:
  - Add more disk storage.
  - Update JxTCCS (compress packets before sending through network, alarm processing).
  - Improve performance of GDS pipeline.

Parallel OPS with Jason-3

- Meet weekly with Jason-3 team to keep our data system closely related and functioning in the same manner.

Summary

- Instruments are healthy
- Continue to work with Jason-3 team to keep our data system closely related.
- Continue to improve performance of GDS pipeline processing.
- Questions