

GGSPS status

CERES – GERB – ScaRaB Sci team workshop, Oct 2014

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Outline

- Operations: GERB-1, 2 and 3 processing status
- GGSPS software & system updates
- Preparation for Edition-2
- Preparation for GERB-4 launch

GGSPS hardware config

Operations moved from Tru64/Dec machines to Linux in 2012

Dedicated Linux processing platform for each GERB

- Gerbops1, 2, 3 processing GERB-1, 2, 3
- **Gerbops4: hot spare**
 - can be rebooted as any of gerbops1-3 in event of h/w failure
 - Gerbops1-3 backed up to gerbops4 hourly
 - Now being prepared for GERB-4 commissioning

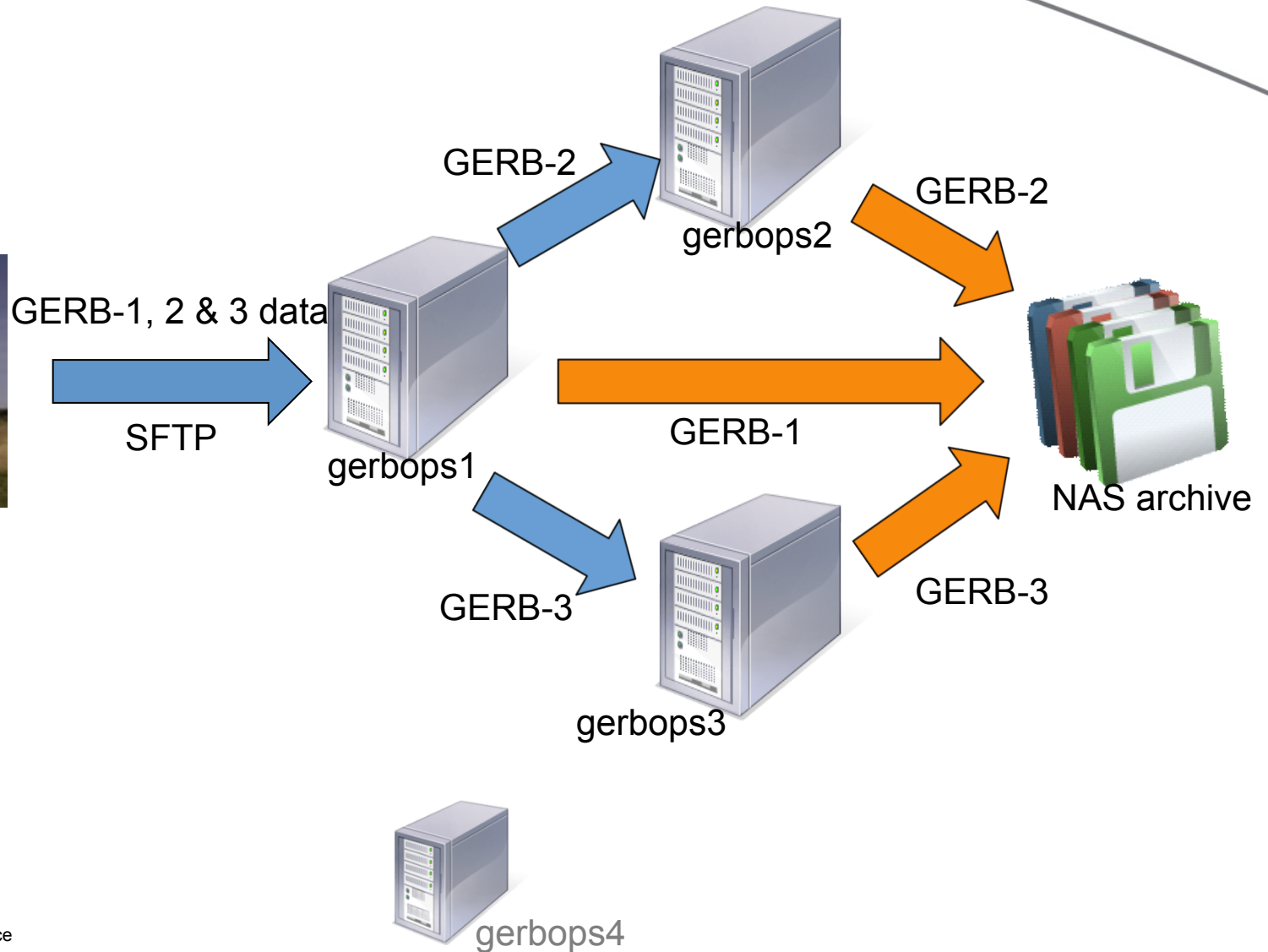
Plus Linux NAS holding all 3 (4) data archives

- 39TB capacity
- G2: 12 years 4.5TB, G1: 8 years 4.1TB, G3: 1.5 years 0.5TB

GGSPS hardware config



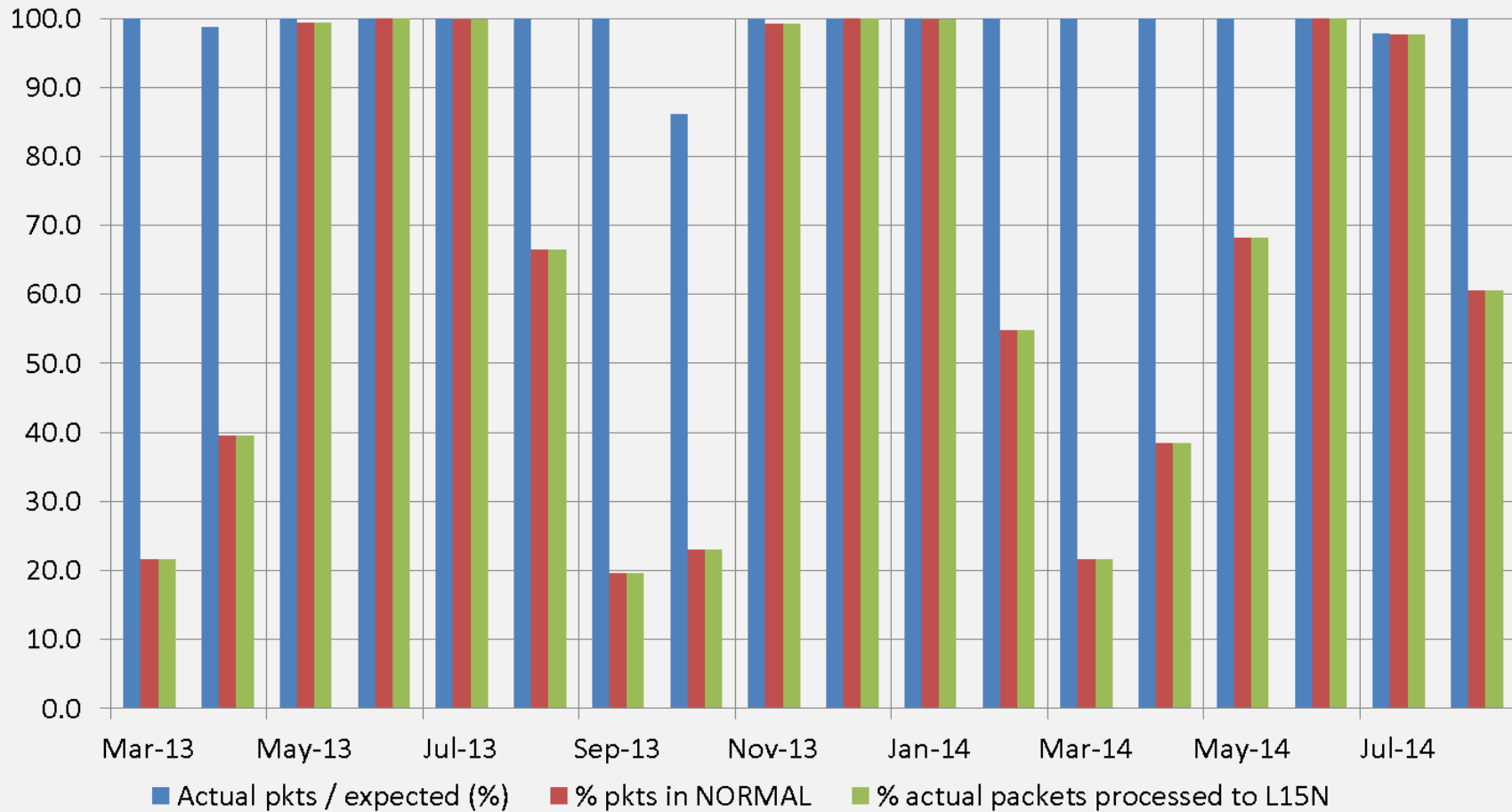
EUMETSAT



G1 archive stats 2013-14



GERB-1 2013-14



G1 data / processing outages

Reasons for data outages 2013-14

- Spacecraft anomaly 25-29-Oct, 21-Jul (1 hr)
- Sun-satellite co-linearity
- Antenna maintenance, e.g. 02-Jul (15 hrs)
- No significant GGSPS outages

Experience of outages shows that with SFTP of data / ops on Linux

- recovery is quick and
- data loss is minimal / zero

Conclusion: GGSPS is running smoothly on Linux

N.B. regular, **minor** instrument anomalies affect L1.5 quality/coverage

- QF status bit anomalies
- Counting data, mirror pointing
- Noisy pointing due to Earth sensor, e.g. “lunar” eclipse 13-Dec

GERB-2 & 3 processing

- GERB-2 & 3 not taking science data
- GGSPS continues to archive and process engineering data in support of instrument team operations

Archive and product release

- Ready to archive the RMIB BARG product
- Will be added to the BADC GERB archive

Also under discussion

- RMIB HR product archiving
- Obs4MIPS monthly mean product

Software changes

Software development continues at a low level of effort

- Improvements in stray light flagging ongoing
 - will increase Edition-2 data availability

Planned updates

- Edition-2 calibration: changes are TBD
 - Could include time, scene, mirror face dependence
- Engineering changes: housekeeping plots etc
- Obs4MIPS monthly mean product

Edition 1 – Edition 2 Differences (GERB2)

- Calibration changes
- Automated mirror pointing anomaly detection
 - 159 L15N files recoverable for Edition 2
- Stray Light Flagging
 - Date and time ranges tightened as discussed
- Counting data
 - 18 L15N files with counting data – partially recoverable
 - 320 L15N files have corrupted calibration – ~314 recoverable

Edition 1 – Edition 2 Differences (GERB1)

- Calibration changes (could be different from GERB2).
- Automated mirror pointing anomaly detection
 - More anomalies will be found
 - but only affected columns flagged
 - 3811 L15N files recoverable for Edition 2
 - Data up to September 2012 affected
- Stray Light Flagging
 - Date and time ranges tightened

Ed02 preparation

- Tech issues affecting reprocessing:
- Catalogue database: large Level 0 product tables were split to improve performance
 - E.g. GERB-2 has 3 separate tables for diff. year ranges
 - Performance tests show that the Linux system can cope if tables are re-combined
 - Allows us to add any historical missing data before reprocessing

GERB-4 preparation

- Initial EUMETSAT-RAL data flow tests done March 2014
- Repeat tests during EUMETSAT's Operational System Validation "scenario 2" planned for 27 - 30-Oct-2014
- Testing of GGSPS with GERB-4 ground test data planned for the next 6 months
- Configuration of calibration tables and tests using simulated GERB-4 science data will follow
- System ready for launch in July 2015

Conclusions

- GGSPS software running well in operations
- Linux hardware performing well
- Working towards Edition-2
- GERB-4 preparation under way