ASTRON

Netherlands Institute for Radio Astronomy

LOFAR Software Development update

Arno Schoenmakers/Hanno Holties, ASTRON

Pieter Donker, Wouter Klijn, Jan David Mol, Harm Munk, Jan Rinze Peterzon, Adriaan Renting, Jorrit Schaap, Nico Vermaas

ASTRON is part of the Netherlands Organisation for Scientific Research (NWO)

LSM, Sep 2nd 2015

Upcoming events

LOFAR Release 2.12 will be rolled out on Monday Sep. 7th.

Highlights:

- The 160-MHz mode is now supported by MAC and ready for commissioning. This also includes a more gradual switch-on of HBAs/LBAs.
- Enabling 4-bit mode processing in Cobalt
- Major refactoring of ingest software

Full release notes on the Wiki:

http://www.lofar.org/operations/doku.php?id=engineering:release_notes_lofar_2.12

Some details:

ASTRON

- Production system improvements
  - Measurement Sets created by LOFAR will now contain non-empty STATE, PROCESSOR and POINTING tables. This guarantees compatibility with Casa/Casacore
  - TBBs automatically start recording when TBB images are (re)loaded.
  - Fix for TAB-ring coordinate handling for declinations between 60 and 80 degrees.
  - See release notes for other changes
- Offline processing software improvements
  - Fixes in the NDP3 for the Long-baseline processing pipeline have been added
  - Several bug fixes and features added to LOFAR processing software; see release notes for a list

Other news/efforts

- Wouter Klijn has accepted a job at the FZJ. His last day at ASTRON will be coming Friday.

- The effort to introduce a more robust communication framework for pipelines on CEP2 could not be finished successfully in time for the 2.12 release. Given the short remaining lifetime of CEP2 this is no longer pursued.

- CEP4 hardware is being installed. Much of the effort the coming months will be focused on taking it into production to replace CEP2 by end of November

Software Support report

ASTRON

- Software engineer on duty every day; rotating between available software engineers
- Point of contact for Science Support, Operators

- 40 issues reported in July, 46 issues in August
- Most issues can be resolved the same day
- Spread over all systems, though ingest/staging have the largest number of issues, still.
- Growing knowledge base in the Wiki on how to handle “common” issues.
- Systemwide knowledge spread over all software engineers

Upcoming developments

ASTRON

- Next release planned on Nov 2nd. Main items:
  - Delivery of CEP4 for production storage and processing of data:
    - Different storage setup requires changes in scheduling, specification, monitoring tools.
    - Job scheduling system using “Unicore” and Slurm now investigated.
  - Further ingest refactoring for more robustness and handling of very large ingest jobs (> 50,000 dataproducts) smoothly.
  - Further steps in making TBB operations a fully supported operational mode.