Minutes of Meeting LOFAR Software

Date:	2008-01-23
Next meeting:	2008-01-16 9:15-10:15
	Paviljoen West room
Present:	
Andre Gunst	Yes
Ronald Nijboer	Yes
Ruud Overeem	Yes
John Romein	Yes
Michael Wise	Yes

cc: Arthur Coolen, Jurjen Sluman, Pieter Donker, Chris Broekema, Martin Gels, Joris v. Zwieten, Marcel Loose, Adriaan Renting, Ger van Diepen, Max Avruch, Peter Boonstoppel, Michiel v. Haarlem, Jan Reitsma, Ger de Bruyn, Arno Schoenmaker, Hanno Holties, Corina Vogt, Jan Noordam, Joe Masters, Lars Bähren, Dion Kant, Johan Hamaker

Remarks previous minutes

- Chris Broekema reported that the NFS problem was solved last week, resulting in a performance of about ~ 70 MB/s. Problems still occur if multiple clients have to be served at the same time.

Announcements

- IBM meeting was held, wherein a maintenance / replacement proposal was done
- Station tender is closed
- Software collaboration between Australia and Africa is stopped (CONRAD)

Action item overview

ID	Date submitted	Description	Owner	Planned date	Status
40	20070710	Revise software plan	Michael/Andre	20080131	Ongoing
46	20080109	Testing SAS/MAC on CS001T with the new OLAP software. SAS part is producing a parameter set which can be used by OLAP. Almost done	Ruud	20080116	Ongoing
47	20080116	Plan software meeting to estimate software effort	Andre	20080123	Closed
48	20080116	Plan discussion about HDF5	Michael	20080214	Open
49	20080116	Simultaneous data storage of TBB and in OLAP to validate inverse poly phase filter bank of Kalpana	John/Andre	20080204	Open

Last: 49

Progress

Stations (André):

Achieved since last meeting:

- RCU firmware was upgraded on CS001, CS008, CS010, CS016.
- Cross correlation problem on CS010 was solved due to the firmware update or a power cycle.
-

Problems / current activities:

- There are still problems with the long distance delay tracking
- Due the firmware update, the delays can not be set by the HBA (this problem was solved during the writing of the minutes).

Next actions:

- Step 4

OLAP (John):

Achieved since last meeting:

- Martin made changes to the delay compensation part and this runs now entirely on the IO node (no separate delay compensation necessary anymore). It is a processing intensive task which can be optimized.

Problems / current activities:

- Two core version of ZOID is not completely stable yet. During start up time crashes are seen when large partitions are used.
- Martin is busy to prepare for the multi-beam mode.
- Robustness for failing disks is not included yet.
- Chris worked on the CEP procurement document

Next actions:

- Step 4

Offline pipeline (Ronald):

Achieved since last meeting:

- Ger van Diepen isntalled the latest CONRAD imager on the offline cluster in Groningen. Gianni Bernardi will use this imager to exercise it.
- Ger made an AIPS++ image class able to store HDF5 files. That means that the CONRAD imager could be adapted to work with HDF5 files.
- Calibration plan is iterated with the engineers and finished.

Problems / current activities:

- Joris worked on the global solver
- Maaike worked on the implementation of the Karhoene-Louve ionospheric model in Meqtrees
- Ger and Maaike have worked on the visualization of the calibration solutions.

- Pandey is completing the validation and testing of the pipeline including UV-fitting.
- Coding for BBI is essentially done. Related Step 4 activities will focus on testing and validation. We need some documentation as well as an overall testing and validation plan.

Next actions:
- Step 4.

SAS + MAC + SHM (Ruud):

Achieved since last meeting:
-
-

Problems / current activities:
- Arthur works on the SAS part of the CONRAD imager
- Coordinate issue: protocols between CalServer, BeamServer and RSPDriver are made 64 bit compatible. In Marcel's software the geo centric coordinates should be changed.
-

Next actions:
- Step 4

User Software (Michael):

Achieved since last meeting:
-

Problems / current activities:
- Joe is checking how much work is required to connect DAL to CASA core for using the HDF5 data format
- Lars is busy getting the USG webserver up after a machine went down.
- Joe has built the TBB reader successfully on offline cluster. He is busy with a version to enable reading in from the socket.
- Next actions are: to update the document about the beamformer product format and do profiling on the data access layer.

Next actions:
- Review activities for Step 4.

Software integration

Achieved since last meeting:

- Version control numbering is implemented in the RUP tool and is ready for testing again.

Problems / current activities:

- The software plan is rewritten currently
- Compile a list of anticipated data products and calibration or metadata files associated with each of the pipelines.
- LOFAR development software needs to be build in Kubuntu (Michael has volunteered)

Next actions:

- Define the length of Step 4.
- Step 2+: A test program will be initiated to verify the functioning of the LOFAR software in a more structured way. In OLAP it is possible to store the raw station data and feed this into the pipeline later on. This makes it possible to define a standard data set, which can be applied to the pipeline as soon as major software changes have been taken place.

Decisions

ID	Date submitted	Decision
02	20061220	Every Step will start with a Kick-off meeting, in which the complete software team participates.
~~03~~	~~20061220~~	~~The project team starts immediately with the preparations of the next CDR in order to preserve progress of the CS1 realization~~
04	20070116	This meeting will take place every week on Tuesday 11:00. The existing software team meeting with all developers will stop to exist.
05	20070130	Step 1 will be changed to 16 subbands instead of 32 subbands.
06	20070130	Step 2 will contain a multiple node BBS. 6 µStations/Station will be postponed. Instead of this, 32 subbands measurements will be realized.
07	20070206	Step 1 will support 160 MHz observations. The other steps will support 200 MHz as well.
08	20070424	Step 2 will support 16 subbands @ 200MHz and 24 MHz at 160 MHz
09	20070424	During the rest of step two, OLAP will only support observations during the weekend.
10	20070522	The number of subbands per Measurement Set is set to 6 or 8 default.
11	20070522	Scheduler activities will be preferably activated in Q4 2007.
12	20070522	Procure, three Local Control Units to accommodate 12 microstations in CS010 in a quick way.
13	20070529	Integrate version numbers in all software.
14	20070529	Distinguish the software between a production version and an engineering version (partly now already the case).
15	20070605	All developed software under CVS will be transferred to Subversion. The main reason for this is that Subversion supports the integration of version numbers in the

		executables. In this way you can always retrieve which software is used for a certain build. First the impact of the transfer will be investigated by Marcel.
16	20070619	Marcel Loose will be the librarian of the LOFAR software. The available time for this will be shared with his BBS work.
17	20070710	The known pulsar survey mode will be the next mode to support (not in its full extent but partly on-line and off-line).
18	20070710	The temporarily off-line part of the known pulsar mode pipeline will not be under control of SAS/MAC. This will be put under control of SAS/MAC as soon as that software is available in the on-line part of the system.
19	20070814	Joe Masters makes the routine to read in the TBB data.
20	20071002	Fault tolerance of the system (mainly OLAP) is put at the top of the priority list after closing the SAS-MAC and CEP integration.
21	20071123	Kubuntu 7.10 desktop 64 bit OS is chosen for all machines except the BG/L and MAC/SAS machines
22	20071123	Station calibration work is smeared out over Step 4 and Step 5.
23	20071123	Global bandpass shape is moved to Step 5 because of its low priority.
24	20071211	Multiple beams per observation will be implemented instead of multiple observations (this is consistent with the plan).
25	20071211	Step 3 will be closed next Thursday. Any open items will be finished in Step 4.

Last: 25

Table round

-