Minutes of Meeting LOFAR Software

Date:	2007-12-11
Next meeting:	2007-12-18 9:15-10:15
	Minnaert room
Present:	
Andre Gunst	Yes
Ronald Nijboer	No
Ruud Overeem	Yes
John Romein	Yes
Michael Wise	No

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

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Announcements

- LOFAR17 is down and a new harddisk is ordered to make it up and running again
- Michael is currently at a survey workshop
- This afternoon a meeting will be held to discuss about how to include version numbers in the executables

Action item overview

ID	Date submitted	Description	Owner	Planned date	Status
40	20070710	Revise software plan	Michael	20080101	Ongoing

Last: 45

Progress

Stations (André):

Achieved since last meeting:
- In total five HBA tiles are installed in the field now.
- Connection scheme of the HBA tiles are changed such that you can maximal correlate 4 tiles with each other in CEP
- The problems with the clock switching in the TBBs is worked around by implementing a watch dog timer.
- Procurement of station hardware finished.

Problems / current activities:

- There are still problems with the long distance delay tracking

Next actions:

- Step 4

OLAP (John):

Achieved since last meeting:

- CASA core is compiled on the PowerPC on the IO nodes (this is not tested yet)
- The RFI generated in Dwingeloo is for the main part generated by an electrical fence.

Problems / current activities:

- Long term stability is still an issue (during the writing of the minutes a major race condition in the software was found which can cause the instability ➜ more next week)
- Chris worked on the CEP procurement document
- John is busy to prepare for Step 4, where multi beaming is required. In this software another way of receiving data is used, which is more robust, enables multiple observations and is more efficient.

Next actions:

- Step 4

Offline pipeline (Ronald):

Achieved since last meeting:

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Problems / current activities:

- 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.
- Ger may be available to devote some time to the GSM implementation. Need to figure out how this syncs up with the efforts of the Leiden people (and others?). Do we have a GSM design?
- Ger van Diepen advocates the use of ParmFacade (python tool?) for visualization of the Calibration Tables. Need some pointers to documentation or usage instructions.
- We need to schedule a meeting on visualization tools/issues soon.

Next actions:
- Finish up step 3 activities.

SAS + MAC + SHM (Ruud):

Achieved since last meeting:
- All actions of Step 3 are finished. Except the clock switching is not working properly. A work around is to switch the clock manually till the problem is fixed.
- A document is written for the framework wherein higher level algorithms can be implemented.
- SHM reads currently a lot of RSP information and can also classify this. Max is currently busy to combine this with the Lydia model, which connects several parameters with each other.

Problems / current activities:
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Next actions:
- Step 4

User Software (Michael):

Achieved since last meeting:
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Problems / current activities:
- 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:
- Step 3 will be closed next Thursday.
- Definition Step 4:

Implementing multiple observations at the same time is too much work for Step 4. However, an in between step can be to implement multiple beams per observation. For the SAS/MAC work the control of the offline processing will be defined by Arno Schoenmakers in part of Step 4. Furthermore it would be good to include long term delay

tracking too in Step 4, because that is also an important activity nowadays. The rest of Step 4 will be defined next week when Ronald and Michael are back.

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Problems / current activities:
- 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. It was pointed out that one month was a very short development window for any significant functionality upgrade.
- 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.

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Table round

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