

## Minutes of Meeting LOFAR Software

<b>Date:</b>	2007-11-28
<b>Next meeting:</b>	2007-12-05 9:15-10:15
	Minnaert room
<b>Present:</b>	
Andre Gunst	No
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**

- Peter is only under contract only half-time through Nov/Dec.

### **Announcements**

- A management meeting will take place next week to try and draft a response to the NOVA board. NOVA has asked the DCLA and the LOFAR project to provide a more detailed development and management plan before approving the next round of funding. NOVA funds many of the KSP commissioning and development people.
- There was a kick-off meeting for the archive design group in Groningen the previous week. Andre, Chris, and Michael attended and presented overviews of the LOFAR hardware and software plans and status. This group is charged with delivering an architectural design for the LOFAR archive based on the requirements the Project provides.

### **Action item overview**

ID	Date submitted	Description	Owner	Planned date	Status
40	20070710	Define stappen plan for the pulsar mode.	Michael	20070917	On a hold
45	20071030	Definition TBB control framework (so that the users can hook up their dedicated software in it). Currently defined in code and will be written down.	Ruud	20071113	Closed

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## ***Progress***

### **Stations (André):**

Achieved since last meeting:

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Problems / current activities:

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Next actions:

- Step 3?

### **OLAP (John):**

Achieved since last meeting:

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Problems / current activities:

- The 2-core version of the ZOID software is still not working. The version of the code without the input sections shows odd fringes. Discussion with Michiel Brentjens would seem to rule cable length errors as the probable cause since the required errors would be too large.
- Chris and John are both very busy trying to debug the code and track the source of some stability issues. This new version of the code can sometimes cause the I/O nodes to crash and the source of this instability is still unclear. Chris is doing some testing to try and isolate possible hardware causes.
- May delay Step 4 activities.
- [At the very end of the meeting, John announced he had found at least one problem.]
- John is busy to prepare for Step 4, where multi beaming is required.
- Martin is busy to put the code without input cluster under the control of MAC/SAS.

Next actions:

- Tracking down ZOID bugs and preparing for Step 4 activities.

### **Offline pipeline (Ronald):**

Achieved since last meeting:

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Problems / current activities:

- Binning flagger is implemented and ready to be validated.

- 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.
- Marcel is busy doing some upgrades to the parset handling.
- Joris is still doing some BBS profiling as well as supporting getting BBS running on the cluster at the Univ. of Groningen in order to get more of the commissioning postdocs to try it out. This work may delay the implementation of the global solver if we define Step 4 to be only one month long.
- Pandey is working on validation and testing of the pre-processing pipeline. Ronald notes that Pandey will be on holiday for all of January.
- Maijke has will begin work on an implementation of an ionosphere model first in MeqTrees and later in BBS.
- 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:

- Modified the TBB control to dump VHECR mode trigger info.
- Connection to the **static** part of the TBB board output is done. Results can be seen by the operators on their screens.

Problems / current activities:

- Arthur is working on the SAS screen to the display the dynamic part of the TBB board output.
- Peter is working on the TBB controller, but this work may be delayed while he does some maintenance.
- Andreas Horneffer is in Chile till mid-Dec.
- The issue of coordinating requests for support from observatory operations personnel was raised. In some cases, requests for changes or fixes have not gone through the group managers resulting in slips in the schedule.

Next actions:

- Step 3 and planning for Step4.

## User Software (Michael):

Achieved since last meeting:

- Updated version of the PyBDSM source detection package has been checked into the USG code repository.

Problems / current activities:

- Joe made a few additional modifications to the TBB data writer based on requests from Lars. These changes are now done and testing on the storage node machines will proceed.
- Lars is continuing to work on the interfaces to the CR pipeline software. These changes are largely done and he will soon move to working on the cleaning up some of the Skymapper code.

Next actions:

- Review activities for Step 4.

## Software integration

Achieved since last meeting:

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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.

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.
<del>03</del>	<del>20061220</del>	<del>The project team starts immediately with the preparations of the next CDR in order to preserve progress of the CS1 realization</del>
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 $\mu$ Stations/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.

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## **Table round**

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