

Minutes of Meeting LOFAR Software

Date:	2010-01-20
Next meeting:	2010-01-27 9:30-10:30
	Multimedia room
Present:	
Andre Gunst	Yes
Ronald Nijboer	No
Ruud Overeem	No
John Romein	Yes
Michael Wise	Yes
Harm Munk	No
Hanno Holties	Yes

cc: Arnold Meijster, Rob van Nieuwpoort, Arthur Coolen, Jurjen Sluman, Pieter Donker, Chris Broekema, Joris v. Zwieten, Marcel Loose, Adriaan Renting, Ger van Diepen, Michiel v. Haarlem, Jan Reitsma, Ger de Bruyn, Arno Schoenmaker, Hanno Holties, Corina Vogt, Jan Noordam, Joe Masters, Lars Bähren, Johan Hamaker, Sven Duscha, Jan-David Mol, Teun Grit, Alwin de Jong, Frank Breitling, Anastasia Alexov, Jason Hessels, Joeri van Leeuwen, John McKean, George Heald.

Remarks previous minutes

- Marcel (via mail): ACM should be AMC.

Announcements

- Hanno Holties is participating in these meetings to represent the user data and archive.
- Opening of LOFAR is at 12 June on a Saturday. We need a live demo for that. This will be discussed in the next meeting.
- Target project started internally now. There are 16 manyears available for that. The project will finish in 2014. Currently Marcel, Ruud, Adriaan, Nico, Hanno and Nicolas Pradel will work on this.
- Dataschool will be held in the fall.

Action item overview

ID	Date submitted	Description	Owner	Planned date	Status
91	20091118	Setup cosmic ray pipeline meeting. There is a meeting at 10 January 2010 internally for the cosmic ray people. Lars will setup a first meeting. Wednesday 3 February is booked.	Michael	20091215	Closed
95	20091216	Organize metadata meeting (static and dynamic) from a users perspective. This has been held.	Michael	20100115	Closed
96	20100113	Organize meeting about the benchmark results of the imaging pipeline. Done this afternoon.	André	20100120	Open

97	20100113	Should more people of the observatory be participating the standard imaging pipeline meetings?	Harm	20100120	Open
98	20100113	Organize a meeting to decide on the repositories structure and issue/bug trackers for LOFAR.	André	20100127	Open
99	20100113	Report on release management.	Harm	20100127	Open
100	20100120	Discuss actions to be done for the LOFAR opening.	All	20100127	Open
101	20100120	Assign subcluster one for running the standard imaging pipeline.	André	20100127	Open

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Progress

Imaging Pipeline (Ronald):

Achieved since last meeting:

- Yesterday there was an offline pipeline meeting.
- Joris found an issue in DPPP. Three of four polarizations are zero. This gets attention now.
- Lot of discussion about the preparation for the busy week are held. The main goals are: testing BBS and the beam model implementation. Furthermore tests regarding direction dependent effects in the imager will be finalized. There will be made test sheets in advance of the meeting to focus people on concrete cases as much as possible.
- The busy week people consists of 5 new people, 5 who will be busy with the bandpass, 5 for the beam model, 5 for the ionospherical model and 5 for flagging.
- Pipeline is going and is starting to take up a lot of computer resources. Hence additional resources are requested. Since John is the closest to production work, Andre will ask if subcluster 1 can be used by John also.
- A practical exercise of MSSS will run at the end of March. Only for one week. This focuses the efforts to the real crucial things.
- OLAP work: getting the multiple observations in production shape. For MSSS 5 minute observations are necessary. One observation can have set of beams and each beam will be a dataset.
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Problems / current activities:

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Next actions:

- Focus on the minimal required tasks for MSSS.

Pulsar Pipeline (Michael):

Achieved since last meeting:

- Next week there will be a meeting.
- Few changes were made to the beamformed ICD.
- Lars is working on the DAL dataclasses.
- Alwin is now working again on the datawriter. The stand alone data writer compiles and runs. It needs the parset reader which needs a bit of help from Lars.
- Jan-David is busy with the second transpose operation.

Problems / current activities:

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Next actions:

- Implement second transpose operation.
- Update BF datawriter.

VHECR Pipeline (Michael):

Achieved since last meeting:

- Lars is leading the VHECR pipeline work from now on. A meeting is planned on 3 February 2010.
- The implementation of the inverse polyphase filter bank for the UHEP mode solution will put too much load on the BG/P or human resources to optimize it. Hence we have suggested a few alternatives for the UHEP people. These alternatives have been simulated by Kalpana and will be discussed next Friday.

Problems / current activities:

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Next actions:

- Identify all tasks necessary for getting a basic VHECR pipeline running.

System Integration

Achieved since last meeting:

- OLAP is not using CMake yet, but they will do this week.
- Chris is working on a new dataformat. This is necessary for bypassing the polyphase filter. This needs an update of CASA core library as well.

Problems / current activities:

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Next actions:

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Infrastructure (Harm)

Achieved since last meeting:

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Problems / current activities:

- Yet another meeting about the repositories and issue trackers will be organized to decide on the final way of working concerning these matters.

Next actions:

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User Data and Archive (Hanno)

Achieved since last meeting:

- Follow up meeting on meta data streams was held. In one-two months (third week of Febr. and third week of March) an integration with SAS and MOM will be accomplished. The goals are to streamline the operational process and data streams. This will result in a proof of principle to go from the proposal to the archive. Tomorrow another SAS – MOM test was done.
- LOFAR is one of the applications in Big Grid. One of the questions still to be answered is: What kind of system do we need for the Big Grid archive. Sara offered to support Grid based machines in order to get an answer on that question.
- A ping to the Juelich archive was established.

Problems / current activities:

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Next actions:

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Decisions

ID	Date	Decision
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	submitted	
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 μ 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.
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.
26	20080130	Multiple beams are defined as multiple directions with the same set of antennas. Hence, only the angle, subbands and beamlets can be modified per beam.
27	20080206	Step 4 and Step 5 for MAC/SAS will be changed. The control of the offline pipeline will be postponed because the offline subsystems are not fixed yet. Currently the definition and design of the metadata flows will be set as goal for Step 4 and the implementation of the metadata flow will be the end goal of Step 5. Hence, after Step 5 (part of) the metadata is included in the Measurement Set.
28	20080213	Currently a single subband and single beam is stored in a Measurement Set. As soon as we are ready for mosaicing this probably should be changed in the future.
29	20080220	For storing the raw station beams the sanitizing operations like input buffer will be included in the online part. For this OLAP has to give operational support or instructions to the observers how to start up manually such observations. Since, this is

		an between solution this will not be automated via SAS/MAC.
30	20080227	Weekly build environment will be updated and automated.
31	20080227	After Step 5 the software documentation will be updated and obsolete packages will be removed.
32	20080423	Basically two Low Band modes will be supported initially: a LBL and LBH mode. The connection between antennas and RCUs have to be chosen such that those to modes make sense.
33	20080528	The position of all individual dipoles will be made available centrally in the database.
34	20080603	The data format of the positions will be delivered in ETRS coordinates by the roll out team. However, the data format of the positions will be stored in ITRF format in the LOFAR databases. Hence, all software and configuration files dealing with coordinates must be made compatible with the ITRF dataformat. Hans van de Marel is responsible to convert the ETRS coordinates to ITRF coordinates for the LOFAR system.
35	20080903	Kubuntu will be installed on LOFAR18, which will serve as a software development machine.
36	20081022	Station cabinet will be heated (if necessary) to 10 degrees Celsius (for the LCU).
37	20081029	We will transfer the build environment to cmake.
38	20081029	Step 1 will be closed at 11 November.
39	20081112	Bugs found in the field have the highest priority to solve. Bugs which take more than a week to solve will be added to the task list and prioritized in the software meeting. During bug solving tests should be written up, which proves the correct behavior. These tests will result in a procedure to check the functionality when new soft/firm ware is loaded.
40	20081126	The 4 bit mode will be supported after MS^3.
41	20081203	We will modify the build environment to cmake from now on.
42	20090129	Transient source modeling tool under Python will be used for source modeling.
43	20090129	Delay deadline of Step 2 to 26 February 2009.
44	20090209	Remote Stations including the ring splitter near the core will be renamed to CS stations.
45	20090813	No connection from the Dwingeloo test environment to Groningen is necessary anymore.
46	20090825	Create a Bugzilla environment for the USG software.
47	20090825	Use one subcluster per group, contactpersons and guidelines defined (see section Software integration).
48	20090909	Use the filter range names of MAC/SAS for the ICDs and the archive model.
49	20101216	HBA beam pointing: we decided that one observation is prime and determines the HBA beam. The other observations will be ranked. An additional field for the HBA beam pointing can be set. If this field is not set, then an average of all digital beams will be made within the prime observation.

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Table round

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