Pipeline Testing

Implement Pulsar Pipeline design within iPython framework (** See Modes Document **)

Separate BF from IM data writing on subclusters and days create more tests in back-end (private after Phase 2)

Integrate parset reader into BF writer within LOFARsoft

Beam Formed Writer (1st version to OICD spec)

Test set algorithms as building LOFARsoft with the DAL

Integrate parent reader into BF writer in and then LOFARsoft

Integrate DAL classes into BF 2.15

BF hf data writer (attach by ICD) (BFP CS col data)

BF hf data writer (attach by ICD) (BF raw data)

BF hf data writer (attach by ICD) (BF raw data)

BF observation Coordinate maintenance and updates as needed

Add new BF switches to the Multi-template creation script for LOFAR to match some BF switches

Integrate tab modules into SAS/MAC

Multiple BF observations with MOM templates

Multiple Imaging observations with MOM templates

Multi-Beam IFP = fcc tasking obs w/MOM templates

4 BF switches related, allows MOM obs name separate column, BF pos input

BF Observation Coordinate

MOM additional features/visibility to SAS/MAC (DM field, Pulse Catalog drop down, etc)

Offline Pipeline framework connection to SAS/MAC (automated kickoff)

BF Observation Coordinate maintenance and updates as needed

BF ICD

Create base BF HS files with 4 types of data storage containers

Fine tune BF ICD

Profile BF observations (pipeline) for typical output on sites

Benchmark (Dal) +1-4 storage types to choose optimal BF container

Published documentation on the testing, usage, and optimization

Identify source of metadata values (calculations)

Pulsar Pipeline Integration

Design Pulsar Pipeline for basic observing

Implement Pulsar Pipeline design within iPython framework (** See Modes Document **)

BF ICD

Create Dal classes for BF metadata and structure (attach by ICD)

Create Dal methods to access drop from BF structure (attach by ICD)

Hook up Coordinate Group-related material into the DAL

Wrap BF Dal classes and methods with Python for PypDal

Cropping PypDal updates and bugsfix

Integrate pypDal into the LO for Pypdal/temposrc

BF Tools

Daily build of UG repository on offline cluster

Integrate FTW 3.1.2 into BF

Integrate PIPLOT into BF

Integrate TEMO into BF

Integrate PRESTO into BF

Integrate SORPC into BF

Integrate PSRCHIV into BF

Integrate SSPS into single particle source (BF) into BF

Integrate PSRDRAD into BF

Integrate SSPS into BF

Test software installation/components on new cluster

Test software installation/components on user machines

Integrate "convert" (bf2presto) into Pulsar Group

Update matthis/lofarlocker so that it adds BF to Pulsar

Assist Pulsar Group with integration of tools/scripts/automations into BF, USG

Maintain/update pulsar shell script package

BF Pipeline Integration

Design Pulsar Pipeline for basic observing

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(continued...)

SAS / MAC/MoM

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<thead>
<tr>
<th>Task</th>
<th>Responsible Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWG learning curve of Pipeline Framework</td>
<td>PWG, John Swinbank, Marcel</td>
</tr>
<tr>
<td>Write &quot;how-to&quot; run the Known Pulsar Pipeline into the Framework</td>
<td>Ken</td>
</tr>
<tr>
<td>Pipeline Framework issues/problems/okay action items</td>
<td>Ken, John S., A2, Adriaan</td>
</tr>
<tr>
<td>Release Pulsar Pipeline</td>
<td>M. Wise</td>
</tr>
<tr>
<td>Design Pulsar Pipeline(s) for other observing modes (including survey)</td>
<td>J. Hessels, B. Steppens, J. van Leeuwen, A2, M. Wise</td>
</tr>
<tr>
<td>Integrate prototype Pulsar Search Pipeline into USG (summer student)</td>
<td>A2, Vlad</td>
</tr>
<tr>
<td>Integrate new Pulsar Search Pipeline into USG (s/Q)</td>
<td>Thijs, Lars, A2</td>
</tr>
<tr>
<td>Pulsar Search Pipeline: finalize details/code + add SSPS functionality &amp; perform extensive testing</td>
<td>Thijs, Ben, Jason, Vlad, Joeri</td>
</tr>
<tr>
<td>Pulsar Search Pipeline: profiling and speed up relevant modes for observation modes</td>
<td>Thijs + Pulsar Group</td>
</tr>
<tr>
<td>Documentation/diagrams/schedules of Pulsar Pipeline + tools for LOFAR science users</td>
<td>A2, Jason</td>
</tr>
<tr>
<td>Observing Plan / Regular weekly testing of BF observations</td>
<td>Adriaan, Michael B.</td>
</tr>
<tr>
<td>Pulsar Pipeline (sh &amp; py profiling of speed is less than real time, most relevant for multi-beam modes)</td>
<td>A2 + unassigned</td>
</tr>
</tbody>
</table>

**BF2H5 offline version**

<table>
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<tr>
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<tbody>
<tr>
<td>Extraction process of parameterDB out of LOFARSOFT &amp; distribute offline</td>
<td>Mike to assign this issue to different group</td>
</tr>
<tr>
<td>UDP reader/interpreter library (UK)</td>
<td>Alessio, Aris, Chris, Fred, Ben</td>
</tr>
<tr>
<td>Integrate PELICAN &amp; PELICAN-LOFAR into USG</td>
<td>Lars</td>
</tr>
<tr>
<td>Link Pelican-LOFAR with PELICAN and DAL</td>
<td>Jan David, Lars, Oxford Group</td>
</tr>
<tr>
<td>HDF5 data writer module for Pelican</td>
<td>Jan David</td>
</tr>
<tr>
<td>HDF5 data writer module for Pulsar</td>
<td>Jan David</td>
</tr>
<tr>
<td>Create standalone BF2H5 tool</td>
<td>Masaya, James Anderson</td>
</tr>
</tbody>
</table>

**Archive**

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<tr>
<td>SARA Pulsar Archive (organize, create scripts, maintain web pages)</td>
<td>Joel, Vlad</td>
</tr>
<tr>
<td>Investigate SARA + Grid processing (SA) potential</td>
<td>Joel, Jason, A2</td>
</tr>
<tr>
<td>Sync Archive schema with BF ICD</td>
<td>A. Renting, A2, L. Baehren, M. Wise, R. Overeem</td>
</tr>
<tr>
<td>Archive Pulsar raw data</td>
<td>A. Renting</td>
</tr>
<tr>
<td>Archive Pulsar Pipeline Processed data</td>
<td>A. Renting, A2</td>
</tr>
<tr>
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<td>A. Renting, A2, J. Hessels, M. Wise</td>
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</table>
John, Jan David and Rob have completed the discussions; 4-phased for transpose prep, then transpose.
Rob will no longer be involved; Jan David will implement the entirety of the 2nd transpose.

Need to ask Jan David for a status on this issue; rumor has it that this is working.

John is working with Ruud on the messaging/communication aspect.

Working again; can read parse file and feed keys to header; works w/o UDP.
Lars has spoken to Marcel and emailed relevant info; Lars to touch base with Marcel to implement it.

4 types are: 1D arrays, ND arrays, 1D tables, ND tables (note ND arrays are memory limited).
John Romain's comments and James Anderson's comments integrated; moved Coord Group; may c should be a chart in the ICD to view typical data sizes for types of observations; waiting on Jaxom.
DAL is missing Array/Table real() methods from sub-groups; Lars to add functionality before benchmark.

Put this as an agenda item for discussion during the next BF status meeting.

Implemented three highest tiers of HS structure (not yet lowest tier where the data structures are).

Need to formalize the to-do and bug list.

Mike to start up the process of asking Arno to include this in a daily build.

Note, depends on system install of PGPILOT. Workaround for problems with reading files with line length > 70 chars; fix requested to developer.
acis brew fed fault (non LOFAR data). cmake external dependencies can be made smarter (Lars).

Does not build on the Mac (needs specific version of X11).
Does not build on the Mac (needs specific version of K11).

Fixing problems as they unfold.
Ramesh would like a copy of the software suite within cmake. TEMPO doesn't build on Mac OS 10.8.
Tom needs to check in his version into the ISG repository.
A2 updated to use 8-cores per mode; speed increase 5-6 times.

Create use-cases and map these to tools/parameter settings; start at PBW #6.
Do we need to integrate the Transient SW repository with the USG SW repository?
Current SH scripts pipeline described and sent to Ken. John & Ken to meet about Python Framew.
not needed for completion of first pipeline release

on target to meet one month deadline from start-up of project

meetings took place to mesh the LOFAR ICD with the archive schema