LOFAR Pulsar Pipeline Plan: Apr 19, 2011

Tasks:	January	February	March	April	May	June	July	August	Septemb
BG/P									
Calibrate Phase-Frequency correction due to cable lengths	JD, JR, J, MB, JL								
Implement proper Stokes I,Q,U,V on the BG/P (depends on beam model)						J, B, SW, JD			
Implement on-the-fly squashing of channels per subbands for BF (IM+BF obs) [waiting on MoM integration]		JD			JD				
TiedArray Multi beam observational testing [RA,DEC value per beam in parset (instead of rings)]		JD		JD, J					
Bypass 2nd Polyphase Filter in TAB pipeline						Chris B.			
Implement BG/P 2nd data transpose for IncoherentStokes data (post H5 CS)				JD					
Implement BG/P 2nd data transpose for Raw Voltage (BF) data (post H5 CS, IS)	JD								
Online Coherent De-dispersion on CEP (waiting on MoM)	JR, JD, J, B				JR, JD, J, B				
Online Coherent De-dispersion Search Mode on CEP (multi beams all de-dispersed)						JR, JD, J, B			
Separate BF from IM data writing on subclusters and disks (maybe non-issue after Phase II)								Alwin, JD	
Integrate real-time phase correction into TAB module (from Imaging results) [lower priority if core single clock]									
Investigate extending the single clock on the entire core (hardware)		J, B, Andre, RO							
SAS / MAC/MoM									
Add new switches to the MoM-template creation script for IM to match some BF switches		A2							
MoM additional features/connectivity to SAS/MAC (DM field, Pulsar Catalog drop down, etc)			Nico, JD, J, A2						
Maintenance of xml-related (Mom import/export) scripts	A2, (Nico) ==> ongoing work								
Offline Pipeline Framework connection to SAS/MAC (automated kickoff)	Marcel		?	?					
BF-Observing Cookbook maintenance and updates as needed	Ashish, A2, Vlad ==> ongoing work								
BF2H5 online version									
Integrate DAL package + Pelican + Lofarsoft	JD								
BF H5 data writer (abide by ICD) (BG/P CS out data)	JD implement, A2 - confirm restuls								
BF H5 data writer (abide by ICD) (BG/P IS out data)						JD implement, A2 - confirm restuls			
BF H5 data writer (abide by ICD) (raw data)						JD implement, Aris - confirm restuls			
Load testing of H5 read/write of BF data							JD		
BF ICD									
Profile BF Observations (& Pipeline) for typical stats on sizes				Jason	A2				
Benchmark (DAL C++) 4 storage types to choose optimum BF container					A2				
Perform benchmarking on H5 chunking (storage efficiency and optimization)					Unassigned				
Finalize BF ICD	A2 ==> ongoing work								
Identify source of metadata values (& calculations)					J, JD, A2				
DAL									
Create DAL classes for BF metadata and structure (abide by ICD)	Lars								
Create DAL methods to access data from BF structure (abide by ICD)	Lars								
Hook in Coordinate Group-related material into the DAL.			Lars						
Wrap BF DAL classes and methods with Python for PyDAL		Sven + (A2, Lars)							
Ongoing PyDAL updates and bugfixes		Sven + A2 ==> ongoing work							
Integrate HDF5 into file I/O for Presto/TEMPO/etc									
Pulsar Tools									
Design/implement Pulsar Pipeline(s) for other observing modes (RAW Voltage, OCD)		A2, J, Aris N, Joris							
Maintain/fix Daily build of USG (Pulsar) repository on offline cluster	A2 ==> ongoing work								
Test software installation/components on Phase II cluster			A2, RO						
Adapting pipeline to work on CEP II (increase number of cores, data locations, etc)					A2, Thijs				
Update USG Pulsar cmake dependancies for external packages so that "all build" is shorter						A2, Lars			
Assist Pulsar Group with integration of tools/scripts into cmake & USG	A2 ==> ongoing work								
Maintain/upgrade Pulsar shell script pipeline	A2 ==> ongoing work								
Convert Pulsar Pipeline to run with H5 input, using intermediate Presto binary files					A2	A2	A2	A2	
Create Pulsar Test datasets and cmake automated test-suites for code sanity check (non-LOFAR)									
Branch Pulsar OTF code changes to original tool repositories (sourceforge, etc)									
Pulsar Pipeline Integration									
Observing Plan / Regular weekly Testing of BF observations		Ashish, Michiel B.	+ ongoing work						
Pulsar Pipeline Integration of all modes into the Framework **(See attachment with all modes)**	A2 + unassigned								
Pulsar Pipeline (sh & py) profiling (if speed is less than real-time; most relevant for multi-beam modes)					A2 + unassigned				
PWG learning curve of Pipeline Framework		A2, T, J, V							
Pipeline Framework issues/problems/hickups action items		A2, K, Marcel, Swinbank							
Pulsar Search Pipeline: finalize details/code + add SSPS functionality & perform extensive testing	Thijs, Ben, Vlad								
Pulsar Search Pipeline: profiling and speed up; most revelant for multi-beam modes						Thijs + PWG			
Documentation/diagrams/switches of Pulsar Pipeline + tools for LOFAR science users				A2, Vlad					

	Task											
	Documentation "how-to" run the Known Pulsar Pipeline w/in the Framework	Ken					A2	A2				
	Decide how to distribute the Pulsar Pipeline								RO + LCCG			
	Release Pulsar Pipeline								RO + A2			
BF2H5 offline version												
	TCP-packet convert module for Pelican									Unassigned		
	HDF5 data writer module for Pelican										Unassign
	Create standalone BF2H5 tool											
Archive												
	SARA Pulsar Archive (organize, create scripts, maintain web pages, data clean up)	Joeri, Vlad, Jason, A2	+ ongoing work									
	Investigate SARA + Grid processing (LTA) potential		Joeri, Jason, A2									
	Sync Archive schema with BF ICD			Hanno, Adriaan, J, A2								
	LTA Archive Pulsar raw data									Hanno, Adriaan, J, A2		
	LTA Archive Pulsar Pipeline Processed data									Hanno, Adriaan, J, A2		
Misc.												
	Remove PGPLOT from PRESTO											
	Work with the VO on format/protocol issues for LOFAR HDF5 data	M. Wise, A2										
KEY	J = Jason; JD = Jan David; JR = John Romein; JL = Joeri; A2 = Anastasia; B = Ben; K = Ken; L = Lars; ASH = Ashish; PWG = Pulsar Working Group; SW = Stephan W.; MB = Michiel B.; RO = Radio Observatory											
		color =	assigned task; work in process; work done									
		color =	assigned task; long term ongoing									
		color =	assigned task; work to be done (upcoming work)									
		color =	unassigned task									

	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December

unassigned

A2 + unassigned

A2, J

A2

ed

Unassigned

Unassigned