LOFAR Pulsar Pipeline Plan: Apr 6, 2011

2011

	Tasks:	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April
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)		JD			JD											
	TiedArray Multi beam observational testing [RA,DEC print out via MoM to parset]		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	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]										unassigned						
	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 restults															
	BF H5 data writer (abide by ICD) (BG/P IS out data)						JD implement, A2 - confirm restults										
	BF H5 data writer (abide by ICD) (raw data)							JD implement, Aris - confirm restults									
	Load testing of H5 read/write of BF data							JD									
BF ICD																	
	Profile BF Observations (& Pipeline) for typical stats on sizes				Jason												
	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										A2 + unassigned						
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								
	Create Pulsar Test datasets and cmake automated test-suites for code sanity check (non-LOFAR)													A2, J			
	Branch Pulsar OTF code changes to original tool repositories (sourceforge, etc)											A2					
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												
	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									Unassigned							
	Create standalone BF2H5 tool										Unassigned						
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														