ZWURM, 14-04-2020 14:00 (WURM through Zoom because of #COVID19 house quarantaine/wk6)

Present Aard, Paul, Mark, Des, eBob, Harro
e-mail update: Ilse

Aard: Last week e-VLBI ran mostly smooth. Between 1:00 and 2:00 AM Bert called Aard: correlator seems running but no output written to disk for last 10 mins. Did not occur more often, investigation difficult: analysing logfiles need script to extract useful info. KVAZAR station Sv dropped to 4 Mbps [which was fixed by Wed morning by Russian network (e-VLBI Mattermost channel)]. Operators also report a watchdog timeout on a 50-phase centre multiple phase centers experiment. Broke twice at exact same time in scan but retrying enough times will succeed. The CASA kernel did not work on Jupyterlab because Jupyterlab decided to not accept generated javascript. Will rewrite to IPython widgets to resolve. The ESCAPE gitlab Continuous Integration framework was used and it works. Each commit triggers rebuild of docker image. Need to decide which image to upload to where: Zenodo only for tagged versions (each upload creates a DOI, which is excessive), maybe dockerhub or gitlab for 'daily' distribution.

Paul: The PhD progress presentation went well - allowed to continue, contract with UL extended until 4 yr. Working on getting mark6-2 into production. db0 has no free space again; deleted old backups last week but due to e-VLBI and other commitments could not move to larger file system, will try this week when no production happening. LTO8 quotes are in, scheme of having both LTO drives in one enclosure seems quite possible, should make rewriting old tapes a lot easier. Working on VLA data with CASA, run into flagging issue - if something flagged, flags all data.

Mark: Whilst making the gain curve/tsys scritps Py2/Py3 compatible ran into module naming conflict ("gc" already exists); will create single module with all functionality in to prevent this in future. Got asked by BobC about add phase-cal tone script. Script produces an ad-hoc data product that ideally should be attached to FITS-IDI file. Going through MS is difficult: code uses scipy and redoing that in j2ms2 would be difficult and counterproductive, tConvert would have to be changed too. Standalone tool should be standardized to be able to attach to FITS-IDI or MS. No time line for this yet.

Des: Moved on with implementing CASA tests into Python as GeorgeM et.al. seem to indicate the C++ is 'complicated'. The publication database already gives useful results (delay between observations and first published result) and requires migrating to MySQL to further develop; sqlite on local machine has too many limitations, e.g. in dealing with foreign keys. Paul has granted remote DBA powers to Des.

eBob: During copying Mark6 data to FlexBuff, Martin noticed disk packs in funny state (after mounting as himself), StartJ5 wrapper

script did not have station name in, which it requires. [side discussion: should probably move to StartJ5 parameter file such that StartJ5 can be upgraded w/o losing local mods]. Martin was copying to aribox, which has jive5ab 2.8.1 installed, which has a bug in scan_check with VDIF threads. During e-VLBI panic call at 2:30 AM at start of recorded e-VLBI; seems there might be a race condition between starting the correlator and the recording - both don't want to loose too much data so can't delay for a long time. Will look in runjob to see what can be done. Located the piece of code in NorthStar where the GDPR button should reside. Build system (Apache ANT) and svn version control tighly linked - "ant" does SVN checkout - will try move to git and see if build system can still work. Otherwise remain in SVN.

Ilse [by e-mail]: Experimented with Jupyter notebook, new version of scripts by Mark available but could not run them because of illness/ sickleave. CASA workshop first announcement was written, should be sent this week. Had preparation meeting on Thu for this week's NOVA Instrument Steering Committee, which will take a substantial chunk out of this week. This Thu also hosts her first EHT Diversity Task Force. Hope to have time to get notebook + plotms to work on eee-dev.

Harro: CMake has an option to create packages ("CPack") out of a CMake project. Used this to generate jive5ab 3 package for Paul to install on the Mark6's. Finalized Py2/Py3 compatibility in jplotter, started development of baseline expression parser.

After ZWURM, side meeting with Mark/Aard about SFXC debugging in general. Because it's a massive distributed system debugging is quite difficult. Mark will start to look at professional debugging/ profiling tools; at the GPU workshop he worked with an NVidia debugger that also profiled the CPU; being able to see in one overview which process is doing what when and where is /amazingly/ illustrative.