

ZWURM, 15-02-2021 14:00 (ZWURM through Zoom because of #COVID19 house quarantine/wk49)

Present eBob, Aard, Ilse, Mark, Des, Harro

Paul has a conflict with a colloquium at Leiden re. radio stars and has sent an update of his activities – included below.

Aard: Started investigating use of pyvo to connect Jupyterhub with the EVN archive; compared to current archive interface V0 cannot search on PI name (makes sense for V0) [Mark: we are free to define our own table next to ObsCore, containing other metadata]; Q: Are we going to run cone search service? A[Mark]: cone search can only return images (which we do not have) and ADQL – through our TAP service – can search in complex regions, including circle, i.e. cone search. Found an uninitialized variable in sfxc, fix did not resolve mysterious crashes; compiling with -Wall reveals (too) many warnings (initialization order different from declaration order, signed vs unsigned comparison): ideally should sit down and fix them since uninitialized variable \*IS\* caught by -Wall!

Ilse: Attended V0 school, quite intensive (four mornings but also afternoons); managed to break everything – got lot of 1:1 time with tutor (very instructive), but lost lot of high-level info from lecture as a result; many V0 tools very old (>10 years old) and not well adapted to current hard/software (too small fonts, cannot change, very tiny markers (3 pixels), cannot change colours for colour-blind people); hope to work on science case: 40 LOFAR DR1 sources finding multi-wavelength and/or EVN data, HendrikH (tutor, CDS) very interested. This week have +Inf meetings scheduled.

eBob: Found a workaround to fix (missing) NorthStar mutual dependency between observing band+max data rate; deployed on test server, informed Dr Bob, waiting feedback; might be able to add To0 to NorthStar as new facility, needs a new XML file. Mail from JanW (Bonn) re m5copy manager: querying flexbuff can take minutes and provided some fixes in clone, will check which can be merged into master. Q: e-VLBI wasn't flawless, did we miss anything? A: DrBob forgot to hand-edit vex file for eMerlin outstations and unavailability of m-modes in clock search meant not enough performance, adding i,j,k and l nodes = sufficient performance; 5 Gbps scheduled out of UK (6 x out stations @ 512 + 1 x Jodress @ 2 Gbps) whilst everyone thought limit on UK-NL link is-at 3 Gbps – will enquire. Operators mention lot of lost data in recorded eMerlin stations for that experiment, need to be investigated at Jb (many stations on one, maybe two flexbuffs might hurt performance).

Mark: Archive crawler (FITS -> ObsCore metadata) finished! Few hiccups remain – such as WSRT data, all public data now in V0; please play with V0 tools and report feedback/probs to Mark; observation: EVN is promiscuous, almost every single dish on earth has participated in EVN observation at some point – name conflict on two-letter codes: important for dish-diameter and subsequent FoV computation; some meta data fixes might have to be done but no FITS

crawling needed for that so should be quicker; needed: list of conventions - e.g. which name ("EVN", "JIVE") to apply to which meta data field, will consult wider group @JIVE. Previously reported merged CASA pull request turned out to not be merged - jira/bitbucket state incorrect, hangs on merge conflict (explains missing documentation!), but cannot resolve since ticket labelled as merged; experimented with generic Jones matrix to apply polconvert solution: seems to work, can fix one station easily. SFXC bottleneck on output node: thinking about writing integrations in random order, might even work with sliced integrations. Wrote abstract for East-Asia VLBI workshop on CASA and this week will have another DiFX mini workshop, will talk about e-VLBI w/ SFXC.

Des: Fringefit for EHT - looks like in state to create package for MichaelJ; investigated combining polarizations for fringefit - looks like better not done at generic CASA level, better add as option in fringefit task [Mark: try to use the "combine" parameter if you can]; received request from NRAO to write memo about fringefit task [Mark/Harro: do honour that request, it is a good one]. Will start looking into statistics and/or indicators for use of EVN data, combining info from different databases lying around, including e.g. proposal database; need to add authentication to web pages, especially if some of the collected info might fall under GDPR regulations.

Paul (by email): Jupyterhub rack mounted, has power; requires network and O/S install. SFXC m-create issue: clearly packet loss related: all nodes now have same iperf version: sfxc-m still too much packet loss, graphs will be presented next time - many tests were performed; will switch some m- and n- nodes to check if problem follows nodes or stay with crate and possibly open a ticket with the vendor subsequently. Will install LibreNMS (network management system) on dop101 to assess whether it is appropriate for monitoring ASTRON/JIVE network and 100 Gbps link.