

To-Do and Wish List

Standing Items

- New python scripts should consider python3 conformance
- Documentathon with emphasis on inner workings (all)
- Update the utils page to show what package supplies each tool (all)
 - Reconsider the approach...
- Update the pdf documentation for currently undocumented tools, and update pdf to version 2.5 (Adam, WFB)

Before the end of the week

- ~~difx2fits: print why splitting files (WB)~~
- ~~genmachines: add validation for group and module completeness of Mark6 media (HR)~~

High Priority

- Share vex2xml with difx trunk (GC)
- DiFX pcals with multiple datastreams (fix in difx? / difx2mark4?) (HR, John)
- Mark6 group handing plan (WFB, JJ, MW, JW, HR)
- Mergebands in vex2difx / mpifxcorr (bringing in difx2difx functionality into the real-time part of the correlator) (JW)
- sanitycheckdifx: what files/issues need to be checked? Implement in vex2difx (CR)
 - polyco typos
 - binconfig typos
 - addPhaseCentre typo in RA, or Dec, or whatever
- datasim: parallelize, document (Zheng)
- difx2mark4: fix segfault issue (HR, GC)
- mark6meta library: fix issue of reporting "module complete" when using incomplete Mark6 modules (HR)
- CODIF branch merge (AD)
- Tag 2.5.3 release (GC)
- DiFX library dependencies clean-up & move of functionality (WB,JW,MW)
- Adding difxmessage support into fusemk6/vdifuse/jive5ab (JW)
- Implement group/filelist handling for fuse-mounted Mark6 data (JJ, MW)
 - Not complete for fuse-mounted data, but ready for native access
- Regression testing scripts (send new datasets to Matteo)
 - Plan: Matteo investigate Jenkins
 - A more sophisticated pipeline than just diffDiFX?
 - Target size: 10G
 - Look for VDIF, Mark5B, LBA, zoom ...
- vex2 support (relies on vex2 finalization and some support from field systems)
 - document almost complete
 - vex parser is almost complete
 - Support for \$BITSTREAMS largely complete in vex2difx
 - Plan: finalise, test

Medium Priority

- Ocean loading: index by position rather than antenna name/code (Walter? + David Gordon)
 - Want to circumvent 2-letter name overload, and ability to have two codes for one station
 - Generally improve this experience.
- Documentation of polconvert on the wiki (Cormac)
 - Awaiting test data from Parkes
- Single read of .input .calc .im .threads .binconfig .polyco (phased array) file by manager then distribute... (Adam)
- Clock units in vex2difx
 - progress: confirmed even newest FS vex library has no support for usec/sec units
 - progress: vex2difx currently behaves legitimately – no changes required
 - Status: currently, according to vex2 doc, a “time1/time2” unit must have time1 > time 2. Ed seems happy to relax this stipulation. This will be implemented in vex2 - check when this is out. (WFB)
- Update vex2xml for vex2 (GC)
- importfitsidi: what's missing ? (MK)
 - other CASA VLBI issues (MK)
- difx2fits: add option to split files at a given size (WB, CR)
 - 20180907: Option implemented to split after specified number of jobs
- Update documentation on data formats (both for .v2d and mark5access) (WB, AD)
- difxcalc: update documentation & examples (AD)
- provide a new reference model in examples (AD)
- startdifx: document & improve the single machine case, make it use difxcalc by default (AD)
- Documentation
 - Putting doxygen of mpifxcorr source on a webserver (link to this from the DiFX wiki if completed: Geoff)
- visplot (CP, JS)
- Investigate sampler stats monitoring (WB to dump out into .difx/ dir)
- subband distribution/parallelisation (with VDIF) (AD/CP)
 - replumbing/refactoring vex2difx setup (DiFX 3)
- Add option to use band centres instead of band edges (shifted FFT) (WB) (DiFX 3?)
- Cleanly separate data format and data source (DiFX 3)
- Option for zero-padded FFT

Low Priority

- Use extracted pulse cal to predict correlated tones and then remove from visibilities
- Investigate whether merging pcal plotting tools is possible (Jan)
- Testing architecture:
 - testing IPP setup
 - Jenkins → vlbi-mgr.ira.inaf.it:8080 - login using Google credentials. (Matteo, John)
- interlaced vdif issue - why does turning interlacing on not always fix the missing data? (GC, AD)
- Investigate: 10-node performance hit at WACO (WB)
- evlbi
 - reconnection/long term drop-outs (CP)
 - reliability with UDP data (CP)
 - real-time delay/rate adjustment (CP)
- Store polynomial tau(l, m) generalized delay model in FITS (WB, JM)
- Document Algorithms

- monitoring, etc - (list of error codes) (AD)
- Still produce one FITS file even when there was a clock change during the correlation (WB; check to see how AIPS handles merging of FITS files w/ different clocks)
- Move to a compressed text format for pcal files
- Modernize sniffer
- cleanup of DiFX error messages (appropriate verbosity level everywhere)
- DiFX2fits uv shifting in trunk (or general model replacement therapy) (JM/AD)
- Pulsar predictor support in "polyco"
- Get rid of printing to screen in mark5access (change to be called and printed from elsewhere)
- Get Eric to improve AIPS PCAL (multi tone)
 - Fully complete now. Needs testing.
- Add DiFX diagnostics

Fantasy wishlist

- Choose framework for unit testing. Implement test cases.
- Phased array
- Add per-IF phase polynomial in the calc file (and delay polynomial, too?)
- On-the-fly application of calibration (bandpasses etc) with appropriate accountability
- Space VLBI
 - Baseline dependent averaging
- Auditing / refactoring the amplitude scaling
 - Has relevance for CASA work
- Expand/improve difxmessage
- Two-stage FFT option for very large FFTs (e.g., when using 2 GHz wide bands; DiFX 3 at earliest)

Old lists

[Old list](#) from 11th DiFX meeting in Bologna, Oct 2017

[Old list](#) from 10th DiFX meeting in Shanghai, Nov 2016

didn't save the Old list from 9th DiFX meeting in Hobart, Nov 2015

[Old list](#) from 8th DiFX meeting in Bologna, Nov 2014

[Old list](#) from 7th DiFX meeting in Korea, Oct 2013

[Old list](#) from 6th DiFX meeting in ATNF, Oct 2012

[Old list](#) from 5th DiFX meeting in Haystack, Oct 2011

[Old list](#) from 4th DiFX meeting in Socorro, Oct 2010

[Old list](#) from 3rd DiFX meeting in Perth, Sep 2009

[Old list](#) from 2nd DiFX meeting in Bonn, Sep 2008

[Old list](#) (from 1st DiFX meeting in Bonn, 13&14 Sep 2007)

From:

<http://www.atnf.csiro.au/vlbi/dokuwiki/> - **ATNF VLBI Wiki**

Permanent link:

<http://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/difx/todo?rev=1536784232>

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