Bonn DiFX correlator report April 2017

DiFX Correlator status and operations

In Bonn all VLBI observations are processed using the **DiFX software correlator**.
The DiFX release being used presently is the latest release 2.4. For native Mark 6 recordings or special VDIF modes the development version is used, which will be the new release 2.5 in about 2 months.

Quick summary:
- 15 Mark 5s and 6 Mark 6s can be used for playback from disk modules. In addition data can be played back from presently 10 big RAID systems (~1035 TB). The individual RAID systems have been combined in a single BeeGFS cluster file system to ease administration and correlation.
- All Mark 5s can playback all flavours of Mark 5 data (A/B/C).
- Native playback from Mark 6 into the correlator is now possible. As an alternative the Mark 6 fuse file system can be used. JIVE5ab is installed for auxiliary tasks like copying of modules etc.; also works for Mark 6.
- All Mark 5 systems have been upgraded to SDK 9.4.
- RAID storage for correlated data is 57 TB.
- Data is archived on the MPIfR archive server in raw DIFX format, FITS, and MK IV (if desired). FITS (default) or MK IV formatted data is made available to the PIs.
- Transfer of GMVA data to the VLBA archive for public access is finished. Old MK4 correlated data was translated to FITS for this. Calibration data is being collected in a next step.
- Transfer of EVN-related data to the archive at JIVE has started.
- Data transfer is used for "EVN" GMVA stations.
- Two 1 Gbps lines are now available for download of VLBI data.
- Calibration transfer for GMVA data and a more streamlined initial data reduction pipeline is being worked on.
- The new HPC cluster easily allows at least 3 correlations in parallel without significant loss of speed.

Capabilities

The capabilities of the DiFX software correlator can be found at **http://www.mpifr-bonn.mpg.de/771785/DiFX-CORRELATOR** (will be updated soon)

Operations

No backlog exits for geodesy. The RadioAstron backlog is 6 experiments.

Correlation of the recent GMVA and EHT sessions with ALMA has started.

Disks

The two Mark 6s at Effelsberg now offer a total of 256 TB for local storage of data. Four Mark 5 modules of 8 TB were upgraded to 48 TB each.

April 2017, W. Alef