TOG web pages

EVN pages:
http://www.evlbi.org/

Radionet wiki:
http://www.radionet-eu.org/radionet3wiki/doku.php?id=na:eratec:tog

MPIfR Deki:
https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG

Agenda

http://www.radionet-eu.org/radionet3wiki/doku.php?id=na:eratec:tog:tog-meeting-05:tog-agenda-june2015

Action Items

- All stations to measure **beam-maps** at L- and C-band (provided appropriate software is available at the telescopes) and send them to Keimpema.
- Upgrade to **SDK9.4** first at the correlators then at the stations.
- All stations (except Wettzell): implement 80 Hz **continuous calibration**.

https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG/Continuous_calibration_%2880_Hz%29

- Verkouter to send out **script** of Quick to save logfiles to all stations.
- Lindqvist to mention **80Hz issue** at CBD, impress them with urgency and need.
- Lindqvist, Yang, Agudo, Bach, Vicente to investigate how to improve K-band calibration, maybe using **sky-dips**.
- Lindqvist to talk to **Kvasar** friends about possibility (and need) to provide **Tsys**.
- Lindqvist, Bach, Yang to test **DDC 105E** mode, with the aim to use it operationally February 2015.
- Verkouter to send another email to stations regarding the **buffer (-b) mode** of Jive5ab, which can be safely used now, and which enables automated fringe tests.
- Szomoru to send out document to all stations dealing with the **upgrade** of Mark5 to Wheezy OS and **SDK9.4**.

Action Items

Tables with current status at stations:

https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG/Continuous_calibration_(80_Hz)

https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG/Beam_maps

Permanent Action Items

https://deki.mpifr-bonn.mpg.de/Working_Groups/EVN_TOG/Permanent_Action_Items

- Contact information
- EVNTech e-mail exploder
- TOG-meetings
- The block schedule
- EVN disk-pack pool
- Disk-pack shipment
- GPS-Mase reading
- In advance of session
- Session preparation
- During sessions
- Post session feedback
- Post-processing
- e-VLBI
- EVN spare parts

Continuous calibration

- Hardware implementation (80 Hz from DBBC)
- /usr2/control/skedf.ctl
- /usr2/proc/station.prc (preob - ~~caltsys_man~~)
- How to deal with continuous and non-continuous calibration (hot loads) switch at the FS
- At Ys we do in preob:

  sy=exec /usr2/oper/bin/cal_tsys.py `lognm`.prc

Continuous calibration

calt_sys.py does something like:

```
if "cont_cal=on" in line:
        contCal = True

if not contCal:
    if calType == 'diode':
        process_command = "inject_snap caltsys_man"
    elif calType == 'hotload':
        process_command = "inject_snap caltsys_hot"
    elif calType == 'coldload':
        process_command = "inject_snap caltsysmmpfb
```

Continuous calibration

- antabfs for continuous cal:
  - Current version does not support continuous cal
  - Ef has a local script
  - Ys will probably write a python script for the DBBC cont_cal

DBBC spares

How to proceed:

- There is a pool of DBBC spares at Bonn
- Please ask the TOG chair about the need of a spare part
- The station that needs the spare part should pay for the transport
- The station should purchase a new spare part for the pool

Flexbuff costed plan

- Typical unit:
  - 2x64 bits CPU
  - 2x10 GbE ports
  - 36 disk (4 or 6 TB or 8 TB) chassis 144 TB / 216 TB / 288 TB
  - 32 Gb RAM
- Fila 40G + expansion chassis (54 disk) can be used as Flexbuff
- Parts list agreed with JIVE for correlator unit
- Cost:
  - 15 k€ (144 TB, Ys), 30 k€ (Fila 40G - 324 TB, On)

Towards 2-4 Gbps operations

- **2 Gbps**:
  - 256 MHz x 2 (32 MHz / channel)
  - DBBC2 (4 COREs)
  - eVLBI (DBBC2 + Fila10G)
  - DDC mode, V105E

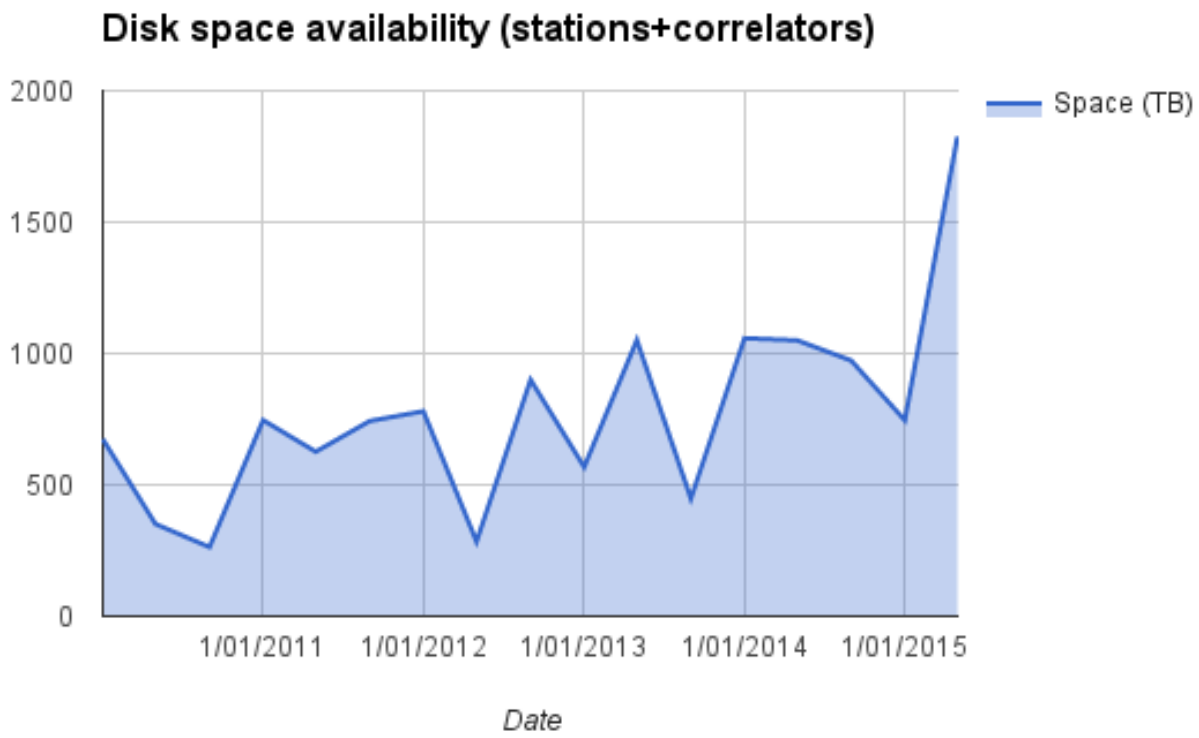
  - FR019, FR020 & FR021 successful
  - Offered in the next call for proposals (2015-3)
  - Mixed operations: 1 Gbps (some stations) + 2 Gbps (some stations)
  - eVLBI (not ready):
    - Requires Fila10G + DBBC2
    - Tests by 2015 fall

Towards 2-4 Gbps operations

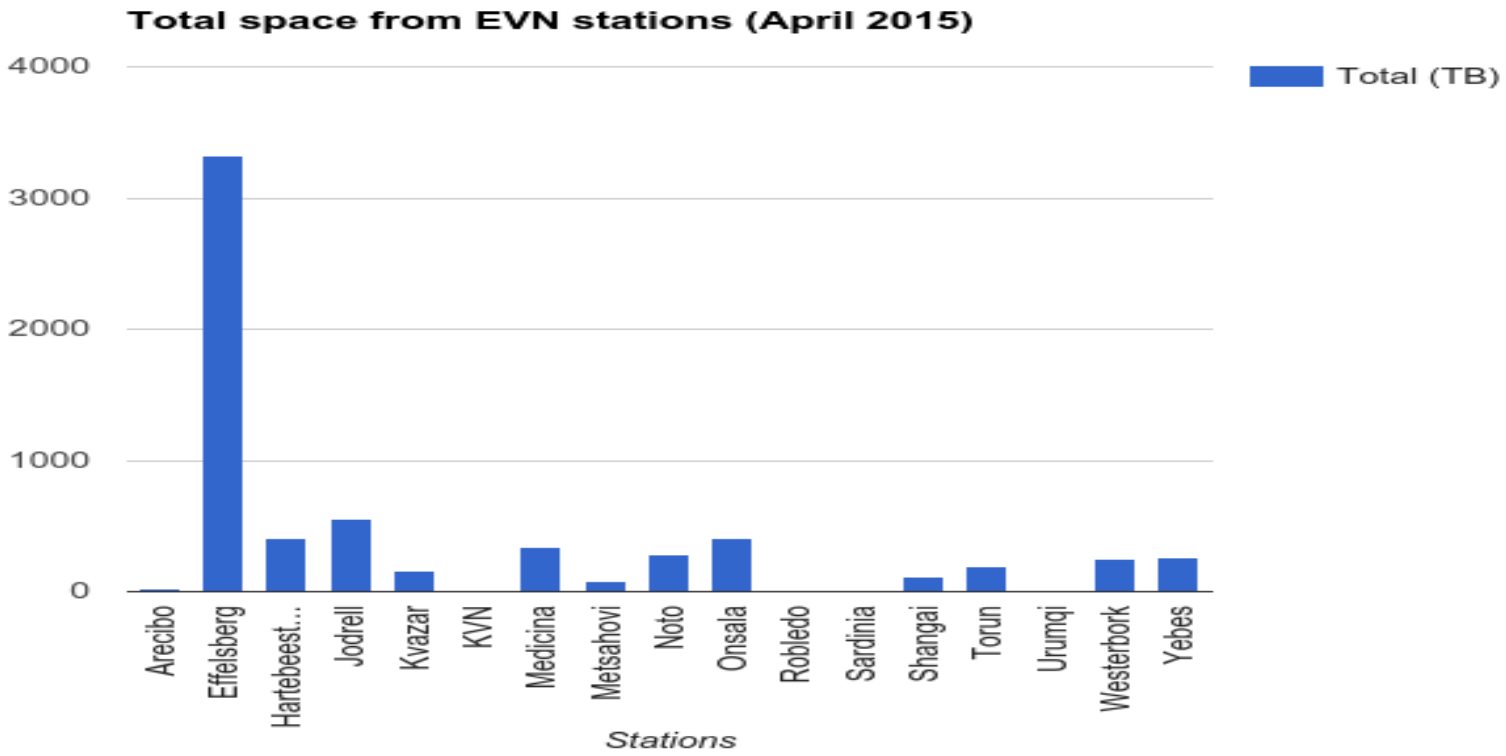
- **4 Gbps**:
  - 512 MHz x 2
  - DBBC2 (4 COREs if calibration is needed)
  - PFB
  - FS modifications & test observations
  - Common LO at the stations (Please fill in the table at the TOG wiki)
  - Goal: 2016?

- Disk requirements: to be discussed later… (item 15)

Disk inventory & purchase status



Disk inventory & purchase status



Disk space in the past

- Average space per station and session: **60 TB** (1 Gbps)
- To keep space for EVN sessions the CBD suggested to spend 7000 € / year for disk space.
- Operational efficiency: 50 %
- To increase operational efficiency, an additional 4000 € investment was required.

Disk space in the future

- All accepted proposals will be observed in 2015-2. Apparently operational efficiency will be 100% in next session
- All (1 Gbps) coming sessions to use **120** TB /station?
- 2 Gbps mode will require (maximum) **220** - **240** TB /station
- 4 Gbps mode should be a goal for late 2016 / 2017 => More disk space!.
- How to take into account disk space contributions per station when using Flexbuff or Mark6?