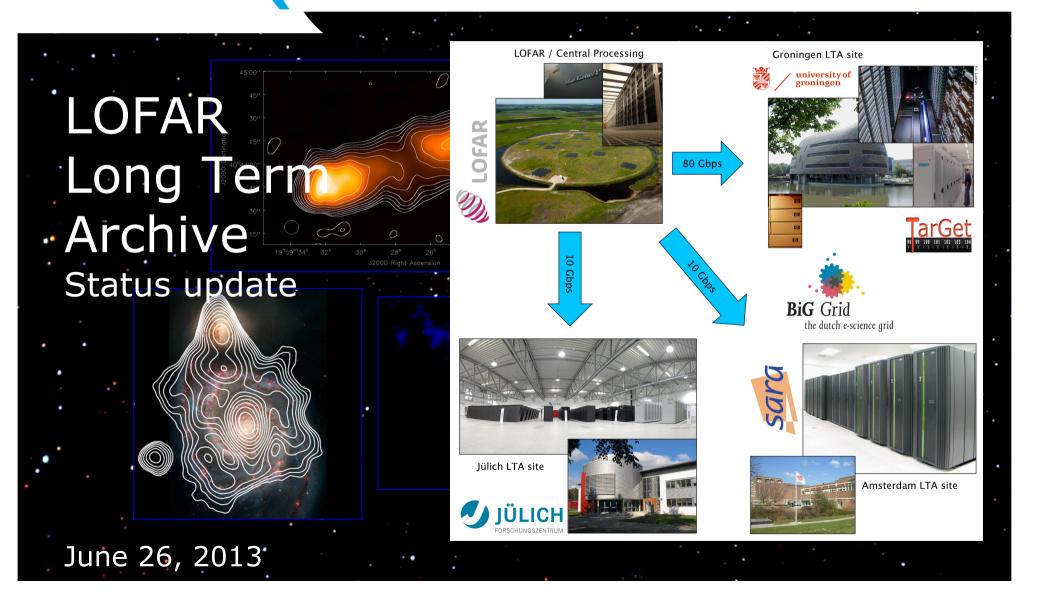




Netherlands Institute for Radio Astronomy



## Data transfers



## (Ingested last month

( SARA: 212 TB, FZJ: 248 TB

(EOR transfers

(TARGET: ~150 TB

Data staged by users

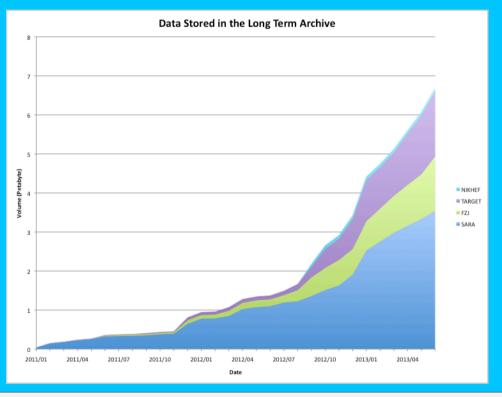
(74 TB

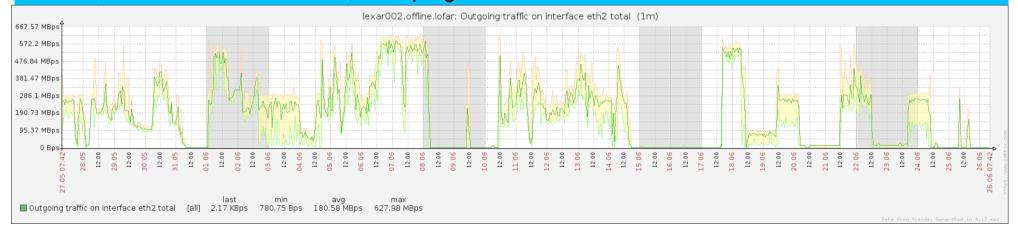
( LTA data growth first half 2013

(~500 TB/month

( Main issue: non unique ID's from MoM

( Understood & monitored, fix in progress





# LTA Progress



```
TARGET
    (Migration to tape functional: Migrated ~450 TB so far (mostly EOR)
    (~1.2 PB on disk
    ( Testing migration policies
    (Integration HSM (tape) with SRM in progress
( Functionality
    (Generic dataproduct ingest (incomplete metadata)
         (testing & waiting for MoM update (planned for next week)
    (Calibrated visibilities idem
    ( Webinterface
         ( Query pipelines for OBSID
         (Ongoing enhancements
Software
    (LOFAR Software 1.14 built (RUG, SARA, FZJ)
     Effort to run LOFAR pipelines at FZJ ongoing
```

# LTA Data Staging



#### ( LTA bulk storage provided by tape

- ( More cost effective than disk
- ( However: tape drives are relatively expensive
  - (Sites will attempt to minimize number of drives for expected use
  - ( Drives are shared between user groups
  - ( Drives handle both read and write requests

#### ( Disks can be a scarce resource as well

- (Storing newly ingested 'precious' data and (user requested) staged data
- (FZJ: currently < 100 TB disk (200 250 TB ingested each month)
  - ( will double coming month

### Consequently

- ( Staging a single file from tape may take hours
- ( Staging terabytes of data from tape may take days
- ( Newly ingested & staged data is on disk for at least ~week and up to a month.
  - ( During this period (re-) staging is almost instantaneous!