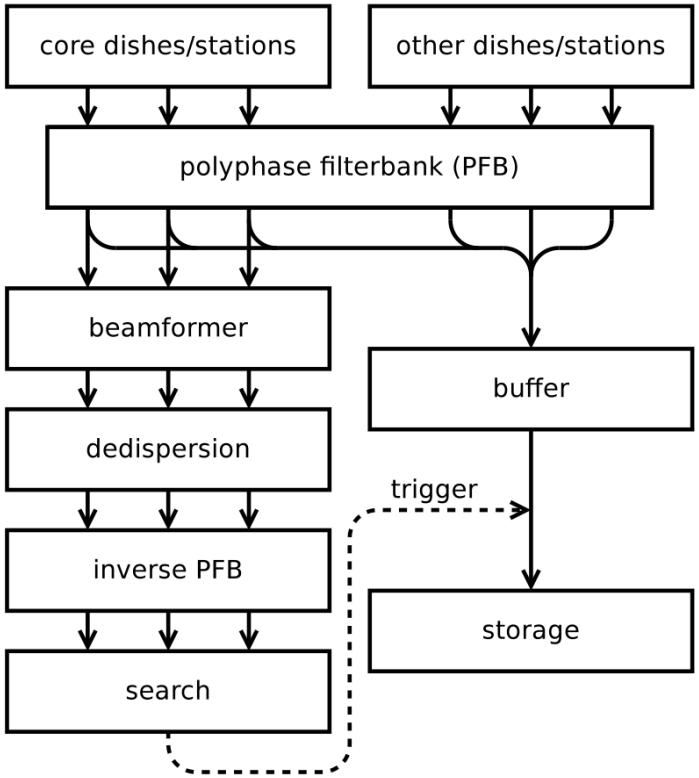
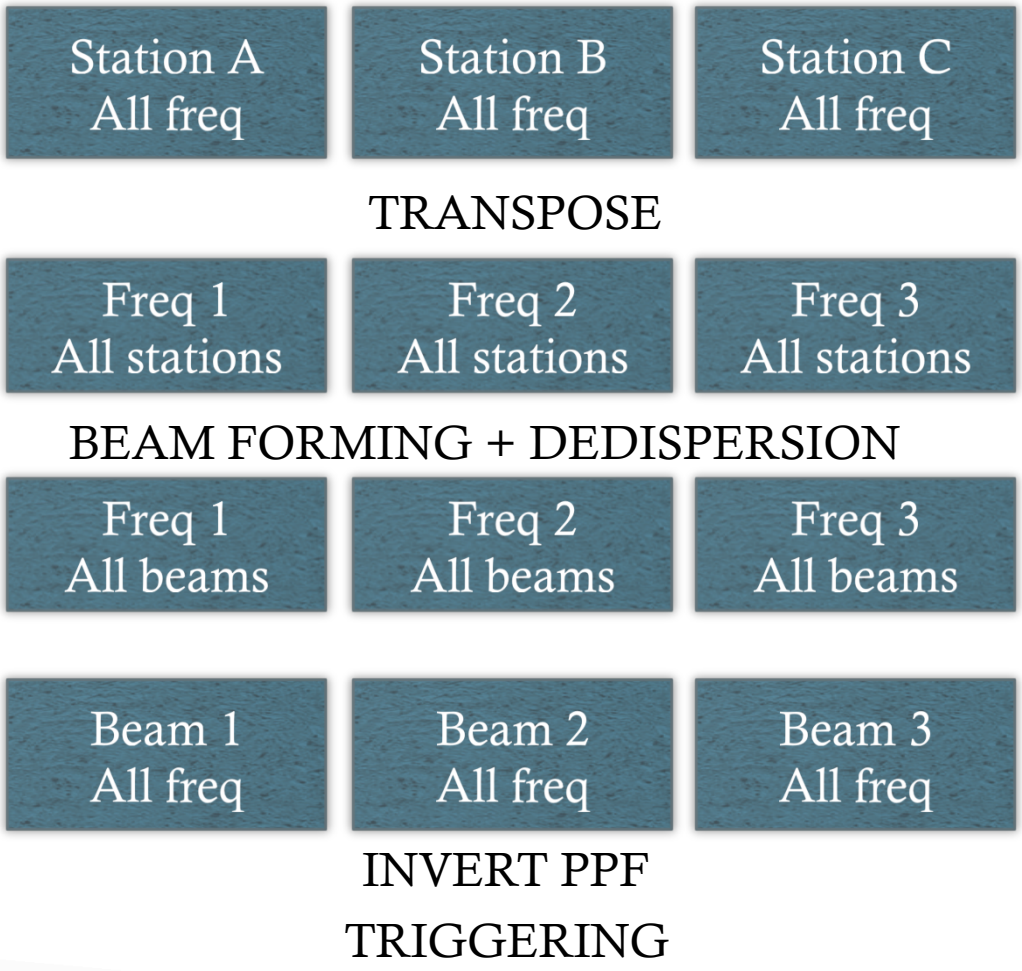
Data buffering



- Raw data from each dish/station should be buffered
- Additional information:
  - Higher sensitivity
  - Better RFI refection
  - Better dedispersion
  - Better localisation
- Off-line software ‘ready’ [LOFAR]
- Need to be long enough for trigger processing to finish O(seconds)
- **Do we need it?**
- **Does it matter if it’s a station buffer or an antenna buffer?**

Data transport



- Trigger pipeline
  - Dedicated hardware (LUNASKA)
  - Compute cluster
    - Private / Shared
    - Prototype software implemented for LOFAR
- Dedispersion in beamforming or dedicated hardware
- Triggers + buffered data to storage

Data products

- Triggers
  - (beam #, number of beams triggered, calibration metadata, beam #, noise level etc.)
- Raw data
  - From buffer of each dish (190) / stations (866)
  - Traces of 10 us
  - 8-bit
  - Trigger rate: 1 Hz
  - Bandwidth (800 MHz/300 MHz)
  - 0.5/2.6 MB / file
- Multiple events per file ?
- Calibration ?