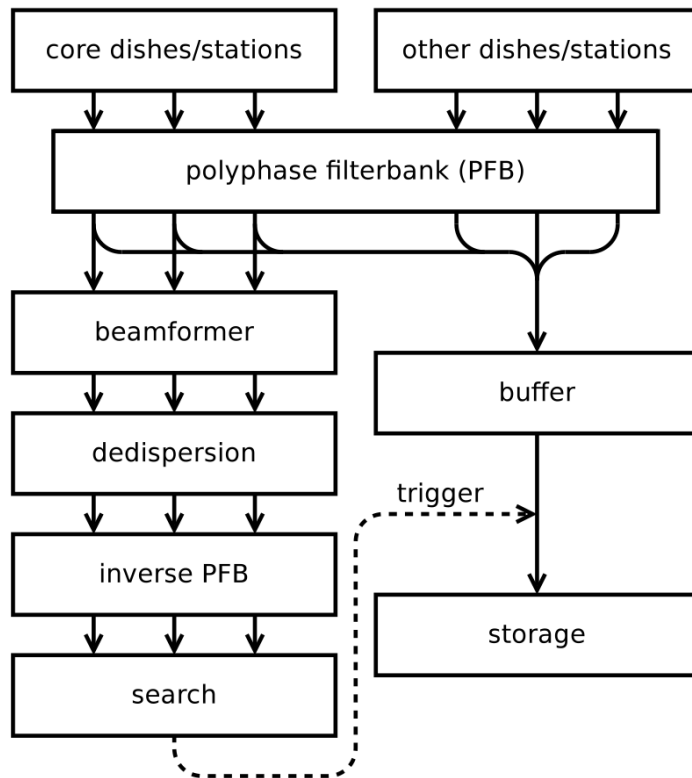


Data buffering



- Raw data from each dish/station should be buffered
- Additional information:
 - Higher sensitivity
 - Better RFI rejection
 - 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

Station A
All freq

Station B
All freq

Station C
All freq

TRANSCOPE

Freq 1
All stations

Freq 2
All stations

Freq 3
All stations

BEAM FORMING + DEDISPERSION

Freq 1
All beams

Freq 2
All beams

Freq 3
All beams

Beam 1
All freq

Beam 2
All freq

Beam 3
All freq

INVERT PPF
TRIGGERING

- 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 ?