# Callibration

- The scheme of Offline

- The state of ALICE

- What parameter is needed for Reconstruction

- How can access be granted/done

- What are the needs of each callibration procedure

The scheme of Offline

- reconstruction of pp data is done directly after the daq, without taping in between.

- A reread of a big chunk of detector raw data is not possible. (only for second pass reconstruction)

- The deector has to be properly callibrated

- All callibration (configuration) and alignment data wil be stored in root files

The scheme of Offline
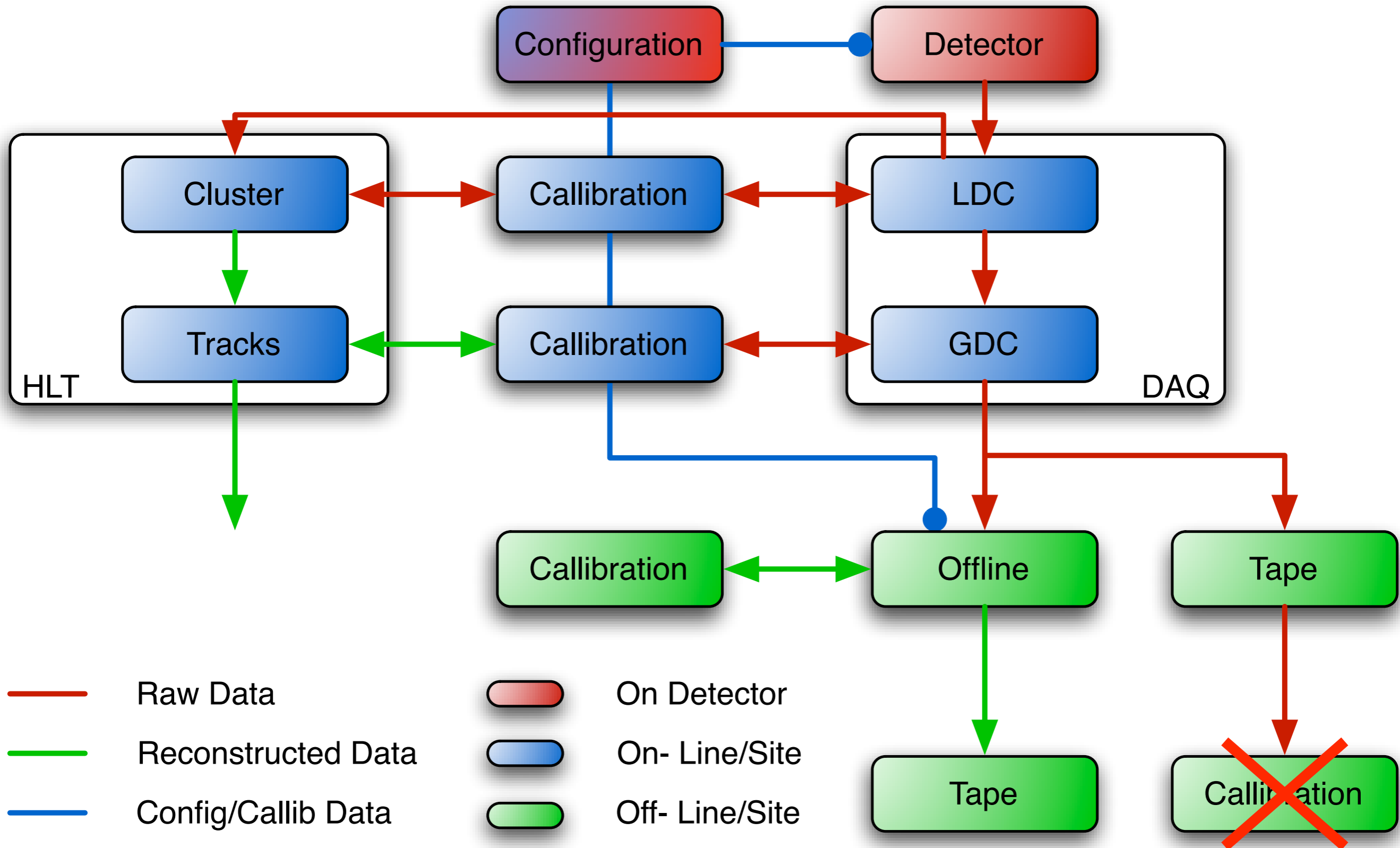
The state of ALICE
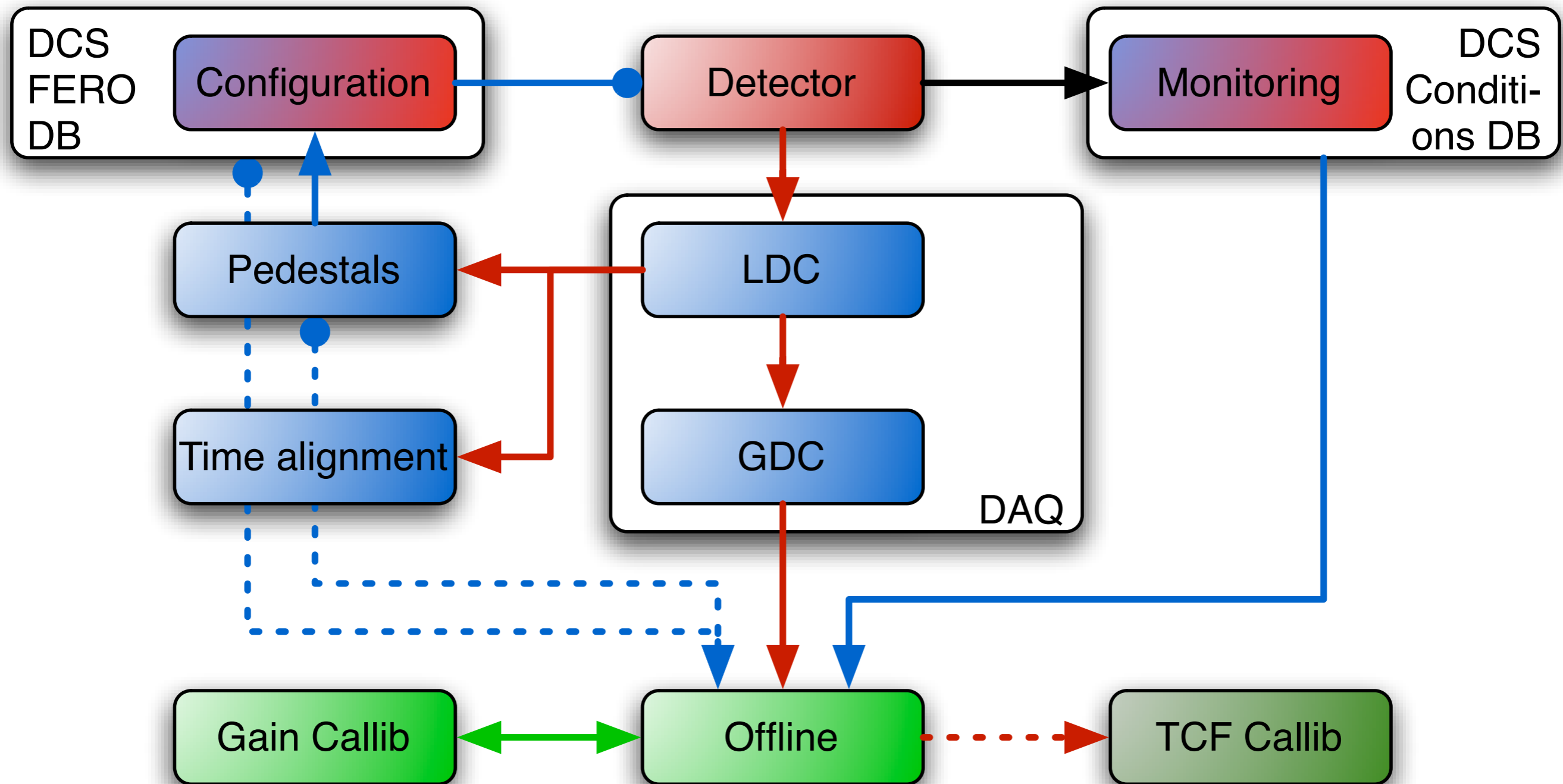
- Neither Configuration or Pedestals are root files

Reconstruction needs I

- Pedestals

- Tail Cancellation (yes/simplified/state)

- Moving-Average & Zero Suppression (as above)

- ALTRO Frequency

- ALTRO Aquisition Window

- Off/On (Active Channel List)

Reconstruction needs II

- Single Bit Event Upsets/Channel reconfigurations (This class does (motsly) NOT stop the run)

- Safety switches of partitions (overrcurrent, ...)

- Pulse Width Variation

- Gain Callibration

- Timing alignment

How to do the access

- Configuration Parameters are in Format of the Electronics and NOT in root files

- Grant offline access to the FERO DB

  Contra: Mission Critical, Parameters in FEE Form

- Export Config into offline defined root file

  Contra: doubles the data

- Export Config to Conditions DB

  Contra: doubles Data, is CDB suited for this ?

Pedestals

- Configure Detector

- take 100 black events (70GB Data total)

- calculate pedestals in parallel on LDC's

- calculate quality (Put as Datapoint in Conditions db?)

- configure electronics via DIM/DDL

- store pedestals on pedestal file server

  migrate to CASTOR

- no need to recheck pedestal quality in offline?

Tail Cancellation

- Needs raw data of ~100 Pulses per channel of maxADC/maxAMP > 200

    - Determines parameter granularity (channel/row/tpc)

    - order of 10M pp Events needed

- Integration in Offline scheme possible, if during recounstruction sufficient Pulses are exported. (Export file size of the order of 10GB)

- But this callibration is not fully automatisable

- And this is not simulatable at all !!

Moving Average & Ø

- simulatable, should depend on the detector occupancy

- To check the correct behaviour a few (1-10) black events are sufficient

- For pp an educated guess on the parameters "is" sufficient

other ...

- relative time alignment: done during pedestal calculation

- Gain Callibration: Pulser Data/ Reconstructed Data

- Pulse Width Variation: Raw Pulser Data

Relative Time Alignment

- gating grid position in data

- done at pedestal calculation

Gain Callibration

- Pulser Events

- From the reconstructed data

Pulse Width Variation

- Pulser Events

- From the reconstructed data