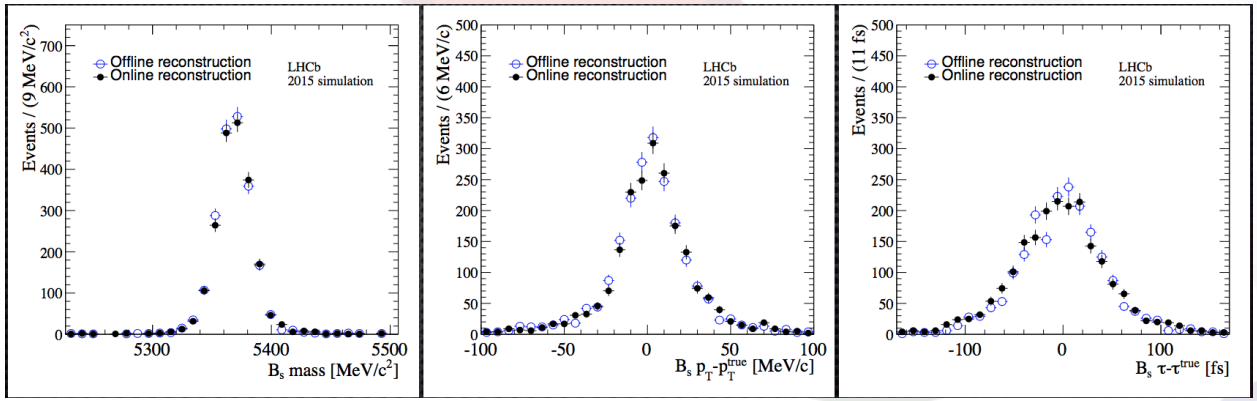
LHCb Computing

2015Q2 status report

New in Run 2: split HLT and online calibration

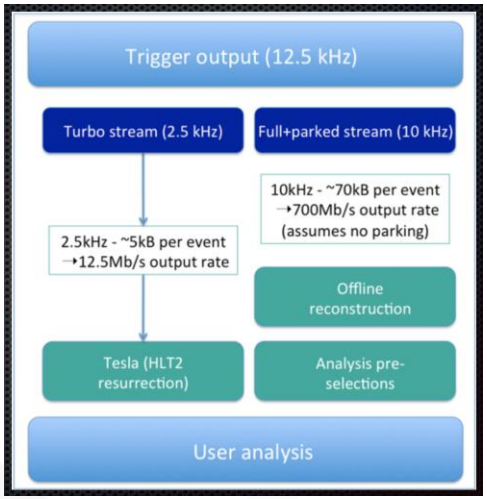
- Same calibration used online and offline
  - No reprocessing
- Same reconstruction online and offline
  - 100% offline selection efficiency on trigger candidates
- Status:
  - Split HLT commissioned during SMOG run
  - Identical tracking and PID in HLT2 and offline achieved, within HLT2 time budget

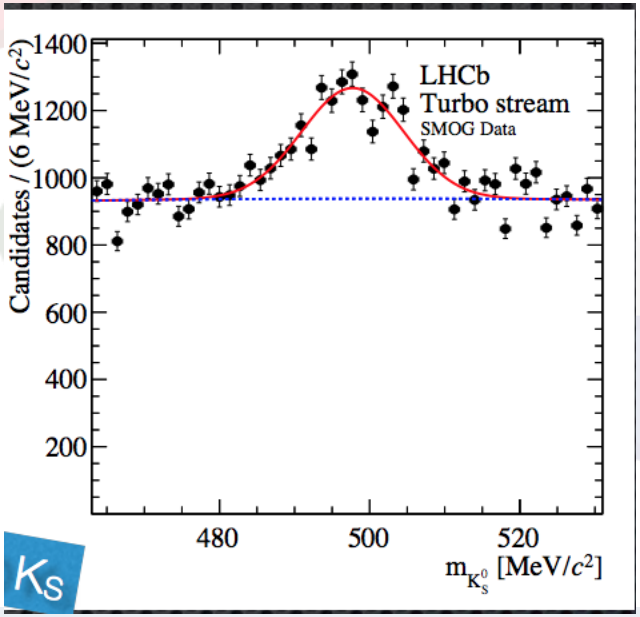


  - Uses less detailed geometry description, very minor degradation in momentum and mass resolution.
    - Can be recovered by refit in few analyses that are sensitive to it.
  - Automatic calibration procedures in place, tested during first collisions running

New in run 2: Turbostream

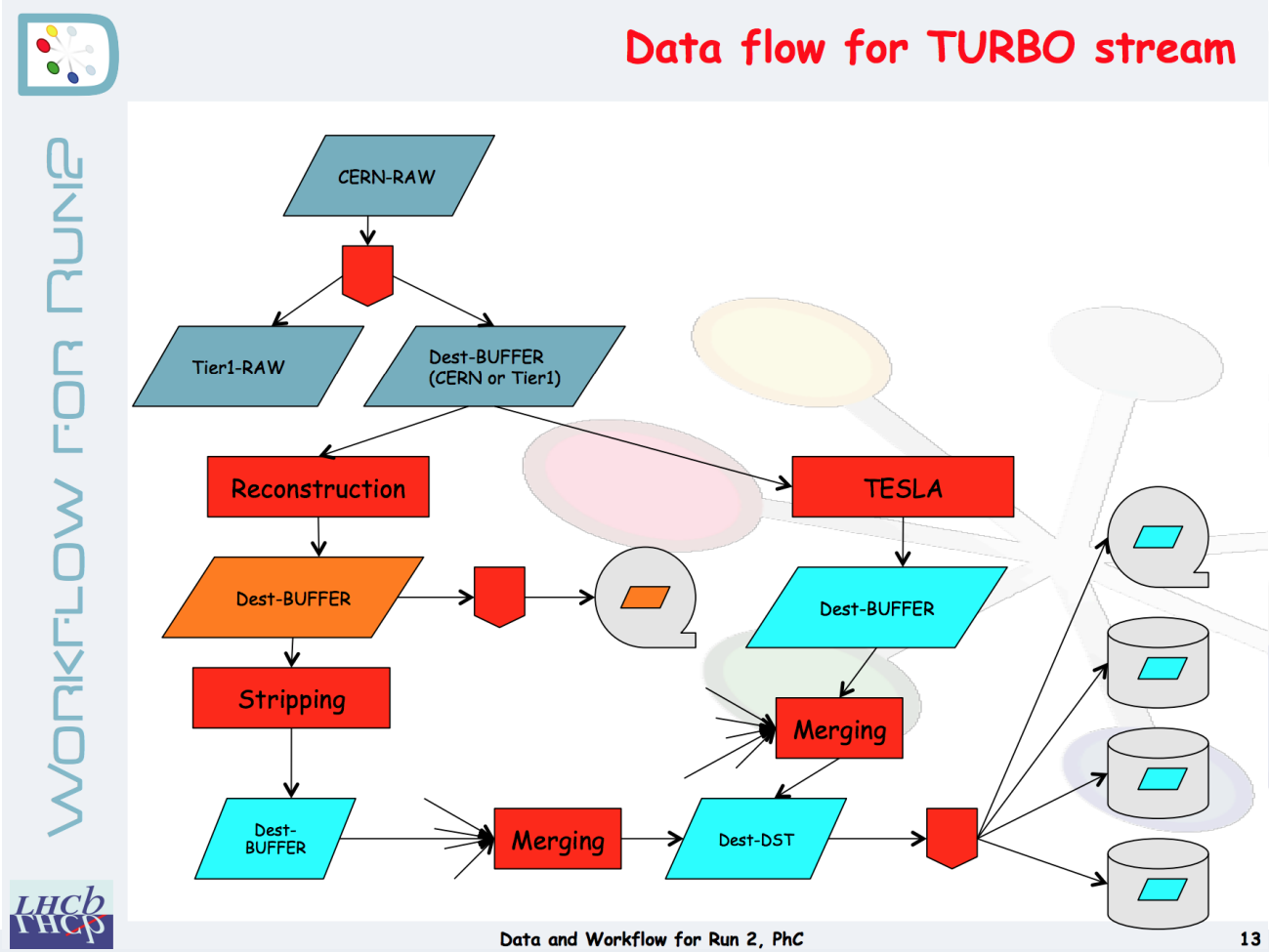
- Since offline quality reconstruction available in trigger, can do some analysis selections online
  - Write out only "micro-DST" like analysis objects, not RAW data
  - In 2015, write also RAW data, run offline reconstruction to validate offline selections.
- Status:
  - Machinery and first selections in place
  - Tested with SMOG run:





Offline workflows also new

- Workflows defined, to be commissioned with first stable beam data this week and next
  - In parallel with first alignment and calibration, using online infrastructure



Review of data replication and archival policies

- Current model:
  - Real data:
    - Two tape copies RAW
    - One tape copy FULL.DST (RAW+ReconstructionDST)
    - Up to four disk plus two archive tape copies "stripped data"
  - Simulated data:
    - Up to three disk copies
    - Two archive tape copies
- Proposed:
  - Replace FULL.DST by RDST
    - Reduces by 25% tape required for RAW+Reco data
    - Some operational constraints
  - Reduce disk copies, following data popularity hints
    - Can go to zero for very unpopular data, restage from tape if needed
  - One tape archive only
- Under discussion:
  - No long term archive of MC (M)DST level datasets
    - Only analysis NTuples kept for analysis preservation