

Offline Calibration Status

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Code

- Code changes:
 - \$ALICE_ROOT/ANALYSIS/
 - **ANALYSIScalibLinkDef.h** ← **NEW LIBRARY**
 - AliAnalysisTaskAddObject.h, cxx ← Example task to add an object to the friends file
 - AliAnalysisTaskFilter.h, cxx ← **Base class for friends filtering**
 - AliAnalysisTaskFilterFriend.h, cxx ← Example of friends filtering task
 - AliAnalysisTaskFilterFriendSecond.h, cxx ← Example of friends filtering task
 - **libANALYSIScalib.pkg** ← **NEW LIBRARY**
 - AliAnalysisManager.cxx

Code – II

- \$ALICE_ROOT/STEER:
 - AliESDHandler.h, cxx ← **NEW HANDLER**
 - AliESDfriend.h, cxx ← Slight modifications
 - AliESDfriendTrack.h, cxx ← **Changes in the ITS/TPC/TRD arrays (turned into pointers)**
 - AliESDtrack.cxx ← **Changes after those in AliESDfriendTrack**
 - AliReconstruction.h, cxx ← **Changes in the way the friends are written: from a branch in a separate file, to a friend tree**
 - AliESDInputHandler.h, cxx ← **Changes to access the new friends tree**
 - ESDLinkDef.h
 - libESD.pkg

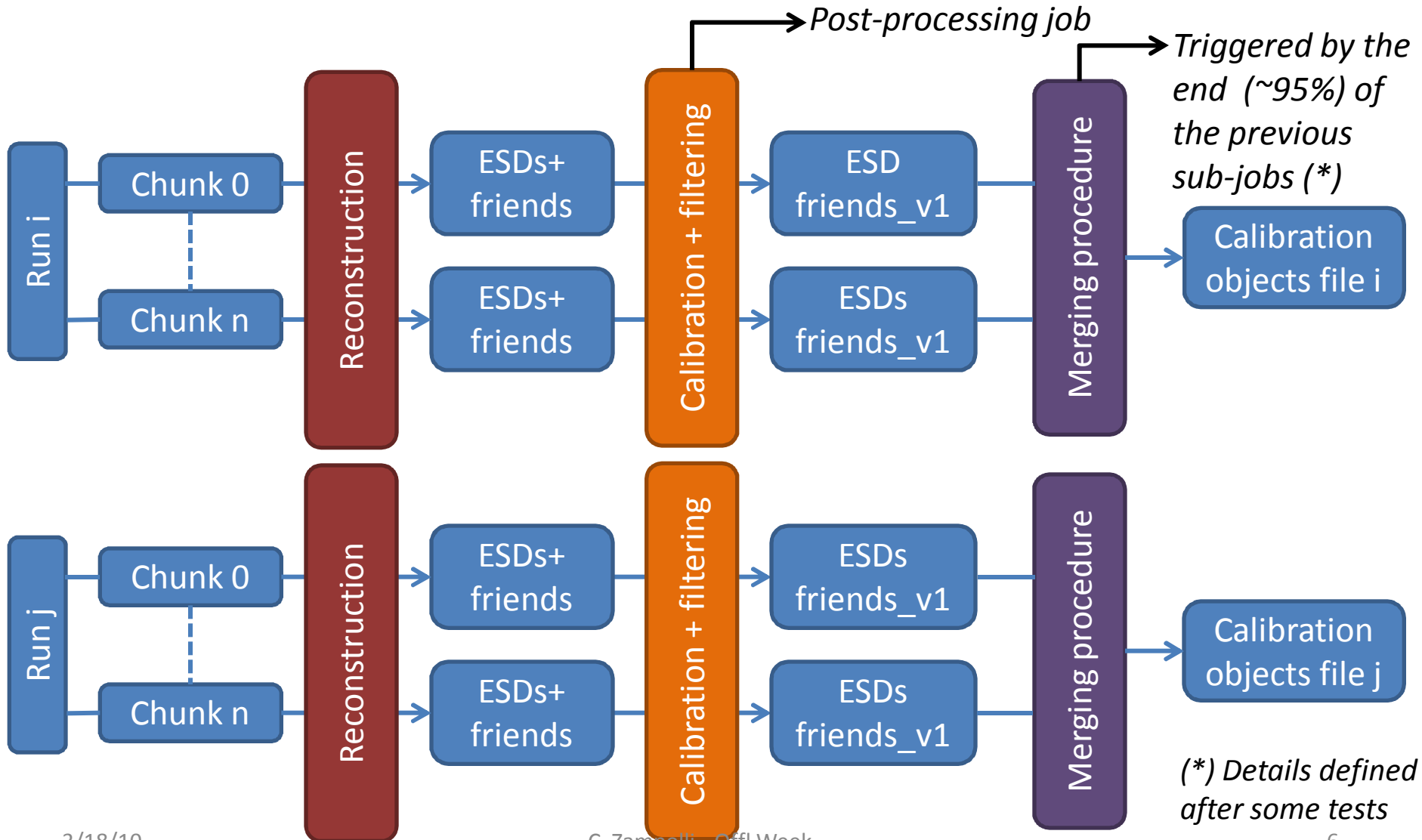
Code – III

- Implementation of the train structure:
 - \$ALICE_ROOT/ANALYSIS:
 - /macros/AddTaskAddObject.C
 - /macros/AddTaskFilterFriend.C
 - /macros/AddTaskFilterFriendSecond.C
 - /macros/runCalibTrain.C
 - \$ALICE_ROOT/TPC
 - /macros/AddTaskTPCCalib.C
- Configuration of the train + Inclusion of the TPC Calibration task
 - \$ALICE_ROOT/ANALYSIS:
 - /macros/ConfigCalibTrain.C ←OCDB + Geometry initialization
 - /macros/runCalibTrain.C ←TPC Inclusion

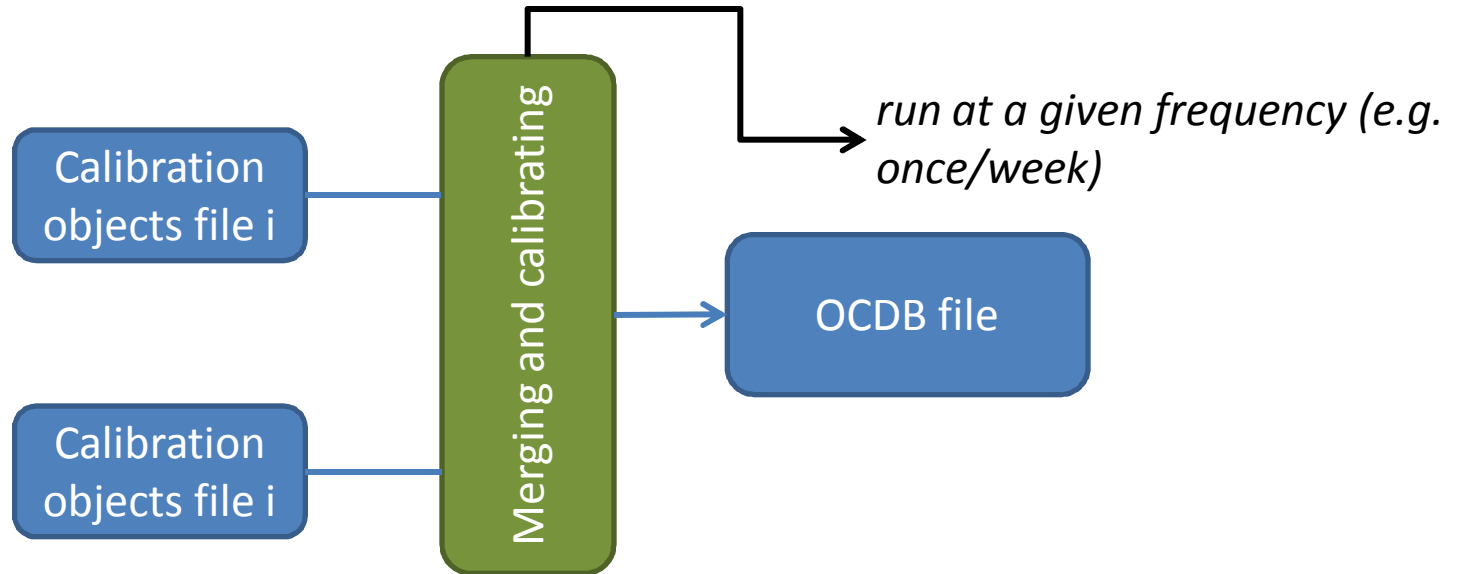
Code – IV

- Implementation of the macros to reconstruct+calibrate for pass 0 and pass1
 - \$ALICE_ROOT/ANALYSIS
 - /macros/mergeCalibObjects.C
 - /macros/recPass0.C
 - /macros/runPassX.sh ← equivalent to what was done before in the central reco, only adding calibration

Strategy – Run-level calibration



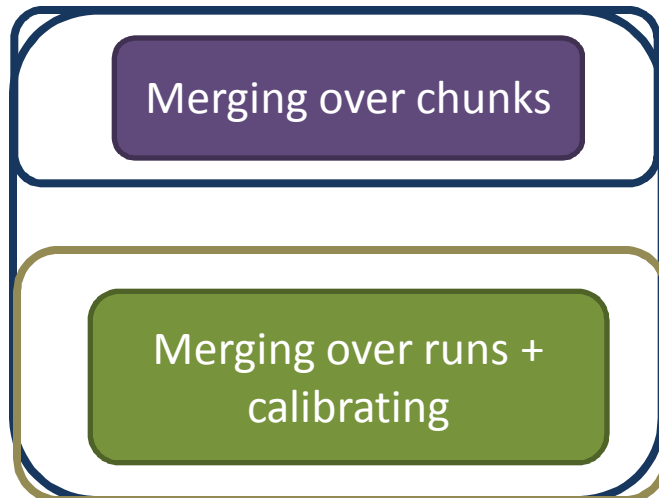
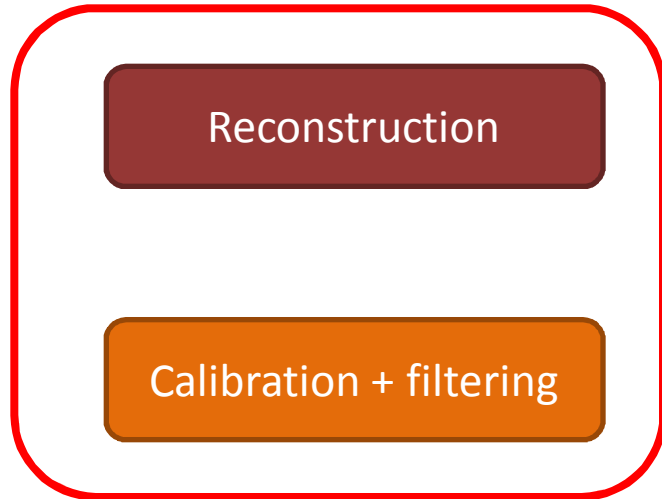
Strategy – Calibration over many runs



- ! The list of runs over which to merge should be the same for all the detectors which
- should provide the macro to perform the calibration



Jobs



~~Scenario B~~

Job 1 ————
|
at ~95% of completion
at ~95% of completion

Job 2 ←———
|
Job 3 ←———
|
at a given frequency

Some Details

- **Filtering procedure:**
 - Centrally defined: rescaling with selection on high-momentum tracks
 - Detector specific, if needed
- **Number of jobs** – depending on when the merging over runs will take place:
 - *Scenario A:*
 - 1. Reconstruction + Calibration
 - 2. Merging over chunks + Merging over runs
 - *Scenario B:*
 - 1. Reconstruction + Calibration
 - 2. Merging over chunks + Merging over runs
 - 3. Merging over runs

Strategy

- The **same strategy** (see slides before) should be applied for Pass 0 and Pass 1 (2, 3... 😊)
 - **Pass 0:**
 - Reconstruct the TPC only data on a subsample of events per each chunk
 - Run the calibration for the TPC
 - No filtering needed
 - Merging over the various chunks
 - Merging over different runs
 - Calibration parameters put in the OCDB
 - **Pass 1:**
 - Full reconstruction
 - Filtering + Calibration for all the detectors
 - Merging of the chunks
 - Merging over different runs
 - Calibration parameters put in the OCDB

Latest Tests

- Some tests run on the GRID:
 - Run 104799 taken into account – 3 chunks
 - Framework tested: reconstruction + calibration chain ok
 - New AliESDfriends.root file format (Tbranch → Ttree) used
 - **Please, check carefully the new format of the ESD friend, both before and after the filtering!**
 - Simple test filtering tasks applied so far:
 - filter one: keeping only the events with an even number of ESD tracks, and for those, keep each second track
 - filter two: keeping only the events with an odd number of ESD tracks, and for those, keep each third track
 - Simple task to add a histogram to the AliESDfrineds_v1.root file
 - TPC calibration included

Access to the Friends Tree

- Standard access as to any friend tree

...or... better:

- Access through the AliESDInputHandler:

```
AliESDInputHandler evH;  
evH.Init(tesd, "");  
AliESDEvent* evt = evH.GetEvent();  
evH.SetFriendFileName("friendFileName.root")  
AliESDfriend* friend = evH.GetESDfriend();
```

Open Issues and Comments

- Any special requirement for the selection of the events for pass 0 has to be put in the rec.C
- A macro to load all the necessary libraries may be created to configure the reconstruction+calibration job (to be called also when creating the calibration parameters to fill the OCDB)
- Triggering of merging (over chunks + over runs) + final calibration procedure to be defined → AliEn experts
- Folders in the AliESDfriends_v1.root files for each detector?
- Specific filtering algorithm to be defined
- QA Train: when would it be run wrt reco+calibration?
 - If after → Friends would be filtered!
- Alignment: trees needed...