Analysis on FlatESD using run3 software - some thoughts

Introduction

- FairRoot provides FairMQDevice

- It would be possible to build an analysis system on top of this

  - Parallelization part of FairMQDevice

  - Close connection to DDS

- It would be useful to test / start using this before run3

  - Developers get experience in the new components which help further development

  - Users can adapt earlier to the new framework / components

  - Will give a push to new systems like DDS

How to do a transition period

- Factorize out the essential data structures (STEERBase/ESD/AOD and Flat structures) from aliroot (into i.e. „AliData")

  - AliRoot and AliPhysics will depend on it, but AliData will have a very slow update cycle

- Build analysis task based on FairMQDevice within AliceO2 using structures in „AliData" and connectors.

- Using the already serialized data structure FlatESD as event structure the components run on

- (Probably) Merge new analysis system into existing aliroot when ready!

How could a possible run3 analysis system look like?

- Based on FairMQDevice

- Analysis Manager itself will actually be a FairMQDevice

    - Will take care of the handling of flat ESDs and the distribution to the consumer tasks via FairMQ

- Framework itself should be as similar as possible to the existing framework for users in order to allow easy transition period

- Advantages of FairMQDevices (i.e. inter-process communication) should not be lost

Questions

- How to handle the MC event? A flat structure will be necessary as well.

- How to deal with AODs?