Thoughts on level 2 output

Slightly cobbled together…

Requirements:

- Need to be able to reconstruct trigger decisions if (when) something goes wrong
- Need to pass info to EF
- Need to give physicists trigger decision in some form (ESD/AOD)
- Objects should be easily persistifiable AND serializable

How we can solve it (?)

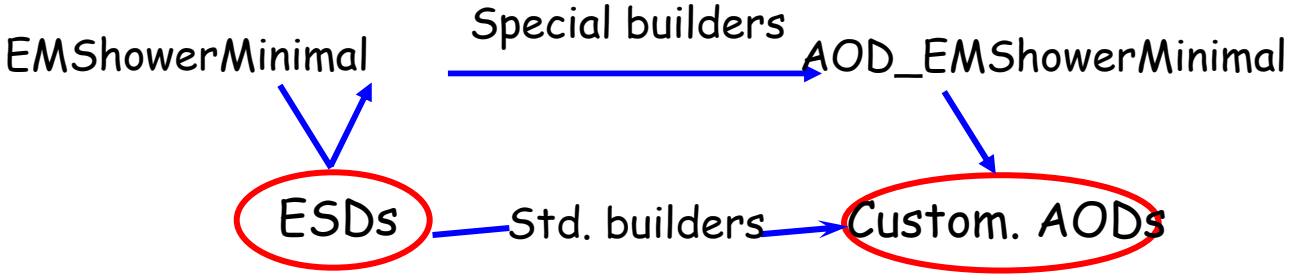
Different possibilities so far:

- Redo trigger offline: does this work?
- TrigParticle:
  - lightweight with links to tracks and clusters
  - Should have pointers (confident that can be done but not done yet…)
- Pilar's objects:
  - containing everything for taus (same solution should work for e/gamma)
  - This means no pointers or links => duplicate information and several new classes needed (slimmed down versions of existing ones)

Can any of these satisfy all requirements?

Pilar: A->ττ-> lepton hadron analysis (II)

- ESD's are too large to be used in a full physics analysis.
- We plan to run the trigger chain and do the analysis on customized AOD´s where the trigger information is included.
  - Cust. AOD = standard AOD + Special trigger objects generated by new builders.
- We have special trigger objects. In the future the hope is to have trigger info in standard AOD's.



Pilar: A->ττ-> lepton hadron analysis (III)

- The analysis will be done locally at Barcelona.
- The ESD's will be copied from the grid, the customized AOD's will be produced and later copied on tape.
  - Size of ESD's: 0.8 MByte/evt
  - Size of AOD's: 0.06 MByte/evt
- The customized AOD's could be made available on the grid for interested people.
  - Notice that we'll have special trigger objects.
  - However the analysis framework using cust. AODs will be easily adaptable when trigger info is in oficial AODs .

Pilar: Hadronic Tau Trigger (II)

- Now reorganizing the code (~3 weeks).
  - Will provide 4 AlgTools for tau calculations: TauSamp2, TauSamp1, TauEmEn & TauHadEn.
  - TauRoIEx and EmRoIEx are ready to be tested.
  - Will produce TauObjectMinimal and restore EMShowerMinimal with variables for e/gamma studies.
    - TauJetMinimal in AOD's in the future (?)
  - Will modify TrigNtCalo, used for the production of CBNT.
- Validation of these modifications. In particular, run athenaMT.
- Have to define trigger strategy.
  - Interesting variables: EM radius in samp. 2, iso frac. in samp. 2, width in the strips, number of cells in the strips,…