Summary from Trigger and Event Processing session

We decided to merge the two working groups

Several clear motivations
- Many issues are in common today and for R+D towards the 10 year horizon
  - Event complexity and increased throughput are big challenges
  - Experiments moving towards final analysis data sets produced in the trigger
- Frequently have common software stacks

- New name: "Software trigger and event reconstruction" working group

Discussion and session outcome

- Small but enthusiastic group discussion. Our discussion focused on defining scope and important research directions

- We have formulated a draft WG charge which is now included in the WG google doc (https://docs.google.com/document/d/1Mm6aqi2SwVyvQFkmEjDEVSALem_8a7gTORldojaYRs4/edit)

High level summary of issues raised

- Algorithm interoperability including challenges around memory management and efficiency
- Challenges around throughput and event complexity increases
- Calibration challenges as more algorithms (or ALL reconstruction) evolves towards real time
- Challenges around technology evolution including portable programming, optimization, validation, testing
- Data structures and I/O considerations

Topics for other working groups:

Training and Staffing
- Extended discussions around need for changes in training and staffing areas
  - Needed mix of elite programmers and novice programmers
  - Needed domain knowledge

MC Digitization
- Agreed to be part of the simulation WG

Importance of software development and validation across platforms

Possible next steps

- Once we conclude on the charge, we agreed to ask community for input on each part of the charge in the form of short white papers

- Take advantage of the Connecting the Dots meeting (Orsay, March 6) as the next follow-on. Discuss white papers and how to reformulate them into a draft document

- Possible follow-on workshop at FNAL coincidenent with Data Science workshop (May 8-12)