FCC SW

G Ganis, C Helsens

FCC SW Meeting, 27 July 2020

What happened since last meeting

- EDM4hep / key4hep
  - EDM4hep (June 23rd, July 7th, July 21st)
    - Progress in the integration with Delphes output
      - Standalone Delphes with EDM4hep output ready (v0.2 ?)
    - Refactoring of parts of PoDIO
    - Progress in using LCIO converter with Pandora (CEPC)
  - Key4hep (June 30th, July 14th)
    - First discussion about Gaussino
    - Integration w/ Gaudi in progress (see today's topic)
    - Started discussing tracking/vertexing aspects
    - First integration with Pandora (CEPC)

- Next meetings: August 4th (EDM4hep), July 28th (Key4hep)

Recent activities

- **FCCSW**
  - First version of FCCSW to depend on Key4Hep components
  - This is a major step forward common software, particularly the data model
- **Key4Hep**
  - First versions of EDM4hep and Key4HEP (v0.1)
  - Gaudi wrappers for MARLIN algorithms being tested at the moment
  - Delphes with TrackCovariance is enabled
- **Other**
  - Succeeded to run
    - ACTS primary vertexing algorithm from FastTrackCovariance
    - ILC primary and secondary vertexing algorithm from FastTrackCovariance
    - CLIC conformal tracking from FastTrackCovariance space points
  - Reviewing displaced vertex algorithms
  - Restarted discussion for integration of MDI background codes

(Near) future activities

- **FCCSW**
  - Migrate the physics analyses to the new workflow with EDM4Hep
    - Needed for updated tutorials
  - Decide on the best approach to deal with detector geometry reconstruction etc…
    - What belong to FCCSW and Key4Hep
- **Key4Hep**
  - ACTS integration
    - Vertexing (primary and secondary), truth tracking, extrapolator
  - Further develop the Gaudi wrappers for MARLIN(LC) algorithms
    - This is not the commonly accepted solution for long term
  - Consolidate the common data model
    - Need to pursue well defined use case from beginning to end for debugging

About Snowmass

- Software underlies most (if not all) of frontiers activities
  - Contact established with MC task force (common MC production)
    - TF is in the process of evaluating/identifying what is available for immediate use
  - On our side:
    - Welcome and encourage new developments, making sure they are in the "correct" context, i.e. FCCSW or Key4hep
    - Minimise the extra work
- Expect to raise interest in collaborating to common software projects
  - Opportunity to foster activities already in the interest of FCC-ee
  - We are in the process of organising tutorials for using FCCSW together with Markus
    - Goals: learn what exists, provide entry point for developers
    - Suggested dates are few afternoons CET during last week of August

Today's meeting

- Delphes @ Key4hep status (V. Volkl)

- Topics for next meetings
  - HGCAL reconstruction in CMS
  - IDEA drift chamber postponed
  - …

- Suggestion for discussion topics are welcome

Reminder: Vidyo meetings and connections

- Should we move to ZOOM ?
- Following CERN restrictions from now on - and until further notice - this meeting will be Vidyo only

- The meeting is open to everybody, but people connected **must make themself recognisable**
  - People with a CERN account **must register** to he meeting with their own CERN credentials
  - For people without a CERN primary account, GUEST connection will allowed **only** if agreed previously via email to Gerardo.Ganis@cern.ch or Clement.Helsens@cern.ch