

Minutes of the FCC software informal meeting, 10 July 2014, 1:00pm

The meeting was entirely devoted to two presentations, available from the agenda (<http://indico.cern.ch/event/329262/>) :

- 1) A presentation by Frank Gaede of the LCIO software for the event data model and for persistency, together with its possible use for the FCC
- 2) A presentation by Sergei Chekanov of the compressed data format, ProMC, that was used for the Snowmass studies

The goal of these minutes is not to make a summary of the two presentations (as the slides are already excellent, and easy to read/understand), but rather to remind the reader of the actions needed.

In a nutshell, it was concluded that the use of LCIO as the FCC event data model would be very beneficial – as a lot of work has gone and is going on for the event data model in the Linear Collider community, and as DD4HEP will use LCIO internally too (foreseen to happen in Fall 2014). For this to happen, it was felt that two items need work urgently, namely:

- a) Allow LCIO to use the HEPMC format instead of (or on top of, or in addition to) the home-made MCParticle format. It was evaluated that a few days of work is needed to develop such an interface.
- b) Provide a fast I/O layer for LCIO to use ROOT, i.e., for LCIO files to be readable directly with ROOT. It was estimated that a couple months work would be needed to make it happen.

Volunteers sought (or hired) in the FCC community would be very welcome to help.

On the other hand, ProMC is a complete package (framework) to generate, simulate (with DELPHES), store (with a compressed data format), view, and analyze events in a way that was found to be appropriate for the Snowmass studies.

It was felt from the discussion that the event compression scheme (a compact binary form using variable-size integer encoding as implemented in the Google's Protocol Buffers package) was quite astute, and might be very useful for the future in the FCC, when large samples are to be produced. It was suggested to give the ProMC compression scheme to the ROOT team, to see whether it could use directly in ROOT. It was mentioned that Peter Van Gemmeren had already had a look at it, and that it would be useful to invite him in one of the next FCC software meetings.

Next meeting (after the FCC-hh workshop):  
Thursday 31 July, 1:30pm-2pm, B40 lobby