Architects Forum - Minutes

Date / Time: 11 July 2019 - 14h
Agenda: https://indico.cern.ch/event/766427/
Present: P Mato, G Ganis (chair, notes), G Cosmo, M K Simon, M Clemencic,
A Sailer, P Buncic
Next meeting: September 2019, to be confirmed

Introduction (G Ganis)

G Ganis reminded the main events that took place since the last meeting and in particular the workshop on Software for Future Colliders that took place in Bologna, and the main outcome of the workshop, that is the consensus reached to investigate the possibility to have a common event data model for all future collider activities, and possibly Open Data (EDM4HEP), and to contribute to the development of a Common TurnKey Software Stack (Key4HEP).

G Ganis remind also that the preparation activity for the next AIDA phase produced 5 EoI with CERN involvement, covering the common turnkey stack, fast simulation, digitisation in DD4hep, further developments in PODIO, and tracking reconstruction (ACTS).

SFT line management (P Mato)

Personnel movement

- All 20 Summer Students and trainees have arrived.

Topic: The Turnkey Software Stack vision (A Sailer)

Following the outcome of the Bologna workshop A Sailer presented the main ideas and vision behind the common turnkey software stack (see slides).
A short discussion followed about the status of the Gaudi wrapper for Marlin which is meant to smooth and simplify the transition and the availability of a Gaudi option for the LC community.

Report from the SFT Projects

ROOT

- ROOT v6.18 tagged end of June.

Simulation

- Geant v10.06 *beta* available since end of June 2019
  - This version uses CLHEP 2.4.1.2 and VecGeom 1.1.3
- Patch releases of VecGeom released after finding/needs of NA62
- Geant4 news / forum system is migrating from Hypernews (hosted at SLAC) to Discourse (hosted at CERN).
  - This will possibly bring more users
  - The old Hypernews will remain (statically) available

CernVM

(J Blomer by email)
- CernVM-FS
  - Preparing the cvmfs 2.6.1 patch release, to be expected in July, with some important fixes, so we should encourage deployment on the grid once released
  - Another round of performance engineering took place with LHCb and IT. There have been improvements on all sides: fixing issues in cvmfs, improving nightly installation procedure of LHCb stack, improving S3 service deployment in IT (e.g., removing Ceph's buggy rate throttling). We believe that we reached target performance, in August after the vacation period we'll make another large scale test to verify the stability. All S3 fixes are to be released in cvmfs 2.6.1.

SPI

- LCG_96 finalized and tagged early July and available for most of the platforms. Early tests by LHCb uncovered some non-blocking problems related to python packages, being addressed, and with gcc 8.2 for AVX512. Nightly builds with gcc 9 provided to test solutions. VecGeom fixed version and related Geant4 patch already in the repository; investigating ground for patch release LCG_96a including fixes for all the recent findings.

Related projects

XRootD (M K Simon)

Summary of the Lyon workshop, 11-12 June 2019
- Participants: ~20 + ~5 remote
- Program
  - Status of 4.10; includes
    - XrdHTTP client
      - Completes the HTTP ecosystem
    - CMake infrastructure for only-client builds (required by ROOT and alike)
    - Preparation of interface for IT-CTA
  - Status of 5 (expected for Q4/2019)
    - Encryption support
      - Requested by OSG for DOMA access token
      - Support several encryption level options
    - Extended attributes support
  - AoB
    - Third Party Copy (TPC) fully tested
    - XCache growing importance

Stakeholders feedback

LHCb (M Clemencic)

- Preparing to build a production stack based on LCG_96; this will include Gaudi v32r1 .

G Ganis, 12 July 2019