Minutes for the LIM Meeting - 24 April 2023

Attendees: Bertrand Bellenot, Ben Couturier, James Catmore, Johannes Elmsheuser, , Reiner Hauser, Andrei Kazarov, Dmitri Konstantinov (chair), Attila Krasznahorkay, Ewelina Lobodzinska, Marcin Nowak, Nicholas Styles.

Excused: Andre Sailer, Gerri Ganis

Updates on Nightlies

Dmitri presented the latest updates added to the nightly builds, which include:

Externals

- SPI-2333: **pyhf** updated to **0.7.1**
- SPI-2302: **TensorFlow** updated to **2.12.0**. There may be an issue with this update, as noted by Luca Canali. No specific details were provided by Luca.
- SPI-2335: **Spark 3.4.0** deployed to dev3
- SPI-2336: **frontier_client** updated to **2.10.1**
    - Release notes include:
        - Addition of Python bindings and related patch used by CMS
        - Fix to compile with gcc 10.1's new default `-f-no-common` option
        - Update of fnget.py to its version 1.10 to work with python3 on EL9
- SPI-2301: **(Py)arrow** package updated from **3.0.0** to **11.0.0**
- SPI-2327: **scikit-learn** updated from **1.0.1** to **1.2.0**
- SPI-2325: **qt6/6.4.3** added to nightlies (requested by Geant4, but not a part of "views")
    - Qt5 and Qt6 now coexist in the stack
    - All packages depending on Qt are linked against Qt5 (as before)
    - Qt6 is blacklisted from "views"
- SPI-2305: **xrootd** updated to **5.5.4** (currently broken for macOS platforms due to missing proper C++ flags during python binding compilation)
- SPI-2330: **plotly** module for python/jupyter updated to 5.14.1

Generators

- SPI-2337: **SFGen 1.03** added to LCG_88b and nightlies for ATLAS
    - SFGen is a Generator for photon-initiated production in the Structure Function approach (SFGen)
    - ATLAS will investigate and provide feedback to the authors
- SPI-2322: **Contur-2.4.1.dev20230323** added to nightlies for ATLAS
- SPI-2278: **Sherpa2.2.14 with openmpi** for LCG_88b

Pending tickets

- SPI-2310: **Change of default build configuration of Geant4**
    - Geant4: without VecGeom
    - Geant4_vecgeom_scala: with VecGeom built in scalar mode

    - Geant4_vecgeom_vector: with VecGeom built in vector mode
    - This provides an opportunity for users for benchmarking.
- SPI-2334: Update uproot and awkward in LCG
    - Waiting for new release of coffea.
- SPI-2338: Boost 1.82.0
    - Update in dev4 first for tests
    - Update in dev3 after green light from experiments

> *Johannes/Attila suggested updating the version of CMake in response to the plan of updating the Boost library to a newer version. This is to prevent any potential incompatibility issues that could arise from using an older version of CMake with a newer version of Boost.*

About Releases and Layers:

Release and Layers

LCG_103

- SPI-2289
    - The Base Layer for the clang15 platform is ready, but the compiler's RPMs are not available yet.
    - SPI-2315: The builds for mac12arm are currently failing.

LCG_102b_ATLAS_17/18

- SPI-2298: A new ATLAS layer with a patched Herwig-7.2.3 (7.2.3p1) is ready.

LCG_103_ATLAS_1/2

- SPI-2306: The layer with Pythia8-309 is in progress. All configurations for x86 platforms are ready, the configurations for arm platforms are yet to be checked.

Discussion:

Items for Discussion

- new ROOT releases delayed: **According to Axel Naumann, the release of ROOT v6.28/04, which includes C++20 support, is delayed due to an Xcode update from Apple that has caused a break in ROOT's build. The release is expected to happen right before the CHEP conference in May.**

> *Bertrand reported that just before the release of ROOT, a problem was discovered with the latest version of Xcode. While ROOT can be built, there is an issue with ROOT dictionaries when using this version of Xcode.*

Johannes reminded about a previous showstopper issue for ATLAS regarding the use of the latest ROOT versions. The issue was reported by Scott (see issue #12406 on ROOT's GitHub).

Johannes also mentioned that ATLAS is interested in adopting gcc13 platforms once the gcc13 release is stable.

Attila provided an update on the ongoing discussions between LHC experiments and Nvidia about the licensing conditions of CUDA.

Round table - NTR

Next meeting: May 22 2023