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LHCb Core Software Meeting

Date and Location

2015-07-22 [↗](#)

10:30 - 11:30

CERN (2-R-030)

Attendees

Andrea Valassi, Ben Couturier, Colas Pomies, Florian Lemaitre, Gerhard Raven (Vidyo), Gloria Corti, Illya Shapoval, Liang Sun, Marco Cattaneo, Marco Clemencic (minutes), Markus Frank, Victoria Alcala

Subjects

News

- Gaudi v26r3 released (built and installed on AFS and CVMFS)

Discussion on platforms and Gaudi (C++11 vs C++14)

For Online/Hlt the main platform is x86_64-slc6-gcc48. Gerhard asked if we can move to gcc 4.9 (at least), mainly to allow use of C++14.

Markus does not want to change anything before data taking: too risky.

Marco Ca. points out that even if we use gcc 4.9 in the Hlt, we should not start making changes to use C++14 in the Hlt applications before data taking.

Marco Cl. mentioned that to be able to use C++14 in the code, we need to drop the support for gcc 4.8. He will propose it at the Gaudi Developers Meeting in the afternoon. If it is approved, the master branch of Gaudi (v27) will not work on gcc 4.8, but we can keep the v26 branch backward compatible as long as needed.

Gerhard proposed to jump directly to gcc 5.2 (released recently) instead of 4.9.

Gloria disagrees because Gauss still requires 4.8 (the validation of 4.9 is still pending) and she prefers to do one step at a time (also because of the usual problems with the generators).

Ben reminded that using gcc 4.8 or gcc 4.9 is equivalent performance wise, and gcc 5 is not yet supported by ROOT (because of an ABI change that clang does not support yet).

Vectorization of the solve parabola function in the SciFi tracking (Florian)

- Gerhard: on slide 6, the proposed ways do require alignment are non standard, while C++11 provides a standard way to declare alignment of data (`alignas`[↗](#))
- Gerhard: (slide 12) we should also consider which precision is actually needed. Florian is currently studying it.
- Gerhard: (slide 14, conclusions) there are other multithreading tools that are more efficient than OpenMP
- Marco Ca.: we should consider also the overall throughput on event processing

Round Table

Marco Cl.

- Showed the jobs status page in Jenkins: <https://buildlhcb.cern.ch/jenkins/follow-builds-status> 

Markus

- When is the next software stack ready? Marco Ca.: Brunel already built.

Marco Ca.

- Will request the release of the stack up to Brunel in the afternoon.

Gerhard

- Preparing patches for Gaudi and submitting merge requests. Marco Cl. will send them to the others for review (to test the workflow).

-- MarcoClemencic - 2015-07-22

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