Software Development Infrastructure for the FAIR Experiments

Content:

The proposed project FAIR (Facility for Anti-proton and Ion Research) is an international accelerator facility of the next generation. It builds on the experience and technological developments already made at the existing GSI facility, and incorporates new technological concepts. The four scientific pillars of FAIR are NUSTAR (nuclear structure and astrophysics), PANDA (QCD studies with cooled beams of anti-protons), CBM (physics of hadronic matter at highest baryon densities) and APPA (atomic physics, plasma physics and applications).

The FairRoot framework is used by all of the big FAIR experiments as base for there own specific developments and provides basic functionality like IO, geometry handling etc. The challenge is to support all the different experiments with their heterogeneous requirements.

Due to the limited man power one of the first design decisions was to (re)use as much as possible already available and tested software and to focus on the development of the framework. For FairRoot we use CMake to generate the Makefiles because CMake is available for nearly all platforms and provides also support for many of the common IDE’s. For software testing and the corresponding quality assurance we use CTest to generate the results and CDash as web front end. This tool chain allows us to offer this functionality also to the experiments using FairRoot.

This presentation will first provide a brief description of services for coordination, testing, quality assurance and release of the software provided to the FAIR experiments. In the second part we will do some "repository/log file archaeology" where we will present lessons learned from the statistics we have.

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