

The ALICE Data Quality Monitoring Software and ROOT: experiences, limitations and suggested improvements

Monday, 11 March 2013 17:30 (20 minutes)

ALICE (A Large Ion Collider Experiment) is a heavy-ion detector studying the physics of strongly interacting matter and the quark-gluon plasma at the CERN LHC (Large Hadron Collider).

Given its strong requirements in terms of event rate and efficiency, as well as the limited heavy-ion beam time, the online Data Quality Monitoring (DQM) plays an essential role to ensure the good quality of the data. DQM typically involves the online gathering, the analysis by user-defined algorithms and the visualization of monitored data. AMORE (Automatic MONitoring Environment) is the ALICE's DQM framework.

It is written in C++, strongly based on the ROOT framework and interfaced with DATE, the ALICE online framework.

In this presentation, we will show how the integration of ROOT with AMORE has been implemented in order to carry out the data quality monitoring tasks in an efficient manner.

We will show its latest features including the access of ROOT/AMORE objects from the ALICE electronic logbook and the objects visualization through the AMORE Graphical User Interface.

Furthermore, the extensive usage of the framework with thousands of pseudo-ROOT objects produced and published per second will be described as well as the positive and negative outcomes that have arisen from this experience.

Suggestions and limitations associated with the plan of moving to Web-based user interfaces will be presented in the view of the experiment upgrades during the LHC long shutdowns 1 and 2.

Author: Mr VON HALLER, Barthelemy (CERN)

Co-author: TELESCA, Adriana (CERN)

Presenter: Mr VON HALLER, Barthelemy (CERN)

Track Classification: Online