

Integrating interactive PROOF into a Batch System

Monday 23 March 2009 08:00 (20 minutes)

While the Grid infrastructure for the LHC experiments is well suited for batch-like analysis, it does not support the final steps of an analysis on a reduced data set, e.g. the optimization of cuts and derivation of the final plots. Usually this part is done interactively. However, for the LHC these steps might still require a large amount of data. The German “National Analysis Facility”(NAF) at DESY in Hamburg is envisioned to close this gap. The NAF offers computing resources via the Sun Grid Engine(SGE) workload management system and high bandwidth data access via the network clustering file system Lustre. From the beginning, it was planned to setup a “Parallel ROOT Facility”(PROOF) to allow the users to analyze large amounts of data interactively in parallel. However, a separate central PROOF cluster would be decoupled from the scheduling and accounting of the existing workload management system. Thus, we have developed a setup that interfaces interactive PROOF to the SGE batch system by allowing every user to set up its own PROOF cluster using SGE’s parallel environments. In addition, this setup circumvents security issues and incompatibilities between different ROOT versions. We will describe this setup and its performance for different analysis tasks. Furthermore, we will present the different ways offered by the CMS offline software to analyze CMS data with PROOF.

Authors: Dr STADIE, Hartmut (Universität Hamburg); Mr BEHRENHOF, Wolf (Universität Hamburg)

Presenter: Dr STADIE, Hartmut (Universität Hamburg)

Session Classification: Poster session

Track Classification: Software Components, Tools and Databases