Contribution ID: **178**   Type: **Poster**

Integrating PROOF Analysis in Cloud and Batch Clusters

Tuesday 22 May 2012 13:30 (4h 45m)

High Energy Physics (HEP) analysis are becoming more complex and demanding due to the large amount of data collected by the current experiments. The Parallel ROOT Facility (PROOF) provides researchers with an interactive tool to speed up the analysis of huge volumes of data by exploiting parallel processing on both multicore machines and computing clusters. The typical PROOF deployment scenario is a permanent set of cores configured to run the PROOF daemons. However, this approach is incapable of adapting to the dynamic nature of interactive usage. Several initiatives seek to improve the use of computing resources by integrating PROOF with a batch system, such as PoD or PROOF Cluster. These solutions are currently in production at Universidad de Oviedo and IFCA and are positively evaluated by users. Although they are able to adapt to the computing needs of users, they must comply with the specific configuration, OS and software installed at the batch nodes. Furthermore, they share the machines with other workloads, which may cause disruptions in the interactive service for users. These limitations make PROOF a typical use-case for cloud computing. In this work we take profit from Cloud Infrastructure at IFCA in order to provide a dynamic PROOF environment where users can control the software configuration of the machines. The Proof Analysis Framework (PAF) facilitates the development of new analysis and offers a transparent access to PROOF resources. Several performance measurements are presented for the different scenarios (PoD, SGE and Cloud), showing a speed improvement closely correlated with the number of cores used.

Author: Dr RODRÍGUEZ-MARRERO, Ana Y. (Instituto de Física de Cantabria (UC-CSIC))

Co-authors: Mr CUESTA-NORIEGA, Alberto (Universidad de Oviedo); Dr FERNÁNDEZ-DEL-CASTILLO, Enol (Instituto de Física de Cantabria (UC-CSIC)); Dr MATORRAS-WEINIG, Francisco (Instituto de Física de Cantabria (UC-CSIC)); Dr GONZÁLEZ-CABALLERO, Isidro (Universidad de Oviedo); Dr MARCO-DE-LUCAS, Jesús (Instituto de Física de Cantabria (UC-CSIC)); Mr LÓPEZ-GARCÍA, Álvaro (Instituto de Física de Cantabria (UC-CSIC))

Presenter: Dr RODRÍGUEZ-MARRERO, Ana Y. (Instituto de Física de Cantabria (UC-CSIC))

Session Classification: Poster Session

Track Classification: Distributed Processing and Analysis on Grids and Clouds (track 3)