Contribution ID: **10** Type: **poster**

Migration of Monte Carlo Simulation of High Energy Atmospheric Showers to GRID Infrastructure

Thursday 26 March 2009 08:00 (20 minutes)

The MAGIC telescope, a 17-meterCherenkov telescope located on La Palma (Canary Islands), is dedicated to the study of the universe in Very High Energy gamma-rays. These particles arrive at the Earth's atmosphere producing atmospheric showers of secondary particles that can be detected on ground through their Cherenkov radiation. MAGIC relies on a large number of Monte Carlo simulations for the calibration of the recorded events . The simulations are used to evaluate efficiencies and identify patterns to distinguish between genuine gamma-ray events and unwanted background events. Up to now, these simulations were executed on local queuing systems, resulting in large execution times and a complex organizational task. Due to the parallel nature of these simulations, a Grid-based simulation system is the natural solution.

Here, a system which uses the current resources of the MAGIC Virtual Organization on EGEE is proposed. It can be easily generalized to support the simulation of any similar system, as the planned Cherenkov Telescope Array. The proposed system, based on a Client/Server architecture, provides the user with a single access point to the simulation environment through a remote graphical user interface, the Client. The Client can be accessed via web browser, using web service technology, with no additional software installation on the user side required. The Server processes the user request and uses a database for both data catalog and job management inside the Grid. The design, first production tests and lessons learned from the system will be discussed at the conference.

Author: Mr VAZQUEZ, Adolfo (Universidad Complutense de Madrid)

Co-authors: Mr IBARRA, Aitor (INSA); Mr DE LA CALLE, Ignacio (INSA); Mr CONTRERAS, Jose Luis (Universidad Complutense de Madrid / MAGIC Collaboration)

Presenter: Mr VAZQUEZ, Adolfo (Universidad Complutense de Madrid)

Session Classification: Poster session

Track Classification: Distributed Processing and Analysis