Contribution ID: **11** Type: **Poster**

LHCb experience during CCRC'08

Tuesday, 23 September 2008 16:57 (1 minute)

Describe the activity, tool or service using or enhancing the EGEE infrastructure or results. A high-level description is needed here (Neither a detailed specialist report nor a list of references is required).

The Large Hadron Collider at CERN is the front end machine for the high energy physics and will start operating fall of the summer 2008. The expected amount of data that will be produced and that has to be analyzed is unprecedented. HEP experiments decided to move toward grid technologies to cope with their extraordinary data and CPU intensive needs. The integration of the experiment specific computing framework into the underlying production grid has not been always effortless.

Report on the impact of the activity, tool or service. This should include a description of how grid technology enabled or enhanced the result, or how you have enabled or enhanced the infrastructure for other users.

The achieved maturity of the LHCb computing framework from one side and the knowledge acquired on grid technologies by the community positioned the LHCb CCRC'08 experience in a privileged situation. It represents indeed a lucid and objective outlook to the health status of the grid in the few months preceding the first beam collisions. The aim of this work is to present this experience, its objectives and how these have been achieved or adjusted in the time, to describe the DIRAC system and how it is evolved to cope with the limits of the back-end systems, to discuss the performances achieved, and to analyze the problems observed. The CCRC08 is made of two different critical phases: the "February phase"that represented a final test of the new brand of the LHCb computing framework and the "May phase"where LHCb, in a tight coordination with other experiments, kept running at the predicted by its computing model rate.

Abstracts for online demonstrations must provide a summary of the demo content. Places for demos are limited and this summary will be used as part of the selection procedure. Please include the visual impact of the demo and highlight any specific requirements (e.g. network connection). In general, a successful demo is expected to have some supporting material (poster) and be capable of running on a single screen or projector.

Data Management System and Workload System on WLCG have been proved to be stable enough for sustain LHCb activities on the Grid. A more general feeling that the underlying infrastructure had scaled with the needs of the four HEP VOs running they activities at full nominal rate is also perceived. The reliability of all these services has improved since the past. This has been certainly possible by instituting adequate operational infrastructures closely watching and chasing problems and also by means of progressed communication channels between VOs and resources and services providers. A significantly advanced monitoring infrastructure as well as improved procedures could also be assessed as big contribution to this success. CCRC'08 also

highlighted some still pending issues from the past. There is room for improvement but a decisive progress can be tracked down.

Describe the added value of the grid for your activity, or the value your tool or service adds for other grid users. This should include the scale of the activity and of the potential user community, and the relevance for other scientific or business applications.

CCRC'08 is the acronym for Common Computing Readiness Challenge and it represents the very last chance for experiments, services and resources providers to commonly test the production infrastructure prior real data come. Its goals are both for consolidating the LHCb computing model and its newly commissioned computing framework (DIRAC3) but also for exercising and testing the readiness of all resources and services involved by mean of having all four High Energy Physics experiments running concurrently. Over the past few years, LHCb has always been one of the top users of LCG resources gathering considerable experience in distributed computing at a large scale. The central part of the system is a fully reengineered version of DIRAC (Distributed Infrastructure with Remote Agent Control) that exposes innovative features. It is the experiment gateway to the grid and its key-words are traditionally: resilience, reliability and redundancy.

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