Contribution ID: **19**   Type: **oral presentation**

Using the Grid - the BaBar Perspective.

Thursday 10 May 2007 11:30 (20 minutes)

Describe the scientific/technical community and the scientific/technical activity using (planning to use) the EGEE infrastructure. A high-level description is needed (neither a detailed specialist report nor a list of references).

The BaBar experiment is a high-energy physics collaboration based at SLAC, California, USA, with 570 members from 10 countries investigating the properties of anti-matter. The Grid is used for simulating the experiment, reconstructing and processing the experimental results, and analysing the results for publication.

Report on the experience (or the proposed activity). It would be very important to mention key services which are essential for the success of your activity on the EGEE infrastructure.

In this contribution, we discuss the experience of converting pre-Grid computing models to using the Grid; the relative costs and benefits of the Grid to the three core tasks of simulation, central reconstruction and user analysis; and the ability of the Grid to meet the time-critical needs of an experiment that runs 24/7. Key to the success of the project is high throughput, high reliability, high efficiency, low latency, good monitoring and reporting, and guaranteed future resource use. We compare the Grid and classic batch systems against these key metrics.

With a forward look to future evolution, discuss the issues you have encountered (or that you expect) in using the EGEE infrastructure. Wherever possible, point out the experience limitations (both in terms of existing services or missing functionality)

The Egee infrastructure is not as reliable as current batch systems. The instablility of key elements such as resource brokers and VOMS, the incompatibilities between software releases, constantly changing data access policies, poor error reporting, lack of user documentation, the disconnect betwen the user and the support, and the general high learning curve all contribute to difficulties for the experts and failure to motivate users.

Describe the added value of the Grid for the scientific/technical activity you (plan to) do on the Grid. This should include the scale of the activity and of the potential user community and the relevance for other scientific or business applications

In 2006, the experiment required 1.4 Petabytes of storage and 5500 KSI2K of computing power to simulate, process, reconstruct and analyse our large dataset with low latency and high efficiency. For the last two years we have investigated the use of the Grid as an alternative resource to achieve our current and future goals. The main goals have been a need to double are processing requirements while keeping manpower at current or reduced levels.

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Session Classification: Experience with application domains

Track Classification: Experience with application domains –setting up and production