Contribution ID: **263** Type: **poster**

The WEB interface for the ATLAS/LCG MySQL Conditions Databases and performance constraints in the visualisation of extensive scientific/technical data

Thursday 30 September 2004 10:00 (1 minute)

A common LCG architecture for the Conditions Database for the time evolving data enables the possibility to separate the interval-of-validity (IOV) information from the conditions data payload. The two approaches can be beneficial in different cases and separation presents challenges for efficient knowledge discovery, navigation and data visualization. In our paper we describe the conditions data browser - CondDBrowser - a tool deployed in ATLAS for scientific analysis and visualization of this data.

A wide availability and access to the overall distributed conditions data repository was achieved through a seamless integration of the IOV and the payload data to the user a unifying web interface that hides the persistency storage details. Another user-friendly feature of the tool is a simplified querying language similar to QBE (Query by Example).

Our case study is based on the web interface developed for the ATLAS/LCG ConditionsDB. The interaction with other payload storage technologies, external to the ConditionsDB, will also be presented. In particular, the integration of the NOVA database technologies.

We will discuss how the information is gathered from the ConditionsDB and the corresponding extensions needed to enable data browsing in the external repositories, how it is organized, and what kind of operations (search and visualization) are allowed. We'll also present how this interface uses the C++ API extending it to a similar PHP interface, that can be used to browse data collected using any of the ConditionsDB implementations.

Performance constraints are also presented and will be discussed in detail.

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Session Classification: Poster Session 3

Track Classification: Track 3 - Core Software