



Contribution ID: 373

Type: Poster

Conditions and Configuration Metadata for the ATLAS experiment

Thursday, May 24, 2012 1:30 PM (4h 45m)

In the ATLAS experiment, database systems generally store the bulk of conditions and configuration data needed by event-wise reconstruction and analysis jobs. These systems can be relatively large stores of information, organized and indexed primarily to store all information required for system-specific use cases and efficiently deliver

the required information to event-based jobs.

Metadata in these systems may include the indexes themselves, but frequently important metadata for forming, for example, collections of events for analysis or for the management of that system may not be readily accessible

for more global purposes.

Moreover, the systems may have been developed before important metadata quantities were recognized.

A system, called COMA (Conditions/Configuration Metadata for ATLAS), has been developed to make globally important metadata more readily accessible.

It is based on a relational database storing directly extracted, refined, reduced, and derived information from these system-specific data sources as well as information from non-database sources. A variety of unique interfaces have emerged and additional interfaces are in development.

This presentation will give an overview of the components of the system and describe the unique interfaces which it facilitates.

We summarize the challenges in defining and loading the requisite data and specify how consistency is maintained between COMA and the primary data sources.

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Session Classification: Poster Session

Track Classification: Software Engineering, Data Stores and Databases (track 5)