



Contribution ID: 560

Type: **Poster**

Implementation and use of BaBar Long Term Data Access.

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

The BaBar high energy physics experiment acquired data from 1999 until 2008. Soon after the end of data taking, the effort to produce the final dataset started. This final dataset contains over 11×10^9 events, in 1.6×10^6 files, over a petabyte of storage. The Long Term Data Access (LTDA) project aims at the preservation of the BaBar data, analysis tools and documentation to ensure the capability to perform physics analyses and publish new physics results. It also foresees to use the data for education and outreach, and for the combination of BaBar results with other experiments. The central element of the BaBar LTDA is an integrated cluster of computation and storage resources which will become the primary facility for the analysis of BaBar data in the coming years. The cluster uses virtualization technologies to ensure continued operation with future hardware and software platforms, and utilizes distributed computation and storage methods for scalability. The design has been developed with particular attention to computer security and portability of the model. This presentation will focus on the details of the implementation and use of the LTDA within the BaBar Collaboration, and the first user experience with BaBar data analyses.

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Session Classification: Poster Session

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