Contribution ID: **58** Type: **Poster**

Belle II Data Handling System

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

In order to search for new physics beyond the standard model, the next generation of B-factory experiment, Belle II will collect a huge data sample that is a challenge for computing systems. The Belle II experiment, which should commence data collection in 2015, expects data rates 50 times higher than that of Belle. In order to handle this amount of data, we need a new data handling system based on a new computing model, which is a distributed computing model including grid farms as opposed to the central computing model using clusters at the Belle experiment.

The existing Belle data handling system has problems with performance, scalability, and robustness at the projected Belle II data rate, which makes it inappropriate for the Belle II experiment. Moreover, the solution applied by Belle is not intended to be used in a distributed environment. Therefore, the goal of the Belle II data handling system is to make a reliable and efficient metadata system based on grid farms.

In this talk, we explain the architecture, characteristics, components and interactions of them for the Belle II data handling system. We also show the user scenario for the data handling system. To determine where the files are located on the grid and thus to which sites the jobs that process these files should be submitted, we uses the LCG File Catalog (LFC).

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Session Classification: Poster Session

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