

Belle II computing model in relation to the EGI infrastructure

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The Belle II experiment is a next-generation B factory experiment at the KEK laboratory, Tsukuba, Japan, scheduled to start operating in 2016. Belle II is expected to collect about fifty times more data than its predecessor, the Belle experiment. By 2022, the data collected volume is expected to be comparable to the data volume of the LHC experiments.

Processing and analysing such a huge data sample requires a new computing model for Belle II, updated from the one used for Belle where all computing resources were provided by KEK to a distributed computing scheme. The most efficient method to handle this challenge is by using a system, which exploits a combination of different types of computing resources. The designed Belle II computing system is based on DIRAC, which provides an interface to large dedicated clusters, grid infrastructures and cloud resources, and AMGA for the management of files metadata. A common software framework is used in the entire chain from the data acquisition up to the data analysis stage. It is designed in a modular way, steered via python files and supports parallel execution on multi-core nodes.

The Belle II experiment is an international scientific collaboration with more than 600 scientists and institutions from several European countries. Good EGI infrastructure support for the Belle II project could win important support from institutions in European countries, thus enabling the Belle II collaboration to achieve its scientific goals.

Wider impact and conclusions

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Description of work

In this talk the basics of the Belle II experiment are described. The main part of the presentation focuses on the status and plans for the Belle II computing model, with emphasis given on possible EGI infrastructure support.

Primary author: BRACKO, Marko (JSI)

Presenter: BRACKO, Marko (JSI)

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