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Belle II public and private clouds management in VMDIRAC system.

The role of cloud computing technology in the distributed computing for HEP experiments grows rapidly. Some experiments (Atlas, BES-III, LHCb, ...) already exploits private and public cloud resources for data processing. Future experiments such as Belle II or upgraded LHC experiments will largely rely on the availability of cloud resources and therefore their computing models have to be adjusted to the specific features of cloud environment, in particular to the on-demand computing paradigm.

Belle II experiment at SuperKEKB will start physics run in 2017. Belle II computing requirements are challenging. The data size at the level of hundred PB is expected after several years of operation, around 2020. The baseline solution selected for distributed processing is the DIRAC system. DIRAC can handle variety of computing resources including Grids, Clouds and independent clusters. Cloud resources can be connected by VMDIRAC module through public interfaces. In particular the mechanism of dynamic activation of new virtual machines with reserved job slots for new tasks in case of an increasing demand for computing resources is introduced.

This work is focused on VMDIRAC interaction with public (Amazon EC2) and private (CC1) cloud. The solution applied by Belle II experiment and the experience from Monte Carlo production campaigns will be presented. Updated computation costs for different use cases will be shown.

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