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LHCbDIRAC: distributed computing in LHCb

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We present LHCbDIRAC, an extension of the DIRAC community Grid solution to handle the LHCb specificities.

The DIRAC software has been developed for many years within LHCb only. Nowadays it is a generic software, used by many scientific communities worldwide. Each community wanting to take advantage of DIRAC has to develop an extension, containing all the necessary code for handling their specific cases.

LHCbDIRAC is an actively developed extension, implementing the LHCb computing model and workflows. LHCbDIRAC extends DIRAC to handle all the distributed computing activities of LHCb. Such activities include real data processing (reconstruction, stripping and streaming), Monte-Carlo simulation and data replication. Other activities are groups and user analysis, data management, resources management and monitoring, data provenance, accounting for user and production jobs. LHCbDIRAC also provides extensions of the DIRAC interfaces, including a secure web client, python APIs and CLIs. While DIRAC and LHCbDIRAC follow independent release cycles, every LHCbDIRAC is built on top of an existing DIRAC release. Before putting in production a new release candidate, a number of certification tests are run in a separate setup. This contribution highlights the versatility of the system, also presenting the experience with real data processing, data and resources management, monitoring for activities and resources.

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