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DIRAC Data Management System

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DIRAC Project is developing software for building distributed computing systems for the needs of research communities. It provides a complete solution covering both Workload Management and Data Management tasks of accessing computing and storage resources. The Data Management subsystem (DMS) of DIRAC includes all the necessary components to organize distributed data of a given scientific community. The central component of the DMS is the File Catalog (DFC) service. It allows to build a logical File System of DIRAC presenting all the distributed storage elements as a single entity for the users with transparent access to the data. The Metadata functionality of the DFC service is provided to classify data with user defined tags. This can be used for an efficient search of the data necessary for a particular analysis. The DMS supports all the usual data management tasks of uploading and downloading, replication, removal files, etc. A special attention is paid to the bulk data operations involving large numbers of files. Automation of data operations driven by new data registrations is also possible. In this contribution we will make an overview of the DIRAC Data Management System and will give examples of its usage by several research communities.

Primary author: Dr TSAREGORODTSEV, Andrei (CPPM-IN2P3-CNRS)

Presenter: Dr TSAREGORODTSEV, Andrei (CPPM-IN2P3-CNRS)

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