

Distributed CMS Analysis on the Open Science Grid

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The CMS computing model provides reconstruction and access to recorded data of the CMS detector as well as to Monte Carlo (MC) generated data. Due to the increased complexity, these functionalities will be provided by a tier structure of globally located computing centers using GRID technologies. In the CMS baseline, user access to data is provided by the CMS Remote Analysis Builder (CRAB) analysis tool which enables the user to execute analysis applications on locally resident data using GRID tools independent of the geographical location. Currently, mostly two different toolkits provide the needed functionalities, the Worldwide LHC Computing Grid (LCG) and the OpenScience Grid (OSG). Due to infrastructure and service differences between the two toolkits, analysis tools developed for one are frequently not immediately compatible with the other. In this paper, we will describe the development of additions to the CRAB tool to run user analysis on OSG sites. We will discuss the approach of using the GRID submission of the CONDOR batch system (CONDOR-G) to provide a sandbox functionality for the user's analysis job. For LCG sites, this is provided amongst other things by the resource broker. We will discuss the differences of user analysis on LCG and OSG sites and present first experiences running CMS user jobs at OSG sites.

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