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Design and development of application software for MPD distributed computing infrastructure

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Multi-Purpose Detector collaboration began using distributed computing for centralized Monte-Carlo generation in the mid of 2019. DIRAC Interware is used as a platform for the integration of heterogeneous distributed computing resources. Since that time workflows of job submission, data transfer, and storage were designed, tested, and successfully applied. Moreover, we observe the growth of interest in access to the computing system from users. One way to provide such access for the users is to allow them direct jobs submission to DIRAC. But direct access to the resources imposes high responsibility on the users and must be restricted. For this reason, another approach was chosen: to design and develop a dedicated application that collects requirements from a user and starts a required amount of the jobs. That approach requires additional efforts: elaboration of requirements, designing of application, and development. But, it allows greater control over workload submitted by other users, reducing possible failures and inefficient usage of resources.

Summary

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