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Job Submission and Management Through Web Services: the Experience with the CREAM Service

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Modern GRID middlewares are built around components providing basic functionality, such as data storage, authentication and security, job management, resource monitoring and reservation. In this paper we describe the Computing Resource Execution and Management (CREAM) service. CREAM provides a Web service-based job execution and management capability for Grid systems; in particular, it is being used within the gLite middleware. CREAM exposes a Web service interface allowing conformant clients to submit and manage computational jobs to a Local Resource Management System. We developed a special component, called ICE (Interface to CREAM Environment) to integrate CREAM in gLite. ICE transfer job submissions and cancellations from the Workload Management System, allowing users to manage CREAM jobs from the gLite User Interface. This paper describes some recent studies aimed at measuring the performance and the reliability of CREAM and ICE, also in comparison with other job submission systems. We discuss recent work towards enhancing CREAM with a BES and JSDL compliant interface.

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