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# Support for CREAM-based CEs in GridWay Metascheduler

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This work presents a new CREAM execution adapter that allows the execution of jobs to CREAM-based CEs via the GridWay metascheduler. Therefore, the user describes the jobs with GridWay Job Template and submits, controls and monitors them using GridWay commands. The design and implementation of CREAM adapter for GridWay metascheduler show the capabilities of GridWay to adapt job execution to several resource management services.

## Impact

The main goal of this approach is to demonstrate the efficiency of GridWay metascheduler in the execution of jobs in several Grid infrastructures. The new CREAM adapter allows the execution of jobs to CREAM-based CEs from GridWay. Moreover, GridWay provides interoperation between EGEE and other Grid infrastructures. Therefore, GridWay allows applications and users to adapt to various Grid middlewares and would help in the transition phase from LCG-based to CREAM-based CEs. This adaptation is transparent from the user and the application point of view, so porting efforts based on GridWay already done must not be repeated. Furthermore, the development of a CREAM adapter proves the simplicity to implement new MADs (information, transfer and execution) in order to adjust the GridWay metascheduler to the user or applications requirements. Thus, the GridWay metascheduler facilitates the deployment of the applications in several Grid infrastructures.

## URL for further information

http://dsa-research.org/doku.php

## Conclusions and Future Work

We propose a new CREAM execution adapter for GridWay that allows executing jobs in EGEE infrastructure with CREAM-based CEs. The main aim of this work is prove the versatility of GridWay metascheduler to adapt the execution of jobs to various Grid infrastructures. Moreover, the implementation of CREAM adapter shows the ability of GridWay to incorporate new MADs easily. We will demonstrate the efficiency of this approach in the execution of a set of jobs within several Grid infrastructures.

## Keywords

CREAM GridWay execution adapter

## Detailed analysis

The GridWay metascheduler uses an architecture based on adapters to provide an abstraction with the middleware layer. There are three kinds of adapters in GridWay architecture named, information, transfer and execution Middleware Access Driver (MAD). In this works, we have focused in the execution MAD to develop a new CREAM execution adapter, which allows submitting, controlling and monitoring the execution of GridWay jobs. The CREAM adapter provides the job execution to CREAM-based CEs from GridWay and

translates GridWay Job Template Language to Job Description Language (JDL) used by CREAM. The effects of CREAM execution adapter will be proved in the execution of a set of jobs with GridWay metascheduler. These experiments will demonstrate the efficiency of GridWay in the execution of jobs whatever the underlying middleware.

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