

# Enhancing the CREAM-CE with the High Availability Cluster

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## Description of the work

This work is focusing on enhancing CREAM service with the High Availability. It will guarantee the ability of the CREAM service to be continuously available for serving the user requests even during planned and unplanned outages. The whole system complexity will be hidden to the user whereas the overall service will benefit of an increasing of performance, scalability, availability and fault tolerance which are relevant features in the production environment. We will show the relevant criteria adopted for modeling the envisaged CREAM architecture based on clustering paradigm. We will discuss about its implementation by highlighting the entailed issues: the merging and/or logical centralization of information coming from different sources in the cluster, the potential bottlenecks and SPOFs (Single Point Of Failures) which affect several services used by CREAM-CE, such as databases, sandboxes, BLAH and how those components should be carefully replicated. Moreover we will present the status of the work.

## Wider impact of this work

This work will provide the user the guarantee to take advantage of a CREAM service continuously available and enhanced with high performance for serving her requests even during planned and unplanned outages. The whole system will gain of features desirable and required in all production environments.

## Printable Summary

One of the new functionalities foreseen to be implemented after the second EMI (European Middleware Initiative) major release in the CREAM-CE is the ability to be continuously available for serving user requests even in case of planned and unplanned outages. Like several popular Internet services, the idea is to achieve this goal relying on a cluster of commodity computers seen as a single service. This won't allow only to implement the High Availability (HA) capability, but also to improve the overall scalability and performance. The whole system complexity must of course be hidden to the user, who is not interested in distinguishing a single CREAM service from the clustered one. We present the envisaged architecture and the status of the developments.

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