

D-MON: a federated information system for distributed e-Infrastructures

Tuesday, 9 April 2013 11:25 (20 minutes)

Summary

D-MON is a federated information system that provides e-Infrastructure stakeholders with precise and reliable information on state and functionality of resource and services in a distributed computing environment. D-MON focuses on satisfying requirements of individual stakeholders, such as academic users and infrastructure operators, by using robust algorithms for combining and analysing data to provide accurate reviews while filtering out unnecessary details. D-MON avoids duplicating functionality implemented in existing information services and provides an added value by federating existing information providers and utilising information available in an e-Infrastructure.

Impact

D-MON relies on state of the art algorithms for analysing and processing data extracted from information providers available in an e-Infrastructure. Processed information is presented based on interests and requirements of e-Infrastructure stakeholders using a variety of visualisation techniques, including overviews, reports, graphs and interactive charts. In that way D-MON promotes knowledge discovery, facilitates planning and helps to reduce time to completion of scientific workflows.

Description

E-Infrastructure provided by EGI offers European scientific communities state of the art ICT services that are indispensable for success of their research. The e-Infrastructure is a highly complex and sophisticated environment thus, to optimise utilisation of available resources and services, user communities require access to precise, mission-specific information. Such information may comprise a list of services accessible to the respective community, forecasted availability of these services, detailed account on work progress of community members, amount of storage, computing and other resources available to the community. This information is available from multiple sources, such as monitoring, information systems, user management and accounting services. Each individual system holds a subset of the required data that often is not valuable in its raw form. For example, monitoring tools like Nagios collect resource and service availability information – however Nagios can not provide a user with a status summary about services he or she are frequently working with.

To address this challenge we developed a framework called D-MON. D-MON integrates existing information providers and applies filtering and data mining algorithms to generate mission-specific infrastructure reports and views. D-MON focuses on satisfying requirements of e-Infrastructure stakeholders, such as academic users, infrastructure operators, and project coordinators, by providing required information while filtering out unnecessary details. D-MON avoids duplicating functionality implemented in existing information services and provides an added value by federating existing information providers and utilising information available in an e-Infrastructure.

In this presentation a live demonstration of D-MON will be given.

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Session Classification: Operational Services

Track Classification: Operational Services (Track Lead: T Ferrari and M Krakowian)