EMI Resource Information Service

Introduction

This document outlines the proposal for the EMI Resource Information Service (ERIS).

Requirements

1. Provide information about a Grid Service.
2. Information must conform to the GLUE 2.0 information model.
3. Provide only the information required (query/filter).
4. Easily adaptable to different systems.
5. Lower the maintenance cost for EMI.

Existing Solutions In EMI

Currently within EMI there are three solutions that provide this functionality; the gLite resource BDII, the ARC classic info-server and the Unicore CIP. One of the goals of the ERIS is to lower the maintenance cost of EMI by providing only one solution. The other main goal is to provide a sustainable solution by providing a solid interfaces that can be used to build higher-level functionality. The gLite resource BDII and the ARC classic info-server both provide and LDAP interface, where as the Unicore CIP provides XML over HTTP. The area where support is high is the development and maintenance of the back-end scripts that obtain the information directly from the resource. The provision of a well defined specification for this interface is important as it enables the script to be provided and maintained by the developers of the service.

Interfaces

The ERIS presents two interfaces; an external interface which is queried to obtain information and an internal interface that defines the coupling with the back-end system.

External Interface

An LDAP v3 interface is currently provided by both the gLite resource BDII and ARC classic info-server. It is a mature standard and is widely deployed in production. It also meets all of the requirements.

1. It can be used to obtain information about a Grid Service.
2. An LDAP rendering of the GLUE 2.0 information model is available.
3. LDAP supports queries/filters.
4. LDIF can be used as a data exchange format.
5. Implementations available from third party providers. (OpenLDAP)

Internal

To complement the external interface, LDIF can leveraged for the internal interfaces. The concept of information providers, scripts that return information in LDIF to standard out, has worked well in production environments. A framework for information providers is required to simplify their deployment, adaptation and configuration. This is essentially a packaging task where the location and configuration methods are defined.