



EGI-InSPIRE

UMD INFORMATION CAPABILITIES QUALITY CRITERIA v2

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Abstract

This document describes the Quality Criteria for the Information Capabilities identified in the UMD Roadmap.



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Document Log

Issue	Date	Comment	Author/Partner
1.0	19/01/2011	Reorganisation of criteria into UMD roadmap 2 groups.	Enol Fernández
1.3	09/02/2011	Review of criteria	Enol Fernández
2 DRAFT 1	20/06/2011	Update to new template, review of criteria. Add messaging.	Enol Fernández / Mario David
2	03/08/2011	Release 2. Review EMI input	E. Fernández



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1 INFORMATION MODEL

1.1 Information Model Schema

GlueSchema Support	
ID	INFOMODEL_SCHEMA_1
Description	Resource information exchanged in the EGI Infrastructure must conform to GlueSchema.
Mandatory	YES
Applicability	Information Model Appliances
Input from Technology Provider	Resource information published by Information Discovery Appliances must conform to the GlueSchema v1.3 and v2.0 (optionally). A test for the conformance of the information to the schema should be provided.
Test Description	<p>Pre-condition None.</p> <p>Test Check that information published conforms to GlueSchema (v1.3 and/or v2).</p> <p>Expected Outcome Information conforms to GlueSchema.</p>
Pass/Fail Criteria	Information published must be available in GlueSchema v1.3 and/or GlueSchema v2. (it is expected that all products transition to GlueSchema v2) Ideally the Technology Provider should assure this by a test suite of the appliances.
Related Information	UMD Roadmap [R 1] GlueSchema v1.3 [R 2] GlueSchema v2 [R 3]
Revision Log	V2: Merged INFOMODEL_SCHEMA_* into this criterion. Rephrasing.

2 INFORMATION DISCOVERY

2.1 Information Discovery Interface

Information Discovery Interface	
ID	INFODISC_IFACE_1
Description	Information published by the appliance must be available through LDAPv3 protocol
Mandatory	YES
Applicability	Information Discovery Appliances
Input from Technology Provider	LDAP interface for getting the available information.
Test Description	<p>Pre-condition Information Discovery Appliance is running</p> <p>Test Fetch information from Discovery Appliance using LDAPv3.</p> <p>Expected Outcome Information is retrieved correctly from server.</p>
Pass/Fail Criteria	Information published must be available through LDAPv3 protocol.
Related Information	UMD Roadmap [R 1]
Revision Log	

2.2 Information Discovery Functionality

2.2.1 Information Aggregation

The Information Discovery services aggregate information from lower level sources of information in a hierarchical way. Appliances providing the Information Discovery Capability must be able to aggregate lower level sources of information and apply filter to that information

Information Filtering	
ID	INFODISC_AGG_1
Description	The information discovery service must be able to filter some of the data coming from information sources (e.g. do not publish information of a compute capability for a given VO)
Mandatory	NO
Applicability	Information Discovery Appliances
Input from Technology Provider	The Appliances must allow the definition of information filters (e.g. do not publish information of a CE for a given VO).
Test Description	Pre-condition Valid sources of information are available. Valid filter.
	Test Filter sources according to filter.
	Expected Outcome Output filtered information
	Pre-condition Valid sources of information are available. Invalid filter.
Test Description	Test Filter sources according to filter.
	Expected Outcome Error message stating that the information cannot be filtered.
	Expected Outcome Output unfiltered information.
Pass/Fail Criteria	The administrator must be able to define filters for the information that gets published by the appliance. The appliance defines the format and syntax for the filters.
Related Information	UMD Roadmap [R 1]
Revision Log	V2: Rephrase, turned to non-mandatory.

Information Aggregation	
ID	INFODISC_AGG_2
Description	The information discovery service must be able to collect data from different sources and aggregate them in a single source of information.
Mandatory	YES
Applicability	Information Discovery Appliances
Input from Technology Provider	Support for the aggregation of different sources of information into the appliance (e.g. aggregation of several site-BDII in the top-BDII)
Test Description	<p>Pre-condition Set of valid information service sources available and correct.</p> <p>Test Aggregate information from sources</p> <p>Expected Outcome Output aggregated information</p>
	<p>Pre-condition Set of valid information service sources available, at least one incorrect (e.g. not GlueSchema compliant)</p> <p>Test Aggregate information from sources</p> <p>Expected Outcome Output aggregated information without incorrect source. Show a warning message.</p>
	<p>Pre-condition Set of valid information service sources, at least one unreachable</p> <p>Test Aggregate information from sources</p> <p>Expected Outcome Output aggregated information without unreachable source. Show a warning message.</p>
Pass/Fail Criteria	The appliance must aggregate several sources of information. When one of them presents errors or is unreachable, others still must be published. Update interval for sources must be configurable.
Related Information	UMD Roadmap [R 1]
Revision Log	

2.2.2 Availability/Scalability

Size Test	
ID	INFODISC_AVAIL_1
Description	Information Discovery appliances must be able to handle big amounts of data. Central services for the whole EGI.eu infrastructure may contain information from several hundred sites.
Mandatory	YES
Applicability	Information Discovery Appliances
Input from Technology Provider	Limit of size of the data handled by the service should be enough to cover the whole EGI.eu Infrastructure. Documentation on how to support large data sizes.
Test Description	<p>Pre-condition Correctly configured service.</p> <p>Test Add information from all EGI.eu Infrastructure.</p> <p>Expected Outcome Appliance is able to handle all the information.</p>
Pass/Fail Criteria	Pass if the test is provided and the limit is enough to handle the current information of the <i>whole</i> EGI.eu infrastructure.
Related Information	UMD Roadmap [R 1]
Revision Log	V2: major rephrasing

Stress Test	
ID	INFODISC_AVAIL_2
Description	The information discovery service should be able to handle load under realistic conditions.
Mandatory	YES
Applicability	Information Discovery Appliances
Input from Technology Provider	Support for high load under realistic conditions. Ideally, stress test for the service that calculates the maximum throughput of the service.
Test Description	<p>Pre-condition Correctly configured service.</p> <p>Test Stress test the service until is not available.</p> <p>Expected Outcome Throughput of the service is enough to handle realistic load.</p>
Pass/Fail Criteria	Pass if the appliance is able to handle at least 20 concurrent requests.
Related Information	UMD Roadmap [R 1]
Revision Log	V2: Major rephrase

3 MESSAGING

Messaging Interface	
ID	MSG_IFACE_1
Description	Messaging Appliances must support (at least one of) the interfaces currently in production in the EGI Infrastructure or identified by the UMD Roadmap
Mandatory	YES
Applicability	Messaging Appliances
Input from Technology Provider	Complete test suite for the Messaging interfaces supported by the appliance. The test suite must include tests for all the documented functions. For all functions, check both correct and invalid input. Invalid output should throw an exception as documented.
Test Description	<p>Pre-condition Messaging Appliance configured</p> <p>Test Test all interface functionality, with correct/incorrect input.</p> <p>Expected Outcome Log of all the operations performed. All the documented functions work as documented.</p>
Pass/Fail Criteria	The Messaging Appliance that claims to support an interface must have complete tests of that interface. The test suite must be executed without errors. At least one of the following interfaces must be supported: <ul style="list-style-type: none"> • JMS 1.1 [R 4] • AMQP [R 5]
Related Information	UMD Roadmap [R 1]
Revision Log	

4 REFERENCES

R 1	UMD roadmap: https://documents.egi.eu/public/ShowDocument?docid=100
R 2	GlueSchema Specification v1.3: http://glueschema.forge.cnaf.infn.it/Spec/V13
R 3	GlueSchema Specification v2.0: http://www.ogf.org/documents/GFD.147.pdf
R 4	JMS (Java Message Service Specification) 1.1: http://www.oracle.com/technetwork/java/jms/index.html
R 5	AMQP (Advanced Message Queuing Protocol): http://www.amqp.org/confluence/display/AMQP/Advanced+Message+Queuing+Protocol