**EGI-InSPIRE**

UMD Data Capabilities

Quality Criteria

v1

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| Abstract  This document describes the Quality Criteria for the Functional Capabilities identified in the UMD Roadmap. |

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Document Log

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# Data Access

Criteria for the Data Access Capability are based on OGSA-DAI and WS-DAI interface as reference.

## WS-DAI Interface

|  |  |  |
| --- | --- | --- |
| WS-DAIR API | | |
| ID | | DATAACCESS\_API\_1 |
| Mandatory | | |
| Applicability | | WS-DAIR interface implementations |
| Related Requirements | | None |
|  | | |
| Description  Data Access capabilities that implement the WS-DAIR [R 2] interface must support all the functionality included in the interface. | | |
| Input from TP  Complete Test suite for the WS-DAI API using the relational realization. It must include tests for all the documented functions in the WSDL.  For all functions, check both correct and invalid input. Invalid output should throw an exception as documented. Test also with valid and invalid credentials. Invalid credentials should throw security related exceptions. | | |
| Test Suite Description | | |
| **Pre-condition** | Valid user credentials. | |
| **Test** | Test all functionality of WS-DAI using the relational realization, with correct/incorrect input and with valid and invalid credentials. | |
| **Expected Outcome** | Log of all the operations performed. All the documented functions work as documented. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

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| WS-DAIX API | | |
| ID | | DATAACCESS\_API\_2 |
| Mandatory | | |
| Applicability | | WS-DAIX interface implementations |
| Related Requirements | | None |
|  | | |
| Description  Data Access capabilities that implement the WS-DAIX [R 2] interface must support all the functionality included in the interface. | | |
| Input from TP  Complete Test suite for the WS-DAI API using the XML realization. It must include tests for all the documented functions in the WSDL.  For all functions, check both correct and invalid input. Invalid output should throw an exception as documented. Test also with valid and invalid credentials. Invalid credentials should throw security related exceptions. | | |
| Test Suite Description | | |
| **Pre-condition** | Valid user credentials. | |
| **Test** | Test all functionality of WS-DAI using the XML realization, with correct/incorrect input and with valid and invalid credentials. | |
| **Expected Outcome** | Log of all the operations performed. All the documented functions work as documented. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

## OGSA-DAI Criteria

|  |  |  |
| --- | --- | --- |
| Deployment of data resources | | |
| ID | | DATAACCESS\_OGSADAI\_1 |
| Mandatory | | |
| Applicability | | OGSA-DAI implementations |
| Related Requirements | | None |
|  | | |
| Description  The OGSA-DAI implementation should allow the deployment of data resources with SQL, XML or files sources. | | |
| Input from TP  Test suite for deployment SQL, XML and file data resources. | | |
| Test 1 | | |
| **Pre-condition** | Existing SQL data resource. | |
| **Test** | Deploy SQL data resource. Test queries against deployed resource. | |
| **Expected Outcome** | SQL data resources is available, queries are executed correctly. | |
| Test 2 | | |
| **Pre-condition** | Existing XMLDB data resource. | |
| **Test** | Deploy XMLDB data resource. Test queries against deployed resource. | |
| **Expected Outcome** | XMLDB data resource is available, queries are executed correctly. | |
| Test 3 | | |
| **Pre-condition** | Existing file data resource. | |
| **Test** | Deploy file data resource. Test queries against deployed resource. | |
| **Expected Outcome** | File data resource is available, queries are executed correctly. | |
| Test 4 | | |
| **Pre-condition** | Existing remote resource. | |
| **Test** | Deploy remote resource. Test queries against deployed resource. | |
| **Expected Outcome** | Remote resource is available, queries are executed correctly. | |
| Test 5 | | |
| **Pre-condition** | Deployed data resource. | |
| **Test** | Undeploy resource. Test queries against resource. | |
| **Expected Outcome** | Remote resource is no longer available; queries are not executed correctly. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

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| --- | --- | --- |
| Management of data resources access. | | |
| ID | | DATAACCESS\_OGSADAI\_2 |
| Mandatory | | |
| Applicability | | OGSA-DAI implementations |
| Related Requirements | | None |
|  | | |
| Description  The OGSA-DAI implementation must allow the definition of which users are allowed to access the deployed resources. | | |
| Input from TP  Test suite for user management of data resources. | | |
| Test 1 | | |
| **Pre-condition** | Existing data resource. Valid user credentials | |
| **Test** | Allow access to user. Test the access. | |
| **Expected Outcome** | User is allowed to access the data resource. | |
| Test 2 | | |
| **Pre-condition** | Existing data resource. Valid user credentials | |
| **Test** | Deny access to user. Test the access. | |
| **Expected Outcome** | User is not allowed to access the data resource. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

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| --- | --- | --- |
| Deployment of activities at resource. | | |
| ID | | DATAACCESS\_OGSADAI\_3 |
| Mandatory | | |
| Applicability | | OGSA-DAI implementations |
| Related Requirements | | None |
|  | | |
| Description  The OGSA-DAI implementation should allow the deployment of activities in server. | | |
| Input from TP  Test suite for deployment of activities. | | |
| Test 1 | | |
| **Pre-condition** | OGSA-DAI server available; Activity classes available at server. | |
| **Test** | Deploy activity at server. Add activity to resource. Test execution of activity. | |
| **Expected Outcome** | Activity is available and executed correctly. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

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| --- | --- | --- |
| Workflow creation and execution. | | |
| ID | | DATAACCESS\_OGSADAI\_4 |
| Mandatory | | |
| Applicability | | OGSA-DAI implementations |
| Related Requirements | | None |
|  | | |
| Description  The OGSA-DAI implementation should allow the creation of workflows with activities. | | |
| Input from TP  Test suite for the creation and execution of workflows. | | |
| Test 1 | | |
| **Pre-condition** | Existing OGSA-DAI server. | |
| **Test** | Create simple workflow, synchronous execution in server. | |
| **Expected Outcome** | Workflow is executed. Status and data results of workflow can be retrieved. | |
| Test 2 | | |
| **Pre-condition** | Existing OGSA-DAI server. | |
| **Test** | Create simple workflow, asynchronous execution in server. | |
| **Expected Outcome** | Workflow is executed. Status and data results of workflow can be retrieved. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

# Metadata Catalogue

Criteria for the Metadata Catalogue Capability are based on gLite AMGA.

## AMGA Implementation

### AMGA Interface

|  |  |  |
| --- | --- | --- |
| AMGA Soap Interface | | |
| ID | | METADATA\_AMGA\_API\_1 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must implement the complete API specified at the AMGA WSDL [R 4] | | |
| Input from TP  Complete Test suite for the AMGA SOAP API. It must include tests for all the documented functions in the WSDL.  For all functions, check both correct and invalid input. Invalid output should throw an exception as documented. Test also with valid and invalid credentials. Invalid credentials should throw security related exceptions. | | |
| Test Suite Description | | |
| **Pre-condition** | Valid user credentials. | |
| **Test** | Test all functionality of AMGA WSDL, with correct/incorrect input and with valid and invalid credentials. | |
| **Expected Outcome** | Log of all the operations performed. All the documented functions work as documented. | |
| Pass/Fail Criteria  Pass if the test is provided and passes. | | |
| Related Information | | |
| History | | |

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| --- | --- | --- |
| AMGA Streaming Interface | | |
| ID | | METADATA\_AMGA\_API\_2 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must implement the complete streaming API of AMGA server. | | |
| Input from TP  Complete Test suite for the AMGA streaming API. It must include tests for all the documented functions for all the available language bindings.  For all functions, check both correct and invalid input. Invalid output should throw an exception as documented. Test also with valid and invalid credentials. Invalid credentials should throw security related exceptions. | | |
| Test Suite Description | | |
| **Pre-condition** | Valid user credentials. | |
| **Test** | Test all functionality of AMGA Stream protocol, with correct/incorrect input and with valid and invalid credentials. | |
| **Expected Outcome** | Log of all the operations performed. All the documented functions work as documented. | |
| Pass/Fail Criteria  Pass if the test is provided and passes for all the available language bindings (C++, Python & Java) | | |
| Related Information | | |
| History | | |

### AMGA Functionality

|  |  |  |
| --- | --- | --- |
| Directory Management | | |
| ID | | METADATA\_AMGA\_FUNC\_1 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must allow users to organize the files in directories. | | |
| Input from TP  Test suite for the directory management operations of AMGA. | | |
| Test 1 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Create new directory. | |
| **Expected Outcome** | New directory is created at AMGA server. | |
| Test 2 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing directory | |
| **Test** | List contents of directory. | |
| **Expected Outcome** | Contents of directory are returned. | |
| Test 3 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing empty directory | |
| **Test** | Remove directory. | |
| **Expected Outcome** | Directory is removed. | |
| Test 4 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing non-empty directory | |
| **Test** | Remove directory. | |
| **Expected Outcome** | Directory is not removed. Message is shown. | |
| Test 5 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing directory (different to current) | |
| **Test** | Change current directory to existing directory. Check current directory. | |
| **Expected Outcome** | Current directory has changed | |
| Pass/Fail Criteria  Pass if the test is provided and passes for all the available language bindings. | | |
| Related Information | | |
| History | | |

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| --- | --- | --- |
| Entry Management | | |
| ID | | METADATA\_AMGA\_FUNC\_2 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must allow users to manage the entries in the server. | | |
| Input from TP  Test suite for the entry management operations of AMGA. | | |
| Test 1 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Create a new entry and assigns value to attributes. List entry’s attributes | |
| **Expected Outcome** | Entry is created. The attributes are listed correctly. | |
| Test 2 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Create a new set of entries. List entries’ attributes | |
| **Expected Outcome** | Entries are created. The attributes are listed correctly. | |
| Test 3 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing entry. | |
| **Test** | Remove existing entry. List entry’s attributes | |
| **Expected Outcome** | Entry is removed. The list command exits with an error. | |
| Pass/Fail Criteria  Pass if the test is provided and passes for all the available language bindings. | | |
| Related Information | | |
| History | | |

|  |  |  |
| --- | --- | --- |
| Attribute Management | | |
| ID | | METADATA\_AMGA\_FUNC\_3 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must allow users to manage the attributes in the server. | | |
| Input from TP  Test suite for the attribute management operations of AMGA. | | |
| Test 1 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Add new attribute to directory. List directory attributes | |
| **Expected Outcome** | Attribute is added. List returns all attributes of directory. | |
| Test 2 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing attributes for dir/entry | |
| **Test** | Remove attribute to from dir/entry. List dir/entry attributes | |
| **Expected Outcome** | Attribute is removed. List does not returns removed attribute. | |
| Test 2 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Create a new set of entries. List entries’ attributes | |
| **Expected Outcome** | Entries are created. The attributes are listed correctly. | |
| Test 3 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing attribute list for file | |
| **Test** | Clear attribute list for a file. Get file’s attributes. | |
| **Expected Outcome** | All file’s attributes are set to NULL. Attributes values are shown. | |
| Test 4 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Entry with attribute list. | |
| **Test** | Clear attribute list for a file. List file’s attributes | |
| **Expected Outcome** | Attribute list file. They are listed correctly. | |
| Pass/Fail Criteria  Pass if the test is provided and passes for all the available language bindings. | | |
| Related Information | | |
| History | | |

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| --- | --- | --- |
| Metadata Operations | | |
| ID | | METADATA\_AMGA\_FUNC\_4 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must allow users to do operations with the metadata in the server. | | |
| Input from TP  Test suite for metadata operations of AMGA. | | |
| Test 1 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Find files that fulfil a query. | |
| **Expected Outcome** | List of matching files is returned. | |
| Test 2 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Update attributes for entries. List entries’ attributes. | |
| **Expected Outcome** | The attributes are updated with new values and listed correctly. | |
| Pass/Fail Criteria  Pass if the test is provided and passes for all the available language bindings. | | |
| Related Information | | |
| History | | |

|  |  |  |
| --- | --- | --- |
| ACL Operations | | |
| ID | | METADATA\_AMGA\_FUNC\_5 |
| Mandatory | | |
| Applicability | | AMGA implementations |
| Related Requirements | | None |
|  | | |
| Description  AMGA implementations of the Metadata Catalogue Capability must allow users to set permissions on the entries. | | |
| Input from TP  Test suite for ACL management of AMGA. | | |
| Test 1 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. | |
| **Test** | Get current user. | |
| **Expected Outcome** | Current user is returned. | |
| Test 2 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing entry/dir | |
| **Test** | Show entry/dir owner and permission | |
| **Expected Outcome** | Entry/dir owner and permission are returned. | |
| Test 3 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing entry/dir | |
| **Test** | Change owner of entry/dir. Show entry/dir owner. | |
| **Expected Outcome** | Owner of entry/dir is changed and returned. | |
| Test 4 | | |
| **Pre-condition** | Valid user credentials. Available AMGA server. Existing entry/dir | |
| **Test** | Change entry/dir permissions. Check the permission is enforced. | |
| **Expected Outcome** | The permissions of entry/dir is changed and correctly enforced. | |
| Pass/Fail Criteria  Pass if the test is provided and passes for all the available language bindings. | | |
| Related Information | | |
| History | | |

# References

|  |  |
| --- | --- |
|  | UMD roadmap: <https://documents.egi.eu/public/ShowDocument?docid=100> |
|  | Web Services Data Access and Integration – The Relational Realisation (WS-DAIR) Specification, Version 1.0 |
|  | Web Services Data Access and Integration – The XML Realization  (WS-DAIX) Specification, Version 1.0 |
|  | AMGA WSDL: <http://amga.web.cern.ch/amga/downloads/Metadata.wsdl> |