EGI-InSPIRE

UMD QUALITY CRITERIA INSTRUMENTATION CAPABILITIES V3

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Abstract

This document describes the Quality Criteria that all software of the UMD distribution must meet.

Document Log

Issue	Date	Comment	Author/Partner
v0.1	02/11/2010	First draft	Enol Fernández
v1.0	03/11/2010	Changed Management, Traceability and Monitoring section	Enol Fernández
v1.1	03/11/2010	Added Probe description in GEN_MON_1	Enol Fernández
v1.2	11/11/2010	Some formatting update	Enol Fernández
v1.3	31/01/2011	Better test specification	Enol Fernández
1.4	09/02/2011	Review of criteria	Enol Fernández
2 DRAFT 1	24/06/2011	Preparation of new release	Enol Fernández
2	02/08/2011	Reorganisation, added new criteria.	Enol Fernández
3 DRAFT 1	13/10/2011	First draft of release 3	Enol Fernández
3 DRAFT 2	24/01/2012	Second draft of release 3	Enol Fernández

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1 REMOTE INSTRUMENTATION

There are no standardised interfaces known for the Remote Instrumentation Capability. The QC in this document is based in the Instrument Element [R 20] proprietary implementation from DORII [R 21] project.

Instrument Element API	
ID	**INSTRUMENT_IE_1**
Description	Instrument Element appliances must support the Instrument Element API
Mandatory	YES
Applicability	Instrument Element implementation of Remote Instrumentation Appliances

Input from Technology Provider	Support for the Instrument Element API as described in WSDL. Any missing functionality/deviation from the WSDL must be documented. Ideally, provide a test suite that covers all documented functions.	
Test Description	**Pre-condition**	Valid user credentials.
	Test	Test all interface functionality, 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	The Instrument Element Appliance passes complete tests of its SOAP interface. The test suite must be executed without errors. 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.	
Related Information	UMD Roadmap [R 1] Instrument Element [R 20]	
Revision Log	V3: Improved wording.	

Instrument Element File Access	
ID	**INSTRUMENT_IE_2**
Description	Instrument Element appliances should provide a file access transfer capability for moving data in and out of the instrument.
Mandatory	YES
Applicability	Instrument Element implementation of Remote Instrumentation Appliances

Input from Technology Provider	File access transfer capability for reading and writing data, preferably gridFTP.
Pass/Fail Criteria	The Instrument Appliance must provide a file access capability for transferring data from and to the product.
Related Information	UMD Roadmap [R 1] Instrument Element [R 20] File Access QC
Revision Log	

Instrument Element Messaging System	
ID	**INSTRUMENT_IE_3**
Description	Instrument Element appliances should provide a messaging system for asynchronous monitoring of instrument variables and signalling alarms and events to the users.
Mandatory	YES
Applicability	Instrument Element implementation of Remote Instrumentation Appliances

Input from Technology Provider	Messaging capability implementation for the asynchronous monitoring and notification of alarms and events to users, preferably JMS implementation.
Pass/Fail Criteria	The Instrument Appliance must provide a messaging capability for asynchronous monitorisation and notification of events.
Related Information	UMD Roadmap [R 1] Instrument Element [R 20] Messaging Capability QC
Revision Log	

Instrument Manager Support	
ID	**INSTRUMENT_IE_4**
Description	Instrument Element appliances must provide mechanisms for managing instruments.
Mandatory	YES
Applicability	Instrument Element implementation of Remote Instrumentation Appliances

Input from Technology Provider	Implementation of the Instrument Manager (IM) framework as described in the Instrument Element documentation (XML description of the instrument and abstract classes for the implementation).
Pass/Fail Criteria	The Instrument Appliance must completely support the Instrument Manager framework as described in the Instrument Element documentations. The framework must provide a way to define attributes read from the instrument, configuration parameters for the instrument, the different commands the instrument may receive and the states and transitions of the instrument.
Related Information	UMD Roadmap [R 1] Instrument Element [R 20]
Revision Log	

2 REFERENCES

R 1	UMD roadmap: https://documents.egi.eu/public/ShowDocument?docid=100
R 2	Web Services Data Access and Integration – The Relational Realisation (WS-DAIR) Specification, Version 1.0
R 3	Web Services Data Access and Integration – The XML Realization (WS-DAIX) Specification, Version 1.0
R 4	OGSA-DAI: http://www.ogsadai.org.uk/
R 5	gLite LFC: https://twiki.cern.ch/twiki/bin/view/EGEE/GliteLFC
R 6	AMGA: http://amga.web.cern.ch/amga/
R 7	AMGA WSDL: http://amga.web.cern.ch/amga/soap_wsdair.html
R 8	AMGA streaming API: http://amga.web.cern.ch/amga/protocol.html
R 9	AMGA Metadata Queries: http://amga.web.cern.ch/amga/queries.html
R 10	A. Konstantinov, ARC Computational Job Management Component – A-REX, NORDUGRID-TECH-14
R 11	CREAM: http://grid.pd.infn.it/cream/
R 12	EMI-ES: https://twiki.cern.ch/twiki/bin/view/EMI/EmiExecutionService
R 13	GRAM5: http://www.globus.org/toolkit/docs/latest-stable/execution/gram5/
R 14	OGF DRMAA: http://www.drmaa.org/
R 15	OGSA Basic Execution Service v1.0: http://www.ogf.org/documents/GFD.108.pdf
R 16	UNICORE UAS: http://www.unicore.eu/unicore/architecture/service-layer.php#anchor_uas
R 17	gLite WMS: http://web.infn.it/gLiteWMS/
R 18	SAGA-CORE-WG: A Simple API for Grid Applications (SAGA) v1.0 (GFD.90)
R 19	SAGA (A Simple API for Grid Applications): http://saga.cct.lsu.edu/
R 20	Instrument Element: http://www.dorii.eu/resources:adaptation:middleware:IE
R 21	DORII (Deployment of Remote Instrumentation Infrastructure) Project: http://www.dorii.eu/
R 22	GlueSchema Specification v1.3: http://glueschema.forge.cnaf.infn.it/Spec/V13

R 23	GlueSchema Specification v2.0: http://www.ogf.org/documents/GFD.147.pdf
R 24	JMS (Java Message Service Specification) 1.1: http://www.oracle.com/technetwork/java/jms/index.html
R 25	AMQP (Advanced Message Queuing Protocol): http://www.amqp.org/confluence/display/AMQP/Advanced+Message+Queuing+Protocol
R 26	Nagios Config Generator: https://tomtools.cern.ch/confluence/display/SAM/NCG
R 27	My EGI portal: https://tomtools.cern.ch/confluence/display/SAM/MyEGI
R 28	SAM Probes Documentation: https://tomtools.cern.ch/confluence/display/SAM/Probes
R 29	Accounting Portal: http://accounting.egi.eu/
R 30	GridSite Delegation Protocol: http://www.gridsite.org/wiki/Delegation_protocol
R 31	Globus Delegation Service: http://www.globus.org/toolkit/docs/4.0/security/delegation/
R 32	European Policy Management Authority for Grid Authentication (EuGridPMA): http://www.eugridpma.org/
R 33	ARGUS Authorization Service: https://twiki.cern.ch/twiki/bin/view/EGEE/AuthorizationFramework
R 34	XACML: http://docs.oasis-open.org/xacml/2.0/access_control-xacml-2.0-core-spec-os.pdf
R 35	Hydra encrypted file storage: https://twiki.cern.ch/twiki/bin/view/EGEE/DMEDS
R 36	gLite FTS: https://twiki.cern.ch/twiki/bin/view/EGEE/GLiteFTS
R 37	SRM v2.2: http://www.ggf.org/documents/GFD.129.pdf
R 38	S2 Test: http://s-2.sourceforge.net/
R 39	SRM-Tester: https://sdm.lbl.gov/twiki/bin/view/Software/SRMTester/WebHome
R 40	Lcg-utils: http://grid-deployment.web.cern.ch/grid-deployment/documentation/LFC_DPM/lcg_util/
R 41	Lcg-utils test suite: http://glite.cvs.cern.ch/cgi-bin/glite.cgi/org.glite.testsuites.ctb/UI/tests/test-lcg-utils.sh?view=markup
R 42	Open Cloud Computing Interface WG, OGF, http://www.ggf.org/gf/group_info/view.php?group=occi-wg
R 43	Virtualization Management (VMAN), DMTF http://www.dmtf.org/standards/vman
R 44	StratusLab http://stratuslab.eu/

| R 45 | StratusLab MarketPlace Technical Note TN-Marketplace (V3.0) |