EGI-InSPIRE

UMD Security Capabilities Quality Criteria v2

Document identifier:	EGI-SECURITY-QC-V2.docx
Date:	**03/08/2011**
Document Link:	https://documents.egi.eu/document/346

Abstract

This document describes the UMD Security Capabilities Quality Criteria.



Document Log

Issue	Date	Comment	Author/Partner
1.0	15/11/2010	First draft	Enol Fernández
1.1	19/11/2010	Added criteria for more capabilities.	Enol Fernández
1.2	17/01/2011	Completed criteria for Credential Management, User Management and Authorisation.	Enol Fernández
1.3	09/02/2011	Added delegation criteria, Authorisation review	Enol Fernández
2 DRAFT 1	10/05/2011	Update criteria to release 2	E. Fernández
2	03/08/2011	Release 2, taking comments from EMI	E. Fernández



TABLE OF CONTENTS

1 AUTHENTICATION

An authentication token that is strongly bound to an individual must be applied consistently across the software used within the production infrastructure. The authentication system should be capable of supporting a delegation model.

1.1 Authentication Interface

X.509 Certificate support	
ID	**AUTHN_IFACE_1**
Description	Primary authentication token within the infrastructure is the X.509 certificate and its proxy derivatives. The certificates and any proxy schemes must follow specifications that are fully integrated into the https protocol.
Mandatory	YES
Applicability	Authentication Appliances.

Input from Technology Provider	X.509 proxy support for authentication If the component exposes a WebService that requires authentication, it should use the X.509 certificates/proxies with the https protocol.
Pass/Fail Criteria	X.509 proxies are accepted for authentication. WebServices use https. For the major release of UMD, products still using GSI authentication (with httpg for WebSerivces) may be accepted, this exception may be dropped in future releases of the criterion.
Related Information	UMD Roadmap [R 1]
Revision Log	V2: Added GSI (httpg) exception for products that have not yet transitioned

SAML authentication	
ID	**AUTHN_IFACE_2**
Description	SAML 2.0 can be used as authentication interface within the infrastructure.
Mandatory	NO
Applicability	Authentication Appliances with SAML 2.0 support.

Input from Technology Provider	SAML 2.0 support for authentication. Ideally, a test suite for this support.
Pass/Fail Criteria	Pass if SAML2.0 authentication is supported in the appliance.
Related Information	UMD Roadmap [R 1]
Revision Log	

1.2 Delegation Interface

Delegation Interface	
ID	**AUTHN_DELEG_1**
Description	Delegation of credentials must be provided using one of the supported delegation interfaces: GridSite or Globus 4.
Mandatory	YES
Applicability	Authentication Appliances that provide (require) delegation.

Input from Technology Provider	Delegation interface that includes all functionality of the GridSite WSDL. Correct handling for erroneous input.
Pass/Fail Criteria	Pass if the delegation interface is tested and works as expected. Appliances must support at least one of the following interfaces: GridSite delegation or Globus 4 delegation.
Related Information	UMD Roadmap [R 1] GridSite Delegation [R 4] Globus Delegation [R 5]
Revision Log	V2: Merged AUTHN_DELEG_1 & 2.

1.3 CAs root certificates Distribution

These QC deal with the distribution of the EuGridPMA [R 5] root certificates.

CA Checksum	
ID	**AUTHN_CA_1**
Description	The CA distribution must assure that the distributed CA certificates are correct.
Mandatory	YES
Applicability	Trust Anchor Distribution

Input from Technology Provider	Checksum test of each of the root certificates distributed.	
Test Description	**Pre-condition**	None
	Test	Test checksum of the CA certificates.
	Expected Outcome	All checksums are correct.
Pass/Fail Criteria	All CA certificates have correct checksum.	
Related Information		
Revision Log		

CA valid dates	
ID	**AUTHN_CA_2**
Description	Dates of the distributed CA certificates are valid for the current date.
Mandatory	YES
Applicability	Trust Anchor Distribution

Input from Technology Provider	Data validity test of each of the root certificates distributed.	
Test Description	**Pre-condition**	None
	Test	Check the current date is in the range of the valid dates of the certificate.
	Expected Outcome	All dates are valid.
	Sample Test	`#!/bin/sh` `check_dates() {` `  certfile=$1` `  start=`openssl x509 -in $certfile -noout -startdate | cut -f2 -d"="` ` if [$? -ne 0] ; then` ` echo "Error while processing $certfile"` ` return 1` ` fi` ` now=`date +%s` `  start_sec=`date +%s -d"$start"` ` if [$now -lt $start_sec] ; then` ` echo "$start is before now in $certfile!"` ` return 1` ` fi` ` end=`openssl x509 -in $certfile -noout -enddate | cut -f2 -d"="` `  if [ $? -ne 0 ] ; then` `  echo "Error while processing $certfile"` `  return 1` `  fi` `  end_sec=`date +%s -d"$end"` ` if [$end_sec -lt $now] ; then` ` echo "$end is after now in $certfile!"` ` return 1` ` fi` ` return 0` `}`
Pass/Fail Criteria	All CA certificates have correct dates.	
Related Information		
Revision Log		

CA CRL check	
ID	**AUTHN_CA_3**
Description	The CRL of the CAs must be available for download and must be valid.
Mandatory	YES
Applicability	Trust Anchor Distribution

Input from Technology Provider	Test that the CRL of the CA is available for download and it's valid.	
Test Description	**Pre-condition**	List of URLs for each CRL is available.
	Test	Download CRL and load it.
	Expected Outcome	All CRLs can be downloaded and loaded correctly.
	Sample Test	

```
#!/bin/sh

check_crl() {
    url_file=$1
    url=`cat $url_file`
    crl=`mktemp`
    wget -q $url -O $crl
    if [ $? -ne 0 ] ; then
        echo "Unable to download crl from $url"
        rm  $crl
        return 1
    fi
    openssl crl -in $crl -noout &> /dev/null
    if [ $? -ne 0 ] ; then
        # try in other format
        openssl crl -inform der -in $crl -noout &> /dev/null
        if [ $? -ne 0 ] ; then
            echo "Unable to load crl"
            rm $crl
            return 1
        fi
    fi
    rm $crl
    return 0
}
```

Pass/Fail Criteria	All CRLs can be downloaded and loaded.
Related Information	
Revision Log	

2 ATTRIBUTE AUTHORITY

2.1 Attribute Authority Interface

Proxy Issue	
ID	**ATTAUTH_ IFACE_1**
Description	Users must be able to get proxies with VO related information.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for the creation of proxies for different users, roles and groups. Test for error situations (not registered user, unknown VO, non existing role/group, unreachable server)	
Test Description	**Pre-condition**	Valid user certificate, user registered in VO
	Test	Create proxy for user in the given VO.
	Expected Outcome	Valid proxy created.
	Pre-condition	Valid user certificate, user registered in VO, user in a given group/role
	Test	Create proxy for user in the given VO and group/role
	Expected Outcome	Valid proxy created with correct group/role information.
	Pre-condition	Valid user certificate, user not registered in VO
	Test	Create proxy for user in the given VO.
	Expected Outcome	Issue a error message stating that the user is unknown to the VO.
Pass/Fail Criteria	Tests for the creation of proxies work as expected. Groups/Roles/Attributes can be included in the created proxy.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

Proxy Information	
ID	**ATTAUTH_ IFACE_2**
Description	Users must be able to get information about their proxies.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Tools for getting proxy information.	
Test Description	**Pre-condition**	Valid user proxy
	Test	Get information from proxy.
	Expected Outcome	Return proxy information.
	Pre-condition	Non existent user proxy
	Test	Get information from proxy
	Expected Outcome	No information returned and error message issued.
Pass/Fail Criteria	Proxy information can be obtained. Complete Groups/Roles/Attributes is also shown.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

Proxy Destroy	
ID	**ATTAUTH_ IFACE_3**
Description	Users must be able to destroy a previously created proxy.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for proxy destroy.	
Test Description	**Pre-condition**	Valid user proxy
	Test	Destroy user proxy.
	Expected Outcome	Proxy is destroyed.
Pass/Fail Criteria	Proxy is destroyed, no operations requiring a proxy can be done with it.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

SAML Assertion Support	
ID	**ATTAUTH_ IFACE_4**
Description	Users should be able to obtain SAML assertions with the VO information.
Mandatory	NO
Applicability	Attribute Authority Appliances with SAML support.

Input from Technology Provider	Support for generation of SAML assertions for different users, roles and groups. Correct handling of error situations (not registered user, unknown VO, non existing role/group, unreachable server)	
Test Description	**Pre-condition**	Valid user, user registered in VO/group/role.
	Test	SAML attribute query for user for the VO/group/role
	Expected Outcome	Valid SAML assertion returned with VO information
	Pre-condition	Valid user, user not registered in VO
	Test	SAML attribute query for user in the given VO.
	Expected Outcome	Issue a error message stating that the user is unknown to the VO.
Pass/Fail Criteria	Tests for the creation of SAML assertions work as expected. Groups/Roles/Attributes can be included in assertions.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

2.2 VO management

VO Creation	
ID	**ATTAUTH_ MGMT_1**
Description	The service administrator must be able to create new VOs in the service.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for the creation of VOs, correct handling of incorrect input.	
Test Description	**Pre-condition**	Administrator privileges in VO service. Configured service.
	Test	Create a new VO
	Expected Outcome	New database is created and initialized.
	Pre-condition	Administrator privileges in VO service. Configured service. Existent VO name
	Test	Create a VO with already existent name.
	Expected Outcome	No action performed, warning message issued.
Pass/Fail Criteria	Pass if the administrator is able to create VOs for all the supported underlying databases.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

VO Administrators	
ID	**ATTAUTH_ MGMT_2**
Description	The service administrator must be able to define who has VO administrator privileges.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for adding VO administrators, managing incorrect input.	
Test Description	**Pre-condition**	Administrator privileges in VO service. Configured service. User certificate of new admin.
	Test	Define VO administrator with user certificate.
	Expected Outcome	User is added as VO administrator.
	Pre-condition	Administrator privileges in VO service. Configured service. User certificate of already existent admin.
	Test	Define VO administrator with user certificate.
	Expected Outcome	No action performed, warning message is issued.
	Pre-condition	Administrator privileges in VO service. Configured service. User certificate of new admin.
	Test	Define VO administrator with user certificate for a nonexistent VO.
	Expected Outcome	Error message stating that the VO is not existent.
Pass/Fail Criteria	Pass if the administrator is able to assign administrator privileges to other users.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

VO Role/Group/Attribute Management	
ID	**ATTAUTH_ MGMT_3**
Description	Authorized users must be able to define roles, groups and attributed and manage the users with those assigned.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for creation of roles, groups, attributes and the assignment and de-assignment of users to those.	
Test Description	**Pre-condition**	Authorized user to manage VO role/group/attribute. Role/Group/Attribute name.
	Test	Create a new role/group/attribute in the VO.
	Expected Outcome	New role/group/attribute is created in the VO
	Pre-condition	Authorized user to manage VO role/group/attribute. Already existent Role/Group/Attribute name.
	Test	Create role/group/attribute in the VO.
	Expected Outcome	No action performed; issue warning message about the role/group/attribute already existing.
	Pre-condition	Non-Authorized user to manage VO role/group/attribute. Role/Group/Attribute name.
	Test	Create a new role/group/attribute in the VO.
	Expected Outcome	No action performed, issue error message.
	Pre-condition	Authorized user to manage VO role/group/attribute. Role/Group/Attribute name. VO User to add
	Test	Assign role/group/attribute to user.
	Expected Outcome	User has the role/group/attribute assigned.
	Pre-condition	Non-Authorized user to manage VO role/group/attribute. Role/Group/Attribute name. VO User to add
	Test	Assign role/group/attribute to user.
	Expected Outcome	No action performed, issue error message.
	Pre-condition	Authorized user to manage VO role/group/attribute. Role/Group/Attribute name. User to de-assign
	Test	De-assign role/group/attribute to user.
	Expected Outcome	Role/Group/Attribute is de-assigned.

	Pre-condition	Authorized user to manage VO role/group/attribute. Role/Group/Attribute name. User to de-assign without assigned role/group/attribute
	Test	De-assign role/group/attribute to user.
	Expected Outcome	No action performed, warning message issued.
	Pre-condition	Non-Authorized user to manage VO role/group/attribute. Role/Group/Attribute name. User to de-assign
	Test	De-assign role/group/attribute to user.
	Expected Outcome	No action performed, issue error message.
Pass/Fail Criteria	Pass if authorized users are able to manage the role/groups/attributes for a given VO and the users that assigned to them.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

VO User Management	
ID	**ATTAUTH_ MGMT_4**
Description	Authorized users must be able to add and remove users to the VO
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for adding/removing users to the VO.	
Test Description	**Pre-condition**	Authorized user to manage VO users. User to add to VO.
	Test	Add user to VO
	Expected Outcome	User is correctly added to the VO.
	Pre-condition	Non-Authorized user to manage VO users. User to add to VO.
	Test	Add user to VO
	Expected Outcome	No action performed, issue error message.
	Pre-condition	Authorized user to manage VO users. User to add to VO that already belongs to the VO.
	Test	Add user to VO
	Expected Outcome	No action performed, issue a warning message.
Pass/Fail Criteria	Pass if authorized users are able to add/remove other users for a given VO.	
Related Information	UMD Roadmap [R 1]	
Revision Log		

ACL Management	
ID	**ATTAUTH_ MGMT_5**
Description	Authorized users must be able to change the different ACLs of the VO.
Mandatory	YES
Applicability	Attribute Authority Appliances

Input from Technology Provider	Support for changing ACLs of users of the VO.	
Test Description	**Pre-condition**	Authorized user to manage ACLs.
	Test	Change ACL for a given user.
	Expected Outcome	ACL is correctly changed.
	Pre-condition	Non-Authorized user to manage ACLs.
	Test	Change ACL for a given user.
	Expected Outcome	No action performed, error message issued.
Pass/Fail Criteria	Pass if authorized users are able to manage the ACLs for other users for a given VO. The following list of ACLs is expected to be managed: • browse users of VO • management of groups • management of roles • management of attributes • management of ACL • add/remove users	
Related Information	UMD Roadmap [R 1]	
Revision Log		

2.3 VO Management Web Interface (VOMS-Admin)

VO List View	
ID	**ATTAUTH_ WEB_1**
Description	Users connecting to the web interface should be able to list the VOs handled by the server.
Mandatory	YES
Applicability	Web Portal for Attribute Authority Appliances management

Input from Technology Provider	Provide a web view with the list of VOs in the server.	
Test Description	**Pre-condition**	VO Web server running, authorized user
	Test	Access VO list page.
	Expected Outcome	Web page with a list of all VOs in supported by the server and browsable by user.
Pass/Fail Criteria	VO list view is provided and shows only VOs that are viewable by user.	
Related Information		
Revision Log		

VO Membership Request	
ID	**ATTAUTH_ WEB_2**
Description	Users should be able to request membership to a VO from the web interface.
Mandatory	YES
Applicability	Web Portal for Attribute Authority Appliances management

Input from Technology Provider	Provide a page for requesting VO membership and test its functionality. This page must ask for the following information: • Full name • Institution • Contact details (phone, e-mail, address) Once the information is entered, users receive an email to confirm the membership request. Once confirmed, VO Admins should receive a notification of the new request.	
Test Description	**Pre-condition**	VO Web server running, valid credentials of user.
	Test	User requests membership from VO.
	Expected Outcome	User gets an email to confirm the membership request.
	Pre-condition	VO Web server running, valid credentials of user, membership confirmation link.
	Test	User accesses the membership confirmation link.
	Expected Outcome	VO admin(s) receive a notification of the new request.
Pass/Fail Criteria	Pass if the VO membership request page provides the requested functionality.	
Related Information		
Revision Log		

VO Membership Authorisation	
ID	**ATTAUTH_ WEB_3**
Description	VO admins should be able to allow or deny pending membership request from the web interface.
Mandatory	YES
Applicability	Web Portal for Attribute Authority Appliances management

Input from Technology Provider	Provide a web page for listing pending membership requests and allowing or denying them.	
Test Description	**Pre-condition**	VO Web server running, valid admin credentials, membership request.
	Test	Admin accepts the membership request.
	Expected Outcome	User is added to the VO. Notification email is sent to user.
	Pre-condition	VO Web server running, valid admin credentials, membership request.
	Test	Admin rejects the membership request.
	Expected Outcome	User is not added to the VO.
Pass/Fail Criteria	Pass if the admin can accept/reject VO membership requests from users.	
Related Information		

VO Administration	
ID	**ATTAUTH_ WEB_4**
Description	Authorized users should be able to manage VO groups, roles, attributes and ACLs from the web interface.
Mandatory	YES
Applicability	Web Portal for Attribute Authority Appliances management

Input from Technology Provider	Provide pages for managing the groups, roles, attributes and ACLs of the VO. They must allow the creation of new items, assigning and removing users for those items, deleting items.	
Test Description	**Pre-condition**	VO Web server running, valid credentials.
	Test	Create new group/role/attribute using web interface.
	Expected Outcome	The new group/role/attribute is created.
	Pre-condition	VO Web server running, valid credentials.
	Test	Remove existing group/role/attribute using web interface.
	Expected Outcome	The group/role/attribute is deleted.
	Pre-condition	VO Web server running, valid credentials.
	Test	Assign group/role/attribute to user using web interface.
	Expected Outcome	The group/role/attribute is assigned to user.
	Pre-condition	VO Web server running, valid credentials.
	Test	Remove user from group/role/attribute using web interface.
	Expected Outcome	User no longer has group/role/attribute assigned.
Pass/Fail Criteria	Pass if the admin can accept/reject VO membership requests from users.	
Related Information		

VO Browse	
ID	**ATTAUTH_ WEB_5**
Description	Authorized used should be able to browse the VO members, groups, roles or attributes.
Mandatory	YES
Applicability	Web Portal for Attribute Authority Appliances management

Input from Technology Provider	Provide pages for listing the VO members, groups, roles and attributes for a given VO.	
Test Description	**Pre-condition**	VO Web server running, valid credentials.
	Test	Browse VO members by groups/roles/attributes.
	Expected Outcome	Web pages with list of users for groups/roles/attributes is delivered.
Pass/Fail Criteria	Pass if the VO browsing pages are provided and members can be listed by groups, roles and, or attributes.	
Related Information		
Revision Log		

3 AUTHORISATION

3.1 Policy Management

Policy Listing	
ID	**AUTHZ_ MGMT_1**
Description	Administrators must be able to list the policies stored in the service.
Mandatory	YES
Applicability	Authorisation Appliances with PAP

Input from Technology Provider	Support for policy listing	
Test Description	**Pre-condition**	Policy repository available.
	Test	List policies
	Expected Outcome	List of stored policies.
Pass/Fail Criteria	Pass if the test suite passes	
Related Information	UMD Roadmap [R 1] Argus [R 6]	
Revision Log		

Policy Repositories Management		
ID	**AUTHZ_ MGMT_2**	
Description	Administrators must be able to manage the remote Policy Repositories to be used by the service.	
Mandatory	YES	
Applicability	Authorisation Appliances with PAP	

Input from Technology Provider	Support for the management of Policy Repositories that will be used in the service.	
Test Description	**Pre-condition**	Remote policy repository available.
	Test	Add remote policy repository.
	Expected Outcome	Remote repository added; remote policies retrieved.
	Pre-condition	Configured Remote policy repository.
	Test	Remove remote policy repository.
	Expected Outcome	Remote repository removed, policies no longer available.
	Pre-condition	Configured Remote policy repository
	Test	Update remote policies.
	Expected Outcome	Remote policies retrieved.
	Pre-condition	Enabled policy repository.
	Test	Disable policy repository.
	Expected Outcome	Policies from repository no longer used.
	Pre-condition	Disabled policy repository.
	Test	Enable policy repository.
	Expected Outcome	Policies from repository used.
	Pre-condition	Several policies repositories configured.
	Test	Show policy repository order.
	Expected Outcome	Policy repository order shown.
	Pre-condition	Several policies repositories configured.
	Test	Set new policy repository order.
	Expected Outcome	New policy repository is set.
Pass/Fail	Pass if the administrator is able to configure the use of (remote) policy repositories:	

Criteria	disabling, enabling and establishing an order for them.
Related Information	UMD Roadmap [R 1] Argus [R 6]
Revision Log	

3.2 Policy Definition

3.2.1 Central policy management (Argus)

(un) Banning Policies		
ID	**AUTHZ_ PCYDEF_1**	
Description	Administrators must be able to define policies that ban users or FQANs.	
Mandatory	YES	
Applicability	Authorisation Appliances with PAP	

Input from Technology Provider	Support for banning different user DNs and FQANs; also support re-establishing already existing banning.	
Test Description	**Pre-condition**	Policy repository available. Banning policy for DN/FQAN not defined
	Test	Define ban policy for DN/FQAN
	Expected Outcome	Ban policy for DN/FQAN stored in policy repository.
	Pre-condition	Policy repository available. Banning policy for DN/FQAN defined
	Test	Unban policy for DN/FQAN
	Expected Outcome	Ban policy for DN/FQAN no longer stored in policy repository.
Pass/Fail Criteria	Pass if the banning policies can be defined (and removed)	
Related Information	UMD Roadmap [R 1] Argus [R 6]	
Revision Log		

Policy Definition from file	
ID	**AUTHZ_ PCYDEF_2**
Description	Administrators must be able to manage the policies in the service, loading them from a file. File syntax could be XAMCL or a simplified equivalent.
Mandatory	YES
Applicability	Authorisation Appliances with PAP

Input from Technology Provider	Support for policy definitions with different DNs and FQANs, both *allow* and *deny* policies for different resources and actions.	
Test Description	**Pre-condition**	Policy repository available. Policy file with policies.
	Test	Add policies from file.
	Expected Outcome	Policies from file now stored in repository.
	Pre-condition	Policy repository available with a policy to update. Update description in policy file.
	Test	Update policy from file.
	Expected Outcome	Update policy stored in repository.
	Pre-condition	Policy repository available with a policy to remove.
	Test	Remove policy.
	Expected Outcome	Policy no longer stored in repository.
Pass/Fail Criteria	Pass if the administrator cans add/update/remove policies for DNs and or FQANs.	
Related Information	UMD Roadmap [R 1] Argus [R 6]	
Revision Log		

3.2.2 Service Based Authorisation (Not Argus)

Ban User/FQAN		
ID	**AUTHZ_ PCYDEF_3**	
Description	Administrators must be able to define policies that ban users or FQANs.	
Mandatory	YES	
Applicability	Authorisation Appliances without PAP	

Input from Technology Provider	Support for banning of different user DNs and FQANs.	
Test Description	**Pre-condition**	Configured system.
	Test	Ban policy for DN/FQAN. Test access for DN/FQAN.
	Expected Outcome	Ban policy is correctly enforced.
	Pre-condition	Configured system. Banning policy for DN/FQAN defined
	Test	Unban DN/FQAN. Test access for DN/FQAN.
	Expected Outcome	DN/FQAN is allowed.
Pass/Fail Criteria	Pass if the banning policies can be defined and enforced.	
Related Information		
Revision Log		

Allowed users definition	
ID	**AUTHZ_ PCYDEF_4**
Description	Administrators must be determine which users/FQANs are allowed in the system
Mandatory	YES
Applicability	Authorisation Appliances without PAP

Input from Technology Provider	Support for allowing DNs/FQANs in the system.	
Test Description	**Pre-condition**	Configured system.
	Test	Allow DN/FQAN access into system. Test access fro DN/FQAN.
	Expected Outcome	DN/FQAN is allowed in the system.
Pass/Fail Criteria	Pass if the policies can be defined and enforced	
Related Information		
Revision Log	V2: Restricted policy definition to allowing access (full control of policy is expected in Argus like systems)	



3.3 Policy Decision Point

XACML Interface	
ID	**AUTHZ_ PDP_1**
Description	PDPs should support the XACML interface
Mandatory	YES
Applicability	Authorisation Appliances with PDP

Input from Technology Provider	Support for XACML requests for accessing the PDP from clients (PEP). Ideally, a complete test suite of the API, that covers correct and erroneous input for the API, authorize and deny policies taking into account DNs, VOs, FQAN, and proxies.	
Test Description	**Pre-condition**	Configured PEP and PDP.
	Test	Test suite for XACML requests to PDP
	Expected Outcome	Log of actions.
Pass/Fail Criteria	Pass if the XACML API is supported. Non-complete implementations of the API may be accepted if this is documented and the missing functionality does not affect the operations of the infrastructure.	
Related Information	UMD Roadmap [R 1] Argus [R 6] XACML [R 7]	
Revision Log		

3.4 Policy Enforcement

Policy Enforcement	
ID	**AUTHZ_ PEP_1**
Description	The defined policies in the authorisation capability must be enforced when applicable
Mandatory	YES
Applicability	Authorisation Appliances

Input from Technology Provider	Support for the policy enforcement, with policies expressed in terms of DNs and/or FQANs. The user may be authenticated with a certificate chain or with SAML assertions.	
Test Description	**Pre-condition**	Configured system. User certificate chain (or SAML assertions) of user allowed to perform action.
	Test	Test if the user can perform action
	Expected Outcome	Permission is granted to user.
	Pre-condition	Configured system. User certificate chain of user (or SAML assertions) NOT allowed to perform action.
	Test	Test if the user can perform action
	Expected Outcome	Permission is NOT granted to user.
Pass/Fail Criteria	Pass if policies are correctly enforced for supported authentication systems (user certificates or SAML assertions).	
Related Information	UMD Roadmap [R 1] Argus [R 6]	
Revision Log	V2: Added SAML assertions support.	

User Mapping	
ID	**AUTHZ_ PEP_2**
Description	The authorisation capability should provide mapping of authorized users to local accounts.
Mandatory	YES
Applicability	Authorisation Appliances

Input from Technology Provider	Support for mapping of users to local accounts; with/without VOMS attributes, and with/without pool accounts. The preferred mapping mechanism is the gridmap dir using gridmapfiles for defining the mappings.	
Test Description	**Pre-condition**	Configured system. No previous mapping for user.
	Test	Accepted authorisation.
	Expected Outcome	GID/UID of the mapping returned. Primary group determined by FQAN if available. New entry in grid map is created.
	Pre-condition	Configured system. Previous mapping for user existing.
	Test	Accepted authorisation.
	Expected Outcome	GID/UID of the previous mapping returned.
Pass/Fail Criteria	Pass if the mapping is performed correctly for authorised users using gridmap dir entries. The mapping of accounts is done according to a gridmapfile. Pool accounts must be supported. Other mechanisms for mapping may be accepted.	
Related Information	UMD Roadmap [R 1] Argus [R 6]	
Revision Log		

4 CREDENTIAL MANAGEMENT

4.1 Credential Management Interface

Credential Storage		
ID	**CREDMGMT_IFACE_1**	
Description	Credential Management Appliances must provide an interface for storing user credentials.	
Mandatory	YES	
Applicability	Credential Management Appliances	

Input from Technology Provider	Support for storing user credentials in the service (with and without VOMS extensions).	
Test Description	**Pre-condition**	Valid user credentials (X509 certificate), user allowed in the service.
	Test	Store user credential in the service
	Expected Outcome	Credential is stored in the system
	Pre-condition	Valid user credentials (X509 certificate), user not allowed in the service.
	Test	Store user credential in the service
	Expected Outcome	Error message is issued; no credentials are stored.
Pass/Fail Criteria	User can successfully store the credentials in the appliance with and without VOMS extensions.	
Related Information		
Revision Log		

Credential Retrieval		
ID	**CREDMGMT_IFACE_2**	
Description	Credential Management Appliances must provide an interface for retrieving user credentials in the service.	
Mandatory	YES	
Applicability	Credential Management Appliances	

Input from Technology Provider	Support for retrieving user credentials in the service (with and without VOMS extensions).	
Test Description	**Pre-condition**	Valid user credentials stored in service, user allowed in the service.
	Test	Retrieve user credential
	Expected Outcome	User credentials returned.
	Pre-condition	No valid user credentials stored in the service.
	Test	Retrieve user credential
	Expected Outcome	Error message is issued; no credentials are returned.
Pass/Fail Criteria	User can successfully retrieve previously store credentials from the appliance with and without VOMS extensions.	
Related Information		
Revision Log		

Credential Renewal	
ID	**CREDMGMT_IFACE_3**
Description	Credential Management Appliances must provide an interface for renewing user credentials in the service.
Mandatory	YES
Applicability	Credential Management Appliances

Input from Technology Provider	Support for renewing user credentials in the service (with and without VOMS extensions).	
Test Description	**Pre-condition**	Valid user credentials stored in service, host allowed to renew credentials.
	Test	Renew user credential
	Expected Outcome	User credentials renewed.
	Pre-condition	Valid user credentials stored in service, host not allowed to renew credentials.
	Test	Renew user credential
	Expected Outcome	Error message is issued; no credentials are renewed.
	Pre-condition	No valid user credentials stored in the service.
	Test	Renew user credential
	Expected Outcome	Error message is issued; no credentials are renewed.
Pass/Fail Criteria	Services/Users can successfully renew previously retrieved credentials from the appliance with and without VOMS extensions.	
Related Information		
Revision Log		

4.2 Institutional Authentication Systems Linking

Institutional Authentication Linking	
ID	**CREDMGMT_ LINK _1**
Description	Users should be able to access grid resources using institutional authentication systems.
Mandatory	NO
Applicability	Credential Management Appliances

Input from Technology Provider	Support for linking institutional authentication system with the Credential Management implementation	
Test Description	**Pre-condition**	Valid institutional user credentials, user allowed in the service.
	Test	User requests grid credentials using his/her institutional credentials
	Expected Outcome	Short-lived X.509 credential for used created.
Pass/Fail Criteria	Short-lived X.509 credentials are created for authorized users. Test should be executed for each of the authentication systems supported (e.g. Kerberos or Shibboleth)	
Related Information		
Revision Log		

5 REFERENCES

R 1	UMD roadmap: https://documents.egi.eu/public/ShowDocument?docid=100
R 2	Generic UMD Quality Criteria
R 3	GridSite Delegation Protocol: http://www.gridsite.org/wiki/Delegation_protocol
R 4	Globus Delegation Service: http://www.globus.org/toolkit/docs/4.0/security/delegation/
R 5	European Policy Management Authority for Grid Authentication (EuGridPMA): http://www.eugridpma.org/
R 6	ARGUS Authorization Service: https://twiki.cern.ch/twiki/bin/view/EGEE/AuthorizationFramework
R 7	XACML: http://docs.oasis-open.org/xacml/2.0/access_control-xacml-2.0-core-spec-os.pdf