Enabler Test Specification for Authorization Framework For Network APIs

Candidate Version 1.0 – 13 May 2014

Open Mobile Alliance

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1. Scope

This document describes in detail available test cases for Authorization Framework for Network APIs.

The test cases are split in two categories, conformance and interoperability test cases.

The conformance test cases are aimed to verify the adherence to normative requirements described in the technical specifications.

The interoperability test cases are aimed to verify that implementations of the specifications work satisfactory.

If either conformance or interoperability tests do not exists at the creation of the test specification this part should be marked not available.

2. References

2.1 Normative References

[Autho4API-ER]	"Authorization Framework for Network APIs Combined Enabler Release", Open Mobile Alliance™, OMA-ER-SNeW-V1_0, URL:http://www.openmobilealliance.org/
[Autho4API-ETR]	"Enabler Test Requirements for Authorization Framework for Network APIs", Open Mobile Alliance™, OMA-ETR-SNeW-V1_0, URL:http://www.openmobilealliance.org/
[Autho4API-EVP]	"Enabler Validation Plan for Authorization Framework for Network APIs", Open Mobile Alliance™, OMA-EVP-SNeW-V1_0, URL:http://www.openmobilealliance.org/
[RFC2119]	"Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

2.2 Informative References

[OMADICT]	"Dictionary for OMA Specifications", Version 2.9, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_9, URL:http://www.openmobilealliance.org/

3. Terminology and Conventions

3.1   Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except "Scope", are normative, unless they are explicitly indicated to be informative.

The following numbering scheme is used:

xxx-y.z-con-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
'con'	Indicating this test is a conformance test case
number	Leap number for the test case

Or

xxx-y.z-int-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
'int'	Indicating this test is a interoperability test case
number	Leap number for the test case

3.2   Definitions

Autho4API	Authorization Framework for Network APIs

3.3   Abbreviations

ETS	Enabler Test Specification
EVP	Enabler Validation Plan
OMA	Open Mobile Alliance

4. Introduction

The purpose of this document is to provide test cases for Autho4API Enabler Release 1.0.

The implementation of some features is optional for the Clients and/or the Servers in the Autho4API Enabler. The tests associated with these optional features are marked as "(Includes Optional Features)" in the test specification.

5. Autho4API Conformance Test Cases

At this moment there is no plan to produce conformance test cases.

6. Autho4API Interoperability Test Cases

There are xx Autho4API test cases.

6.1   Registration of the client

6.1.1   Registration of confidential client

Test Case Id	Autho4API-1.0-int-001.
Test Object	Autho4API Client (confidential), Autho4API Server, Resource Owner's UA, Net API-X client, Net API-X Server
Test Case Description	Client of type confidential registration
Specification Reference	[Autho4API] section 7.1
SCR Reference	Autho4API-CLI-C-001-M, Autho4API-CLI-C-002-O, Autho4API-S-001-M, Autho4API-S-002-M
ETR Reference	Autho4API-001
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client was not yet registered on the Autho4API server; • The Autho4API Client is of type confidential; • User has already valid credentials to access the Net API-X Server; • Net API-X server requires Autho4API for its resources access.
Test Procedure	1. User accesses the Net API X client that can be any that uses Autho4API and tries to access the Net API-X server; 2. The Net API X client launches the device web browser showing the Resource Owners's UA pages asking for the user credentials; 3. User enters valid credentials.
Pass-Criteria	1. The web browser is automatically launch after the access attempt to the Net API-X server; 2. The user can access the Net API-X server resources after entering the valid credentials.

Table 1: Test Information for Autho4API-1.0-int-001 Interoperability Test

6.1.2   Registration of public client

Test Case Id	Autho4API-1.0-int-002.
Test Object	Autho4API Client (public), Autho4API Server, Resource Owner's UA, Net API-X client, Net API-X Server
Test Case Description	Client of type confidential registration
Specification Reference	[Autho4API] section 7.1
SCR Reference	Autho4API-CLI-C-001-M, Autho4API-CLI-C-003-O, Autho4API-S-001-M, Autho4API-S-003-M
ETR Reference	Autho4API-001
Tool	N/A
Test code	N/A

Preconditions	• The Autho4API Client was not yet registered on the Autho4API server; • The Autho4API Client is of type public; • User has already valid credentials to access the Net API-X Server; • Net API-X server requires Autho4API for its resources access.
Test Procedure	1. User accesses the Net API X client application that can be any REST NET client that uses Autho4API and tries to access the Net API-X server; 2. Within the Net API-X client or by launching a specific Autho4API application the user is asked to enter his credentials; 3. The User enters his credentials.
Pass-Criteria	1. The user credentials are asked inside the Net API-X client application or by a launched Autho4API client native application; 2. The user can access the Net API-X server resources after entering the valid credentials.

Table 2: Test Information for Autho4API-1.0-int-002 Interoperability Test

6.2 Obtain Resources Owner's authorization - Authorization Code flow

Test Case Id	Autho4API-1.0-int-003.
Test Object	Autho4API Client (public), Autho4API Server, Resource Owner's UA, Net API-X client, Net API-X Server
Test Case Description	Client of type confidential registration
Specification Reference	[Autho4API] section 7.4.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-011-O, Autho4API-S-004-M, Autho4API-S-005-M, Autho4API-S-010-M
ETR Reference	Autho4API-002
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is already registered on the Autho4API server; • User has already valid credentials to access the Net API-X Server; • Net API-X server requires Autho4API for its resources access; • The Net API-X server is configured to require the authorization code flow to obtain authorization.
Test Procedure	1. User accesses the Net API X client application that can be any REST NET client that uses Autho4API and tries to access the Net API-X server; 2. The Resource Owner's User-Agent that can be an external browser is presented to the end-user to enter its credentials; 3. The User enters his credentials and if applicable requests to be used the authorisation code flow.

Pass-Criteria	1. The user credentials are asked inside the Resource Owner's User-Agent;
	2. The connection to the Resource Owner's UA from the Client and Serevr has to be protected using TLS;
	3. If there is a trace tool available or access to the Autho4API server or client it has to be seen the Authorization code being send to the Autho4API client. If not possible to get the information from the point above the user has to access successfully the Net API-X server resources after entering the valid credentials;

Table 3: Test Information for Autho4API-1.0-int-003 Interoperability Test

6.3   Obtain Resources Owner's authorization – Implicit Grant flow

Test Case Id	Autho4API-1.0-int-004.
Test Object	Autho4API Client (public), Autho4API Server, Resource Owner's UA, Net API-X client, Net API-X Server
Test Case Description	Client of type confidential registration
Specification Reference	[Autho4API] section 7.4.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-006-O, Autho4API-CLI-C-020-O, Autho4API-S-004-M, Autho4API-S-006-M, Autho4API-S-010-M
ETR Reference	Autho4API-003
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is already registered on the Autho4API server;
	• User has already valid credentials to access the Net API-X Server;
	• Net API-X server requires Autho4API for its resources access;
	• The Net API-X server is configured to require the implicit grant flow to obtain authorization.
Test Procedure	1. User accesses the Net API X client application that can be any REST NET client that uses Autho4API and tries to access the Net API-X server;
	2. The Resource Owner's User-Agent that can be an external browser is presented to the end-user to enter its credentials;
	3. The User enters his credentials and if applicable requests to be used the implicit grant flow.

Pass-Criteria	1. The user credentials are asked inside the Resource Owner's User-Agent;
	2. The communication to the Client and Server has to be protected through TLS;
	3. If there is a trace tool available or access to the Autho4API server or client it has to be seen the Access Token being send on the redirection of the Resource Owner's UA to the Autho4API Client and later Access token in the Autho4API Client sent from the Resource Owner's User-Agent after the execution of the embedded script returned by the Client.
	4. If not possible to get the information from the point above the user has to access successfully the Net API-X server resources after entering the valid credentials;

Table 4: Test Information for Autho4API-1.0-int-004 Interoperability Test

6.4 Obtainan Access Token for a public client - Authorization Code flow

Test Case Id	Autho4API-1.0-int-005.
Test Object	Autho4API Client (public), Autho4API Server, Resource Owner's UA, Net API-X client, Net API-X Server
Test Case Description	Client of type confidential registration
Specification Reference	[Autho4API] section 7.4.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-010-O, Autho4API-CLI-C-011-O, Autho4API-S-004-M, Autho4API-S-005-M, Autho4API-S-010-M, Autho4API-S-030-M
ETR Reference	Autho4API-004
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is already registered on the Autho4API server and is a public one;
	• User has valid credentials to access the Net API-X Server;
	• Net API-X server requires Autho4API for its resources access;
	• The Net API-X server is configured to require the authorization code flow to obtain authorization.
	• The Autho4API Client has not yet an Access Token valid to the Net API-X Server resources but has already the authorization code
Test Procedure	1. User accesses the Net API X Client application that can be any REST NET client that uses Autho4API and tries to access the Net API-X server;
	2. The Autho4API Client Application is launched by the Net API X Client;
	3. The Autho4API Client Application sends to the Autho4APIA Authorization Server the Access Token request with the Authorization Code previously obtained;
	4. The Autho4API Authorization Server responds with the Access Token

Pass-Criteria	1. The Autho4API Client Application is launched, although might not be visible;
	2. A valid access token is obtained.
	Note: A trace tool might be the only way to confirm the message flow

Table 5: Test Information for Autho4API-1.0-int-005 Interoperability Test

6.5 Obtainan Access Token for a Confidential Client - Authorization Code Flow

Test Case Id	Autho4API-1.0-int-006.
Test Object	Autho4API Client (public), Autho4API Server, Resource Owner's UA, Net API-X client, Net API-X Server
Test Case Description	Client of type confidential registration
Specification Reference	[Autho4API] section 7.4.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-012-O, Autho4API-CLI-C-012-O, Autho4API-S-004-M, Autho4API-S-005-M, Autho4API-S-010-M, Autho4API-S-029-M
ETR Reference	Autho4API-005
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is already registered on the Autho4API server and is a confidential one;
	• User has valid credentials to access the Net API-X Server;
	• Net API-X server requires Autho4API for its resources access;
	• The Net API-X server is configured to require the authorization code flow to obtain authorization.
	• The Autho4API Client has not yet an Access Token valid to the Net API-X Server resources but has already the authorization code
Test Procedure	1. User accesses the Net API X Client application that can be any REST NET client that uses Autho4API and tries to access the Net API-X server;
	2. The browser is launch and access the page of the Autho4API Client Redirect;
	3. The Autho4API Client Redirect sends to the Autho4APIA Authorization Server the Access Token request with the Authorization Code previously obtained;
	4. The Autho4API Authorization Server responds with the Access Token
Pass-Criteria	1. The Autho4API Client Redirect is launched, although might not be visible;
	2. A valid access token is obtained.
	Note: A trace tool might be the only way to confirm the message flow

Table 6: Test Information for Autho4API-1.0-int-006 Interoperability Test

6.6   Access to protected resources

Test Case Id	Autho4API-1.0-int-007.
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server
Test Case Description	Access to protected resources
Specification Reference	[Autho4API] sections 7.7, 7.8.2.2.3
SCR Reference	Autho4API-CLI-C-031-O, Autho4API-CLI-C-032-M, Autho4API-S-033-M, Autho4API-ACCESS-S-001-M, Autho4API-ACCESS-S-004-O
ETR Reference	Autho4API-006
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client already has a valid access token for accessing the Net API-X Server resources;
Test Procedure	1. User tries to access the Net API-X resources using the Net API-X client; 2. The Net API-X client requests the Autho4API to request the protected resource; 3. The Autho4API Client Application sends a request to the Autho4API Access Control Server including resources accessible at that endpoint and the Access Token using TLS; 4. The Autho4API Access Control Server returns the protected resources;
Pass-Criteria	1. The Autho4API Client sends the request to the correct request to the resources as indicated by the Net API-X client 2. The Autho4API Access Control can understand and accept the request from the Autho4API Client 3. The correct resources are returned by the Autho4API Access Control and delivered to the Net API-X client. Note: A trace tool might be the only way to confirm the message flow

Table 7: Test Information for Autho4API-1.0-int-007 Interoperability Test

6.7   Error Handling in Authorization

6.7.1   Without Response – Authorization Code flow

Test Case Id	Autho4API-1.0-int-008
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner's User-Agent
Test Case Description	Error handling when requesting authorization with no response using the Authorization Code flow
Specification Reference	[Autho4API] section 7.4.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-010-O, Autho4API-CLI-C-011-O, Autho4API-AUTH-S-004-M, Autho4API- AUTH-S-005-M, Autho4API- AUTH-S-010-M, Autho4API-AUTH-S-011-O

ETR Reference	Autho4API-0061
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client can be registered or not but has not yet the authorization code; • The Authorization Code flow is required by the Autho4API Authorization Server.
Test Procedure	1. User tries to access the Net API-X resources using the Net API-X client; 2. The Net API-X client requests the Autho4API Client to request the necessary authorization code; 3. The Autho4API Client Application returns a redirect response to the Net API-X Client redirecting to the Autho4API Authorization Server 4. The response with the redirection message from the Autho4API Authorization Server back to the Net API-X Client is blocked; 5. After some time (suggested two times the maximum HTTP redirect time) the Autho4API Client informs the Net API-X that an error happened, no answer from the Autho4API Authorization Server.
Pass-Criteria	1. The Autho4API Authorization Server receives the redirection with the request for the Authorization code; 2. The response from the Autho4API Authorization Server with the redirection to the Auto4API Client does not reach the Resource Owner's User Agent; 3. The Autho4API Client informs the Net API-X that no response with the authorization was received.

Table 8: Test Information for Autho4API-1.0-int-008 Interoperability Test

6.7.2   Without Response – Implicit Grant flow

Test Case Id	Autho4API-1.0-int-009
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner's User-Agent
Test Case Description	Error handling when requesting authorization with no response using the Implicit Grant flow
Specification Reference	[Autho4API] section 7.4.2
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-019-O, Autho4API-CLI-C-020-O, Autho4API-AUTH-S-004-M, Autho4API- AUTH-S-006-M, Autho4API- AUTH-S-010-M, Autho4API-AUTH-S-020-O
ETR Reference	Autho4API-0061
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client can be registered or not but has not yet the authorization code; • The Implicit Grant flow is required by the Autho4API Authorization Server.

Test Procedure	1. User tries to access the Net API-X resources using the Net API-X client;
	2. The Net API-X client requests the Autho4API Client to request the necessary access token;
	3. The Autho4API Client Application returns a redirect response to the Net API-X Client redirecting to the Autho4API Authorization Server
	4. The response with the redirection message from the Autho4API Authorization Server back to the Net API-X Client is blocked;
	5. After some time (suggested two times the maximum HTTP redirect time) the Autho4API Client informs the Net API-X that an error happened, no answer from the Autho4API Authorization Server.
Pass-Criteria	1. The Autho4API Authorization Server receives the redirection with the request for the Access token;
	2. The response from the Autho4API Authorization Server with the redirection to the Auto4API Client does not reach the Resource Owner's User Agent;
	3. The Autho4API Client informs the Net API-X that no response with the token fragment was received.

Table 9: Test Information for Autho4API-1.0-int-009 Interoperability Test

6.7.3   With Response – Authorization Code flow

Test Case Id	Autho4API-1.0-int-0010
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner's User-Agent
Test Case Description	Error handling when requesting authorization with wrong client ID in response using the Authorization Code flow
Specification Reference	[Autho4API] section 7.4.1, 7.4.7.5
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-010-O, Autho4API-CLI-C-011-O, Autho4API-AUTH-S-004-M, Autho4API- AUTH-S-005-M, Autho4API- AUTH-S-010-M, Autho4API-AUTH-S-011-O
ETR Reference	Autho4API-0061
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client can be registered or not but has not yet the authorization code;
	• The Authorization Code flow is required by the Autho4API Authorization Server.
	• The Autho4API Authorization Server is configured not to accept the AES key length the Autho4API Client will use;

Test Procedure	1. User tries to access the Net API-X resources using the Net API-X client; 2. The Net API-X client requests the Autho4API Client to request the necessary authorization code; 3. The Autho4API Client Application returns a redirect response to the Net API-X Client redirecting to the Autho4API Authorization Server; 4. The Autho4API Authorization Server detects it does not support the AES key length and informs the Net API-X Client of an invalid request;
Pass-Criteria	1. The Autho4API Authorization Server receives the redirection with the request for the Authorization code; 2. The Net API-X Client is informed by the Autho4API Server that there was an invalid request from Autho4API Client.

Table 10: Test Information for Autho4API-1.0-int-010 Interoperability Test

6.7.4 Without Response – Implicit Grant flow

Test Case Id	Autho4API-1.0-int-0011
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner's User-Agent
Test Case Description	Error handling when requesting authorization with wrong client ID using the Implicit Grant flow
Specification Reference	[Autho4API] section 7.4.2, 7.4.7.5
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-019-O, Autho4API-CLI-C-020-O, Autho4API-AUTH-S-004-M, Autho4API- AUTH-S-006-M, Autho4API- AUTH-S-010-M, Autho4API-AUTH-S-020-O
ETR Reference	Autho4API-0061
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client can be registered or not but has not yet the authorization code; • The Implicit Grant flow is required by the Autho4API Authorization Server. • The Autho4API Authorization Server is configured not to accept the AES key length the Autho4API Client will use;
Test Procedure	1. User tries to access the Net API-X resources using the Net API-X client; 2. The Net API-X client requests the Autho4API Client to request the necessary access token; 3. The Autho4API Client Application returns a redirect response to the Net API-X Client redirecting to the Autho4API Authorization Server 4. The Autho4API Authorization Server detects it does not support the AES key length and informs the Net API-X Client of an invalid request;

Pass-Criteria	1. The Autho4API Authorization Server receives the redirection with the request for the Access token;
	2. The Net API-X Client is informed by the Autho4API Server that there was an invalid request from Autho4API Client.

Table 11: Test Information for Autho4API-1.0-int-011 Interoperability Test

6.8   Error Handling in Access Token

6.8.1   Unauthorized Client – Public Client

Test Case Id	Autho4API-1.0-int-0012
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner
Test Case Description	Error handling when requesting an Access Token with an unauthorized client with a Public Client
Specification Reference	[Autho4API] section 7.1.1, 7.5
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-010-O, Autho4API-CLI-C-011-O, Autho4API-CLI-C-029-O, Autho4API-AUTH-S-004-M, Autho4API- AUTH-S-005-M, Autho4API- AUTH-S-030-M
ETR Reference	Autho4API-0062
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is registered; • The Autho4API Client is a Public Client;
Test Procedure	1. The Net API-X client requests the Autho4API Client to request the authorization code;
	2. The Autho4API Client Application returns a redirect response to the Net API-X Client redirecting to the Autho4API Authorization Server
	3. The response with the redirection message from the Autho4API Authorization Server is sent back to the Net API-X Client;
	4. The Net API-X Client redirects the response to the Autho4API Client;
	5. The tester unauthorised the Autho4API Client;
	6. User tries to access the Net API-X resources using the Net API-X client;
	7. The Autho4API Client Application sends the Access Token Request using the obtained authorization code;
	8. The Autho4API Authorization Server detects the client is no longer authorised and informs the Resource Owner the Autho4API Client used tried to get the Access Token although was not authorised.
Pass-Criteria	1. The Autho4API Authorization Server receives the Access Token request from Autho4API Client
	2. The Resource Owner is informed that the Autho4API Client tried to access although was no longer authorised;
	3. The Autho4API Client does not receive the Access Token.

Table 12: Test Information for Autho4API-1.0-int-0012 Interoperability Test

6.8.2   Unauthorized Client – Private Client

Test Case Id	Autho4API-1.0-int-0013
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner
Test Case Description	Error handling when requesting an Access Token with an unauthorized client using a Private Client
Specification Reference	[Autho4API] section 7.1.1, 7.5
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-005-O, Autho4API-CLI-C-012-O, Autho4API-CLI-C-029-O, Autho4API-AUTH-S-004-M, Autho4API- AUTH-S-005-M, Autho4API- AUTH-S-030-M
ETR Reference	Autho4API-0062
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is registered; • The Autho4API Client is a Private Client;
Test Procedure	1. The Net API-X client requests the Autho4API Client to request the authorization code; 2. The Autho4API Client Application returns a redirect response to the Net API-X Client redirecting to the Autho4API Authorization Server 3. The response with the redirection message from the Autho4API Authorization Server is sent back to the Net API-X Client; 4. The Net API-X Client redirects the response to the Autho4API Client; 5. The tester unauthorised the Autho4API Client; 6. User tries to access the Net API-X resources using the Net API-X client; 7. The Autho4API Client Application sends the Access Token Request using the obtained authorization code; 8. The Autho4API Authorization Server detects the client is no longer authorised and informs the Resource Owner the Autho4API Client used tried to get the Access Token although was not authorised.
Pass-Criteria	1. The Autho4API Authorization Server receives the Access Token request from Autho4API Client 2. The Resource Owner is informed that the Autho4API Client tried to access although was no longer authorised; 3. The Autho4API Client does not receive the Access Token.

Table 13: Test Information for Autho4API-1.0-int-0013 Interoperability Test

6.9   Error Handling in Resources Access

6.9.1   Invalid request – Missing parameter

Test Case Id	Autho4API-1.0-int-0014
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner
Test Case Description	Error handling when accessing protected content due to an invalid request due to missing parameter

Specification Reference	[Autho4API] section 7.7.1.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-029-O, Autho4API- AUTH-S-029-M
ETR Reference	Autho4API-0063
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is registered and the user authenticated; • The Autho4API Client has already the Access Token
Test Procedure	1. The User request the protected resource from the Net API-X client; 2. To the requese to the Autho4API Access Control Server is MANIPULATED to have a missing parameter according to the IANA / OMNA registred type of token used; 3. The Autho4API Access Control Server returns a HTTP 400 (Bad Request) status code.
Pass-Criteria	1. The access to the protected resource is not granted; 2. The HTTP status code replied is the HTTP 400.

Table 14: Test Information for Autho4API-1.0-int-0014 Interoperability Test

6.9.2   Invalid token – Token Expired

Test Case Id	Autho4API-1.0-int-0015
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner
Test Case Description	Error handling when accessing protected content due to an expired token used
Specification Reference	[Autho4API] section 7.7.1.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-029-O, Autho4API- AUTH-S-029-M
ETR Reference	Autho4API-0063
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is registered and the user authenticated; • The Autho4API Client has already the Access Token
Test Procedure	1. The Access Token the Autho4API Client has is revoked at the Autho4API Authorization Server; 2. The User request the protected resource from the Net API-X client; 3. The Autho4API Access Control Server returns a HTTP 401 (Unauthorized) status code.

| Pass-Criteria | 1. The access to the protected resource is not granted; |
| | 2. The HTTP status code replied is the HTTP 401. |

Table 15: Test Information for Autho4API-1.0-int-0015 Interoperability Test

6.9.3   Insufficient Scope

Test Case Id	Autho4API-1.0-int-0016
Test Object	Autho4API Client, Autho4API Authorization Server, Autho4API Access Control Server, Net API-X client, Net API-X Server, Resource Owner
Test Case Description	Error handling when accessing protected content due to a token that does not grant access to the scope of the request
Specification Reference	[Autho4API] section 7.7.1.1
SCR Reference	Autho4API-CLI-C-004-M, Autho4API-CLI-C-029-O, Autho4API- AUTH-S-029-M
ETR Reference	Autho4API-0063
Tool	N/A
Test code	N/A
Preconditions	• The Autho4API Client is registered and the user authenticated;
	• The Autho4API Client has already a valid Access Token to some protected resources.
Test Procedure	1. The User request at the Net API-X client a protected resource different from the ones for which has already access but still on the same server;
	2. The Autho4API Access Control Server returns a HTTP 403 (Forbidden) status code and MAY include the "scope" attribute with the scope necessary to access the protected resource
Pass-Criteria	1. The access to the protected resource is not granted;
	2. The HTTP status code replied is the HTTP 403.

Table 16: Test Information for Autho4API-1.0-int-0015 Interoperability Test

Appendix A.   Change History   (Informative)

A.1   Approved Version History

Reference	Date	Description
n/a	n/a	No previous version within OMA

A.2   Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ETS-Autho4API-V1_0	16 May 2013	All	Initial draft as agreed in OMA-IOP-BRO-2013-0020R01-INP_Autho4API_ETS_baseline
	29 Aug 2013	6.2, 6.3, 6.4, 6.5	Incorporated CRs: OMA-IOP-BRO-2013-0025-CR_Authorization_test_cases OMA-IOP-BRO-2013-0035R01-CR_Obtain_Access_Token
	11 Oct 2013	6.6, 6.7, 6.8 (new)	Incorporated CRs OMA-IOP-BRO-2013-0041-CR_Access_Protected_Resources OMA-IOP-BRO-2013-0042R01-CR_Error_Handling_Authorization OMA-IOP-BRO-2013-0046R01-CR_Error_Handling_Access_Token
	07 Feb 2014	6.9	Incorporated CR: OMA-IOP-BRO-2013-0050-CR_Error_request_protected_resources Editorial changes
Candidate Version OMA-ETS-Autho4API-V1_0	13 May 2014	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2014-0085-INP_Autho4API_V1_0_ETS_for_Candidate_approval