



Enabler Test Report Device Synchronization v1.2.1

OMA TestFest (September 2010)
Version 11th October 2010

Open Mobile Alliance
OMA-EnablerTestReport-VirtualTestEvent-02-Sep2010-DS-121-
20101011

This document is a work in process and is not an approved Open Mobile Alliance™ specification. This document is subject to revision or removal without notice. No part of this document may be used to claim conformance or interoperability with the Open Mobile Alliance specifications.

Use of this document is subject to all of the terms and conditions of the Use Agreement located at http://www.openmobilealliance.org/Use_Agreement.aspx.

Unless this document is clearly designated as an approved specification, this document is a work in process, is not an approved Open Mobile Alliance™ specification, and is subject to revision or removal without notice.

You may use this document or any part of the document for internal or educational purposes only, provided you do not modify, edit or take out of context the information in this document in any manner. Information contained in this document may be used, at your sole risk, for any purposes. You may not use this document in any other manner without the prior written permission of the Open Mobile Alliance. The Open Mobile Alliance authorizes you to copy this document, provided that you retain all copyright and other proprietary notices contained in the original materials on any copies of the materials and that you comply strictly with these terms. This copyright permission does not constitute an endorsement of the products or services. The Open Mobile Alliance assumes no responsibility for errors or omissions in this document.

Each Open Mobile Alliance member has agreed to use reasonable endeavors to inform the Open Mobile Alliance in a timely manner of Essential IPR as it becomes aware that the Essential IPR is related to the prepared or published specification. However, the members do not have an obligation to conduct IPR searches. The declared Essential IPR is publicly available to members and non-members of the Open Mobile Alliance and may be found on the “OMA IPR Declarations” list at <http://www.openmobilealliance.org/AboutOMA/IPR.aspx>. The Open Mobile Alliance has not conducted an independent IPR review of this document and the information contained herein, and makes no representations or warranties regarding third party IPR, including without limitation patents, copyrights or trade secret rights. This document may contain inventions for which you must obtain licenses from third parties before making, using or selling the inventions. Defined terms above are set forth in the schedule to the Open Mobile Alliance Application Form.

NO REPRESENTATIONS OR WARRANTIES (WHETHER EXPRESS OR IMPLIED) ARE MADE BY THE OPEN MOBILE ALLIANCE OR ANY OPEN MOBILE ALLIANCE MEMBER OR ITS AFFILIATES REGARDING ANY OF THE IPR'S REPRESENTED ON THE “OMA IPR DECLARATIONS” LIST, INCLUDING, BUT NOT LIMITED TO THE ACCURACY, COMPLETENESS, VALIDITY OR RELEVANCE OF THE INFORMATION OR WHETHER OR NOT SUCH RIGHTS ARE ESSENTIAL OR NON-ESSENTIAL.

THE OPEN MOBILE ALLIANCE IS NOT LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, INDIRECT, PUNITIVE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF DOCUMENTS AND THE INFORMATION CONTAINED IN THE DOCUMENTS.

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.

Used with the permission of the Open Mobile Alliance Ltd. under the terms set forth above.

Contents

1. SCOPE.....	4
2. REFERENCES	5
2.1 NORMATIVE REFERENCES.....	5
2.2 INFORMATIVE REFERENCES.....	5
3. TERMINOLOGY AND CONVENTIONS.....	6
3.1 CONVENTIONS.....	6
3.2 DEFINITIONS	6
3.3 ABBREVIATIONS.....	6
4. SUMMARY.....	8
5. TEST DETAILS	9
5.1 DOCUMENTATION	9
5.2 TEST CASE STATISTICS	10
5.2.1 Test Case Summary	10
5.2.2 Test Case List	11
5.3 PROBLEM REPORTS.....	18
6. CONFIRMATION	19
APPENDIX A. CHANGE HISTORY (INFORMATIVE).....	20

1. Scope

This report describes the results from the testing carried out at OMA Virtual Test Event-02 (September 2010) concerning the Data Synchronization Version 1.2.1 Enabler.

2. References

2.1 Normative References

- [IOPPROC] “OMA Interoperability Policy and Process”, Version 1.10, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_10, [URL:http://www.openmobilealliance.org/](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](http://www.ietf.org/rfc/rfc2119.txt)
- [ERELD] ”Enabler Release Definition for Device Management”, OMA-ERELD-DS-V1_2_1-20070810-A, [URL:http://www.openmobilealliance.org](http://www.openmobilealliance.org)
- [ERP] “Enabler Release Package”, OMA-ERP-DS-V1_2_1-20070810-A, [URL:http://www.openmobilealliance.org](http://www.openmobilealliance.org)
- [ETS] “Enabler Test Specification”, OMA-ETS-DataSynchronization-V1_2_0-20040817-A, [URL:http://www.openmobilealliance.org](http://www.openmobilealliance.org)

2.2 Informative References

- [OMADICT] “Dictionary for OMA specifications”. Open Mobile Alliance™. <http://www.openmobilealliance.org/>

3. Terminology and Conventions

3.1 Conventions

This is an informative document, i.e. the document does not intend to contain normative statements.

3.2 Definitions

This section introduces terminology that will be used throughout this document.

Test Case	A Test Case is an individual test used to verify the conformance of the Test Object to a particular mandatory feature of the protocol. A 4-digit number identifies Test Cases where the first two digits denote the Test Group ID.
Test Group	A Test Group is a collection of Test Cases, which are executed, in a single SyncML session in SCTS conformance test tool.
Test Object	The implementation under test is referred to as the Test Object. In this document, the Client.
TestFest	Multi-lateral interoperability testing event
Trusted Zone	An OMA staff function to provide a neutral confidential information and results collection service to OMA Members. The Trusted Zone is responsible for all reports resulting from an OMA Test Event and to ensure that all general reports cannot attributed to any one individual participating company
<Node>	Path from the root to the interior node that is configured to the SCTS before the testing is done (e.g. './SyncML/DMAcc' or './DevDetail'). Test case is driven to this configured interior node. The <Node> can be different between different Test Cases.
<Leaf> or <Leaf#n>	Leaf node(s) that is configured to the SCTS before the testing is done (e.g.. 'SwV' and/or 'Name'). Test case is driven to this configured interior node. The <Leaf> can be different between different Test Cases.

3.3 Abbreviations

DS	Data Synchronization
DTD	Document Type Definition
EICS	Enabler Implementation Conformance Statement
ERDEF	Enabler Requirement Definition
ERELED	Enabler Release Definition
ERP	Enabler Release Package
ETG	Enabler Test Guidelines
ETS	Enabler Test Specification
INC	Inconclusive
N/A	Not Applicable
OMA	Open Mobile Alliance
OT	Out of Time

PR	Problem Report
SCR	Static Conformance Requirements
SCTS	SyncML Conformance Test Suite
SyncML	Synchronization Mark-up Language
TC	Test Case
XML	Extensible Mark-up Language

4. Summary

This report gives details of the testing carried out during the OMA Virtual Test Event-02 (September 2010) for Data Synchronization v1.2.1.

The report is compiled on behalf of OMA by the OMA Trusted Zone.

The work and reporting has followed the OMA IOP processes and policies [OMAIOPPROC].

5. Test Details

5.1 Documentation

This chapter lists the details of the enabler and any documentation, tools or test suites used to prove the enabler.

Date:	30 th September to 1 st October 2010
Location:	Not Applicable
Enabler:	DS v1.2.1
Process:	OMA Interoperability Policy and Process [OMAIOPPROC]
Type of Testing	Interoperability Testing
Products tested:	Client-to-server
Test Guidelines:	<i>None</i>
Test Specification:	DS 1.2 Enabler Test Specification [ETS]: OMA-ETS-DataSynchronization-V1_2_0-20040817-A
Test Tool:	None
Test Code:	None
Type of Test event:	Virtual Test Event
Participants:	<i>Websync plus 2 other participants</i>
Number of Client Implementations:	2
Participating Technology Providers for clients:	<i>Websync plus 1 other client</i>
Implementation IDs for each client:	<i>Data Synchronization plus 1 other implementation</i>
Number of Server Implementations:	1
Participating Technology Providers for servers:	1 server
Implementation IDs for each server:	1 implementation
Number of test sessions completed:	2

5.2 Test Case Statistics

5.2.1 Test Case Summary

This chapter gives an overview of the result for all test cases included in [ETS].

The following status is used in the tables below:

- Total number of TCs: Used in the summary to indicate how many test cases there are in total.
- Number of passed: Used in the summary to indicate how many of the total testcases that successfully has been passed.
- Number of failed: Used in the summary to indicate how many of the total testcases that has failed.
- Number of N/A: Used in the summary to indicate how many of the total testcases that has not be run due to that the implementation(s) do not support the functionality required to run this test case.
- Number of OT: Used in the summary to indicate how many of the total testcases that has not be run due to no time to run the test case.
- Number of INC: Used in the summary to indicate how many of the total testcases that has not been run due to that the functionality could not be tested due to an error in the implementation in another functionality that is required to run this test case.

Test Section:	Number of test sessions:	Total number of TCs:	Number of Passed:	Number of Failed:	Number of N/A:	Number of OT:	Number of INC:	Total:
Client to Server TCs	2	54	33	0	34	2	0	67
Total	2	54	33	0	34	2	0	67

Table 1. Test Summary Table

5.2.2 Test Case List

This chapter lists the statistics for all all interoperability test cases included in [ETS].

The following status is used in the tables below:

- **Runs (R):** Used to indicate the total number of times the test case have been run ($R = P + F + I$).
- **Pass (P):** Used to indicate how many times the test case have been run and successfully passed.
- **Fail (F):** Used to indicate how many times the test cases have been run and failed (used when the failure reason is known).
- **Inconclusive (I):** Used to indicate how many times the test cases have been run and did not pass due to other nature than conclusive implementation or specification failure (e.g.: the failure reason cannot be clearly determined).
- **Not Applicable (N/A):** Used to indicate how many times the test cases have not be run due to lack of support for the required functionality to run this test case by one or more involved implementations.
- **Out of Time (O):** Used to indicate how many times the test cases have not been run due to lack of time.
- **Problem Report (PR):** Used to indicate how many PRs have been issued for the test case.
- **Note:** Used to indicate the cause of the Inconclusive or Failed results.

Tests for DS v1.2.1 Enabler taken from OMA-ETS-DataSynchronization-V1_2-20040817-A

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-001	To test if the server can deny authentication when the client doesn't send any credentials.	2	2	0	0	2	0		0030
DATASYNCHRONIZATION-V1.2-INT-002	To test if the server can deny authentication when the client sends incorrect credentials.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-003	To check if the client can respond correctly to the server challenge for credentials in Basic authentication scheme.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-004	To check if the client can respond correctly to the server challenge for credentials in MD5 Digest authentication scheme.	0	0	0	2	0	0		

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-005	To test the Data Synchronization protocol and representation through the first-time use of a two-way synchronization. The intent is to show the exchange of Device Information as well as an empty two-way synchronization. The test also shows proper implementation of the Sync command when there is no data to send.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-006	To test the implementation of the Sync command with data and the Add commands.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-007	To test the implementation of the Replace command, as well as implementation of the ID mapping capability.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-008	To test the implementation of the Delete command, as well as implementation of the ID mapping capability.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-009	To test two-way sync with only client sending new data. This will require the sending and handling of an empty Sync command in addition to the handling of new data.	2	2	0	0	2	0		0031
DATASYNCHRONIZATION-V1.2-INT-010	To test a deletion of a non-existent item.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-011	To test two-way sync with client sending no sync data, and the server sending new data. This will require the sending and handling of an empty Sync command in addition to the handling of new data.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-012	To test the client ability to receive multiple messages in a package.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-013	To test the ability of client implementation to send multiple messages. This test shows the client's ability to create multiple messages to the server. It also shows the server ability to respond properly to multiple messages from the client.	2	2	0	0	2	0		

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-014	To test the implementation of a slow sync.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-015	To test implementation of slow sync to recover data onto a client.	2	2	0	0	2	0		
DATASYNCHRONIZATION-V1.2-INT-016	To test the implementation of Large Object handling functionality. This will require the sending and handling of large object by both Client and Server including the receiving, checking for the correctness in MaxObjSize and committing the object to the data store.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-017	To test the implementation's ability to handle incorrect sized large objects.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-018	The intent of this test is to verify that the client can send multiple large objects and the server can receive those large objects.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-019	To test if the client can deny authentication when the server doesn't send any credentials.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-020	To test if the client can deny authentication when the server sends incorrect credentials.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-021	To check if the server can respond correctly to the client challenge for credentials in Basic authentication scheme.	1	1	0	0	1	1		
DATASYNCHRONIZATION-V1.2-INT-022	To check if the server can respond correctly to the client challenge for credentials in MD5 Digest authentication scheme.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-023	To test whether client is able to request to suspend a synchronization session and is able to request to resume an interrupted session. Also to test whether the server is able to accept a client's request to suspend a synchronization session and to be able to accept a resume request from the client.	0	0	0	0	0	1		

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-024	To test if the server is able to initiate at least a slow-sync when the server is not able to resume an interrupted session.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-025	To test if the client is able to initiate at least a slow-sync when the client is not able to resume an interrupted session.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-026	The intent of this test is to stress the system by having the client issue multiple repetitive suspend and resume actions.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-027	The intent of this test is to verify the client can suspend a one-way sync.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-028	The intent of this test is to verify the client can suspend a one-way sync.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-029	To test one-way sync from the server only that is the sync type in which the server sends all modifications to the client but the client does not send its modifications back to the server	1	1	0	0	1	1		
DATASYNCHRONIZATION-V1.2-INT-030	To test one-way sync from the client only that is the sync type in which the client sends all modifications to the server but the server does not send its modifications back to the client	1	1	0	0	1	1		
DATASYNCHRONIZATION-V1.2-INT-031	To test the 'refresh sync from server only' synchronization in which the server sends all its data from a database to the client (i.e., exports). The client is expected to replace all data in the target database with the data sent by the server.	1	1	0	0	1	1		
DATASYNCHRONIZATION-V1.2-INT-032	To test the 'refresh sync from client only' synchronization in which the client sends all its data from a database to the server (i.e., exports). The server is expected to replace all data in the target database with the data sent by the client. I.e., this means that the client overwrites all data in the server database.	1	1	0	0	1	1		

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-033	To test whether server alert message is properly sent and processed by the client, resulting in the client starting a synchronisation session with the alerting server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-034	To test whether server alert message is properly sent and processed by the client, resulting in client choosing to ignore and initiating another sync that it declared to the server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-035	To test whether the client can send a sync request with filtering criteria for object record and whether the server can send changes only for items that satisfy the filter criteria.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-036	The intent of this test is to verify the error case for when a client may request to update a specific record that has previously been deleted on the server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-037	The intent of this test is to verify that the client may specify multiple records for updating.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-038	To test whether the client can send a sync request with filtering criteria for object content and whether the server can send changes only for items that satisfy the filter criteria.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-039	The intent of this test is to verify that the client may specify multiple criteria in order to filter the data objects for synchronization.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-040	To test whether the server handles field level changes correctly for incoming objects from the client.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-041	To test whether the client handles field level changes correctly for incoming objects from the server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-042	The intent of this test is to verify that the system can update records with multiple field changes for multiple records.	0	0	0	0	0	1		

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-043	The intent of this test is to verify the system can update a field level change on a large amount of data.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-044	The intent of this test case is to verify that the system can add a data object to an existing folder in the data store.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-045	The intent of this test case is to verify that the system can add a folder to the client and then add a data object to the new folder..	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-046	The intent of this test case is to verify that the system can delete all items in a folder. The system should maintain the folder. The folder is verified by adding a subsequent and new data object.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-047	The intent of this test case is to verify that the system can delete folders in the client and server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-048	The intent of this test case is to verify that the system can move data objects from one folder to another in both client and server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-049	The intent of this test case is to verify that the system can move existing data objects to newly created folders in both client and server.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-050	The intent of this test case is to verify that the system can perform various types of DS Sessions without interaction between the various Sessions.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-051	The intent of this test case is to verify that the system can perform various types of DS Sessions without interaction between the various Sessions.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-052	The intent of this test case is to verify that the system can perform various types of DS Sessions without interaction between the various Sessions.	0	0	0	0	0	1		

Test Case id:	Description:	Test Counts						PR:	Note:
		R	P	F	O	I	N/A		
DATASYNCHRONIZATION-V1.2-INT-053	The intent of this test case is to verify that the system can perform various types of DS Sessions without interaction between the various Sessions.	0	0	0	0	0	1		
DATASYNCHRONIZATION-V1.2-INT-054	The intent of this test case is to verify that the system can perform various types of DS Sessions without interaction between the various Sessions.	0	0	0	0	0	1		

Table 2. Test Case Counts

Notes:-

001	
-----	--

5.3 Problem Reports

During the activities for Virtual Test Event-02 the following problem reports were generated relating to the test materials and test process:

PR Number	Affecting	Description	Test Case reference / Specification reference
DS12-0030	OMA-ETS-DataSynchronization-V1_2_0-20040817-A	<p>Missing HTTP response codes.</p> <p>In test cases 7.1 Client authentication with no credentials</p> <ul style="list-style-type: none"> •In the pass criteria is suggested to add the correspondent HTTP response code that should be sent by the Server. •This comment applies to all the test cases 	DataSynchronization-v1.2-int-001
DS12-0031	OMA-ETS-DataSynchronization-V1_2_0-20040817-A	<p>Change the order of some test cases.</p> <p>Test case, 7.9 Two-way Sync with Client sending new data</p> <ul style="list-style-type: none"> •It was suggested to move this test up in the list in order to have all the tests about item action from just one side before the actions on both sides 	DataSynchronization-v1.2-int-009

Full details of all Problem Reports can be found at:

<http://www.oma-tech.org/pr/Frontpage.aspx>

6. Confirmation

This signature states that the included information is true and valid.

A handwritten signature in black ink, appearing to read 'M. J. ...', is positioned above a horizontal line.

OMA Trusted Zone

Appendix A. Change History (Informative)

Type of Change	Date	Section	Description
New Version	11 th October 2010	All	First Version for Virtual Test Event-02