Enabler Test Specification for Data Synchronization v1.2

Approved Version 17-August-2004

Open Mobile Alliance
OMA-ETS-DataSynchronization-V1_2-20040817-A

Contents

1. Scope

This document describes in detail available test cases for Data Synchronization v1.2.

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.

Interoperability tests are designed to be a simple coverage of the major specification feature areas. Interoperability test cases are designed to be easy to run within a TestFest environment. Interoperability tests are designed to test two working implementations. The conformance cases are designed to be run with the conformance test tool. The conformance tool is used versus another implementation because it may be required to inject error cases into the system.

If either conformance or interoperability tests do not exists at the creation of the test specification this part should be marked not available. Testcases that are not included in the current release of the conformance test tool are marked, [No Automation].

2. References

2.1. Normative References

[CREQ] "Specification of WAP Conformance Requirements", Open Mobile Alliance™, WAP-221-CREQ, URL:http//www.openmobilealliance.org/tech/docs

[DATASYNCREP] "SyncML Representation Protocol, Data Synchronization Usage", Open Mobile Alliance™, OMA-SyncML-DataSyncRep-V1_2, URL:http:www.openmobilealliance.org/tech/docs.

[ELREDSC] "Enabler Release Definition for SyncML Common Specifications", Open Mobile Alliance™, OMA-ERELD-SyncML-Common-V1_2, URL:http:www.openmobilealliance.org/tech/docs

[EMAILOBJ] "Email Data Object Specification", Open Mobile Alliance™, OMA-DS-2003-0509-DataObject-Email, URL:http:www.openmobilealliance.org/tech/docs

[FILEOBJ] "File Data Object Specification", Open Mobile Alliance™, OMA-DS-2003-0514-DataObject-File, URL:http:www.openmobilealliance.org/tech/docs

[FOLDEROBJ] "Folder Data Object Specification", Open Mobile Alliance™, OMA-DS-2003-0523-DataObject-Folder, URL:http:www.openmobilealliance.org/tech/docs

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[REPPRO] "SyncML Synchronization Protocol", Open Mobile Alliance™, OMA-SyncML-DataRepProtocol-V1_2, URL:http:www.openmobilealliance.org/tech/docs

[SYNCDEV] "SyncML Device Information", Open Mobile Alliance™, OMA-SyncML-DevInfo-V1_2, URL:http:www.openmobilealliance.org/tech/docs

[SYNCDEVDTD] "SyncML Device Information Document Type Definition", Open Mobile Alliance™, OMA-SyncML-DevInfo-DTD-V1_2, URL:http:www.openmobilealliance.org/tech/docs

2.2. Informative References

[IOP] OMA-IOP-Process-V1_0-20030326-A, URL: http://www.OpenMobileAlliance.org/

[OMADICT] "Dictionary for OMA specifications". Open Mobile Alliance™. OMA-Dictionary-v1_0. 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.

3.2. Definitions

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

Data Synchronization –The act of establishing an equivalence between two data collections, where each data element in one item maps to a data item in the other, and their data is equivalent.

Enabler Release –a collection of specifications that combined together form an enabler for a service area, e.g. a download enabler, a browsing enabler, a messaging enabler, a location enabler, etc. The specifications that are forming an enabler should combined fulfill a number of related market requirements.

Minimum Functionality Description – Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.

3.3. Abbreviations

DS	Data Synchronization
DTD	Document Type Definition
ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
OMA	Open Mobile Alliance
SCR	Static Conformance Requirements
SyncML	Synchronization Mark-up Language
XML	Extensible Mark-up Language

4. Introduction

The purpose of this document is to provide test cases for Data Synchronization Enabler Release v1.2.

Some features in the Data Synchronization enabler may optionally be implemented in mobile devices. The tests associated with these optional features are marked as [Optional] in the test specification.

4.1. Guidelines for Test Coverage

This section provides guidelines for executing the Interoperability test cases.

During Interoperability testing, you MUST demonstrate (where possible) all Data Media Types and SyncML transports claimed in the Enabler Implementation Conformance Statement (EICS) for your device. This is based upon the assumption that if both Client and Server claim to support the same media type then testing MUST include that media type. Where there is a mismatch of media types, no testing can be conducted. When devising the test schedule, the Trusted Zone will try to match Client/Server EICSs to facilitate test coverage.

To this effect, within a designated test session you MUST submit test results according to the following test criteria:

Data Media Type	SyncML Transport	Interoperability Test Cases to Execute
DataType1	HTTP	FULL - All Test Cases
Each additional DataType	HTTP	Regression – Mandatory Test Cases 005-015 and Optional Test Cases 016, 035-049
DataType1	OBEX	Regression – Mandatory Test Cases 005, 012, 013 and Optional Test Cases 029-034

Note(1): WSP support is classed as HTTP since this is the transport from the WAP Gateway.

Note(2): It is assumed that Data Media Types are independent of the transport mechanism. The second transport testing consists of a subset of Interoperability test cases intended to prove interoperability.

For example, if a Client and Server both claim to support Data Media types vCard(2.1), vCal(1.0) and Email data object and SyncML transport bindings HTTP and OBEX, then the following test results are expected:

HTTP	vCard(2.1) FULL	- All Test Cases
HTTP	vCal(1.0) Regression	- Test Cases 005-015 (M) and 016, 035-049 (O)
HTTP	Email data object Regression	- Test Cases 005-015 (M) and 016, 035-049 (O)
OBEX	vCard(2.1) Regression	- Test Cases 005, 012, 013 and 029-034 (O)

Please note that these are the minimum test results that MUST be submitted to the Trusted Zone and that Data Media types can be tested in any order. If time permits it is recommended that you execute all of the interoperability test cases for all of the claimed data media types and SyncML transports.

1. The intention of these guidelines is to prioritize test coverage.
2. You MUST execute all the test cases for one of the Media Types
3. You MUST demonstrate interoperability with all the supported data media types and transports.
4. You SHOULD complete as many full test sessions as possible for all supported data types and transports within the allocated time period for testing.

5. Data Synchronization Client Conformance Test Cases

For Data Synchronization Enabler there exist 61 client conformance tests.

The Client Conformance test cases are listed according to the Test Groups. Each Test Group describes its test cases and the relevant information regarding the message exchanged. The tests executed to test a client implementation are described in this section.

5.1. Data Synchronization Client Conformance Test Group #1

5.1.1. Support of the Basic authentication scheme

Test Case Id	DataSynchronization-v1.2-client-con-0101
Test Object	Client device
Test Case Description	To check if the Test Object supports the Basic authentication scheme. SCTS will challenge the client for credentials in this scheme.
Specification Reference	[SYNCPRO], Section 7
SCR Reference	SCR-DS-CUE-C-002, SCR-DS-CUE-C-006, SCR-DS-CUE-S-002, SCR-DS-CUE-S-006
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	Client MUST send valid credentials encoded using the Basic authentication scheme.

5.2. Data Synchronization Client Conformance Test Group #2

5.2.1. Support of the MD5 Digest authentication scheme

Test Case Id	DataSynchronization-v1.2-client-con-0201
Test Object	Client device
Test Case Description	To check if the client supports the MD5 scheme. SCTS will challenge the client for credentials in this scheme.
Specification Reference	[SYNCPRO], Section 7
SCR Reference	SCR-DS-CUE-C-002, SCR-DS-CUE-C-006, SCR-DS-CUE-S-002, SCR-DS-CUE-S-006
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	Client MUST send valid credentials encoded using the Basic authentication scheme.

5.3. Data Synchronization Client Conformance Test Group #3

5.3.1. Respond with Results for a Get on device information

Test Case Id	DataSynchronization-v1.2-client-con-0301
Test Object	Client device
Test Case Description	To check if the Test Object responds with Results for a Get on device information.
Specification Reference	[SYNCPRO], Section 8.2
SCR Reference	SCR-DS-PCE-C-007, SCR-DS-PCE-C-012, SCR-DS-PCE-S-007, SCR-DS-PCE-S-012
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	The Test Object MUST return Results for SCTS' Get on device information.

5.3.2. Sending Alerts for all databases

Test Case Id	DataSynchronization-v1.2-client-con-0302
Test Object	Client device
Test Case Description	To check if the Test Object sends Alerts for all its databases.
Specification Reference	[SYNCPRO], Section 8.1
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-S-002
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	The Test Objects Alerts MUST result in a status code of 200/508. SCTS MUST receive status codes of 200 for all its Alerts.

5.3.3. Sending of valid Sync Tags

Test Case Id	DataSynchronization-v1.2-client-con-0303
Test Object	Client device
Test Case Description	To check if the Test Object sends valid Sync Tags.
Specification Reference	[SYNCPRO], Section 9.1
SCR Reference	SCR-DS-PCE-C-016, SCR-DS-PCE-C-016

Test Tool	SCTS DS 1.2 as a server
Preconditions	Test Object's Database must be empty.
Pass-Criteria	Test Object MUST send a Sync element without any child container/command elements.

5.3.4. Sending Alerts for multiple databases [No Automation]

Test Case Id	DataSynchronization-v1.2-client-con-0304
Test Object	Client device
Test Case Description	To check if the Test Object sends Alerts for multiple databases.
Specification Reference	[SYNCPRO], Section 8.1
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-S-002
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	The Test Objects Alerts MUST result in a status code of 200/508. SCTS MUST receive status codes of 200 for all its Alerts.

5.4. Data Synchronization Client Conformance Test Group #4

5.4.1. Matching of Sync Anchors

Test Case Id	DataSynchronization-v1.2-client-con-0401
Test Object	Client device
Test Case Description	To check if the Test Object's and SCTS' Sync Anchors match by sending/receiving Alerts for normal two way sync.
Specification Reference	[SYNCPRO], Section 6.2.1
SCR Reference	DSDM-METINF-C-001, DSDM-METINF-S-001, DSDM-METINF-C-007, DSDM-METINF-S-007, DSDM-METINF-C-013, DSDM-METINF-S-013
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST send Alert codes of 200 with valid Sync Anchors and SCTS MUST receive a status code of 200 on it's Alert.

5.4.2. Correct handling of Add

Test Case Id	DataSynchronization-v1.2-client-con-0402
Test Object	Client device
Test Case Description	To check if the Test Object handles Adds correctly.
Specification Reference	[SYNCPRO], Section 9.3 [DSREPU], Section 6.4.1 [DSREPU], Section 6.5.1
SCR Reference	SCR-DS-PCE-C-001, SCR-DS-PCE-C-008, SCR-DS-PCE-S-001, SCR-DS-PCE-S-008
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 201 status code for all SCTS' Adds.

5.5. Data Synchronization Client Conformance Test Group #5

5.5.1. Sending of valid Add

Test Case Id	DataSynchronization-v1.2-client-con-0501
Test Object	Client device
Test Case Description	To check if the Test Object sends valid Adds.
Specification Reference	[DSREPU], Section 6.4.1 [DSREPU], Section 6.5.1
SCR Reference	SCR-DS-PCE-C-001, SCR-DS-PCE-C-015, SCR-DS-PCE-S-001, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. 4 data item(s) must be added to each database.
Pass-Criteria	The Test Object's Adds MUST result in a 201 status code and it MUST return a 200 status code for all SCTS' Maps.

5.5.2. Handling of Replace (SCTS item)

Test Case Id	DataSynchronization-v1.2-client-con-0502
Test Object	Client device

Test Case Description	To check if the Test Object handles a Replace on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.5.12 [DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Replace.

5.5.3. Sending of valid Replace (SCTS item)

Test Case Id	DataSynchronization-v1.2-client-con-0503
Test Object	Client device
Test Case Description	To check if the Test Object sends a valid Replace on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.5.12 [DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by SCTS must be replaced, the data item(s) will be specified.
Pass-Criteria	The Test Object's Replace MUST result in a 200 status code.

5.5.4. Handling of Delete (SCTS item)

Test Case Id	DataSynchronization-v1.2-client-con-0504
Test Object	Client device
Test Case Description	To check if the Test Object handles a Delete on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.4.1 [DSREPU], Section 6.5.5
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015

Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Delete.

5.5.5. Sending of valid Delete (SCTS item)

Test Case Id	DataSynchronization-v1.2-client-con-0505
Test Object	Client device
Test Case Description	To check if the Test Object sends a valid Delete on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by SCTS must be deleted, the data item(s) will be specified.
Pass-Criteria	The Test Object's Delete MUST result in a 200 status code.

5.6. Data Synchronization Client Conformance Test Group #6

5.6.1. Handling of Replace (client item)

Test Case Id	DataSynchronization-v1.2-client-con-0601
Test Object	Client device
Test Case Description	To check if the Test Object handles a Replace on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1 [DSREPU], Section 6.5.12
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Replace.

5.6.2. Sending of valid Replace (client item)

Test Case Id	DataSynchronization-v1.2-client-con-0602
Test Object	Client device
Test Case Description	To check if the Test Object sends a valid Replace on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by the Test Object must be replaced, the data item(s) will be specified.
Pass-Criteria	The Test Object's Replace MUST result in a 200 status code.

5.6.3. Handling of Delete (client item)

Test Case Id	DataSynchronization-v1.2-client-con-0603
Test Object	Client device
Test Case Description	To check if the Test Object handles a Delete on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Delete.

5.6.4. Sending of valid Delete (client item)

Test Case Id	DataSynchronization-v1.2-client-con-0604
Test Object	Client device
Test Case Description	To check if the Test Object sends a valid Delete on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015

Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by the Test Object must be deleted, the data item(s) will be specified.
Pass-Criteria	The Test Object's Delete MUST result in a 200 status code.

5.7. Data Synchronization Client Conformance Test Group #7

5.7.1. Sync verification

Test Case Id	DataSynchronization-v1.2-client-con-0701
Test Object	Client device
Test Case Description	To check if the databases are in Sync by forcing a slow sync (SCTS does not send any modifications).
Specification Reference	[SYNCPRO], Section 9.5
SCR Reference	SCR-DS-CLIENT-002, SCR-DS-SERVER-002
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST send all it's data to SCTS and SCTS checks if the databases are in sync.

5.8. Data Synchronization Client Conformance Test Group #8

5.8.1. Handling of Add with multiple items

Test Case Id	DataSynchronization-v1.2-client-con-0801
Test Object	Client device
Test Case Description	To check if the Test Object can handle an Add with multiple items.
Specification Reference	[DSREPU], Section 7 [DSREPU], Section 5.4.1
SCR Reference	SCR-DS-PCE-C-001, SCR-DS-PCE-C-015, SCR-DS-PCE-S-001, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return status code(s) of 201 for the Add with multiple items.

5.8.2. Handling of Replace with multiple items

Test Case Id	DataSynchronization-v1.2-client-con-0802
Test Object	Client device
Test Case Description	To check if the Test Object can handle a Replace with multiple items.
Specification Reference	[DSREPU], Section 7 [DSREPU], Section 5.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return status code(s) of 200 for the Replace with multiple items.

5.8.3. Handling of Delete with multiple items

Test Case Id	DataSynchronization-v1.2-client-con-0803
Test Object	Client device
Test Case Description	To check if the Test Object can handle a Delete with multiple items.
Specification Reference	[DSREPU], Section 7 [DSREPU], Section 5.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return status code(s) of 200 for the Delete with multiple items.

5.8.4. Respond for Delete – Multiple Status

Test Case Id	DataSynchronization-v1.2-client-con-0804
Test Object	Client device
Test Case Description	To check if the Test Object responds with individual 'Status' for each item in a Delete (One item is non-existant).

Specification Reference	SyncML Representation Protocol V1.01, Section 5.4.1
SCR Reference	[DSREPU], Section 5.4.1
Test Tool	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return two seperate status, one with a code of 200 and the other with a code of 211/404.

5.9. Data Synchronization Client Conformance Test Group #9

5.9.1. Handling of multiple messages

Test Case Id	DataSynchronization-v1.2-client-con-0901
Test Object	Client device
Test Case Description	To check if the Test Object can handle multiple messages.
Specification Reference	[SYNCPRO], Section 6.9
SCR Reference	SCR-DS-CUE-C-010, SCR-DS-CUE-S-010
Test Tool	SCTS DS 1.2 as a server
Preconditions	None
Pass-Criteria	The session MUST complete successfully.

5.10. Data Synchronization Client Conformance Test Group #10 [Optional]

5.10.1. Handling of NumberOfChanges

Test Case Id	DataSynchronization-v1.2-client-con-1001
Test Object	Client device
Test Case Description	To check if the Test Object handles NumberOfChanges properly.
Specification Reference	[DSDEV], Section 5.3.36
SCR Reference	SCR-DS-CUE-C-019, SCR-DS-CUE-C-019, SCR-DS-DEVINF-C-030, SCR-DS-DEVINF-S-030
Test Tool	SCTS DS 1.2 as a server

Preconditions	If the Test Object does not support NumberOfChanges, this test group can be skipped.
Pass-Criteria	The Test Object MUST be able to correctly handle the NumberOfChanges in the Sync command.

5.11. Data Synchronization Client Conformance Test Group #11 [Optional]

5.11.1. Receiving of Large Object

Test Case Id	DataSynchronization-v1.2-client-con-1101
Test Object	Client device
Test Case Description	To check if the Test Object properly declares the MaxObjSize and can properly receive Large Objects.
Specification Reference	[DSDEV], Section 5.3.35 [SYNCPRO], Section 6.10 [META], Section 5.2.10
SCR Reference	SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029, SCR-DS-CLIENT-008, SCR-DS-SERVER-008 DSDM-METINF-C-010, DSDM-METINF-S-010
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. The Test Object MUST indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST send MaxObjSize in a Sync or Alert command. It MUST accept valid objects that do not fit into a single message. It MUST return the correct status for both the initial and final chunks of a Large Object.

5.12. Data Synchronization Client Conformance Test Group #12 [Optional]

5.12.1. Sending of Large Object

Test Case Id	DataSynchronization-v1.2-client-con-1201
Test Object	Client device
Test Case Description	To check if the Test Object properly declares the MaxObjSize and can properly send Large Objects.

Specification Reference	[DSDEV], Section 5.3.35 [SYNCPRO], Section 6.10 [META], Section 5.2.10
SCR Reference	SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029, SCR-DS-CLIENT-008, SCR-DS-SERVER-008 DSDM-METINF-C-010, DSDM-METINF-S-010
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object MUST indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST send MaxObjSize in a Sync or Alert command. It MUST be able to send atleast one Large Object.

5.13. Data Synchronization Client Conformance Test Group #13 [Optional]

5.13.1. Handling of Large Objects with incorrect size

Test Case Id	DataSynchronization-v1.2-client-con-1301
Test Object	Client device
Test Case Description	To check if the Test Object correctly handles Large Objects with incorrect size.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-CLIENT-008, SCR-DS-SERVER-008 [DSREPU] – Appendix A – Protocol Commands Table – Status
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. The Test Object MUST indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST return the correct status for an invalid size after the entire object has been received.

5.13.2. Handling of Large Objects that are not completely sent

Test Case Id	DataSynchronization-v1.2-client-con-1302
Test Object	Client device
Test Case Description	To check if the Test Object correctly handles large objects that are not completely sent.

Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-CLIENT-008, SCR-DS-SERVER-008 SCR-DS-PCE-C-002
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object's databases must be in sync with SCTS. The Test Object MUST indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST report the interruption of a Large Object using an Alert 223.

5.14. Data Synchronization Client Conformance Test Group #14 [Optional]

5.14.1. Large Object delivery (Lack of commit)

Test Case Id	DataSynchronization-v1.2-client-con-1401
Test Object	Client device
Test Case Description	To check if the Test Object did not commit the Large Object with incorrect size and the incomplete Large Object sent in the last session.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-CLIENT-008, SCR-DS-SERVER-008
Test Tool	SCTS DS 1.2 as a server
Preconditions	The Test Object MUST indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST not have commited the Large Objects from the last session. It MUST send only one Add containing the normal object that interupted the large object.

5.15. Data Synchronization Client Conformance Test Group #15 [Optional] [No Automation]

5.15.1. Server Alerted Notification

Test Case Id	DataSynchronization-v1.2-client-con-1501
Test Object	Client device
Test Case Description	To check if the the Client responds to a Server Notification message
Specification Reference	[SAN], Section 7.1, Appendix A.1

SCR Reference	DSDM-SAN-C-001
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	Client must be able to respond to Server Notification message and perform a successful sync session.

5.16. Data Synchronization Client Conformance Test Group #16 [No Automation]

5.16.1. Conflict resolution

Test Case Id	DataSynchronization-v1.2-client-con-1601
Test Object	Client device
Test Case Description	To check if the the Client responds correctly when both the client and the server edit the same data item. Server attempts to perform a Replace on client updated item.
Specification Reference	[RepPro], Section 10
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.
Pass-Criteria	The Test Object MUST return status code(s) of 409 for the Replace. Note: Setting of the conflict resolution policy is outside the scope of this version of SyncML. However, identification of conflict resolution performed, if any, is within the scope.

5.16.2. Invalid Data

Test Case Id	DataSynchronization-v1.2-client-con-1602
Test Object	Client device
Test Case Description	To check if the the Client responds correctly when the client receives invalid data.
Specification Reference	[RepPro], Section 10
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a server
Preconditions	None.

Pass-Criteria	The Test Object MUST return status code(s) of 510.

5.17. Data Synchronization Client Conformance Test Group #17 [No Automation]

5.17.1. Add item to Folder - Not Found [Optional][No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1701
Test Object	Client device
Test Case Description	To check the Test Object reply when an Add command for a new item is performed to a folder that doesn't exist on the other side.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 404 (Not Found) statuscode for the add command.

5.17.2. Folder deletion - Item Not Empty [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1702
Test Object	Client device
Test Case Description	To check the Test Object reply when a Delete command is performed to a folder which still has items stored in it.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 427 (Item Not Empty) statuscode for the delete command.

5.17.3. Folder deletion - Not Found [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1703
Test Object	Client device

Test Case Description	To check the Test Object reply when Delete command is performed to a folder that doesn't exist.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 404 (Not Found) statuscode for the delete command.

5.17.4. Move item into Folder - Move Failed [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1704
Test Object	Client device
Test Case Description	To check the Test Object reply when Move command is performed to move an existing item into a folder that doesn't exist.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-010, SCR-DS-PCE-S-010
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 428 (Move Failed) statuscode for the move command.

5.18. Data Synchronization Client Conformance Test Group #18 No Automation]

5.18.1. Field level changes from the client - Full object request [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1801
Test Object	Client device.
Test Case Description	To test whether the server can return correct status code when field level changes cannot be processed for that object and thus requesting for the full object to be resent
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011

Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the client, modify object field that is suitable for field level changes. 2. Start the synchronization from the client. 3. Server receives the modification but requests for the full object to be resent. 4. Client sends the full object to the server. 5. Server receives the full object correctly.
Pass-Criteria	• Synchronization didn't produce any errors. • The server requests full object. • The client sends the full object. • The server receives the full object correctly.

5.19. Data Synchronization Client Conformance Test Group #19 [No Automation]

5.19.1. Filter Grammar Type - Visible latin characters within UTF-8 or SPACE character [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1901
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`VCHAR = %x20-7E ;Visible latin characters within UTF-8 or SPACE character`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.2. Filter Grammar Type - Case sensitive string value [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1902

Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`string-value = 1*VCHAR ;Case sensitive string value`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.3. Filter Grammar Type - Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1903
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&EQ;" ;Equal To (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.4. Filter Grammar Type - Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1904
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iEQ;" ;Equal To (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13

SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.5. Filter Grammar Type - Not Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1905
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&NE;" ;Not Equal To (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.6. Filter Grammar Type - Not Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1906
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iNE;" ;Not Equal To (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.7. Filter Grammar Type - Greater Than (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1907
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = ">" ;Greater Than (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.8. Filter Grammar Type - Greater Than (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1908
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iGT;" ;Greater Than (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.9. Filter Grammar Type - Greater Than Or Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1909
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&GE;" ;Greater Than Or Equal To (case sensitive)`" filter grammar type.

Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.10. Filter Grammar Type - Greater Than Or Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1910
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iGE;" ;Greater Than Or Equal To (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.11. Filter Grammar Type - Less Than (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1911
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "<" ;Less Than (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.12. Filter Grammar Type - Less Than (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1912
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iLT;" ;Less Than (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.13. Filter Grammar Type - Less Than Or Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1913
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&LE;" ;Less Than Or Equal To (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.14. Filter Grammar Type - Less Than Or Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1914
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-`

	`equalitycomp = ""&iLE;" ;Less Than Or Equal To (case insensitive)"` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.15. Filter Grammar Type - Contains the value (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1915
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&CON; ;Contains the value (case sensitive)"` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.16. Filter Grammar Type - Contains the value (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1916
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iCON; ;Contains the value (case insensitive)"` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013

Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.17. Filter Grammar Type - Does Not Contain the value (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1917
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&NCON; ;Does Not Contain the value (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.18. Filter Grammar Type - Does Not Contain the value (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1918
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iNCON; ;Does Not Contain the value (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.19. Filter Grammar Type – Logical OR [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1919
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-sep = "&OR;";Logical OR`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.20. Filter Grammar Type – Logical AND [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1920
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`log-sep = "&AND;";Logical AND `" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.21. Filter Grammar Type - log-equalitycomp string-value [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1921
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`luid-expression = "&LUID;" log-equalitycomp string-value`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13

SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.22. Filter Grammar Type - No property value for the item [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1922
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`ct-no-value = "&NULL;"; No property value for the item`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.23. Filter Grammar Type - Valid content-type specific filter keywords [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1923
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`ct-filter-keyword = string-value; Valid content-type specific filter keywords`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

5.19.24. Filter Grammar Type - Valid content-type specific property value [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-client-1924
Test Object	Client device
Test Case Description	To check the Test Object ability to handle filtering with "`ct-filter-value = string-value ; Valid content-type specific property value`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6. Data Synchronization Server Conformance Test Cases

For Data Synchronization Enabler there exist 73 server conformance tests.

The Server Conformance test cases are listed according to the Test Groups. Each Test Group describes its test cases and the relevant information regarding the message exchanged. The tests executed to test a server implementation are described in this section.

6.1. Data Synchronization Server Conformance Test Group #1

6.1.1. Server Layer Authentication

Test Case Id	DataSynchronization-v1.2-server-con-0101
Test Object	Server device
Test Case Description	To check if the Test Object implements 'Server Layer Authentication'. SCTS sends SyncHdr with wrong credentials.
Specification Reference	[SYNCPRO], Section 7.1 [SYNCPRO], Section 7.3 [DSREPU], Section 6.4.1
SCR Reference	SCR-DS-CUE-C-002, SCR-DS-MCE-C-002, SCR-DS-CUE-S-002, SCR-DS-MCE-S-002
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return a 401 status code on the SyncHdr

6.2. Data Synchronization Server Conformance Test Group #2

6.2.1. Server Layer Authentication - SyncHdr with nocredentials

Test Case Id	DataSynchronization-v1.2-server-con-0201
Test Object	Server device
Test Case Description	To check if the Test Object implements 'Server Layer Authentication'. SCTS sends SyncHdr with no credentials.
Specification Reference	[SYNCPRO], Section 7.1 [SYNCPRO], Section 7.3 [DSREPU], Section 6.4.1
SCR Reference	SCR-DS-CUE-C-006, SCR-DS-MCE-C-002, SCR-DS-CUE-S-006, SCR-DS-MCE-S-002

Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return a 407 status code on the first SyncHdr

6.2.2. Accept of the credentials

Test Case Id	DataSynchronization-v1.2-server-con-0202
Test Object	Server device
Test Case Description	To check if the Test Object accepts the credentials sent and proceeds with the Sync Session.
Specification Reference	[SYNCPRO], Section 7.1
SCR Reference	SCR-DS-CUE-C-006, SCR-DS-CUE-S-006
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return either a 200 or 212 status code on the first/second SyncHdr.

6.2.3. Respond with Results for a Get on device information

Test Case Id	DataSynchronization-v1.2-server-con-0203
Test Object	Server device
Test Case Description	To check if the Test Object responds with Results for a Get on device information.
Specification Reference	[SYNCPRO], Section 8.2
SCR Reference	SCR-DS-PCE-C-007, SCR-DS-PCE-C-012, SCR-DS-PCE-S-007, SCR-DS-PCE-S-012
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return Results for SCTS' Get on device information.

6.2.4. Responds with Alerts for all the databases

Test Case Id	DataSynchronization-v1.2-server-con-0204
Test Object	Server device
Test Case Description	To check if the Test Object responds with Alerts for all the databases alerted by SCTS.

Specification Reference	[SYNCPRO], Section 6.2.1 [SYNCPRO], Section 8.1
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-S-002
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return a 200 status and an Alert for all SCTS' Alerts.

6.2.5. Sending of valid Sync Tags

Test Case Id	DataSynchronization-v1.2-server-con-0205
Test Object	Server device
Test Case Description	To check if the Test Object sends valid Sync Tags.
Specification Reference	[SYNCPRO], Section 9.1
SCR Reference	SCR-DS-PCE-C-016, SCR-DS-PCE-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	Test Object's Database must be empty.
Pass-Criteria	Test Object MUST send a Sync element without any child container/command elements.

6.2.6. Responds with Alerts for multiple databases [No Automation]

Test Case Id	DataSynchronization-v1.2-server-con-0204
Test Object	Server device
Test Case Description	To check if the Test Object responds with Alerts for multiple databases alerted by SCTS.
Specification Reference	[SYNCPRO], Section 6.2.1 [SYNCPRO], Section 8.1
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-S-002
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return a 200 status and an Alert for all SCTS' Alerts.

6.3. Data Synchronization Server Conformance Test Group #3

6.3.1. Sync Anchors match by sending/receiving Alerts

Test Case Id	DataSynchronization-v1.2-server-con-0301
Test Object	Server device
Test Case Description	To check if the Test Object's and SCTS' Sync Anchors match by sending/receiving Alerts for normal two way sync.
Specification Reference	[SYNCPRO], Section 6.2.1
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-S-002 DSDM-METINF-C-001, DSDM-METINF-S-001, DSDM-METINF-C-007, DSDM-METINF-S-007, DSDM-METINF-C-013, DSDM-METINF-S-013
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS..
Pass-Criteria	The Test Object MUST send Alert codes of 200 with valid Sync Anchors and SCTS MUST receive a status code of 200 on it's Alert.

6.3.2. Correct handling of Add

Test Case Id	DataSynchronization-v1.2-server-con-0302
Test Object	Server device
Test Case Description	To check if the Test Object handles Adds correctly.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 201 status code for all SCTS' Adds.

6.4. Data Synchronization Server Conformance Test Group #4

6.4.1. Sending of valid Add

Test Case Id	DataSynchronization-v1.2-server-con-0401
Test Object	Server device
Test Case Description	To check if the Test Object sends valid Adds.
Specification Reference	[DSREPU], Section 6.4.1

SCR Reference	SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. 4 data item(s) must be added to each database.
Pass-Criteria	The Test Object's Adds MUST result in a 201 status code and it MUST return a 200 status code for all SCTS' Maps.

6.4.2. Handling of Replace (SCTS item)

Test Case Id	DataSynchronization-v1.2-server-con-0402
Test Object	Server device
Test Case Description	To check if the Test Object handles a Replace on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Replace.

6.4.3. Sending of valid Replace (SCTS item)

Test Case Id	DataSynchronization-v1.2-server-con-0403
Test Object	Server device
Test Case Description	To check if the Test Object sends a valid Replace on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by SCTS must be replaced, the data item(s) will be specified.
Pass-Criteria	The Test Object's Replace MUST result in a 200 status code.

6.4.4. Handling of Delete (SCTS item)

Test Case Id	DataSynchronization-v1.2-server-con-0404

Test Object	Server device
Test Case Description	To check if the Test Object handles a Delete on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Delete.

6.4.5. Sending a valid Delete (SCTS item)

Test Case Id	DataSynchronization-v1.2-server-con-0405
Test Object	Server device
Test Case Description	To check if the Test Object sends a valid Delete on a data item added by SCTS.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by SCTS must be deleted, the data item(s) will be specified.
Pass-Criteria	The Test Object's Delete MUST result in a 200 status code..

6.5. Data Synchronization Server Conformance Test Group #5

6.5.1. Handling of Replace (server item)

Test Case Id	DataSynchronization-v1.2-server-con-0501
Test Object	Server device
Test Case Description	To check if the Test Object handles a Replace on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Replace.

6.5.2. Sending of valid Replace (server item)

Test Case Id	DataSynchronization-v1.2-server-con-0502
Test Object	Server device
Test Case Description	To check if the Test Object sends a valid Replace on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by the Test Object must be replaced, the data item(s) will be specified.
Pass-Criteria	The Test Object's Replace MUST result in a 200 status code.

6.5.3. Handling of Delete (server item)

Test Case Id	DataSynchronization-v1.2-server-con-0503
Test Object	Server device
Test Case Description	To check if the Test Object handles a Delete on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 200 status code for SCTS' Delete.

6.5.4. Sending of valid Delete (server item)

Test Case Id	DataSynchronization-v1.2-server-con-0504
Test Object	Server device
Test Case Description	To check if the Test Object sends a valid Delete on a data item added by it.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. 1 data item(s) previously added by the Test Object must be deleted, the data item(s) will be specified.

Pass-Criteria	The Test Object's Delete MUST result in a 200 status code.

6.5.5. Replace on non-existant data item

Test Case Id	DataSynchronization-v1.2-server-con-0505
Test Object	Server device
Test Case Description	To check if the Test Object handles a Replace on a non-existant data item as an Add.
Specification Reference	[DSREPU], Section 6.5.12
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return a 201 status code for SCTS' Replace.

6.6. Data Synchronization Server Conformance Test Group #6

6.6.1. Sync verification

Test Case Id	DataSynchronization-v1.2-server-con-0601
Test Object	Server device
Test Case Description	To check if the databases are in Sync by forcing a slow sync (SCTS does not send any modifications).
Specification Reference	[SYNCPRO], Section 9.5
SCR Reference	SCR-DS-CLIENT-002, SCR-DS-SERVER-002
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST send all it's data to SCTS and SCTS checks if the databases are in sync.

6.7. Data Synchronization Server Conformance Test Group #7

6.7.1. Response for Delete with a nonexistent target

Test Case Id	DataSynchronization-v1.2-server-con-0701
Test Object	Server device
Test Case Description	To check if the Test Object responds with an appropriate status code for a Delete with a nonexistent target/source.
Specification Reference	[DSREPU], Section 6.5.1 [DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	SCTS MUST receive a status code of 211/404 for the Delete.

6.8. Data Synchronization Server Conformance Test Group #8

6.8.1. Sync without separate intialization

Test Case Id	DataSynchronization-v1.2-server-con-0801
Test Object	Server device
Test Case Description	To check if the Test Object handles sync without seperate intialization.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-C-016, SCR-DS-PCE-S-002, SCR-DS-PCE-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The synchronization session MUST be successful.

6.9. Data Synchronization Server Conformance Test Group #9

6.9.1. Add with multiple items

Test Case Id	DataSynchronization-v1.2-server-con-0901
Test Object	Server device
Test Case Description	To check if the Test Object can handle an Add with multiple items.

Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return status code(s) of 201 for the Add with multiple items.

6.9.2. Replace with multiple items

Test Case Id	DataSynchronization-v1.2-server-con-0902
Test Object	Server device
Test Case Description	To check if the Test Object can handle a Replace with multiple items.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return status code(s) of 200 for the Replace with multiple items.

6.9.3. Delete with multiple items

Test Case Id	DataSynchronization-v1.2-server-con-0903
Test Object	Server device
Test Case Description	To check if the Test Object can handle a Delete with multiple items.
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return status code(s) of 200 for the Delete with multiple items.

6.9.4. Replace with multiple status

Test Case Id	DataSynchronization-v1.2-server-con-0904

Test Object	Server device
Test Case Description	To check if the Test Object responds with individual 'Status' for each item in a Replace (One item is non-existant).
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-005, SCR-DS-PCE-C-015, SCR-DS-PCE-S-005, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return two seperate status, one with a code of 200 and the other with a code of 201.

6.9.5. Delete with multiple status

Test Case Id	DataSynchronization-v1.2-server-con-0905
Test Object	Server device
Test Case Description	To check if the Test Object responds with individual 'Status' for each item in a Delete (One item is non-existant).
Specification Reference	[DSREPU], Section 6.4.1
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-PCE-C-016, SCR-DS-PCE-S-002, SCR-DS-PCE-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS.
Pass-Criteria	The Test Object MUST return two seperate status, one with a code of 200 and the other with a code of 211/404.

6.10. Data Synchronization Server Conformance Test Group #10

6.10.1. Handling of multiple messages

Test Case Id	DataSynchronization-v1.2-server-con-1001
Test Object	Server device
Test Case Description	To check if the Test Object can handle multiple messages.
Specification Reference	[SYNCPRO], Section 6.9
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-CUE-C-010, SCR-DS-PCE-S-002, SCR-DS-CUE-S-010

	DSDM-METINF-C-009, DSDM-METINF-S-009
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The session MUST complete successfully.

6.11. Data Synchronization Server Conformance Test Group #11

6.11.1. Support of NumberOfChanges

Test Case Id	DataSynchronization-v1.2-server-con-1101
Test Object	Server device
Test Case Description	To check if the Test Object determines from the DevInfo whether or not NumberOfChanges is supported, and if it sends proper NumberOfChanges information to SCTS.
Specification Reference	[DSDEV], Section 5.3.36 [DSREPU], Section 6.1.19
SCR Reference	SCR-DS-CUE-C-019, SCR-DS-CUE-S-019 [DSDEV] – Appendix A – SynML Device Informaion Element Type Table – DevInf [DSDEV] – Appendix A – SynML Device Informaion Element Type Table – SupportNumberOfChanges
Test Tool	SCTS DS 1.2 as a client
Preconditions	If manual testing is being used, sending any modifications other than Adds is also acceptable.
Pass-Criteria	The Test Object SHOULD send NumberOfChanges in the Sync command ONLY. Not sending is also valid and implies that the Test Object does not support NumberOfChanges.

6.12. Data Synchronization Server Conformance Test Group #12

6.12.1. Sending of NumberOfChanges

Test Case Id	DataSynchronization-v1.2-server-con-1201
Test Object	Server device
Test Case Description	To check if the Test Object determines from the DevInfo whether or not NumberOfChanges is supported, and if it sends proper NumberOfChanges

	information to SCTS.
Specification Reference	[DSDEV], Section 5.3.36 [DSREPU], Section 6.1.19
SCR Reference	SCR-DS-CUE-C-019, SCR-DS-CUE-S-019 [DSDEV] – Appendix A – SynML Device Informaion Element Type Table – DevInf [DSDEV] – Appendix A – SynML Device Informaion Element Type Table – SupportNumberOfChanges
Test Tool	SCTS DS 1.2 as a client
Preconditions	If manual testing is being used, sending any modifications other than Adds is also acceptable.
Pass-Criteria	The Test Object MUST NOT send NumberOfChanges.

6.13. Data Synchronization Server Conformance Test Group #13

6.13.1. Large Object delivery

Test Case Id	DataSynchronization-v1.2-server-con-1301
Test Object	Server device
Test Case Description	To check if the Test Object determines from the DevInfo whether or not Large Objects are supported, and if it properly declares the MaxObjSize and can properly receive Large Objects.
Specification Reference	[DSDEV], Section 5.3.36 [SYNCPRO], Section 6.10
SCR Reference	SCR-DS-CUE-C-014, SCR-DS-CUE-S-014, SCR-DS-DEVINF-C-006, SCR-DS-DEVINF-S-006, SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029 DSDM-METINF-C-009, DSDM-METINF-S-009, DSDM-METINF-C-010, DSDM-METINF-S-010, DSDM-METINF-C-016, DSDM-METINF-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object SHOULD indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST send MaxObjSize in a Sync or Alert command. It MUST accept valid objects that do not fit into a single message. It MUST return the correct status for both the initial and final chunks of a Large Object.

6.14. Data Synchronization Server Conformance Test Group #14

6.14.1. Large Object support

Test Case Id	DataSynchronization-v1.2-server-con-1401
Test Object	Server device
Test Case Description	To check if the Test Object determines from the DevInfo whether or not Large Objects are supported.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-DEVINF-C-006, SCR-DS-DEVINF-S-006, SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object SHOULD indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST NOT send Large Objects in its sync package, since SCTS will indicate no support for large objects.

6.15. Data Synchronization Server Conformance Test Group #15

6.15.1. Sending of Large Object

Test Case Id	DataSynchronization-v1.2-server-con-1501
Test Object	Server device
Test Case Description	To check if the Test Object determines from the DevInfo whether or not Large Objects are supported, and if it properly declares the MaxObjSize and can properly send Large Objects.
Specification Reference	[DSDEV], Section 5.3.36 [SYNCPRO], Section 6.10
SCR Reference	SCR-DS-CUE-C-014, SCR-DS-CUE-S-014, SCR-DS-DEVINF-C-006, SCR-DS-DEVINF-S-006, SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029 DSDM-METINF-C-009, DSDM-METINF-S-009, DSDM-METINF-C-010, DSDM-METINF-S-010, DSDM-METINF-C-016, DSDM-METINF-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object SHOULD indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST send MaxObjSize in a Sync or Alert command. It

	MUST be able to send atleast one Large Object.

6.16. Data Synchronization Server Conformance Test Group #16

6.16.1. Large Object (Size mismatch)

Test Case Id	DataSynchronization-v1.2-server-con-1601
Test Object	Server device
Test Case Description	To check if the Test Object correctly handles Large Objects with incorrect size.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-CUE-C-014, SCR-DS-CUE-S-014, SCR-DS-DEVINF-C-006, SCR-DS-DEVINF-S-006, SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029 DSDM-METINF-C-009, DSDM-METINF-S-009, DSDM-METINF-C-010, DSDM-METINF-S-010, DSDM-METINF-C-016, DSDM-METINF-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. The Test Object SHOULD indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST return the correct status for an invalid size after the entire object has been received.

6.16.2. Large Objects that are not completely sent

Test Case Id	DataSynchronization-v1.2-server-con-1602
Test Object	Server device
Test Case Description	To check if the Test Object correctly handles large objects that are not completely sent.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-PCE-C-002, SCR-DS-CUE-C-014, SCR-DS-PCE-S-002, SCR-DS-CUE-S-014, SCR-DS-DEVINF-C-006, SCR-DS-DEVINF-S-006, SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029 DSDM-METINF-C-009, DSDM-METINF-S-009, DSDM-METINF-C-010, DSDM-METINF-S-010, DSDM-METINF-C-016, DSDM-METINF-S-016
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object's databases must be in sync with SCTS. The Test Object

	SHOULD indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST report the interruption of a Large Object using an Alert 223.

6.17. Data Synchronization Server Conformance Test Group #17

6.17.1. Large Object Delivery (Lack of Commit)

Test Case Id	DataSynchronization-v1.2-server-con-1701
Test Object	Server device
Test Case Description	To check if the Test Object did not commit the Large Object with incorrect size and the incomplete Large Object sent in the last session.
Specification Reference	[SYNCPRO], Section 6.10
SCR Reference	SCR-DS-DEVINF-C-006, SCR-DS-DEVINF-S-006, SCR-DS-DEVINF-C-029, SCR-DS-DEVINF-S-029, SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Test Tool	SCTS DS 1.2 as a client
Preconditions	The Test Object SHOULD indicate support for Large Objects in DevInfo. If the Test Object doesn't support large objects this test group can be skipped.
Pass-Criteria	The Test Object MUST not have commited the Large Objects from the last session. It MUST send only one Add containing the normal object that interupted the large object.

6.18. Data Synchronization Server Conformance Test Group #18 [No Automation]

6.18.1. Conflict resolution

Test Case Id	DataSynchronization-v1.2-server-con-1801
Test Object	Server device
Test Case Description	To check if the the Server responds correctly when both the client and the server edit the same data item. Server attempts to perform a Replace on client updated item.
Specification Reference	[RepPro], Section 10
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a client

Preconditions	None.
Pass-Criteria	The Test Object MUST return status code(s) of 409 for the Replace. Note: Setting of the conflict resolution policy is outside the scope of this version of SyncML. However, identification of conflict resolution performed, if any, is within the scope.

6.18.2. Invalid Data

Test Case Id	DataSynchronization-v1.2-server-con-1802
Test Object	Server device
Test Case Description	To check if the the Server responds correctly when the client receives invalid data.
Specification Reference	[RepPro], Section 10
SCR Reference	SCR-DS-PCE-C-011, SCR-DS-PCE-C-015, SCR-DS-PCE-S-011, SCR-DS-PCE-S-015
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The Test Object MUST return status code(s) of 510.

6.19. Data Synchronization Server Conformance Test Group #19 [No Automation]

6.19.1. Suspend

Test Case Id	DataSynchronization-v1.2-server-con-1901
Test Object	Server device
Test Case Description	To check if the Test can correctly respond to a suspend request.
Specification Reference	[DATASYNCREP], Section 7
SCR Reference	SCR-DS-SERVER-003
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The session MUST complete successfully.

6.19.2. Resume

Test Case Id	DataSynchronization-v1.2-server-con-1902

Test Object	Server device
Test Case Description	To check if the Test can correctly respond to a resume of a suspend sync request.
Specification Reference	[DATASYNCREP], Section 7
SCR Reference	SCR-DS-SERVER-003
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The session MUST complete successfully.

6.20. Data Synchronization Server Conformance Test Group #20 [No Automation]

6.20.1. One-Way Sync

Test Case Id	DataSynchronization-v1.2-server-con-2001
Test Object	Server device
Test Case Description	To check if the Test can correctly respond to a one-way Sync request.
Specification Reference	[DATASYNCREP], Section 7
SCR Reference	SCR-DS-SERVER-005
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The session MUST complete successfully.

6.20.2. Refresh Sync

Test Case Id	DataSynchronization-v1.2-server-con-2002
Test Object	Server device
Test Case Description	To check if the Test can correctly respond to a refresh Sync request.
Specification Reference	[DATASYNCREP], Section 7
SCR Reference	SCR-DS-SERVER-006
Test Tool	SCTS DS 1.2 as a client
Preconditions	None.
Pass-Criteria	The session MUST complete successfully.

6.21. Data Synchronization Server Conformance Test Group #21 [No Automation]

6.21.1. Add item to Folder - Not Found [Optional][No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2101
Test Object	Server device
Test Case Description	To check the Test Object reply when an Add command for a new item is performed to a folder that doesn't exist on the other side.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 404 (Not Found) statuscode for the add command.

6.21.2. Folder deletion - Item Not Empty [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2102
Test Object	Server device
Test Case Description	To check the Test Object reply when a Delete command is performed to a folder which still has items stored in it.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 427 (Item Not Empty) statuscode for the delete command.

6.21.3. Folder deletion - Not Found [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2103
Test Object	Server device
Test Case Description	To check the Test Object reply when Delete command is performed to a

	folder that doesn't exist.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 404 (Not Found) statuscode for the delete command.

6.21.4. Move item into Folder - Move Failed [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2104
Test Object	Server device
Test Case Description	To check the Test Object reply when Move command is performed to move an existing item into a folder that doesn't exist.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CUE-C-025, SCR-DS-CUE-S-025, SCR-DS-CUE-C-028, SCR-DS-CUE-S-028 SCR-DS-PCE-C-010, SCR-DS-PCE-S-010
Preconditions	None.
Pass-Criteria	Receiving Test Object replies with 428 (Move Failed) statuscode for the move command.

6.22. Data Synchronization Server Conformance Test Group #22 No Automation]

6.22.1. Field level changes from the client - Full object request [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2201
Test Object	Server device.
Test Case Description	To test whether the server can return correct status code when field level changes cannot be processed for that object and thus requesting for the full object to be resent
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011

Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the client, modify object field that is suitable for field level changes. 2. Start the synchronization from the client. 3. Server receives the modification but requests for the full object to be resent. 4. Client sends the full object to the server. 5. Server receives the full object correctly.
Pass-Criteria	• Synchronization didn't produce any errors. • The server requests full object. • The client sends the full object. • The server receives the full object correctly.

6.23. Data Synchronization Server Conformance Test Group #23 [No Automation]

6.23.1. Filter Grammar Type - Visible latin characters within UTF-8 or SPACE character [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2301
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`VCHAR = %x20-7E ;Visible latin characters within UTF-8 or SPACE character`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.2. Filter Grammar Type - Case sensitive string value [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2302

Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`string-value = 1*VCHAR ;Case sensitive string value`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.3. Filter Grammar Type - Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2303
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&EQ;" ;Equal To (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.4. Filter Grammar Type - Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2304
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iEQ;" ;Equal To (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13

SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.5. Filter Grammar Type - Not Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2305
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&NE;" ;Not Equal To (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.6. Filter Grammar Type - Not Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2306
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iNE;" ;Not Equal To (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.7. Filter Grammar Type - Greater Than (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2307
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = ">" ;Greater Than (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.8. Filter Grammar Type - Greater Than (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2308
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iGT;" ;Greater Than (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.9. Filter Grammar Type - Greater Than Or Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2309
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&GE;" ;Greater Than Or Equal To (case sensitive)`" filter grammar type.

Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.10. Filter Grammar Type - Greater Than Or Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2310
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iGE;" ;Greater Than Or Equal To (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.11. Filter Grammar Type - Less Than (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2311
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "<" ;Less Than (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.12. Filter Grammar Type - Less Than (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2312
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iLT;" ;Less Than (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.13. Filter Grammar Type - Less Than Or Equal To (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2313
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&LE;" ;Less Than Or Equal To (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.14. Filter Grammar Type - Less Than Or Equal To (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2314
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-`

	`equalitycomp = ""&iLE;" ;Less Than Or Equal To (case insensitive)"` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.15. Filter Grammar Type - Contains the value (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2315
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&CON; ;Contains the value (case sensitive)"` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.16. Filter Grammar Type - Contains the value (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2316
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iCON; ;Contains the value (case insensitive)"` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.

Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.17. Filter Grammar Type - Does Not Contain the value (case sensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2317
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&NCON; ;Does Not Contain the value (case sensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.18. Filter Grammar Type - Does Not Contain the value (case insensitive) [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2318
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-equalitycomp = "&iNCON; ;Does Not Contain the value (case insensitive)`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.19. Filter Grammar Type – Logical OR [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2319
Test Object	Server device

Test Case Description	To check the Test Object ability to handle filtering with "`log-sep = "&OR;";Logical OR`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.20. Filter Grammar Type – Logical AND [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2320
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`log-sep = "&AND;";Logical AND "` filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.21. Filter Grammar Type - log-equalitycomp string-value [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2321
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`luid-expression = "&LUID;" log-equalitycomp string-value`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.22. Filter Grammar Type - No property value for the item [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2322
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`ct-no-value = "&NULL;"; No property value for the item`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.23. Filter Grammar Type - Valid content-type specific filter keywords [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2323
Test Object	Server device
Test Case Description	To check the Test Object ability to handle filtering with "`ct-filter-keyword = string-value; Valid content-type specific filter keywords`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

6.23.24. Filter Grammar Type - Valid content-type specific property value [Optional] [No Automation]

Test Case Id	DataSynchronization-v1.2-con-server-2324
Test Object	Server device

Test Case Description	To check the Test Object ability to handle filtering with "`ct-filter-value = string-value ; Valid content-type specific property value`" filter grammar type.
Specification Reference	[DATASYNCREP] Section 5.13.2 [DSDEV] Sections 5.3.12, 5.3.13
SCR Reference	SCR-DS-DEVINF-C-012, SCR-DS-DEVINF-S-012, SCR-DS-DEVINF-C-013, SCR-DS-DEVINF-S-013
Preconditions	None.
Pass-Criteria	The Test Object handles filter grammar type correctly.

7. Data Synchronization Interoperability Test Cases

For Data Synchronization v1.2 Enabler there exist 54 interoperability tests. 15 of those are mandatory.

7.1. Client authentication with no credentials

Test Case Id	DataSynchronization-v1.2-int-001
Test Object	Client and Server device.
Test Case Description	To test if the server can deny authentication when the client doesn't send any credentials.
Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-server-001, SCR-DS-SERVER-001
Preconditions	• Create synchronization accounts on the client and server. • Make sure that the client doesn't have any credentials in the sync account.
Test Procedure	1. Start the synchronization from the client. 2. Synchronization is suspended by the server.
Pass-Criteria	• Server denied authentication. • Client was able to handle authentication denial properly.

7.2. Client authentication with incorrect credentials

Test Case Id	DataSynchronization-v1.2-int-002
Test Object	Client and Server device.
Test Case Description	To test if the server can deny authentication when the client sends incorrect credentials.
Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Create synchronization accounts on the client and server. • Make sure that the client has incorrect credentials in the sync account.
Test Procedure	1. Start the synchronization from the client. 2. Synchronization is suspended by the server.
Pass-Criteria	• Server denied authentication. • Client was able to handle authentication denial properly.

7.3. Server challenge in Basic authentication scheme

Test Case Id	DataSynchronization-v1.2-int-003
Test Object	Client and Server device.
Test Case Description	To check if the client can respond correctly to the server challenge for credentials in Basic authentication scheme.
Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Clear the client and server databases.
Test Procedure	1. Configure the server to require Basic authentication from the client. 2. Perform a two-way sync.
Pass-Criteria	• Synchronization didn't produce any errors. • The server challenged the client for credentials. • The client responded correctly to the challenge.

7.4. Server challenge in MD5 Digest authentication scheme

Test Case Id	DataSynchronization-v1.2-int-004
Test Object	Client and Server device.
Test Case Description	To check if the client can respond correctly to the server challenge for credentials in MD5 Digest authentication scheme.
Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Clear the client and server databases.
Test Procedure	1. Configure the server to require MD5 Digest authentication from the client. 2. Perform a two-way sync.
Pass-Criteria	• Synchronization didn't produce any errors. • The server challenged the client for credentials. • The client responded correctly to the challenge.

7.5. Initial Two-way Sync

Test Case Id	DataSynchronization-v1.2-int-005

Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[REPPRO] Sections 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Clear the client and server databases – this will ensure that no data other than Device Information is exchanged. • Synchronization accounts have correct information (username, password…).
Test Procedure	1. Perform initial two-way synchronization by starting the synchronization from the client. 2. Verify the two-way sync actually took place (e.g. from server log files).
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server have exchanged device information successfully.

7.6. Two-way Sync with Client and Server Add command

Test Case Id	DataSynchronization-v1.2-int-006
Test Object	Client and Server device
Test Case Description	To test the implementation of the Sync command with data and the Add commands.
Specification Reference	[RepPro] Section 6.5.1 [DataSyncRep] Section 6.5.1
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Preconditions	• This test requires successful completion of Test Case int-005. • This test also requires agreement between the client and server on which objects are to be synchronized (e.g. vCard 2.1).
Test Procedure	1. Create a new object on both the client and the server, filling in as many object fields as possible. 2. Perform a two-way sync. 3. Verify that both objects exist on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors.

	• Both client and server contain both objects. • Server contains all the fields set in the object created on the client.

7.7. Two-way Sync with Client and Server Replace command

Test Case Id	DataSynchronization-v1.2-int-007
Test Object	Client and Server device.
Test Case Description	To test the implementation of the Replace command, as well as implementation of the ID mapping capability.
Specification Reference	[REPPRO] Section 6.5.12 [DATASYNCREP] Section 6.5.12
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires successful completion of Test Case int-006.
Test Procedure	1. On the client, modify as many fields as possible in the object created on the server. 2. On the server, modify as many fields as possible in the object created on the client. 3. Perform a two-way sync. 4. Verify that both objects have been updated correctly on the client and on the server.
Pass-Criteria	• Synchronization didn't produce any errors. • Both objects have all the modified fields updated on the client and the server.

7.8. Two-way Sync with Client and Server Delete command

Test Case Id	DataSynchronization-v1.2-int-008
Test Object	Client and Server device.
Test Case Description	To test the implementation of the Delete command, as well as implementation of the ID mapping capability.
Specification Reference	[REPPRO] Section 6.5.5 [DATASYNCREP] Section 6.5.5
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-005, SCR-DS-PCE-S-005
Preconditions	1. This test requires successful completion of Test Case int-006 or int-007.

Test Procedure	1. On the client, delete the object created on the server. 2. On the server, delete the object created on the client. 3. Perform a two-way sync. 4. Verify that both objects have been deleted from the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • Both objects are deleted from the client and the server.

7.9. Two-way Sync with Client sending new data

Test Case Id	DataSynchronization-v1.2-int-009
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[REPPRO] Section 6.5.1 [DATASYNCREP] Section 6.5.1
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Create a new object on the client, fill in as many object fields as possible. 2. Perform a two-way sync. 3. Verify that the object exists correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The new object exists on the client and on the server.

7.10. Two-way Sync with deletion of a non-existent target

Test Case Id	DataSynchronization-v1.2-int-010
Test Object	Client and Server device.
Test Case Description	To test a deletion of a non-existent item.
Specification Reference	[REPPRO] Section 6.5.5 [DATASYNCREP] Section 6.5.5
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-005, SCR-

	DS-PCE-S-005
Preconditions	• This test requires successful completion of Test Case int-009.
Test Procedure	1. Delete the object on both the client and the server. 2. Perform a two-way sync. 3. Verify that object has been deleted from both the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The object has been deleted from both the client and the server.

7.11. Two-way Sync with Server sending new data

Test Case Id	DataSynchronization-v1.2-int-011
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[REPPRO] Section 6.5.1 [DATASYNCREP] Section 6.5.1
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Create a new object on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. Verify that the object exists correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The new object exists on both client and the server.

7.12. Two-way Sync with large number of Objects

Test Case Id	DataSynchronization-v1.2-int-012
Test Object	Client and Server device.
Test Case Description	To test the client ability to receive multiple messages in a package.
Specification Reference	[REPPRO] Section 6.5.1 [DATASYNCREP] Section 6.5.1

SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-001, SCR-DS-PCE-S-001
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create enough Objects on the server to force at least two messages to the client. 2. Perform a two-way sync. 3. Verify that multiple messages were sent. 4. Verify that the objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • All objects exist on both the client and the server. • Server sent multiple messages. • Client handled multiple messages.

7.13. Two-way Sync with large number of Objects returned

Test Case Id	DataSynchronization-v1.2-int-013
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[REPPRO] Section 6.5.11 [DATASYNCREP] Section 6.5.11
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires successful completion of Test Case int-012.
Test Procedure	1. Modify all objects sent by the server in Test Case int-011 (to force at least two messages to the server). 2. Perform a two-way sync. 3. Verify that the objects exist correctly on the client and the server – this will require viewing each object and verifying that the data is correct.
Pass-Criteria	• Synchronization didn't produce any errors. • All objects exist on both the client and the server, and their data match. • Client sent multiple messages.

	• Server handled multiple messages.

7.14. Two-way Slow Sync with data

Test Case Id	DataSynchronization-v1.2-int-014
Test Object	Client and Server device.
Test Case Description	To test the implementation of a slow sync.
Specification Reference	[REPPRO] Section 7
SCR Reference	SCR-DS-CLIENT-002, SCR-DS-SERVER-002
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Configure the server or the client to ask for slow sync. 2. Perform the sync. 3. Verify that slow sync took place.
Pass-Criteria	• Synchronization didn't produce any errors. • Slow sync took place.

7.15. Two-way Slow Sync to restore client data

Test Case Id	DataSynchronization-v1.2-int-015
Test Object	Client and Server device.
Test Case Description	To test implementation of slow sync to recover data onto a client.
Specification Reference	[REPPRO] Section 7
SCR Reference	SCR-DS-CLIENT-002, SCR-DS-SERVER-002
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Clear all objects from the client. 2. Configure the server or the client to ask for slow sync. 3. Perform the sync. 4. Verify that slow sync took place. 5. Verify that client data is restored.
Pass-Criteria	• Synchronization didn't produce any errors. • Slow sync took place. • All the client data is restored.

7.16. Large Object handling [Optional]

Test Case Id	DataSynchronization-v1.2-int-016
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[REPPRO] Section XXX
SCR Reference	SCR-DS-CLIENT-008, SCR-DS-SERVER-008
Preconditions	• This test requires a previously successful two-way sync. (Note this can be a slow sync or normal sync).
Test Procedure	1. Create a large object on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. Verify that object exists correctly on the client and the server. 4. Modify the large object on the client. 5. Perform a two-way sync. 6. Verify that modified object exists correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The large object exists on both client and server. • Client received and sent large Object. • Server sent and received large Object.

7.17. Large Object Handling – incorrect size [Optional]

Test Case Id	DataSynchronization-v1.2-int-017
Test Object	Client and Server device.
Test Case Description	To test the implementation's ability to handle incorrect sized large objects.
Specification Reference	[REPPRO] Section 6.10
SCR Reference	SCR-DS-CLIENT-008, SCR-DS-SERVER-008
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create a large object on the server that exceeds the maximum size of object supported by the client.

	2. Perform a two-way sync. 3. Synchronization is suspended without retrieving the object.
Pass-Criteria	• Synchronization is suspended as the client can't receive the object that exceeds the maximum size of object it is capable of receiving.

7.18. Large Object Handling – Client sending multiple Large Objects [Optional]

Test Case Id	DataSynchronization-v1.2-int-018
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify that the client can send multiple large objects and the server can receive those large objects.
Specification Reference	[REPPRO] Section XXX
SCR Reference	SCR-DS-CLIENT-008, SCR-DS-SERVER-008
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create multiple large objects on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. Verify that object exists correctly on the client and the server. 4. Modify the large object on the client. 5. Perform a two-way sync. 6. Verify that modified object exists correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The large objects exist on both client and server. • Client received and sent large Objects. • Server sent and received large Objects.

7.19. Server authentication with no credentials [Optional]

Test Case Id	DataSynchronization-v1.2-int-019
Test Object	Client and Server device.
Test Case Description	To test if the client can deny authentication when the server doesn't send any credentials.

Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Create synchronization accounts on the client and server. • Make sure that the server doesn't have any credentials in the sync account.
Test Procedure	1. Start the synchronization from the client. 2. Synchronization is suspended by the client.
Pass-Criteria	• Client denied authentication. • Server was able to handle authentication denial properly.

7.20. Server authentication with incorrect credentials [Optional]

Test Case Id	DataSynchronization-v1.2-int-020
Test Object	Client and Server device.
Test Case Description	To test if the client can deny authentication when the server sends incorrect credentials.
Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Create synchronization accounts on the client and server. • Make sure that the server has incorrect credentials in the sync account.
Test Procedure	1. Start the synchronization from the client. 2. Synchronization is suspended by the client.
Pass-Criteria	• Client denied authentication. • Server was able to handle authentication denial properly.

7.21. Client challenge in Basic authentication scheme [Optional]

Test Case Id	DataSynchronization-v1.2-int-021
Test Object	Client and Server device.
Test Case Description	To check if the server can respond correctly to the client challenge for credentials in Basic authentication scheme.

Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Clear the client and server databases.
Test Procedure	1. Configure the client to require Basic authentication from the server. 2. Perform a two-way sync.
Pass-Criteria	• Synchronization didn't produce any errors. • The client challenged the server for credentials. • The server responded correctly to the challenge.

7.22. Client challenge in MD5 Digest authentication scheme [Optional]

Test Case Id	DataSynchronization-v1.2-int-022
Test Object	Client and Server device.
Test Case Description	To check if the server can respond correctly to the client challenge for credentials in MD5 Digest authentication scheme.
Specification Reference	[REPPRO] Section 5.3
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001
Preconditions	• Clear the client and server databases.
Test Procedure	1. Configure the client to require MD5 Digest authentication from the server. 2. Perform a two-way sync.
Pass-Criteria	• Synchronization didn't produce any errors. • The client challenged the server for credentials. • The server responded correctly to the challenge.

7.23. Suspend / Resume - Accept [Optional]

Test Case Id	DataSynchronization-v1.2-int-023
Test Object	Client and Server device.
Test Case Description	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.

Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create multiple messages on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Resume sync session. 5. Verify that second sync session was successful and the exchanged objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client.

7.24. Suspend / Resume – Server unable to accept Resume request [Optional]

Test Case Id	DataSynchronization-v1.2-int-024
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create multiple messages on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Server forces at least a slow-sync. If possible server may also request for other sync types.

	5. Perform the sync that server requested. 6. Verify that second sync session was successful and the exchanged objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server doesn't accept the suspend request from the client and forces at least a slow-sync. • The new objects exist on both client and server after the second sync.

7.25. Suspend / Resume – Client unable to accept Resume request [Optional]

Test Case Id	DataSynchronization-v1.2-int-025
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create multiple messages on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Server forces at least a slow-sync. If possible server may also request for other sync types. 5. Perform the sync that server requested. 6. Verify that second sync session was successful and the exchanged objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server doesn't accept the suspend request from the client and forces at least a slow-sync. • The new objects exist on both client and server after the second sync.

7.26. Suspend / Resume – Client suspends sync repetitively [Optional]

Test Case Id	DataSynchronization-v1.2-int-026
Test Object	Client and Server device.
Test Case Description	The intent of this test is to stress the system by having the client issue multiple repetitive suspend and resume actions.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Create multiple messages on the server, filling in as many fields as possible. 2. Perform a two-way sync. 3. The Client interrupts the sync session and resumes multiple times. 4. Verify that last sync session was successful and the exchanged objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client. • The correct data objects were updated on both server and client

7.27. Suspend / Resume – Client suspends One-way Refresh Sync from Client [Optional]

Test Case Id	DataSynchronization-v1.2-int-027
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify the client can suspend a one-way sync.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Modify objects on the client, modify as many object fields as

	possible. 2. Perform a refresh sync from client only. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Resume sync session. 5. Verify that second sync session was successful and the exchanged objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client.

7.28. Suspend / Resume – Client suspends One-way Refresh Sync from Server [Optional]

Test Case Id	DataSynchronization-v1.2-int-028
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify the client can suspend a one-way sync.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. (Note this could be a slow-sync or normal-sync).
Test Procedure	1. Modify objects on the client, modify as many object fields as possible. 2. Perform a refresh sync from server only. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Resume sync session. 5. Verify that second sync session was successful and the exchanged objects exist correctly on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client.

	• The client was able to resume the sync session. • Server was able to accept resume request from the client.

7.29. One-way Sync from server only [Optional]

Test Case Id	DataSynchronization-v1.2-int-029
Test Object	Client and Server device.
Test Case Description	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
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-005, SCR-DS-SERVER-005
Preconditions	• This test requires a previously successful two-way sync. • Client and server have at least two objects in their databases that have been synchronized.
Test Procedure	1. Modify objects on the server, modify as many object fields as possible. 2. Perform a one-way sync from server only. 3. Verify that objects exist correctly on the client.
Pass-Criteria	• Synchronization didn't produce any errors. • The modified objects exist on the client.

7.30. One-way Sync from client only [Optional]

Test Case Id	DataSynchronization-v1.2-int-030
Test Object	Client and Server device.
Test Case Description	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
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-003, SCR-DS-SERVER-003
Preconditions	• This test requires a previously successful two-way sync. • Client and server have at least two objects in their databases that have been synchronized.
Test Procedure	1. Modify objects on the client, modify as many object fields as possible.

	2. Perform a one-way sync from client only. 3. Verify that objects exist correctly on the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The modified objects should exist on the server.

7.31. Refresh sync from server only [Optional]

Test Case Id	DataSynchronization-v1.2-int-031
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-006, SCR-DS-SERVER-006
Preconditions	• This test requires a previously successful two-way sync. • Client and server have at least two objects in their databases that have been synchronized.
Test Procedure	1. Modify objects on the server, modify as many object fields as possible. 2. Perform a refresh sync from server only. 3. Verify that objects exist correctly on the client.
Pass-Criteria	• Synchronization didn't produce any errors. • Server overwrites all data in the client database.

7.32. Refresh sync from client only [Optional]

Test Case Id	DataSynchronization-v1.2-int-032
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-004, SCR-DS-SERVER-004
Preconditions	• This test requires a previously successful two-way sync.

	• Client and server have at least two objects in their databases that have been synchronized.
Test Procedure	1. Modify objects on the client, modify as many object fields as possible. 2. Perform a refresh sync from client only. 3. Verify that objects exist correctly on the server.
Pass-Criteria	• Synchronization didn't produce any errors. • Client overwrites all data in the server database.

7.33. Server alerted sync – Client accept [Optional]

Test Case Id	DataSynchronization-v1.2-int-033
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-007, SCR-DS-SERVER-007
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Server sends sync alert to the client. 2. Client receives the alert and starts synchronization with the server. 3. Verify that server alerted sync took place.
Pass-Criteria	• Synchronization didn't produce any errors. • Server sends proper sync alert. • Client receives the alert and starts the requested sync.

7.34. Server alerted sync – Client ignore [Optional]

Test Case Id	DataSynchronization-v1.2-int-034
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DataSyncRep] Section 7
SCR Reference	SCR-DS-CLIENT-007, SCR-DS-SERVER-007

Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Server sends sync alert to the client. 2. Client chooses to ignore the alert and decides to initiate another type of sync (e.g. two-way sync or slow sync). 3. Client starts the chosen sync. 4. Verify that server alert and chosen sync took place properly.
Pass-Criteria	• Synchronization didn't produce any errors. • Server sends proper sync alert. • Client is able to ignore the alert and start another sync.

7.35. Object record filtering [Optional]

Test Case Id	DataSynchronization-v1.2-int-035
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-011, SCR-DS-SERVER-011
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Make the client to send a sync request with filtering criteria for object record. 2. Start the synchronization from the client. 3. Verify that the client received only the correct records.
Pass-Criteria	• Synchronization didn't produce any errors. • The client sends all of its changes to the server. • The server sends changes only for items that satisfy the filter query.

7.36. Object record filtering – Attempt to update deleted object [Optional]

Test Case Id	DataSynchronization-v1.2-int-036
Test Object	Client and Server device.

Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-011, SCR-DS-SERVER-011
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Make the client to send a sync request with filtering criteria for an object record that has been deleted from the server. 2. Start the synchronization from the client. 3. Verify that the client received only the correct records.
Pass-Criteria	• The server responds to the client request with the appropriate error • The client prcesses the error code correctly

7.37. Object record filtering – compound filter [Optional]

Test Case Id	DataSynchronization-v1.2-int-037
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify that the client may specify multiple records for updating.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-011, SCR-DS-SERVER-011
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Make the client to send a sync request with filtering criteria for multiple object records. The filter should be a compound filter with multiple filter criteria.. 2. Start the synchronization from the client. 3. Verify that the client received only the correct records.
Pass-Criteria	• Synchronization didn't produce any errors. • The client sends all of its changes to the server. • The server sends changes only for items that satisfy the filter query.

7.38. Field Level Filtering [Optional]

Test Case Id	DataSynchronization-v1.2-int-038
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-011, SCR-DS-SERVER-011
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Make the client to send a sync request with filtering criteria for object content. 2. Start the synchronization from the client. 3. Verify that the client received only the correct records.
Pass-Criteria	• Synchronization didn't produce any errors. • The client sends all of its changes to the server. • The server sends changes only for items that satisfy the filter query.

7.39. Field level filtering – compound filter [Optional]

Test Case Id	DataSynchronization-v1.2-int-039
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify that the client may specify multiple criteria in order to filter the data objects for synchronization.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-011, SCR-DS-SERVER-011
Preconditions	• This test requires a previously successful two-way sync.
Test Procedure	1. Make the client to send a sync request with filtering criteria for object content. The filter should be a compound filter with multiple filter criteria.. 2. Start the synchronization from the client. 3. Verify that the client received only the correct records.
Pass-Criteria	• Synchronization didn't produce any errors. • The client sends all of its changes to the server. • The server sends changes only for items that satisfy the filter query.

7.40. Field level changes from the client [Optional]

Test Case Id	DataSynchronization-v1.2-int-040
Test Object	Client and Server device.

Test Case Description	To test whether the server handles field level changes correctly for incoming objects from the client.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the client, modify object field that is suitable for field level changes. 2. Start the synchronization from the client. 3. Verify that the server received and interpreted the object modification correctly.
Pass-Criteria	• Synchronization didn't produce any errors. • The server interprets object modifications correctly.

7.41. Field level changes from the server [Optional]

Test Case Id	DataSynchronization-v1.2-int-041
Test Object	Client and Server device.
Test Case Description	To test whether the client handles field level changes correctly for incoming objects from the server.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the server, modify object field that is suitable for field level changes. 2. Start the synchronization from the client. 3. Verify that the client received and interpreted the object modification correctly.
Pass-Criteria	• Synchronization didn't produce any errors. • The client interprets object modifications correctly.

7.42. Field level changes – Multiple Fields Update [Optional]

Test Case Id	DataSynchronization-v1.2-int-042
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify that the system can update records with multiple field changes for multiple records.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the server, modify many object fields for multiple records that are suitable for field level changes. 2. Start the synchronization from the client. 3. Verify that the client received and interpreted the object modification correctly.
Pass-Criteria	• Synchronization didn't produce any errors. • The client interprets object modifications correctly.

7.43. Field level changes – Large Dataset Update [Optional]

Test Case Id	DataSynchronization-v1.2-int-043
Test Object	Client and Server device.
Test Case Description	The intent of this test is to verify the system can update a field level change on a large amount of data.
Specification Reference	[DATASYNCREP] Section 5.13
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the server, modify multiple records that are suitable for field level changes. Ensure that there is a large data set of field level changes for the client. 2. Start the synchronization from the client. 3. Verify that the client received and interpreted the object modification correctly.

Pass-Criteria	• Synchronization didn't produce any errors. • The client interprets object modifications correctly.

7.44. Hierarchical Synchronization – Add to folder verification [Optional]

Test Case Id	DataSynchronization-v1.2-int-044
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Create a new data object in the client and server which is saved in a specific existing folder. 2. Perform a two-way sync. 3. Verify that both objects exist in the correct folders on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

7.45. Hierarchical Synchronization – Add new folder verification [Optional]

Test Case Id	DataSynchronization-v1.2-int-045
Test Object	Client and Server device.
Test Case Description	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..
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.

Test Procedure	1. Create a new folder for the data store on both the client and the server. Create a new data object in the new location. 2. Perform a two-way sync. 3. Verify that both objects exist in the correct folders on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

7.46. Hierarchical Synchronization – Delete all items in folder [Optional]

Test Case Id	DataSynchronization-v1.2-int-046
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Delete all data objects in the client folder and server folder. *Note: folders should be unique between the client and server. 2. Perform a two-way sync. 3. Verify that both all data objects in the specified folders have been deleted on the server.and in the client. 4. Create a new data object in the previously tested folders.. 5. Perform a two-way sync. 6. Verify that both objects exist in the correct folders on the client and the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

7.47. Hierarchical Synchronization – Delete folder [Optional]

Test Case Id	DataSynchronization-v1.2-int-047
Test Object	Client and Server device.

Test Case Description	The intent of this test case is to verify that the system can delete folders in the client and server.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Delete all data objects in the client folder and server folder. Delete the folders in the client and server. 2. Perform a two-way sync. 3. Verify that all data objects in the specified folders have been deleted on the server.and in the client. . 4. Verify that the folders were deleted on the client and server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

7.48. Hierarchical Synchronization – Move item from folder [Optional]

Test Case Id	DataSynchronization-v1.2-int-048
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Create two folders in the both the client and the server. Create a data object in one of the new folders for both the client and server. 2. Perform a two-way sync. 3. Verify that all data objects in the specified folders have been created on the server.and in the client. 4. Move the data objects to the second new folder on both the client and server.

	5. Perform a two-way sync. 6. Verify that the data object locations are correct in the both the client and server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

7.49. Hierarchical Synchronization – Move existing item to new folder [Optional]

Test Case Id	DataSynchronization-v1.2-int-049
Test Object	Client and Server device.
Test Case Description	The intent of this test case is to verify that the system can move existing data objects to newly created forlders in both client and server.
Specification Reference	[DATASYNCREP] Section 6.1.25, 6.1.28
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Create a new folders in the both the client and the server. 2. Move currently existing data into the new folder area for both the client and the server. 3. Perform a two-way sync. 4. Verify that the data object locations are correct in the both the client and server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

7.50. Multiple DS Session – 1Way Sync Server to Client, Suspend Resume, 1Way Sync Client to Server [Optional]

Test Case Id	DataSynchronization-v1.2-int-050
Test Object	Client and Server device.
Test Case Description	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.

Specification Reference	[DATASYNCREP] Section 7
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Perform a server 1-Way sync from the server to the client 2. Interurupt the session. 3. Resume the synchronization from the client 4. Update the client data objects 5. Perform a 1-way sync from the client to the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client. • Data objects were updated appropriately on client and server.

7.51. Multiple DS Session –Record Filter, Suspend Resume [Optional]

Test Case Id	DataSynchronization-v1.2-int-051
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13, 7
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Make the client to send a sync request with filtering criteria for object

	record. 2. Start the synchronization from the client. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Resume sync session. 5. Verify that the client received only the correct records.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client. • Data objects were updated appropriately on client and server.

7.52. Multiple DS Session – Field Level Filter, Suspend Resume [Optional]

Test Case Id	DataSynchronization-v1.2-int-052
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13, 7
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Make the client to send a sync request with filtering criteria for object content. 2. Start the synchronization from the client. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Resume sync session. 5. Verify that the client received only the correct records.
Pass-Criteria	• Synchronization didn't produce any errors.

	• The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client. • Data objects were updated appropriately on client and server.

7.53. Multiple DS Session –Field Level Change, Suspend Resume [Optional]

Test Case Id	DataSynchronization-v1.2-int-053
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13, 7
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. On the server, modify object field that is suitable for field level changes. 2. Start the synchronization from the client. 3. The client interrupts the sync during initialization, during synchronization, or during mapping phase. 4. Resume sync session. 5. Verify that the client received and interpreted the object modification correctly.
Pass-Criteria	• Synchronization didn't produce any errors. • The client was able to suspend the sync session. • Server was able to accept suspend request from the client. • The client was able to resume the sync session. • Server was able to accept resume request from the client. • Data objects were updated appropriately on client and server.

7.54. Multiple DS Session – 1Way Sync Server to Client, Field Level Filtering, Field level Change, Record Filter update, 1Way Sync – Client to Server [Optional]

Test Case Id	DataSynchronization-v1.2-int-054
Test Object	Client and Server device.
Test Case Description	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.
Specification Reference	[DATASYNCREP] Section 5.13, 7
SCR Reference	SCR-DS-CLIENT-001, SCR-DS-SERVER-001, SCR-DS-PCE-C-011, SCR-DS-PCE-S-011
Preconditions	• This test requires a previously successful two-way sync. • This test requires that there exist at least one synchronized object on the devices.
Test Procedure	1. Modify objects on the server, modify as many object fields as possible. 2. Perform a refresh sync from server only. 3. Verify that objects exist correctly on the client. 4. Make the client to send a sync request with filtering criteria for object content. 5. Start the synchronization from the client. 6. Verify that the client received and interpreted the object modification correctly. 7. On the server, modify object field that is suitable for field level changes. 8. Start the synchronization from the client. 9. Verify that the client received and interpreted the object modification correctly. 10. Make the client to send a sync request with filtering criteria for object record. 11. Start the synchronization from the client. 12. Verify that the client received only the correct records. 13. Modify objects on the client, modify as many object fields as possible. 14. Perform a one-way sync from client only. 15. Verify that objects exist correctly on the server.
Pass-Criteria	• Synchronization didn't produce any errors. • The client and server interpret object modifications correctly.

Appendix A. Change History (Informative)

Type of Change	Date	Section	Description
Class 0	23 March 2004		The initial version of this document.
Class	19 April 2004		Updated with new test cases from 14 April Teleconference
Class	22 April 2004		Added conformance tests.
Class	10 June 2004		Added SCR's and fixed typos.