
iSync SyncML Reference



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1.Introduction

This document describes the OMA SyncML implementation reference in Apple iSync. This software has **not** passed official OMA Interoperability Testing, and this status is available only as an informational guide. This is **not** an Implementation Conformance Status in the OMA sense, even if the content and presentation have similarities to that kind of document.

Note:

The Open Mobile Alliance (OMA) Data Synchronization Working Group is developing specifications for data synchronization that includes SyncML technology. This book refers to the data synchronization technology as SyncML.

2. References

OMA SyncML Common Specifications V1.1.2

- [SYNCREPRO-1.1.2] SyncML Representation Protocol, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v112.html
- [SYNCMETA-1.1.2] SyncML Meta Information, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v112.html
- [SYNCHTTP-1.1.2] SyncML HTTP Binding, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v112.html
- [SYNCOBEX-1.1.2] SyncML OBEX Binding, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v112.html
- [SYNCWSP-1.1.2] SyncML WSP Binding, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v112.html

OMA SyncML Data Synchronization Specifications V1.1.2

- [DSREPRO-1.1.2] SyncML Representation Protocol, Data Synchronization Usage, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/ds_v112.html
- [DSPRO-1.1.2] SyncML Data Sync Protocol, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/ds_v112.html
- [DSDEVINF-1.1.2] SyncML Device Information, Version 1.1.2,
URL:http://www.openmobilealliance.org/release_program/ds_v112.html

OMA SyncML Common Specifications V1.2

- [SYNCREPRO-1.2] SyncML Representation Protocol, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v12.html
- [SYNCMETA-1.2] SyncML Meta Information, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v12.html
- [SYNCSAN-1.2] SyncML Server Alerted Notification,
URL:http://www.openmobilealliance.org/release_program/SyncML_v12.html
- [SYNCHTTP-1.2] SyncML HTTP Binding, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v12.html
- [SYNCOBEX-1.2] SyncML OBEX Binding, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v12.html

OMA SyncML Common Specifications V1.2

[SYNCWSP-1.2] SyncML WSP Binding, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/SyncML_v12.html

OMA SyncML Data Synchronization Specifications V1.2

[DSREPRO-1.2] SyncML Representation Protocol, Data Synchronization Usage, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/ds_v12.html

[DSPRO-1.2] SyncML Data Sync Protocol, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/ds_v12.html

[DSDEVINF-1.2] SyncML Device Information, Version 1.2,
URL:http://www.openmobilealliance.org/release_program/ds_v12.html

[DSEMAIL-1.2] SyncML Email Data Object Specification,
URL:http://www.openmobilealliance.org/release_program/ds_v12.html

[DSFILE-1.2] SyncML File Data Object Specification,
URL:http://www.openmobilealliance.org/release_program/ds_v12.html

[DSFOLDER-1.2] SyncML Folder Data Object Specification,
URL:http://www.openmobilealliance.org/release_program/ds_v12.html

Other Specifications

[IMCVCAL-1.0] "vCalendar – The electronic calendaring and scheduling exchange format – Version 1.0",
URL:<http://www.imc.org/pdi/vcal-10.doc>

[IMVCARD-2.1] "vCard - The electronic business card - Version 2.1",
URL:<http://www.imc.org/pdi/vcard-21.doc>

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

[RFC2396] "Uniform Resource Identifiers (URI): Generic Syntax", T. Berners-Lee,
et al., August 1998,
URL:<http://www.ietf.org/rfc/rfc2396.txt>

3. 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].

In the requirements tables, implementation status is in **bold** if the requirement is not implemented and the requirement is a MAY or a SHOULD. If the requirement is a MUST and is not implemented/supported, the status is in **bold** with a red background. If the requirement has changed in SyncML 1.2 (or if this is a new one), then the requirement is displayed in blue.

4.Common SyncML Metainformation

Element Type	Requirements		Implementation	
	Send	Receive	Send	Receive
Anchor	MUST	MUST	Yes	Yes
EMI	MAY	MAY	No	No
FieldLevel	MAY	MAY	No	No
Format	MUST	MUST	No [1]	No [1]
FreeID	MAY	MUST	No	No [2]
FreeMem	MAY	MUST	No	No [2]
Last	MUST	MUST	Yes	Yes
Mark	MAY	MAY	No	No
MaxMsgSize	MAY	MUST	Yes	Yes
MaxObjSize	MUST	MUST	Yes	Yes
Mem	MAY	MUST	No	No [2]
MetInf	MUST	MUST	Yes	Yes
Next	MUST	MUST	Yes	Yes
NextNonce	MUST	MUST	No [3]	No [3]
SharedMem	MAY	MUST	No	No [2]
Size	MAY	MAY	Yes	Yes
Type	MUST	MUST	Yes	Yes
Version	MUST	MUST	No [4]	No [4]

[1,2,3,4 Receive] iSync does not use the information it receives for these items,—it just ignores them, receiving these element types in the SyncML session will not cause an issue.

[1] Information never sent by tested SyncML devices. It is useless because iSync always know what 'Data' type iSync expects ('chr' for vCard/vCal, 'xml' for DevInf and 'int' for Alert).

[2] For now, iSync doesn't take into account the memory status sent by the device.

[3] iSync doesn't support authentication at SyncML layer at this point as it is useless when doing local synchronization.

[4] Unused information (and never sent by tested SyncML devices).

5.SyncML Bindings

5.1.Supported Bindings

iSync supports SyncML over Obex binding.

SyncML over WSP and SyncML over HTTP bindings are **not** supported.

5.2.Obex Binding

OBEX over IrDA is **not** supported. Only OBEX over Bluetooth and OBEX over USB are supported.

5.2.1.Client Initiated Sessions

Client initiated session is **not** supported by iSync. OBEX binding is supported only as an OBEX client.

5.2.2.Server Initiated Sessions

Commands	SyncML Server Requirements (OBEX Client)	Implementation (OBEX Client)
Connect	MUST	Yes
Disconnect	MUST	Yes
Put	MUST	Yes
Get	MUST	Yes
Abort	MAY	Yes

6.SyncML Data Synchronization

6.1.SyncML Server Protocol Requirements

Feature	Requirement	Implementation
Support of `two-way sync` sync type	MUST	Yes
Support of `slow two-way sync` sync type	MUST	Yes
Support of `one-way sync from client only` sync type	MUST	No [1]
Support of `refresh sync from client only` sync type	MUST	No [1]
Support of `one-way sync from server only` sync type	MUST	No [1]
Support of `refresh sync from server only` sync type	MUST	Yes
Support of `sync alert`	MAY	Yes
Support of `Large Objects`	MUST	Yes
Support of `sync without separate initialization`	MUST	No [1]
Support of `busy signaling`	SHOULD	Yes
Support of `server layer authentication`	MUST	No [2]
Support of `database layer authentication`	SHOULD	No
Support of suspend/resume	MUST	Yes [3]
Support for filtering	MAY	No
Support for hierarchical synchronization	MAY	No

[1] Not implemented yet.

[2] iSync doesn't support authentication at SyncML layer at this point because it is useless when doing local synchronization.

[3] iSync forces a Slow Sync when the client try to resume a session.

6.2.Security

Feature	Requirement	Implementation
Support Basic and MD5	MUST	No [1]

Feature	Requirement	Implementation
Support optional authentication types	MAY	No

[1] iSync doesn't support authentication at SyncML layer at this point because it is useless when doing local synchronization.

6.3.XML Usage

Feature	Requirement	Implementation
Support namespace usage	MUST	Yes

XML is not supported; only WBXML is supported.

6.4.MIME Usage

Feature	Requirement	Implementation
Support MIME content types	MUST	Yes

6.5.Identifiers

Feature	Requirement	Implementation
Support URI, URN, textual names	MUST	Yes

6.6.Common Use Elements

Commands	Requirements		Implementation	
	Send	Receive	Send	Receive
Archive	MAY	MAY	No	No
Chal	MUST	MUST	No [1]	No [1]
Cmd	MUST	MUST	Yes	Yes
CmdID	MUST	MUST	Yes	Yes
CmdRef	MUST	MUST	Yes	Yes

Cred	MUST	MUST	No [1]	No [1]
Field	MAY	MAY	No	No
Filter	MAY	MAY	No	No
FilterType	MAY	MAY	No	No
Final	MUST	MUST	Yes	Yes
Lang	MAY	MAY	No	No
LocName	MAY	MAY	No	No
LocURI	MUST	MUST	Yes	Yes
MoreData	MUST	MUST	Yes	Yes
MsgID	MUST	MUST	Yes	Yes
MsgRef	MUST	MUST	Yes	Yes
NoResp	MAY	MUST	No	Yes
NoResults	MAY	MAY	No	No
NumberOfChanges	MAY	MUST	Yes	Yes
Record	MAY	MAY	No	No
RespURI	MAY	MUST	No	No [2]
SessionID	MUST	MUST	Yes	Yes
SftDel	MAY	MAY	No	No
Source	MUST	MUST	Yes	Yes
SourceParent	MAY	MAY	No	No
SourceRef	MUST	MUST	Yes	Yes
Target	MUST	MUST	Yes	Yes
TargetParent	MAY	MAY	No	No
TargetRef	MUST	MUST	Yes	Yes
VerDTD	MUST	MUST	Yes	Yes
VerProto	MUST	MUST	Yes	Yes

[1,2 Receive] iSync does not use the information it receives for these items—it just ignores them, receiving these element types in the SyncML session will not cause an issue.

[1] iSync doesn't support authentication at SyncML layer at this point, because it is useless when doing local synchronization.

[2] Unused information when performing a local synchronization.

6.7. Message Containers

Commands	Requirements		Implementation	
	Send	Receive	Send	Receive
SyncML	MUST	MUST	Yes	Yes
SyncHdr	MUST	MUST	Yes	Yes
SyncBody	MUST	MUST	Yes	Yes

6.8. Data Description Elements

Commands	Requirements		Implementation	
	Send	Receive	Send	Receive
Data	MUST	MUST	Yes	Yes
Item	MUST	MUST	Yes	Yes
Meta	MUST	MUST	Yes	Yes
Correlator	MAY	MAY	No	No

6.9. Protocol Management Elements

Commands	Requirements		Implementation	
	Send	Receive	Send	Receive
Status	MUST	MUST	Yes	Yes

6.10. Protocol Elements

Commands	Requirements		Implementation	
	Send	Receive	Send	Receive

Add	MUST	MUST	Yes	Yes
Alert	MUST	MUST	Yes	Yes
Atomic	MAY	MAY	No	No
Copy	MAY	MUST	No	No [1]
Delete	MUST	MUST	Yes	Yes
Exec	MAY	SHOULD	No	No
Get	MUST	MUST	Yes	Yes
Map	MAY	MUST	No	Yes
MapItem	MAY	MUST	No	Yes
Move	MAY	MAY	No	No
Put	MUST	MUST	Yes	Yes
Replace	MUST	MUST	Yes	Yes
Result	MUST	MUST	Yes	Yes
Search	MAY	MAY	No	No
Sequence	MAY	MUST	No	No [1]
Sync	MUST	MUST	Yes	Yes

[1] iSync supports only the Add, Replace and Delete commands for content synchronizing. iSync also support the Get, Put and Result commands to exchange DevInf documents, but iSync doesn't allow the device to perform a Copy or a Sequence. Actually, tested devices never send Copy or Sequence commands.

6.11.Content Formats

Data Type	Content Format	Requirement	Implementation
Contacts	vCard 2.1	MAY	Yes
	vCard 3.0	MAY	No
Events	vCalendar 1.0	MAY	Yes
	iCalendar 2.0	MAY	No
Memos	text/plain	MAY	No

Data Type	Content Format	Requirement	Implementation
Tasks	vTodo 1.0	MAY	Yes
Email	message/rfc822	MAY	No
	message/rfc2822	MAY	No
	Message/rfc2045	MAY	No
	x-email	MAY	No
File	x-file	MAY	No
Folder	x-folder	MAY	No

6.12. Device Information Support

Element Type	Implementation	
	Send	Receive
CTCap	Yes	Yes *
CTType	Yes	Yes *
DataStore	Yes	Yes *
DataType	No	Yes *
DevID	Yes	Yes *
DevInf	Yes	Yes *
DevTyp	Yes	Yes *
DisplayName	Yes	Yes *
DSMem	No	Yes *
Ext	No	Yes *
FieldLevel	No	Yes *
Filter-Rx	No	Yes *
FilterCap	No	Yes *
FilterKeyword	No	Yes *
FwV	No	Yes *

HwV	No	Yes *
Man	Yes	Yes *
MaxGUIDSize	No	Yes *
MaxID	No	Yes *
MaxMem	No	Yes *
Mod	Yes	Yes *
OEM	No	Yes *
ParamName	Yes	Yes *
PropName	Yes	Yes *
Rx	No	Yes *
Rx-Pref	Yes	Yes *
SharedMem	No	Yes *
Size	No	Yes *
SourceRef	Yes	Yes *
SupportLargeObjects	Yes	Yes *
SupportNumberOfChanges	Yes	Yes *
SwV	Yes	Yes *
SyncCap	Yes	Yes *
SyncType	Yes	Yes *
Tx	No	Yes *
Tx-Pref	Yes	Yes *
UTC	No	Yes *
ValEnum	Yes	Yes *
VerCT	Yes	Yes *
VerDTD	Yes	Yes *
Xnam	No	Yes *
Xval	No	Yes *

Property	Yes	Yes *
PropParam	Yes	Yes *
MaxOccur	No	Yes *
MaxSize	No	Yes *
NoTruncate	No	Yes *

* iSync supports device information, but does not use the information sent by the client. Instead, it relies on an iSync-specific phone description file.