Device Management Conformance Requirements

Approved Version 1.1.2 – 13 June 2003

Open Mobile Alliance
OMA-SyncML-DMConReqs-V1_1_2-20030613-A

Continues the Technical Activities
Originated in the SyncML Initiative

© 2003-2004 Open Mobile Alliance Ltd. All Rights Reserved.

Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. [OMA-Template-Spec-20030824]

Contents

1. Scope

This document specifies the Static conformance requirements (SCR) features that are optional, mandatory and recommended within implementations conforming to SyncML DM.

The SyncML Initiative, Ltd. was a not-for-profit corporation formed by a group of companies who co-operated to produce an open specification for data synchronization and device management. Prior to SyncML, data synchronization and device management had been based on a set of different, proprietary protocols, each functioning only with a very limited number of devices, systems and data types. These non-interoperable technologies have complicated the tasks of users, manufacturers, service providers, and developers. Further, a proliferation of different, proprietary data synchronization and device management protocols has placed barriers to the extended use of mobile devices, has restricted data access and delivery and limited the mobility of the users.

SyncML Components

SyncML is a specification that contains the following main components:

- An XML-based representation protocol

- A synchronization protocol and a device management protocol

- Transport bindings for the protocol

- A device description framework for device management

2. References

2.1 Normative References

[DMBOOT]	"SyncML Device Management Bootstrap, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMBootstrap-V1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[DMNOTI]	"Notification Initiated Session, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMNotification-V1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[DMPRO]	"SyncML Device Management Protocol, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMProtocol-V1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[DMREPU]	"SyncML Representation Protocol, Device Management Usage, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMRepPro-V_1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[DMSEC]	"SyncML Device Management Security, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMSecurity-V1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[DMSTDOBJ]	"SyncML Device Management Standardized Objects, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMStdObj-V1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[DMTND]	"SyncML Device Management Tree and Description, Version 1.1.2". Open Mobile Alliance™. OMA-SyncML-DMTND-V1_1_2. URL:http:www.openmobilealliance.org/tech/docs
[META]	"SyncML Meta Information, version 1.1.2". Open Mobile Alliance™. OMA-SyncML-MetaInfo-V1_1_2. 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

2.2 Informative References

None.

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" and "Introduction", are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

None.

4. Introduction

Static conformance requirements (SCR) specify the features that are optional, mandatory and recommended within implementations conforming to SyncML DM specifications.

Simple tables are used to specify this information.

In these tables, optional features are specified by a "MAY", mandatory features are specified by a "MUST" and recommended features are specified by a "SHOULD".

5. SCR for SyncML Representation Protocol – DM Usage

5.1 Common use elements

The following specifies the static conformance requirements for the SyncML common use elements for devices conforming to SyncML Representation Protocol – Device Management Usage specification [DMREPU].

Command	Support of Management Server		Support of Management Client	
	Sending	**Receiving**	**Sending**	**Receiving**
Chal	MUST	MUST	MUST	MUST
Cmd	MUST	MUST	MUST	MUST
CmdID	MUST	MUST	MUST	MUST
CmdRef	MUST	MUST	MUST	MUST
Cred	MUST	MUST	MUST	MUST
Final	MUST	MUST	MUST	MUST
LocName	MUST	MUST	MUST	MUST
LocURI	MUST	MUST	MUST	MUST
MoreData	MUST	MUST	SHOULD	SHOULD
MsgID	MUST	MUST	MUST	MUST
MsgRef	MUST	MUST	MUST	MUST
RespURI	MAY	MUST	MAY	MUST
SessionID*	MUST	MUST	MUST	MUST
Source	MUST	MUST	MUST	MUST
SourceRef	MUST	MUST	MUST	MUST
Target	MUST	MUST	MUST	MUST
TargetRef	MUST	MUST	MUST	MUST
VerDTD	MUST	MUST	MUST	MUST
VerProto	MUST	MUST	MUST	MUST

*The maximum length of a SessionID is 4 bytes. Note: for a client, an 8-bit incrementing SessionID is sufficient for practical implementations.

5.2   Message container elements

The following specifies the static conformance requirements for the SyncML message container elements for devices conforming to SyncML Representation Protocol – Device Management Usage specification [DMREPU].

Command	Support of Management Server		Support of Management Client	
	Sending	Receiving	Sending	Receiving
SyncML	MUST	MUST	MUST	MUST
SyncHdr	MUST	MUST	MUST	MUST
SyncBody	MUST	MUST	MUST	MUST

5.3   Data description elements

The following specifies the static conformance requirements for the SyncML data description elements for devices conforming to SyncML Representation Protocol – Device Management Usage specification [DMREPU].

Command	Support of Management Server		Support of Management Client	
	Sending	Receiving	Sending	Receiving
Data	MUST	MUST	MUST	MUST
Item	MUST	MUST	MUST	MUST
Meta	MUST	MUST	MUST	MUST

5.4   Protocol command elements

The following specifies the static conformance requirements for the SyncML protocol command elements for devices conforming to SyncML Representation Protocol – Device Management Usage specification [DMREPU].

Command	Support of Management Server		Support of Management Client	
	Sending	Receiving	Sending	Receiving
Alert	MUST	MUST	MUST	MUST
Replace	MUST	MUST	MUST	MUST
Status	MUST	MUST	MUST	MUST

Command	Support of Management Server	Support of Management Client
	Sending	Receiving
Add	MUST	MUST
Atomic	MUST	SHOULD
Copy	MAY	MAY

Delete	MUST	MUST
Exec	MAY	MAY
Get	MUST	MUST
Sequence	MUST	MUST

Command	Support of Management Server	Support of Management Client
	Receiving	Sending
Result	MUST	MUST

6. SCR for SyncML DM Protocol

This section defines static conformance requirements for SyncML DM Servers and Clients conforming to SyncML Device Management Protocol [DMPRO].

Alert Type	Support of Management Server		Support of Management Client	
	Sending	**Receiving**	**Sending**	**Receiving**
Session Abort Alert	SHOULD	MUST	SHOULD	MUST
Next Message Alert	MUST	MUST	MUST	MUST
Large Object Handling	MUST	MUST	SHOULD	SHOULD

Alert Type	Support of Management Server	Support of Management Client
	Sending	**Receiving**
Display Alert	MAY	MAY
Continue or Abort Alert	MAY	MAY
Text Input Alert	MAY	MAY
Single Choice Alert	MAY	MAY
Multiple Choice Alert	MAY	MAY

Alert Type	Support of Management Server	Support of Management Client
	Receiving	**Sending**
Server-Initiated mgmt Alert	MUST	MUST (If notification supported)
Client-Initiated mgmt Alert	MUST	MUST (If client can initiate session without notification)
Client Event Alert	MUST (but no specific processing defined)	MAY

7. SCR for SyncML MetaInfo

The following specifies the static conformance requirements for the SyncML Meta-Information element types for devices conforming to SyncML Meta-Information specification [META].

Element Type	Support of Management Server		Support of Management Client	
	Sending	**Receiving**	**Sending**	**Receiving**
EMI	MAY	MAY	MAY	MAY
Format	MUST	MUST	MUST	MUST
MaxMsgSize	MAY	MUST	MAY	MUST
MaxObjSize	MUST	MUST	SHOULD	SHOULD
MetInf	MUST	MUST	MUST	MUST
NextNonce	MUST	MUST	MUST	MUST
Size	MUST	MUST	MUST	MUST
Type	MUST	MUST	MUST	MUST

8. SCR for SyncML DM Security

The following specifies the static conformance requirements for SyncML DM Security for devices conforming to SyncML Device Management Security specification [DMSEC].

Secure Transport Class:

Command	Support of Management Server		Support of Management Client	
	Sending	**Receiving**	**Sending**	**Receiving**
Basic (Chal)	MUST	MUST	SHOULD**	MUST
Basic (Cred)	MUST	MUST	MUST	SHOULD**
MD5 (Chal)	MUST	MUST	SHOULD**	MUST
MD5 (Cred)	MUST	MUST	MUST	SHOULD**
HMAC (Chal)	MUST *	MUST	MAY	MAY
HMAC (Hdr)	MUST *	MUST	MAY	MAY

*Server MUST NOT challenge for HMAC unless the client has provided HMAC credentials and a challenge is needed (e.g. to agree on a new nonce). Server MUST send HMAC credential IF AND ONLY IF challenged.

**For a client using a transport framework with guaranteed authentication in transport level authentication SHOULD be supported. However, if the transport framework cannot guarantee authentication, authentication MUST be supported

Other Transport Class:

Command	Support of Management Server		Support of Management Client	
	Sending	**Receiving**	**Sending**	**Receiving**
Basic (Chal)	MUST	MUST	SHOULD	MUST
Basic (Cred)	MUST	MUST	MUST	SHOULD
MD5 (Chal)	MUST	MUST	MUST	MUST
MD5 (Cred)	MUST	MUST	MUST	MUST
HMAC (Chal)	SHOULD	MUST	MUST*	MUST*
HMAC (Hdr)	MUST	MUST	MUST*	MUST*

*Client MUST be able to respond appropriately with one exception. A client that also supports secure transports may comply by terminating the non-secure transport session and initiating a secure transport session upon receiving HMAC credentials or an HMAC challenge. Therefore it is recommended that clients which do not support the HMAC feature always use secure transports when they initiate a session with a server.

NOTE: OBEX may or may not be secure.

9. SCR for SyncML DM Notification

The following specifies the static conformance requirements for SyncML DM Notification for devices conforming to SyncML Device Management Notification Initiated specification [DMNOTI].

Command	Support of Management Server	Support of Management Client
	Sending	Receiving
Notification message	SHOULD	SHOULD

10.SCR for SyncML DM Standardized Objects

The following specifies the static conformance requirements for SyncML DM Standardized Objects for devices conforming to SyncML Device Management Standardized Objects specification [DMSTDOBJ].

Standard Object	Support of Management Server	Support of Management Client
DevInfo	MUST	MUST
DevDetail	MUST	MUST
SyncML DM	MUST	MUST

11. SCR for SyncML DM Bootstrap

The following specifies the static conformance requirements for SyncML DM Bootstrap for devices conforming to SyncML Device Management Bootstrap specification [DMBOOT].

Bootstrap	Support of Management Server	Support of Management Client
WAP Profile	MAY	MAY
Plain Profile	MAY	MAY

12. SCR for SyncML DM Tree and Description

The following specifies the static conformance requirements for the SyncML DM Tree and Description for devices conforming to SyncML Device Management Tree and Description specification [DMTND].

Property	Support of Management Client
ACL	MUST
Format	MUST
Name	MUST
Size	MUST (for leaf nodes) MUST NOT (for interior nodes)
Title	MAY
Tstamp	MAY
Type	MUST
VerNo	MAY

Appendix A.   Static Conformance Requirements   (Normative)

This document describes the static conformance requirements for OMA DM Enabler release 1.1.2.

Appendix B.   Change History   (Informative)

B.1   Approved Version History

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

B.2   Draft/Candidate Version 1.1.2 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-SyncML-DMConReqs-V1_1_2	03 Apr 2003	All	The initial version of this document, based on SyncML DM 1.1.1.
	11 Apr 2003	All	Editorial comments incorporated
	08 May 2003	All	Editorial corrections
Candidate Version OMA-SyncML- DMConReqs -V1_1_2	13 Jun 2003	n/a	Initial Candidate version – approval for status change from TP ref TP doc # OMA-TP-2003-0266R1