

**Access and Terminals (AT);
Network Address Book on fixed network;
Part 4: Data synchronization**



Reference

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Keywords

addressing, ISDN, MMS, PSTN, synchronization

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Access and Terminals (AT).

The present document is part 1 of a multi-part deliverable covering the Network Address Book on fixed network, as identified below:

- Part 1: "Overview";
- Part 2: "Service description";
- Part 3: "vCard 2.1 profile for contact exchange by SMS/EMS for fixed network";
- Part 4: "Data synchronization".**

NOTE: The parts above refer to the active work items and published standards within ETSI.

Many devices and applications handling personal contact information are today available to the consumers. Contact information is stored in various devices such as mobile phones, PDAs, or PCs, and also fixed line terminals. Without a mean to homogenize that information among all these devices, a consumer may have difficulties to manage and retrieve easily his personal contact information.

In this context, data synchronization is considered as the appropriate technology to maintain those different information sources in a consistent state and thus allow consumers to manage efficiently their data, wherever they are stored.

Service providers and operators are now offering systems centralizing personal information to allow an easier personal data management. Consumers can already synchronize and manage data between network elements, mobile devices and Personal Computers (PCs). There is a need to make it possible also between network elements and fixed devices.

OMA DS (SyncML) is an open standard for Data Synchronization that is already widely used to synchronize data between mobile handsets, PCs, and network elements. The present document, which is based on XML messages exchanges over any kind of network, can be deployed on fixed line networks as well as on mobile or IP based networks and on any type of operating system.

OMA DS allows to synchronize any kind of data, including contact information or calendars. The present document is being maintained by OMA Data Sync WG of the Open Mobile Alliance, and is supported by an increasing number of mobile devices.

The objective of the present document is to define a profile on OMA DS 1.2 for contact information synchronization dedicated to fixed-line devices that will maintain interoperability between the fixed line, internet and mobile devices. This will enable any consumer to synchronize seamlessly its contacts between its mobile devices, PDAs, PCs and fixed line terminals.

Introduction

The purpose of the present document is to define requirements for the use of OMA DS 1.2 (formerly known as SyncML) for contact information synchronization between the address book of a fixed-line device (Local Address Book) and a Network Address Book.

As such, the present document does not modify the original OMA DS specification. It only specifies - when needed - any option/choice to be taken to adapt it to the fixed line environment.

The OMA DS 1.2 specification packages (OMA Data sync v1.2 and OMA SyncML Common v 1.2) can be found at the following URL: http://www.openmobilealliance.com/release_program/.

The reader is strongly advised to read OMA DS 1.2 specification packages along with this Technical Specification.

NOTE: SyncML has been renamed as OMA DS since 1.1.2 release. SyncML 1.2 does not exist anymore. Nevertheless OMA DS still refers to SyncML messages and packages as the messages/packages exchanged between an OMA DS client and an OMA DS server. Any definition can be found in OMA DS 1.2 specification packages.

The present document provides also some information concerning the exchange format used for contact information synchronization using OMA DS, and including the underlying transport protocol.

1 Scope

The present document defines requirements for the use of OMA DS 1.2 for fixed-line devices.

The present document defines contact information exchange format to be used for contact synchronization with OMA DS 1.2.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] OMA-SyncML-DevInf-V1-2-20040601-C: "SyncML Device Information".
- [2] OMA-TS-SyncML-HTTPBinding-V1-2-20050509-C: "SyncML HTTP Binding".
- [3] OMA-TS-SyncML-RepPro-V1-2-20050509-C: "SyncML Representation Protocol".
- [4] OMA-TS-SyncML-SAN-V1-2-20050509-C: "SyncML Server Alerted Notification".
- [5] OMA-TS-SyncML-MetaInfo-V1-2-20050509-C: "SyncML Meta Information".
- [6] OMA-SyncML-DataSyncProtocol-V1-2-20040601-C: "SyncML Data Sync Protocol".
- [7] OMA-SyncML-DataSyncRep-V1-2-20040601-C: "SyncML Representation Protocol, Data Synchronization Usage".
- [8] vCard 2.1: "The electronic business card", Versit consortium, 1996 .

NOTE: (<http://www.imc.org/pdi/vcard-21.doc>).

- [9] ETSI ES 201 986 (V1.1.2): "Services and Protocols for Advanced Networks (SPAN); Short Message Service (SMS) for PSTN/ISDN; Service description".
- [10] ETSI ES 201 912: "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Short Message Communication between a fixed network Short Message Terminal Equipment and a Short Message Service Centre".
- [11] ETSI ES 202 314-4: "Fixed network Multimedia Messaging Service (F-MMS); Part 4: PSTN/ISDN; Multimedia Message communication between a fixed network Multimedia Messaging Terminal Equipment and a Multimedia Messaging Service Centre".
- [12] IETF RFC 2616: "Hypertext Transfer Protocol - HTTP/1.1".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

client: OMA DS client refers to the protocol role when the application issues SyncML "request" messages

NOTE: For example, in data synchronization, the SyncML Command in a SyncML Message.

data: unit of information exchanged, encoded for transmission over a network

Global Unique Identifier: number assigned to an object in a data base. GUID values are never reused

NOTE: In practice, numbers do not have a unique GUID forever, they must only be unique as long as they exist in some mapping table.

message: a SyncML Message is the primary content of a SyncML Package

NOTE: It contains the SyncML Commands as well as the related data and meta information. The SyncML Message is an XML document.

Meta Information: parameters or attributes about the representation, state or type or content of an object or property

Server Alerted Notification: method by which an OMA DS server notifies an OMA DS client to initiate a SyncML session

Server Alerted Sync: Data Synchronization terminology for Server Alerted Notification

OMA DS application: application that supports the OMA DS protocol

NOTE: The application can either be the originator or recipient of the OMA DS protocol commands. The application can act as a OMA DS client or a OMA DS server.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

GUID	Global Unique Identifier
HTTP	HyperText Transfer Protocol
ID	Identifier
LAB	Local Address Book
NAB	Network Address Book
OBEX	Object Exchange Protocol
OMA	Open Mobile Alliance
OMA DS	Open Mobile Alliance Date Synchronization
URL	Uniform Resource Locator
vCard	versit Card
WAP	Wireless Application Protocol
WSP	Wireless Session Protocol
XML	Extensible Markup Language

4 Requirements

For data synchronization, the following requirements apply:

- There shall be the capability to initiate the synchronization from the Network Address Book.
- The device should be able to stop or suspend a synchronization.

- The underlying transport (see OMA DS 1.2 definitions) shall be HTTP.
- Each client shall be addressed with an ID which should be unique (e.g. name, subscriber line number, serial number, etc.). Two way synchronization shall be supported.

5 Architecture

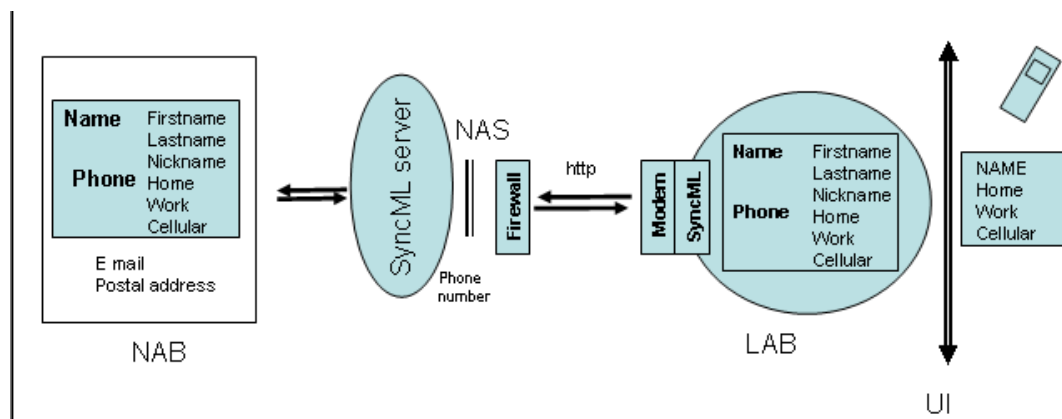


Figure 1: Architecture overview (informative)

A fixed line terminal containing a Local Address Book is considered as the client, and the Network Address Book as the server, using OMA DS terminology. Each part has its own internal personal information data representation, and those could be different. Clause 6 describes the minimal set of information needed to exchange contact data.

In order to ensure interoperability the client and the server use SyncML messages (see [3], [7], [1] and [5]) for contacts exchange. vCard 2.1 (see [8]) format shall be used for contact representation (see clause 7) and the corresponding contact objects shall be embedded in SyncML messages as vCard 2.1 instances.

Each side shall be able to parse SyncML messages and vCard 2.1 instances in order to obtain its own internal contact representation, and to do the reverse operation (e.g. to generate SyncML messages containing vCard 2.1 instances from the internal contact representation).

6 Format of contact information exchange

vCard 2.1 format shall be used as defined in [8]. Other formats are for further study.

A nickname is often used in fixed phones instead of regular first name and last name. The Formatted Name property (i.e. FN) of vCard 2.1 (see [8]) shall be used to cover that specific point.

7 OMA DS (previously SyncML)

This part defines the OMA DS 1.2 profile for a fixed-line device. It does not modify the original OMA DS specification. It only specifies – when needed – any option/choice to be taken to adapt it to the fixed line environment.

7.1 OMA DS version

OMA DS version 1.2 shall be used. See [1] to [7].

7.2 Synchronization session initiation

Either NAB or LAB side may initiate a synchronization session.

As defined in OMA DS, the client (LAB side) initiates the synchronization in the normal case. Nevertheless, OMA DS provides a mechanism, called Server Alerting Notification, making it possible for a server (NAB side) to require a client to start a synchronization session. As specified in [4] and [6], the server sends a notification to the client, which initiates a synchronization session.

7.3 OMA DS options

As this Technical Specification defines a profile on OMA DS 1.2 for fixed-line terminals, every OMA DS 1.2 mandatory feature shall be implemented by the terminals.

The following optional features defined in OMA DS 1.2 are recommended to be implemented in fixed-line terminals:

- Server Alerted Sync (emission for servers and reception for clients).
- Transport for Server Alerted Sync initiation notification should be SMS [9] and [10], according [4] and [6].
- Suspend and Resume (should be implemented also in the server).

7.4 Device Information

OMA DS provides the exchange of device information between the client and the server during the initialization phase (see [6]). The SyncML syntax used for device information is given in [1].

The present document only includes vCards synchronization. Thus, the DevInf element (as defined in SyncML) shall contain all the mandatory vCard information conforming with [8].

7.5 Transport

OMA DS is transport-independent. Several transport bindings are defined in OMA DS specifications (HTTP, OBEX, WSP). Within the scope of the present document, HTTP transport shall be used. See [2] for more detailed information about HTTP binding.

The connection between the terminal and the NAB server shall be established in the same way as for MMS according to [11], clause 7.3 (up to the HTTP layer).

8 Terminal requirements

Requirements defined in [11] clause 8.2 for MMTE apply in the current document to terminals supporting Address Book. The table 1 in [11] is replaced by the following:

Table 1: Terminal configuration profile

Item	Size (recommended)	Status	Remark
RAS dial-in number	up to 16 digits	mandatory	
Username	up to 10 chars	mandatory	Used for: <ul style="list-style-type: none"> • Authentication on PPP layer (e.g. in case that authentication is not based on CLI). • Authentication on HTTP layer.
Password	up to 10 chars	mandatory	See above row.
NAB Server URL	up to 50 chars	mandatory	Required for HTTP connection establishing. For URL syntax see RFC 2616 [12].

9 Server requirements

Requirements defined in [11] clause 8.3 for MMSE apply in the current document to NAB server.

Annex A (informative): Bibliography

ITU-T Recommendation V.32: "A family of 2-wire, duplex modems operating at data signalling rates of up to 9600 bit/s for use on the general switched telephone network and on leased telephone-type circuits".

ITU-T Recommendation V.32bis: "A duplex modem operating at data signalling rates of up to 14 400 bit/s for use on the general switched telephone network and on leased point-to-point 2-wire telephone-type circuits".

ITU-T Recommendation V.34: "A modem operating at data signalling rates of up to 33 600 bits/s for use on the general switched telephone network and on leased point-to-point 2-wire telephone-type circuits".

ITU-T Recommendation V.90: "A digital modem and analogue modem pair for use on the Public Switched Telephone Network (PSTN) at data signalling rates of up to 56 000 bits/s downstream and up to 33 600 bit/s upstream".

ITU-T Recommendation V.92: "Enhancements to Recommendation V.90".

ITU-T Recommendation V.14: "Transmission to start-stop characters over synchronous bearer channels".

ITU-T Recommendation V.42: "Error-correcting procedures for DCEs using asynchronous-to synchronous conversion".

ITU-T Recommendation V.42bis: "Data compression procedures for data circuit-terminating equipment (DCE) using error correction procedures".

History

Document history		
V1.1.1	May 2006	Publication