



RESTful Network API for Customer Profile Requirements

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Open Mobile Alliance
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1. Scope

(Informative)

This document defines the requirements for OMA RESTful Network API for Customer Profile, targeted to expose to applications the customer profile information of an end user who is a customer of a mobile network operator.

2. References

2.1 Normative References

- [Autho4API_10] “Authorization Framework for Network APIs”, Open Mobile Alliance™, OMA-ER-Autho4API-V1_0, URL: <http://www.openmobilealliance.org/>
- [RFC2119] “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997, URL:<http://www.ietf.org/rfc/rfc2119.txt>
- [JSON] JavaScript Programming Language, Standard ECMA-262 3rd Edition - December 1999.

2.2 Informative References

- [OMADICT] “Dictionary for OMA Specifications”, Version 2.9, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_9, URL:<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” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

For the purpose of this RD, all definitions from OMA Dictionary [OMADICT] as well as definitions from individual RESTful Network APIs apply.

Customer Profile See User Profile [OMADICT]

3.3 Abbreviations

API	Application Programming Interface
GSMA	GSM Association
HTTP	HyperText Transfer Protocol
JSON	JavaScript Object Notation
MSISDN	Mobile Subscriber ISDN Number
OMA	Open Mobile Alliance
REST	REpresentational State Transfer
SP	Service Provider
URL	Uniform Resource Locator
XML	eXtensible Markup Language

4. Introduction

(Informative)

In order to support today's demand for innovative service creation and lightweight customer profile interface, a set of APIs inspired by GSMA OneAPI feature for Customer Profile is needed. The targeted APIs will allow an application to query the customer profile information of an end user who is the customer of a mobile network operator. Such information (e.g. name, address) will be shared only if authorized by the end user.

4.1 Version 1.0

The OMA_RD_REST_NetAPI_CustomerProfile_V1.0 captures the functional requirements scoping the set of APIs exposing customer profile information loosely based on the GSMA OneAPI feature for customer profile.

5. RESTful Network API for Customer Profile release description (Informative)

5.1 End-to-end Service Description

The REST_NetAPI_CustomerProfile V1.0 addresses an important field of open service creation by allowing access to the rich data that the customer profile information can offer, thus enabling service creation via advanced applications in order to decrease significantly the Time-to-Market for new services.

6. Requirements (Normative)

6.1 High-Level Functional Requirements

Label	Description	Release
HLF-001	The RESTful Network API for Customer Profile SHALL be HTTP/REST based.	REST_NetAPI_CustomerProfile V1.0
HLF-002	Resource URLs and primitives names SHALL have an intuitive relationship with the functions and resources they are intended to represent.	REST_NetAPI_CustomerProfile V1.0
HLF-003	The RESTful Network API for Customer Profile SHALL allow including the API version in the resource URLs.	REST_NetAPI_CustomerProfile V1.0
HLF-004	The RESTful Network API for Customer Profile SHALL allow an Application and a Server to negotiate the version of a particular resource.	REST_NetAPI_CustomerProfile V1.0
HLF-005	The RESTful Network API for Customer Profile SHALL expose a functional abstraction at the user level rather than at the level of underlying protocols.	REST_NetAPI_CustomerProfile V1.0
HLF-006	The RESTful Network API for Customer Profile SHALL support "server"-based application clients and "device"-based application clients. Instantiation examples include applications running on a Web server (where the user interacts with the application via a web browser), or running on a mobile or fixed device as a "widget" or as a native application.	REST_NetAPI_CustomerProfile V1.0
HLF-007	In order to provide controlled access to subscriber information, the RESTful Network API for Customer Profile SHALL be usable in combination with different authorization mechanisms and Service Provider policies.	REST_NetAPI_CustomerProfile V1.0
HLF-008	The RESTful Network API for Customer Profile SHOULD support application authorization based on [Autho4API_10].	REST_NetAPI_CustomerProfile V1.0
HLF-009	The RESTful Network API for Customer Profile SHALL support the retrieval of information belonging to a subscriber on behalf of which the application using the API is acting.	REST_NetAPI_CustomerProfile V1.0
HLF-0011	Subject to the underlying resource capabilities, the RESTful Network API for Customer Profile SHOULD NOT expose the real identities of the user. In particular, mobile telephone numbers (MSISDNs) or other information identifying the user SHALL NOT be exposed without user's consent. Subject to service provider policies, only trusted applications will be authorized to know that information.	REST_NetAPI_CustomerProfile V1.0
HLF-012	The RESTful Network API for Customer Profile SHALL support the retrieval of information at different levels of breadth and detail from the customer profile of a subscriber of an operator, in a controlled manner subject to subscriber authorization and SP policies.	REST_NetAPI_CustomerProfile V1.0
HLF-013	The RESTful Network API for Customer Profile SHALL support the retrieval of selected static information (e.g. name, address, contact telephone number, age range verification, preferred language, etc) from the customer profile of a subscriber of an operator, in a controlled manner subject to subscriber authorization and SP policies.	REST_NetAPI_CustomerProfile V1.0

HLF-014	The RESTful Network API for Customer Profile SHALL NOT allow the creation, update and delete of information belonging to a subscriber.	REST_NetAPI_CustomerProfile V1.0
HLF-015	The RESTful Network API for Customer Profile SHALL support indication of user age verification, in a controlled manner subject to subscriber authorization and SP policies.	REST_NetAPI_CustomerProfile V1.0
HLF-016	The RESTful Network API for Customer Profile SHOULD allow extending the set of specified retrievable information about the subscriber, when applicable.	REST_NetAPI_CustomerProfile V1.0

Table 1: High-Level Functional Requirements

6.1.1 Security

It is expected to be possible for a service provider to deploy developer security mechanisms and engagement/registration processes aimed to individual developers. Developer security mechanisms are out of the scope of this document.

6.1.1.1 Authentication

Application authentication and User authentication are out of scope.

6.1.1.2 Authorization

Label	Description	Release
OAU-001	Scope values matching the level of granularity of the retrievable information SHALL be supported.	REST_NetAPI_CustomerProfile V1.0
OAU-002	It SHOULD be possible to define per-service provider values of “scope” parameter to accommodate different granularity levels.	REST_NetAPI_CustomerProfile V1.0

Table 2: High-Level Functional Requirements – Authorization Items

6.1.1.3 Data Integrity

Data Integrity is out of scope.

6.1.1.4 Confidentiality

Confidentiality is out of scope.

6.1.2 Charging Events

Charging events are out of scope.

6.1.3 Administration and Configuration

Administration and configuration are out of scope.

6.1.4 Usability

Usability is out of scope.

6.1.5 Interoperability

Not applicable.

6.1.6 Privacy

Privacy is out of scope. While privacy is critical when exposing subscriber information, the RESTful Network API for Customer Profile does not handle privacy settings or verification of such settings during queries. This is purposely left to be handled via authorization to access subscriber's resources (e.g. using [Autho4API_10]) and subject to SP policies.

6.2 Overall System Requirements

Overall system requirements are out of scope.

6.3 Data Exchange Format Requirements

Label	Description	Release
DEF-001	OMA RESTful Network API for Customer Profile SHALL support JSON [JSON] as a resource response format.	REST_NetAPI_CustomerProfile V1.0
DEF-002	OMA RESTful Network API for Customer Profile SHOULD support XML as resource response format.	REST_NetAPI_CustomerProfile V1.0

Table 3: Data Exchange Format Requirements

Appendix A. Change History (Informative)

A.1 Approved Version History

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

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-RD- REST_NetAPI_CustomerProfile-V1_0	13 Marc 2012	all	Initial baseline. Incorporates input to committee: OMA-ARC-2012-0061-INP_BaselineREST_NetAPI_CustomerProfileRD
	17 Apr 2012	all	Incorporates input to committee: OMA-ARC-REST-N-API-2012-0004R01- CR_Customer_Profile_requirements
	21 Jan 2013	all	Incorporates input to committee: OMA-ARC-REST-CusProf-2013-0001- CR_Addressing_majority_of_CONR_RD_comments
	18 Jan 2013	all	Incorporates input to committee: OMA-ARC-REST-CusProf-2013-0008- CR_Addressing_remaining_CONR_RD_comments
Candidate Version OMA-RD- REST_NetAPI_CustomerProfile-V1_0	05 Mar 2013	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2013-0073- INP_REST_NetAPI_CustomerProfile_V1.0_ERP_and_ETR_for_Candidate _approval

Appendix B. Use Cases (Informative)

B.1 Adult services

B.1.1 Short Description

Bob wishes to access adult.example.com. The 3rd party queries the operator to determine if Bob is of the legal age to access their services.

B.1.2 Market benefits

Allows the 3rd party to offer the adult services, while protecting under-age subscribers and complying with privacy regulations.

B.2 Premium services

B.2.1 Short Description

News.example.com offers a premium service to post-pay subscribers only. On receiving a request from Charlie, they query his operator to determine whether he is a pre-pay or post-pay subscriber.

B.2.2 Market benefits

Allows premium subscribers access to services without having to pre-pay them, and allows the 3rd party to offer premium services while reducing the payment risk.