



**Enabler Release Definition for the  
RESTful Network API for OMA Push**  
Candidate Version 1.0 – 21 Feb 2012

**Open Mobile Alliance**  
OMA-ERELD-REST\_NetAPI\_Push-V1\_0-20120221-C

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# 1. Scope

The scope of this document is limited to the Enabler Release Definition for the RESTful Network API for OMA Push V1.0 according to OMA Release process and the Enabler Release specification baseline listed in section 5.

This enabler release defines a RESTful API for OMA Push using HTTP protocol bindings for the OMA Push Access Protocol (PAP). The RESTful Network API for Push is based upon PAP as defined in the OMA Push [Push2.3] enabler release.

## 2. References

### 2.1 Normative References

- [RFC2119] “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997, [URL:http://www.ietf.org/rfc/rfc2119.txt](http://www.ietf.org/rfc/rfc2119.txt)
- [SCRRULES] “SCR Rules and Procedures”, Open Mobile Alliance™, OMA-ORG-SCR\_Rules\_and\_Procedures, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [Push\_NetAPI\_TS] “RESTful Network API for OMA Push. Open Mobile Alliance™. OMA-TS-REST\_NetAPI\_Push-V1\_0, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [SUP\_Push] "XML schema for the RESTful Network API for OMA Push". Open Mobile Alliance™. OMA-SUP-XSD\_rest\_netapi\_push-V1\_0. [URL: http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PAP] "Push Access Protocol Specification". Open Mobile Alliance™. OMA-WAP-TS-PAP-V2\_3, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [REST\_TS\_Common] “Common definitions for OMA RESTful Network APIs”, Open Mobile Alliance™, OMA-TS-REST\_NetAPI\_Common-V1\_0, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [SCRRULES] “SCR Rules and Procedures”, Open Mobile Alliance™, OMA-ORG-SCR\_Rules\_and\_Procedures, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)

### 2.2 Informative References

- [OMADICT] “Dictionary for OMA Specifications”, Version 2.8, Open Mobile Alliance™, OMA-ORG-Dictionary-V2\_8, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [REST\_WP] “Guidelines for RESTful Network API specifications”, Open Mobile Alliance™, OMA-WP-Guidelines\_for\_RESTful\_Network\_API\_specifications-20110415-D, [URL: http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [OMNA] "OMA Naming Authority". Open Mobile Alliance™, [URL:http://www.openmobilealliance.org/](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.

The formal notation convention used in sections 7 and 8 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [SCRRULES].

### 3.2 Definitions

<b>Enabler Release</b>	Collection of specifications that combined together forms 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 fulfil a number of related market requirements.
<b>Minimum Functionality Description</b>	Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release

### 3.3 Abbreviations

<b>API</b>	Application Programming Interface
<b>ERDEF</b>	Enabler Requirement Definition
<b>ERELD</b>	Enabler Release Definition
<b>HTTP</b>	HyperText Transfer Protocol
<b>JSON</b>	JavaScript Object Notation
<b>MIME</b>	Multipurpose Internet Mail Extensions
<b>OMA</b>	Open Mobile Alliance
<b>OMNA</b>	Open Mobile Naming Authority
<b>REST</b>	REpresentational State Transfer
<b>SCR</b>	Static Conformance Requirements
<b>TS</b>	Technical Specification
<b>URI</b>	Uniform Resource Identifier
<b>URL</b>	Uniform Resource Locator
<b>WAP</b>	Wireless Application Protocol
<b>WP</b>	White Paper
<b>XML</b>	eXtensible Markup Language
<b>XSD</b>	XML Schema Definition

## 4. Release Version Overview

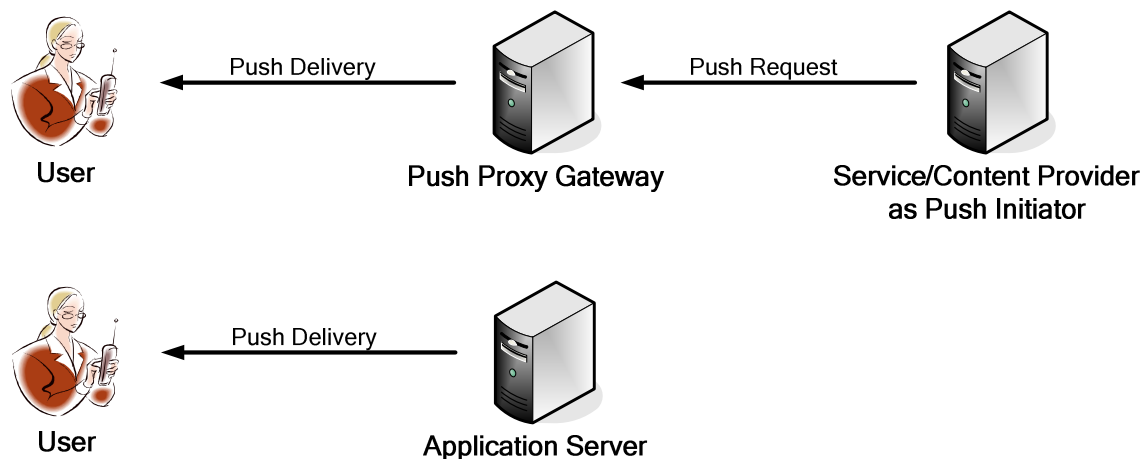
This document provides the Enabler Release Definition for the RESTful Network API for OMA Push V1.0 and the respective conformance requirements for clients and servers implementing / claiming compliance to it as defined by Open Mobile Alliance across the specification baseline.

The RESTful Network API for OMA Push V1.0 specification defines an HTTP protocol binding for the OMA Push Access Protocol [PAP], using the REST architectural style. The specification provides resource definitions, the HTTP verbs applicable for each of these resources, and the element data structures, as well as support material including flow diagrams and examples using the various supported message body formats (i.e. XML and JSON).

### 4.1 OMA Push Version 2.3 About

The service environment enabled by OMA Push is illustrated in Figure 1, which shows the two main options for Push service deployment:

- A service/content provider, acting as Push Initiator, requests the OMA Push-based delivery of content to a user through a Push Proxy Gateway (PPG)
- An Application Server directly uses OMA Push to deliver content to a user.



**Figure 1: OMA Push service environment**

OMA Push defines interfaces allowing a *Push Initiator* (PI) to transmit *push content* and *delivery instructions* to a *Push Proxy Gateway* (PPG), and delivery of the push content to the Push Client according to the delivery instructions. The Push Client subsequently delivers the push content to an OMA enabler user-agent or application in the device (hereafter referred to as the “client application”). The PPG and Push Client are the two architectural entities specified by the OMA Push enabler.

The PI may be an application that runs on an ordinary web server, an OMA enabler entity (e.g. multimedia messaging server, device management server,...), or any other application designed to deliver content to users via OMA Push. It communicates with the PPG using the *Push Access Protocol* (PAP). The PPG uses the *Push Over-The-Air* (OTA) *Protocol* to deliver the push content to the Push Client. Note the name Push-OTA is based upon the historical focus of OMA Push on mobile data services, but the protocol is also usable over wired connections. Push-OTA is also directly usable by OMA enabler entities or application servers acting directly as a Push Server.

Client applications may be OMA enabler user agents (e.g. browsers, multimedia messaging clients, instant messaging clients, etc) or other device-resident applications that are supported by the Push Client.



## 4.2 Push Network API Version 1.0 Functionality

This enabler release continues on the OMA Push v2.3 and defines an associated RESTful Network API that supports the following operations.

The Push Initiator (PI) is able to initiate the following operations to the Push Proxy Gateway (PPG):

- Push Submission
- Push Submission with Replace
- Push Cancellation
- Status Query
- Client Capabilities Query

The PPG is able to initiate the following message to the PI:

- Result Notification

## 5. Document Listing for the RESTful Network API for Push V1.0

This section is normative. As the RESTful Network API for Push is a Fast Track enabler release, no separate Requirements Document and Architecture Document deliverables are produced.

Doc Ref	Permanent Document Reference	Description
<b>Technical Specifications</b>		
[Push_NetAPI_TS]	OMA-TS-REST_NetAPI_Push-V1_0-20120221-C	RESTful Network API for OMA Push
<b>Supporting Files</b>		
[SUP_Push]	OMA-SUP-XSD_rest_netapi_push-V1_0-20110712-C	XML schema for the RESTful Network API for OMA Push Working file in Schema directory: file: rest_netapi_push_v1_0.xsd path: <a href="http://www.openmobilealliance.org/tech/profiles/">http://www.openmobilealliance.org/tech/profiles/</a>

**Table 1: Listing of Documents in Push Network API Enabler**

## 6. OMNA Considerations

The RESTful Network API for OMA Push V1.0 enabler introduces the following OMNA items in the “rest” domain:

Description	Registered URN	Schema Links
Push Network API	urn:oma:xml:rest:netapi:push:1	<a href="http://www.openmobilealliance.org/tech/profiles/rest_netapi_push-v1_0.xsd">http://www.openmobilealliance.org/tech/profiles/rest_netapi_push-v1_0.xsd</a>

**Table 2: OMNA Namespaces in the “rest” Schema Domain**

## 7. Conformance Requirements Notation Details

This section is informative

The tables in following chapters use the following notation:

- Item:** Entry in this column **MUST** be a valid `ScrItem` according to [SCRRULES].
- Feature/Application:** Entry in this column **SHOULD** be a short descriptive label to the **Item** in question.
- Requirement:** Expression in the column **MUST** be a valid `TerminalExpression` according to [SCRRULES] and it **MUST** accurately reflect the architectural requirement of the **Item** in question.

## 8. ERDEF for the RESTful Network API for OMA Push

This section is normative.

Item	Feature / Application	Requirement
REST-PUSH-SUPPORT-S-001-M	Push Network API as defined in [Push_NetAPI_TS]	

**Table 3: ERDEF for the RESTful Network API for OMA Push**

## Appendix A. Change History

(Informative)

### A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version –or- No previous version within OMA

### A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions: OMA-EREELD-PushREST-1_0	01 Oct 2010	All	Initial baseline for review
	12 Oct 2010		Baseline created after review
	11 Nov 2010	2.1, 4.3, 5	Incorporates agreed CRs: OMA-CD-PUSH-2010-0030R01-INP_EREELD_PushREST_Baseline.
	17 Nov 2010	All	Incorporates agreed CRs: OMA-CD-PUSH-2010-0037R01-CR_EREELD_PushREST_Updts. OMA-CD-PUSH-2010-0042R01- CR_EREELD_PushREST_Resolve_AI_005.
	10 Feb 2011	All	Incorporates agreed CRs: OMA-CD-PUSH-2011-0012-CR_EREELD_fixes.
	16 Mar 2011	2	Incorporates agreed CRs: OMA-CD-PUSH-2011-0015- CR_PushREST_CONRR_EREELD_Editorials.
Draft Versions: OMA-EREELD-REST_NetAPI_Push-V1_0	29 May 2011	All	Applied changes as per the newly agreed template, as per OMA-CD-PUSH-2011-0042-CR_PushREST_new_template_EREELD
	24 Jun 2011	5	Updated TS PD Reference
	27 Jun 2011	5	Updated TS PD Reference
Candidate Version: OMA-EREELD-REST_NetAPI_Push-V1_0	12 Jul 2011	All	Status changed to Approved by TP: OMA-TP-2011-0242- INP_PushREST_V1_0_ERP_for_Candidate_Approval Clerical cleanup, updated with OMA-Template-EREELD-20110101-I.
Draft Version: OMA-EREELD-REST_NetAPI_Push-V1_0	20 Feb 2012	Section 5,	Updated TS PD Reference
		All	Updated with OMA-Template-EREELD-20120101-I.
Candidate Version: OMA-EREELD-REST_NetAPI_Push-V1_0	21 Feb 2012	All	Status changed to Candidate by notification to TP: OMA-TP-2012-0075-INP_PushREST_1.0_ERP_for_notification