



Enabler Release Definition for Navigation Service Framework (NavSe)

Candidate Version 1.0 – 14 Mar 2018

Open Mobile Alliance
OMA-ERELD-NavSe-V1_0-20180314-C

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1. Scope

The scope of this document is limited to the Enabler Release Definition of NavSe Enabler v1.0 according to OMA Release process and the Enabler Release specification baseline listed in section 5.

2. References

2.1 Normative References

- [ISO TTI] “Traffic and Travel Information (TTI)” ISO/TS 24530,
[URL:http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=54706](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_tc_browse.htm?commid=54706)
- [NavSe_ER] “OMA Navigation Service Framework”, Open Mobile Alliance™, OMA-ER-NavSe-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [NAVSE TS] “RESTful Network API for Navigation Service Framework”, Version 1.0, Open Mobile Alliance™,
OMA-TS-REST_NetAPI_NavSe-V1_0, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [REST_SUP_NAVSE] “XML schema for the RESTful Network API for NavSe”, Open Mobile Alliance™, OMA-SUP-
XSD_rest_netapi_NavSe-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](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/)

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/](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”, "Release Version Overview" and “Conformance Requirements Notation Details”, are normative, unless they are explicitly indicated to be informative.

The formal notation convention used in sections 9 and 10 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [SCRRULES].

3.2 Definitions

| | |
|--------------------------------------|---|
| Enabler Release | Collection of specifications that combined together form 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. |
| Navigation Device | An entity that, using GNSS service, assists the driver showing correct route to reach the final destination. This entity may process real-time and predicted traffic information and dynamically estimates the optimal route, according to user preferences. |
| NavSe Client | An entity that is in charge of interacting with a NavSe Server to get route information and/or real-time and forecast traffic information. |
| NavSe Server | An entity that is in charge of providing the NavSe Client with route information or real-time and forecast traffic information. |
| Network Performance Parameter | Information regarding the performances (i.e. speed, delay and travel time) of road segments related to an area or a route. |
| Route Information | Sequence of road segments, each of them defined with end points coordinates and road name, from an origin to a destination. |
| Traffic Event | Information regarding events related to an area or a route that are either imposed or planned by the road network operator (i.e. roadwork leading to lane closures) or events that occur outside the control of the network operator (i.e. accidents). |
| Traffic Information | Information which consists of traffic events and network performance parameters related to an area or a route. |

3.3 Abbreviations

| | |
|--------------|-----------------------------------|
| API | Application Programming Interface |
| ERDEF | Enabler Requirement Definition |
| ERELD | Enabler Release Definition |
| ND | Navigation Device |
| OMA | Open Mobile Alliance |
| OMNA | Open Mobile Naming Authority |
| REST | REpresentational State Transfer |
| SCR | Static Conformance Requirements |
| TPEG | Transport Protocol Expert Group |
| TS | Technical Specification |
| XML | eXtensible Markup Language |
| XSD | XML Schema Definition |

4. Release Version Overview

The NavSe Enabler provides an overall framework (mechanisms, functionalities, APIs, and etc.) to enable providing dynamic route information based on real time and forecast information.

The following areas will be covered as part of the scope of the enabler:

- Delivering traffic information and/or route information to the Navigation Device (ND);

NavSe Enabler will reuse as much as possible existing technologies. In particular, with respect to interface specification, it is in the scope of this Enabler:

- to reuse traffic information data formats defined by TPEG in [ISO TTI]

4.1 Version 1.0 Functionality

The version 1.0 of the NavSe Enabler defines an overall framework that enables dynamic navigation service based on traffic information over a mobile network.

The core functionalities exposed by the NavSe Enabler include the following operations:

- Request and provide a set of routes based on the journey parameters defined by the user
- Request and provide traffic information related to the route and an area defined by the ND
- Request and provide route information for a public safety usage
- Request and provide unusable route information related to an emergency area
- Request and provide shared route information for a public safety usage
- Manage subscriptions to notification services for receiving updates on information and alternative route proposal

5. Document Listing for NavSe v1.0

This section is normative.

| Doc Ref | Permanent Document Reference | Description |
|---------------------------------|--|---|
| Combined Enabler Release | | |
| [NavSe ER] | OMA-ER-NavSe-V1_0-20180314-C | Requirements and Architecture Document for NavSe v1.0 Enabler |
| Technical Specification | | |
| [NavSe TS] | OMA-TS-REST_NetAPI_NavSe-V1_0-20180314-C | Technical Specification for NavSe v1.0 Enabler |
| Supporting File | | |
| [REST_SUP_NAVSE] | OMA-SUP-XSD_rest_NavSe-V1_0-20180314-C | XSD schema for XML data structure definition Working file in Schema directory: File: rest_navse-V1_0.xsd Path: http://www.openmobilealliance.org/tech/profiles |

Table 1: Listing of Documents in NavSe v1.0 Enabler

6. OMNA Considerations

The REST_NetAPI_NavSe enabler introduces the following namespaces.

Note that in order to maintain compatibility between minor versions of the same major version, only the major version is reflected in the namespace identifier. Further note that subsequent minor versions of the same XML schema (e.g. 1.1) will be registered against the same namespace identifier.

| Description | Registered URN | Schema Links |
|------------------------------|-----------------------------------|---|
| Navigation Service Framework | urn:oma:xml:rest:netapi:navse:1.0 | http://www.openmobilealliance.org/tech/profiles/rest_netapi_navse-v1_0.xsd |

Table 2: OMNA Namespaces

7. API Considerations

| API Information | | | | |
|---|-------------------------------|--|--|------------------|
| API Name | Technical Specification | API Description | API Category | Protocol Binding |
| Navigation Service Framework | OMA-TS-REST_NetAPI_NavSe-V1_0 | This API allows applications to request traffic information and/or route information for dynamic navigation services based on real time and forecast information. This API reuse traffic information data formats defined by TPEG. | Network API | RESTful http |
| Previous Release | | | | |
| Technical Specifications | | | Publication Release | |
| None | | | n/a | |
| Supporting Material | | | | |
| Name | | | Publication Release | |
| OMA-SUP-XSD_rest_netapi_NavSe-V1_0 TS_REST_NetAPI_Common-V1_0 OMA_SUP_XSD_rest_netapi_common-V1_0 | | | this Release OMA-RRP-REST_NetAPI_Common-V1_0 OMA-RRP-REST_NetAPI_Common-V1_0 | |
| Related Material | | | | |
| Name | | | Publication Release | |
| OMA-WP-Guidelines_for_RESTful_Network_APIS | | | OMA-RRP-Guidelines for RESTful Network APIs | |
| Profile Information | | | | |
| Name | | | Publication Release | |
| n/a | | | n/a | |

Table 3: API Information of NavSe v1.0 Enabler

8. 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.

9. ERDEF for NavSe v1.0 - Client Requirements

Not Applicable in RESTful_NetAPI interface definition.

10.ERDEF for NavSe v1.0 - Server Requirements

Static Conformance Requirements for a NavSe Server are specified in Appendix B.2 of [NavSe TS].

Appendix A. Change History (Informative)

A.1 Approved Version History

| Reference | Date | Description |
|-----------|------|------------------|
| n/a | n/a | No prior version |

A.2 Draft/Candidate Version 1.0 History

| Document Identifier | Date | Sections | Description |
|--|-------------|---------------------|--|
| Draft Versions OMA-ERELED-NavSe-V1_0 | 13 Oct 2017 | All | First Draft |
| | 08 Nov 2017 | 2, 3, 4, 6, 7, 10 | Incorporated CRs: OMA-LOC-2017-0034-CR_NavSe_1_0_ERELED_Introduction OMA-LOC-2017-0044-CR_NavSe_1_0_ERELED_Release_Information |
| | 27 Feb 2018 | 2.1, 3.2, 3.3, 4.1, | Incorporated CR: OMA-LOC-2017-0054-CR_NavSe_1_0_ERELED_Comment_Resolution_C2_C3_C4 |
| Candidate Version OMA-ERELED-NavSe-V1_0 | 14 Mar 2018 | n/a | Status changed to Candidate by BoD DOC Ref # OMA-LOC-2018-0001-INP_NavSe_V1_0_for_Candidate_approval |