Title
Navelink Service Instance Registration Guidelines

Issued by	*Unit*	*Date*	*Issue*	*Project number*
Conceptual team	N/A	2021-10-28	V3	N/A

Approved by	*Classification*
Anders Wendel	Consortium Unclassified Released Public

History

Version	Description	Author
V1	Released on Navelink based on guidelines in STM Validation project	M Olofsson
V2	• Added port range on URL • Updated serviceType enumeration	M Olofsson
V3	Added “No trailing space in URL”	M Olofsson

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1 Navelink Service Instance Registration Guidelines

This document contains guidelines and recommendations for service registration in Navelink Service Registry. The guidelines are used both before and during registration of service instances, but also in the monitoring of Service Registry content within Navelink.

This guideline complements the formal description for service instance registration described in IALA G1128 and the corresponding XML Schema for Service Instance. The XML Schemas can be found in the How-to in all management portals.

This document contains;

- Generic guidelines for any service instance registration
- Specific guidelines for Voyage Information Service instance (inherited from STM Validation Project)

The document also includes an enumeration for Service Type used for service instances based on VIS Technical Design, but this enumeration can also be used for any service.

1.1 General guidelines

This section describes general guidelines and recommendations for any type of service instance.

The general recommended is to **not** use ääö or other national characters. National characters are not searchable (at least not easily searchable).

Name
The name of the service shall reflect the service provided.

ID
MRN identity of the service shall reflect the service provided, e.g. include shortened name of the service.

Keywords
Keyword shall contain searchable words typical for the service provided.
The keyword list is recommended to reflect type of service but can also contain payload types possible to exchange by the service instance.

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Description
Short operational description of the service provided

ServiceType
The service type shall reflect the operational service type provided according to defined types in paragraph Service Type. If type not yet defined, a proposed type will be reviewed and added when accepted.

IMO
IMO with 7 digits or empty (blank)

MMSI
MMSI with 9 digits or empty (blank)

Geometry
Service coverage in GeoJSON or WKT
Empty (blank) means ”The World”

UnLocode
5 characters, no space, capital letters or empty (blank)

URL
The base URL for the service without the REST method. If versioning of API is used, add the version here in the URL. No trailing slash. No trailing space. No space character in URL. Default port 443. Recommended port range: 443, 8443, 8000-8100. SSL is recommended (https://).

Provider contact
Functional email to operational provider of the content in the service

Producer contact
Functional email to technical producer (implementer) of the service interface

1.2 Guidelines for ship

This section describes guidelines for registration of service instance for a ship.

Name
Name of the ship. Recommended to correspond to the AIS name of the ship.
Recommended to **not** use ääö or other national characters in the name.

ID
The MRN identity for the ship's service instance is recommended to be the MMSI or IMO number. It is possible to include further sub-namespaces after <org>.
e.g. urn:mrn:stm:service:instance:<org>:vis:imo:nnnnnnn
e.g. urn:mrn:stm:service:instance:<org>:vis:mmsi:nnnnnnnnn

Keywords
The keyword list is recommended to reflect type of service but can also contain payload types possible to exchange by the service instance
e.g. SHIP,VIS,RTZ,TXT,S124,Voyage Information Service

Description
Short operational description of service provided

ServiceType
Ship Voyage Information

IMO
IMO with 7 digits. Can be blank if no IMO defined for the ship

MMSI
MMSI with 9 digits. Recommended to always be set for a ship.

Geometry
<blank> mean "The World"

Provider contact
Functional email to the ship/ship operator, e.g. officer@ship.se

Producer contact
Functional email to technical producer (implementer) of the service, e.g. support@company.se

1.3 Guidelines for shore centre and VTS

Name
Name of the SC/VTS
e.g. Gothenburg SC
Recommended to **not** use åäö or other national characters in the name.

ID
The MRN identity is recommended to include a shortened name of the shorecenter/VTS. It is possible to include further sub-namespaces after <org>
urn:mrn:stm:service:instance:<org>:vis:sc:<name>
urn:mrn:stm:service:instance:<org>:vis:vts:<name>

Keywords
VTS,SC,VIS,RTZ,TXT,S124,Voyage Information Service, etc

Description
Short operational description of service provided

ServiceType
Enhanced Monitoring

MMSI
MMSI with 9 digits or empty (blank)

Geometry
A shore center/VTS is recommended to always define service coverage as polygon in WKT reflecting the area where service is provided, e.g. VTS Area.

1.4 Guidelines for Port

Name
Name of port
Recommended to **not** use ääö or other national characters in the name.

ID
e.g. urn:mrn:stm:service:instance:<org>:vis:port:<name>

Keywords
e.g. VIS, RTZ, TXT,S124,Voyage Information Service, etc

Description
Short description of service provided

ServiceType
e.g. Port Call Synchronization
e.g. Inter-Port Synchronization

Geometry
WKT for the port area

2 Service Type enumeration

The following list of Service Types (field serviceType) is in use for service instances implementing the Voyage Information Service Technical Design, but can be used for any service instance (by any service design).

Please observe that there is space in the values, hence the value need to be enclosed with apostrophe when used as search criteria.

Value	Definition
Enhanced Monitoring	Dedicated for voyage/route monitoring service, such as VTS or other shore center. Related to IMO MS-1
Evaluation Service	Dedicated to evaluation service
Fleet Office	Dedicated for fleet office
Fleet Operation	Dedicated for fleet operation center service
Hub	Dedicated for service acting as hub for messages, such as EfficientFlow Hub service that forwards incoming route plans to a list of registered services
Inter-Port Synchronization	Dedicated for port to port synchronization
Navigational Warnings	Dedicated for service providing navigational warnings
Pilot	Dedicated for pilots and PPU
Port	
Port Call Synchronization	Dedicated for port call synchronization service for ship
Route Catalogue	Dedicated for route catalogue services, such as pilot routes
Route Optimization	Dedicated for route optimization services
SAR	Dedicated for search and rescue service, such as MRCC
Ship Voyage Information	Dedicated for ships
Winter Navigation	Dedicated for winter navigation service

Issues to discuss:

- Hub should be changed to operational type, such as Flow Management
- Should VTS be separated from Enhanced Monitoring type? Where Enhanced Monitoring represents future shore-centers with larger area than today's VTS?
- Should "Fleet Office" and "Fleet Operation" be combined into same type?
- Check usage of type "Port", perhaps elaborate to Port Information

Candidates discussed, but not in use today.

Value	Definition
Route Cross-Check	(not in use today) Dedicated for route plan safety check service. Often included in shore center application, but registered as Enhanced Monitoring.
Area Management	(not in use today) Dedicated for area management, such as marine sensitive areas, no-go areas, environmental sensitive areas. Often included in shore center application, but registered as Enhanced Monitoring. Also related to Navigational Warning type of service
Flow Management	(not in use today) Dedicated to flow management services. May be included in shore center application, but registered as Enhanced Monitoring or Hub (as in the case for EfficientFlow Hub).
UKCM	(not in use today) Defined as use Case in S-421
Charts	(not in use today) Defined as use Case in S-421
Reporting / Ship Reporting	(not in use today) Dedicated for Ship reporting service to e.g. authority

2.1 As XML Schema (simpleType)

```
<simpleType name="ServiceType" final="restriction">
<restriction base="string">
        <enumeration value="Enhanced Monitoring"/>
        <enumeration value="Evaluation Service"/>
        <enumeration value="Fleet Office"/>
        <enumeration value="Fleet Operation"/>
        <enumeration value="Hub"/>
        <enumeration value="Inter-Port Synchronization"/>
        <enumeration value="Navigational Warnings"/>
        <enumeration value="Pilot"/>
        <enumeration value="Port"/>
        <enumeration value="Port Call Synchronization"/>
        <enumeration value="Route Catalogue"/>
        <enumeration value="Route Optimization"/>
        <enumeration value="SAR"/>
        <enumeration value="Ship Voyage Information"/>
        <enumeration value="Winter Navigation"/>
        <enumeration value="Route Cross-Check"/>
        <enumeration value="Area Management"/>
        <enumeration value="Flow Management"/>
        <enumeration value="UKCM"/>
        <enumeration value="Charts"/>
        <enumeration value="Reporting"/>
        <enumeration value="Ship Reporting"/>
</restriction>
</simpleType>
```

2.2 Acronyms in Keywords

Keywords	
Value	**Definition**
VIS	For services implementing VIS service design
Voyage Information Service	For services implementing VIS service design
EMS	For service type Enhanced Monitoring
ROS	For service type Route Optimization
RCS	For service type Route Cross Check
PORTCALL	For service type Port Call Synchronization
PCS	For service type Port Call Synchronization
WNS	For service type Winter Navigation
EVS	For service type Evaluation Service
NW	For service type Navigational Warnings
FOS	For service type Fleet Operation
PORT	For service type Port
SAR	For service type SAR
SHIP	For service type Ship Voyage Information
IPS	For service type Inter-Port Synchronization
PPU	For service type Pilot Portable Unit
PRS	For service type Pilot Route Catalogue
HUB	For service type Hub

3 Register ID Service entity in Identity Registry

When creating a Service Instance, there need to be a corresponding ID Service entity created in Identity Registry. This is done automatically when creating service instance through the Web Portal, but need to be done separately if creating service instance directly through REST calls. The ID Service entity is required to issue a certificate for the service. The certificate is actually for the ID Service entity rather than the service in Service Registry.

The ID Service entity contains additional information for the certificate, such as Domain name. The domain name shall correspond to the domain, including subdomains, that the URL for the service is using.

Example:

URL for service (service endpoint): https://vis.navelink.org/OPS-VISVERSVC

Domain name: vis.navelink.org

4 IP Port range

The used and recommended IP port range from STM Validation Project are:

443
8443
8000-8100