



IALA Technical Service:

Technical Service Specification for [service
name]

Version 1.0

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1 Introduction

Blue italic text is meant to be replaced by those producing the specification. Non-italic text in blue is meant to be example text that may be kept.

Where was this document specification designed and approved. The document is structured according to the IALA Guideline *G1128 The Specification of e-Navigation Technical Services* [1].

1.1 Purpose of the Document

The purpose of this service specification is to provide a holistic overview of the digital service of *service name* and its building blocks in a technology-independent way, according to the guidelines given in G1128 [1]. It describes a well-defined baseline of the service by clearly identifying the service version.

The aim is to document the key aspects of the *service name* at the logical level:

- the operational and business context of the service
 - requirements for the service (e.g., information exchange requirements)
 - involved nodes: which operational components provide/consume the service
 - operational activities supported by the service
 - relation of the service to other services
- the service description
 - service use cases
 - service operational sequence
 - logical operations
 - logical data model
 - dynamic behaviour

1.2 Intended Readership

This service specification is intended to be read by service architects, system engineers and developers in charge of designing and developing an instance of the *service name*.

Furthermore, this service specification is intended to be read by enterprise architects, service architects, information architects, system engineers and developers in pursuing architecting, designing and development activities of other related services.

1.3 Inputs from Other Sources

If necessary

2 Service Identification

The purpose of this chapter is to provide a unique identification of the service and describe where the service is in terms of the engineering lifecycle.

Name	<i>Service name</i>
ID	<i>urn:mrn:iala:techsvc:ss:serviceId:version</i>
Version	<i>x.y</i>
Description	<i>description</i>
Keywords	<i>keywords</i>
Architect(s)	
Status	<i>One of provisional, ready for testing, released, deprecated</i>

3 Operational Context

See guideline for contents of this section.

3.1 Use cases for *service*

Describe use cases for service.

3.2 Functional and Non-functional Requirements

3.2.1 Functional requirements

Requirement Id	
Requirement Name	
Requirement Text	
Rationale	
Author	

3.2.2 Non-functional requirements

Requirement Id	
Requirement Name	
Requirement Text	
Rationale	
Author	

3.3 Other Constraints

3.3.1 Relevant Industrial Standards

If needed

3.3.2 Operational Nodes

The following table describes the operational nodes of the service.

Operational Node	Remarks

4 Service Overview

4.1 Logical Operations

The following logical operations must be provided in the designs that follow this specification:

Operation	Description	Required	
		<i>NodeX</i>	<i>NodeY</i>
<i>Operation 1</i>		X	X
<i>Operation 2</i>			X

4.2 Logical Parameters

As the logical operations are very abstract the logical parameters and response contents will be described later in the document. Actual parameter structures, response structures or error handling is not specified. These will be defined in more detail in the technical design documents.

5 Service Data Model

See guideline for contents of this section.

6 Service Dynamic Behaviour

See guideline for contents of this section.

7 References

Nr.		Reference
[1] IALA Guideline G1128		THE SPECIFICATION OF E-NAVIGATION TECHNICAL SERVICES

8 Acronyms and Terminology

8.1 Acronyms

Term	Definition
API	<i>Application Programming Interface</i>
MRN	<i>Maritime Resource Name</i>

8.2 Terminology

Term	Definition
Operational Node	A logical entity that performs activities. Note: nodes are specified independently of any physical realisation. Examples of operational nodes in the maritime context are: Maritime Control Center, Maritime Authority, Ship, Port, Weather Information Provider, ...
Service	The provision of something (a non-physical object), by one, for the use of one or more others, regulated by formal definitions and mutual agreements. Services involve interactions between providers and consumers, which may be performed in a digital form (data exchanges) or through voice communication or written processes and procedures.
Service Consumer	A service consumer uses service instances provided by service providers. All users within the maritime domain can be service customers, e.g., ships and their crew, authorities, VTS centres, organizations (e.g., meteorological), commercial service providers, etc.
Service Data Model	Formal description of one dedicated service at logical level. The service data model is part of the service specification. Is typically defined in UML and/or XSD. If an external data model exists (e.g., a standard data model), then the service data model shall refer to it: each data item of the service data model shall be mapped to a data item defined in the external data model.
Service Interface	The communication mechanism of the service, i.e., interaction mechanism between service provider and service consumer. A service interface is characterised by a message exchange pattern and consists of service operations that are either allocated to the provider or the consumer of the service.
Service Operation	Functions or procedure which enables programmatic communication with a service via a service interface.
Service Physical Data Model	Describes the realisation of a dedicated service data model in a dedicated technology. This includes a detailed description of the data S-212 to be exchanged using the chosen technology. The actual format of the service physical data model depends on the chosen technology. Examples may be WSDL and XSD files (e.g., for SOAP services) or swagger (Open API) specifications (e.g., for REST services). If an external data model exists (e.g., a standard data model), then the service physical data model shall refer to it: each data item of the service physical data model shall be mapped to a data item defined in the external data model. In order to prove correct implementation of the service

specification, there shall exist a mapping between the service physical data model and the service data model. This means, each data item used in the service physical data model shall be mapped to a corresponding data item of the service data model. (In case of existing mappings to a common external (standard) data model from both the service data model and the service physical data model, such a mapping is implicitly given.)

Service Provider

A service provider provides instances of services according to a service specification and service instance description. All users within the maritime domain can be service providers, e.g., authorities, VTS centres, organizations (e.g., meteorological), commercial service providers, etc.