



## IALA Technical Service:

Service Instance Description for [service name]  
using [technology] – [service instance name]

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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 the service instance description document is to provide a detailed description of how a service is realized in software and hardware. In most cases, this document will be rather short, since it is expected that the implementation follows the technical design and it is not supposed to replicate any information from the service design description document. The service instance description document contains:*

- *identification and summary of the service instance:*
  - *reference to the service design description;*
  - *reference to the service specification;*
  - *identification of the service instance.*
- *service implementation and instantiation details:*
  - *internal design decisions;*
  - *configuration data;*
  - *deployment information.*
- *release notes:*
  - *feature list;*
  - *bug list.*
- *This section shall be replaced by a suitable description of the purpose.*

## 1.2 Intended Readership

*This service instance description template is intended to be read by software architects, designers and implementers who shall produce service implementation and instance description.*

*This section shall describe the intended readers of the service instance description document. For example:*

This service instance description document is intended to be read by service providers, system engineers and developers in charge of deploying and operating an instance of the <XYZ> service

## 2 Service Instance 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>Instance name</i>
Service specification	<i>Specification name and version specificationMRN</i>
Service design	<i>Design name and version designMRN</i>
ID	<i>urn:mrn:iala:techsvc:si:spec prefix:instance:version</i>
Version	<i>x.v</i>
Description	<i>description</i>
Keywords	<i>keywords</i>
Supplier	
Status	<i>One of provisional, ready for testing, released, deprecated</i>

### **3 Service Implementation and Instantiation Details**

This section describes any information that appears useful for the understanding of the service implementation in general and of the actual service instance in particular. This may include internal design decisions, required configuration data, deployment pre-requisites, etc.

The template does not provide further details for the structure of this section. The actual structure is left to the author's choice.

## 4 Release notes

*Follow best practices for this section.*

## 5 References

Nr.		Reference
[1] IALA Guideline G1128		THE SPECIFICATION OF E-NAVIGATION TECHNICAL SERVICES
[2] IALA Recommendation R1023		MARITIME RESOURCE NAMES
[3] IHO Standard S-100	5.2.0	IHO Universal Hydrographic Data Model <a href="https://registry.iho.int/productspec/view.do?idx=197&amp;product_ID=S-100">https://registry.iho.int/productspec/view.do?idx=197&amp;product_ID=S-100</a>
[4] IEC 63173-2 SECOM	1.0.0	
[5] Future IALA Guideline on Maritime Identity Registry	<i>TBD</i>	IALA guideline based on work in MCP. In process in DTEC.
[6] Future IALA Guideline on Maritime Service Registry	<i>TBD</i>	IALA guideline based on work in MCP. In process in DTEC.



## 6 Acronyms and Terminology

### 1.3 Acronyms

Term	Definition
API	Application Programming Interface
MRN	Maritime Resource Name

### 1.4 Terminology

Term	Definition
<b>Operational Node</b>	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, ...
<b>Service</b>	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.
<b>Service Consumer</b>	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.
<b>Service Data Model</b>	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.
<b>Service Interface</b>	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.
<b>Service Operation</b>	Functions or procedure which enables programmatic communication with a service via a service interface.
<b>Service Physical Data Model</b>	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.