

SUB-COMMITTEE ON NAVIGATION,
COMMUNICATIONS AND SEARCH AND
RESCUE
10th session
Agenda item 7

Document Symbol
8 May 2023
Original: ENGLISH
Pre-session public release: ☒

CONSIDERATION OF DESCRIPTIONS OF MARITIME SERVICES IN THE CONTEXT OF E-NAVIGATION

Harmonisation of identifiers using Maritime Resource Names

Submitted by IALA

SUMMARY

Executive summary: This document describes the need for harmonisation of identifiers in the maritime domain using Maritime Resource Names (MRNs)

Strategic direction, if applicable:

Output:

Action to be taken: Paragraph 8

Related documents: MSC.467(101), MSC.1/Circ.1595, MSC.1/Circ.1610, NCSR 6/8

Introduction

1. The use of unique identifiers is a necessary development of Maritime Services in the context of e-navigation to maintain harmonization across domains, services, and bodies. Maritime resources, such as Marine Aids to Navigation (AtoN), Vessel Traffic Service (VTS), waterways and authorities, require unique identification to avoid duplication and misalignment when referenced.
2. Global harmonization using unique identifiers for maritime resources is necessary for:
 1. the development and maintenance of enhanced data exchange applications for ship to ship, ship to shore, shore to ship and shore to shore in the context of e-navigation
 2. efficient administrations and delivery of MSI
 3. interoperability between existing administrative systems and those being developed for Maritime Services while maintaining backward compatibility.
3. Maritime Resource Names (MRNs) are intended to serve as persistent and location-independent, resource identifiers and are designed to make it easy to map other namespaces.

MRN is a registered domain within Uniform Resource Name (URN) which is a standardized and proven architecture from the internet domain.

Discussion

4. MRN is decentralized by nature and each domain coordinating body could have their own dedicated namespace in the MRN scheme. The MRN scheme consists of 3 required parts:

1. urn:mrn – static part that every MRN begins with
2. <oid> – ID of the coordinating body of the resource
3. <id> – the identification part. It is recommended to use a resource type as part of the id

5. An MRN could be generated for any resource in the maritime domain. Examples of MRNs:

1. urn:mrn:iala:aton:dk:1234.5 – an AtoN with identifier 1234.5 defined by the Danish AtoN authority
2. urn:mrn:iala:vts:ca:ecareg – the VTS zone identifier for Eastern Canada VTS zone as defined by the Canadian Coast Guard
3. urn:mrn:iala:pub:g1143:ed3.1 – a IALA publication of the 3.1 edition of the Guideline on maritime resources
4. urn:mrn:iho:pub:s100 – a IHO publication of S-100
5. urn:iho:def:s101:1.1::LandArea – identifies the LandArea feature in the feature catalogue for revision 1.1 of S-101

6. The concept of MRNs has been adopted by various maritime stakeholders. MRN is an integral part of the S-100 standard and all resources described in a product specification should have an MRN.

7. Other maritime stakeholders, including IMO and its members, are encouraged to apply MRN in areas of their domain and are invited to adopt the syntax in accordance with IANA¹, IALA² and IETF³ documentation. Interested organisations may apply for their own MRN namespace at <https://www.iala-aism.org/technical/data-modelling/mrn>.

Actions requested

8. The Sub-Committee is invited to:

1. take note of the information and consider paragraph 7 above and take action as appropriate

¹ Internet Assigned Numbers Authority (IANA) describes MRN in <https://www.iana.org/assignments/urn-formal/mrn>

² IALA describes MRN in their domain and has several guidelines <https://www.iala-aism.org/technical/data-modelling/mrn/>

³ Internet Engineering Task Force (IETF) describes URN in <https://www.rfc-editor.org/rfc/rfc8141>