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Technical Domain / Task Number 2 …………………………………

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Maritime Resource Registry (MRR)

# Summary

The MRR is a MRN (Maritime Resource Names) centric registry capable of holding information about anything that has been assigned an MRN. The MRR will overall serve two purposes:

Be a repository for IALA documents using MRNs are the unique identifier for the documents

Be a repository of MRN’s

Be a management system for OID’s (organisations that have a sub-domain of MRN)

IALA guideline G1143 ‘UNIQUE IDENTIFIERS FOR MARITIME RESOURCES’ provides further information about MRN.

The MRR is being developed by KRISO under an MoU with IALA established on the 14’th of December 2021.

# Discussion

## Documents

The MRR is envisioned to be the new document repository for IALA – or at least the back-end of that. The IALA web-page would still be the front-end, as least for accessing IALA documents.

As such – IALA documents would be stored in the MRR with their MRN as the unique identifier of the document. Thus, it will always to be possible to retrieve the document based on it’s MRN. Apart from this – it will also be possible to search the documents using keywords and free-text. Documents will be stored in MS office format or pdf, and keywords will be stored as meta-data in these files. The file-format will use IALA’s existing file-format describer in the IALA document style-guide.

From a general user of IALA documents point of view – this will not make a big difference. It basically just means that IALA documents will have an MRN tatoo – rather than an MRN sticker (that is - documents will have a stronger association with their MRN’s).

## MRN’s

So – MRN are identifiers that can be used for virtually anything in the maritime domain. Obvious examples are IALA documents, buoys and technical services. I. e. this can be both virtual or physical entities.

The MRR is envisioned to be a repository of MRN’s (which IALA documents are basically a special type of). As such the MRR will for each MRN contain

* A short description of the entity
* Possibly a link to the original source of the entity  
  If the entity for instance is a Danish buoy – this could be a link to the national Danish buoy database – where is ideally should be possible to retrieve a full definition of the buoy by referencing its MRN

In addition to storing information about individual MRN’s, the MRR should also function as a management system for MRN namespaces (again – see the guideline on MRN for an explanation of this).

As a first step – this means that the MRR will be able to deliver information about a given MRN namespace, namely:

* The (annotated) syntax of the namespace  
  i.e. a full syntax for MRN’s belonging to that namespace as defined by the organisation that has been given this namespace by IALA
* Information about the organisation owning the namespace

Below is the (annotated) syntax for the MCP MRN namespace as an example.

*mcp-mrn = "urn" ":" "mrn" ":" "mcp" ":" mcp-type ":" ipid ":" ipss*

*mcp-type = "device" / "org" / "user" / "vessel" / "service"*

*ipid = (alphanum) 0\*20((alphanum) / "-") (alphanum) ; Identity provider ID*

*ipss = pchar \*(pchar / "/") ; Identity provider specific string*

*alphanum = ALPHA / DIGIT ; rfc3986*

*pchar = unreserved / pct-encoded / sub-delims / ":" / "@" ; rfc3986*

*unreserved = ALPHA / DIGIT / "-" / "." / "\_" / "~" ; rfc3986*

*pct-encoded = "%" HEXDIG HEXDIG ; rfc3986*

*sub-delims = "!" / "$" / "&" / "'" / "(" / ")" / "\*" / "+" / "," / ";" / "=" ; rfc3986*

At a later stage it may be possible for organisations owning a namespace to log-in to the MRR in order to maintain the information pertaining to their namespace.

## The distributed nature of the MRR

In the beginning there will only be the IALA MRR, but later it is envisioned that other organisations might have their own MRR. In this case the MRR’s will basically be structured in the same way as MRN, which means the IALA will own a top (or root) MRR, and other MRR’s will be linked to that in a tree structure.

The graph below illustrates this with examples of both several MRR’s on several levels and sample namespace syntax definitions and individual documents and MRN entities.



## Status

A rather rudimentary prototype exists – and is being discussed among IALA secretariat and KRISO. This is being used to validate the initial idea – and new versions will be developed as the idea matures. The MRR is still in it’s infancy – and many things are likely to change – once experience is gained from using the prototype.

# Action requested of the Committee

The Committee is requested to take note of the information.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)