

Paper for Consideration by NIPWG VTC

MRN Specification for organisational identifiers

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| Submitted by: | IIC Technologies |
| Executive Summary: | Specification of format of MRNs for identifying IHO organisations. |
| Related Documents: | S-100 Edition 5.0.0 Part 15 |
| Related Projects: | |

Introduction / Background

S-100WG7 agreed paper S100WG7-6.7, Identifiers and Procedures which (amongst other things) defined content to be embedded in all X.509 certificates used by data protection scheme participants implementing Part 15 of S-100 edition 5.0.0. These were defined as:

X.509 Fields (mandatory)

- *C (Country) = ISO Country Code of state making request*
- *ST (State or Province) = A code reflecting the role of the subject*
- *O (Organisation) = member state organisation name (text)*
- *CN (Common Name) = IHO data producer code integer and alpha code (as part of a colon separated MRN), e.g. urn:mrn:iho:aa:1810 or urn:mrn:iho:GB:540.*

At the time the definition of the MRN format for the CN field was passed to NIPWG for further definition.

This paper proposes (and justifies) a format for the MRN CN field.

Analysis/Discussion

Currently IHO has a reserved namespace for MRNs, using the prefix:

urn:mrn:iho

The common name field is an identifier of an organisational entity and the original paper proposed using the IHO data producer alphanumeric and numeric code to uniquely identify each organisation taking part (in any capacity) within the scheme.

The MRN form required is to merely identify an organisation and requires no other qualifying terms (roles are defined separately within the ST field).

As an MRN the format must be both unique and persistent. IHO codes are already unique and used to identify organisations in the geospatial registry. Therefore no supplementary fields (e.g. issue date or version number) are required in the MRN format. The X.509 format provides many other metadata fields including issue dates and the digital signature. All that is required is an allocation of a namespace to be used for “organisational identifiers” within the IHOs allocated MRN namespace. Uniqueness and persistence are provided by the IHO scheme administrator in their management of the system of producer codes (managed elsewhere). Participant roles are defined in the ST field.

The organisational prefix “org” is proposed to allocate this namespace. The IHO is then able to issue codes with the alphanumeric and numeric 4 digit form adopted with S-100 edition 5.0.0. This would define, then, the code for the UK as:

- 1. UK = urn:mrn:iho:org:GB00:540**
- 2. IHO = urn:mrn:iho:org:AA00:1810**

This provides a bijective mapping from IHO defined codes and the MRNs used in the data protection scheme (this allows all certificates to be used unambiguously to identify participating organisations within the data protection scheme from their IHO authenticated certificates)

Separately, within the discussions on S-128 a structure for the ST codes for roles, and the mapping from roles to official/unofficial status of data supplied to S-100 ECDIS is being undertaken. The use of MRN for organisational identifiers is independent of decisions taken in that respect.

Conclusions

A simple MRN format which provides a namespace for a 1-1 mapping between IHO identifiers (defined by the IHO secretariat) and MRN fields in Part 15 certificates is all that is required. The specified form is concise, flexible and reusable in other IHO contexts in the future.

Recommendations

The recommended format for IHO MRNs to represent organisational entities for the Part 15 data protection scheme common name is:

urn:mrn:iho:org:<alphanumeric code>:<numeric code>

Justification and Impacts

The adoption of the naming scheme enables the IHO secretariat to proceed with creation of digital certificates for data protection scheme participants.

Action Required of S100TSM

NIPWG is asked to

1. Consider the background and content raised in this paper
2. Endorse the MRN format as specified for the common name fields in X.509 certificates within the Part 15 data protection scheme.