

## Paper for Consideration by NIPWG

### S-127 (Marine Traffic Management) 1.0.0 – Release Candidate

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<b>Executive Summary:</b>	Describes work on S-127 (Marine Traffic Management) 1.0.0 (Release Candidate).
<b>Related Documents:</b>	NIPWG6-32.2 (Summary of FCB Testing for S-127)
<b>Related Projects:</b>	S-100; S-101

#### Introduction / Background

This paper describes the recently developed Edition 1.0.0 release candidate of the S-127 (Marine Traffic Management) Product Specification for NIPWG. The product specification package itself has been posted on the IHO Web site mentioned in NIPWG Letter 7/2018.

#### References

NIPWG Letter 7/2018 (12 December 2018).

NIPWG5-08.06 Provision of Underkeel Clearance Information.

NIPWG5-11.1 S-127 Development Status Report and associated documents.

S-127 (Marine Traffic Management) Edition 1.0.0 and Adjudicated feedback on draft 0.2 (URL: <[https://www.ihonet/mtg\\_docs/com\\_wg/NIPWG/NIPWG\\_Misc/NIPWG\\_ProdSpecs.htm](https://www.ihonet/mtg_docs/com_wg/NIPWG/NIPWG_Misc/NIPWG_ProdSpecs.htm)>).

#### Discussion

Under contract with IHO, the release candidate for Version 1.0.0 S-127 Traffic Management product specification has been completed. Feedback from the NIPWG on Draft 0.2 of S-127 was considered while preparing this draft.

The changes made in this version compared to Draft 0.2 are summarized below.

- The changes to the structure of the application schema circulated in Draft 0.2 are not significant. There were a few changes due to harmonization with the most recent draft of S-101 affecting **horizontalPositionUncertainty**, **mMSICode**, and **orientation** (when bound to **RadioCallingInPoint**). The details are described in the adjudicated comments.
- Comments received on draft 0.2 included several suggestions for changes consisting of extensions and revised definitions of various items. These included items originally defined for NPUB modelling as well as those originally defined for S-101 (and S-57) ENCs.
  - For the NPUB items, the disposition of the comments (and if the comment was rejected, the reason for the rejection) are described in the adjudicated comments.
  - Changes to items originating in S-101 were not accepted because the changes would bring S-127 out of alignment with S-101. These proposals should therefore be discussed with the S-101 Project Team. We understand there is a NIPWG6 agenda item to discuss some proposed changes to S-101 items.
  - Several of the comments on Draft 0.2 related to DCEG content, or were addressed by revisions to the DCEG content. These revisions are also noted in the adjudicated comments.
- After a trial of the Feature Catalogue Builder (FCB), and in consultation with the IHO and the NIPWG Chair, it was decided to continue with a hand-crafted XML feature catalogue due to deficiencies in the XML feature catalogue created with the FCB.
- A trial of the DCEG builder (under development) was also carried out, but the results could not be used. The DCEG replaces the attribute and association rows of the “feature tables”, with UML diagrams that contain the same information.
- The product specification was updated to conform to the pre-publication draft of S-100 4.0.0 and recent decisions in the S-100WG applicable to all specifications, such as conventions for file names.

- The metadata section of the product specification was updated to conform to S-100 Edition 4.0.0. Also, Schematron rules were added to enforce S-127's restrictions on generic S-100 metadata. These are encoded in a Schematron file that is included in the distribution package.
- Schematron rules for S-127 datasets were added to enforce restrictions on attribute values in the context of attribute bindings to certain feature types.
- The GML data sample was expanded and the exchange catalogue file in the data sample was updated to conform to the S-100 4.0.0 exchange catalogue format. Both were renamed to conform to recent S-100 WG conventions for file names.

The distribution package includes:

- 1) The main product specification.
- 2) Data Classification and Encoding Guide (Appendix A).
- 3) Application schema documentation (Appendix B), generated automatically from the UML model using Enterprise Architect reporting functionality.
- 4) Feature catalogue in XML, as well as a Word file presenting the contents of the XML file in readable form (Appendices C-1 and C-2).
- 5) Data format specification (Appendix D) consisting of GML schemas and a Schematron file that captures many constraints on data values (e.g., restrictions on attribute values that are specific to the feature to which they are bound, but excluding spatial constraints). The encoded constraints can be checked with validation tools that are capable of processing Schematron rules.
  - a. The “schemas” portion of the distribution (the “schemas” zip folder) includes generic S-100 schemas, the S-100 GML profile, and certain ISO schemas, which are referenced in the data format or data sample.
- 6) Specification of data validity checks (Appendix E), as a Word file.
- 7) GML data sample created from the sample S-127 text file prepared by NGA for NIPWG and presented at earlier NIPWG meetings.

The locations of the software components in the distribution package are described in a “README.TXT” file that is included in the “Sample Data” folder/zip file.

#### **Action Requested of NIPWG**

The NIPWG is invited to:

- a. Note this paper.