Paper for Consideration by [NIPWG]

[Test plan and Discussion issues of S-128 v3]

Submitted by:	KHOA (Republic of Korea)
Executive Summary:	Since HSSC14 approved the S-128 ed. 1.0 for testing purposes, WG needs to consider S-128 test beds and S-128 product services. This document describes the test plans and discusses issues of S-128.
Related Documents:	Roadmap for the S-100 implementation decade, S-128 ed. 1.0
Related Projects:	KHOA S-100 testbed project

Introduction / Background

The scope of the S-128 CNP (Catalogue of Nautical Products) started with exchanging the list of nautical products. As providing up-to-date information on nautical products will be helpful for the mariners, the extensive development of the S-128 has been required. This document includes items such as the S-128 test plan, S-128 data utilization, and service for consideration for the S-128 test and further development at the NIPWG meeting.

Analysis/Discussion

1. (S-100 test bed) Test plans of S-128

The goals of the S-128 test by KHOA are as follows.
- Creation of S-128 TDS and review of the application schema of S-128 ed. 1.0
- Development of ECDIS update status report by the S-128 TDS according to the S-98 Annex C
- Find considerable items from S-128 e 1.0 to improve its up-to-dateness by testing S-128 TDS in S-100 ECDIS

* Test Process
①Prepare exchange set including S-10X TDS (S-101, S-102, S-104, S-111, S-122, S-123, S-127), paper charts, S-57
②Creation of S-128 TDS with revised update information (issue date, update number)
③Check the ECDIS update status reports by S-100 ECDIS considering the S-98 Annex C
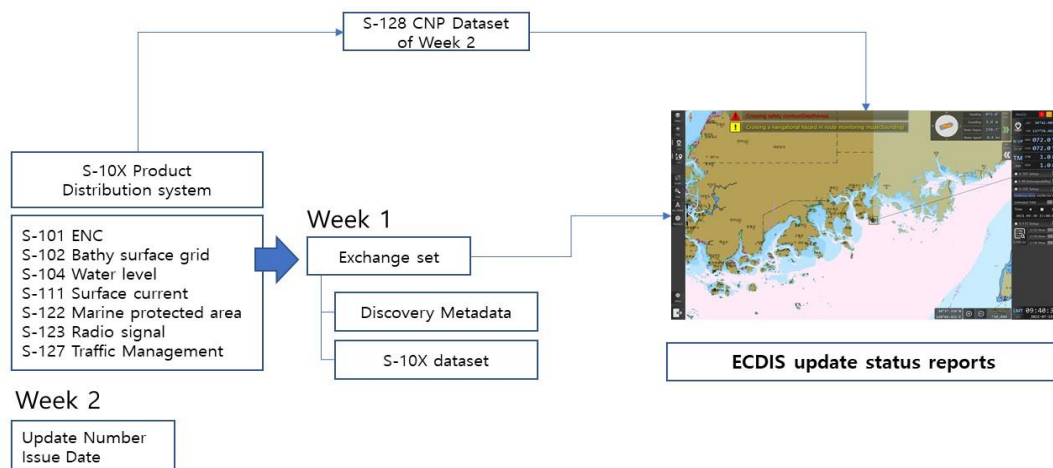
KHOA will share the result at the NIPWG meeting.

Fig. 1. Structure of S-128 Testing Environment

Both RENCs have S-128 test plans…
2. (Topics 1) Requirement of S-128 product

As various S-10X nautical products are produced, the types and up-to-dateness of nautical products have become more important than in the past. The need for S-128 CNP data along with S-10X data was proposed for member states to promote nautical product utilization and support up-to-dateness. When producing nautical products such as ENC, S-128 dataset should be mandatory requirement alongside with the S-100 based products.

The Member states will strive to either to provide the S-128 of produced products, or to agree with other states or service providers to produce appropriate S-128 datasets for the related S-1xx product on their behalf.

3.   (Topics 2) Re-model of feature types for nautical products (Categorization)

The current S-128 CNP model consists of a chart feature type for paper chart and ENC and a nautical product feature type for S-10X data, other digital products and maritime services. While the current data model emphasizes charts, various nautical products are designed as one feature type. WG needs to consider categorization of products within the S-128 data model to take into account the future S-10X data and various maritime services.

4.   (Topics 3) S-128 product service

We are expecting that S-128 will be used also to check the up-to-datedness of nautical products. There have been some discussions on the S-128 production and services from the development of the WEND-100 Guideline

In this regards, INToGIS3 will provide coverage information of various S-10X products by utilizing S-128 and can be utilized by RHC, RENC, HO and other potential users if necessary. In addition to the dissemination measure for existing ENCs, we propose a discussion of various applicability such as a new data service method MCP(Maritime Connectivity Platform) and a cloud-based approach.

5.   (Topic 4) Validation rules of S-128

S-100WG is developing validation rules that can be commonly applied to S-10X product specifications. It is necessary to discuss validation of the S-128 products and when it should be carried out.

6.   (Topic 5) Encryption of S-128 data

Since the S-128 product will provide fundamental information for the up-to-dateness control of the products, encryption is required to prevent forgery and piracy. We propose to consider the necessity and method of encryption of S-128 data.

Recommendations

7.   We request NIPWG to review the test plans and proposed discussion items. It might be necessary to share S-128 development work with S-100WG for its way forward.

Action Required of NIPWG

9. The NIPWG is invited to:

      a.   note the S-128 test plans

      b.   consider the discussion topics and provide comments on them

      c.   approve the work items suggested as Annex 1

Tasks

A	Testing the S-128 Ed. 1.0
B	Updating to the S-128 Ed. 2.0

Work items

Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
A.1	Monitor the S-128 1.0 tests of KHOA	M		2022	2023	O	Iji Kim (KHOA)		
A.2	Monitor the S-128 1.0 tests of Primar	M		2022	2023	O	Svein Skjæveland (Primar)		
A.3	Monitor the S-128 1.0 tests of IC-ENC	M		2022	2023	O	Su Marks (IC-ENC)		
B.1	Identify considerable items from S-128 e 1.0 to improve its up-to-dateness by testing S-128 TDS in S-100 ECDIS	H		2022	2023	P	S-128 PT		

Work item	Title	Priority H-high M-medium L-low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s)	Related Pubs / Standard	Remarks
B.2	Improve the application schema by reflecting the S-128 testbed results and requirements raised	M		2023	2024	P	S-128 PT		
B.3	Revised S-128 package to comply with S-100 Ed 5.0.	M		2023	2024	P	S-128 PT		
B.4	Identifies the required considerations for DF-mode support and refines the S-128	M		2023	2024	P	S-128 PT		