SESSION 4: SMART NAVIGATION SERVICES – WITH BUSINESS VALUE

Charts services (basic data): Charts S-101 and updates, Navigational warnings & Notices to Mariners, and Bathymetry S-102

09-11-2016
Carsten Nørby and Mads Bentzen Billesø
Chart Updates

Chart corrections (Chart updating NM’s) are corrections to paper and digital nautical charts which makes it possible for the Mariner to keep the vessel’s charts up to date.

NM (T&P)

Notices to Mariners (NMs) are promulgated in order to keep paper nautical charts and publications, as far as possible, up to date. Temporary and Preliminary NMs (T) and (P) advise mariners of important matters affecting navigational safety, including new hydrographic information (in advance of new editions or chart updates), changes to routing measures and aids to navigation, and other important categories of data. Not all ENCs include T&P information currently.

MSI (NW)

Maritime Safety Information (MSI) is navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages.
rocket brothers

- Digital Map Solutions with MAP\textsuperscript{TECH}

EfficienSea2

1. S-101 Rendering
2. Maritime Cloud Integration
3. Demonstration App
IHO S-100 Framework

• What is the S-100 Framework?
• What are the benefits of the S-100 Framework?
What is the S-100 Framework?

- Set of tools for creating geographical standards.
- Feature model, Spatial primitives, Attribute types, Portrayal Catalogue.
- Pick and choose to create a standard, ex:
  - S-101 Sea Charts
  - S-102 Bathymetrics
  - S-124 Navigational Warnings
What are the benefits of the S-100 Framework?

- Unified data model across standards
- Formal portrayal description (machine readable)
What is S-101?

• ENC Product Specification (Chart data)
• Describes Features ex. Buoys, Lighthouses etc.
• Describes the actual portrayal of features.
• Compatible with S-57.
The S-101 Challenge
ENC to Display

Chart File (ISO 8211)

Dataset (S-101)

Feature Data (XML)

User Parameters

Portrayal Engine (XSLT Processor)

Drawing Instructions (XML Schema)

Geometry

Rendering Engine (MapTech)

Products

Portrayal Functions (XSLT Template)

Symbol Definitions
Status May 2016

Chart File (ISO 8211)

→

Dataset (S-101)

→

User Parameters

→

Feature Data (XML)

Portrayal Engine (XSLT Processor) → Drawing Instructions (XML Schema)

→

Geometry

Rendering Engine (MapTech)

Products

↑

→

Symbol Definitions

Portrayal Functions (XSLT Template)
Status November 2016
Product

S-101 Sea Charts

GPS

THE MARITIME CLOUD

Demonstration App

ENC Display

ECDIS

VTS

PPU

Future Beneficiaries
## IHO S-124 development – Tentative Schedule

<table>
<thead>
<tr>
<th>Work Item</th>
<th>Date start</th>
<th>Date end</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define a work program</td>
<td></td>
<td></td>
<td>done</td>
</tr>
<tr>
<td>Review needs, gaps and requirements</td>
<td>Feb. 2014</td>
<td>Nov. 2014</td>
<td>done</td>
</tr>
<tr>
<td>Identify basic functions</td>
<td>Dec. 2014</td>
<td>Dec. 2015</td>
<td>Aboard functions have priority. In relation with WWNWS for the new ways of operations and the scenario of the transition. On going</td>
</tr>
<tr>
<td>Improve UML model</td>
<td>Feb. 2015</td>
<td>Dec. 2015</td>
<td>On going</td>
</tr>
<tr>
<td>Define the portrayal of the NW</td>
<td>Sep. 2015</td>
<td>Jul. 2016</td>
<td></td>
</tr>
<tr>
<td>Tests</td>
<td>2015</td>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>Contribute to draft performances standards</td>
<td>2016</td>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>Enlarge as appropriate the membership and relationships</td>
<td>2014</td>
<td>2017</td>
<td>So that other projects feed us of their ideas and find a normative outlet in them works, to validate functions by actors, to feed other works of other bodies, to reach a consensus, ...</td>
</tr>
<tr>
<td>Reach a consensus (impact on stakeholders,....)</td>
<td>2016</td>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>Submit S124 for endorsement</td>
<td>2017</td>
<td></td>
<td></td>
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</tbody>
</table>
User friendly?
Present and future context
Thank you!

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