S100 Working Group Test Strategy Meeting 6
Busan, ROK (September 18-20th)
Draft Report

Chair: Julia Powell (USA - NOAA)
Vice Chair: Yong BAEK (Rep of Korea – KHOA)

Participant acronyms

NL	Nick LEMON	HP	Hannu PEIPONEN
EM	Eivind MONG	BS	Briana SULLIVAN
DZ	Daniel ZÜHR	HC	Hyunsoo CHOI
RS	Robert SANDVIK	HjK	Hye-jin KIM
YB	Yong BAEK	HA	Hugh ASTLE
SL	Seojeong LEE	JP	Jonathan Pritchard
JP	Julia POWELL	AP	Anthony PHARAOH
JP	Joseph PHILLIPS	TdP	Tom DE PUYT
GS	Greg SEROKA	SS	Svein SKJAEVELAND
SJ	Stacy JOHNSON	BE	Boris ESCHWEILER
DG	David GRANT	EK	Edward KUWALEK
DB	Dong BANG	SO	Sewoong Oh
		DK	Dongwoo KANG

1. Opening and Administrative Arrangements

The Chair opened the meeting and reported that due to the overlap with the Under Keel Clearance Project Team meeting on the first day, some members would only join the meeting on the 19th. There would be a report from the S-129 PT.

2. Approval of Joint Agenda

The meeting approved the agenda.

3. Matters Arising

No documents

4. General S-100 Business

4.1. S-100 Part 15 Data Protection

JP went through the marked up version of part 15 document. Noted that we already have a scheme and that we need to understand how new two schemes will work together / be integrated. There will be a need to consider the extended work burden for the SA for managing the scheme. There is also a need to consider XML integration with catalogue metadata. Other issues to consider include media layout, ECDIS status report, SSE codes, and test data (S-64).

RS noted that Primar have stated implementing the scheme, and were happy to report that there experience is that it works well.

HP reported that Furuno have also reviewed the document and considered it to be implementable, but more specific guidance is needed at the product level.

DG noted that the scheme should be used for all parts of an exchange set but it's not clear how it would be implemented for the portrayal catalogue. He proposed that for the next version Part 15 should be separated into two sections – one on compression and one on packaging, as these are two different issues.

RS – there is paper highlighting issues relating to compression – questioned if it should it be for all files (currently the case) or should provision be made for individual files. The meeting noted that the paper should be provided to the next S-101 meeting.

4.2. Marine Resource Naming Process in S-100 [Mong]

EM proposed that a governing body be set up for the control and management of the IHO MRN domain. A public location for publishing the designated MRN namespaces should be set up. He recommended to establish ranges of reserved codes, such as producer codes, and other codes as appropriate for use during the development of product specifications. There needs to be a governing body for the management of the IHO MRN domain – proposed to be managed by the IHO Secretariat on behalf of IHO. There is a need to establish a public location (e.g. IHO website or GI Registry) for publishing the designated MRN namespaces. Also proposed to establish ranges of reserved codes, such as producer codes, and other codes (product, publication …). YB reported that KHOA are using the mrn concept in their hydrographic source database.

The meeting noted the paper.

4.3. Discussion on Data Packaging [Powell]

No Paper submitted – refer to discussion at 4.2.

4.4. Alerts and Indications

DG proposed that there is a need for an alert model defined within S-100 that will allow for changes to the alerts without the need for software upgrades. It should be possible to make changes to the alert catalogue in the same manner as for the portrayal catalogue. Proposed that in order to model alerts, the conditions that triggers an alert must be identified. The will also be a need to determine what the priorities of an alert are with respect to alarms, warnings and cautions. He requested feedback and comments on whether the proposed implementation is suitable for S-101 and other PS's that will be implemented in ECDIS.

He noted that the concepts works on a similar way to the portrayal model but the conditional triggers will be for alerts rather than portrayal actions.

The proposed approach will have minimum impact on the S-100 as it will not require a new S-100 part, because it uses the existing portrayal mechanisms to provide symbols and line styles for highlighting and the generation of alert instructions. It will require minimal changes to existing portrayal rules.

The meeting agreed that there was merit in using the portrayal model for triggering alerts (rather than having a separate one).

Following a long discussion and numerous interventions from OEMs, it was decided to constrain the model to only dataset alerts. The alerts in 61174 are out of scope. This will simplify the model.

EK proposed that there will probably also be a need to add context parameters and spatial operations to the portrayal catalogue.

BS noted that we will need to take account of temporal alerts in the model.

4.5. Binding Specific Concepts to Generic Concepts

BS reported that UNH had been working on a modelling methodology to simplify the complexity of product specifications, by allow generic concepts to be associated with specific concepts. She invited the meeting to consider the proposal and provide feedback on the S-412 PT's usage of this data modelling methodology.

The meeting noted the paper and agreed that the items presented should be discussed as part of the Registry workshop that will take place in during the S-100WG4 meeting in Denmark.

4.6. Metadata Register Concept [Choi]

HC reported on the development of the metadata register which has been included in the new registry application. He noted that class, element, codelist and enumeration mete types have been included. Only concept and feature will be managed in metadata register.

4.7. S-100 GI registry Update for Test Bed programme

YB provided an overview of the new beta version of the registry application. It contains important S-100 Product Specification Metadata such as the responsible organization / WG, development schedule, text regime, and associated resources such as feature and portrayal catalogues. He invited the meeting to review the new application, and provide any comments and feedback.

The chair thanked KHOA for the substantial resources and effort that they had invested in producing the new registry, and invited YB to provide a demonstration at the Registry workshop to tame place in conjunction with the S-100WG 4 meeting.

4.8. Portrayal Catalogue Process for S-100 based PSs

SO reported that having a Portrayal Catalogue will be optional for certain product specifications. The process of building a PC is based based on the PC Builder application and will require a completed feature catalogue. SO went through the process of creating a PC and invited the meeting to provide comments / feedback.

4.9. S-100 Edition 4.0.0 - Review Parts

The chair reported that first draft version of S-100 Ed 4.0.0 that had included all the input from the Singapore meeting had been completed. The document had been put out for WG review and additional comments had been received. Minor modifications had been made to the Part 2B (Portrayal Register Model), and the Part 15 should be completed by the conclusion of the meeting.

4.10. S-100 Stakeholder Review - Consolidated Comments

The Chair went through the comments that had been received as part of the stakeholder review. The highlighted items in the consolidated list were agreed by the meeting and will be provided to TSSO by the Chair.

The Chair also noted that there had be a discussion at the HSSC meeting about providing special dispensation for the approval process of first editions of product specifications under development.

This will enable WG and PT to rapidly respond to feedback from stakeholder testing the specification and implement changes without having to follow the process described in Resolution 2/2007.

The proposal was strongly supported by the meeting. TP reported that the proposal will be reported to the next IHO Council meeting. HA requested that information on the new process be included on the S-100 website.

5. S-100 Interoperability Specification [Powell]

5.1. S-98 Interoperability Specification Comments

The Chair proposed that, as most of the comments are and proposed edits had been provided by Denmark, and as they were not present at the meeting, it would be better to move the editing session to the next meeting. This was agreed by the meeting.

5.1.a Interoperability Catalogue Process Update

YB reported that interoperability catalogue for harmonized display of S100 datasets. The intention of the interoperability catalogue is to provide a harmonized display of S100 datasets (in ECDIS). Testes have been carried out based on 3 of the 5 proposed levels defined in the S-98 interoperability catalogue. Display priority and viewing group will have to be defined for each PS that will interoperate in an ECDIS. He proposed that guidance will have to be developed for PS implementers.

5.2 S-97 Guidebook for S-100

EM provided an overview of the guidance document which are intended for SW developers. He proposed that the metadata section need more content to describe how product specifications should be managed. As a next step he proposed that the DQWG should be requested to reviewing part C of the S-98 document and provide feedback.

6. S-100 Test Bed Reports

6.1 S-100 Test Bed Framework

The Chair reported that the test bed framework is still being updated. There is a need to included content on data quality, validation and packaging +distribution. This will be discussed at the next S-100WG meeting. There is also need to include content on encryption and authentication.

6.1.a S-100 Test Bed Platform

YB reported that the KHOA test bed platform aims to verify the test datasets and to support several product specifications being developed by other working groups / project teams. He proposed that, after developing the S-100 infrastructure and S-101 ENC product specification, a testbed platform should be designed and available for S-100 product specification developers to use.

Meeting agreed that there is a need for a testbed platform and OEMs / stakeholders should be encouraged to share their test bed data.

NW questioned at what stage do we request feedback from users and what type of feedback do we want?

DG cautioned that care should be taken should to not compete with the business model of system developers.

HP proposed that the product specifications are currently too immature for OEMs to spend money on developing test systems.

6.2 KHOA Test Bed Project

YB reported that the KHOA TB project will test S-101 ENC, S-102 Bathymetric surface, S-104 Tidal height, S-111 Surface current, S-122 Marine protected are, S-123 Radio service, S-127 Traffic managements datasets. For the 2018 TB project the S-101 ENC created for earlier Test beds will be updated and new ones in Gwangyang Port will be developed. The test result will be reported to next S-100WG meeting.

6.3 SPAWAR S-100 Test Bed

DG noted that the aims of the TB project is to test the S-100 design. The project includes testing of Feature and Portrayal catalogue, the conversion of S-101 to S-100 based portrayal. As part of their current testing the following recommendations have been proposed:

Proposed that the structure codes listed in S-100 Part 10a for C2IT and C3IT are incorrect.
Recommendation 1 - Correct S-100 Part 10a C2IT and C3IT data structure codes. Accepted.
Recommendation 2: No action - change is already incorporated in S-100 4.0.0
Recommendation 3: Implement change to treatment of ATCS fields in S-100 viewer 1.6.0.0.
Recommendation 4: Add requirement to address portrayal issues to S-100 Part 9. It was decided add a correction to S-100 pat 9 and S-101.
Recommendation 5: Update symbols to use primary and alternate stylesheets. Each stylesheet reference should have a "title" attribute matching a portrayal ColorPalette id. Accepted.
Recommendation 6: Deliver stylesheets in the "Symbols" folder.
Recommendation 7: Determine whether the stylesheets should be catalogued.
Recommendation 8: Update registry website to dynamically support primary and alternate stylesheets. Accepted.
Recommendation 9: Add a class (.svgSymbolClass) supporting HTML styling to each stylesheet. Accepted.
Recommendation 10: Update portrayal catalogue builder if necessary. Accepted.
Recommendation 11: Update S-100 Part 9 to reflect these changes. Accepted.
Recommendation 12: Provide guidance on portrayal of QualityOfBathymetricData. It was decided to use the S-52 modal until more feedback has been received from DQWG.
Recommendation 13: Add interpolation method to LookupEntry class. One of CV_InterpolationMethod consistent with the coverage type of the data shall be used. It was decided that an interpolation method is needed.
Recommendation 14: Add a colour space interpolation to the LookupEntry class or alternatively specify the CIE colour space as the default interpolation colour space. It was decided to go with the CIE option.
Recommendation 15: Add ability to specify an alpha channel in the colour profile. Accepted.
Recommendation 16: Provide direction on inclusion of section 6 "S-100 Product Maturation / SOLAS Applicability Analysis".
Recommendation 17: There was no resolution at S-100WG3. Email sent out requesting feedback – none received.
Recommendation 18: Extend GM_OrientablePrimitive in Part 7 (Spatial Schema) to include a masking field or specify the manufacturer is responsible for keeping track of masked edges when loading an encoded dataset. It was decided that it need to be added the spatial attribute type.
Recommendation 19: Update portrayal for S-101 v2 to support Highlight Info / Highlight Document.

The changes have been made already.
Recommendation 20: Add viewing group layer to turn on / off viewing groups used for highlight symbols.
Recommendation 21: Develop and provide missing symbols with S-101 v2.
Recommendation 22: Extend Part 9 portrayal catalog to allow consistent machine-readable implementation of manufacturer responsibilities, in a manner similar to the interoperability catalogue.
Recommendation 23, - 27 to be sorted out under recommendation 22.
Recommendation 23: Update S-101 v2 to indicate manufacturer responsibility.
Recommendation 24: Update S-101 v2 to indicate manufacturer responsibility.
Recommendation 25: Update S-101 v2 to indicate manufacturer responsibility.
Recommendation 26: Update S-101 v2 to indicate manufacturer responsibility.
Recommendation 27: Update S-101 v2 to indicate manufacturer responsibility.
Recommendation 28: Falls under the recommendation 18 and associated action.

7. S-100 Product Specifications Reports

7.1 S-101 Status

JP provided a brief update on S-101 status. The document has been sent out for review. IIC have been contracted to build a portrayal catalogue. YB provided an update on the status of the FC. A new edition was distributed in August and as a result of feedback, a new edition was sent out in September. More feedback has been received which is currently being addressed. The main issues that has to be addressed have to do with aliases. Suggest that all alpha codes are copied to the alias field. The FC builder currently uses the alpha code.

7.1.a S-101 Feature Catalogue version 1.0.0

See 7.1.

7.2 S-57 to S-101 Convertor Update

TdP reported on enhancements to the converter. These include extension to cater for Quality of Bathymetric Data, Support Files, Min/Max Display Scale attributes, Updates to Dataset Identification field, Nautical Information Type, New dataset file naming and new S57toS101Configuration.xml S57toS101Configuration.xml replaces the minmaxdisplays caleoverride.xml

Newly identify encoding logic such as; should floating dock features, HORCLR map to horizontal clearance width; should NPLDST and PILDST attributes for PILBOP get mapped to a pilotage district association if populated?

He proposed that if both attributes are populated then two associations will be created. If not, then we drop that information since NPLDST and PILDST have no mapping in the FC.

7.3 S-102 Status and Convertor

SJ report on the outcome from the work carried out at the Singapore S-102 PT meeting. The PT are still waiting endorsement with goal to role comments in by October 2018, so that the document will be ready for publication by December. He reported on changes that had been made for for portrayal. The PT had decided not implement uncertainty portrayal at this stage, but it will still be included in the data. A list of gridding methodologies was identified and documented.

Sample HDF 5 files that conform to the new structure have been produced and are currently being evaluated by KHOA and SPAWAR. The PT had agreed that there is a need to accommodate the production of enhanced charting products (such as bENC).

7.4 S-104 Status

GS reported on the current status of the S-104 Product Specification. Ed 0.0.6 is out for review – comments required by Nov 2018. Draft FC has been produced. Work on producing HDF5 test data to commence soon. Noted that currently only time series (e.g. water level vs. time) are being considered. Currently there is no gridded water level surface portrayal. Requested feedback if there is a user requirement for this.

7.5 S-111 Status

GS provided a brief update on the status of S-111 and noted that an Ed 1 prodict specification had been completed. Feature and portrayal catalogues and a Encoding guide had been completed. The PT were awaiting the finalization of the HDF5 section in S-100 Ed 4 before completing the encoding. Next steps are to look at data compression, develop XML exchange dataset and prepare training material.

7.6 NIPWG Product Specifications Status

DZ reported that S-122 (Marine Protected Area) and S-123 (Radio Services) have received HSSC endorsement and are ready to start the Member State approval process. S-127 (Marine Traffic Management) is in progress. It is expected to harmonise the S-127 and S-101 data models. S-128 (Catalogue of Nautical Products) is under development by KHOA at lower priority. YB reported that editions of the INT chart and ENC catalogues will be available in S-128 format.

Chair noted th at it will be necessary for the catalogues to be built on the infrastructure before the S-122 and S-123 PS are finally release.

EM reported that there have been several iterations to the data model – latest on has included comments from the WWNWS meeting – as a result it was agreed to exclude NtMs in the PS. The work in this has been handed over to NIPWG – they will work on this. The PT are looking at simplifying complex attributes through the use of code lists. They anticipate getting feedback from the SMART Navigation project.

7.7 S-124 Status

EM reported that the S-124CG have been working SMART Navigation projects improved the data model. They plan to have the first draft of the PS ready by late 2018. The defined detailed exchange set metadata. Noted that the traditional line between NW and NtM may change and NtM become obsolete.

7.8 S-129 Status

NL reported that the PT had a discussion on definitions for “static” and “dynamic” which will be included in the PS. A review of the PS document was carried out and several changes the data model were made. More compressive text was included on uncertainty and the PT hope to have a consolidated edition completed by October 2018. The final version should be ready for review by the S-100WG4 meeting.

7.9 S-412 Status and Proposal (Three Prod Specifications)

JP reported that the S-412 application schema and GML encoding were nearing completion. HDF5 encoding part has not started yet. The WG have decided that separate the content. S-412 will used for weather messages and weather warnings and will use a vector based GML encoding. (Edition 1 completed in approx. 1 to 2 years)

S-4xx for weather and wave conditions will use an HDF5 format. It is expected that edit 1.0.0 will be completed within 2 to 3 years.

S-4xx for weather and wave observations will use a GML encoding and will be for streamed weather data.

8. Any Other Business

Noted that the 4th S-100 meeting (Denmark) has been moved to the week starting 25 February so as not to clash with other relevant meetings. A registry workshop will also be run in conjunction with the meeting.

Next TSM meeting will be held at the IHO Secretariat (Monaco). It was proposed to include a 2 day stakeholder forum / workshop for OEM / Stakeholders to demonstrate their S-100 development.

9. Review of Meeting Actions

Due to shortage of time the actions were not reviewed.

10. Date and Venue of Next Meeting

Next TSM meeting will be held at the IHO Secretariat (Monaco). It was proposed to include a 2 day stakeholder forum / workshop for OEM / Stakeholders to demonstrate their S-100 development.

11. Close of Meeting

The Chair thanked all the meeting members for their contribution to the meeting, and KHOA for hosting the meeting and their warm hospitality.