Paper for Consideration by TSMAD/DIPWG

S-101 Value Added Roadmap

Submitted by:	TSMAD Vice Chair
Executive Summary:	HSSC5 asked TSMAD to update the S-101 Value Added Roadmap and add its maintenance to the TSMAD workplan. This paper provides an update to the S-101 value added roadmap.
Related Documents:	HSS5 -05.11C
Related Projects:	S-101, TSMAD27 ACTIONS: 7,8,9

Introduction / Background

At its 4th session, HSSC tasked TSMAD to develop a "roadmap, taking into account the S-101 impact study..." The initial draft of the S-101 Value Added Roadmap was submitted to HSS5 for approval. HSSC5 further tasked TSMAD with the following actions related to the S-101 Value Added Roadmap:

TSMAD27 ACTION7: TSMAD Chair to incorporate in the draft S-101 Value Added Roadmap the comments expressed during HSSC5.

TSMAD27 ACTION8: TSMAD chair to include an additional item in the TSMAD work plan to review the S-101 Value Added Roadmap annually.

TSMAD27 ACTION9: TSMAD chair to consider the impact of the recommendations contained in the HSSC5 05.1F (S-101 Impact Study) on the S-101 Value Added Roadmap.

Based on the above actions the S-101 Value Added Roadmap has been updated accordingly.

Analysis/Discussion

During the discussion of the S-101 Value Added Roadmap the following comments were expressed:

- CIRM suggested that the roadmap should consider updating mechanisms and take into account the IMO work on system updating.
    - Added a new clause to take into account the need for IHO/IMO/IEC coordination

- USA thanked the TSMAD Chair for the comprehensive roadmap report and noted that NOAA will continue to support funding for the next version of the ENC S-57 to S-101 converter application.
    - Noted as part of the Risk to not having an updated convertor

- The TSMAD Chair stated that the draft S-101 product specification is very close to completion, but further work is needed to finalize the feature catalogue builder and portrayal catalogue builder.
    - This is reflected in the updated timeline that is included as part of the value added roadmap. In addition, the Risk impact has been updated to note that KHOA has graciously stepped in to provide the feature catalogue and that the portrayal catalogue builder will be completed in March 2014.

- CIRM and IEC proposed that the timelines be revised to reflect delays in completing the draft S-101 product specification.
    - This is reflected in the updated timeline. Additionally, a revised expected date of April/May 2014 has been incorporated to reflect the need for the baseline feature and portrayal catalogues in order for S-101 to be at a state that can be tested.

- Canada noted that the options for converting S-57 data to S-101 data (figure 2) seem to preclude data producers doing the conversion. The TSMAD Chair noted that the diagram is intended to show how a distribution service might work and is not meant to be comprehensive or mandatory. It was decided to indicate under section 2.2.1 that the diagram describes the process applicable under the WEND model
    - Included wording to reflect that the diagram reflects the WEND distribution process.

In addition, HSSC asked TSMAD to incorporate the suggestions provided in the S-101 Impact Study paper (HSSC5-05.1F) into the S-101 Value Added Roadmap. The suggestions are as follows:

- Simplify S-101 concepts to limit risks and stakeholders overhead: A basic application scheme would be easiest to produce (as a direct result from the impact study, SI/SD concept has been removed from S-101). A clear separation between semantic and portrayal would share efforts between ENCs producers and OEMs.
    - This principle is being utilizes throughout the test bed process.

- Implement S-57 to S-101 converters in legacy systems and preserve backward compatibility: Converters are enablers for transition. It is essential to assess precisely converters possibilities and limitations and to deal with HO's liability issues they may cause.
    - This is outside the scope of the value added roadmap. An s-57 to S-101 convertor will be provided, but how the legacy systems choose to use it would be up to them.

- Invest time for tests to save money later: During OEM implementation, IHO should provide assurances that the only major changes that will happen are new versions of the catalogue. To secure this, software/hardware manufacturers and IEC representatives must commit actively in testbed. Despite this, IHO might produce costly editions / revisions of S-101 unbearable by stakeholders' community.
    - The S-100 testbed flow diagram has been included in the value added roadmap.

- Cross match S-101 functionalities with IMO gap analysis and mariners' frustrations: All S-101's benefits don't profit directly to mariners, otherwise to software/hardware manufacturers. Many mariners' requirements will be met out of S-101 functionalities, depending on how OEMs implement ECDIS.
    - This is outside the scope of the S-101 Value Added Roadmap and should be part of a follow on impact study.

- Balance efforts between S-101 development, maintenance of current standards, and highly expected e-Nav products. Especially as S-57 seems to live for a long time in the S-10X family.
    - This is outside the scope of the S-101 Value Added Roadmap. However, this should be considered by TSMAD in order to balance resources.

- Consider IMO and IEC procedural delay in S-101 schedule; shorten delays by involving IMO and IEC well in advance (testbed).
    - Similar to the concern expressed by CIRM above. Included an additional clause regarding the need for cooperation between the IHO/IMO/IEC.

- Consider very carefully HOs current and future capabilities and will, for the implementation a new production and sustainable chain in order to make sure that the IHO member States will be able to provide a pretty comprehensive coverage of new S-101 products, as soon as it comes into force.
    - By including the S-100 test bed process diagram into the S-101 Value Added Roadmap to show the methodical testing process that will be used so everyone can gain confidence in S-101.

Conclusions

For the most part there were only minor updates to the roadmap to address the concerns that were expressed at HSSC5. However, this iteration now includes an updated timeline to reflect the activities that are expected to occur in 2014 and the overarching test bed process that will be used throughout the S-101 development. It is expected to be reviewed at each TSAMD meeting as part of normal business along with the assessment of general risks and hazards that are not covered by the actual S-101 Risk Register.

It is also acknowledged that there needs to be greater IHO/IEC/IMO coordination in order to review and amend the appropriate IMO performance standards and accompanying test standards. It is recommended that the TSMAD chair group work with the IHO to propose a way forward for these coordination activities.

Action Required of TSMAD28/DIPWG6

The TSMAD/DIPWG is invited to:

a. note this report

b. endorse the amended S-101 Value Added Roadmap

c. ask that the IHO post the S-101 Value Added Roadmap on the IHO website

d. request that the TSMAD chair group work with the IHO to propose a way forward on IHO/IMO/IEC coordination activities as related to S-100 and more specifically to S-101.