TSMAD 21-4.5.12

Paper for Consideration by TSMAD

S-101 Project Plan, Progress, and Gap Analysis

Submitted by:	S-101 Work Item Leader
Executive Summary:	This Paper is intended to update TSMAD members on the progression of S-101, promote discussion regarding completion timelines and to discuss potential gaps in the project.
Related Documents:	S-101
Related Projects:	N/A

Introduction / Background

S-101 is taking an iterative approach and is broken out into four phases. The phases are as follows:

Phase 1: S-57 content equivalent. It will contain only those features that are currently defined in S-57, but use complex attributes, information types and compound geometry.

Phase 2: Enhanced Packaging and Data Loading Mechanisms. This phase builds on phase 1, yet adds in functionality for new support file formats and functionality to update text files. In this phase the entire set is packaged into a complete exchange set.

Phase 3: Extending the Model. This phase builds on the previous phases and extends the data model to include additional complex attributes and information types. In addition, this phase will explore the use of cartographic attributes.

Phase 4: Scalability. This phase represents Version 1.0 of S-101. By the completion of this phase the open source translator must be able to take an existing S-57 dataset and translate it into an S-101 dataset. TSMAD will provide the final S-57 to S-101 Feature Catalogue mapping.

At this point TSMAD is making progress on S-101 at this point TSMAD needs to start thinking about realistic timelines for completion of S-101.

Analysis/Discussion

Currently, it is expected that phase one will be completed by December 2010. However, this is predicated on the TSMAD approval of the phase one feature catalogue and proposed information types and complex attributes. The following progress has been made in phase 1:

- Draft S-101 Product Specification phase 1
- Draft S-101 Feature Catalogue phase 1

In is anticipated that TSMAD 21 will finalize the phase one deliverables.

In addition, NOAA is contracting ESRI to provide an open source S-57 to S-101 translator to be turned over to the IHO when completed. This work is an important step forward in providing initial test data for S-101, but also enabling the IHO to have a proper phase in date for S-101 as there will be a period of time where there will be S-57 and S-101 based ECDIS systems in operation. The overall project requirements are as follows:

1. The translator will become open source and the property of NOAA

2. The programming language used should be a maintainable language such as Visual Basic, C++, or C Sharp
3. The translator should be a standalone application and not require additional add ons
4. The translator should read existing S-57 8211 and convert the data into S-101 8211 and produce an S-101 base cell.
5. An investigation of the feasibility to produce updates via this translator and a recommendation for the way forward.
6. The S-101 output should utilize the new feature types and complex attributes that are defined in the S-101 Feature Catalogue.
7. The translator should map the existing S-57 features to their S-101 equivalents. These mappings will take into account the use of complex attributes and information types in S-101. The following are some examples but not an exhaustive list:
    a. In S-57 each sector is encoded as a separate light, however, in S-101 the sector light will be one light with many sectors encoded as complex attributes.
8. In Sea Bed areas the NATSUR and NATQUA set of attributes will be encoded as a complex attribute.

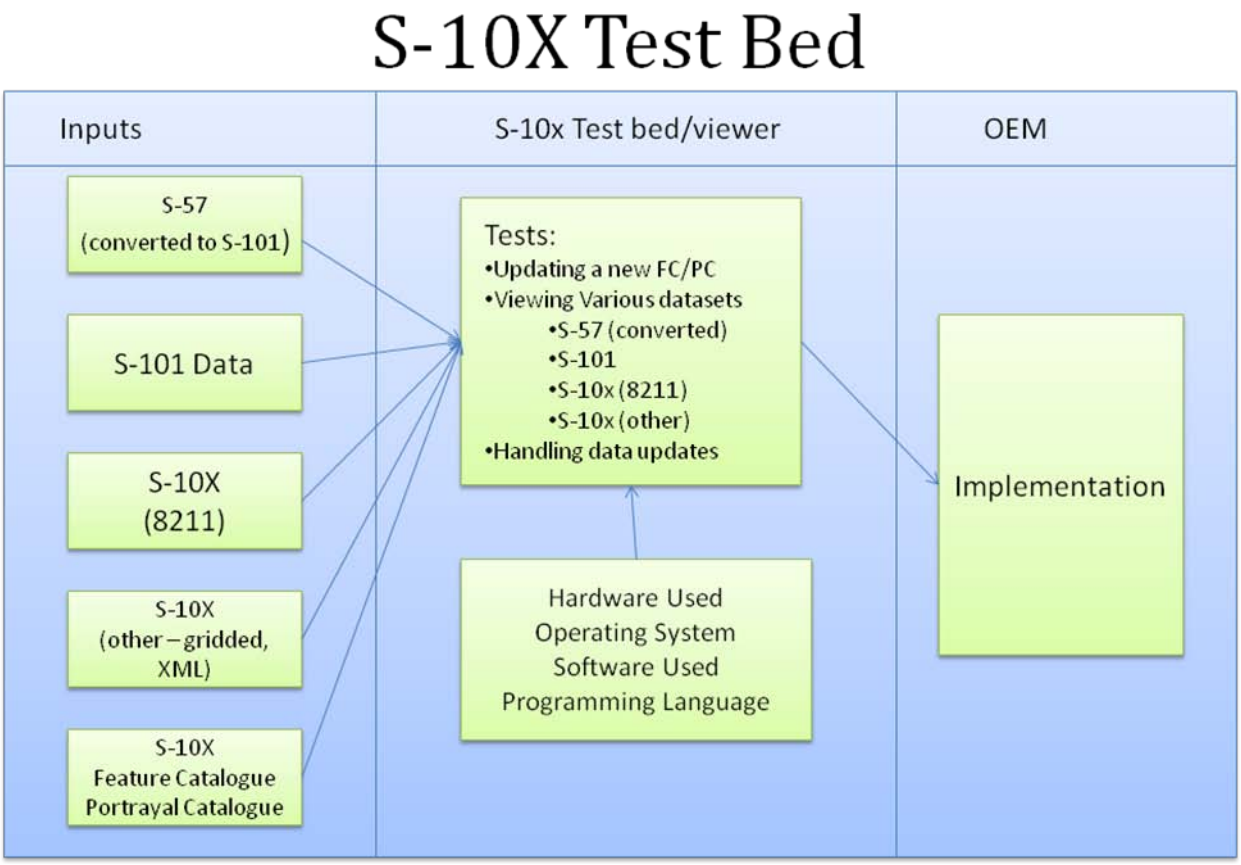
However, in order to progress this work it is important that TSMAD 21 finalize the Phase 1 Feature Catalogue.

Although, at the outset of S-101, TSMAD stated that it should be complete by the end of 2012. While this may be a realistic goal, TSMAD needs to prepare a work break down structure in order to complete by the end of 2012. This includes drafting the requirements for the follow-on phases and assessing where the potential gaps are in the project.

At the August 2010 focus group meeting, the participants briefly discussed what was still needed in order to complete S-101. This is by no means an exhaustive list, but meant to promote further discussion on this topic and develop a way forward.

- Compare the S-101 FC and the S-101 PC against each other and verify if the linkages are correct
    - Go through S-52 and identify what we need to keep
    - Start looking at the data encoding to make it easier to model
    - Look at the most complex CSP's to make it more effective with portrayal, and new features
- Recommend if there are new features needed to improve portrayal – new complex attributes, information types, cartographic features
- Recommendations to eliminate ? Symbol
- Focus on the areas that are difficult to display and improve them
- Review all the master/slave situations in S-57 and decide if there is a better way to handle them.
- Finish the S-100 Portrayal Catalogue

One of the largest items to recently come up is the need for an S-101 testbed and viewer. This is important, so that TSMAD/DIPWG can work out all of the potential issues for S-101 prior to finalization.



Conclusions

While S-101 is progressing with the completion of phase 1, TSMAD still needs to plan for phase 2, 3 and 4 and final publication of the standard and recommend an appropriate transition plan from S-57 to S-101.

Recommendations

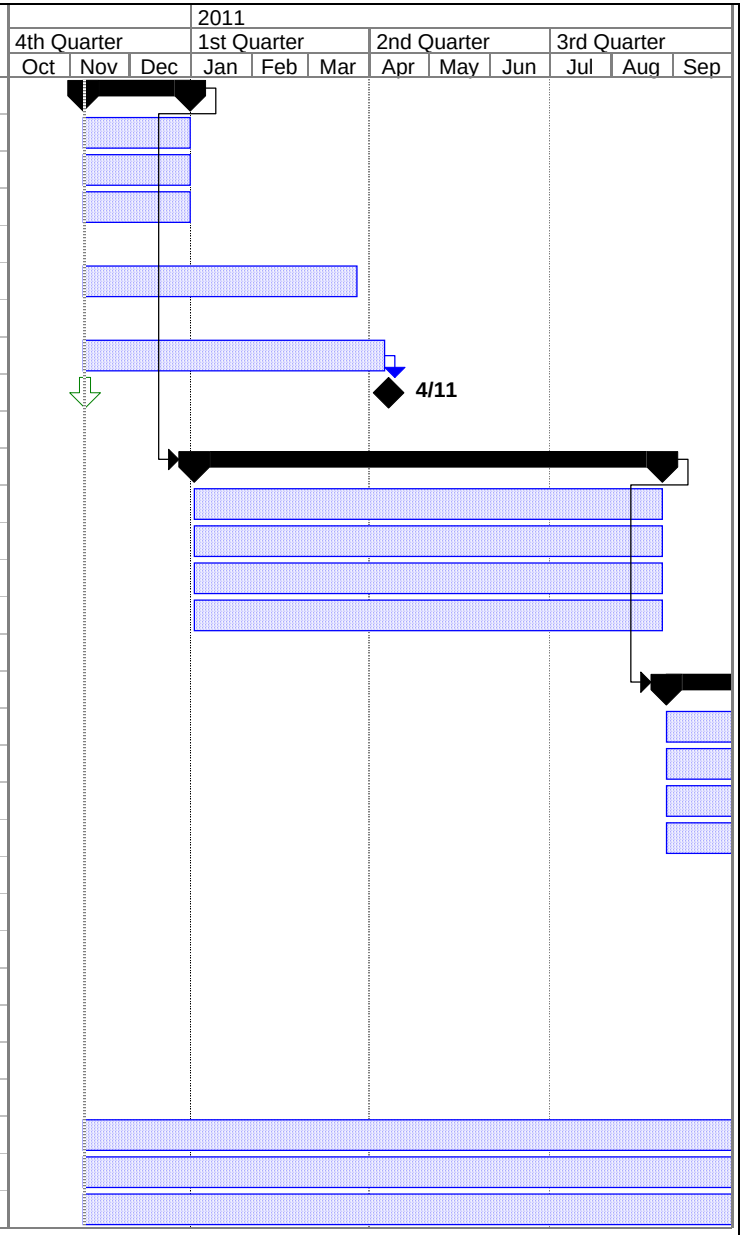
It is recommended that TSMAD approve the phase 1 feature catalogue so work can commence on the S-57 to S-101 translator. In addition, TSMAD should have a focused discussion on what is a realistic timeline for the completion of S-101 and identify gaps in the current plan and identify tasks that need to be completed between meetings.

Action Required of TSMAD

The TSMAD is invited to:

- Discuss the proposed timelines for S-101 development
- Discuss the potential gaps in the S-101
- Endorse the Phase 1 S-101 Feature Catalogue

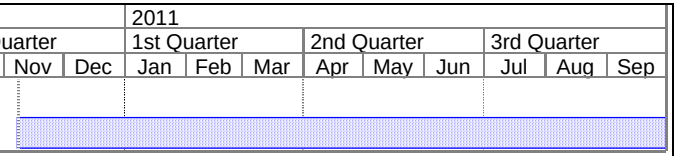
ID	Task Name	Duration	Start	Finish
1	**Phase 1 - S-57 content equivelent**	**40 days?**	**Mon 11/8/10**	**Fri 12/31/10**
2	S-101 Phase 1 Product Specification	40 days?	Mon 11/8/10	Fri 12/31/10
3	S-101 Phase 1 Feature Catalogue	40 days?	Mon 11/8/10	Fri 12/31/10
4	S-101 .000 file	40 days?	Mon 11/8/10	Fri 12/31/10
5				
6	Phase 1.5 - S-57 to S-101 Convertor	100 days?	Mon 11/8/10	Fri 3/25/11
7				
8	Scale Independent and Scale Dependent Analysis	110 days?	Mon 11/8/10	Fri 4/8/11
9	Scale Independent and Scale Dependent Decision Poir	1 day?	Mon 4/11/11	Mon 4/11/11
10				
11	**Phase 2 - Enhanced Packaging and Data Loading M**	**170 days?**	**Mon 1/3/11**	**Fri 8/26/11**
12	S-101 Phase 2 Product Specification	170 days?	Mon 1/3/11	Fri 8/26/11
13	S-101 Phase 2 Feature Catalogue	170 days?	Mon 1/3/11	Fri 8/26/11
14	S-101 Phase 2 Portrayal Catalogue	170 days?	Mon 1/3/11	Fri 8/26/11
15	S-101 Exchange set with updates	170 days?	Mon 1/3/11	Fri 8/26/11
16				
17	**Phase 3 - Extending the Model**	**144 days?**	**Mon 8/29/11**	**Thu 3/15/12**
18	S-101 Phase 3 Product Specification	144 days?	Mon 8/29/11	Thu 3/15/12
19	S-101 Phase 3 Feature Catalogue	144 days?	Mon 8/29/11	Thu 3/15/12
20	S-101 Phase 3 Portrayal Catalogue	144 days?	Mon 8/29/11	Thu 3/15/12
21	S-101 Phase 3 Exchange Set with updates	144 days?	Mon 8/29/11	Thu 3/15/12
22				
23	**Phase 4 - Scalabity and Finalization**	**186 days?**	**Fri 3/16/12**	**Fri 11/30/12**
24	S-101 Version 1.0 Product Specification	186 days?	Fri 3/16/12	Fri 11/30/12
25	S-101 Version 1.0 Feature Catalogue	186 days?	Fri 3/16/12	Fri 11/30/12
26	S-101 Version 1.0 Portrayal Catalogue	186 days?	Fri 3/16/12	Fri 11/30/12
27	S-101 Version 1.0 Test Dataset	186 days?	Fri 3/16/12	Fri 11/30/12
28				
29	S-101 Data Capture and Classifcation Guide	540 days?	Mon 11/8/10	Fri 11/30/12
30	New Feature, Attribute, Ennumeration Proposals	905 days?	Mon 11/8/10	Fri 4/25/14
31	New Portrayal Proposals	905 days?	Mon 11/8/10	Fri 4/25/14



Project: S-101 Project Plan v2.0
Date: Mon 11/8/10

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

ID		Task Name	Duration	Start	Finish
32					
33		S-101 Testbed	405 days?	Mon 11/8/10	Fri 5/25/12



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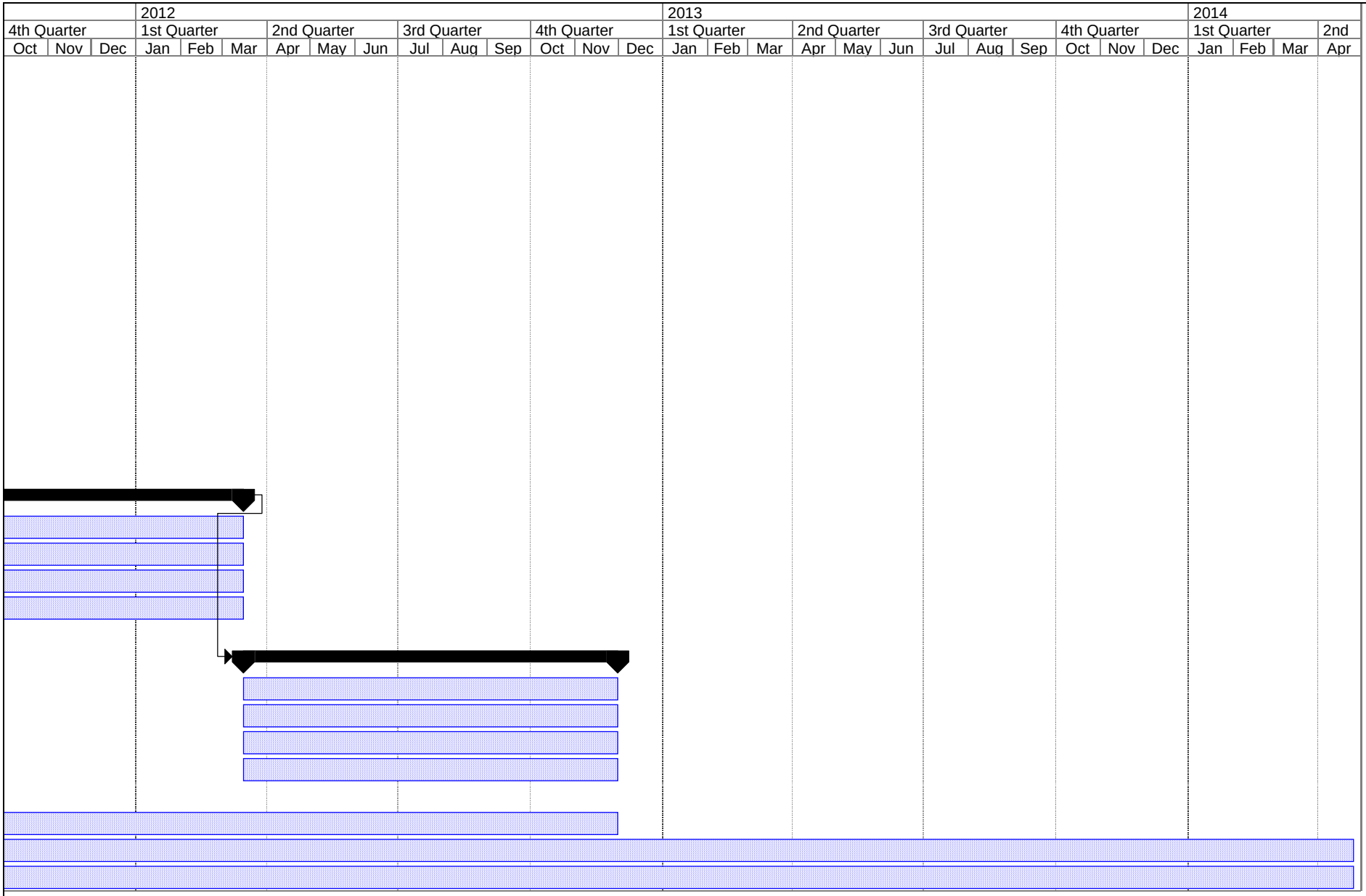

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Split		Summary		External Milestone	
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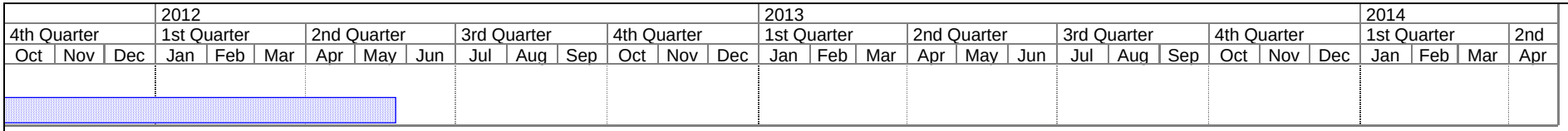

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