Paper for Consideration by TSMAD

Update Information in S-101

Submitted by:	UK
Executive Summary:	This paper outlines an approach to including update information in S-101 ENCs using Feature Types. It proposes new features and attributes and explains how the approach will work for encoders and end users.
Related Documents:	1. S-101 Feature Catalogue
Related Projects:	1. S-101

Introduction / Background

1. Following discussion at TSMAD 21 and TSMAD 22 it was decided to study further the Feature Type approach to including update information in S-101 ENCs. In this approach producers would encode update features as part of creating ENC updates and new editions. These would then be used to clearly highlight changes to users, without highlighting changes at the detailed geometry level. These features would then be deleted after a certain period when the cell receives a NE or another update.
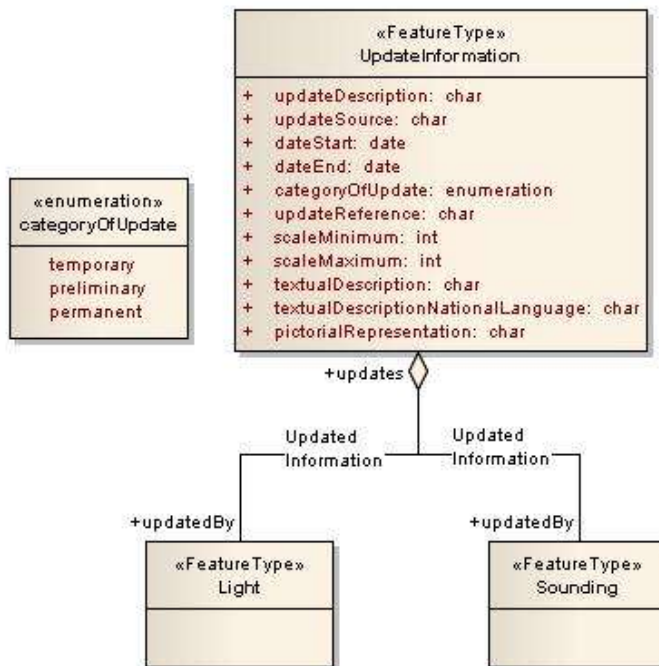
Analysis/Discussion

Figure 1 – Proposed Update feature approach

2. In this approach a single Feature Type named "Update" is proposed. This will carry information about the update itself including the type of update and the update source. An additional update description attribute would allow for a brief description of the change, textual description could be used to include more detailed information. This feature would then be associated to each feature which has changed. The feature will be encoded with the update and then deleted in a further update or new edition. This

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will enable complex change and deletions to be conveyed to the user in a more useful way. Use of an information type referencing updated features or another feature marking change/deletions was considered but a single feature type provides a more elegant solution. Specifically this enables an update information feature to be used without referencing other features where the change is the deletion of features.

Feature: Update information

Definition
The Update information Feature is used to represent a change to the charted information.

Justification
The Update feature is required to allow HO's to highlight specific changes to data to the user.

Feature Association: Updated information

Definition
The Updated Information feature association is used to relate elements of an update to the Update feature which they have been changed by.

Justification
This feature association is required in order to support the new Update feature which improves how update information is conveyed in ECDIS.

3. The following attributes will need to be added to support the above model;

Simple Attribute - Category of Update
Enumeration;

Preliminary
Temporary
Permanent

Simple Attribute - Update Ref
The reference used to relate to a paper chart notice such as NM 3456/11

Simple Attribute - Update Date
The date of the update

Simple Attribute - Update Source
The source of the update – For example – Port of London Authority this provides the user with a similar experience as they would currently receive with paper chart notices but which ENC updates do not currently provide.

4.   A clear process needs to be defined for the use of the Update feature if this approach is progressed. This would also require testing as a scenario using any S-100 testbed. The concept of removing the Update feature after a set period requires further exploration and testing.

Conclusion

5. This work addresses an identified mariner need to clearly identify areas of change on ENCs. It proposes a practical solution which will be a demonstrable improvement over S-57 ENCs.

Action Required of TSMAD

To consider the proposed data structure and process for inclusion in the S-101 Feature Catalogue, and the S-101 Data Classification and Encoding Guide