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PRIMAR Papers and Change Proposals

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TSM7 5.12 ExchangeCatalogue Multiple Products

"No. 1 Item 4.2: Investigate how best to structure exchange catalogues for distributing different Product Specification datasets, (as part of an exchange set) for TSM7".

This paper discusses solutions for how to:

1. register multiple products carried in the exchange set.
2. incorporate necessary S-1xx information in one (1) catalogue (CATALOG.XML) file.
3. organize the exchange set directory structure.

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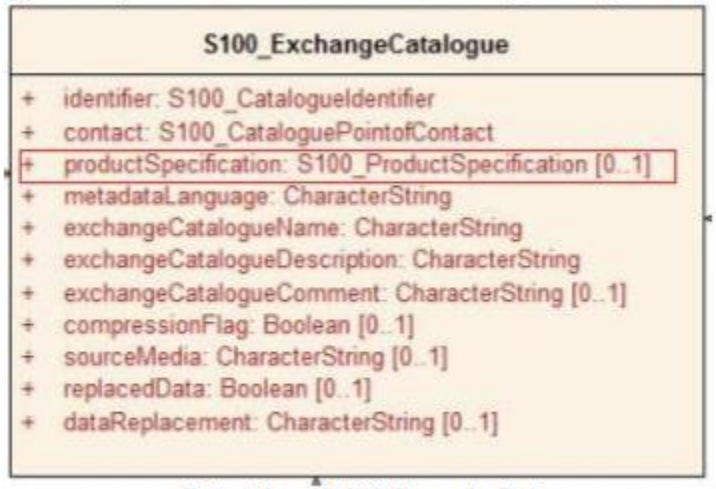
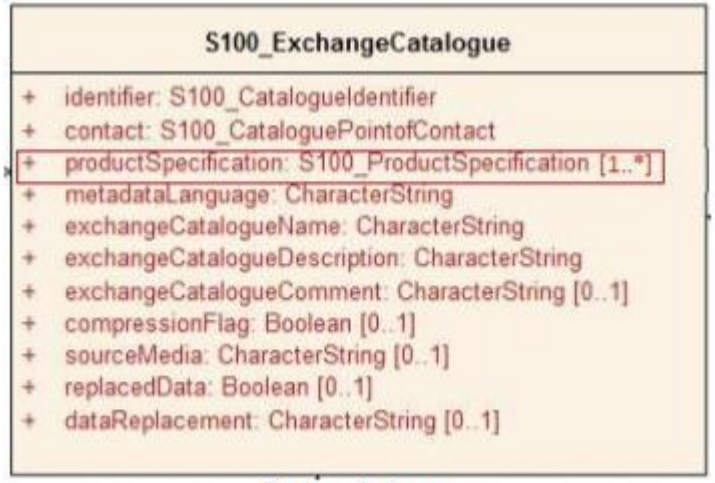
1. register multiple products carried in the exchange set.



Extract from S-100 Figure 4a-D-4



Proposed change

- When encoded: one product only.
- When not encoded: one or more products.
- Mechanism defined identifying the products within the catalogue without parsing through CATALOG.XML file content.
  - Immediate rejection becomes possible if content is not supported.

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2. incorporate necessary S-1xx information in one (1) catalogue (CATALOG.XML) file.

- For multiple product exchange sets all relevant information within the exchange catalogue should be accessible through only one CATALOG.XML file.
- All product specifications use the naming convention CATALOG.XML
- No need to encode metainformation in the CATALOG.XML filename
- Reduce number of catalog files necessary in end user system installation process.
- Only one CATALOG.XML need digital signature.

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A change must be done in S-100:

Part 4a Metadata S100_ExchangeCatalogue current situation:

Attribute	exchangeCatalogueName	Catalogue filename	1	CharacterString	In S-101 it would be CATLOG.101

Part 4a Metadata S100_ExchangeCatalogue proposed solution:

Attribute	exchangeCatalogueName	Catalogue filename	1	CharacterString	Must be named CATALOG.XML

Part 4a Metadata Overview third paragraph (page 26) – Added textual statement (Highlighted):
"The S100_ExchangeCatalogue is an XML instance, which provides the information needed to exploit all the components of an exchange set. It consists of sections for the catalogues and datasets with subsections for support file metadata and a reference to classic ISO 19115-1 dataset metadata. The Exchange Catalogue must be named CATALOG.XML".

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3. organize the exchange set directory structure.

Role Name	Name	Description	Mult	Type	Remarks
Attribute	filePath	Full path from the exchange set root directory	1	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>
Attribute	fileLocation	Full location from the exchange set root directory	1	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

EXCH_ROOT defined in the discovery metadata attribute filePath/fileLocation comments fields

- It is anticipated that S-57 and S-101 will coexist.
- Ability to deliver both S-57 and S-10x datasets in the same exchange set may be necessary.
- Existing systems using S-57 supports existing structure:
  - ENC_ROOT and INFO directories are found in the top directory structure of the exchange set
- Changing the top directory from ENC_ROOT to EXCH_ROOT could cause trouble for existing end user systems..
- The solution could be to add a new directory to existing top structure for S-1xx data.

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A proposed example of the files structured in directories:

```
ENC_ROOT
INFO
S100_ROOT
    |----S101
    |       |----DATASET_FILES
    |       |       |----AR00
    |       |       |       |----101AR001234567890
    |       |       |       |       |----1
    |       |       |       |       |       |----0
    |       |       |       |       |       |       |----101AR001234567890.000
    |       |       |       |       |       |----1
    |       |       |       |       |       |       |----101AR001234567890.001
    |       |       |       |       |       |----2
    |       |       |       |       |               |----101AR001234567890.002
    |       |       |       |       |----101AR00ABCDEFGHIJ
    |       |       |       |       |       |----1
    |       |       |       |       |       |       |----0
    |       |       |       |       |       |               |----101AR00ABCDEFGHIJ.000
    |       |       |       |----CL00
    |       |       |       |----NO00
    |       |       |----SUPPORT_FILES
    |       |       |       |----AR00
    |       |       |       |       |----101AR00QWERTYUIOP.TXT
    |       |       |       |       |----101AR00ASDFGHJKLO.TIF
    |       |       |       |       |----101AR00ZXCVBNMJKL.HTM
    |       |       |       |----CL00
    |       |       |       |----NO00
    |       |       |----CATALOGUES
    |       |       |       |----101_1_0_0_FC.XML
    |       |       |       |----101_1_5_0_FC.XML
    |       |       |       |----101_1_0_0_PC.XML
    |       |       |       |----101_1_5_0_PC.XML
    |       |----S102
    |       |       |----DATASET_FILES
    |       |       |       |----AR00
    |       |       |       |       |----102AR001234567890
    |       |       |       |       |       |----1
    |       |       |       |       |       |       |----0
    |       |       |       |       |       |       |       |----102AR001234567890.000
    |       |       |       |       |----102AR00ABCDEFGHIJ
    |       |       |       |----CL00
    |       |       |       |----NO00
    |       |       |----CATALOGUES
    |       |       |       |----102_2_0_0_FC.XML
    |       |       |       |----102_2_0_0_PC.XML
    |       |----S104
    |       |----CATALOG.XML
    |       |----CATALOG.SIGN
```

- ENC_ROOT and INFO remain top level directories.
- S100_ROOT is added to top level directory.
- S100_ROOT serves as the directory for all S-100 product dataset files, support files and catalogues.
- Example demonstrates the structuring of support files in a separate directory opposed to today's S-57 solution.
- Example demonstrates carrying catalogues from different versions of the same product specification.
- CATALOG.XML proposed placed in the S100_ROOT directory, together with its signature (CATALOG.SIGN).
- All other signatures are included in the CATALOG.XML.

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Part 4a Metadata S100_DatasetDiscoveryMetadata:

Attribute	filePath	Full path from the exchange set root directory	1	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

Part 4a Metadata S100_SupportFileDiscoveryMetadata:

Attribute	fileLocation	Full location from the exchange set root directory	1	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

Part 4a Metadata S100_CatalogueMetadata:

Attribute	fileLocation	Full location from the exchange set root director	1..*	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

The proposal would be to replace each instance of ENC_ROOT with S100_ROOT.

TSM7 5.13 S-1xx and cancellation strategies

Submitted by:	PRIMAR
Executive Summary:	Different approaches to cancellation of datasets have been developed in S-1xx standards. Currently several of the standards may have incomplete definitions when it comes to cancellations. This paper discusses whether the cancellation mechanisms should be aligned between product specifications or not. The difference between static and dynamic data may require different cancel mechanisms. The intention of the paper is to determine whether a broader study may be required.
Related Documents:	S-101 (1.0.0), S-102 (2.0.0), S-104 (0.0.7), S-111 (1.0.0), S-122 (1.0.0), S-123 (1.0.0), S-129 (1.0.0)
Related Projects:	

Cancellation in this paper means the operation where a dataset is withdrawn and should no longer be used in an end user system.

TSM7 5.13 S-1xx and cancellation strategies

There may be a need to explore the differences between static and dynamic data, assuming that in a dynamic dataflow, datasets are being replaced at regular intervals. E.g. dynamic data could be described being data that carries an expiration date/time, like forecasted data products. Forecasted data will reach an expiration date/time limited to the period for which the forecast is intended to cover. Static data would then be data not carrying such information. A proposed definition could be:

Static data: Data that do not carry an expiration date/time.
Dynamic data: Data that carries an expiration date/time

Static:

S-101	Cancel mechanism defined.
S-102	Cancel mechanism seems to be missing despite the definition of dataset type cancellation
S-122	Cancel mechanism defined.
S-123	Cancel mechanism defined.

Dynamic

S-104	replacedData and dataReplacement defined in metadata.
S-111	replacedData and dataReplacement defined in metadata.
S-129	replacedData and dataReplacement defined in metadata. Metadata purpose field with value=3 (terminated) does not exist

TSM7 5.13 S-1xx and cancellation strategies

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Summary

S-102 has no mechanism defined.

S -101, S-122 and S-123 have basically equal mechanisms defined, although there is a difference in description between S-101 and S-122/S-123 (which are similar).

S-104 and S-111 uses the replacedData and dataReplacement attributes. No encoding of the replacedData attribute indicates that the dataset is not replaced, hence the end user system must remove the dataset after expiration date/time.

S-129 has a more extended approach described. It is specified that a dataset is considered cancelled when the expiration date/time (validTimeEnd) is exceeded. The specification also describes that the metadata purpose field must be encoded with the value "3" to terminate a dataset. However, this is not reflected in the discovery metadata.

Conclusions

Cancel dataset mechanisms vary between product specifications.

There may be a need to create a definition for static and dynamic data and consider if each group should have common mechanisms defined.

S-100 may need to provide more specific information on cancel data mechanisms.

A broader study of this topic may be necessary.

TSM7 5.14A Scope Comprising Parts

Location (*Identify all change proposal locations)*

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	0	0-1 Scope	Refer to comprise fifteen parts instead of twelve.

The first sentence should be rewritten.

Existing:
S-100 – IHO *Universal Hydrographic Data Model* comprises of twelve related parts that give the user the appropriate tools and framework to develop and maintain hydrographic related data, products and registers.

Suggested changed to:
S-100 – IHO *Universal Hydrographic Data Model* comprises of fifteen related parts that give the user the appropriate tools and framework to develop and maintain hydrographic related data, products and registers.

TSM7 5.14B Scope Remove Annex A

Location (*Identify all change proposal locations)*

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	1	1-1 Scope	Missing Annex 1. Remove Annex 1 reference or insert annex.

The last sentence in the second paragraph refers to Annex 1:

Since it deals with UML, a section with specific UML terms and definitions is provided, in addition to those terms being included in Annex 1 (Terms and Definitions).

Either Annex 1 should be provided, or the reference should be removed.

TSM7 5.14C Appendix 2a-A

Location (*Identify all change proposal locations*)

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	2a	Appendix 2a-A Example of a complex attribute	The example no longer equals the definitions in S-101 1.0.0 DCEG. Consider aligning example with existing definition.

Complex attribute example different from official S-101 version.
Following issues are identified:

- the definitions of **light sector** and **sector limit** attributes
- the definition of **rhythm of light** attribute

Propose to amend to comply with S-101 1.0.0.

Further work should be done to rewrite the examples accordingly

TSM7 5.14DAppendix 4a-D Catalogue Identifier

Location (*Identify all change proposal locations)*

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	4a	Appendix 4a-D S100_Dataset DiscoveryMeta data – S100_Catalogu eIdentifier	Change attribute date to date time to include date-time variable

Existing situation:
S100_CatalogueIdentifier

Role Name	Name	Description	Mult	Type	Remarks
Attribute	date	Creation date of the exchange catalogue	1	Date	

Suggested changes (highlighted in yellow):
S100_CatalogueIdentifier

Role Name	Name	Description	Mult	Type	Remarks
Attribute	dateTime	Creation date and time of the exchange catalogue, including time zone	1	Date	Format: yyyymmddThhmmssZ

TSM7 5.14E Appendix 4a-D filePath

Location (*Identify all change proposal locations)*

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	4a	Appendix 4a-D S100_Dataset DiscoveryMeta data	Decide whether to use filePath or fileLocation (filePath Name and Remarks).
4.0.0	4a	Appendix 4a-D S100_Support FileDiscoveryM etadata	Decide whether to use filePath or fileLocation (filePath Name and Remarks).
4.0.0	4a	Appendix 4a-D S100_Catalogu eMetadata	Decide whether to use filePath or fileLocation (filePath Name and Remarks).

Existing situation:

S100_DatasetDiscoveryMetadata

Role Name	Name	Description	Mult	Type	Remarks
Attribute	filePath	Full path from the exchange set root directory	1	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

S100_SupportFileDiscoveryMetadata

Attribute	fileLocation	Full location from the exchange set root directory	1	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

S100_CatalogueMetadata

Attribute	fileLocation	Full location from the exchange set root director	1..*	CharacterString	Path relative to the root directory of the exchange set. The location of the file after the exchange set is unpacked into directory <EXCH_ROOT> will be <EXCH_ROOT>/<filePath>/<filename>

Suggested changes to S100_DatasetDiscoveryMetadata:

- Change Name column to fileLocation
- Change Description to align with the other two – Full location from the exchange set root directory

TSM7 5.14F Appendix 4a-D S-100 Protection Scheme

Location (*Identify all change proposal locations)*

S-100 Version No.	Part No.	Section No.	Proposal Summary
4.0.0	4a	Appendix 4a-D S100_ProtectionScheme	S100_ProtectionScheme Value (Name and Description) Update.

Existing:

S100_ProtectionScheme

Role Name	Name	Description
Enumeration	S100_ProtectionScheme	Data protection schemes
Value	S63e2.0.0	IHO S-63

Suggested changed to:

S100_ProtectionScheme

Role Name	Name	Description
Enumeration	S100_ProtectionScheme	Data protection schemes
Value	S100p15	IHO S-100 Part 15


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