



PRIMAR[®]

Exchange Set containing only external resources

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Topics discussed related to

- a) S-100 allowing external resources (support files) to be standalone entities in the Exchange set.
 - b) S-100 allowing external resources (support files) to be shared by multiple products.
 - c) S-100 allowing support files to be cancelled without the accompanying support file itself included in the data delivery (fileless cancellation).
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- a) S-100 17-4.3:
“...External resources can support either datasets or Catalogues or can be standalone entities in the Exchange Set”.
 - b) S-100 17-4.3:
“...As long as the mapping from the external resource metadata to the dataset metadata is unique it is valid, so multiple datasets are able to “share” common external resources within an Exchange Catalogue without ambiguity”.
 - c) S-100 does not specifically define fileless cancellation of support files –assumed the delete instruction could be transferred within the S100_SupportFileDiscoveryMetadata without having an accompanying support file in the exchange set.

Topics for discussion

1. Consider reversing decision of support files being used by multiple products in S-100.
2. Mandating introduction of a new support file to be distributed with a dataset file.
3. Mandating that support files cannot be shared across products from different product specifications.
4. Mandate updating of S100_SupportFileDiscoveryMetadata attribute supportedResource under the specific conditions that can arise due to multiple datasets referencing the same external resource
5. Clarify how a support file can be deleted from the end user system without having an accompanying support file in the data delivery exchange set.
6. Be aware of time differences when multiple datasets reference to the same support file.



1. reversing decision of support files being used by multiple products in S-100

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- Question the use case for 1 support file being used by multiple products.
- Is the approach beneficial from a data producer and service provider viewpoint?
- Added complexity in the data delivery chain before implementing this solution in S-100.

- Ensure that all subscribers of a product (dataset) receive updated information whenever a supported resource is updated.
- When an updated version of a supported resource is received, it would be essential to know all the products that are using the resource, and we will have to build automation ensuring all subscribers to existing products get the new support file.

- Added risk for service provider complexity.
- Further down the value chain by distributors packing their own Exchange Sets, and by OEMs implementing support for this flexibility in the end user systems. Potentially this can lead to invalid/missing data in end user systems.

Conclusion: Discuss the benefits from supported resources referencing multiple dataset files, seen against the added complexity and risk this puts on the data delivery services. Consider reversing the option to use 1 support file by multiple datasets.

2. Mandating introduction of a new support file to be distributed with a dataset file.



- Not sensible to issue support file without any dataset using it.
- S-100 clearly must state that a dataset support file in its 1st edition must have as a minimum one accompanying dataset file.
- This will help service providers produce sensible checks ensuring that new support files are not introduced unless they are referred to by a dataset.
- Proposed rule: Support files of 1st edition must be distributed together with a minimum of one accompanying dataset file. Support files of edition number 2 or higher could be distributed as standalone entities.
- (The specific use of the term “1st edition” should also cater for the possibility where a support file in its first release is > edition 1).

Conclusion: S-100 clearly must state that an S-100 dataset support file in its 1st edition must have as a minimum one accompanying dataset file.

3. support files cannot be shared across products from different PS.

- It is not possible for multiple S-100 products to share a common support file since the support file naming convention XXXYYYY..... requires XXX to reference the product code (for example 101 for S-101) and YYYY is the producer code.

Dataset naming shall follow a standard pattern to give implementers the assurance of unique names for incoming datasets.

XXXYYYYØØØØØØØØØØ.[EXT]

- XXX is the product code (for example, 123 is for Maritime Radio Services; 101 for ENC)
- YYYY is the producer code according to the Producer Code Register
- ØØØØ is an arbitrary length unique code in alphanumeric characters including any differentiating characters as required. The code shall be unique for the data producer (that is, different data producers may use the same code) and not re-used.
- EXT is the file encoding specific file extension

Supporting resources shall follow the same naming convention. To further assist implementers, data

- If the need should occur to share support files across product specifications, the support file must be duplicated once for every product type.
- S-100 should clearly state that one support file cannot be shared between different S-100 products.

Conclusion: S-100 clearly must specify that an S-100 support file cannot be shared between different S-100 product specifications

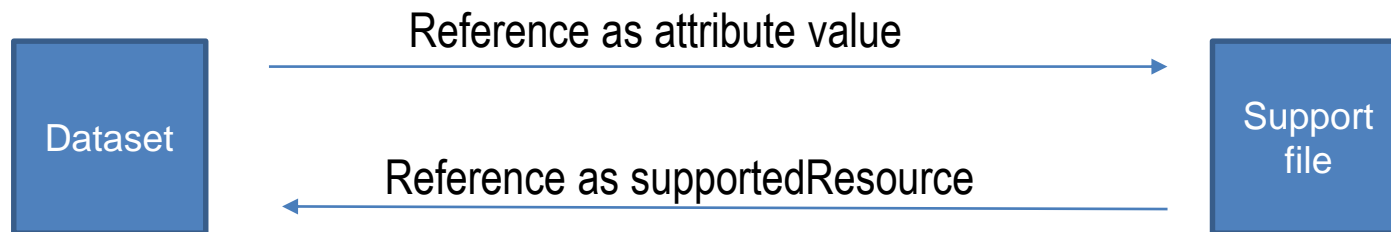


4. Mandate updating of S100_SupportFileDiscoveryMetadata attribute supportedResource.

- S-100 has 2 mechanisms for support file referencing:

- A. Datasets hold a reference to the supported resource as an attribute value (e.g. the attribute “file reference” in the S-101 data model).
- B. The encoding of the S100_SupportFileDiscoveryMetadata attribute supportedResource, where identifiers of the datasets using the support file are encoded:

Attribute	supportedResource	Identifier of the resource supported by this support file	0..*	CharacterString	Conventions for identifiers are still to be developed and will be defined later
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Conclusion: S-100 has to describe the relation between the two mechanisms for supported resources referencing and have defined rules implemented to ensure the information is consistent if/when both mechanisms are used in the data exchange. If the mechanisms are not intended to coexist within one product specification, this must be clearly stated.

4. Mandate updating of S100_SupportFileDiscoveryMetadata attribute supportedResource.

- Special conditions described in TSM9 paper “Management of external resources extended descriptions”
- As that paper explains, we are facing a situation where a new support file is created for some of the datasets previously using the older support file.
- This means the datasets that are referencing the new support file will have to be updated with new references from the dataset attribution to the new support file.
- At the same time – if supportedResource is encoded, it must also be updated.

Conclusion: S-100 must specify that the S100_SupportFileDiscoveryMetadata attribute supportedResource must be updated when a new support file replaces the old support file as described in TSM9 paper “Management of external resources extended descriptions”.

5. Clarify how support file can be deleted from the end user system without accompanying support file in the data delivery exchange set.

- S-100 does not currently specifically define fileless cancellation of support files.
- Technically this can be done by including the support file information in the exchange catalogue metadata and encode the S100_SupportFileDiscoveryMetadata attribute “revisionStatus” (Type = S100_SupportFileRevisionStatus) with the value 3 (deletion):
- If this is the intended mechanism to delete support files a clarifying note should be added to Part 17 S100_SupportFileRevisionStatus.

Conclusion: Add clarifying note to Part 17 S100_SupportFileRevisionStatus stating that: “When a support file is to be deleted from the end user system, this is done by encoding value = 3(deletion). Such a delete instruction is conveyed by the information within this exchange catalogue without any accompanying support file”.

6. Be aware of time differences when multiple datasets reference to the same support file

- PRIMAR has a service where producers are able to upload their data to a database for validation before being flagged as released when QA procedures are accepted.
- In this process there may be time differences to consider amongst when the involved datasets referencing the same support file enters the database and further is given the release flag.
- This means we have to make sure a support file is made available before dataset files referencing it are being updated.
- This to ensure that the support file is available when the datasets referencing it are released. (The consequence of not doing this would be datasets in the market referencing support files that are not yet available for the customers).
- A consequence of this is that an end-user can receive a support file where none of his datasets are referencing it. A new update dataset is received later with an attribute update that includes a file reference to the support file. End-user systems should be aware of this use case situation in their implementations.

Conclusion: End-user can receive a support file where none of his datasets are referencing it - End-user systems should be aware of this use case situation in their implementations