

**Title: S-100 Part 17 Support file concepts proposed attribute changes**

**S-100 Maintenance - Change Proposal Form**

<b>Organization</b>	PRIMAR	<b>Date</b>	10/15/2023
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**Change Proposal Type** *(Select only one option)*

1. Clarification	2. Correction	3. Extension
	X	

**Location** *(Identify all change proposal locations)*

S-100 Version No.	Part No.	Section No.	Proposal Summary
5.1.0	17.	17-4.5 DatasetDiscoveryMetadata	Extend the S100_DatasetDiscoveryMetadata with a new attribute called extensionFileReference. Suggested to be conditional mandatory if external resources defined as extensionFile exist in the dataset.
5.1.0	17.	17-4.5 SupportFileDiscoveryMetadata	Extend the S100_SupportFileDiscoveryMetadata attribute resourcePurpose - Type S100_ResourcePurpose with the new value extensionFile
5.1.0	17.	17-4.5 SupportFileDiscoveryMetadata	Make the attribute resourcePurpose mandatory to encode for All files covered by the S100_SupportFileDiscoveryMetadata
5.1.0	17.	17-4.3	Addition of new clarifying text to explain the difference between external resources of type support file considered as integral parts of a dataset, and support files considered not to be integral parts of a dataset.

**Change Proposal**

Reference document: Discussion paper "S-100 Part 17 Support file concepts proposed attribute changes"

1. Extend the S100 DatasetDiscoveryMetadata with a new attribute called extensionFileReference:

To resolve the above described scenario for concept 2 type support files (described in reference document), they should be discoverable in the base dataset discovery metadata. We suggest to extend the S100\_DatasetDiscoveryMetadata with an

attribute providing this information:

Role Name	Name	Description	Mult	Type	Remarks
Attribute	dataReplacement	Datasetname	0..*	CharacterString	A dataset may be replaced by 1 or more datasets See Note
Attribute	navigationPurpose	Classification of intended navigation purpose (for Catalogue indexing purposes)	0..3	S100_NavigationPurpose	If Product Specification is intended for creation of navigational products this attribute should be mandatory
Attribute	extensionFileReference	Reference to external resources (support files defined as extensionFile) being integral part of the dataset.	0..*	URI	See Part 1, clause 1-4.6 See Note
Role	resourceMaintenance	Information about the frequency of resource updates, and the scope of those updates	0..1	MD_MaintenanceInformation	S-100 restricts the multiplicity to 0..1 and adds specific restrictions on the ISO 19115 structure and content. See clause MD_MaintenanceInformation later in this Part Format: PnYnMnDnTnHnMnS (XML built-in type for ISO 8601 duration). See clause 17-4.9

NOTE: replacedData and dataReplacement: The intended use of the attributes replacedData and dataReplacement could be, for example, to provide a mechanism for service providers to build automation when providing replacement data sets to customers within existing subscription periods.

S100\_NavigationPurpose

NOTE: extensionFileReference: The attribute extensionFileReference is mandatory if external resources defined as extensionFile exist in the dataset.

In accordance with S-100 Part 1 1-4.6, the proposed attribute should be of a URI attribute type, as it holds a reference to a file. It is also proposed to clarify that the population of extensionFileReference must be conditional mandatory, to be populated if support files defined as extensionFile exist in the dataset.

**2. Extend the S100\_SupportFileDiscoveryMetadata attribute resourcePurpose - Type S100\_ResourcePurpose with the new value extensionFile**

To be able to distinguish between external resources of type support file concept 1 and concept 2 (described in reference document) it is suggested to extend the S100\_SupportFileDiscoveryMetadata attribute resourcePurpose - Type S100\_ResourcePurpose with the new value extensionFile, and add an explanatory note. The proposed name is extensionFile, which indicates these files being considered as an integral part of a dataset.

S100_ResourcePurpose				
Item	Name	Description	Code	Remarks
Enumeration	S100_ResourcePurpose	Defines the purpose of the supporting resource	-	-
Value	supportFile	A support file	1	For external resources not being referenced as an attribute in datasets.
Value	ISOMetadata	Dataset metadata in ISO format	2	
Value	languagePack	A Language pack	3	
Value	GMLSchema	GML Application Schema	4	
Value	extensionFile	Integral part of dataset	5	For external resources being referenced as an attribute in datasets. See Note
Value	other	A type of resource not otherwise described	100	

NOTE: For external resources being referenced as an attribute in datasets, the extensionFile value should be chosen.

**3. Make resourcePurpose mandatory to encode for All files covered by the S100\_SupportFileDiscoveryMetadata**

All files covered by the S100\_SupportFileDiscoveryMetadata encoding should encode the attribute resourcePurpose. Then an end user system would always know the purpose of a supporting resource, and act correctly accordingly. Therefore the

attribute resourcePurpose (Type: S100\_ResourcePurpose) must be made mandatory:

Role Name	Name	Description	Mult	Type	Remarks
Class	S100_SupportFileDiscoveryMetadata	Metadata about the individual support files in the Exchange Catalogue	-	-	-
Attribute	fileName	Name of the support file	1	URI	See Part 1, clause 1-4.6
Attribute	revisionStatus	The purpose for which the support file has been issued	1	S100_SupportFileRevisionStatus	For <u>example</u> new, replacement, etc.
Attribute	editionNumber	The Edition number of the support file	1	Integer	When a data set is initially created, the Edition number 1 is assigned to it. The Edition number is increased by 1 at each new Edition. Edition number remains the same for a re-issue
Attribute	issueDate	Date on which the data was made available by the Data Producer	0..1	Date	
Attribute	supportFileSpecification	The specification used to create this file	0..1	S100_SupportFileSpecification	
Attribute	dataType	The format of the support file	1	S100_SupportFileFormat	
Attribute	otherDataTypeDescription	Support file format other than those listed	0..1	CharacterString	
Attribute	comment	Optional comment	0..1	CharacterString	
Attribute	compressionFlag	Indicates if the resource is compressed	1	Boolean	True indicates a compressed resource False indicates an uncompressed resource
Attribute	digitalSignatureReference	Specifies the algorithm used to compute digitalSignatureValue	1	S100_SE_DigitalSignatureReference (see Part 15)	
Attribute	digitalSignatureValue	Value derived from the digital signature	1..*	S100_SE_DigitalSignature (see Part 15)	The value resulting from application of digitalSignatureReference implemented as the digital signature format specified in Part 15
Attribute	defaultLocale	Default language and character set used in the support file	0..1	PT Locale	In absence of defaultLocale the language is English in UTF-8 A support file is expected to use only one as locale. Additional support files can be created for other locales
Attribute	supportedResource	Identifier of the resource supported by this support file	0..*	CharacterString	Conventions for identifiers are detailed in S-100 Part 15. S-100 allows file URL, digital signature or cryptographic hash checksums to be used
Attribute	resourcePurpose	The purpose of the supporting resource	0..1	S100_ResourcePurpose	Identifies how the supporting resource is used

4. Addition of new clarifying text to explain the difference between external resources of type support file considered as integral parts of a dataset, and support files considered not to be integral parts of a dataset.

It is suggested to provide explanatory text in S-100 Part 17-4.3. This to emphasize the two different concepts of external resources of type support files, and clarify that concept 2 type support files are considered as integral parts of a dataset.

17-4.3 Storage and Management of External Resources

S-100 datasets may refer to a number of externally referenced, supporting resources for content. This content may be textual or graphical and encoded in any of a number of formats (defined by the S100\_SupportFileFormat enumeration in the Exchange Catalogue Schema). Datasets hold a reference to the external resource as an attribute value. This value may be updated as any other attribute and updates the reference to the external resource. External resources can support either datasets or Catalogues or can be standalone entities in the Exchange Set

There are several different types of external resources (defined by the S100\_SupportFileDiscoveryMetadata Type: S100\_ResourcePurpose in the Exchange Catalogue Schema). One of the types defined are support files. There is an important distinction between support files being referenced as an attribute in datasets, and support files not being referenced in dataset attributes.

Support files being referenced as an attribute in datasets should be considered as integral parts of a dataset. They are considered to be extension files of the dataset and should be discoverable from the S100\_DatasetDiscoveryMetadata. Support files not referenced in dataset attribution are entities outside the dataset itself, and their relationship to a dataset is defined in the S100\_SupportFileDiscoveryMetadata. They are not considered extension files of a dataset, rather supplementary files for usage together with the dataset.

The encoding of an extension file reference in S100\_DatasetDiscoveryMetadata makes this distinction available for an end user system in data ingestion operations.

The S-100 Exchange Catalogue provides:

- x 1. A normative definition of the location of each supporting resource. Where these are physical files this

Change Proposal Justification

In order to distinguish between different concepts of support files (described in reference document) an attribute is needed in the S100\_DatasetDiscoveryMetadata indicating that the dataset is mandatory to be used with an external file or files (dataset is a collection of files). The external file is considered to be an integral part of the dataset.

The change is needed for an end user system to be able to access the reference in S100\_DatasetDiscoveryMetadata during data ingestion operations.

What parts of the S-100 Infrastructure will this proposal affect?

- S-100 Concept and Data Dictionary Interface or Database
- S-100 Portrayal Register
- S-100 Feature Catalogue Builder
- S-100 Portrayal Catalogue Builder
- S-100 UML Models
- S-100 GitHub Schemas

Please send completed forms and supporting documentation to the secretary S-100WG.