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# **S100\_SupportfileDiscoveryMetadata supportedResource and resourcePurpose.**

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# Introduction

The attribute supportedResource and resourcePurpose in S100\_SupportFileDiscoveryMetadata (S-100 Part 17) was discussed at S100WG7.

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
Attribute	resourcePurpose	The purpose of the supporting resource	0..1	S100_ResourcePurpose	Identifies how the supporting resource is used

Topics to be discussed:

1. Intention of the attribute supportedResource and resourcePurpose.
2. Define conventions for the identifiers to be used for attribute supportedResource.
3. Optionality for the attribute supportedResource.
4. Revision of the enumerates in attribute resourcePurpose type S100\_ResourcePurpose.

# Intention of the attributes supportedResource and resourcePurpose

The description of supportedResource is: “identifier of the resource supported by this support file”. This means the attribute is encoded to identify whichever resources (e.g., datasets) that use this support file.

The description of resourcePurpose is: “The purpose of the supporting resource”. As a result of ongoing discussions, we can assume this means the attribute is encoded to describe the purpose of the support file.

**Conclusion:** The intended use of supportedResource is to identify resources (e.g., datasets) that use this support file.

**Conclusion:** The intended use of resourcePurpose is to describe the purpose of the support file.



# Define conventions for the identifiers to be used for attribute supportedResource

- Currently in the remarks field of supportedResource it is stated: “Conventions for identifiers are still to be developed and will be defined later”. As a result of ongoing discussions, there seems to be several options to go for here:
- A file URI per S-100 1-4.6

Table 1-4 — Predefined Derived Types

Name	Description	Derived From
URI	A uniform resource identifier as defined in RFC 3986. Character encoding of a URI shall follow the syntax rules defined in RFC 3986. EXAMPLE http://registry.ihc.int	CharacterString
URL	A uniform resource locator (URL) is a URI that provides a means of locating the resource by describing its primary access mechanism (RFC 3986). EXAMPLE http://registry.ihc.int	URI
URN	A persistent, location-independent, resource identifier that follows the syntax and semantics for URNs specified in RFC 2141. EXAMPLE urn:ihc:s101:1:0:0:AnchorageArea	URI

- A digital signature MRN per S-100 Table 15-11

Table 15-11 – S-100 digital signature MRN

Name	Value	Example
Prefix	urn:mrn:ihc:s100:dsig	
Algorithm	From digitalSignatureReference (Part XX 4a-5)	dsa
Value	Computed digital Signature value	MEQCIHVvkGrJl0joEqmS5PCmnJW4pydisZW5gpJGoU3CUeOVAiAZvuRA0y3QDLgnzJ8I14oFX4U40BJ36UhrBVLUFfiVwQ==
Example	urn:mrn:ihc:s100:dsig:dsa:MEQCIHVvkGrJl0joEqmS5PCmnJW4pydisZW5gpJGoU3CUeOVAiAZvuRA0y3QDLgnzJ8I14oFX4U40BJ36UhrBVLUFfiVwQ==	



# Define conventions for the identifiers to be used for attribute supportedResource

- A cryptographic hash MRN per S-100 Table 15-12 agree. Support files are never encrypted so these work.

Table 15-12 – S-100 cryptographic hash MRN

Name	Value	Example
Prefix	<code>urn:mrn:iho:s100:hash</code>	
Algorithm	digitalSignatureReference (Part XX 4a-4.5)	<code>sha256</code>
Value	Computed cryptographic hash expressed as hexadecimal	<code>a948904f2f0f479b8f8197694b30184b0d2ed1c1cd2a1ec0fb85d299a192a447</code>
Example	<code>urn:mrn:iho:s100:hash:sha256:a948904f2f0f479b8f8197694b30184b0d2ed1c1cd2a1ec0fb85d299a192a447</code>	

- An MRN representing a datasetID per S100\_DatasetDiscoveryMetadata.

Attribute	datasetID	Dataset ID expressed as a Marine Resource Name	0..1	URN	The URN must be an MRN
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- Some other IHO MRN format as previous point.

Note: Discussion points covered in input paper.

**Conclusion: A decision of identifiers(s) to be used for supportedResource must be made.**

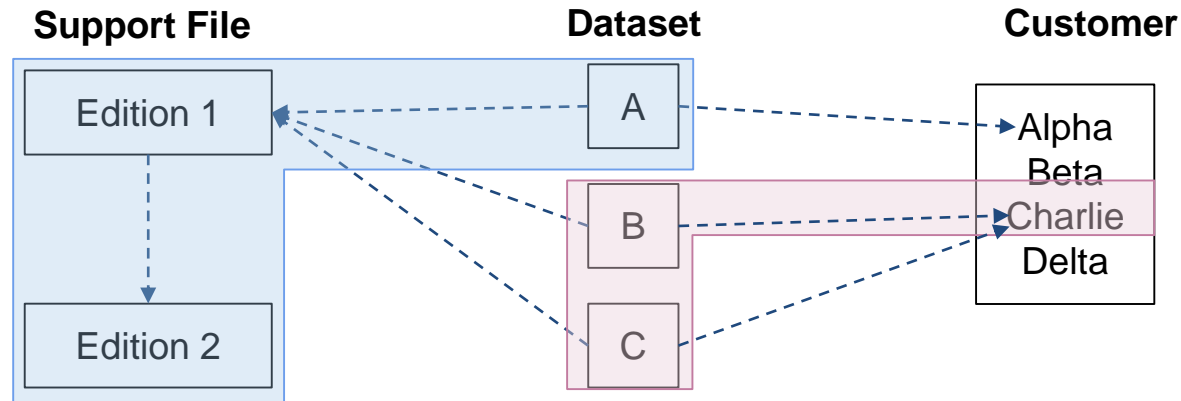
# Optionality for the attribute supportedResource

- The attribute supportedResource is currently optional.
- The use case for the optional nature of it was the README file use case
- Sometimes data producers want to distribute supporting information for the entire exchange set. In S-57 this was fulfilled by the README.TXT file (although no mandatory functionality exists on the ECDIS to allow this to be browsed by the user).
- From a service provider viewpoint, we believe there should be a requirement that support files always identify the datasets to which they are associated.
- Probably that would make it more manageable to ensure consistent support file management for service providers.
- For this to work the attribute supportedResource should be made mandatory

Note: Discussion points covered in input paper.

**Conclusion: A decision if the attribute supportedResource should be mandatory must be made.**

# Optionality for the attribute supportedResource



Exchange set containing Dataset A + Support File Edition 2 received.  
Alpha subscribes to Dataset A and receives updated information

Customer Charlie does not subscribe to Dataset A.  
Customer Charlie subscribes to Dataset B and C.  
Now customer Charlie must also get the Edition 2 of the Support File

Upon reception of Support File Edition 2 we should also get  
information that the supportfile is still used by Dataset B and C  
Then we can also send updated information to customer Charlie.

This is done encoding supportedResource attribute in supportFileDiscoveryMetadata  
within the Exchange Catalogue (CATALOG.XML)



# Revision of the enumerates in attribute resourcePurpose type S100\_ResourcePurpose **PRIMAR**<sup>®</sup>

- Ongoing discussion has revealed there is a need for revising the enumerates in attribute resourcePurpose type S100\_ResourcePurpose

S100\_ResourcePurpose

Role Name	Name	Description	Code	Remarks
Enumeration	S100_ResourcePurpose	Defines the purpose of the supporting resource	-	-
Value	dataset	A dataset	1	
Value	featureCatalogue	A Feature Catalogue for an S-100 data product	2	
Value	portrayalCatalogue	A Portrayal Catalogue for an S-100 data product	3	
Value	interoperabilityCatalogue	An Interoperability Catalogue	4	
Value	supportFile	A support file	5	
Value	productVersion	All datasets conforming to a specific version of an S-100 Product Specification	6	
Value	productFamily	All datasets conforming to any active version of an S-100 Product Specification	7	
Value	software	Application software	8	
Value	system	Provides support or common information for a variety of applications and products	9	
Value	exchangeCatalogue	An Exchange Catalogue	10	
Value	ISOMetadata	Dataset metadata in ISO format	11	
Value	languagePack	A Language pack	12	
Value	GMLSchema	GML Application Schema	13	
Value	other	A type of resource not otherwise described	100	

- Refer to input paper for further discussion

**Conclusion:** The enumerates in attribute resourcePurpose type S100\_ResourcePurpose must be reviewed. Decisions to be made based on ongoing discussions.

**Conclusion:** When all above mentioned issues are sorted out, clarifying information should be added in S-100 Part 17. This could for example be in the form of a note in the S100\_SupportFileDiscoveryMetadata table - Add explanatory note to supportedResource and resourcePurpose in S100\_SupportFileDiscoveryMetadata table.