Title: Interoperability and S-122 Updates to Metadata

S-100 Maintenance - Change Proposal Form

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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
3.0.0 (1)	4a	Figure 4a-D-4	Add "XML" to S100_DataFormat or restore "Other" and "otherDataTypeDescription". Add "XML" to S100_DataFormat UML diagram or restore "Other" to S100_DataFormat and restore "otherDataTypeDescription".
3.0.0 (2)	4a	Figure 4a-D-4 Table S100_DatasetDiscoveryMetadata	Make vertical datum and sounding datum optional (change multiplicities from 1 to 0..1).
3.0.0 (3)	4a	Figure 4a-D-4 Table S100_DatasetDiscoveryMetadata	Add metadataFileIdentifier, metadataPointOfCOntact, metadataDateStamp, metadataLanguage to S100_DatasetDiscoveryMetadata.
3.0.0 (4)	4a	Figure 4a-D-4 S100_CatalogueScope	Add "interoperabilityCatalogue" to enumeration
3.0.0 (5)	4a	Figure 4a-D-4: New enumerations S100_DigitalSignature, S100_ProtectionScheme	Enumerations agreed at S100WG (Action 11), but literals to be determined.
3.0.0 (6)	4a	Figure 4a-D-4: S100_DatasetDiscoveryMetadata attributes digitalSignature, digitalSignatureValue	Both are character strings. In fact the presence of the co-attribute digitalSignatureReference can be used to determine whether the dataset is signed: If it is absent the dataset is not signed, if it is present, the dataset is signed. digitalSignature should be deleted. If retained, it should be a Boolean. Coordinate the decision with the literals of S100_DigitalSignature; if "none" is added in that list digitalSignature can be removed altogether.
3.0.0 (7)	4a	Table S100_CatalogueMetadata: Attributes digitalSignatureReference, digitalSignatureValue	Both are mandatory, unlike Figure D-4. make them optional (0..1) like the other classes.
3.0.0 (8)	4a	S100_exchangeCatalogue.algorithmMethod	Add ZIP, RAR. Other suggestions invited.

Change Proposal

1) Add XML to *S100_DataFormat* in Part 4a and Part 12 for interoperability.

2) Make vertical datum and sounding datum optional.

3) Add elements describing the metadata discovery resource.

4) Add a literal describing interoperability catalogue information to S100_CatalogueScope in order to describe interoperability catalogues.

5) Literals for the new enumerations agreed at S100WG2 need to be determined.

6) Redundant attribute digitalSignature in S100_DatasetDiscoveryMetadata should be removed and a "none" or "unsigned" literal added to S100_DigitalSignature; if digitalSignature is retained, its type should be Boolean.

7) Mandatory digital signature for catalogues in table should become optional like Figure 4a-D-4.

8) List of compression algorithms started for S100_exchangeCatalogue.algorithmMethod.

Change Proposal Justification

1) S100 WG2 accepted a proposal to remove "other" from S100_DataFormat. That leaves nothing to describe interoperability information which is not in GML, HDF5, or ISO 8211 format.

2) Some data products e.g., S-122 (Marine protected areas), S-123 (Marine radio services), S-412 (Weather overlay), etc., do not have depth, elevation or height thematic attributes and therefore vertical datum and sounding datum are not relevant to those datasets.

3) MetadataFileIdentifier and the other elements proposed to be added describe the metadata resource itself. The names, types and multiplicities are:
metadataFileIdentifier   1   CharacterString
metadataPointOfContact 1   CI_ResponsibleParty
metadataDateStamp   1   Date
metadataLanguage   1..*   CharacterString

4) A new literal in S100_CatalogueScope is needed for interoperability catalogues.
Proposed literal: interoperabilityCatalogue
Definition: "S-100 interoperability information"

5) Agreed at S100WG2, literals TBD.

6) Redundancy and/or improper type.

7) Catalogue signatures need not always be mandatory.

8) Agreed in principle at S100WG2, list of algorithms requested.

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

☐   S-100 Feature Concept Dictionary Interface or Database
☐   S-100 Portrayal Register
☐   S-100 Feature Catalogue Builder

☐   S-100 Portrayal Catalogue Builder
☒   S-100 UML Models

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

S100_DatasetDiscoveryMetadata
+ fileName: CharacterString
+ filePath: CharacterString
+ description: CharacterString
+ dataProtection: Boolean [0..1]
+ protectionScheme: S100_ProtectionScheme [0..1]
+ digitalSignature: CharacterString [0..1]
+ digitalSignatureReference: S100_DigitalSignature [0..1]
+ digitalSignatureValue: CharacterString [0..1]
+ copyright: MD_RestrictionCode [0..1]
+ classification: MD_SecurityConstraints [0..1]
+ purpose: CharacterString
+ specificUsage: MD_Usage
+ editionNumber: CharacterString
+ updateNumber: CharacterString
+ updateApplicationDate: Date [0..1]
+ issueDate: Date
+ productSpecification: S100_ProductSpecification
+ producingAgency: CI_ResponsibleParty
+ optimumDisplayScale: Integer [0..1]
+ maximumDisplayScale: Integer [0..1]
+ minimumDisplayScale: Integer [0..1]
+ horizontalDatumReference: CharacterString
+ horizontalDatumValue: Integer
+ verticalDatum: S100_VerticalAndSoundingDatum
+ soundingDatum: S100_VerticalAndSoundingDatum
+ dataType: S100_DataFormat
+ dataTypeVersion: CharacterString
+ dataCoverage: S100_DataCoverage [1..*]
+ comment: CharacterString [0..1]
+ layerID: CharacterString [0..*]

S100_ExchangeCatalogue
+ identifier: S100_CatalogueIdentifier
+ contact: S100_CataloguePointofContact
+ productSpecification: S100_ProductSpecification [0..1]
+ metadataLanguage: CharacterString
+ exchangeCatalogueName: CharacterString
+ exchangeCatalogueDescription: CharacterString
+ exchangeCatalogueComment: CharacterString [0..1]
+ compressionFlag: Boolean [0..1]
+ algorithmMethod: CharacterString [0..1]
+ sourceMedia: CharacterString [0..1]
+ replacedData: Boolean [0..1]
+ dataReplacement: CharacterString [0..1]

S100_SupportFileDiscoveryMetadata
+ fileName: CharacterString
+ fileLocation: CharacterString
+ purpose: S100_SupportFilePurpose
+ editionNumber: CharacterString
+ issueDate: Date
+ supportFileSpecification: S100_SupportFileSpecification
+ dataType: S100_SupportFileFormat
+ otherDataTypeDescription: CharacterString [0..1]
+ comment: CharacterString [0..1]
+ digitalSignatureReference: S100_DigitalSignature [0..1]
+ digitalSignatureValue: CharacterString [0..1]

S100_SupportFileSpecification
+ name: CharacterString
+ version: CharacterString [0..1]
+ date: Date [0..1]

«enumeration»
S100_VerticalAndSoundingDatum
meanLowWaterSprings
meanSeaLevel
meanLowerLowWaterSprings
lowestLowWater
meanLowWater
lowestLowWaterSprings
approximateMeanLowWaterSprings
indianSpringLowWater
lowWaterSprings
approximateLowestAstronomicalTide
nearlyLowestLowWater
meanLowerLowWater
lowWater
approximateMeanLowWater
approximateMeanLowerLowWater
meanHighWater
meanHighWaterSprings
highWater
approximateMeanSeaLevel
highWaterSprings
meanHigherHighWater
equinoctialSpringLowWater
lowestAstronomicalTide
localDatum
internationalGreatLakesDatum1985
meanWaterLevel
lowerLowWaterLargeTide
higherHighWaterLargeTide
nearlyHighestHighWater
highestAstronomicalTide

S100_CatalogueMetadata
+ fileName: CharacterString [1..*]
+ fileLocation: CharacterString [1..*]
+ scope: S100_CatalogueScope [1..*]
+ versionNumber: CharacterString [1..*]
+ issueDate: Date [1..*]
+ productSpecification: S100_ProductSpecification [1..*]
+ digitalSignatureReference: S100_DigitalSignature [0..1]
+ digitalSignatureValue: CharacterString [0..1]

IF S100_SupportFileDiscoveryMetadata.dataType = "Text":
1) S100_SupportFileSpecification.name is mandatory and must be one of the MD_CharactersetCode literals
2) S100_SupportFileSpecification.{version, date} are optional
ELSE
1) S100_SupportFileSpecification.{name, version, date} are mandatory

«enumeration»
S100_DataFormat
ISO/IEC 8211 BINARY
GML
HDF5

«enumeration»
S100_SupportFilePurpose
new
replacement
deletion

S100_CatalogueIdentifier
+ identifier: CharacterString
+ editionNumber: CharacterString
+ date: Date

S100_CataloguePointofContact
+ organization: CharacterString
+ phone: CI_Telephone [0..1]
+ address: CI_Address [0..1]

S100_ProductSpecification
+ name: CharacterString
+ version: CharacterString
+ date: Date
+ number: Integer

«enumeration»
S100_SupportFileFormat
ASCII
JPEG2000
HTML
XML
XSLT
VIDEO
TIFF
PDF/A or U/A
other

S100_DataCoverage
+ ID: Integer
+ boundingBox: EX_GeographicBoundingBox
+ boundingPolygon: EX_BoundingPolygon [1..*]
+ optimumDisplayScale: Integer [0..1]
+ maximumDisplayScale: Integer [0..1]
+ minimumDisplayScale: Integer [0..1]

«enumeration»
S100_DigitalSignature

«enumeration»
S100_CatalogueScope
featureCatalogue
portrayalCatalogue
interoperabilityCatalogue
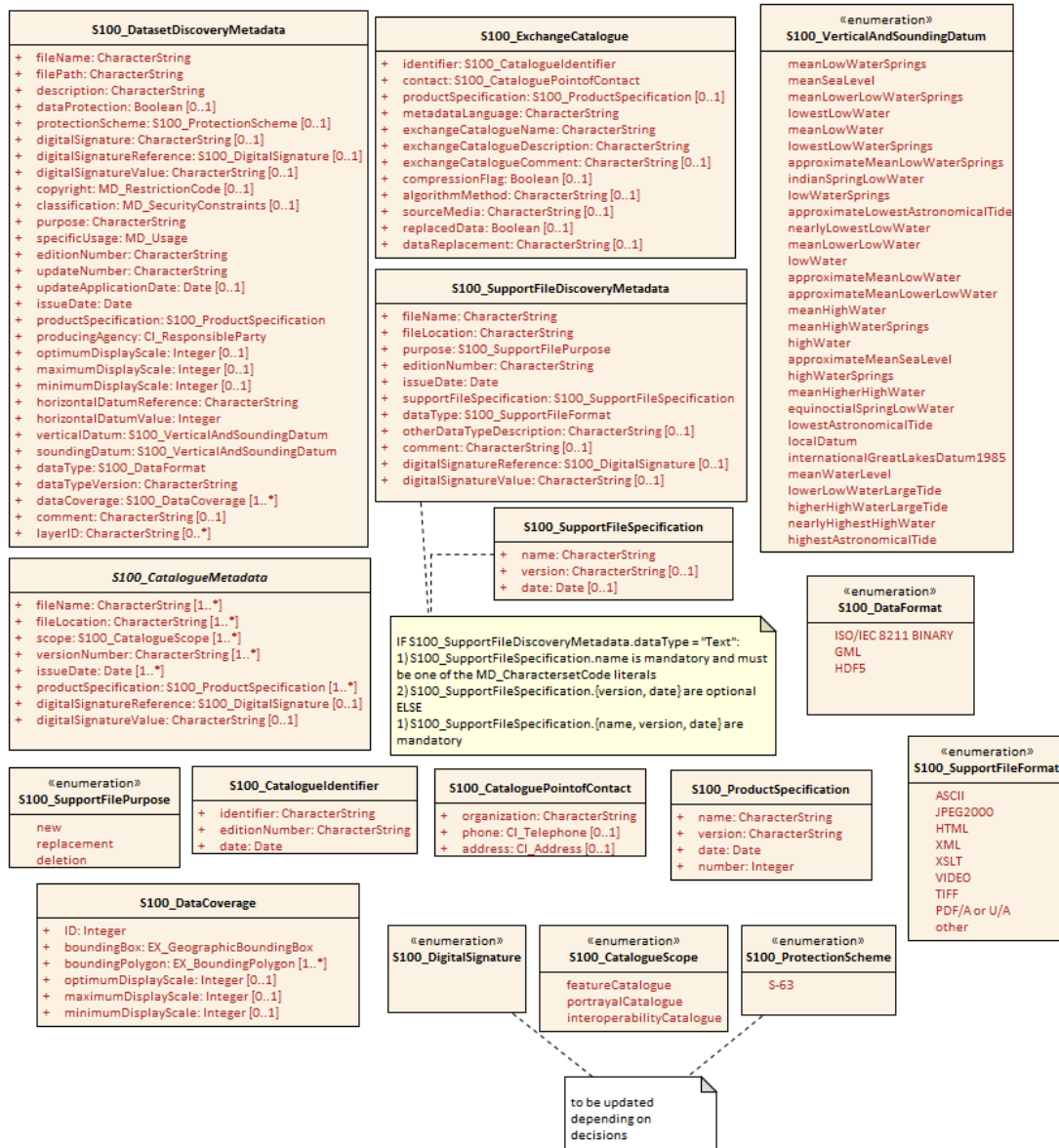
«enumeration»
S100_ProtectionScheme
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to be updated depending on decisions

Figure 1 Figure 4a-D-4 as updated