Paper for Consideration by S-100WG5

Proposed changes to S-100 Feature Catalogue Model

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Executive Summary:	This paper proposes a change to S-100 FC model to support linkage between a feature catalogue and specific versions of Registry content.
Related Documents:	None
Related Projects:	KHOA S-100 Test Bed Project

Introduction / Background

1. Feature Catalogue is created with specific versions of the Registry content. Even if the version of the Registry content is changed, there is no version information in S-100 FC model. There is not a proper linkage between feature catalogue and registry content. This paper proposes a change to S-100 FC model to support linkage between a feature catalogue and a specific version of the Registry content.

Analysis/Discussion

Proposal to change S-100 FC model

2. In S-100 Edition 4.0.0, core classes of the Feature Catalogue model has associations to registry classes which hold definitions. The linkage is maintained using the camelCase identifiers. The registry permits change management of the definitions by way of versioning. However, there is no mechanism within S-100 Edition 4.0.0 to link to a certain version of a definition to an item in a feature catalogue.

3. The change consists of adding the attribute versionDate to the classes S100_FC_Item and S100_FC_ListedValue. The intent is to capture the date of the source item in the Feature Data Dictionary in the Registry. The attributes have been made optional with a multiplicity of 0..1 since it is not mandatory for S-100 based items to have a definition from a registry.

4. According to the proposal in this document, the details of the changed S-100 FC model and the changes are as follows.

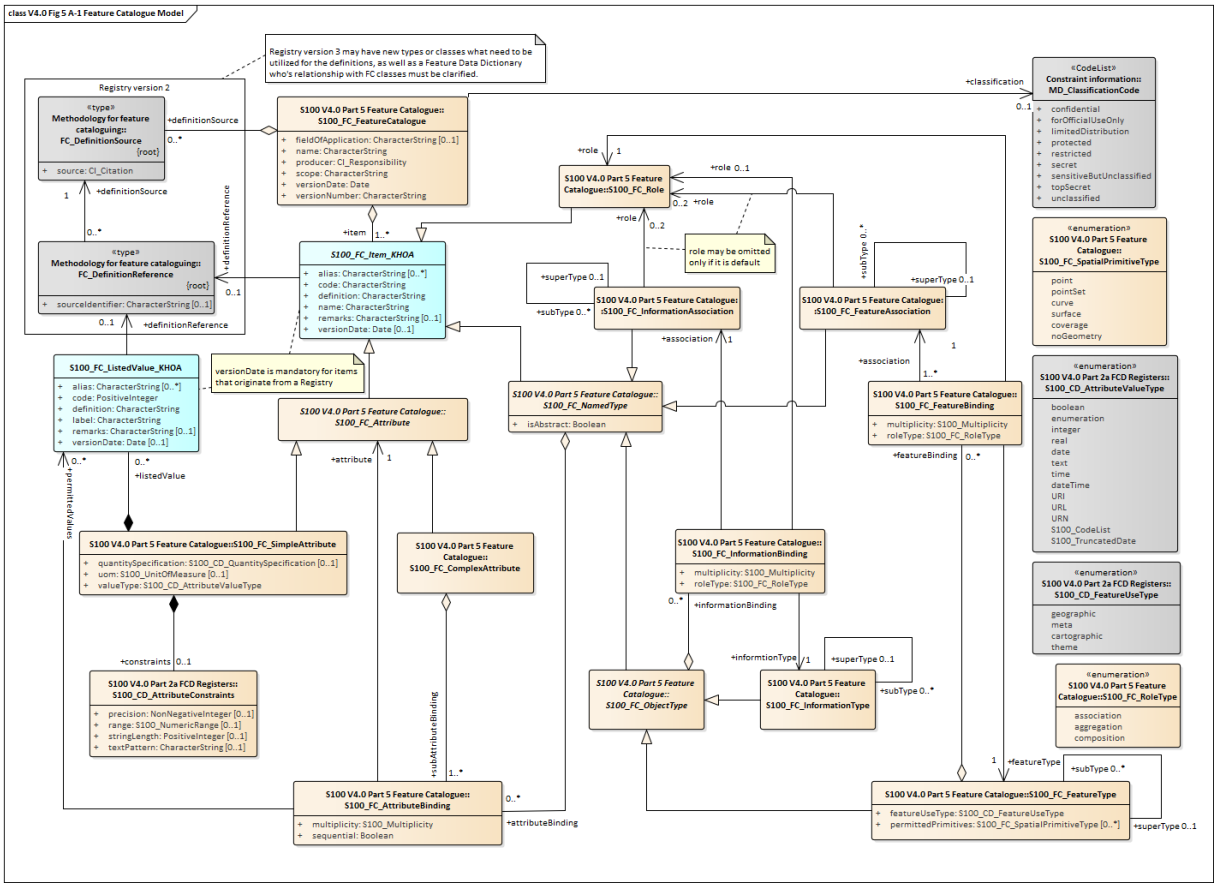

Fig. 1 Proposed changes to S-100 FC Model

Table 5-A-4 — S100_FC_Item_*KHOA*

Role Name	Name	Description	Mult	Type	Remarks
Class	*S100_FC_Item*	Abstract base class that defines the common properties of all items in the feature catalogue; items are feature types, information types, feature associations, information associations, attributes and roles	-	-	Abstract class
Attribute	name	Name of the item	1	CharacterString	
Attribute	definition	Definition of the named type in a natural language	1	CharacterString	
Attribute	code	Code that uniquely identifies the named type within the feature catalogue	1	CharacterString	
Attribute	remarks	Further explanation about the item	0..1	CharacterString	
Attribute	alias	Equivalent name(s) of this item	0..*	CharacterString	
Attribute	versionDate	Date of the Feature Data Dictionary item that this item originated from.	0..1	Date	Mandatory for items that originate from a Registry
Role	definitionReference	The link to the source of the definition	0..1	FC_DefinitionReference	

Table 5-A-15 — S100_FC_ListedValue_*KHOA*

Role Name	Name	Description	Mult	Type	Remarks
Class	S100_FC_ListedValue	Value of an enumerated attribute domain, including its codes and definition	-	-	
Attribute	label	Descriptive label that uniquely identifies one value of the feature attribute	1	CharacterString	
Attribute	definition	Definition of the listed value in a natural language	1	CharacterString	
Attribute	code	Numeric code that uniquely identifies the listed value for the corresponding feature attribute	1	PositiveInteger	
Attribute	remarks	Further explanation about the listed value	0..1	CharacterString	
Attribute	alias	Equivalent name(s) of this listed value	0..*	CharacterString	
Attribute	versionDate	Date of the Feature Data Dictionary item that this item originated from.	0..1	Date	Mandatory for items that originate from a Registry
Role	definitionReference	The link to the source of the definition	0..1	FC_DefinitionReference	

Impact on S-100 FCB

5. S-100 FCB is a tool to create S-100 based feature catalogue connecting S-100 registry content, so its function should be improved in a way that users can decide whether to update comparing feature catalogue and registry contents.

6. When the attribute is present it means the item in the registry with the same camelCase ID and time stamp is the source of the item in the feature catalogue. This enables applications, such as the Feature Catalogue Builder, to use the camelCase ID and time stamp combinations to determine the exact source of an item and compare that with the latest version available in the source Registry. The application can then present the feature catalogue creator with the option to keep the source or to update the item to a later version.

7. See Figure 2 for proposed application decision process. The process is the same for S100_FC_Item and S100_FC_ListedValue, therefore only FC Item is shown.

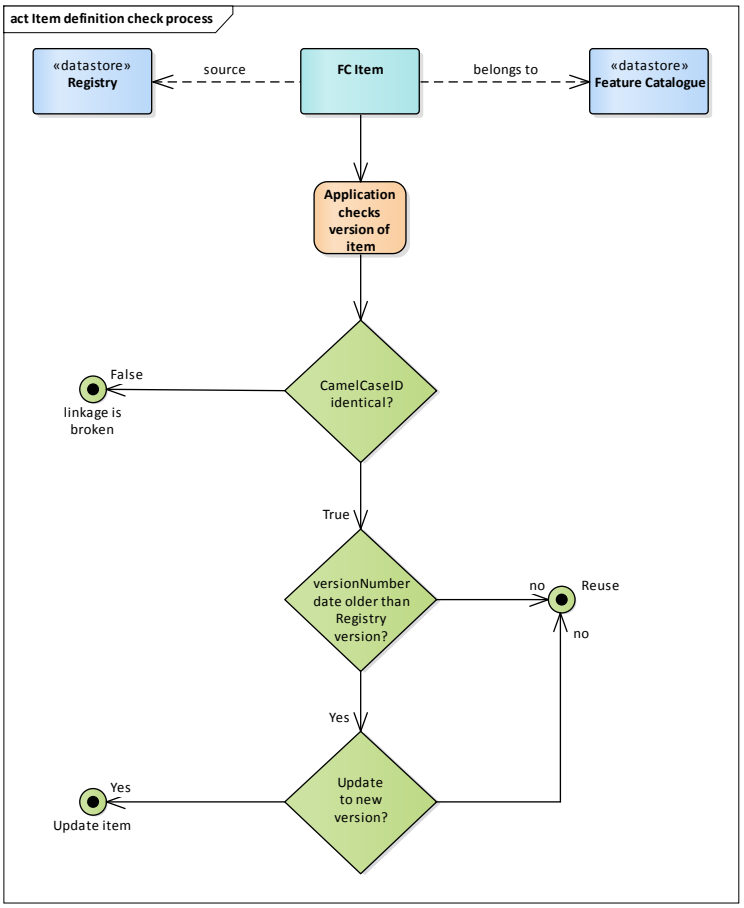

Fig.2 The decision process of updating definition in the S-100 FCB

Conclusions

8. In S-100 Edition 4.0.0, registry permits change management of the definitions by way of versioning. However there is no mechanism within S-100 Edition 4.0.0 to link to a certain version of a definition to an item in a feature catalogue. This paper proposes a change to S-100 FC model of adding the attribute versionDate to the classes S100_FC_Item and S100_FC_ListedValue to support linkage between a feature catalogue and specific versions of Registry content. There is an impact to S-100 FCB which is modifications of function to compare between feature catalogue and registry contents.

Recommendations

9. It suggests a change of S-100 FC model and a function modification of S-100 FCB that occurs accordingly.

Action Required of S-100WG

The S-100WG5 is invited to:

a. **Note** this paper
b. **Discuss** the changes of S-100 FC model proposed in this paper