

S-127 Feature Catalogue and the FCB

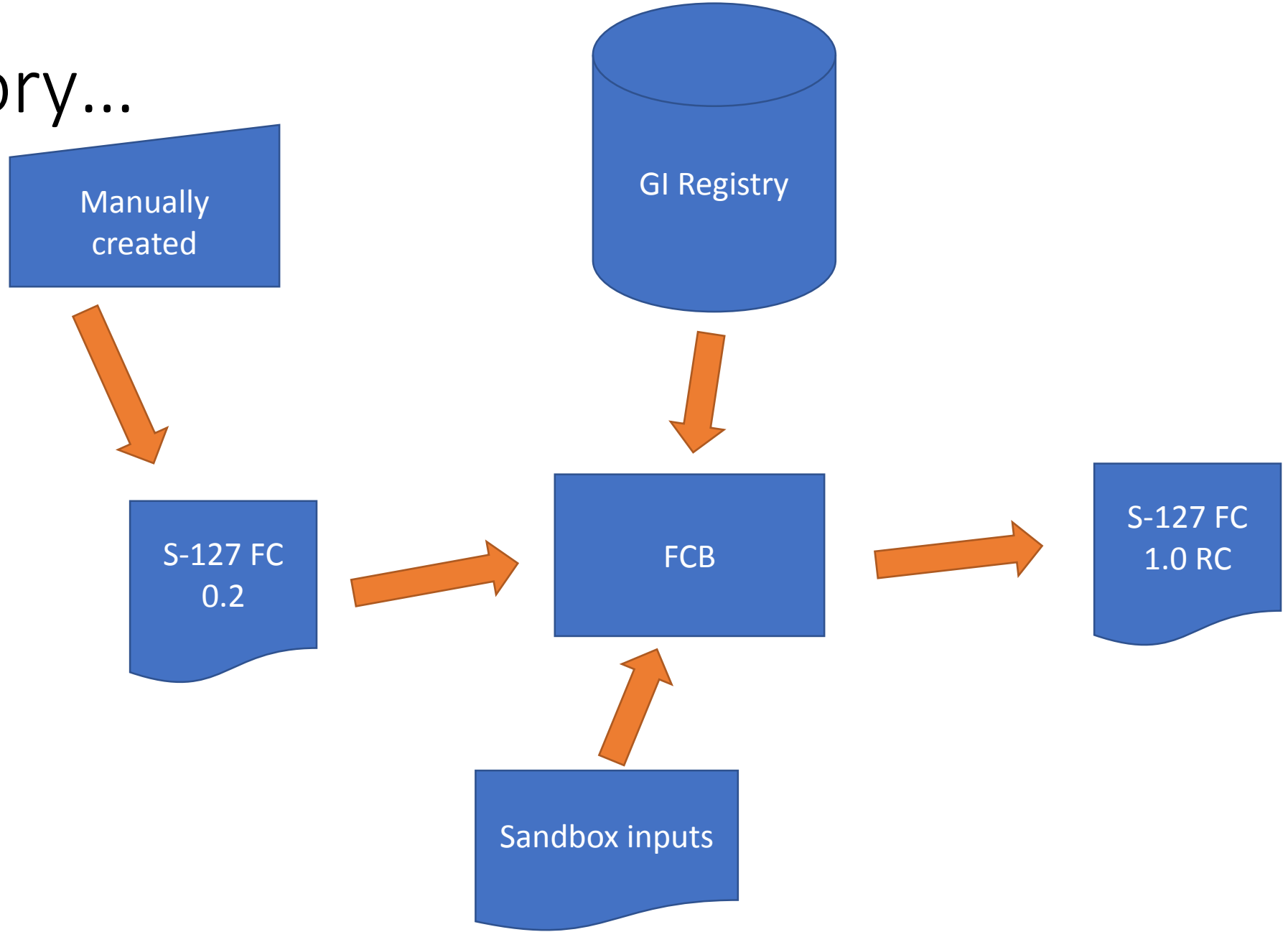
S-100WG4

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Eivind Mong

Raphael Malyankar

The theory...



The outcome

The FCB is current with S-100 Edition 3.0.0, which means the feature catalogue metadata model is also S-100 Edition 3.0.0. This is an issue since S-127 is built on S-100 Edition 4.0.0 and there are significant metadata model changes between the editions.

Errors in enumeration numbering has been inherited from the Registry, and impose unwanted inconsistencies on S-127.

There are numerous cases of missed spacing between words in definitions, which are inherited from the Registry, and impose unwanted inconsistencies on S-127.

The FCB has some issues with some of the character sets used in the Registry. These issues result in odd characters in the FC that may cause some issues for machine readability. Investigation showed that there are variations of character sets within the same field in the Registry. It seems the FCB has issues processing these.

The Registry has implemented 'S100_TruncatedDate' data type label incorrectly as 'truncateddate', which is permeated through the FCB, and impose unwanted inconsistencies on S-127.

That part of a river, harbour and so on, of larger size lies. It is also the usual co harbours, called "ship channel".



entering or leaving harbours, called i° ship channel i^{\pm} .

The outcome


Unit of measure, quantity specification and constraints are not captured in the Registry for various attributes. Several of these attributes are used in S-127, and utilizing the FCB therefore impose unwanted omissions on S-127.

The data type URL is implemented in the FCB as uRL, and impose unwanted inconsistencies on S-127.

The camelCase for the attribute underkeel allowance variable draught based is captured in the Registry as 'underkeelAllowanceVariableDraughtBased<' and permeated through FCB into the feature catalogue. The Registry should not permit disallowed characters, and neither should the FCB.

The permitted values of enumerated attributes do sometimes include blank values since these are missing in the Registry, but were present in the input S-127 FC. Similar issues are conceptually possible when going from one version of the FC till the next, and should be noted in the FCB as a report to the user or some other form of notification.

Related to the previous point, discrepancies in certain aspects of listed values (in particular, in labels and numeric codes) require inspection and update of previously defined GML data formats (Part 10b) and datasets, because the labels and/or codes must be encoded in XML schema enumerations and dictionary files. The same would apply to validation checks. As a consequence of this cascade, implementations would potentially also be affected.

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- 1: download
 - 2:
 - 3: offline access
 - 4: order
 - 5: search
 - 6: complete metadata
 - 7: browse graphic
 - 8: upload
 - 9: email service
 - 10: browsing

The outcome

FCB does not have a function for adding attribute bindings to associations. S-127 has two such associations and these are therefore not implementable via the FCB.

When loading pre-existing FC which has instances of information types with isAbstract=true, the tag is somehow changed to false. Investigation seems to indicate that this effect apply to all abstract information types, while it seems this tag is un-altered for feature types.

Multiplicities have been altered when loading into, and saved from the FCB. In some cases what was 0..1 in original, is for some reason changed to 0..0. Investigation seems to indicate this mainly affecting the upper range.

If there are multiple valid versions of an attribute defined in the registry, the FCB appears to pick the most recent version even though it may be in a different domain. The FCB replaced the complex attribute 'graphic' from the "IHO Hydro" domain with a later and different version from the "WMO Weather" domain with a different sub-attribute.

		1
	<u>0..*</u>	
	0..0	
neration	0..0	<u>1</u> 2 3
	0..0	
		<u>1</u>

No.	Alpha Code(Acronym)	Camel Case ID	Name	Date Accepted
3	graphic		graphic	
2	graphic		graphic	
1	graphic		Graphic	2017-12-15



Conclusion

The S-127 development team thinks that the multiplicity issue can likely be resolved by creating the feature catalogue from scratch in the FCB, but the inability to add association attributes, invalid data types, propagation of Registry inconsistencies, and inability to use units of measure, quantity specifications, and constraints all remain. To correct these, the team would have to manually edit a feature catalogue created by the FCB, which negates the whole point of making the FC fully using IHO tools. Therefore, it is considered that a handcrafted S-127 FC is the better starting point for the first Edition of S-127 since this can be made to conform to the S-100 feature catalogue schemas, can include more complete feature catalogue entries, and is easier to create from the previous versions.