

## Paper for Consideration by NIPWG2/S-100WG1

### Update to S-100 FCB v2.0

<b>Submitted by:</b>	Republic of Korea (KHOA)
<b>Executive Summary:</b>	This paper outlines the status of S-100 Feature Catalogue Builder (FCB).
<b>Related Documents:</b>	S-100, S-100 Test Framework
<b>Related Projects:</b>	IHO S-100/S-101 Test Bed Project

### Introduction / Background

The KHOA has developed the S-100 FCB (Feature Catalogue Builder) and drafted a draft version of S-101 Feature Catalogue to support the S-100/S-101 Test bed of the IHO.

The S-100 FCB is being updated based on the new version of S-100 and requirements by user groups. This paper reports the results of updates since the TSM (Test Strategy Meeting) held in Jeju Island, ROK in 2015 and future plan.

### Analysis/Discussion

#### Identification of revisions to the S-100 FCB

The KHOA asked the Inland domain to test the S-100 FCB and received comments on the evaluation and revisions. The comments can be summarized as below:

- Network: S-100 FCB could not access the S-100 FCB Registry due to the security policy of the user's organization. (Since the S-100 FCB was not working due to a network problem, a mobile network was used instead of the organization's network.)
- Access: The mobile network made the S-100 FCB very slow due to the time taken for logging in with a user ID and PW, loading the FCD Register DB from the Registry, and loading saved FC from the S-10X FC DB.
- FC Schema: The existing feature catalogue for Inland ENC's from the Inland domain was not loaded.
- Functions: Several errors were found in some parts of the S-100 FCB.

The KHOA has recognized that the S-100 FCB can be largely affected by communication network. Loading FCB Register DB or loading/saving FC information established in FC DB is not a work done frequently when using the S-100 FCB. Taking that into consideration, if local FCD Register DB can be managed in XML file, it is observed that the network problem can be resolved to some degree.

#### Results of the Update to the S-100 FCB

The KHOA updated the S-100 FCB to minimize dependence on the network status of the place the S-100 FCB is being operated as below:

- 1) Function to manage the FCD Register DB within S-100 FCB in an XML format.
- 2) Function to update the local XML file on FCD register DB.
- 3) Improvement of the process of FC compilation and uploading the S-10X FC to the FC DB of S-100 Registry
- 4) Adjust the version number of FCB to the S-100 (S-100 v2.0 → FCB v.2.0.x), 0.0.X can be used to indicate an error revision and function improvement

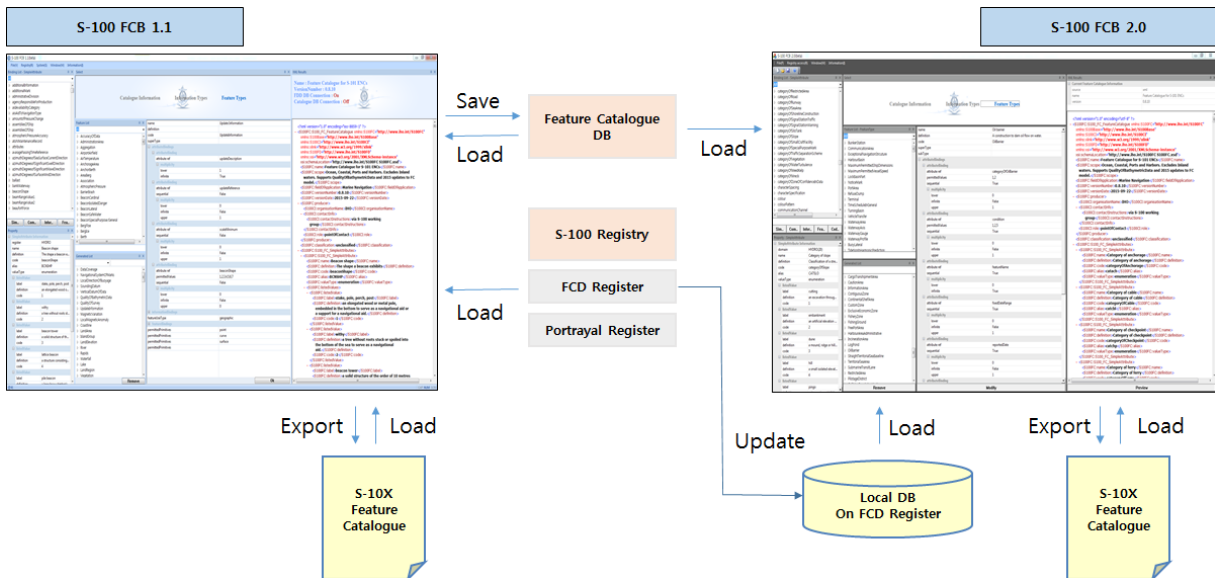


Figure. 1 Comparison between S-100 FCB 1.1 and S-100 FCB 2.0

Since the TSM held in Jeju Island, ROK in 2015, the feature catalogue schema was updated by Jeppesen according to the feature catalogue model of S-100 ver. 2.0. Accordingly S-100 FCB was updated considering the changed schema and improvement in terms of function and user interface.

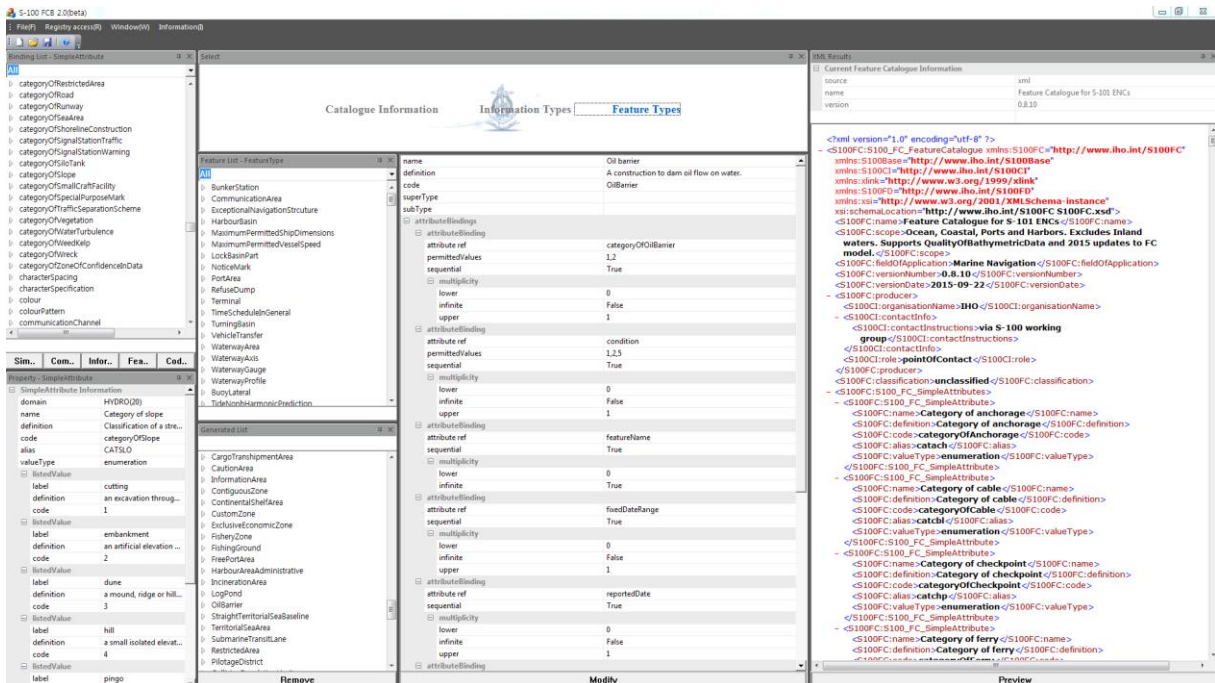


Figure. 2 Result of the Update to S-100 FCB (Version 2.0)

Regarding the operation of the S-100 FCB, use case can be expected as below:

- S-10X PS developers: use S-100 FCB to develop a required feature catalogue in S-10X PS. Users can proceed with FC works without accessing to S-100 Registry. As S-100 FCB provides information of latest updated date of FCD Register local DB, users can update the FCD register local DB from S-100 Registry if the renewal of local DB is required. Users can export the S-10X FC to external XML file, but it is not permitted to save to FC DB in S-100 Registry.
- Registry Manager or Register Manager: If user with administrative rights log in S-100 FCB, it is possible to load S-10X FC from the FC DB and save the S-10X FC to FC DB.

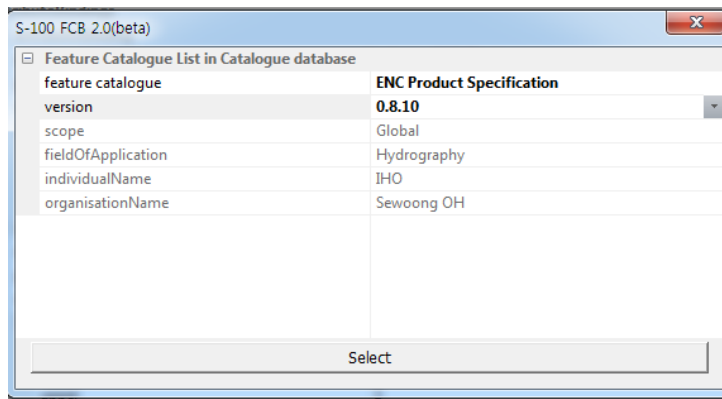


Figure. 3 S-10X feature catalogue in FC list

### Discussion topics

S-100WG1 is invited to discuss several topics raised in updating the S-100 FCB.

- **Operating FCD Register local DB within S-100 FCB:** Application of new concept on operating FCD Register local DB within S-100 FCB to minimize the dependence with communication network environment.
- **Access authority control to FC DB:** S-10X PS developer can export S-10X FC in S-100 FCB as XML format. Final version of S-10X FC can be saved to FC DB only by S-100 Registry manager. All users can load S-10X FC from FC DB of S-100 Registry.
- **User accounts of S-100 FCB:** Since S-100 FCB contains the FCD Register local DB, users can use the S-100 FCB without log-in process. But, it's required to log in S-100 FCB if users want to update the FCD register local DB. It's invited to discuss if the user information of S-100 Registry website can be used to the log-in process of S-100 FCB.
- **Use of registered items depending on status:** The current S-100 FCB use only valid items in FCD Register. When compiling the S-10X FC, there can be a case to use invalid (proposed) items in the FCD Register. It is necessary to discuss whether valid items are used only or used with invalid items together.

### Future plan of S-100 FCB

The KHOA assumes that the network problem was minimized and the stability was improved by updating to S-100 FCB v.2.0. ROK planed like below considering the test operation of S-100 Registry:

- Test between S-100 Registry DB and S-100 FCD in conjunction with the operation of S-100 Registry
- Update S-101 FC using S-100 FCB
- Provide S-100 FCB to non-hydro domain (Npub, Inland) and request to produce S-10X FC, support technical issues
- Tutorial and manual on S-100 FCB

### **Action Required of NIPWG2/S-100WG1**

The NIPWG2 is invited to:

- a. note the progress reported in this paper.
- b. Provide comments on the items raised in discussion topics.