



EncEditor Improvements

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UNIFIED SCHEMA DOCUMENT

Earlier versions of EncEdit (the ENC Editor) relied on a mix of handcrafted data files to provide information about Objects, Attributes and values for various product specifications. These worked well but the task of keeping them updated for changes was time-consuming. After running across the XML-encoded specification for Inland Electronic charts from the Army Corps, I was impressed enough to bring the other specifications into the same format. The result is a much improved 'fuel' to drive the editor. You can get a feel for the change by opening up the schema dialog (Figure 1).

FIGURE 1. S57 Schema Dialog

Code	Ident	Name	Geom	Product	Attr	Notes
8210	vessel	Vessel	P	S57	DATSTA	
8211	vrmark	Variable range marker	L	S57	DATEND	
8212	waypnt	Waypoint	P	S57	PERSTA	
8213	wholin	Wheel-over-line	L	S57	PEREND	
1	ADMARE	Administration Area (Named)	A	IENC	JRSDTN	M
400	C_AGGR	Aggregation		IENC	NATION	M
2	AIRARE	Airport/airfield	P,A	IENC	CONDTN	m
401	C ASSO	Association		IENC	OBJNAM	M
6	BCNISD	Beacon, isolated danger	P	IENC	NOBJNM	

A defined (and possibly named) administration area.

Code	Ident	Name	Type
80	CSCALE	Source Scale	Integer
81	COND TN	Condition	Enumerated
82	CONRAD	Conspicuous, radar	Enumerated
83	CONVIS	Conspicuous, visually	Enumerated
84	CURVEL	Current Velocity	Floating Point
85	DATEND	Date end	Coded String
86	DATSTA	Date start	Coded String
87	DEPTH	Depth range value 1	Floating Point

Code	Meaning	Description
1	visually conspicuous	term applied to an object either natu...
2	not visually conspicuous	an object which is visible from seawa...

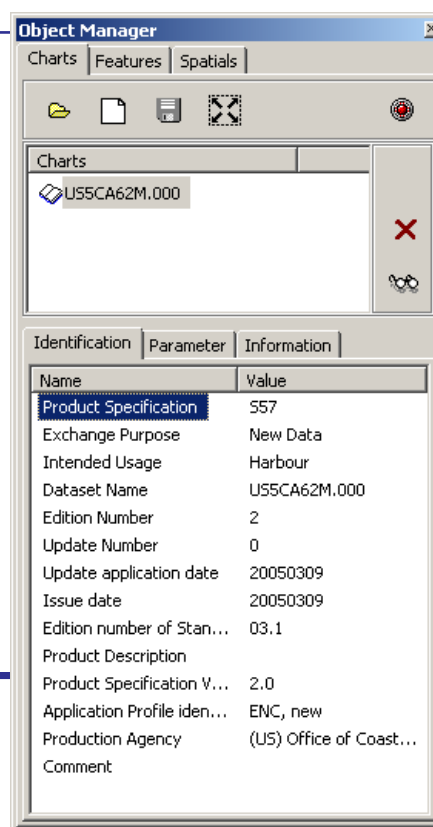
This dialog shows detailed information on any object for any Product Specification, the attributes associated with a particular object and the legal values for the particular attribute. In particular, you will notice a single specification associated for each object type, where as in the past they were co-mingled. In the future, I may place a filter in this dialog to allow better focusing on the content of interest.

USER INTERFACE IMPROVEMENT

FIGURE 2. Object Manager

Information that was formerly only available in the Edit Chart dialog has been moved into tabs on the 'Charts' page of the Object Manager. The edit chart dialog itself has been removed as the new access to a chart's meta fields is simply better. In much the same way as the available attributes change when selecting different feature and spatial objects, the same occurs when selecting a chart in the Charts list. The editor ensures that the fields listed in the Identification, Parameter and Information tabs is always correct.

To edit any value, simply double-click its name. This will open the Attribute editor where appropriate changes can be made. The chart summary information, which used to appear below a chart, has been removed as redundant.

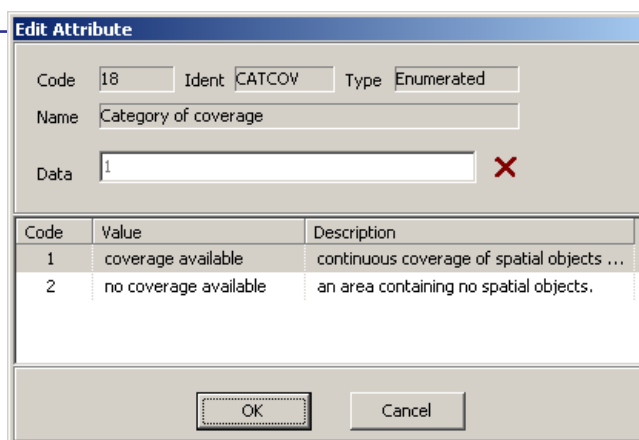


IMPROVED ATTRIBUTE EDITOR

The Attribute editing dialog has been improved to take advantage of the extended information available in the new unified schema.

FIGURE 3. Attribute Editor

The input type and available values for any attribute are driven by the chart's active product specification value. The specification value, in turn, is used as a key to mine the unified schema document for pertinent content. Some of the extended information for fields includes definitions for individual value choices for list and enumerated field types. Other fields may provide hints as to the expected form of the value entered. For example the "RECDAT"



attribute has a value type of coded string. It will now provide a hint that "The capture date should be encoded using 4 digits for the calendar year (CCYY), 2 digits for the month (MM) (e.g. April:04) and 2 digits for the day (DD)". Another example, "VALMAG", with an input type of floating point, provides hints about the expected values' range, units and resolution.

SIMPLIFIED NEW CHART DIALOG

FIGURE 4. New Chart Dialog

Instead of jumping around various tabs to find and set a new chart's parameters, the Create New Chart dialog will list just the most important fields which should be filled in immediately. The key field, 'Product Specification', is listed first. The selection made (e.g. S57 or IENC) determines the available values the remaining fields can assume. These possible values are all driven off the product specification tree encoded in the unified schema document. A simple double-click on any field will open the improved attribute editor. Although these fields are more correctly viewed as chart metadata than attributes, the editing is unified to make the experience easier and consistent. The rest of the chart's fields can be viewed and modified at any time from the tabs below the Charts tab of the Object Manager.

Name	Value
Product Specification	IENC
Dataset Name	
Issue date	
Production Agency	(3H) HYPACK, Inc.
Intended Usage	Overview
Horizontal datum	WGS 1984
Vertical datum	Mean Sea Level
Sounding Datum	Mean Low Water Springs
Source Scale	100000
Depth units	metres
Height/Length Units	metres
Coordinate Units	Latitude/Longitude
Positional Accuracy Units	Metres
Coordinate Multiplicatin Fa...	1000000
Sounding Multiplicatin Factor	100
Attribute lexical level	Latin 1 - ISO 8859
National Attribute lexical l...	Latin 1 - ISO 8859

All of these improvements will be available by the next HYPACK conference.