Paper for Consideration by the S-101 Project Team

Corrections for Encoding of Features Associated with pointSet Geometries

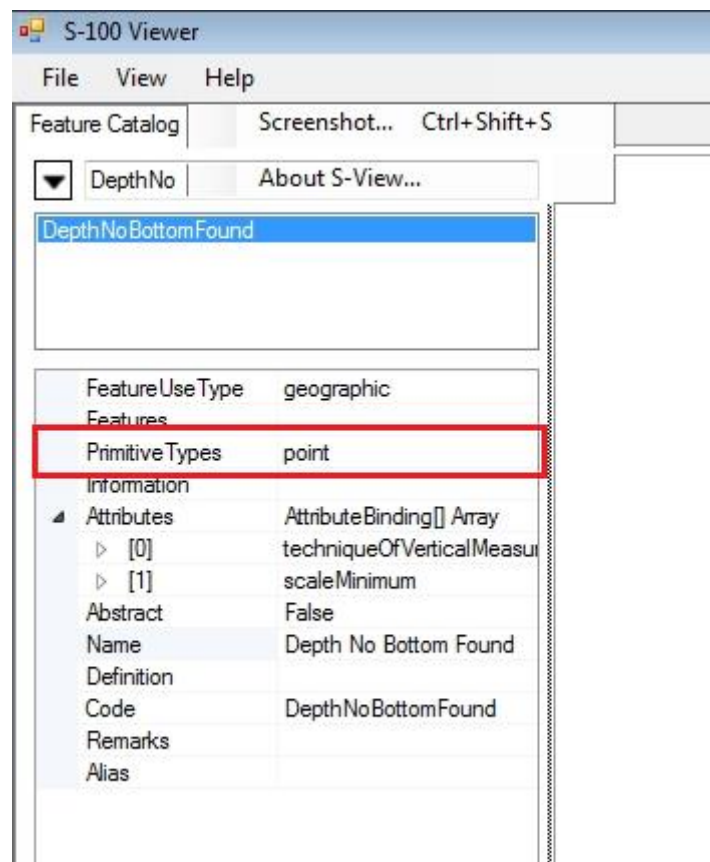|	
Submitted by:	SPAWAR Atlantic
Executive Summary:	Corrections for encoding of features associated with pointSet geometries
Related Documents:	S-101 Appendix A
Related Projects:	IHO S-100/S-101 Test Bed Project

Introduction / Background

For encoding efficiency, S-101 encodes Sounding features by grouping soundings that have common attribution into a single feature instance. The geometry associated with this feature instance is encoded using a collection of coordinates, each coordinate containing latitude, longitude and depth. The same is true for the S-101 feature DepthNoBottomFound.

Analysis / Discussion

The DCEG currently does not distinguish between pointSet and point features. Additionally, v0.8.9 of the S-101 feature catalogue incorrectly specifies the spatial association for Sounding and DepthNoBottomFound as "point" vice "pointSet", as shown in the figure below.

Finally, there is some ambiguity as to whether a single sounding with no shared attribution should be encoded as a point or as a pointSet. The recommended changes below clarify that the only allowable spatial association for

these feature types is to a pointSet, even for a single spatial element with no shared attribution.

Recommendations

1. Modify section 2.2 of the DCEG so that pointSet is an allowable geometric primitive.

The allowable geometric primitive for each feature type is defined in the Feature Catalogue. Within this document, allowable primitives are included in the tables containing a description of each feature type. Allowable geometric primitives are point, ==pointset,== curve and surface.

> *Each spatial value must be reference by at least one feature instance.*

> *Within this document, allowable primitives are included in the description of each feature type. For easy reference, Table 2.1 below summarises the allowable geometric primitives for each feature type. In the Table, abbreviations are as follows: point (P), ==pointset (A),== curve (C) and surface (S). A feature having no allowable geometric primitive is annotated as none (N).*

2. Update table 2.1 in the DCEG so that Depth – No Bottom Found and Sounding feature types are shown as type "A" vice "P".

3. Modify 11.3 Sounding to specify primitive type as PointSet vice Point.

4. Modify 11.8 Depth - no bottom found to specify primitive type as PointSet vice Point.

5. Modify the feature catalogue so that Sounding and DepthNoBottomFound have a primitive type of pointSet.

Action Required of S-101 PT
The S-100 working group is invited to:

    a.   note the paper

    b.   agree with the recommendations

    c.   modify the DCEG as described in this paper