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Change Request #:	175
Assigned OGC Document #:	11-131
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Document Name/Version:	*Symbology Encoding Implementation Specification / 1.1.0
OGC Project Document:	*05-077r4

If this is a revision of a previous submission and you have a Change Request Number, then check here:

Enter the CR number here:

Enter the Revision Number that you are revising here:

Title:	*Composite Rule with support for 'Else If' and nested objects
Source:	*OWS-8 Aviation
Work item code:	<input type="text"/>
Category:	* B (Addition of feature)

Reason for change:	<p>*</p> <ol style="list-style-type: none"> Complex data models like AIXM 5 have feature types that are a composition of nested objects. The current SE 1.1 only allows limited styling of these child objects, such as using the same style for all objects. Another CR defines a CompositeChildSymbolizer to apply a symbolizer to child objects, this is not always sufficient because there are examples where we need to apply rules to nested objects to select the right symbolizer. Currently the concept of 'else if' as defined by many programming languages is not supported by SE. This makes rules hard to write and inefficient, as every rule also needs a condition that is the inverse of the conditions of the other rules to achieve the same effect.
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Summary of change:	<p>*</p> <p>Define a new se:CompositeRuleType, which is an extension of se:RuleType. The following schema illustrates how it should look like:</p> <pre> <xsd:element name="CompositeRule" type="ows:CompositeRuleType" substitutionGroup="se:Rule"/> <xsd:complexType name="CompositeRuleType" > <xsd:complexContent> <xsd:extension base="se:RuleType"> <xsd:sequence> <xsd:element ref="se:Rule" maxOccurs="unbounded"/> </pre>
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<xsd:element name="ChildProperty"
type="ogc:PropertyNameType"/>
</xsd:sequence>
<xsd:attribute name="elseIfRule"
type="xsd:boolean" default="false"/>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
```

The following elements and attributes are added with respect to se:RuleType:

- 1) se:Rule (0..*) A list of rules
- 2) se:ChildProperty (0..1) A property pointing to a list of nested objects.
- 3) elseIfRule A boolean indicating that the rules contained in this composite rule should be treated as an 'Else If' block.

We define the following semantics:

- The CompositeRuleType extends from RuleType, this includes semantics.
- If a ChildProperty is set, all symbolizers and rules that are part of this rule are applied to each element of the list that is obtained by evaluating the ChildProperty against the object that was accepted by this rule.
- If elseIfRule is set to true, the rules are evaluated in the same order as they appear in the list, only the first rule that accepts a given (nested) object is used for styling. If elseIfRule is set to false, the semantics that are now used in an se:FeatureTypeStyle apply.
- The use of the XPath parent axis '...' is allowed to reference from a nested object back to one of its parents.

Consequences if not approved: 

1. Domain models with geometry in nested children will not be supported. (AIXM5, WXXM,...)
2. The lack of else-if will continue to make rules hard to write and inefficient to evaluate.

Clauses affected: 

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Section 10 'Rules' will need a new subsection to explain the concept.

Additional Documents affected: **Supporting Documentation:** 

Added an document containing an example schema and feature type style to illustrate the concept.

Comments: **Status:** 

Assigned 

Assigned To: 

SLDSE 1.2 SWG 

Disposition: 

Referred and Posted 