Terms and definition: complete ?

Vocabularies as HTTP URI : Is this restricted to XML representation only (as opposed to GeoJSon for example)?

Impact: Querying on GeoSciML will depend of the format

8.2.8 Identifier

Should it be a requirement that URI point to an XML representation (or a XML be one of the mandatory representation) ? WFS has this requirement (GML is a mandatory format), but some groups try to have this rule removed. ESRI REST essentially works in JSON, Future OGC RESTFul is on the drawing board.

p. 35 , first paragraph:

*. In robust services the free-text fields will contain well-structured summaries of data in a format suitable for reading by the intended users*

This comes from the scope note and I don’t understand what “robust services” are.

GSML Lite

General discussion about gsml-lite identifiers :

Often the identifier of the MappedFeature

Is it unique (a primary key) for the dataset ?

Must it be a HTTP URI

If it’s a URI, Must it resolve to a representation of the MappedFeature

Ie: URI not mandatory -> any structure

Versus

URI mandatory (as a syntax), but might or might not resolve.

Larger discussion, Why URI mandatory then.

Even Larger discussion, why specification\_uri for provider who don’t have complex GSML ? Meant to be a global identifier for the GeologicFeature

Nillable

We still have several clauses that mention that a nilReason should be provided , but it’s not consistent. Not sure it’s GML SF-0 valid and if this is doable in, say, MapServer.

8.3.3.12 positionalAccuracy

In GSML Lite, it’s a string.. Confirm it’s a text description of the positional accuracy and not just a number.

8.3.9.9 observedValue

*. Although this field is implemented as a character string to allow reporting various type of values, the value may be numeric (e.g.; 235 degrees, 50 ppm) or textual (e.g.; red). Unit of measures shall be reported in observedValueUom*

The original note mentioned only string to “conform with simple feature requirements,” – that’s not true. Other literal types are valid. But it also said “it can be encoded as a swe:Record.”. I don’t think it’s SF-0.

8.4.1.1.1 observationMethod

*. For a borehole, the GeologicFeature observation method specifies how the geologic properties were determined (e.g., visual observation, or standard corporate logging procedure (described in detail somewhere else)).*

*(…)*

*Scoped name because intention is asserted by author of the data instance.*

I don’t understand (from scope notes)

8.4.1.1.6 relatedFeature

*. There is always a single source and a single target for a given FeatureRelation (which is abstract in GeoSciML Basic).*

This seems to imply that a new AbstractFeatureRelation must be created (one of its subtype anyway) for any new relation between 2 features. But AbstractFeatureRelation is a “Type”, which has an identity, and therefore can be pointed to. Since relatedFeature can do a xlink:href, it technically means it can point to an existing relation and therefore break the “single source and single target” rule. What’s wrong here , the rule or the encoding ?

*will allow a “by reference” value using a pointer (for example xlink:href) to an external instance.*

That an interesting side effect. Basic cannot instanciate a AbstractFeatureRelation, but can xlink:href to one.

p. 82, top

*• the specific bounded occurrence, such as an outcrop or map polygon*

*• the association with a Geologic Feature (legend item) provides specification of all the other descriptors*

*• the association with a Sampling Feature provides the context and dimensionality*

I don’t understand

*8.4.1.3.2 rank*

*The property rank:RankTerm shall contain a term that classifies the geologic unit in a generalization hierarchy from most local/smallest volume to most regional. Scoped name because classification is asserted, not based on observational data.*

I don’t understand the last sentence

*8.4.1.4.1 role*

*The role:GeologicUnitHierarchyRoleTerm property shall provide a term describing the nature of the parts, e.g. facies, stratigraphic, interbeds, geographic, eastern facies.*

Some roles, such as stratigraphic hierarchy, and probably most of them, might require extra rules, such as hierachyLink shall not be cyclic. (This falls to the category of : to what extent do we impose rules that are otherwise common sense ?)

*8.4.1.6.2 Purpose*

*The purpose:DescriptionPurpose property shall provide a specification of the intended purpose/level of abstraction for the given EarthMaterial. The intent is the same a GeologicFeature’s purpose (see 7.4.1.1.2) and it shares the same vocabulary (instance, typicalNorm, identifyingNorm).*

There is a small “semantic” risk of reusing the same type. If a new purpose emerge in either EarthMaterial or GeologicUnit, it automatically become available for the other class (because they use the same “DescriptionPurpose”)

8.4.3.2 Contact

*Bedding measured as discrete surfaces in the case that those are the feature of interest (e.g. individual cross set surfaces for paleocurrent analysis) should be represented here.*

Not sure what this is for

#### Fold

A fold is formed by one or more systematically curved layers, surfaces, or lines in a rock body. Fold denotes a structure formed by the deformation of a GeologicStructure to form

8.4.5.1.2 collectionType

The collectionType:CollectionTypeTerm property shall be a term from a controlled vocabulary describing the type of collection.

We need a better description.

8.4.6.2 GSML\_PlanarOrientation

A planar orientation is composed of two values; the azimuth (a compass point) and a dip (the angle from the horizontal). Polarity of the plane indicates whether the planar orientation is associated with a directed feature that is overturned, upright, vertical, etc. **There are several conventions to encode a planar orientation and this specification does not impose one but provides a convention property to report it. It must be noted that allowance of different convention makes manipulation of the data more difficult.**

Should we have a recommendation that community stick to a single convension (eg: OneGeology uses this convension)

I suggested some constrains in the document as requirement for numerical values (90 degrees max, etc), Overkill ??

p. 113

The map also has a cross section through the same Ttv unit (Figure 38) showing an example of a non-map mapping frame.

There should be a convention that the SRS of the geometries on the cross-section shall be a reference to the plane that makes the cross-section.

8.5.2.4.3 shape

A good example that a property name alone is not a good identifier. Most of the “shape” I’ve seen in model are actually the GM\_Object. BTW, if I understand correctly, the new 19109 will forbid duplicate property names in an application schema (in the same namespace). Is this important enough to rename ?

8.5.2.4.3 size

The property size (SWE::QuantityRange) shall report the size that specifies particle grainsize. Values may be reported using absolute measurements (e.g.: range, mean, median, mode, maximum) or as descriptive terms from a schema appropriate to the type of Compound Material (e.g.: the Udden-Wentworth sheme for clastic sedimentary rocks - silt, sand, gravel; volcaniclastic rocks - ash, lapilli, bomb; crystalline rocks - fine, medium, coarse, cryptocrystalline).

This description does not fit with a swe:QuantityRange

8.5.2.5.1 role

The role: ConstituentPartRoleTerm property shall contain a term from a controlled vocabulary that describes the role a ConstituentPart plays in a CompoundMaterial aggregation. The same EarthMaterial may occur as different ConstituentParts playing different roles within the same CompoundMaterial. For example, feldspar may be present as groundmass (“groundmass” is a ConstituentPart::role) and as phenocrysts (“phenocryst” is another ConstituentPart::role) within a single igneous rock.

Both ConstituentPart.role ? Is this intentional ?

/req/gsml4-extension/contact-boundary

A contact SHALL have 2 and only 2 two instances of GeologicFeatureRelation which roles are boundaries and targets are GeologicUnit.

Still struggle to make a sentence that makes sense here.

Figure 67:



Would’t it be more informative to have ShearDisplacementStructure in this diagram (to show that SDSDescription adds description to SDS)

8.6.1.1.1 primaryGuidingCriterion

The property primaryGuidingCriterion:Primitive::CharacterString shall contain a description of the primary criterion used to establish this stratigraphic point.

Circular definition ?

8.6.2.2 TimeOrdinalEra

TimeOrdinalEra is a period of time between two boundaries. **The association of an era with a stratotype is optional. In the GSSP approach recommended by ICS for the Global** Geologic Timescale, Unit Stratotypes are not used. Rather, the association of an Era with geologic units and sections is indirect, via the association of an era with Boundaries, which are in turn tied to Stratotype Points, which occur within host Stratotype Sections. TimeOrdinalEra can be composed or other era and organized into an arbitrarily deep nested tree.

In bold, this is the very same description than GeochronologicEra. I suspect this description is for GeochronologicEra because it references stratotype.

8.6.2.2.3 start

The start property shall be an association to a TimeOrdinalEraBoundary that defines the start of the era.

Is there a rule that says that start must be younger than end ?

A BoreholeInterval is a special kind of Mapped Feature whose shape is 1-D interval and uses the SRS of the containing borehole. The "mappedIntervalBegin" and "mappedIntervalEnd" elements are included here as a measure to overcome problems with the delivery and queryability of 1D GML shapes via the "shape" property.

Does this mean that Log interval are absolute coordinate (elevation) ? Not what map interval says (relative)

Flag HTTP URI:

<http://www.ietf.org/rfc/rfc2616>

Is this still how it should be done. This codeSpace == the content is a URI

9.2.1 XML document validation

An XML instance shall validate to both the XSD and schematron rules provided by this specification for each of the XML requirements classes.

As we painfully experienced, the location of the schema is almost as important as its content. So the schema location could almost be defined as “normative”. The other way to deal with this is to have Oasis Catalog with the schema that allow 1) schemas to be distributed with the spect and 2) ensure that the externalities are pulled from the right place. THESE (XSD+Oasis catalog) would be the normative XSD

Xsd:any

Right now, the schema does not state if the user properties are in the same namespace or another namespace.

If we force another namespace , it should be

<xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>

Otherwise, if we want to force the same namespace, it should be

<xs:any processContents="lax" minOccurs="0" maxOccurs="unbounded"

namespace="##targetNamespace"/>