OGC Project Document 04-105

TITLE:	**OWS Common change requests: Add types and elements**	
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CATEGORY:	**Change Proposal**	

1. Background

This change proposal is intended to be considered by the Harmonization Working Group of the OGC. This change proposal was triggered by the use of three additional XML Schemas by the WCS and WCTS draft specifications implemented in the Image Handling for Decision Support (IH4DS) thread of the OGC Web Services Phase 2 (OWS-2) initiative of the OGC Interoperability Program.

2. References

[1] OGC 04-016r3, OWS Common Implementation Specification, June 2004, an approved OGC Recommendation Paper, publicly available at http://portal.opengis.org/files/?artifact_id=6324

[2] OGC 04-072, Web Coordinate Transformation Service (WCTS) IPR

[3] OGC 04-079, WCS Enhancement IPR

3. Proposal

3.1 Proposed change #1

Add XML Schema definitions of new types and elements for encoding:

a) Interpolation methods

b) Coverage types

c) Geometry types

d) Input and output formats

3.1.1 Affected section(s), table(s), and figure(s)

Clause 10

3.1.2 Purposes of the proposed change

Consistency among OGC Implementation Specifications, Reduce required effort

3.1.3 Reasons for change

In the IH4DS thread of OWS-2, the owsBase.xsd XML Schema, previously defined and used in WCS 1.0, was edited and then used by multiple specific OWSs, including WCS (draft revision) and WCTS (draft RFC). This modified XML Schema was renamed owsAdditions.xsd, and specified additional types and elements for encoding:

a) Interpolation methods

b) Coverage types

c) Geometry types

d) Input and output formats

In addition to WCS and WCTS, these types and elements are likely to be useful in other specific OWSs.

3.1.4 Specific suggested changes

Include the contents of the attached owsAdditions.xsd XML Schema in a revised version of the OWS Common specification. This owsAdditions.xsd file has been slightly edited from IH4DS of OWS-2, to correct a schema validity error and to update the OGC name. This attached schema is bundled in the zip file with this document.

3.1.5 Consequences of the change

Significant addition to the OWS Common document.

3.1.6 Consequences if not approved

Different OWS specifications will encode same information in different ways, reducing interoperability

3.2 Proposed change #2

Add XML Schema definitions of new types and elements for encoding the allowed values of parameters, in a very general way

3.2.1 Affected section(s), table(s), and figure(s)

Subclauses 8.3.5, 10.6

3.2.2 Purposes of the proposed change

Consistency among OGC Implementation Specifications, Reduce required effort

3.2.3 Reasons for change

In the IH4DS thread of OWS-2, the values.xsd XML Schema, previously defined and used in WCS 1.0, was edited and then used by multiple specific OWSs, including WCS (draft revision) and WCTS (draft RFC). This modified XML Schema was renamed

parameterValues.xsd, and specified additional types and elements for encoding the allowed values of parameters in a very general way. In addition to WCS and WCTS, these types may be useful in other specific OWSs.

3.2.4 Specific suggested changes

Include the contents of the attached owsDomainType.xsd XML Schema in a revised version of the OWS Common specification. This owsDomainType.xsd file has been significantly improved from parameterValues.xsd used in IH4DS of OWS-2, to make it simpler and more understandable, and to update the OGC name. The changes also allow use of this expanded DomainType in operationsMetadata.xsd, in place of the current DomainType in that schema. This attached schema is bundled in the zip file with this document.

3.2.5 Consequences of the change

Significant addition to the OWS Common document.

3.2.6 Consequences if not approved

Different OWS specifications will encode same information in different ways, reducing interoperability

3.3 Proposed change #3

Add XML Schema definition of a new ReferenceType for encoding a reference to either a remote resource or a local payload

3.3.1 Affected section(s), table(s), and figure(s)

Unknown

3.3.2 Purposes of the proposed change

Consistency among OGC Implementation Specifications, Reduce required effort

3.3.3 Reasons for change

In the IH4DS thread of OWS-2, the new referenceType.xsd XML Schema was defined and then used by multiple specific OWSs, including WCS (draft revision), WCTS (draft RFC), and WICS (draft Implementation Specification). In addition to the WCS, WCTS, and WICS, this schema is likely to be useful in other specific OWSs.

This referenceType.xsd XML Schema defines a new ReferenceType for encoding a reference to either a remote resource or a local payload. This ReferenceType can also include a human readable description and a link to metadata, and is intended for use in operation responses. This ReferenceType was added to make service chaining more efficient, by not requiring large operation result data to be returned to the client. Instead, large operation result data can be stored local to the server, and later retrieved by the next service which needs to process that data.

3.3.4 Specific suggested changes

Include the contents of the attached owsReferenceType.xsd XML Schema in a revised version of the OWS Common specification. This owsReferenceType.xsd file has been edited from referenceType.xsd in IH4DS of OWS-2, to correct schema validity errors and

to update the OGC name. This attached schema is bundled in the zip file with this document.

Two slightly different XML Schemas were used to define the ReferenceType in IH4DS. The referenceTypeUsingGML.xsd schema referenced the GML 3.1 Schemas, and was used with other OWS schemas that also referenced the GML 3.1 Schemas (namely for WCTS draft). The referenceType.xsd schema referenced the profile of the GML 3.0 schemas used in the WCS (version 1.0 and the draft revision), and was used with other OWS schemas that also reference that profile (not directly referencing GML, namely for WCS draft revision).

3.3.5 Consequences of the change

Significant addition to the OWS Common document.

3.3.6 Consequences if not approved

Different OWS specifications will encode same information in different ways, reducing interoperability

3.4 Proposed change #4

Add optional remoteSchema attribute to Metadata element

3.4.1 Affected section(s), table(s), and figure(s)

Subclauses 8.3.5 and 10.6

3.4.2 Purposes of the proposed change

Allow a server to identify the XML Schema of remote metadata referenced in a Capabilities document, and thus allow a client to determine the XML Schema of that remote metadata before accessing that metadata (TBR)

3.4.3 Reasons for change

The Metadata element in OWS Common is based on the metaDataProperty element in gmlBase.xsd of GML 3.1. However, that Metadata element does not now include the optional remoteSchema attribute which is included in the AssociationAttributeGroup in gmlBase of GML 3.1. (However, this remoteSchema attribute in the AssociationAttributeGroup is now planned to be deprecated in GML 3.2). Nevertheless, this remoteSchema attribute may be useful in the Metadata element in OWS Common.

3.4.4 Specific suggested changes

Add optional remoteSchema attribute to the Metadata element in OWS Common, like the remoteSchema attribute that is included in the AssociationAttributeGroup in gmlBase.xsd of GML 3.1.

3.4.5 Consequences of the change

Small addition to the OWS Common document.

3.4.6 Consequences if not approved

TBD