GeoDCAT-AP & standard bodies: W3C

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https://joinup.ec.europa.eu/node/701966

European Commission

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GeoDCAT-AP and W3C specifications

- The solutions defined in GeoDCAT-AP for modelling data quality and spatial information have been shared with relevant W3C Working Groups, in order to be consolidated with further review and to contribute the identified issues

- Some of these solutions & issues have been included in specifications of the following W3C Working Groups

  - W3C/OGC Spatial Data on the Web WG: *Spatial Data on the Web Best Practices*

  - W3C Data on the Web Best Practices WG: *Data Quality Vocabulary*

  - W3C Dataset Exchange WG: *Data Catalog Vocabulary – Version 2*

Spatial Data on the Web Best Practices

Best Practices Summary

Best Practice 1: Use globally unique persistent HTTP URIs for Spatial Things

Best Practice 2: Make your spatial data indexable by search engines

Best Practice 3: Link resources together to create the Web of data

Best Practice 4: Use spatial data encodings that match your target audience

Best Practice 5: Provide geometries on the Web in a usable way

Best Practice 6: Provide geometries at the right level of accuracy, precision, and size

Best Practice 7: Choose coordinate reference systems to suit your user's applications

Best Practice 8: State how coordinate values are encoded

Best Practice 9: Describe relative positioning

Best Practice 10: Use appropriate relation types to link Spatial Things

Best Practice 11: Provide information on the changing nature of spatial things

Best Practice 12: Expose spatial data through 'convenience APIs'

Best Practice 13: Include spatial metadata in dataset metadata

Best Practice 14: Describe the positional accuracy of spatial data

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Data Quality Vocabulary (DQV)

Conformance with a standard / specification

Spatial resolution

6.11 Express the conformance of a dataset's metadata with a standard

It is often desirable to indicate that metadata about datasets in a catalogue are compliant with a metadata standard, or an application profile of an existing metadata standard. A typical example is the GeoDCAT Application Profile [GeoDCAT-AP], an extension of the DCAT vocabulary [vocab-dcat] to represent metadata for geospatial data portals. GeoDCAT-AP allows one to express that a dataset's metadata conforms to an existing standard, following the recommendations of ISO 19115, ISO 19157 and the EU INSPIRE directive. DCAT partly supports the expression of such metadata conformance statements. The following example illustrates how a (DCAT) catalog record can be said to be conformant with the GeoDCAT-AP standard itself.

```
:myDataset a dcat:Dataset .

:myDatasetRecord a dcat:CatalogRecord ;
 foaf:primaryTopic :myDataset ;
 dcterms:conformsTo :geoDCAT-AP .

:geoDCAT-AP a dcterms:Standard;
  dcterms:title "GeoDCAT Application Profile. Version 1.0" ;
  dcterms:comment "GeoDCAT-AP is developed in the context of the Interoperability
  Solutions for European Public Administrations (ISA) Programme"@en;
  dcterms:issued "2015-12-23"^^xsd:date ;
  foaf:page
  <https://joinup.ec.europa.eu/asset/dcat_application_profile/asset_release/geodcat-ap-v10>
  .
```

6.13 Express dataset precision and accuracy

The need for documenting data precision (also sometimes referred to as "resolution") is a common requirement, in particular, when dealing with spatial data. The following example shows how DQV can meet this requirement.

```
:myDataset a dcat:Dataset ;
    dqv:hasQualityMeasurement :myDatasetPrecision, :myDatasetAccuracy .

:myDatasetPrecision a dqv:QualityMeasurement ;
   dqv:isMeasurementOf :spatialResolutionAsDistance ;
   dqv:value "1000"^^xsd:decimal ;
   sdmx-attribute:unitMeasure  <http://www.wurvoc.org/vocabularies/om-1.8/metre>
   .

:spatialResolutionAsDistance  a  dqv:Metric;
   skos:definition "Spatial resolution of a dataset expressed as distance"@en ;
   dqv:expectedDataType xsd:decimal ;
   dqv:inDimension dqv:precision
   .
```

Data Catalog Vocabulary – Version 2

- Inclusion of services / APIs in the scope of the vocabulary – formerly limited to datasets

- New classes and properties to specify data distributions available via services / APIs

- Specific properties for the specification of temporal / spatial resolution

- Specific properties for the specification of spatial coverage with geometries:

  - **dcat:bbox** for bounding boxes

  - **dcat:centroid** for centroids / representative points

- Specification of reference systems and data quality consistent with GeoDCAT-AP

For more information

- W3C/OGC Spatial Data on the Web Best Practices
  https://www.w3.org/TR/sdw-bp/

- W3C Data Quality Vocabulary (DQV)
  https://www.w3.org/TR/vocab-dqv/

- W3C Data Catalog Vocabulary (DCAT) – Version 2
  https://www.w3.org/TR/vocab-dcat-2/