Opensearch & EOP O&M Improvements

Jon Earl
May 2016
PDGS-STD-CGI-PPT-16-1378

© CGI Group Inc.
Many Ongoing Activities

• ngEO (implementation)
• OBEOS (JSON-LD as one example of linked data - March 2016)

• OGC Position Statement (Sept 2014)
• JSON in OGC Standards (March 2015)
• O&M JSON Implementation – 15-100r1 Discussion Paper (Sept 2015)
• JSON subgroup of Architecture DWG (following March 2015)
• OGC Testbed 12 – JSON-LD from UML model (ongoing)

• etc.
Standardisation?

- Suggest create a JSON EO Profile for O&M, aligned with the ongoing activities taking place at the OGC and ESA and examine use for standard data access / catalogue scenarios:
  - How much complexity is useful to the developer?
  - How much of the full EO Profile of O&M do they need exposed in a JSON binding?
  - At what point should they receive full XML encodings of the metadata instead?
WMTS Browse?

Existing O&M EO Profile (OGC 10-157r4) allows for only:

- Direct Download
- WMS via HTTP KVP
- WCS via HTTP KVP
- A service supporting HTTP POST or SOAP

The relevant information is passed via the “fileName” element:

```xml
<eop:BrowseInformation>
  <eop:type>QUICKLOOK</eop:type>
  <eop:referenceSystemIdentifier codeSpace="EPSG">epsg:4326</eop:referenceSystemIdentifier>
    <ows:RequestMessage/>
  </ows:ServiceReference>
  <eop:fileName/>
</eop:BrowseInformation>
```
Many possible variations, e.g. (based on OGC 07-057r7)

• Provide a HTTP KVP encoding of the smallest tile containing the product:
  
  http://www.maps.bob/maps.cgi?
  service=WMTS&request=GetTile&version=1.0.0&layer=etopo2&style=default&format=image/png&TileMatrixSet=WholeWorld_CRS_84&TileMatrix=10m&TileRow=1&TileCol=3

• Provide a RESTful encoding of the smallest tile containing the product:
  
  http://www.maps.bob/etopo2/default/WholeWorld_CRS_84/10m/1/3.png

• Optionally, supplement with a template identifying how the WMTS is called:
  
  <ResourceURL format="image/png" resourceType="tile" template="http://www.maps.bob/etopo2/default/{TileMatrixSet}/{TileMatrix}/{TileRow}/{TileCol}.png">
WMTS Browse

• Provide multiple browse images via separate browseInformation elements which together contain the product via either of these methods.

• Provide an alternative method of describing one or more browses, across any WxS – e.g. serve an OWS Context file (OGC 12-080r2) in either JSON (OGC 14-055r1) / ATOM (OGC 12-084r2) which describes any one of the WMS/WCS/WMTS services via the xlink:href attribute.

  • This is more flexible, and decouples the O&M Profile from the service: with the trade-off cost of additional complexity.

• We suggest an activity to investigate options and recommend a preferred approach.
Our commitment to you
We approach every engagement with one objective in mind: to help clients succeed