Linked Data Developments in SeaDataCloud

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Why Linked Data for SeaDataNet?
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• Types of questions we can ask...
  • “Which cruises have physical oceanographic data?”
  • “Give me all temperature data for the Celtic Seas for 2015”
Why Linked Data for SeaDataNet?
What we didn’t want to do
What we did about it

• Reusing existing patterns
  • Better understanding outside of SDN
  • Better interoperability with other organisations
  • Better INSPIRE compliance
What we did about it

• Reusing existing patterns
  • EDMO
  • EDMED
  • EDMERP
  • CDI
  • CSR
  • EDIOS
What we did about it

• Reusing existing patterns
  • EDMO – W3C Organisation
  • EDMED – W3C DCAT
  • EDMERP – W3C Prov / DBPedia Research Project
  • CDI – W3C DCAT
    • ODV metadata to INSPIRE / ISO O&M
  • CSR - …
• EDIOS – INSPIRE Environmental Monitoring Facilities
What we did about it

• Reusing existing patterns
  • Also
    • Sextant catalogue to W3C DCAT
CSR Patterns
CSR Patterns

```
cruise:
Cruise
cruise:hasChiefScientist
cruise:hasStartPortCall
cruise:hasEndPortCall
cruise:isUndertakenBy
cruise:hasCoChiefScientist
cruise:hasIdentifier
cruise:hasDOI
   rdfs:label
prov:
Agent
cruise:
PortCall
   cruise:hasStartPortCall
cruise:
PortCall
   cruise:hasEndPortCall
cruise:
Cruise
cruise:hasDOI
   rdfs:label
cruise:
PortCall
prov:
Agent
```

<<...>>
CSR Patterns
Issues

- Creation of a SeaDataNet Linked Data ontology.
- Clean URIs for each catalogue
- Content negotiation
- NERC Vocabulary Server v.1 is deprecated.
- EDMO links to external vocabularies
- All terms in C19 are equated to prov:Location.
- A register of individuals and publications.
- Project record to an associated research programme links to another EDMERP record not an XML snippet.
- Dbpedia to PROV-O alignment.
- CDIs with EDMED codes included should be used to populate the DCAT Distribution information.
- Consider alignments in the DCAT keywords specification to the research classification vocabularies.
- A non-SDN/SDC namespace is used for the publication of the Linked Data terms.
- Port entries in C38 should be given an RDF linkage to their countries.
- Port entries in C38 should be made instances of geolink:Place and prov:Location.
- Research vessels entries in C17 should be made instances of prov:Entity.
- A CDI SKOS scheme should be set up on the NVS incorporating the P02, L05 and C19 vocabularies.
- Include links to ICES station dictionary URIs.
- Include links to terms from the BODC Series Feature Type vocabulary (C10).
Issues – URLs

http://www.bodc.ac.uk/data/information_and_inventories/edmed/report/[edmed_code]/
http://seadatanet.maris2.nl/v_edmerp/print.asp?n_code=[n_code]
Issues – URLs

http://www.seadatanet.org/cruise-summary/[csr_code]
http://www.seadatanet.org/edmed/[edmed_code]
http://www.seadatanet.org/edmo/[n_code]
http://www.seadatanet.org/edmerp/[n_code]
http://www.seadatanet.org/cdi/[n_code]
http://www.seadatanet.org/edios/programme/[n_code]
http://www.seadatanet.org/edios/series/[n_code]
Issues – URLs

http://www.seadatanet.org/cruise-summary/[csr_code]

Issues – EDMO interoperability


http://linked.seadatanet.org/edmo/1 a org:Organization.
Issues – EDMO interoperability
Issues – EDMO interoperability
Issues – EDMO interoperability

owl:sameAs

skos:exactMatch

2

1

3

ODIP

BODC

MARIS

Marine Institute

Foras na Mara
Issues – EDMO interoperability
Issues – EDMO interoperability

- skos:exactMatch
- owl:sameAs
- rdfs:seeAlso
- so:claimsIdentical

1st: skos:exactMatch
2nd: owl:sameAs
3rd: rdfs:seeAlso

Logos for ODIP, BODC, MARIS, and Marine Institute Foras na Mara.
Issues – EDMO interoperability

Recommended reading: *When owl:sameAs isn't the Same* by Halpin et al
Next Steps

• Address pre-requisites in the issues
• Develop RDF implementation of catalogues
  • Alexandra will present EDMED developments
• Develop Schema.org mappings
  • Done for EDMED
  • More on this later…