Implementation of technical specifications of INSPIRE Directive and related norms and standards – problems and conclusions

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Agenda

• Introduction
• MEDARD - Metadata Editor
• Multilingual metadata
• Metadata inheritance
• Aquarius - Metadata Catalog
• Implementation dilemmas
• Conclusions
MEDARD – MEtaDAta StandaRD Editor

- INSPIRE Compliance
- ISO 19115/19119/19139 Compliance
- Supports metadata profiles
- GEMET support
- Allows to create multilingual metadata
- Metadata inheritance
- Templates
- Made by ISPiK S.A.
- Published as FOSS on AGPL license
Metadata profiles

View of 8eac8e48-2df6-465f-bf87-06759504805c (Polish Geological Institute)

Repository | Metadata | Templates | Validation | Contacts | Views | Options | Help
---|---|---|---|---|---|---|---
Repository | Local repository | Profile | INSPIRE

Repository content
- All
- Searching
- INSPIRE-Example0 (INSPIRE)
- INSPIRE-Example1 (INSPIRE)
- PGI Test dataset (Polish Geological Institute)
- 8eac8e48-2df6-465f-bf87-06759504805c (Polish Geological Institute)
- 3426d4a2-ab44-491-a50b-e94ee1573614 (P)
- 37344f0c-2d01-4f82-82eb-5995273e81c8 (P)
- INSPIRE_Test2 (INSPIRE)

Sections
- Metadata Description
- Data Identification
- Classification and keywords
- Geographic extent
- Temporal extent
- Quality, validity and constraints
- Distribution information

Profile
- INSPIRE
- Polish Core
- Polish Geological Institute

Metadata Description
- Standard name: "8eac8e48-2df6-465f-bf87-06759504805c"
- Standard version: "2003/cor.1:2006"
- Metadata language: "pol"
- Metadata creation date: "2009-01-28"

Metadata point of contact
- Organisation name: "Polish Geological Institute"
- Address: "metadane@ogi.gov.pl"
- Role: "pointOfContact"

Locale
- Language
- Charset encoding

Language: Polish
GeoSciML support in MEDARD
Language definition in MEDARD

In the image, the language definition is shown within a software interface. The metadata section is highlighted, specifically the language field which is set to "Polish". Additionally, the charset encoding is listed as "utf8".
Multilingual fields in MEDARD
ISO 19115/19139 model for multilingual data

- **PT_FreeText**
  - 1

- **LocalisedCharacterString**
  - + textGroup
  - 1..*

- **CharacterString**

- **PT_Locale**
  - 1
  - + language: LanguageCode
  - + country: CountryCode [0..1]
  - + characterEncoding: MD_CharacterSetCode
Tytuł zbioru danych

Dataset Title
Metadata inheritance

- Hierarchy of metadata scope: series / dataset (+ feature / attribute, feature type/ attribute type)
- Very useful for metadata creators – values common to all dataset metadata in a given series may be defined only once
- Difficult to process in catalogs (needed inheritance materialization)
- Problems during metadata validation – some elements come from parent and are not explicitly present in the metadata xml file
- Described in ISO 19115 but not mentioned in INSPIRE
- Required in the project of Polish Metadata Profile
- Used in the profile of the Polish Geological Institute
- Multilinguality in the context of inheritance
Using presentation model for metadata processing

User Interface

MD Presentation Model (dataset)

MEDARD Engine – inheritance, code lists, implicit values

MD JAXB Model (series)

MD JAXB Model (dataset)

JAXB – xml to Java objects transformation

xml MD file (series)

xml MD file (dataset)
AQUARIUS – quick & advance search
Defining bounding box by map
AQUARIUS – answer
(bounding box shown on a map)
Problems in query implementation

• OGC filter is not text oriented
  – Wild card search
  – How to write "any text" queries
  – Words proximity

• Multilingual data

• Code lists

• Temporal extend in GML is a complex structure, time reference may be written differently

• Relations between conformance querables
Conclusions (1 of 2)

- **INSPIRE documents:**
  - very useful during implementation
  - more concentrated on semantic level than syntactic and technical
  - for free (like OGC, not like ISO)

- **Technical guidelines are crucial for interoperability:**
  - problems with xsd for metadata
  - different versions of GML used (GML 3.2.1 (ISO 19136) and GML 3.1)

- **INSPIRE compatible discovery service can be OGC incompatible**
Conclusions (2 of 2)

• **Metadata**
  – Official technical guidelines for metadata still in draft
  – Data specifications extend metadata requirements
  – INSPIRE metadata specifications gave up extending ISO 19115/19119/19139 (conformity, data themes from annexes)
    Conformity with INSPIRE does not means conformity with OGC
  – Lack of guideline for Dublin Core (ISO 15836)
  – Metadata inheritance is very useful for metadata creators but its processing is difficult for catalogs

• **Discovery service:**
  – many problems in write text conditions as OGC Filter
  – Services are described by metadata, capabilities, WSDL
Thank you for your attention!