



deegree

Implementing INSPIRE validation and conformity testing with OSS



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About lat/lon

- since 2000 software development and consulting in Germany
- linking standards-based geospatial applications with professional open source technology
- From startup active member of the Open Geospatial Consortium (OGC), currently Technical Member
- Active participation in enhancing the capabilities of FOSS4G software, especially within the deegree initiative



The deegree initiative

- Provides state-of-the-art geospatial software
- implements standards-based software for sustainable and interoperable solutions
- LGPL licence
- Since 2010 incubated OSGeo project

deegree

deegree & OGC Reference Implementations



A fully functional, licensed copy of a Tested, branded software that has passed the test for an associated conformance class in a version of an Implementation

**(OGC Compliance Testing Program:
Policies & Procedures)**

The EU INSPIRE Geoportal

- Project Consortium:



- Under development!

The EU INSPIRE Geoportal

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European Commission

INSPIRE GEOPORTAL

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Inspire Data Themes



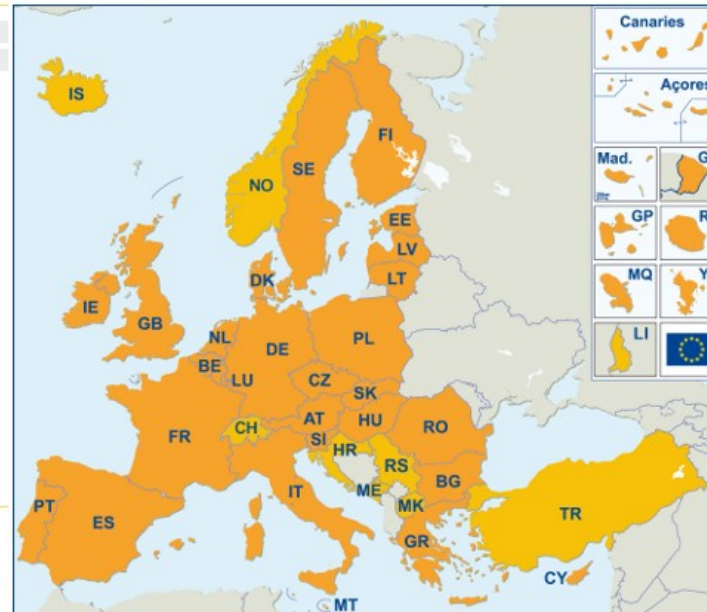
Protected sites

Discover

Browse



Area designated or managed within a framework of international, Community and Member States' legislation to achieve specific conservation objectives.



Addresses Administrative units Geology Land

cover Soil Protected sites Atmospheric conditions Elevation Hydrography Area management/restriction/regulation zones and reporting units

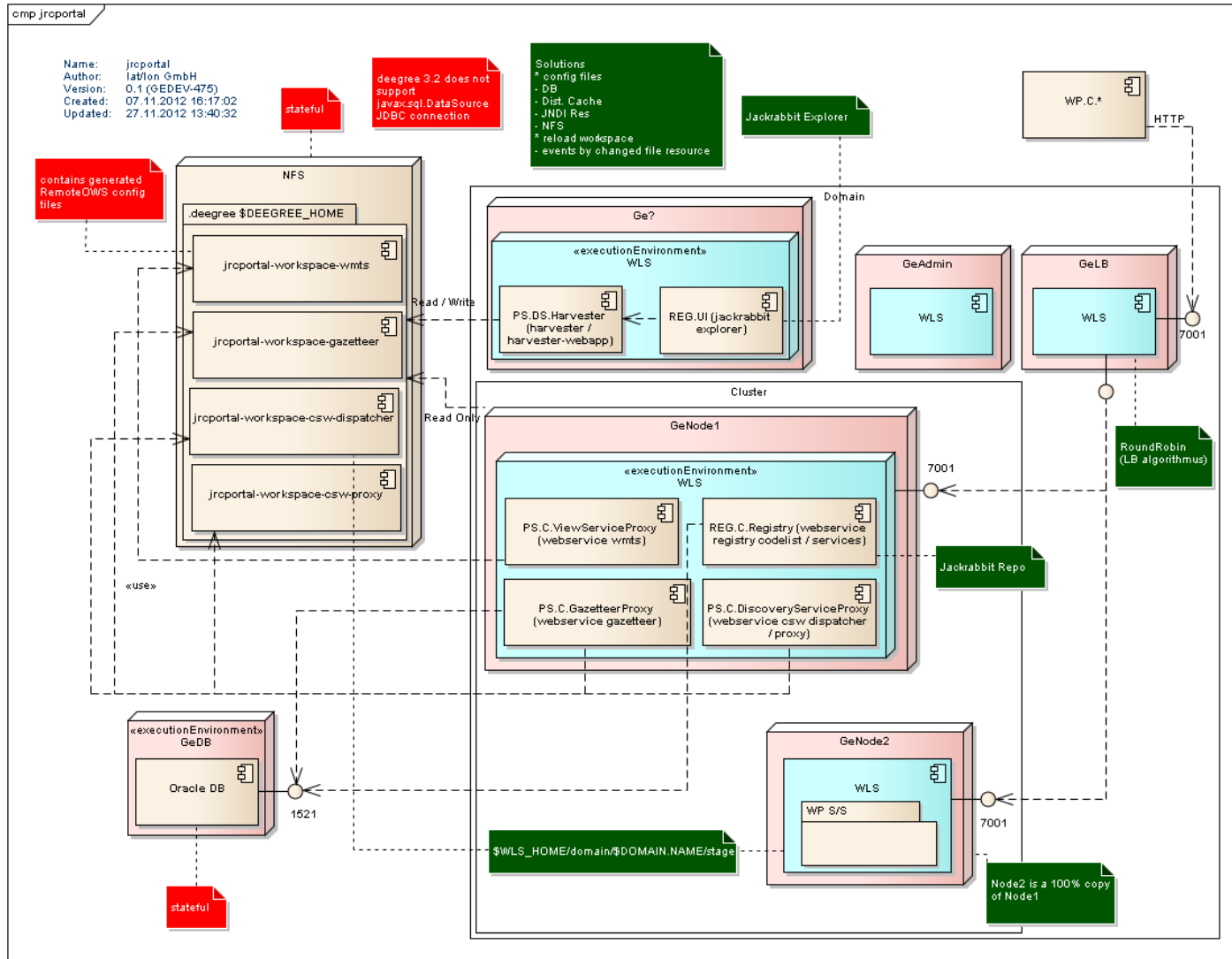
INSPIRE news

Single Market Month: sharing ideas online to change Europe Sep 19,

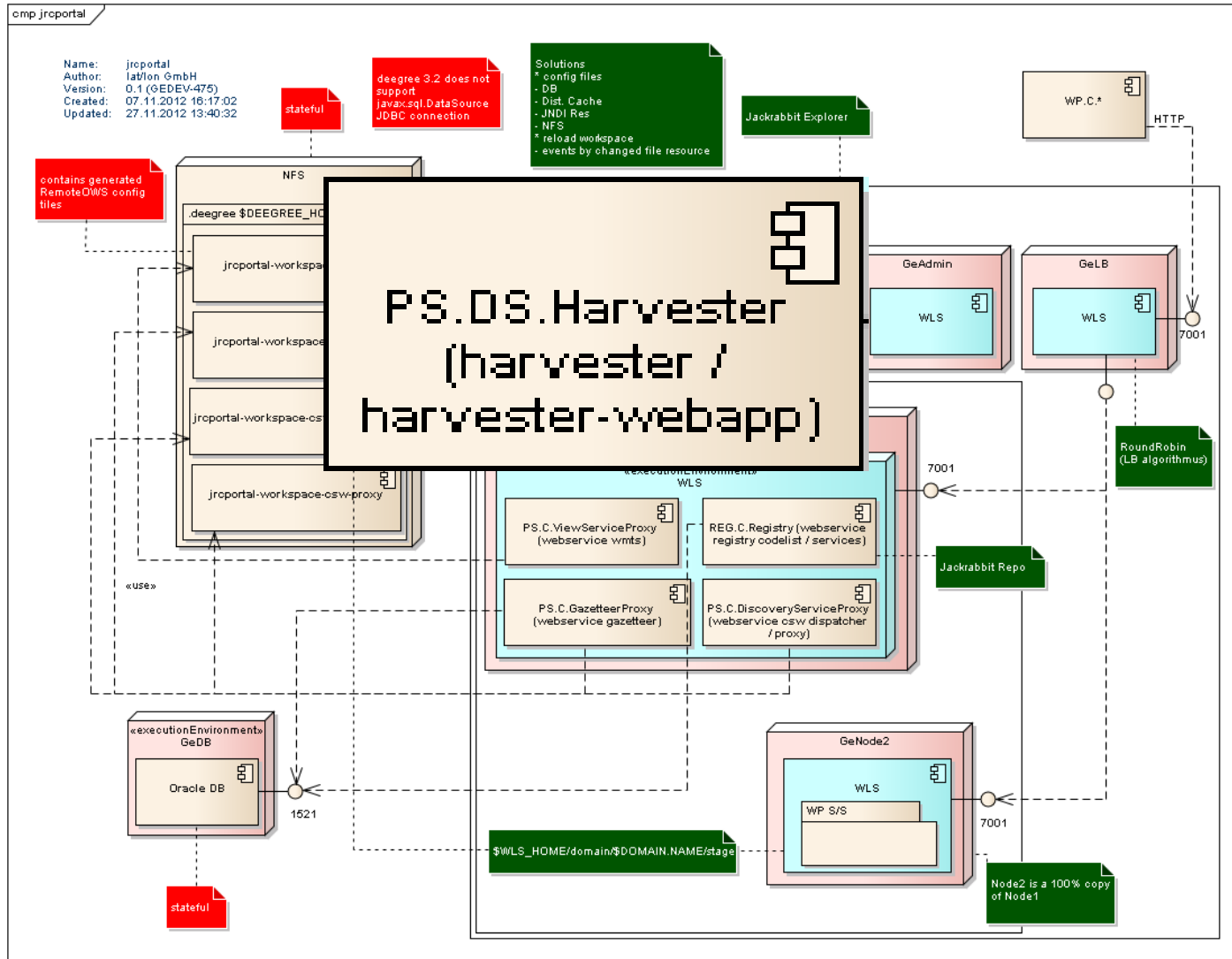
News from the INSPIRE Geoportal

Workshop on identification and Trust Services (IAS Study 2) Sep

Architecture



Architecture



Purpose of the Validator

→ Validation of all resources
which are harvested by the system

The INSPIRE Validator

- Based on OSS
 - deegree
 - Saxon
- Implemented in Java
- Interfaces for extension
 - Custom validation is possible
- Uses XQuery for validation rules
- Reporting of validity

Example Rule in XQuery

`exists(/Capability/inspire_vs:ExtendedCapabilities/inspire_common:Keyword) and`
`exists(/Capability/Layer/EX_GeographicBoundingBox) and`
`exists(/Capability/inspire_vs:ExtendedCapabilities/inspire_common:TemporalReference) and`
`exists(/Capability/inspire_vs:ExtendedCapabilities/inspire_common:Conformity) and`
`exists(/Service/AccessConstraints) and`
`exists(/Service/ContactInformation) and`
`exists(/Capability/inspire_vs:ExtendedCapabilities/inspire_common:MetadataPointOfContact) and`
`exists(/Capability/inspire_vs:ExtendedCapabilities/inspire_common:MetadataDate) and`
`exists(/Capability/inspire_vs:ExtendedCapabilities/inspire_common:SupportedLanguages) and`
`exists(/Service/Fees)`

EU INSPIRE MIG Validation & conformity testing sub-group

- Established Abstract Test Suites (ATS) for INSPIRE TG documents on GitHub
 - <https://github.com/inspire-eu-validation>

Example ATS Rule

28 lines (16 sloc) | 1.155 kb

Raw

Blame

History



A.12.IR12.resource.locator.node

Purpose: An extension shall be used to map Resource Locator to an element within an element.

Prerequisites

- Test for the existence of default element namespace.
- Test for the existence of the namespaces for INSPIRE View Services inspire_vs and inspire_common.

Test method

- Check if there is a ResourceLocator node in the ExtendedCapabilities section.

Reference(s):

- [TG VS](#), Chapter 4.2.3.3.1.4

Notes

Contextual XPath references

The namespace prefixes used as described in [README.md](#).

Abbreviation	XPath expr
ResourceLocator	/WMS_Capabilities/Capability/inspire_vs:ExtendedCapabilities/inspire_common:Conformity/ir
ExtendedCapabilities	/WMS_Capabilities/Capability/inspire_vs:ExtendedCapabilities

What can be validated automatically?

ats-metadata

Abstract Test Suite for the Metadata (implicit) Conformance Class.

References

- [INSPIRE Metadata Technical Guidance version 1.3](#)
- [COMMISSION REGULATION \(EC\) No 1205/2008 of 3 December 2008 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards metadata](#)

Note: This ATS is in ready for review stage, none of the tests have an official INSPIRE MIG approval.

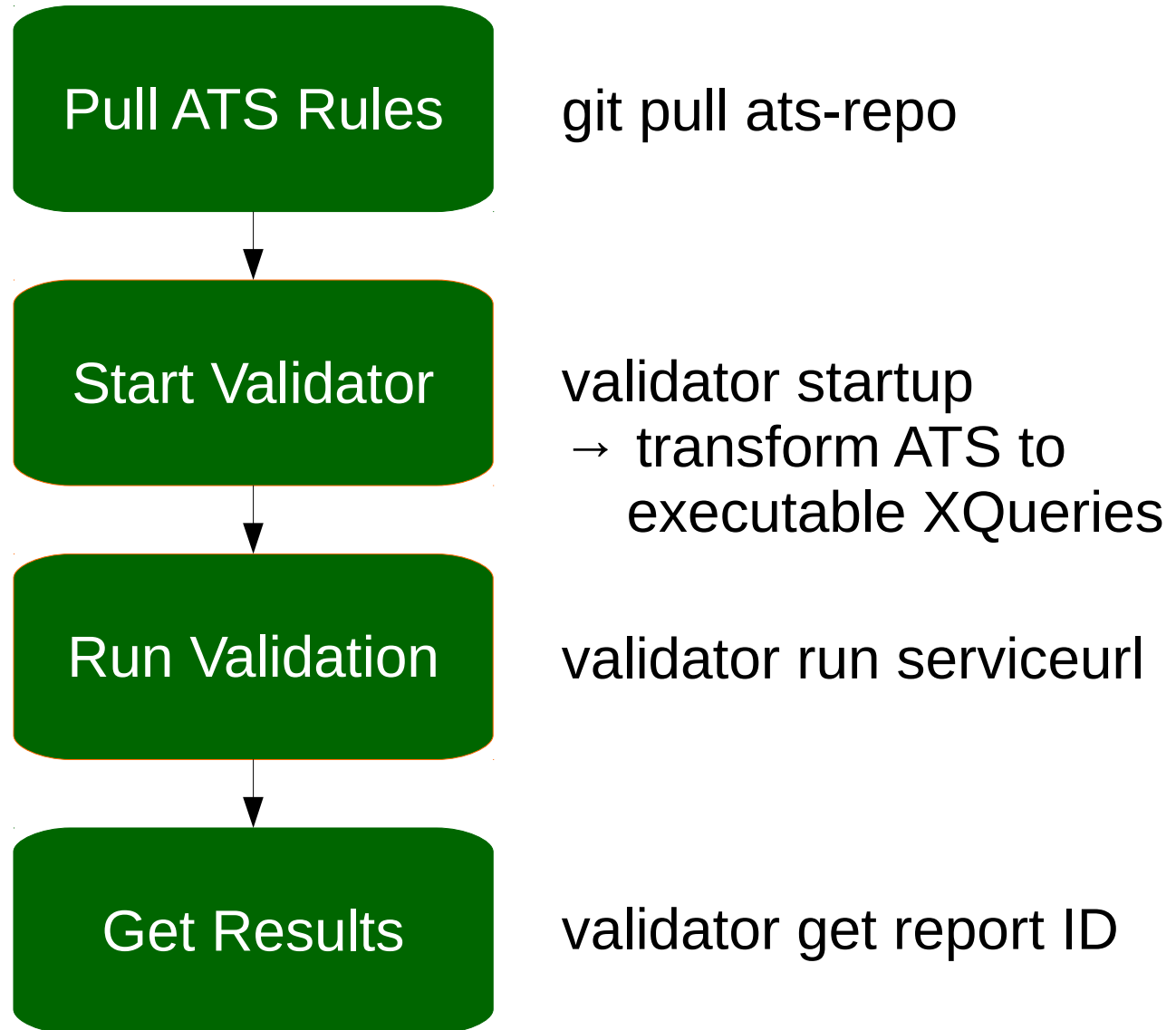
This Conformance Class contains the following tests:

Identifier	Origin	Mechanical	Status
A.01.validate	IR	Yes	Ready for review
A.02.IR221.title	IR	Yes	Ready for review
A.03.IR222.abstract	IR	Yes	Ready for review
A.04.IR223.TGR1.hierarchy	IR/TG	Yes	Ready for review
A.05.IR223.TGR14.ds.keyword	IR/TG	Yes	Ready for review
A.06.IR223.TGR15.srv.keyword	IR/TG	Yes	Ready for review
A.07.IR225.TGR5.ds.identification	IR/TG	Yes	Ready for review
A.08.IR224.TGR3.ds.linkage	IR/TG	Yes	Ready for review
A.09.IR226.TGR4.srv.linkage	IR/TG	Yes	Ready for review

Requirements for automatic transformation of ATS to ETS

- Standardized Format of abstract test cases:
 - Fulfilled for INSPIRE TG ATS on GitHub
- Standardized Vocabulary in ATS:
 - Fulfilled for INSPIRE TG ATS on GitHub
- Interpretation of ATS with Validator
 - Possible through Java Usage within XQuery

Workflow



Conclusion & Outlook

- The outlined approach is
 - feasible
 - generic
 - reusable
 - capable to support versioned ATS
- Improve validation for INSPIRE GML
 - Transformation of ATS into same format required
- Support for Linked Resources Validation



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Any Questions?

Meet us @ booth 45



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