



The INSPIRE Reference Validator

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The European Commission's
science and knowledge service
Joint Research Centre



MIWP action on Validation & conformity testing

- Why develop a common validator?
 - help implementers check their implementation progress
 - help national coordinators and DG ENV/JRC/EEA monitor the progress implementations in MS and across Europe
 - help solution providers check their software solutions against the INSPIRE requirements
- Existing validation services in JRC and some Member States and projects
 - possible synergies
 - need for consistent results

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Common INSPIRE validator

- Supported by ARE3NA ISA action
 - Contractors: PwC and interactive instruments
- Scope: Tests for TGs on
 - Annex I data specifications
 - metadata (v1.3)
 - download services (Atom and WFS)
- Aims
 - Development of a reusable, open source, reference validator
 - Build upon existing solutions
 - Configurable software and test rules





Milestones

- Scoping workshop
- Start ATS development
- MIWP-5 kick-off meeting
- Start ARE3NA activity on validation
- Completion ATS development (MD+NS)
- 1st prototype INSPIRE testing framework & ETS
- Release of version 1.0 of the INSPIRE validator





Abstract Test Suites (ATS)

- Developed by MIWP-5 with support from contractors
- Reviewed by MIG-T
- TGs covered
 - Metadata v1.3
 - Discovery NS v3.1
 - View NS v3.11
 - Download Service (Atom, WFS Pre-defined download & Direct Access) v3.1
 - Interoperability metadata (DS v3.x)
 - Spatial data services (v3.1)
 - Data specifications (cross-cutting requirements, Annex I)

ATS repository

This repository Search Pull requests Issues Gist

inspire-eu-validation / ats-download-atom

Code Issues 72 Pull requests 0 Wiki Pulse Graphs Settings

Abstract Test Suite for INSPIRE Download Services Atom pre-defined data-set download co

59 commits 2 branches 2 releases

Branch: master New pull request Create new file

ilkkarinne Changed all the IR reference dashes to 'n/a'

gitignore	Ignore file and the AT template added	
A.01.TGR1.separatedatasets.md	Replaced all the external references with exact links to the refe	
A.02.TGR2.conformtoAtomSpecification...	Reference link harmonization	
A.03.TGR3.conformtoGeoRSS-Simple.md	Replaced all the external references with exact links to the referenc...	10 months ago
A.04.TGR4.conformtoOpenSearch1.1.md	Replaced all the external references with exact links to the referenc...	10 months ago
A.05.IR221.TGR5.feedTitle.md	Replaced all the external references with exact links to the referenc...	10 months ago
A.06.IR511.TGR6.linkToMetadataForTh...	Typo fix	10 months ago

27 lines (15 sloc) 861 Bytes Raw Blame History

Provide a title element

Purpose:

The "title" element of an Atom Download Service feed shall be populated with a human readable title for the feed

Test method

- the **feed title** must be non-empty text; the text content must include at least one alpha-numeric letter.

Reference(s):

- IR NS, M1, section 2.2.1, Download Service Metadata parameter
- TG DL, Req 5

Test type: Automated

Notes

Contextual XPath references

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

Abbreviation	XPath expression
feed title	/atom:feed/atom:title

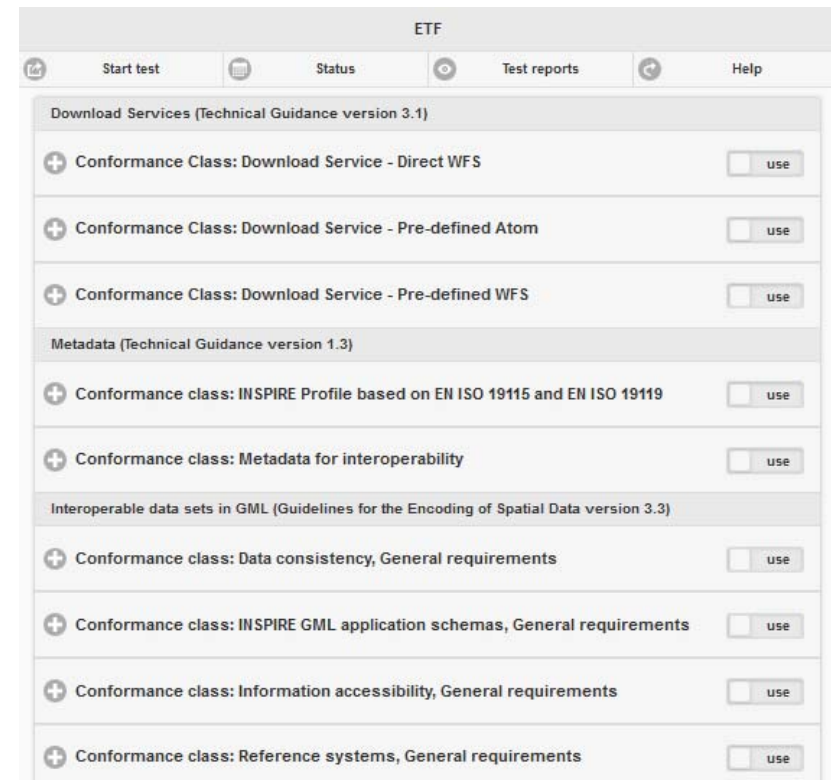


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<https://github.com/inspire-eu-validation/>

Executable Test Suites (ETS)

- ETS available for TGs on
 - Annex I data specifications
 - metadata (v1.3)
 - download services (Atom and WFS)
- ETS to be developed
 - metadata (v2.0)
 - Annex II+III data specifications
 - View Services (WMS & WMTS)
 - Discovery Services
 - Download Services (SOS & WCS)





ETS repository & guidelines

inspire-eu-validation / ets-repository

Unwatch 16 Star 2 Fork 1

Code Issues 16 Pull requests 0 Wiki Settings Insights

Repository for Executable Test Suites of the INSPIRE validator (under development)

Add topics

385 commits 2 branches 3 releases

Branch: master New pull request Create new file Up!

jonherrmann committed on GitHub Merge pull request #84 from inspire-eu-validation/cp-74

- data-ad Add references to ATS sections in Data Specifications
- data-au Add references to ATS sections in Data Specifications
- data-cp Add references to ATS sections in Data Specifications
- data-encoding/inspire-gml Add references to ATS sections in Data Specifications
- data-gn Add references to ATS sections in Data Specifications
- data-hy Add references to ATS sections in Data Specifications
- data-ps Add references to ATS sections in Data Specifications

4 months ago

Table of contents

- Developing Executable Test Suites
- Changelog
- About ETF
- 1. Introduction
- 2. Information and concepts used by all Executable Test Suites
 - 2.1 Overview
 - 2.2. Message template bundles
 - 2.3. Tags
 - 2.4. Test object types
 - 2.5. Test item types
 - 2.6. Attachments
- 3. BaseX-based test suites
 - 3.1. Required knowledge
 - 3.2. Development environment
 - 3.3. Basics
 - 3.4. Typical setup
 - 3.5. XML document of an Executable Test Suite
 - 3.6. The XQuery document
 - 3.7. Testing spatial aspects
 - 3.8. Parameters



ETF
Testing framework for spatial data and services

Developing Executable Test Suites

Status	in review
Date	2017-06-21
Description	This document is a guide on how to develop Executable Test Suites for ETF using the test engines SoapUI, BaseX and the TEAM Engine.
Target audience	Everyone planning to develop or edit Executable Test Suites
Licence	Creative Commons Attribution (cc-by) 4.0
Identifier	http://docs.etf-validator.net/Developer_manuals/Developing_Executable_Test_Suites.html
Language	EN

<https://github.com/inspire-eu-validation/ets-repository>

http://docs.etf-validator.net/#_developer_manuals

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Sample test report

Protected Sites - FI - Validator Workshop @ INSPIRE Conference 2017

Status Failed
Started 01/09/2017 16:27:28 GMT
Duration 14 s

	Total	Count	Skipped	Failed	Warnings	Manual
Test suites	10	0	1	0	1	
Test cases	18	0	1	0	2	
Assertions	41	0	1	0	4	

Show: All Only failed Only manual

Level of detail: All details Less information Simplified

- + Conformance class: INSPIRE GML encoding 1
- + Conformance class: INSPIRE GML application schemas, General requirements Failed: 1 / 6
- + Conformance class: GML application schemas, Protected Sites 1
- + Conformance class: Application schema, Protected Sites Simple 2
- + Conformance class: Data consistency, General requirements 2
- + Conformance class: Data consistency, Protected Sites 1
- + Conformance class: Information accessibility, General requirements 1

gmlas.d.9: 1, 2 or 3 coordinate dimensions

Simplified

gmlas.d.10: Validate geometries (1)

Verify that in curves and surfaces only gml:posList is used for coordinates, i.e. validate all geometry elements of a feature from the application schema using a geometry library.

Relevant requirements:

- IR Requirement Article 12 (1): Other Requirements and Rules. The value domain of spatial properties defined in this Regulation shall be restricted to the Simple Feature spatial schema as defined in Herring, John R. (ed.), OpenGIS® Implementation Standard for Geographic information – Simple feature access – Part 1: Common architecture, version 1.2.1, Open Geospatial Consortium, 2011, unless specified otherwise for a specific spatial data theme or type.

Note:

- Cadastral Parcel and Building 3D features are excluded from this requirement.

Source: [Abstract Test Case 'Simple features'](#), [INSPIRE Data Specification Template, A.1.7](#)

Status Failed
Duration 0.233 s

Messages

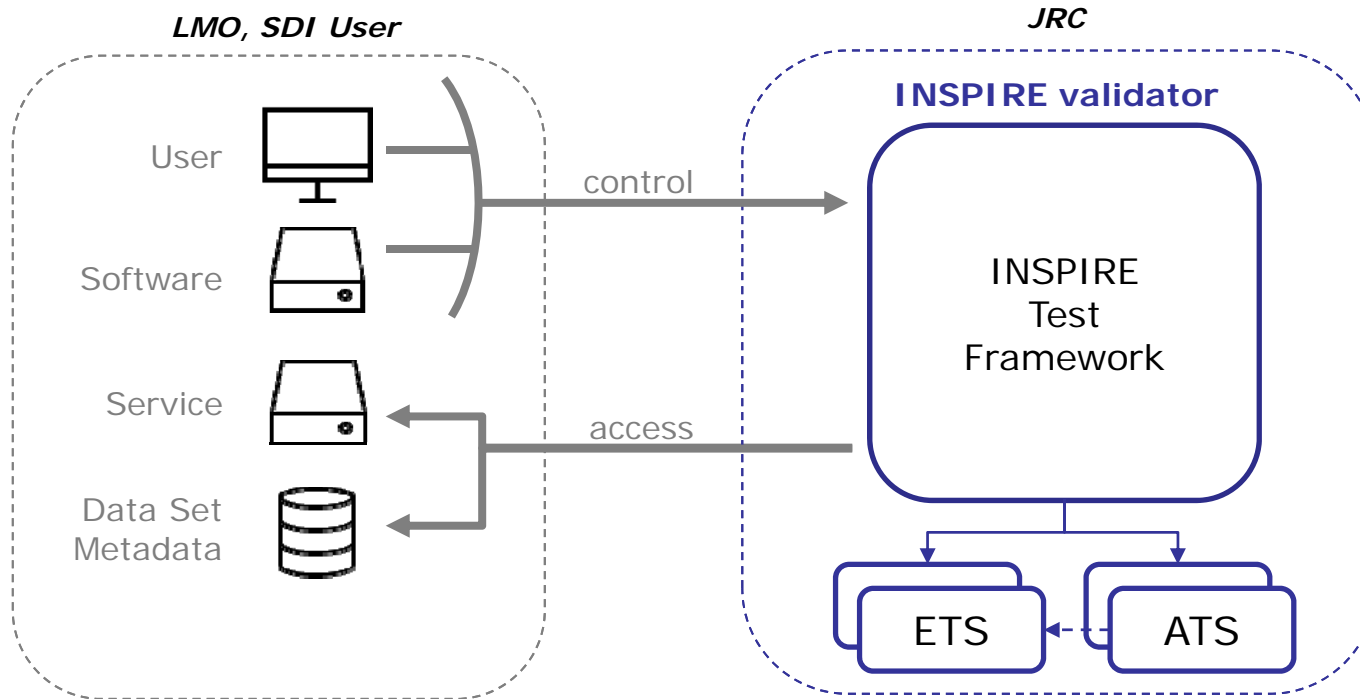
The dataset has 7 feature(s) with errors for this assertion.
XML document 'PS_Natura2000_3035_small.gml', ProtectedSite 'ps-SCIFI0100006-L': The feature geometry is not a valid GML geometry. Error detected: Invalid polygon. Outer ring of polygon is clockwise within element MultiSurface, (gml:id: ps-SCIFI0100006-L-0 with coordinates: LINESTRING (4146652.320966 5041496.569316,4149374.225709 503...))
XML document 'PS_Natura2000_3035_small.gml', ProtectedSite 'ps-SCIFI0200090-L': The feature geometry is not a valid GML geometry. Error detected: Invalid polygon. Outer ring of polygon is clockwise within element MultiSurface, (gml:id: ps-SCIFI0200090-L-0 with coordinates: LINESTRING (4130796.060765 4993781.289665,4127148.032830 499...))
XML document 'PS_Natura2000_3035_small.gml', ProtectedSite 'ps-SPAFI0100006-L': The feature geometry is not a valid GML geometry. Error detected: Invalid polygon. Outer ring of polygon is clockwise within element MultiSurface, (gml:id: ps-SPAFI0100006-L-0 with coordinates: LINESTRING (4146652.320966 5041496.569316,4149374.225709 503...))
XML document 'PS_Natura2000_3035_small.gml', ProtectedSite 'ps-SCIFI1400030-L': The feature geometry is not a valid GML geometry. Error detected: Invalid polygon. Outer ring of polygon is clockwise within element MultiSurface, (gml:id: ps-SCIFI1400030-L-0 with coordinates: LINESTRING (4229722.291544 4907672.044310,4231628.089206 490...))
XML document 'PS_Natura2000_3035_small.gml', ProtectedSite 'ps-SPAFI0100091-L': The feature geometry is not a valid GML geometry. Error detected: Invalid polygon. Outer ring of polygon is clockwise within element MultiSurface, (gml:id: ps-SPAFI0100091-L-0 with coordinates: LINESTRING (4212154.320736 5129177.808487,4212152.675040 512...))



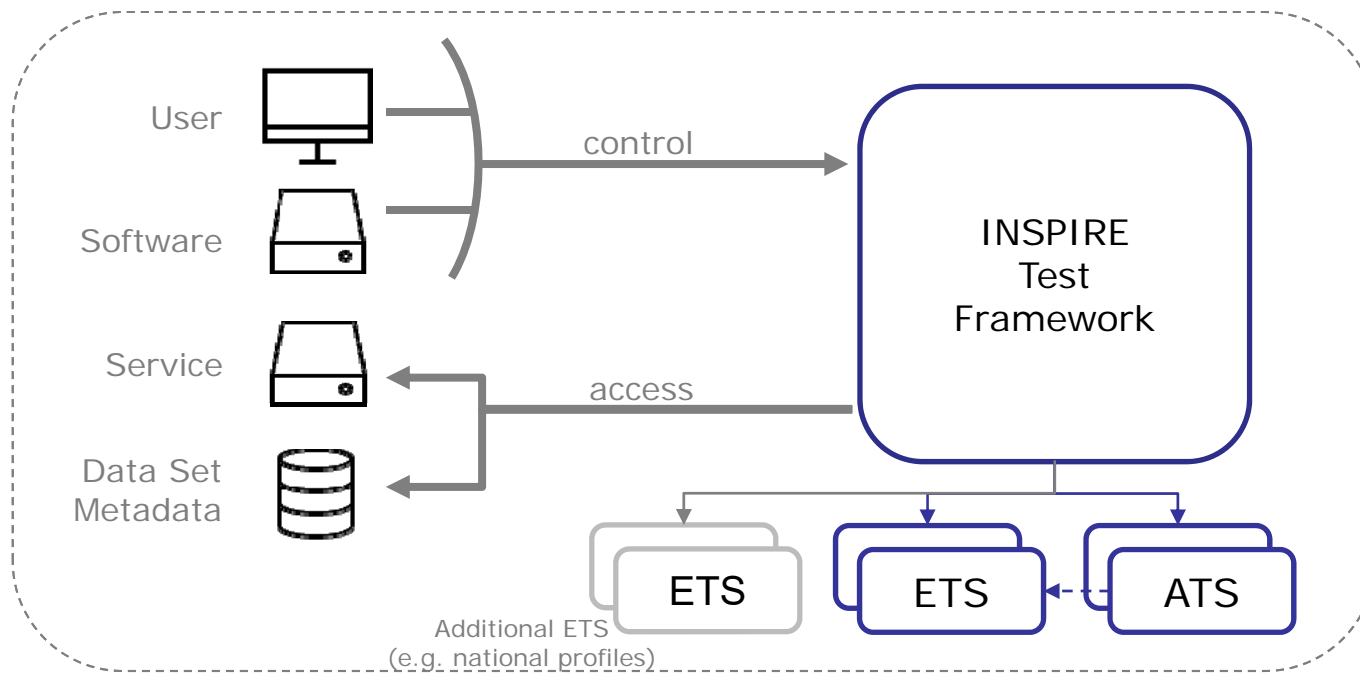
INSPIRE Test Framework

- Test framework = software to run ETS
- INSPIRE Test Framework uses & further develops ETF – an open-source testing framework for SDIs
 - <http://docs.etf-validator.net>
- ETF design goals
 - user-friendly
 - consistent with OGC/ISO specification model
 - capable of testing all resources in an SDI (spatial data, services and metadata records)

Central deployment



Reusable, e.g. by an LMO





REST API, documented using Swagger

The screenshot shows the Swagger UI for the ETF API. At the top, there is a green header with the Swagger logo, a dropdown menu set to 'default (v2/api-docs)', and an 'Explore' button. Below the header, the title 'ETF API' is displayed. A paragraph of introductory text follows, explaining that this is an interactive documentation for the Web API version 2 BETA of the test framework ETF. It mentions that consulting the Wiki may be required for a deeper understanding and that content negotiation is not implemented. Below the text, there are links for 'Created by ETF Team', 'See more at https://interactive-instruments.github.io/etf-webapp', 'Contact the developer', and 'Apache 2.0'. The main content area lists five API endpoints with their respective methods and descriptions:

Method	Endpoint	Description
GET	/v2/TestRuns.json	Get multiple Test Results as JSON
GET	/v2/TestRuns.xml	Get multiple Test Results as XML
DELETE	/v2/TestRuns/{id}	Cancel and delete a Test Run
GET	/v2/TestRuns/{id}	Get a single Test Result as JSON
HEAD	/v2/TestRuns/{id}	Check if the Test Run exists
GET	/v2/TestRuns/{id}.html	Generate a HTML Test Report



Other ETF features

- Test driver for OGC TeamEngine (support WFS 2.0 CITE tests of OGC)
- Selection of multiple (compatible) conformance classes for a single Test Run
- Selection of multiple XML for a single Test Run (metadata and data tests)
- Support for multi-linguality (user interface and reports)
- Manuals for users, developers and admins
 - <http://docs.etf-validator.net/>



Dealing with feedback on ETS, ATS, TGs

- Feedback in Github (indirectly) refers to
 - the INSPIRE test framework (the software implementation) (bugs, features/enhancements)
 - the test implementation in the ETS (bugs, features/enhancements)
 - the test definition in the ATS (errors, disagreement with interpretation)
 - the underlying requirements in the TG (errors, disagreement with interpretation)
- Examples for TG-related comments:
 - [Metadata ETS: md-iop.a.3 Encoding should not require specification](#)
 - [Metadata ETS: Using gmx schemas](#)

Future work (MIWP action 2016.3)

- Complete ETS / ATS for
 - Metadata v2.0 (ATS and ETS)
 - Annex II+III data specifications (ATS, ETS)
 - View Services – WMS & WMTS (ETS)
 - Discovery Services (ETS)
 - Download Services – SOS & WCS (ATS, ETS)
- Validation and the maturity level concept
- Maintenance, further development and roll-out of the testing framework
- Long-term sustainability & funding
- Outreach and promotion



<http://europa.eu/!bP87cr>

Get involved

- Submit your feedback on
 - ATS: <https://github.com/inspire-eu-validation>
 - ETS: <https://github.com/inspire-eu-validation/ets-repository>
 - ETF software: <https://github.com/interactive-instruments/etf-webapp>
- Join the new 2016.3 sub-group:
 - <http://europa.eu/!bP87cr>
- Develop your own tests:
 - http://docs.etf-validator.net/#_developer_manuals
- Come to the stand

