Introduction to the ETF and the INSPIRE Reference Validator: a technical perspective

JRC INSPIRE Team

May 31, 2024

Introduction

ETF

- ETF product status
  - Open Source Code
  - Documentation
  - Versions

- Architecture
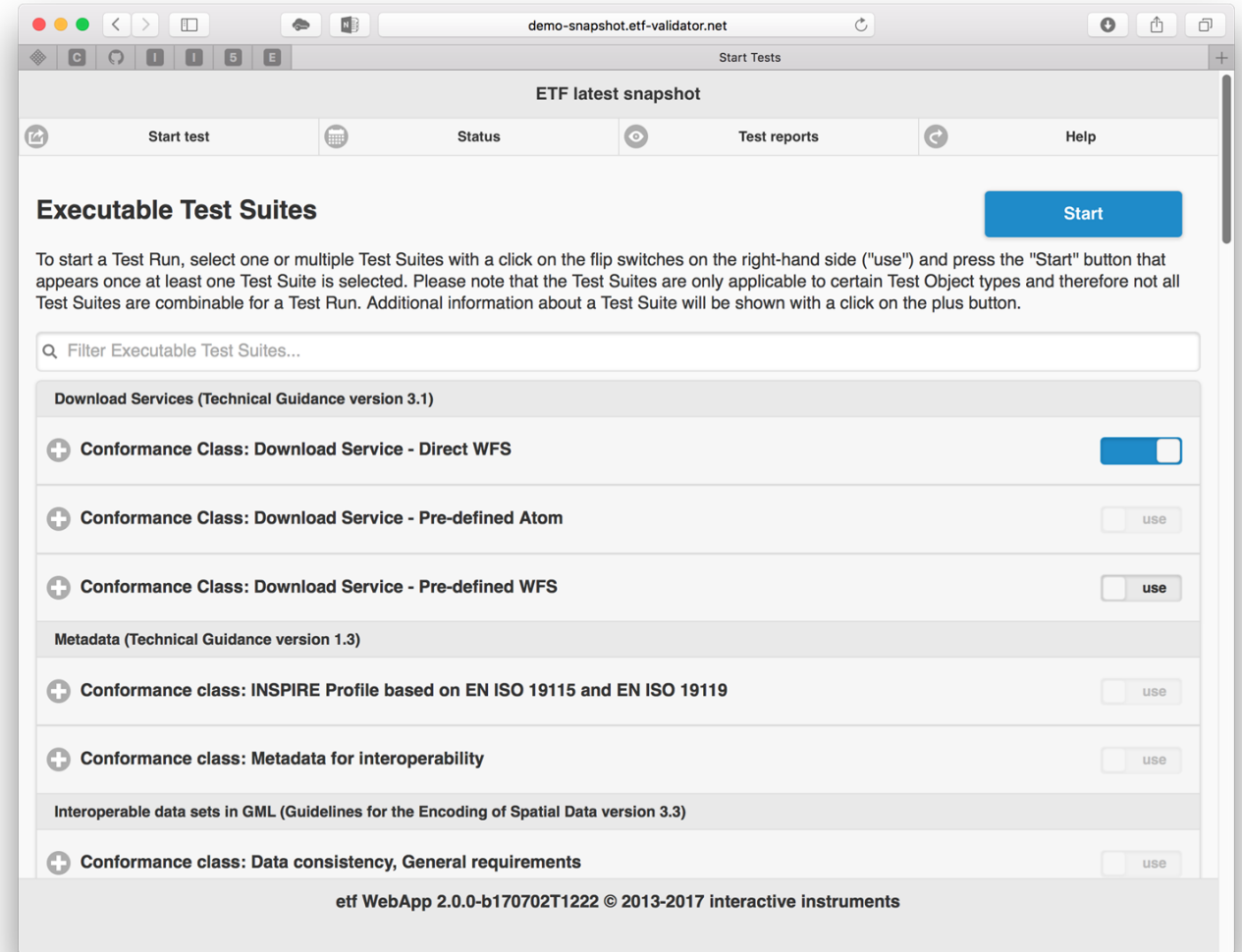 - Components architecture
  - Stack of technologies
  - API

Inspire Reference Validator

- Architecture

- Components
  - ETF 2.0
  - ETF API
  - Validator UI
  - ETS
  - Team Engine

European Commission

ETF: Open Source Code

- Data, metadata and services validations

- Connection to ETSs repositories

- Test reports with validation results
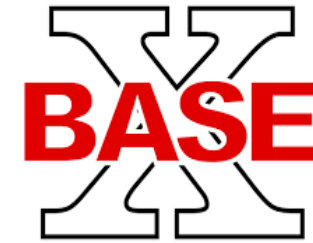
- API to extend and integrate functionalities

https://etf-validator.net/

ETF: Open Source Code

https://github.com/etf-validator/etf-webapp

https://github.com/etf-validator/etf-bsxtd

https://github.com/etf-validator/etf-tetd

https://github.com/etf-validator/etf-suitd

ETF: Documentation

ETF
Testing framework for spatial data and services

ETF manuals

About ETF

ETF is an open source testing framework for validating spatial data, metadata and web services in Spatial Data Infrastructures (SDIs).

The design of ETF is driven by three goals: be user-friendly, consistent with the standards and capable of testing all resources in an SDI.

User-friendly means that you do not have to be a developer to use it and that test reports include sufficient information for technical staff to understand the reasons for warnings and errors detected during the execution of tests. The user interface and the test reports support multiple languages, too.

The concepts in ETF are based on ISO 19105 and the OGC Specification Model which underpin the standards used in SDIs. Tests are organized in Executable Test Suites, which may be developed and executed using different tools to properly support all kinds of resources in an SDI. Currently supported are:

- SoapUI, a widely used tool for testing web services
- BaseX, an XML database, for testing sets of XML documents - including very large ones
- TEAM Engine, the tool used by the OGC CITE tests, to support the modern CITE tests developed using TestNG

ETF can be used via a responsive web application or via a REST API.

interactive instruments has developed ETF and is the primary maintainer of the software.

User manuals

- User manual for central deployments

Administrator manuals

ETF
Testing framework for spatial data and services

User manual for central deployments

Status	not approved
Date	2022-08-19
Description	This manual describes how to use the ETF web application of a centrally deployed validator for testing spatial data and services. Central deployments store test objects only for a single test run.
Target audience	Users of the ETF web application of a centrally deployed validator
Licence	Creative Commons Attribution (cc-by) 4.0
Identifier	https://docs.etf-validator.net/v2.0/User_manuals/Simplified_workflows.html
Language	EN

Changelog

Date	Editor	Comments
2017-04-20	Jon Herrmann	document created
2017-06-21	Clemens Portele	editorial updates
2022-08-19	Guadaltel	Updated to v2.1

1. Scope

This manual is intended for users that are using a centrally deployed validator to test geo network services and data. Services must be

https://docs.etf-validator.net/v2.1/index.html

ETF: Versions

2.1.0 `Latest`

github-actions released this Aug 19, 2022 · 2.1.0 · bfefb31

The installation instructions and the user manual can be found here.

Changelog

🦞 Bugfixes

- #191, #162 fix(Web Interface): cancel buttons and back urls in dialogues
- #192 fix(Web Interface): open log in new tab
- #190 fix(Web Interface): hide password in Test configuration dialogue
- #185 fix(bda): Windows build issues due to encoding
- etf-validator/governance#96 Ring orientation fix with new deegree release in GmlGeoX (fixed in the legacy test driver)
- etf-validator/governance#102 (fixed in the legacy test driver)
- #223 fix(tetd) change in Team Engine API
- #219 fix(bsxds) Functx download fails

🚀 Features

- #115 Handle GZIP for report attachments
- etf-validator/governance#71 Migrate to Java 11
- #194 #199, etf-validator/governance#66, etf-validator/governance#65 etf-validator/governance#36 etf-validator/governance#78 feature(Test Object Type Detector): WMS, WMTS and SOS test object types
- etf-validator/governance#25 Custom properties in test model items
- etf-validator/governance#26 Reusable Test Objects
- etf-validator/governance#28 Test Classes / Test Run Templates
- etf-validator/governance#48 Parameter to control the maximum number of threads
- etf-validator/governance#49 Improve schema validation
- etf-validator/governance#57 Performance optimisations of the geometry validation module (GmlGeoX) (requires BaseX test driver 3)
- etf-validator/governance#59 TopoX module (requires BaseX test driver 3)
- etf-validator/governance#93 Pre-processing in BaseX testdriver
- etf-validator/governance#90 Delete temporary test objects immediately

💡 Miscellaneous

- etf-validator/governance#92 etf-result-checker
- etf-validator/governance#70 Restructure repositories

▼ Assets 3

⊙ etf-webapp.war	60.4 MB	Aug 19, 2022
📄 Source code (zip)		Aug 19, 2022
📄 Source code (tar.gz)		Aug 19, 2022

Version 2.0.0

jonherrmann released this Jan 6, 2019 · 2.0.0 · b98d936

The installation instructions and the user manual can be found here.

Changelog

The following issues that occurred in release candidate version 2.0.0-rc4 (build 180605T1851) were fixed:

- #154 - fix (Web Interface): the Web Interface did not load in some browsers when HTTP (without S) was used.
- #159 - fix (Reports): the downloaded report filename was `out.html`. Now the label of the report is used.
- #152 - fix (Configuration): the automatic configuration of the property `etf.testobject.max.size` was not working correctly.
- #155 - refactor (Web Interface): the error diagnosis tool Opbeat was removed because the service has been discontinued.
- #172 - fix (Translation Template Bundles) the use of languages other than English in Translation Template Bundles did not work properly if translations were not available for all messages.
- #171 - fix (Web Interface) links in the SwaggerUI were updated to point to the correct locations
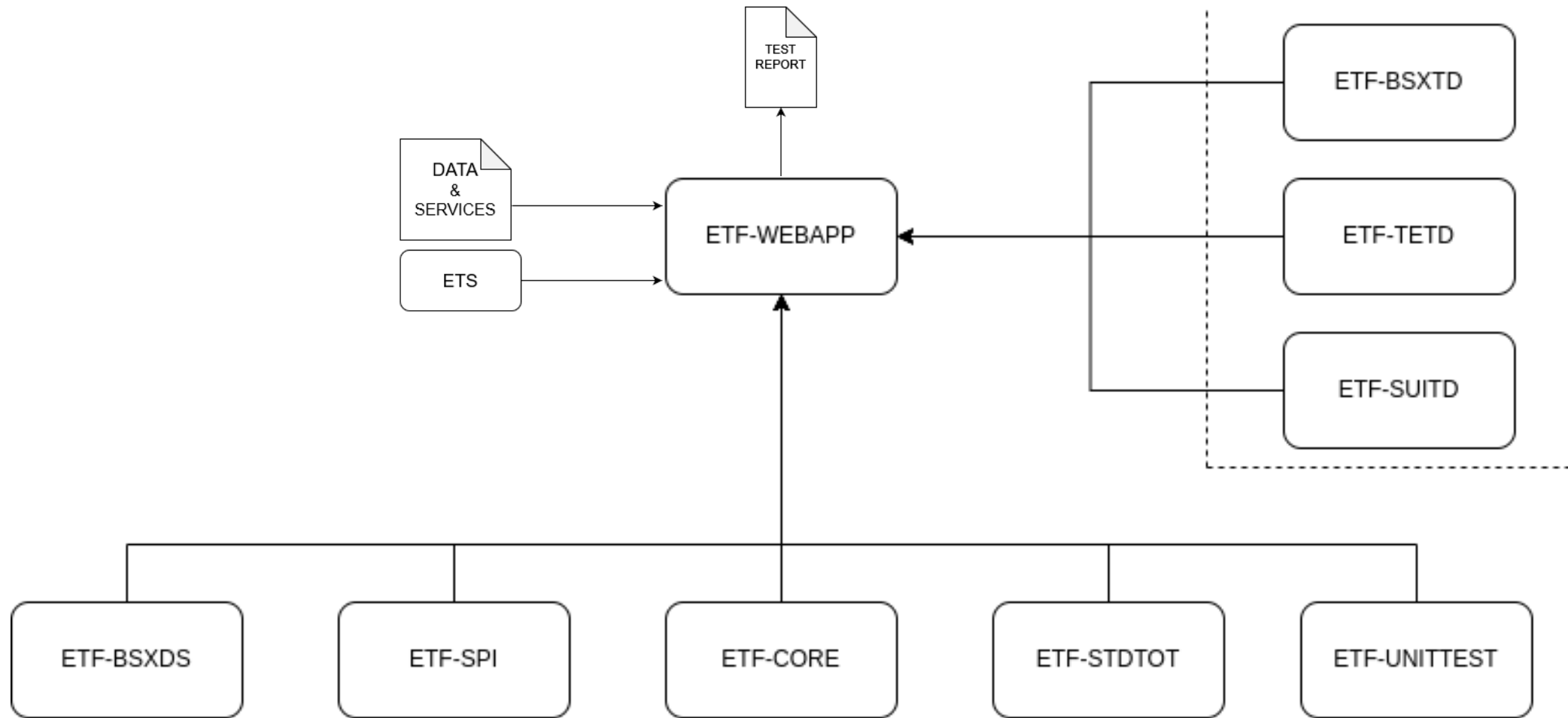
Many thanks to all issue reporters!

▼ Assets 3

⊙ etf-webapp.war	164 MB	Jan 6, 2019
📄 Source code (zip)		Jan 6, 2019
📄 Source code (tar.gz)		Jan 6, 2019

https://github.com/etf-validator/etf-webapp/releases/tag/2.1.0
https://github.com/etf-validator/etf-webapp/releases/tag/2.0.0

ETF: Components Architecture

ETF: Stack of technologies

https://www.java.com/es/

https://eclipse.dev/jetty/

https://basex.org/

https://cite.ogc.org/teamengine/

https://www.soapui.org/

https://github.com/deegree

ETF: API

The ETF provides its own API to interact without the need of using a browser interface

ETF: API

The ETF API eases the use and integration of the ETF with different clients… and UIs

https://inspire.ec.europa.eu/validator/swagger-ui.html
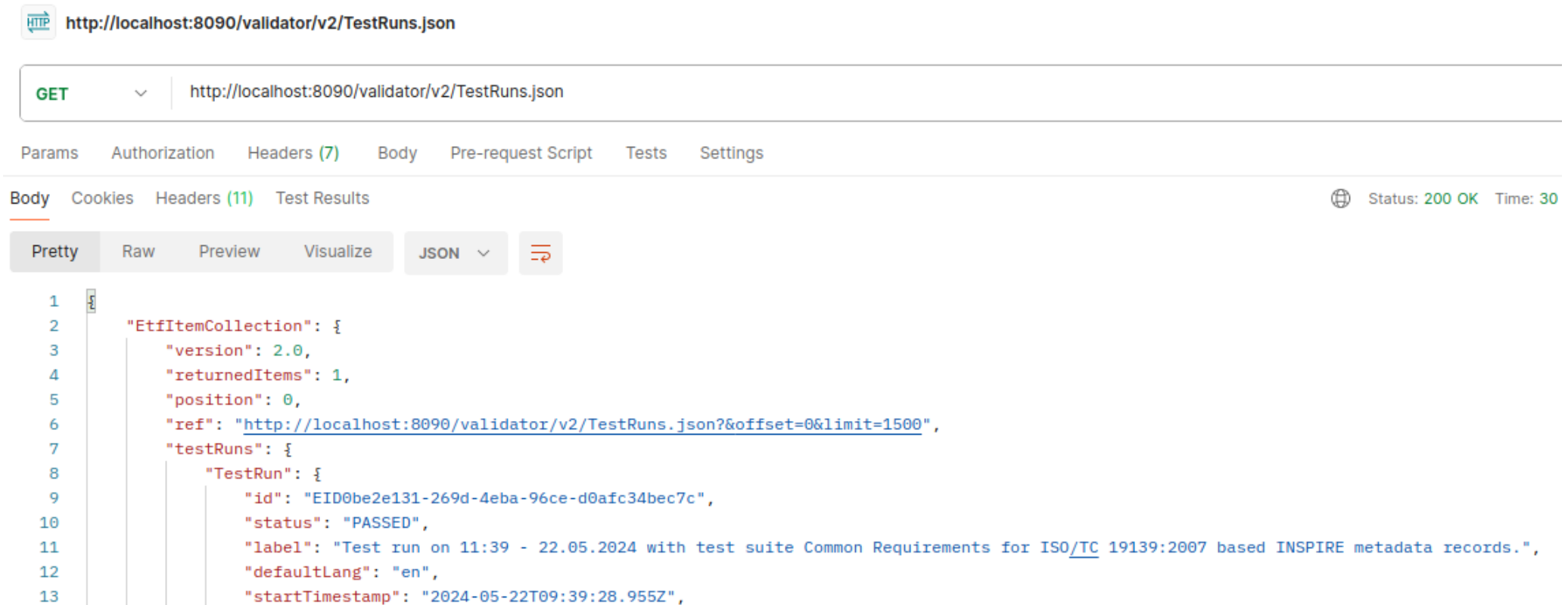
INSPIRE Reference Validator: Introduction

ATS-Repository

ETS-Repository

INSPIRE-Validator-UI

ETF-API

INSPIRE Reference Validator

https://inspire.ec.europa.eu/validator/home/index.html
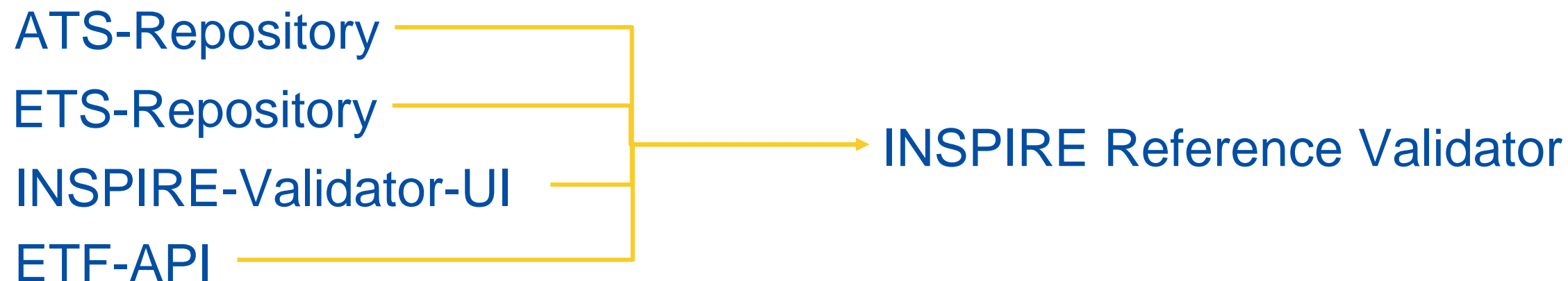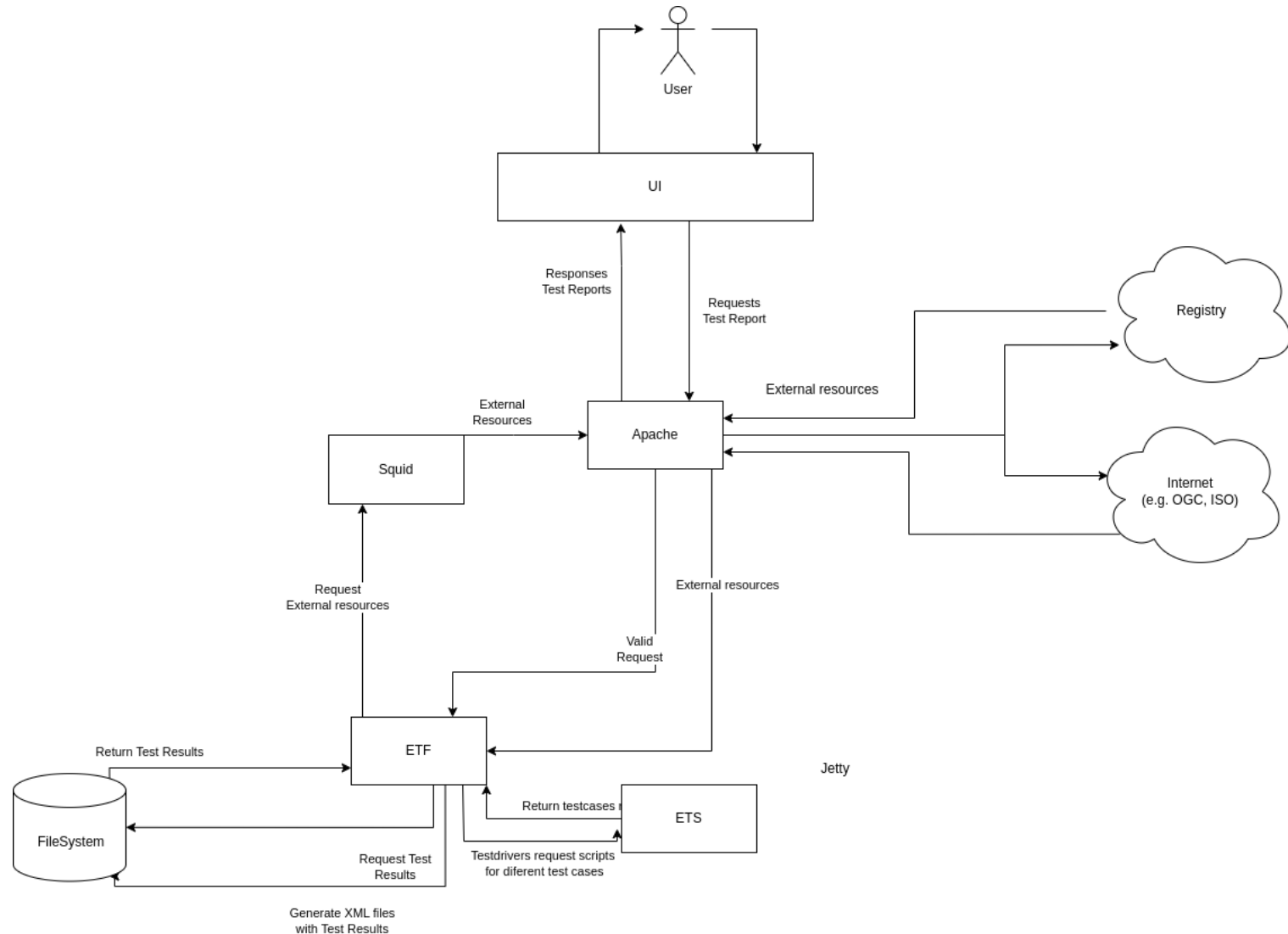
INSPIRE Reference Validator: Architecture

- User Interface for validations

- Input

  - Data/metadata/services

  - ETSs

- External dependencies:

  - INSPIRE Registry

  - OGC TEAM Engine

- Output: test report

INSPIRE Reference Validator: ETF 2.0

- ETF 2.0 + adaptations to INSPIRE validations needs

Version 2.0.0

Compare ▾

jonherrmann released this Jan 6, 2019 · 🏷 2.0.0 · ⟜ b98d936 ✅

The installation instructions and the user manual can be found here.

Changelog

The following issues that occurred in release candidate version 2.0.0-rc4 (build 180605T1851) were fixed:

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- [#171](#171) - fix (Web Interface) links in the SwaggerUI were updated to point to the correct locations

Many thanks to all issue reporters!

INSPIRE Reference Validator: ETF API

- ETF API: allows to integrate ETF functionalities in the INSPIRE Reference Validator UI

INSPIRE Reference Validator: UI

- user-friendly UI

Test selection

Configure your test

Select the INSPIRE resource you would like to test

- ● Metadata
- ○ View Service
- ○ Download Service
- ○ Discovery Service
- ○ Data set

Select the Technical Guidelines version

- ○ Version 1.3 - DEPRECATED
- ● Version 2.0

Select the type of metadata record(s) to be tested

- ● Data sets and data set series
- ○ Network Service
- ○ Spatial Data Service

Advanced options ⌄

| Antispam | ▥ **Audio version** | Refresh |

Move the slider to select a number between *twenty-five* and *27*.
You've selected: **0**

?

↔

Verify

- Security to prevent massive validations: captcha + API gateway

INSPIRE Reference Validator

| ↥ Start test | ▦ Status | ◎ Test reports | ◔ Help |

Executable Test Suites

To start a Test Run, select one or multiple Test Suites with a click on the flip switches on the right-hand side ("use") and press the "Start" button that appears once at least one Test Suite is selected. Please note that the Test Suites are only applicable to certain Test Object types and therefore not all Test Suites are combinable for a Test Run. Additional informatio about a Test Suite will be shown with a click on the plus button.

🔍 Filter items...

View Services - WMS and WMTS (TG version 3.11)

⊕ **Conformance Class: View Service - WMS**   use

⊕ **Conformance Class: View Service - WMTS**   use

Download Services - WFS and ATOM (TG version 3.1)

⊕ **Conformance Class: Download Service - Direct WFS**   use

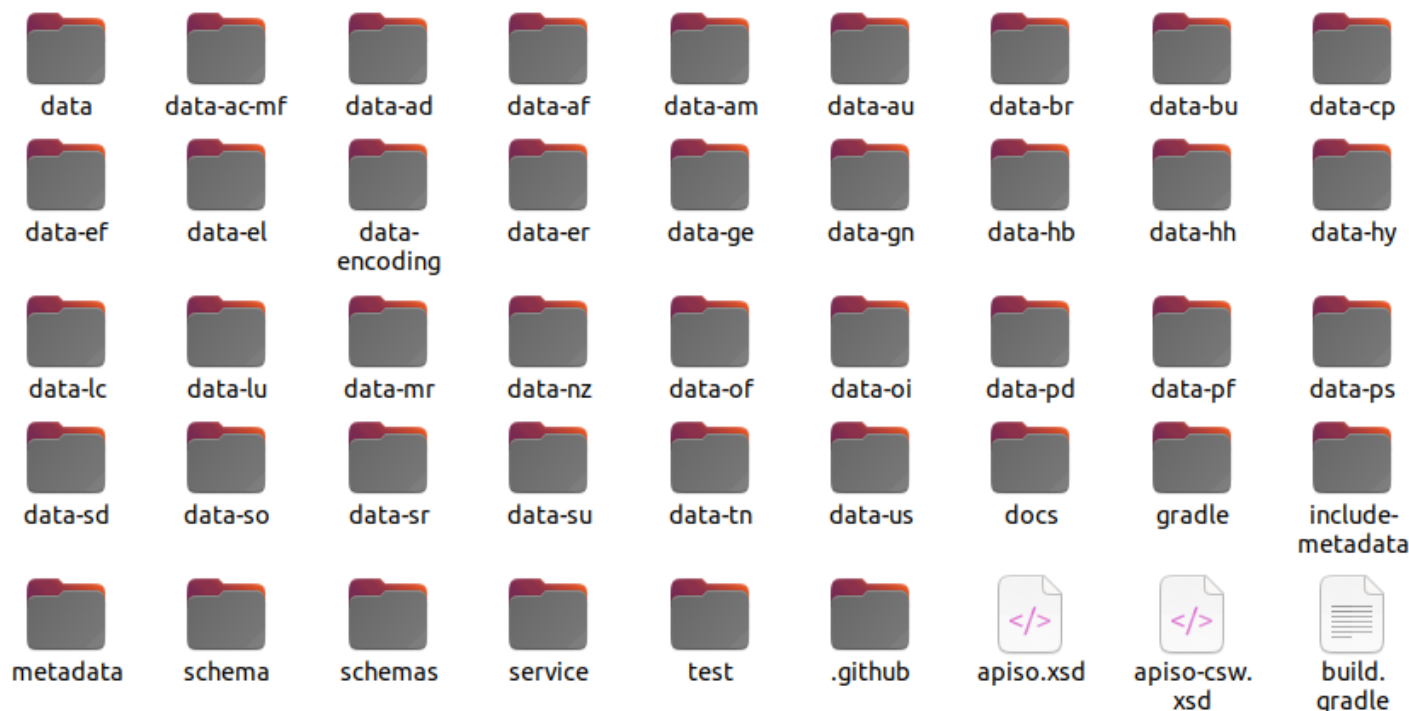⊕ **Conformance Class: Download Service - Pre-defined Atom**   use

⊕ **Conformance Class: Download Service - Pre-defined WFS**   use

ETF WebApp unknown © 2017-2018 European Union, interactive instruments GmbH

INSPIRE Reference Validator: ETS

- ETSs already loaded within deployment
- Official INSPIRE Executable Test Suites for Spatial data, metadata and services

```xml
<?xml version="1.0" encoding="utf-8"?>
<ExecutableTestSuite xmlns="http://www.interactive-instruments.de/etf/2.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" id="EID59692c11-df86-
be7f-94a1e1ddd8da" xsi:schemaLocation="http://www.interactive-instruments.
2.0 ../../schema/model/resultSet.xsd">
        <itemHash>bQ==</itemHash>
        <remoteResource>https://github.com/inspire-eu-validation/ets-repos
tree/master/metadata/2.0</remoteResource>
        <localPath>/auto</localPath>
        <label>Common Requirements for ISO/TC 19139:2007 based INSPIRE met
records.</label>
        <description>
            <![CDATA[<br/><br/>Please report any issues or problems <a
href="https://github.com/INSPIRE-MIF/helpdesk-validator/wiki/Your-feedback
target="_blank">in GitHub</a>.<br/><br/>
Known limitations are documented in the description of the applicable test
or test assertion.<br/><br/>
There is a general limitation in all assertions that polymorphism and cont
by reference (see the <a href="http://inspire.ec.europa.eu/id/ats/metadata
common/README#ref_TG_MD" target="_blank">Technical Guidance</a>, sub-claus
A.4 and A.5) are not supported. However, the current Abstract Test Suite d
support polymorphism and references either (all XPath expressions do not s
polymorhism or references; in addition, schema validation is only executed
against the ISO/OGC schemas without extensions). It is therefore unclear i
is really a limitation or if the sections in the technical guidance are ou
<br/><br/>
Source: <a href="http://inspire.ec.europa.eu/id/ats/metadata/2.0/common"
target="_blank">Common Requirements for ISO/TC 19139:2007 based INSPIRE me
records</a><br/><br/>]]>
        </description>
        <reference>../../../inspire-md-bsxets.xq</reference>
        <version>1.0.13</version>
        <author>Consortium Bilbomatica, Guadaltel y Geograma</author>
        <creationDate>2018-06-30T00:00:00Z</creationDate>
        <lastEditor>Consortium Bilbomatica, Guadaltel y Geograma</lastEdit
        <lastUpdateDate>2022-08-16T13:00:00Z</lastUpdateDate>
        <tags>
            <tag ref="EIDc6567beb-fc33-4f2e-865d-0c3ee5b3d1ae" />
        </tags>
        <testDriver ref="EID4dddc9e2-1b21-40b7-af70-6a2d156ad130" />
        <translationTemplateBundle
ref="EID70a263c0-0ad7-42f2-9d4d-0d8a4ca71b52" />
```

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

INSPIRE Reference Validator: Team Engine

The Test, Evaluation, And Measurement (TEAM) Engine is a testing facility designed to execute test suites developed using the TestNG framework or the OGC Compliance Test Language (CTL). It is primarily used to verify compliance with specifications and serves as the official test harness for the OGC Compliance Testing Program (CITE).

INSPIRE Reference Validator incorporates OGC CITE validations for:
- WFS Direct
- WFS 2.0
- OGC API - Features

https://opengeospatial.github.io/teamengine/
https://github.com/opengeospatial/teamengine