

INSPIRE Validation, Conformance and Interoperability Testing

INSPIRE Conference – 28 September 2016

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Stimulating innovation
Supporting legislation*



Overview

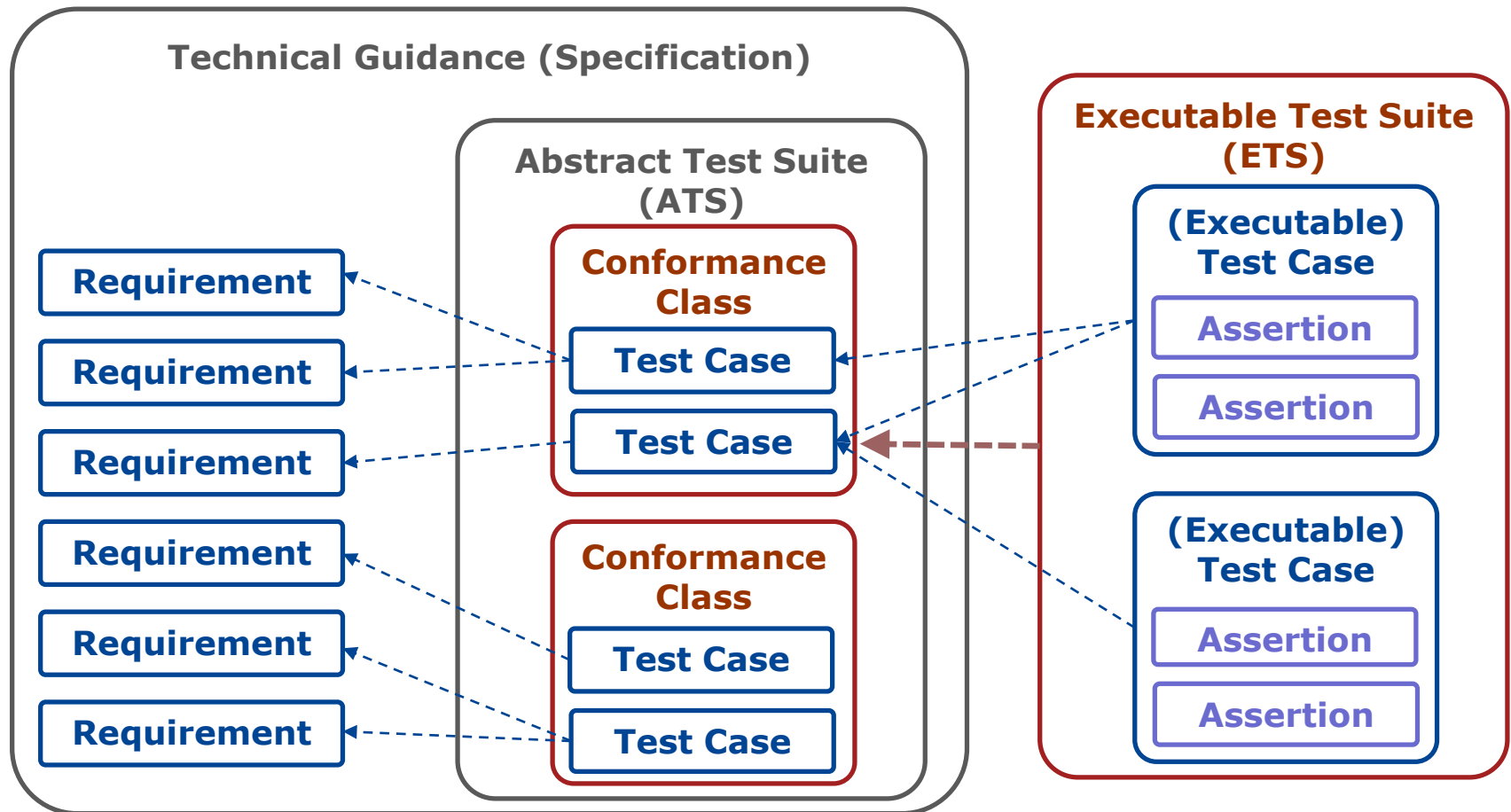
An ARe³NA project

- Contractors: PwC and interactive instruments
- Until mid 2017
- Support and accelerate ongoing work in the MIG-T (MIWP-5)
- Conformance testing of INSPIRE Metadata, Network Services and Data Sets based on an agreed set of abstract tests

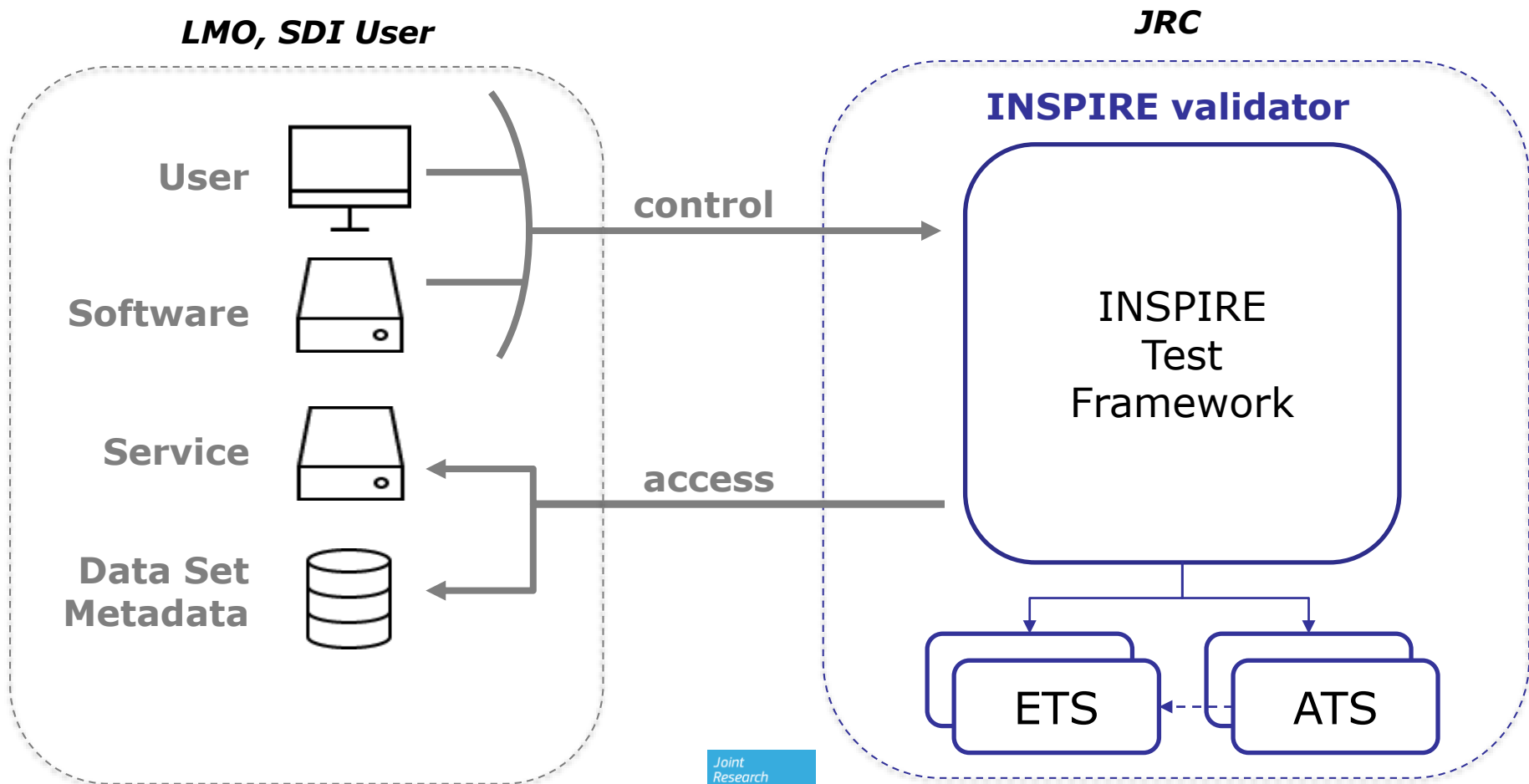
The context

- Currently different validators with different tests are used in Member States
- → Development of a reusable, open source, reference validator
- Build upon existing solutions
- Offering configurable software and test rules for organisations to test conformance
- Create a 'reusable' testing infrastructure for INSPIRE

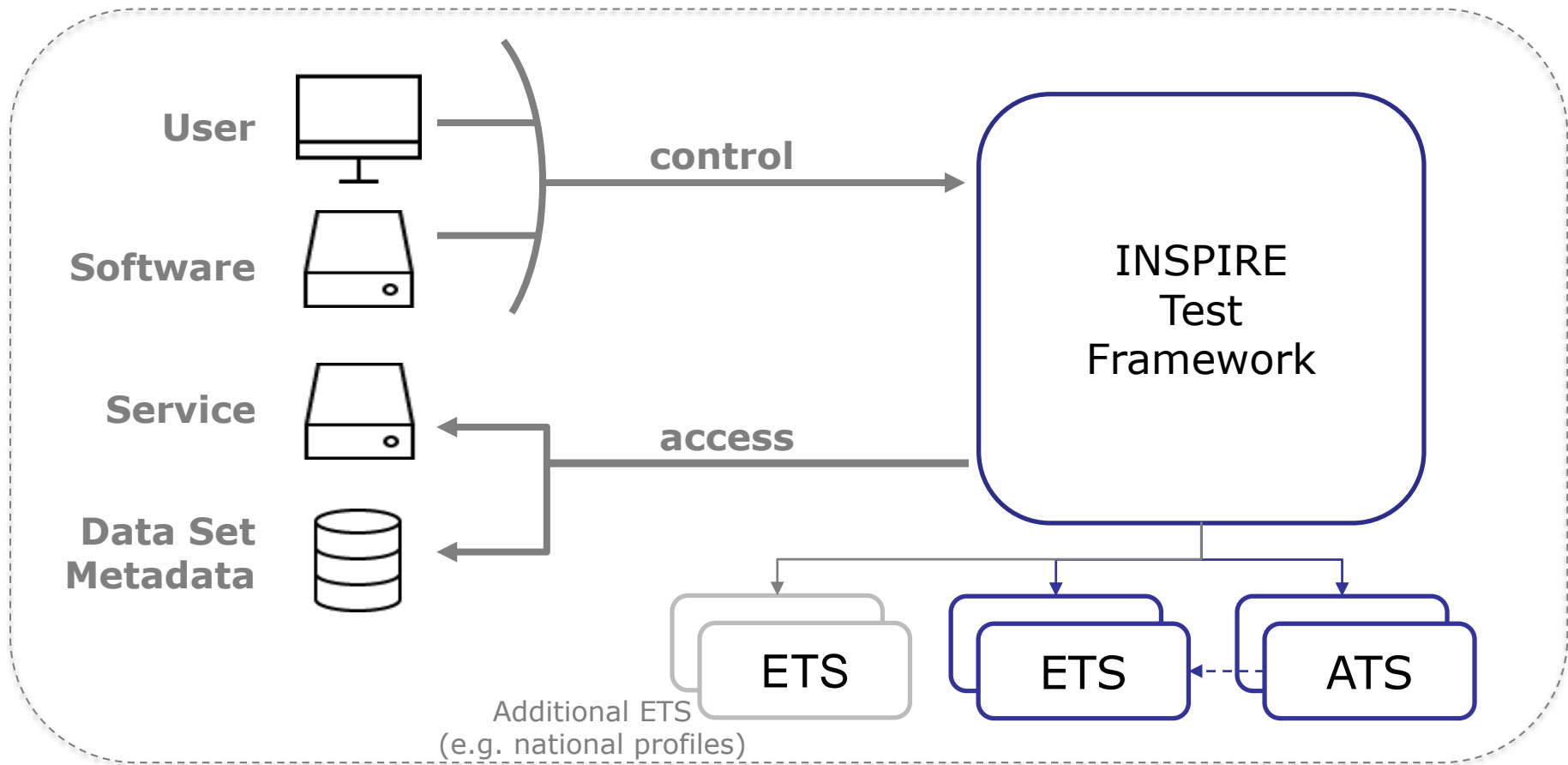
Agreed requirements and tests are the basis



Central deployment



Reusable, e.g. by an LMO



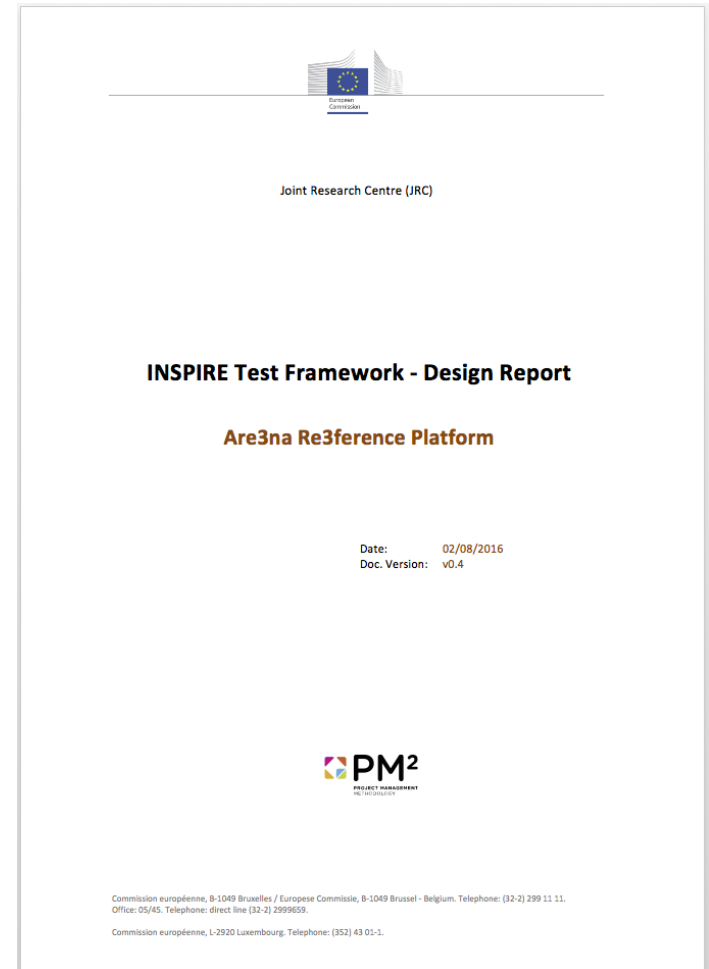
Design Report

Baseline Design

- Version 0.4, 02/08/2016
- Basis for development of the INSPIRE Test Framework

Based on ETF tooling

- Supports test engines for validating web services and very large XML document sets
- Existing ETSs as a starting point
- Extended with additional capabilities (work in progress)



ETS development – current status

Available draft test suites

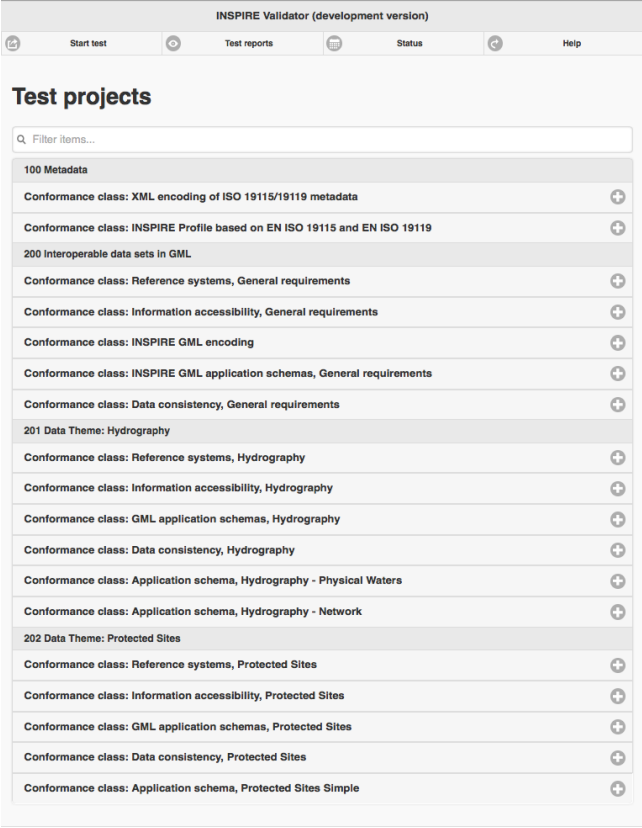
- Metadata (ISO 19115/19119)
- Data Specification Template
- Data Specification – Hydrography
- Data Specification – Protected Sites

Under development

- Other Annex I data specifications

Next

- Download services



INSPIRE Validator (development version)

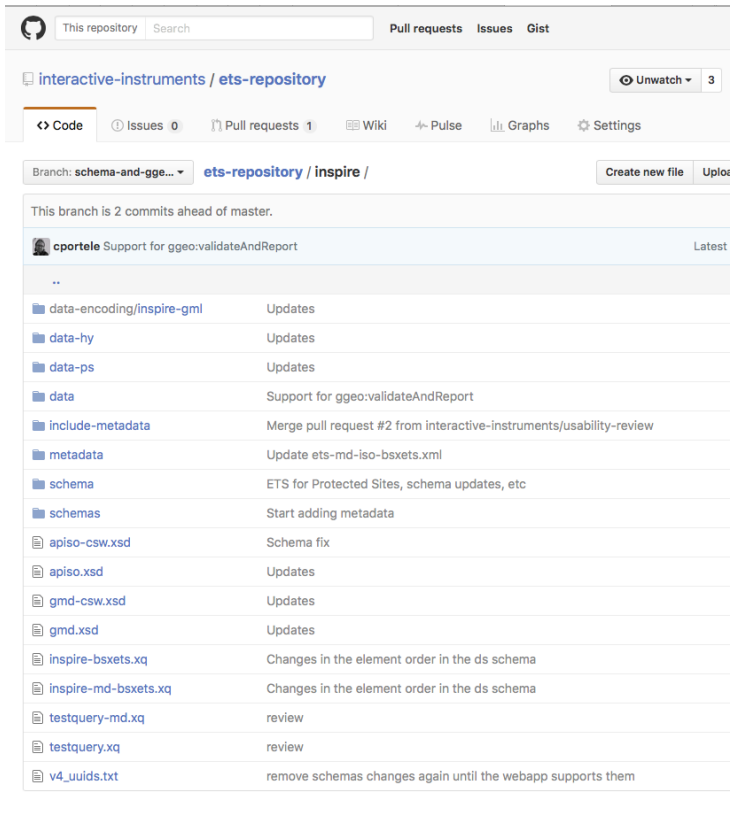
Start test Test reports Status Help

Test projects

Filter items...

100 Metadata	
Conformance class: XML encoding of ISO 19115/19119 metadata	+
Conformance class: INSPIRE Profile based on EN ISO 19115 and EN ISO 19119	+
200 Interoperable data sets in GML	
Conformance class: Reference systems, General requirements	+
Conformance class: Information accessibility, General requirements	+
Conformance class: INSPIRE GML encoding	+
Conformance class: INSPIRE GML application schemas, General requirements	+
Conformance class: Data consistency, General requirements	+
201 Data Theme: Hydrography	
Conformance class: Reference systems, Hydrography	+
Conformance class: Information accessibility, Hydrography	+
Conformance class: GML application schemas, Hydrography	+
Conformance class: Data consistency, Hydrography	+
Conformance class: Application schema, Hydrography - Physical Waters	+
Conformance class: Application schema, Hydrography - Network	+
202 Data Theme: Protected Sites	
Conformance class: Reference systems, Protected Sites	+
Conformance class: Information accessibility, Protected Sites	+
Conformance class: GML application schemas, Protected Sites	+
Conformance class: Data consistency, Protected Sites	+
Conformance class: Application schema, Protected Sites Simple	+

ETS development – on GitHub



This repository Search Pull requests Issues Gist

interactive-instruments / ets-repository Unwatch 3

Code Issues 0 Pull requests 1 Wiki Pulse Graphs Settings

Branch: schema-and-gge... ets-repository / inspire / Create new file Upload

This branch is 2 commits ahead of master.

Support for ggeo.validateAndReport Latest c

- data-encoding/inspire-gml Updates
- data-hy Updates
- data-ps Updates
- data Support for ggeo.validateAndReport
- include-metadata Merge pull request #2 from interactive-instruments/usability-review
- metadata Update ets-md-iso-bsxets.xml
- schema ETS for Protected Sites, schema updates, etc
- schemas Start adding metadata
- apiso-csw.xsd Schema fix
- apiso.xsd Updates
- gmd-csw.xsd Updates
- gmd.xsd Updates
- inspire-bsxets.xq Changes in the element order in the ds schema
- inspire-md-bsxets.xq Changes in the element order in the ds schema
- testquery-md.xq review
- testquery.xq review
- v4_uids.txt remove schemas changes again until the webapp supports them

BaseX: Testing XML documents

Clemens Portele edited this page a day ago · 11 revisions

Required knowledge

To develop Executable Test Suites for testing XML documents in ETF using BaseX, you should be familiar with:

- [XQuery](#) and XML technologies in general
- the ETF domain model (TODO: create overview page)

Introduction

In ETF, sets of XML documents are tested using [BaseX](#), an XML database. An Executable Test Suite is essentially an [XQuery](#) that operates on the set of XML documents under test and returns an XML document with the root element `etf:TestTaskResult`.

The content model is specified using an [XML schema](#).

The current stable schema is available [here](#) and can be used for validating ETF XML structures:

```
<EtfModelItem xmlns="http://www.interactive-instruments.de/etf/2.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.interactive-instruments.de/etf/2.0 http://services.int
</EtfModelItem>
```

Here is a simple example with one test case with two test assertions:

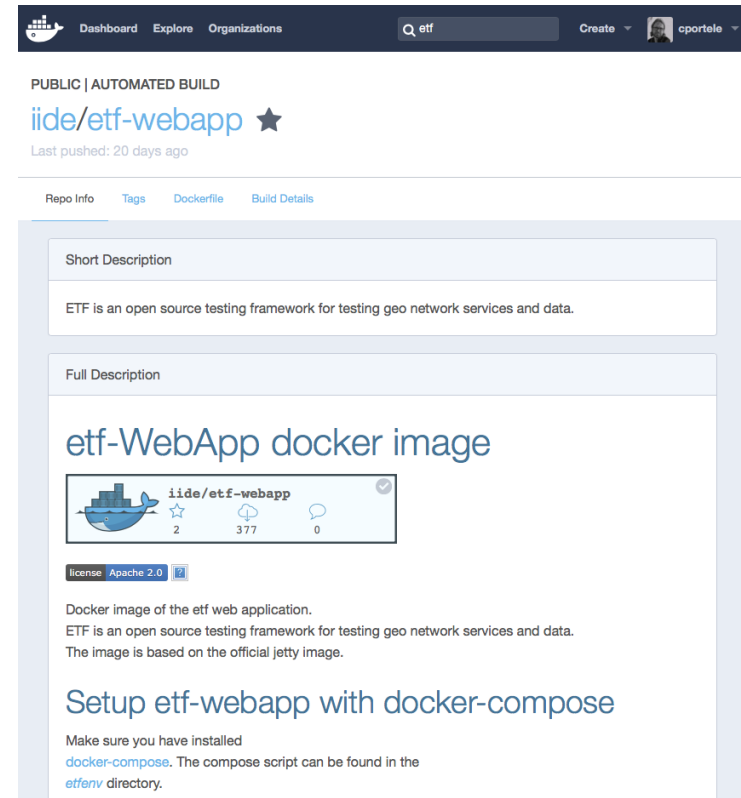
```
<TestTaskResult xmlns="http://www.interactive-instruments.de/etf/2.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.interactive-instruments.de/etf/2.0 http://services.int
```


ETS development – planned reuse

- Use ETF tests for DLS + VS as starting point
 - WMS 1.3 / INSPIRE View Service
 - WFS 2.0 Pre-defined / INSPIRE Download Service
 - WFS 2.0 Direct Access / INSPIRE Download Service
 - ATOM INSPIRE Download Service
 - Updates needed based on the Abstract Test Suites and to improve usability
- Integrate OGC CITE Tests

Local deployment

- Easiest option will be using the Docker image of ETF
- Adding the Executable Test Suites from the repository on GitHub
- Steps to be documented soon



The screenshot shows the GitHub repository page for `iide/etf-webapp`. The repository is public and has an automated build. It was last pushed 20 days ago. The page includes a short description: "ETF is an open source testing framework for testing geo network services and data." The full description is titled "etf-WebApp docker image" and includes a Docker image card for `iide/etf-webapp` with 2 stars, 377 forks, and 0 issues. The license is Apache 2.0. The description also states: "ETF is an open source testing framework for testing geo network services and data. The image is based on the official jetty image." A section titled "Setup etf-webapp with docker-compose" provides instructions: "Make sure you have installed `docker-compose`. The compose script can be found in the `etfenv` directory."

More information

Demos at the INSPIRE booth

- Today, 12:30 – 13:00
- Tomorrow, 13:30 – 14:00

Talk to us, we are all here until Friday

- Jon Herrmann, interactive instruments
- Clemens Portele, interactive instruments
- Jens Scheerlinck, PwC
- Robin Smith, JRC
- Michael Lutz, JRC

If you are interested in testing the INSPIRE validator, please write to are3na@jrc.ec.europa.eu