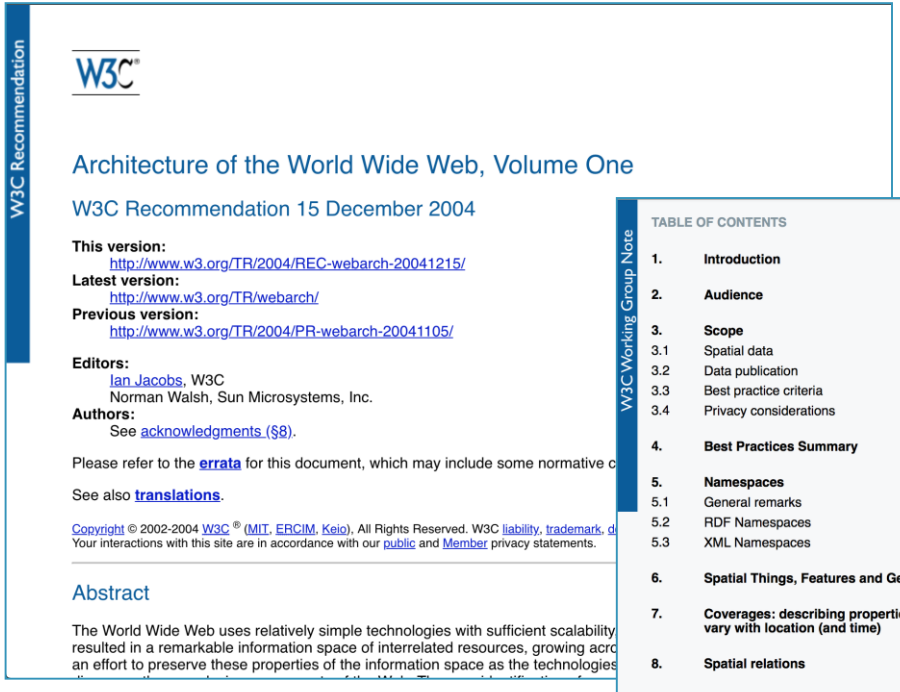
Bottom up meets top down – van experiment naar standaard: WFS 3.0

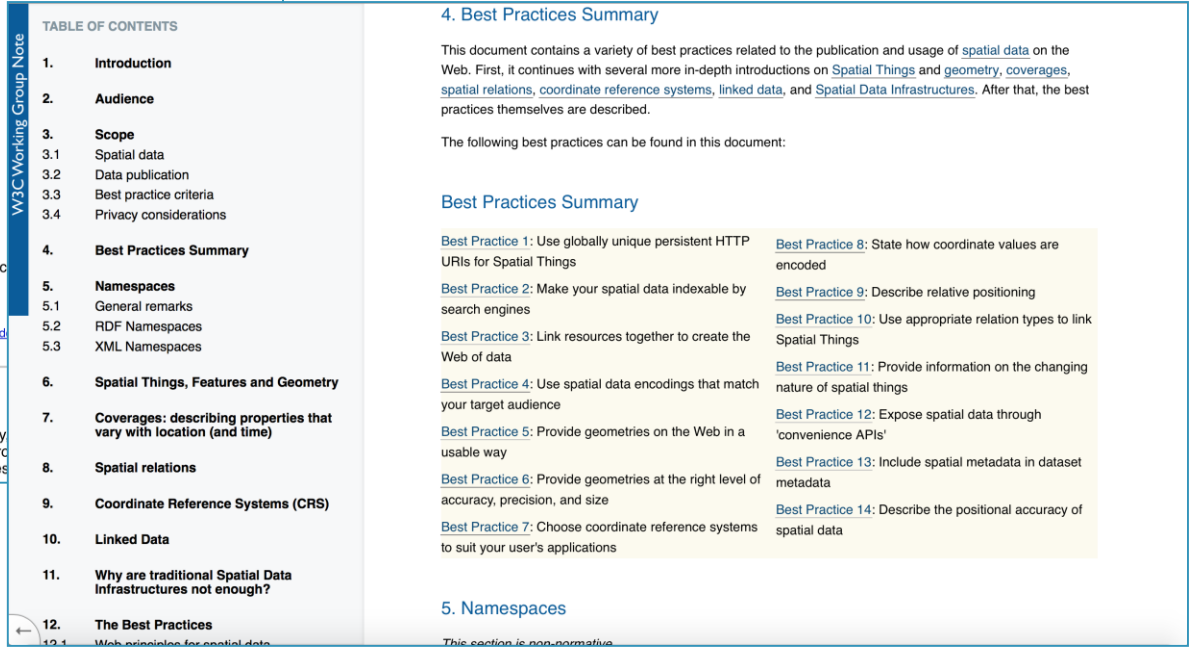
The next version of the Web Feature Service standard

Clemens Portele, interactive instruments GmbH

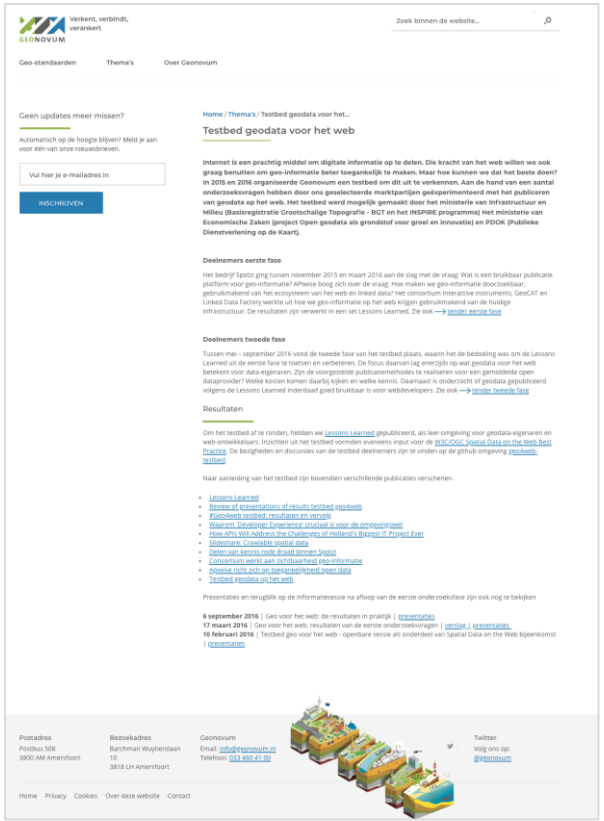
SDI.Next, 31 October 2018

Consistency with the Web architecture and the W3C/OGC Spatial Data on the Web Best Practices





Geonovum testbed “Spatial Data on the Web” in 2015/2016



Spatial Data on the Web using the current SDI

Report of the research results in the Geonovum testbed “Spatial Data on the Web” (topic 4)

08/06/2016

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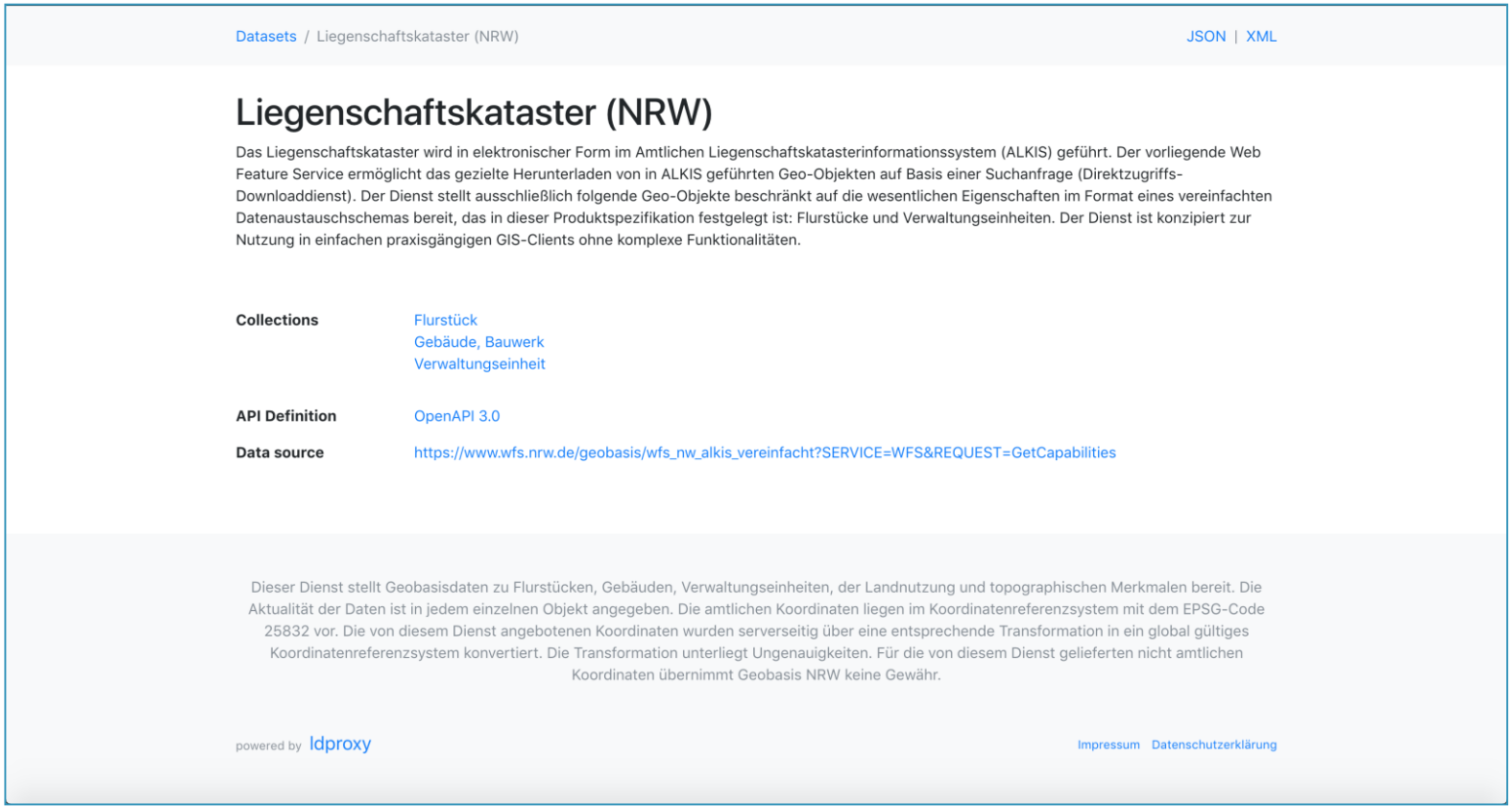
- Paul van Genuchten, GeoCat BV
- Lieke Verhelst, Linked Data Factory
- Andreas Zahnen, interactive instruments GmbH

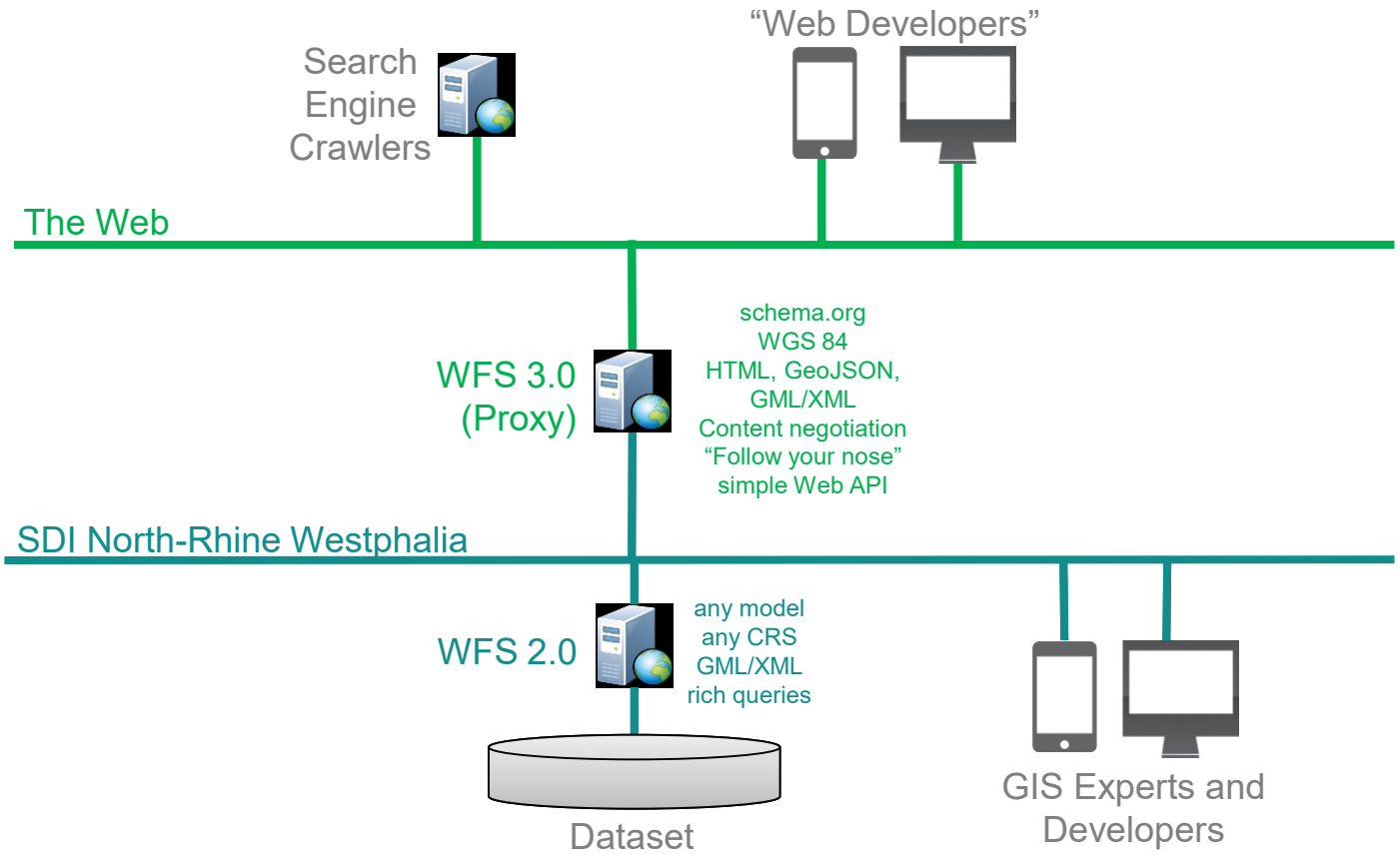
Table of Contents

Not tied to any particular encoding, GeoJSON currently recommended (where applicable)

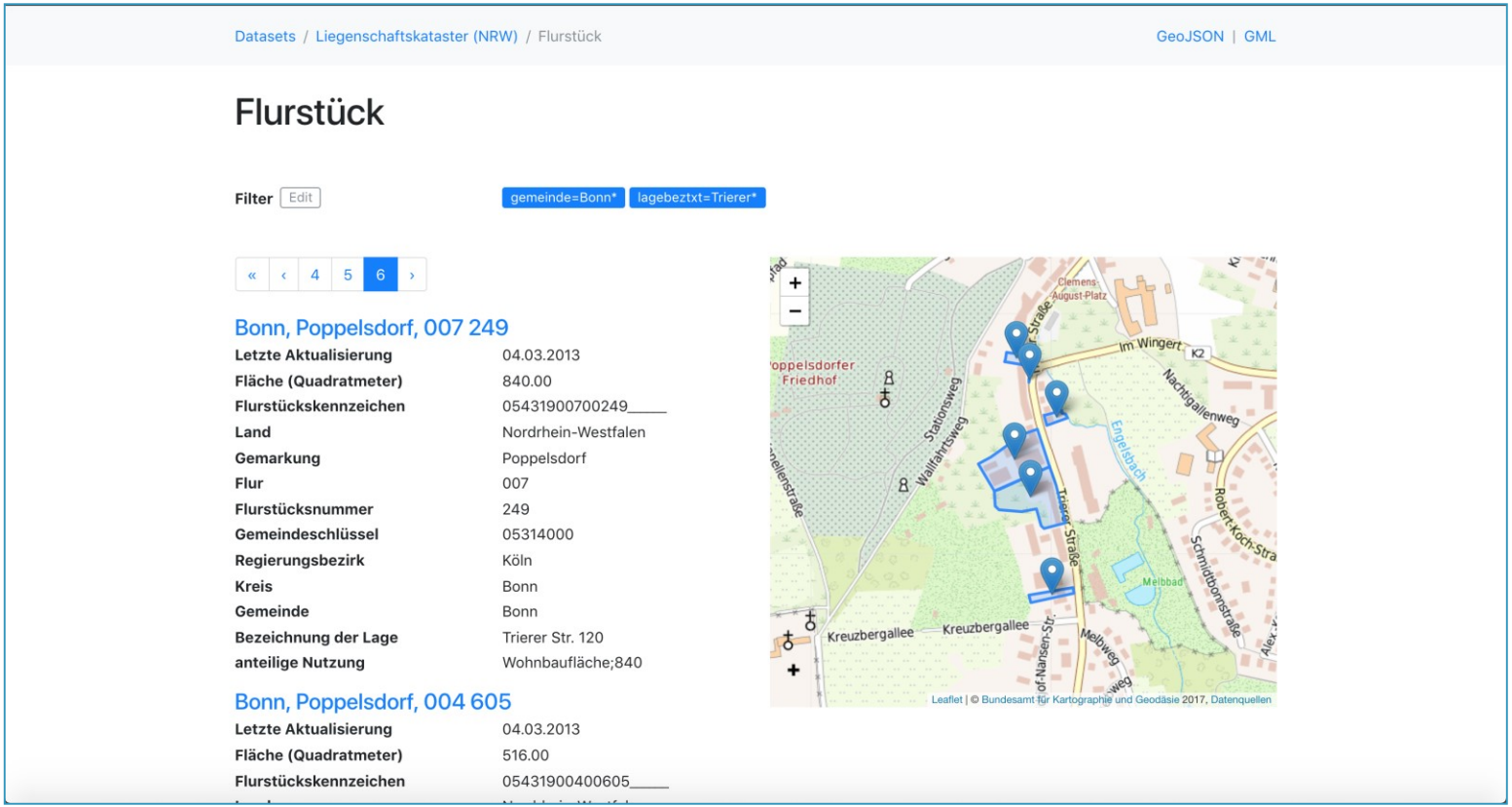
Support for HTML recommended ...



Implementation example in North-Rhine Westphalia



... including browsing datasets following links



... a cadastral parcel

Datasets / Liegenschaftskataster (NRW) / Flurstück / Bonn, Poppelsdorf, 007 49/1 GeoJSON | GML

Bonn, Poppelsdorf, 007 49/1

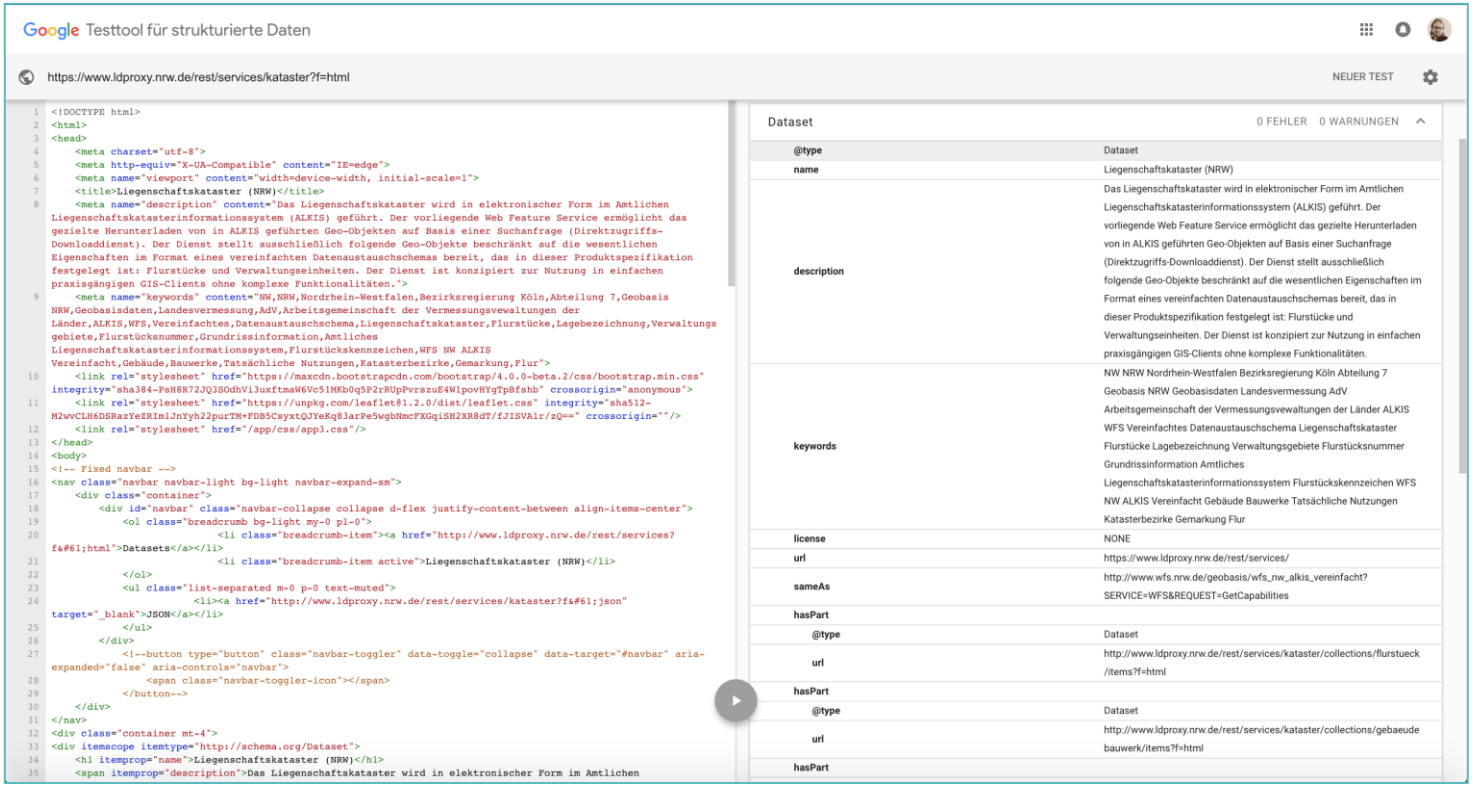
id	DENW36AL10005X65FL
Letzte Aktualisierung	04.03.2013
Fläche (Quadratmeter)	6368.00
Flurstückskennzeichen	054319007000490001__
Land	Nordrhein-Westfalen
Gemarkung	Poppelsdorf
Flur	007
Flurstücksnummer	49/1
Gemeindeschlüssel	05314000
Regierungsbezirk	Köln
Kreis	Bonn
Gemeinde	Bonn
Bezeichnung der Lage	Trierer Str. 70, 72
anteilige Nutzung	

Nutzung	Fläche
Fläche besonderer funktionaler Prägung / Verwaltung	6368

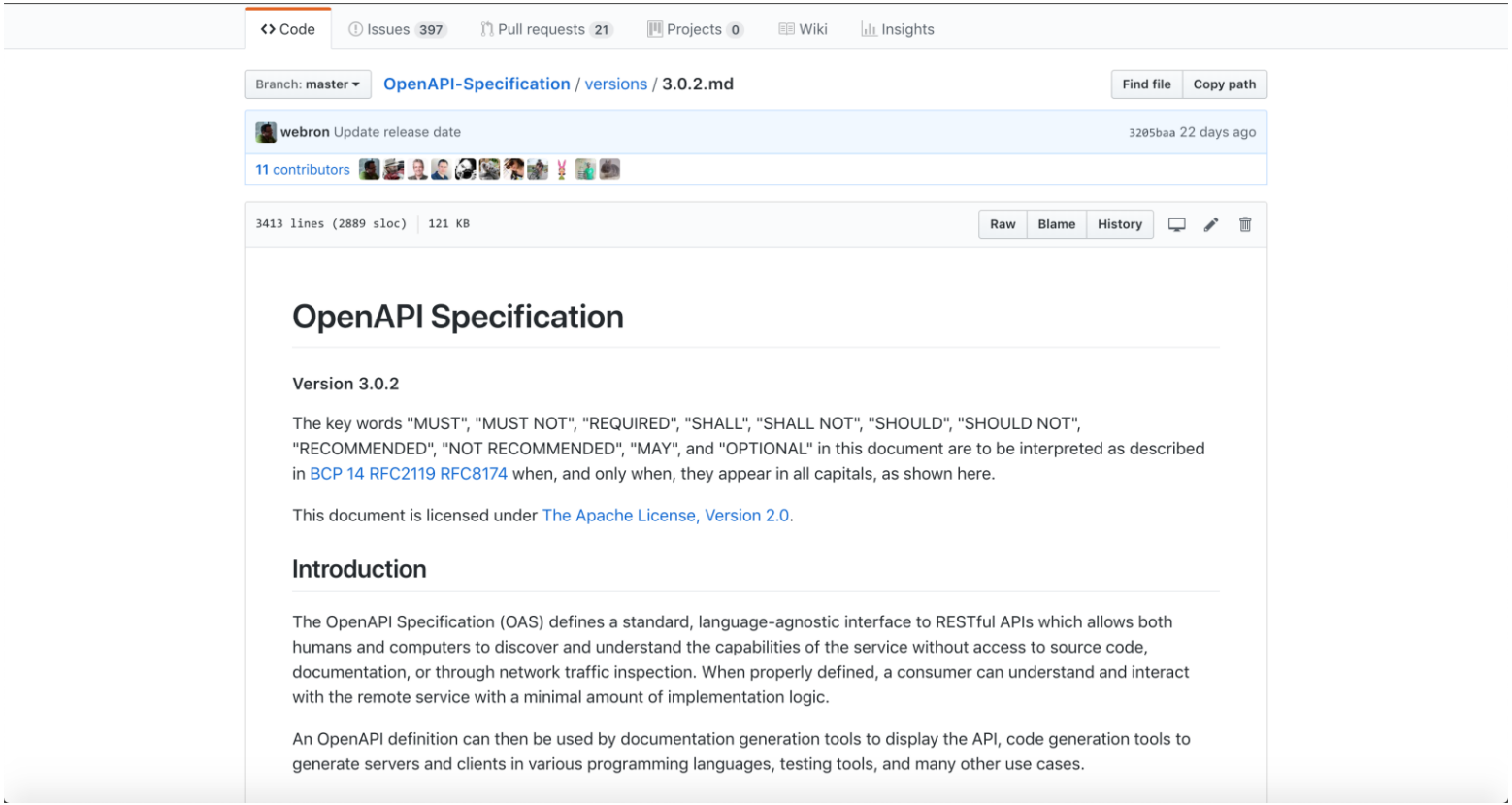
Dieser Dienst stellt Geobasisdaten (u.a. Flurstücke, Verwaltungseinheiten) bereit. Die Aktualität der Daten ist in jedem einzelnen Objekt angegeben. Die Geobasisdaten in NRW werden im amtlichen Koordinatenreferenzsystem ETRS89/UTM32 (EPSG:25832) geführt und können auch durch die Angabe dieses Koordinatenreferenzsystem in der Anfrage abgefragt werden. Erfolgt keine konkrete Angabe eines Koordinatenreferenzsystem in der Anfrage erfolgt die Ausgabe in WGS84 (EPSG:3857). Diese und alle weiteren Koordinatenreferenzsysteme werden serverseitig über eine entsprechende Transformation realisiert, die Ungenauigkeiten unterliegt. Für die von diesem Dienst gelieferten nicht amtlichen Koordinaten übernimmt Geobasis.NRW keine Gewähr. Eine abschließende Liste aller Dienste findet sich unter: https://www.bezreg-koeln.nrw.de/brk_internet/geobasis/webdienste/index.html

powered by ldproxy Impressum Datenschutzerklärung

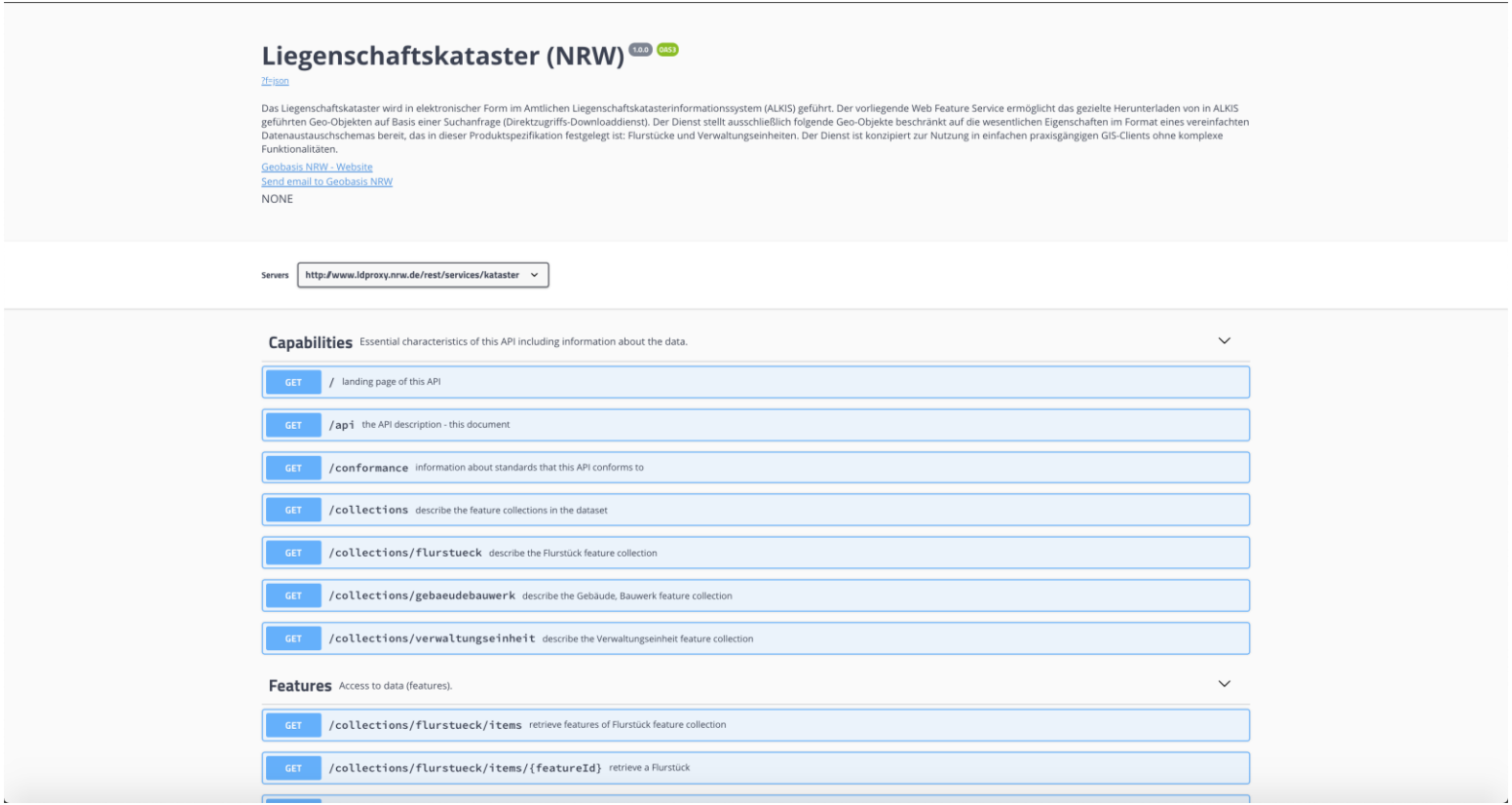
Enrich HTML with schema.org annotations, agents can understand what the page is about



Leverage the OpenAPI Specification



OGC-specific capabilities documents no longer needed



Resource overview

Table 1. Overview of resources, applicable HTTP methods and links to the document sections

Resource	Path	HTTP method	Document reference
Landing page	`/`	GET	7.2 API landing page
API definition	`/api`	GET	7.3 API definition
Conformance classes	`/conformance`	GET	7.4 Declaration of conformance classes
Feature collections metadata	`/collections`	GET	7.11 Feature collections metadata
Feature collection metadata	`/collections/{name}`	GET	7.12 Feature collection metadata
Feature collection	`/collections/{name}/items`	GET	7.13 Feature collections
Feature	`/collections/{name}/items/{fid}`	GET	7.14 Feature

Supports two approaches how clients can use the server

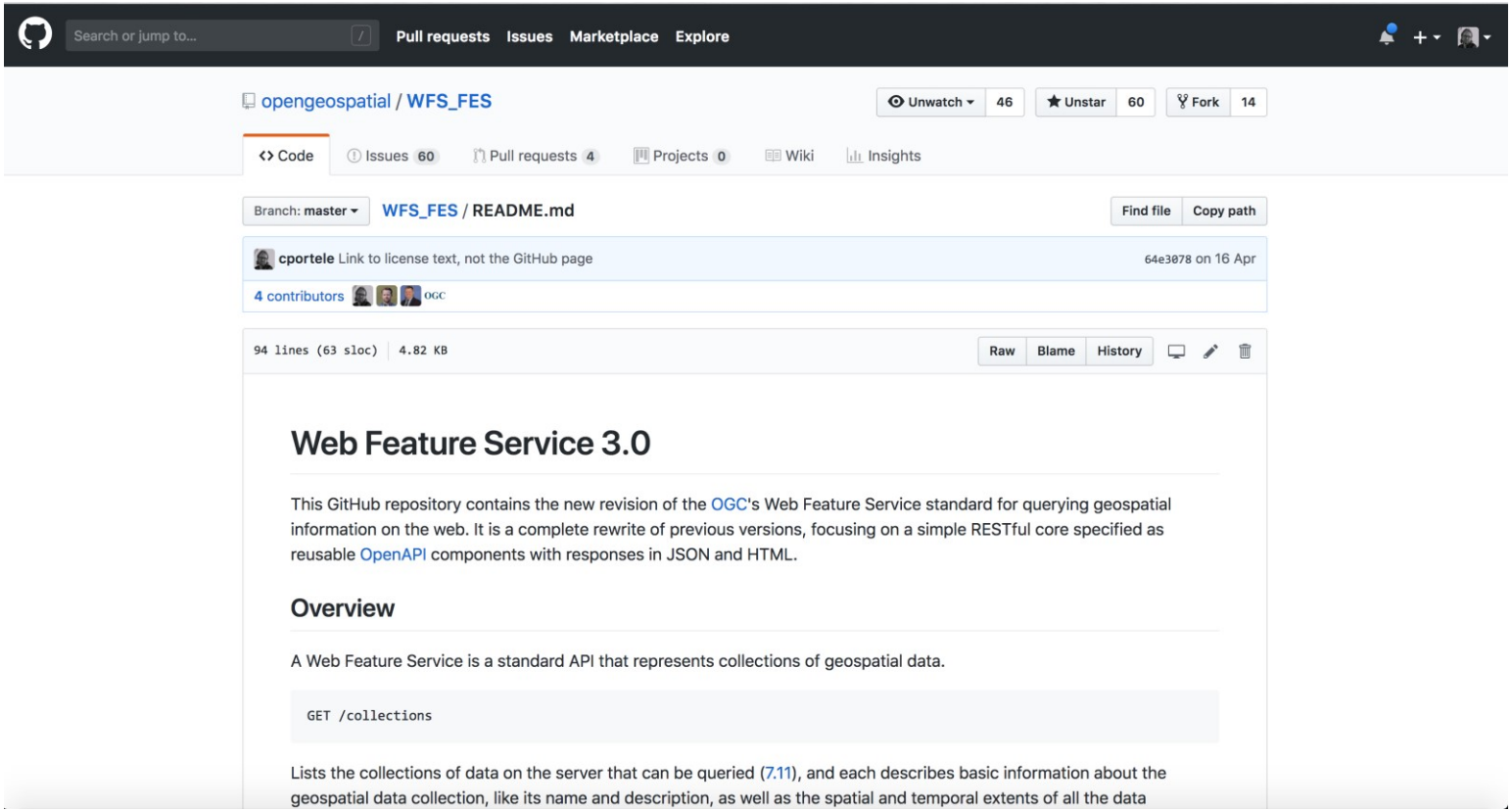
1. Hypermedia approach: Clients know the resources specified in the WFS standard and navigate them based on the provided information

- Start at the landing page or another resource, analyse the information, follow links; repeat
- The OpenAPI definition may be used to determine details e.g. on filter parameters, but this may not be necessary depending on the application

2. OpenAPI approach: Study the OpenAPI definition and develop client applications against it

- Familiarity with OpenAPI expected, but no previous knowledge of WFS or any other OGC standard required
- Developers will study the API definition and play with the API to understand it
- OpenAPI supports code-generation based on the API definition

The process is focussed on developers



https://github.com/opengeospatial/WFS_FES

A public code sprint (“hackathon”) early in the development of the standard

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wfs3

OGC advances the Web Feature Service standard through a public hackathon

Posted on: 6 April 2018 **By:** Scott Simmons

As many readers are aware, OGC has been making a concerted effort over the past few years to integrate better with the community implementing OGC standards. OGC members and staff believe that by involving those who actually need to code against standards early in the process, we can develop standards that are both more responsive to market demands and more accessible (read: “easier to understand and implement”) for developers. Hence, why not try a hackathon?

Read more Scott Simmons's blog Add new comment

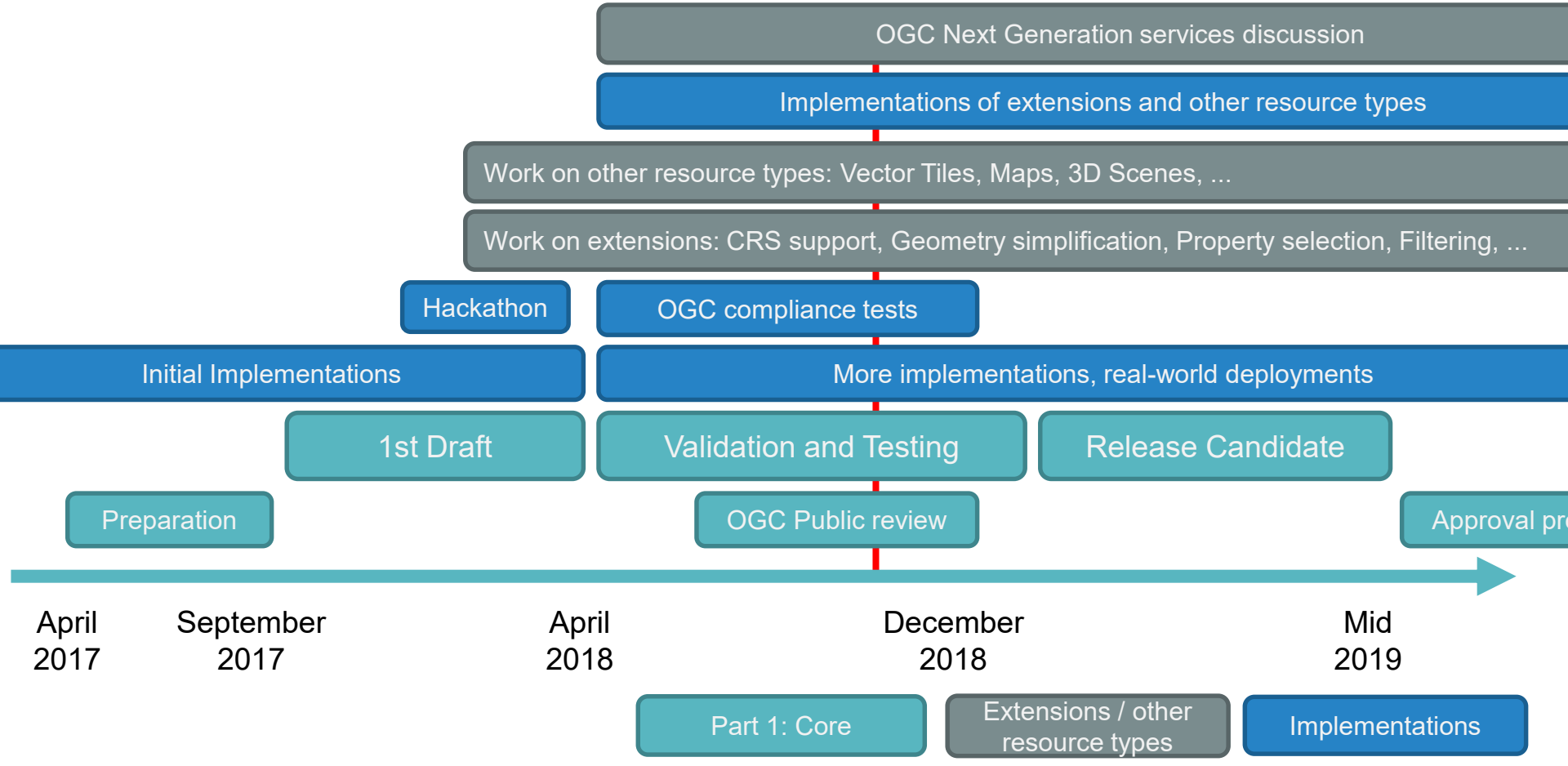
http://www.opengeospatial.org/blog/2764

New OGC Board of Directors guidance

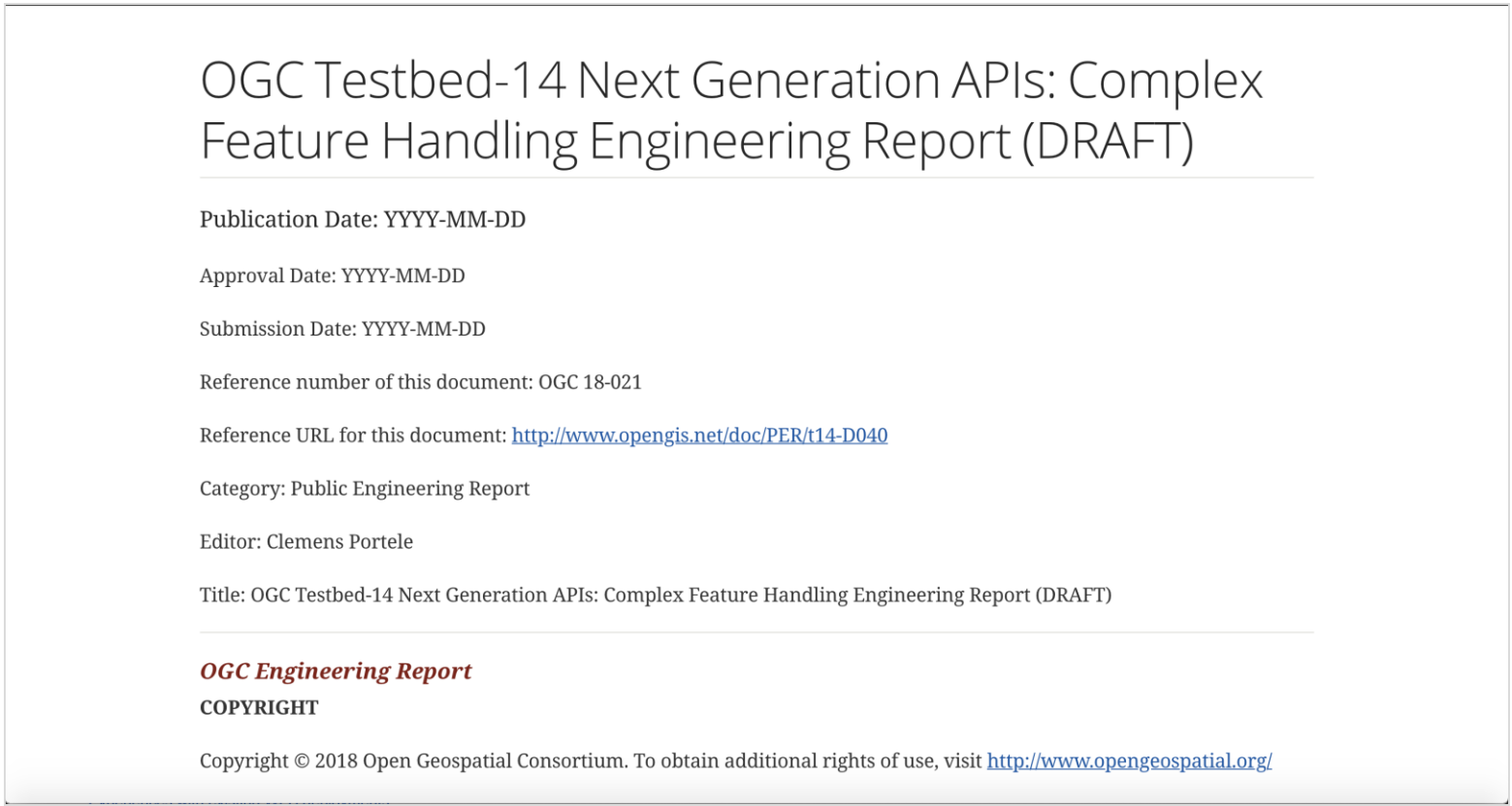
In parallel to the WFS 3.0 standardization process, the OGC Board of Directors issued guidance consistent with the WFS 3.0 approach:

- Get to 90% of a standard really fast
- Then take time to finish the last 10%
- Make the 90% product available to stakeholders and implementers to test
- Develop a repository of example implementations
- Be more public for the 90%
- Control the 10% in the OGC process to ensure the final product is truly an “international consensus standard”

Timeline for the WFS 3.0 Core standard



Example of validation and testing:
Explore support for 3D, rich queries, complex data structures, etc.



OGC Testbed-14 Next Generation APIs: Complex Feature Handling Engineering Report (DRAFT)

Publication Date: YYYY-MM-DD

Approval Date: YYYY-MM-DD

Submission Date: YYYY-MM-DD

Reference number of this document: OGC 18-021

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Category: Public Engineering Report

Editor: Clemens Portele

Title: OGC Testbed-14 Next Generation APIs: Complex Feature Handling Engineering Report (DRAFT)

OGC Engineering Report

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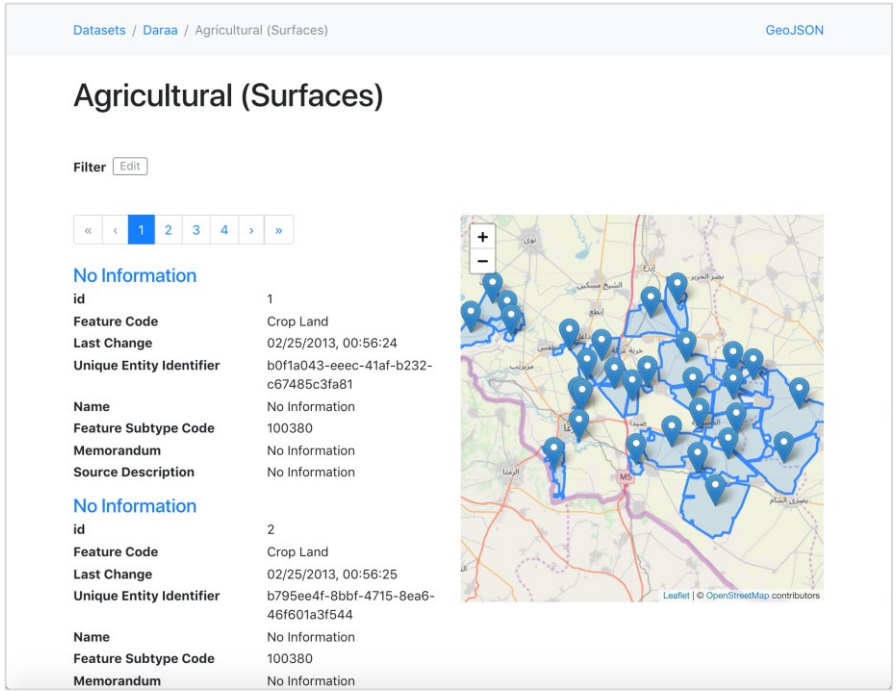
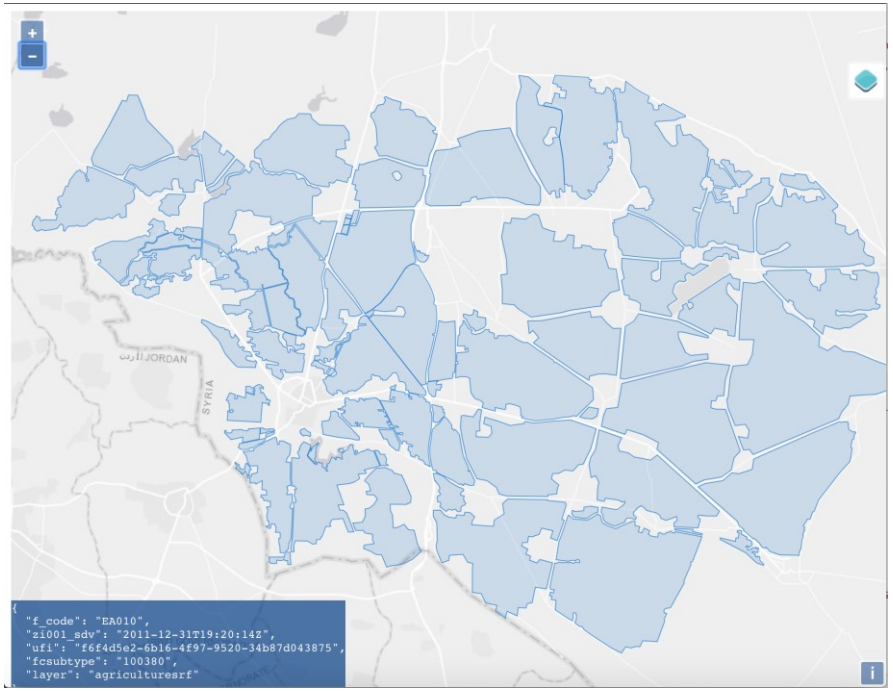
https://rawgit.com/opengeospatial/D040-Complex_Feature_Handling_Engineering_Report/master/18-021.html

Another example:
Testing extensibility by adding support for vector tiles

WFS 3.0: Access to features



Vector Tiles provided by the same server

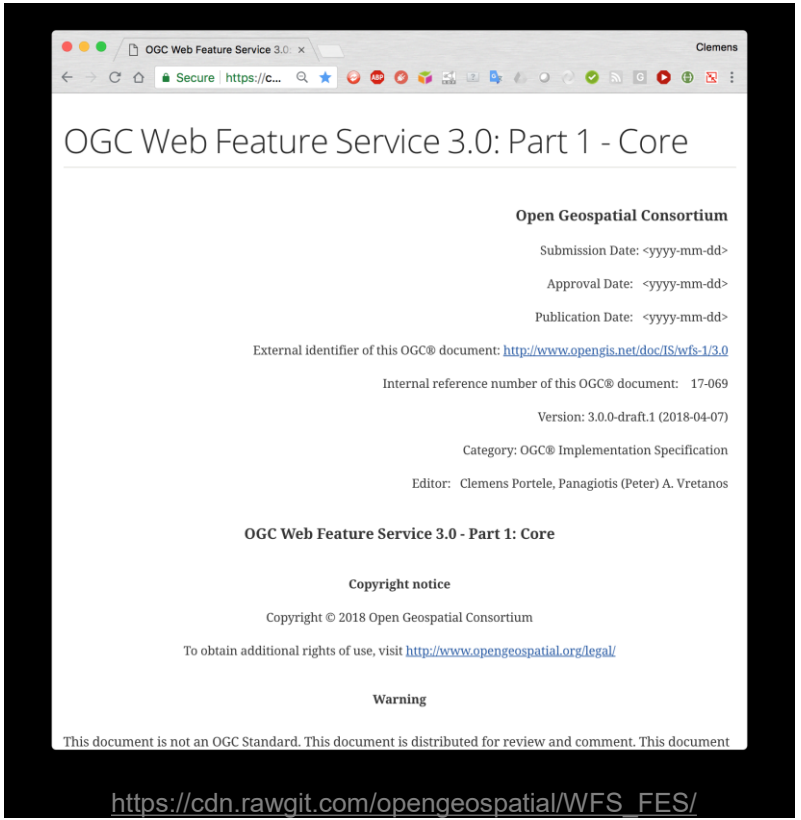


Summary

- WFS 3.0
  - proposes a modernized service architecture for sharing spatial data
  - follows current Web and API practices
  - has a focus on the developer experience
  - will likely be a blueprint for the next versions of other OGC service types
- Open standards for sharing spatial data are changing
- SDIs should pay attention

Thank You!

☺



https://cdn.rawgit.com/opengeospatial/WFS_FES/3.0.0-draft.1/docs/17-069.html