

INSPIRE – Geospatial World Forum 2015

The standards bodies soup recipe: an experience of interoperability among ISO-OGC-W3C-IETF standards

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<meta name="Secc" content="Diseño Gráfico" />
<meta name="Descript" content="Some enterprises
reengineering, let's take over." />
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<meta name="AAA" coords="7,9,167,32" />
<meta name="http://iaaa.index.html/1/hi.html" shape="RECT" />
```

El Bulli's "alphabet soup": a dessert with its "letters" of crunchy, dehydrated strawberry meringue.
Photo © Francesc Guillamet/elBulli



*“The worlds of science and gastronomy
may share similar processes and
methodologies, (...)”*

Pablo Rodriguez R+D Telefónica (2012)

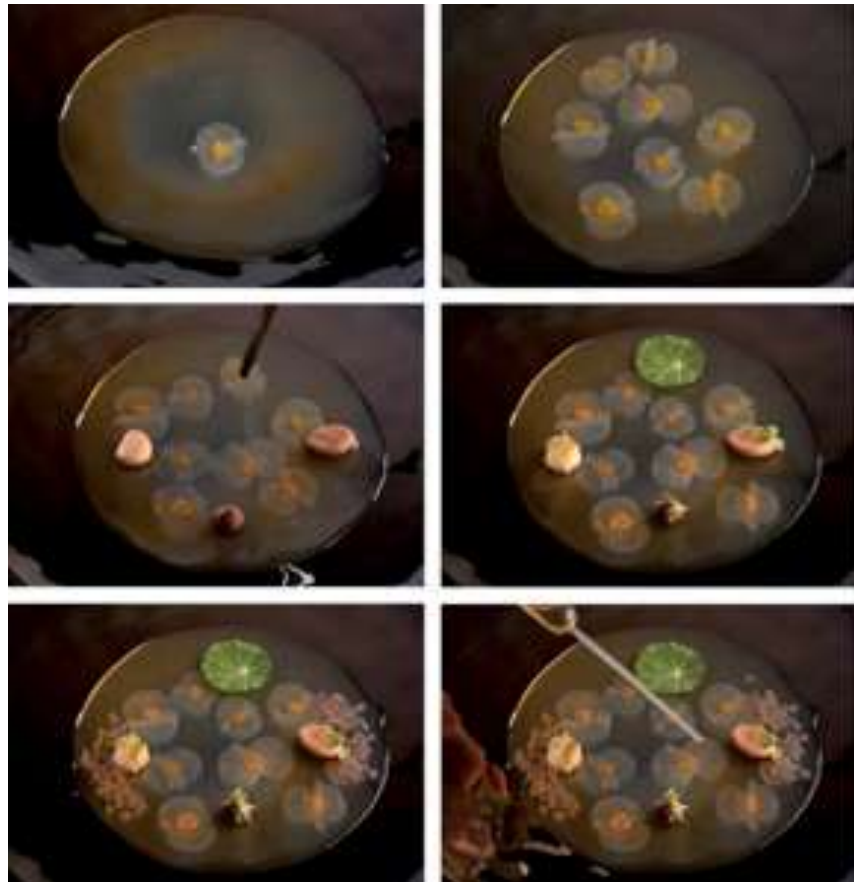
Adrià & Telefonica alliance's
ultimate goal: make Adrià's
knowledge accessible to all

Ferran Adrià and Pablo Rodriguez
Photo © Pablo Rodriguez



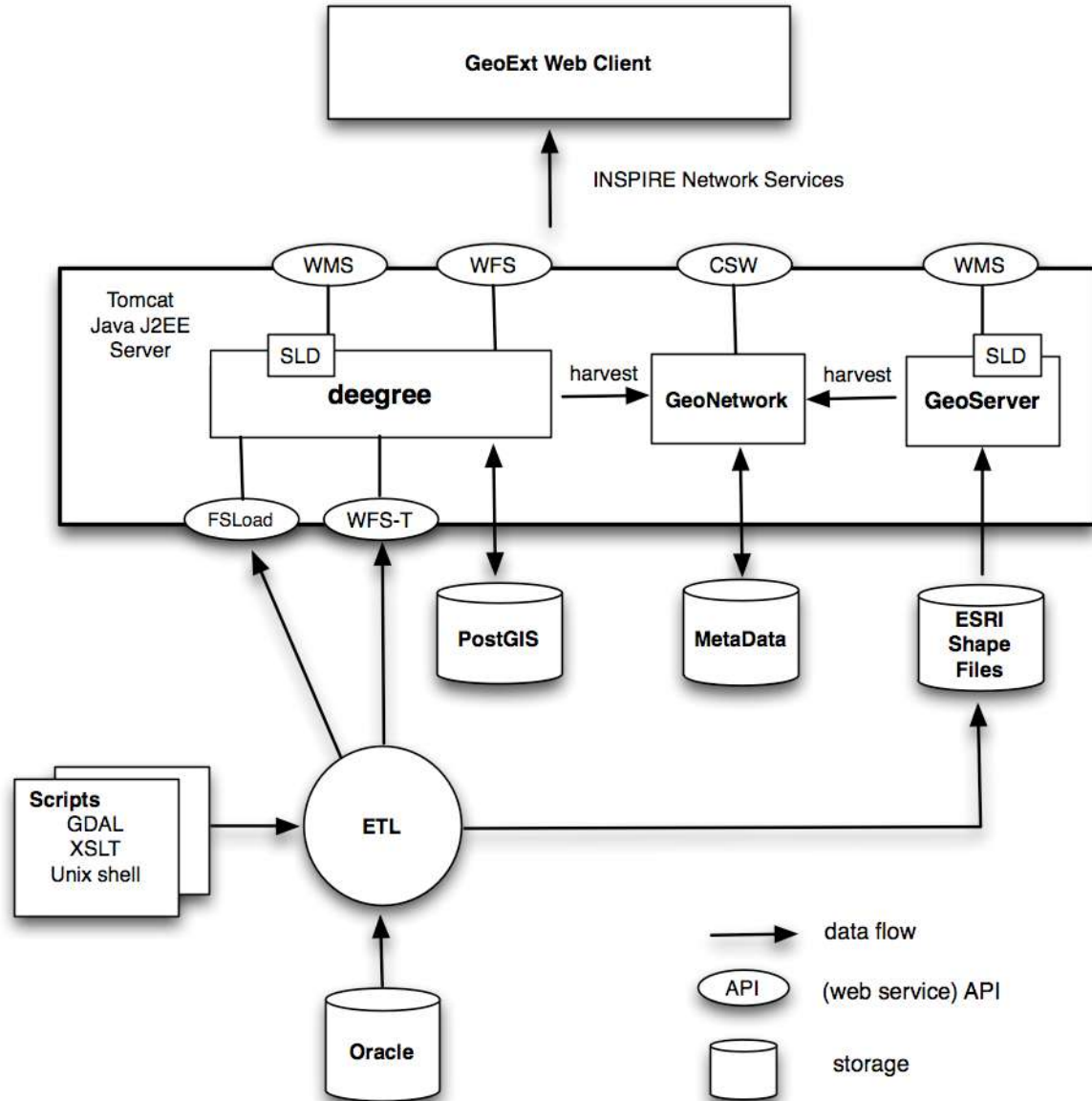
El Bulli's Water Lilies soup

{ 16 ingredients
1 recipe with 50 steps



Anatomy of a Dish: El Bulli's Water Lilies soup
Photo © Francesc Guillamet and Phaidon Press

Any SDI { N ISO/OGC metadata, data and service stds.
 1 SDI cookbook (minimun)



Kadaster INSPIRE Prototype (Phase 2)
 Now discontinued

Strong ISO/OGC focus

"Cookbook" <http://inspire.kademo.nl/doc/index.html>

Image © Het Kadaster, 2011



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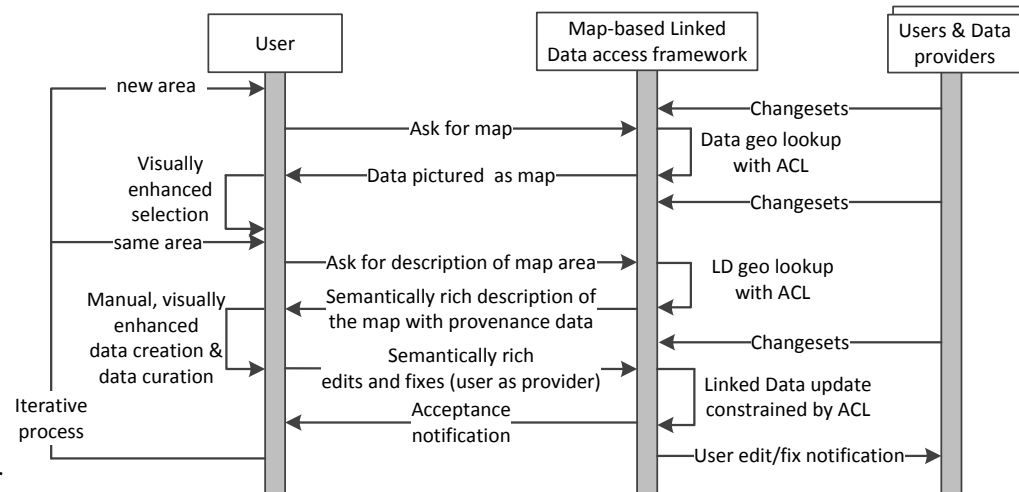
Our experience of interoperability

- **Linked Map project (2014)**

- Part of FP7 Planet Data (2010-2014)

- **Goal: Evaluation of the use of Linked Data in a complex Geo challenge**

- Integration of VGI and GI data with LD tools
- Bridge between GI and LD:
a WMS that is a Linked Data server!
- Demonstrator



Workflow planned
in the demonstrator



The whole list of standards

Class	Kind	Bodies	Standard	Is standard?	Date
Data	Model	W3C	OWL2	Yes	2.012
		OGC/ISO	SFA	Yes	2.006
		OGC	GeoSPARQL 1.0	Yes	2.011
	Storage	W3C	RDF serializations	Yes	2.014
		OGC / ISO	SFA/SQL	Yes	2.006
	WKT		Yes	2.006	
Metadata	Model	W3C	PROV-O	Yes	2.013
			R2RML	Yes	2.012
		ISO	ISO 19115 family	Yes	2.014
	Storage	W3C	PROV serializations	Yes	2.013
Service	Discovery	W3C	Linked Data best practices	Note	2.014
		IETF	RFC 5988 Web Linking	Candidate	2.010
	View	OGC / ISO	WMS 1.3.0	Yes	2.006
	Download	W3C	Linked Data best practices	Note	2.014
			SPARQL 1.1	Yes	2.013
Invoke	W3C	SPARQL 1.1	Yes	2.013	

Fusion recipes

- **Fusion scenarios**

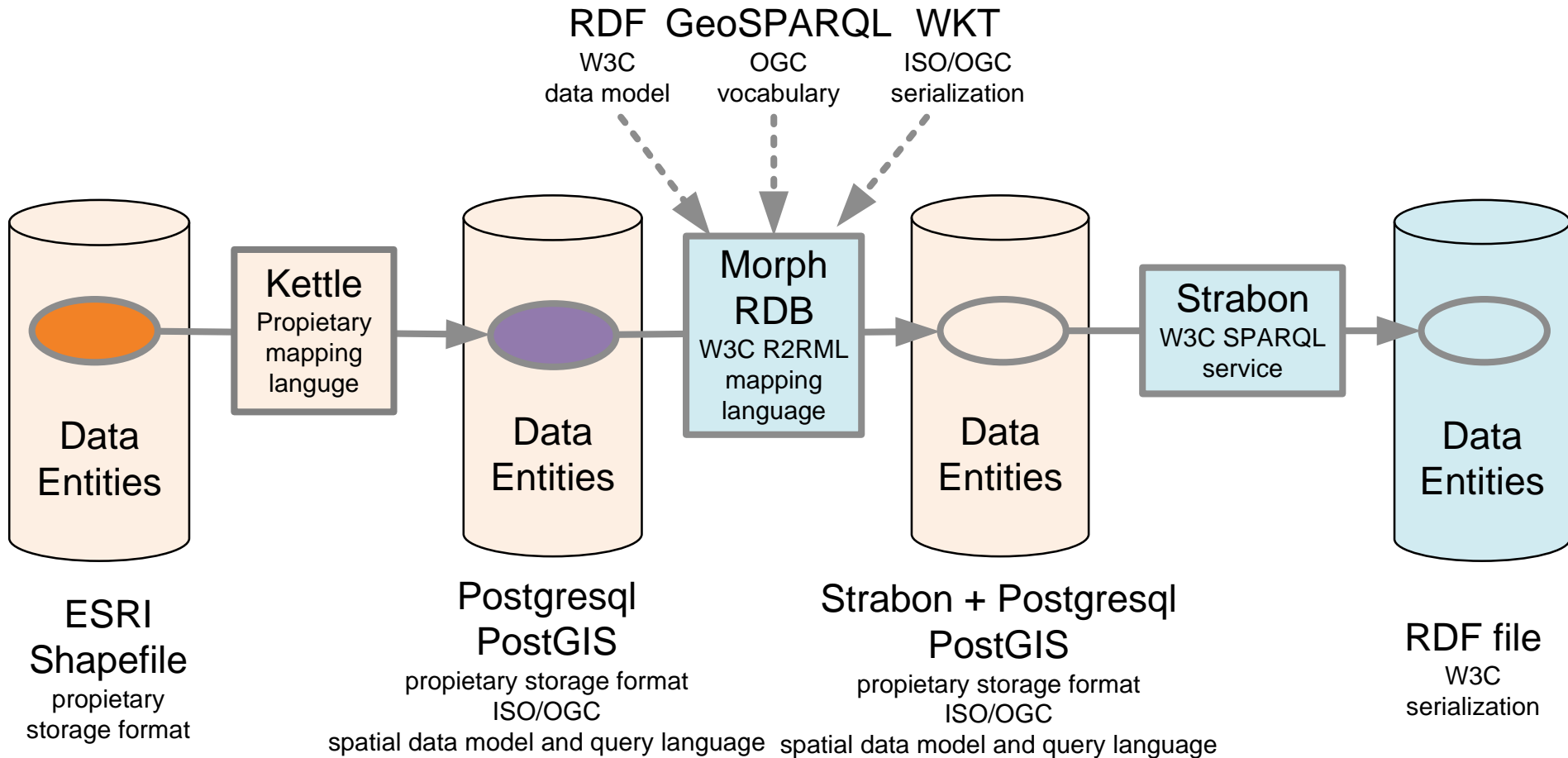
- Transform data from non-standardized storage to RDF storage
- Capture provenance data (level instance) during the conversion
- Deploy a semantically enhanced Web map service

- **Are ISO-OGC-W3C-IETF standards ready to interoperate each other?**

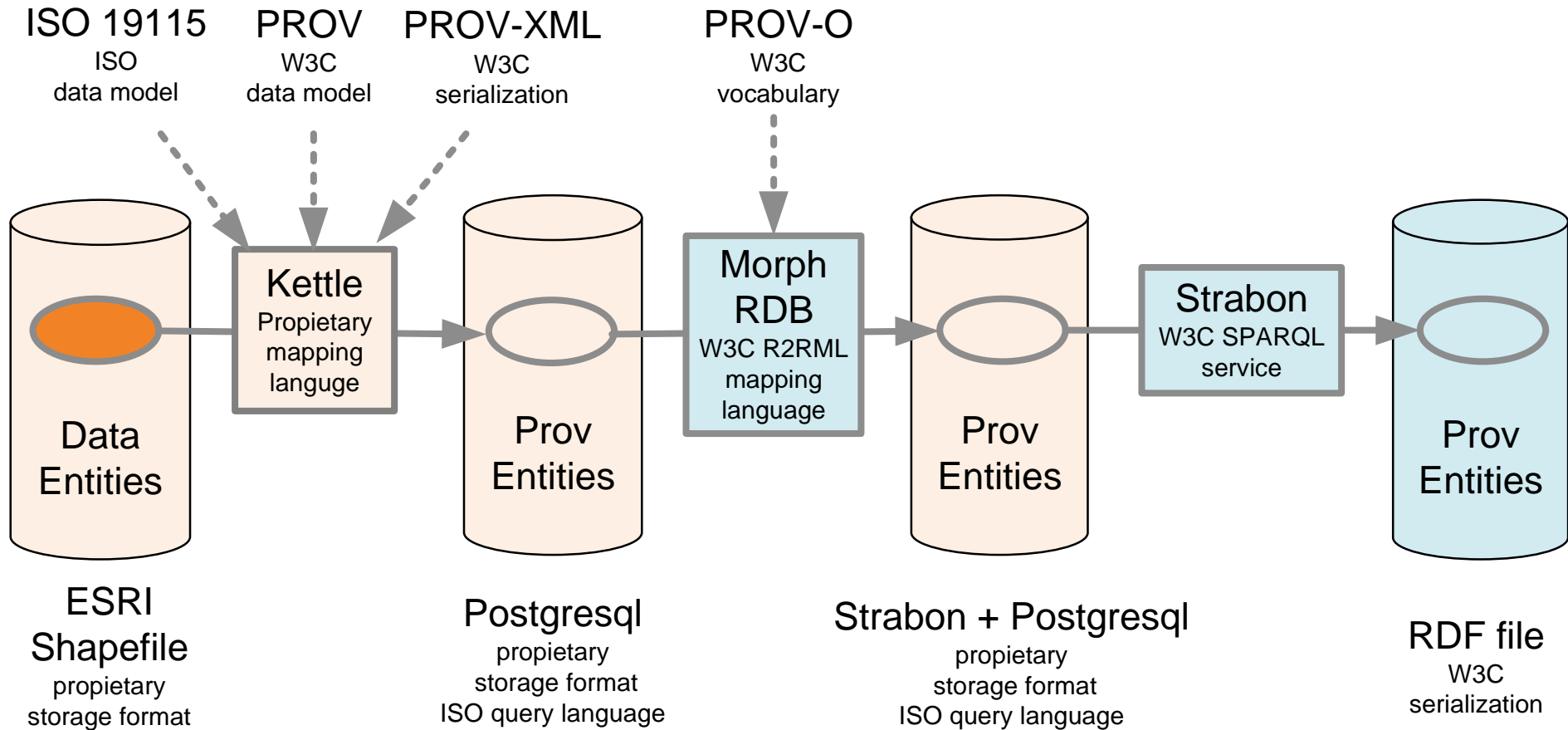
- **The Do-It-Yourself first commandment: if it works, don't break it (i.e. transparent approach)**



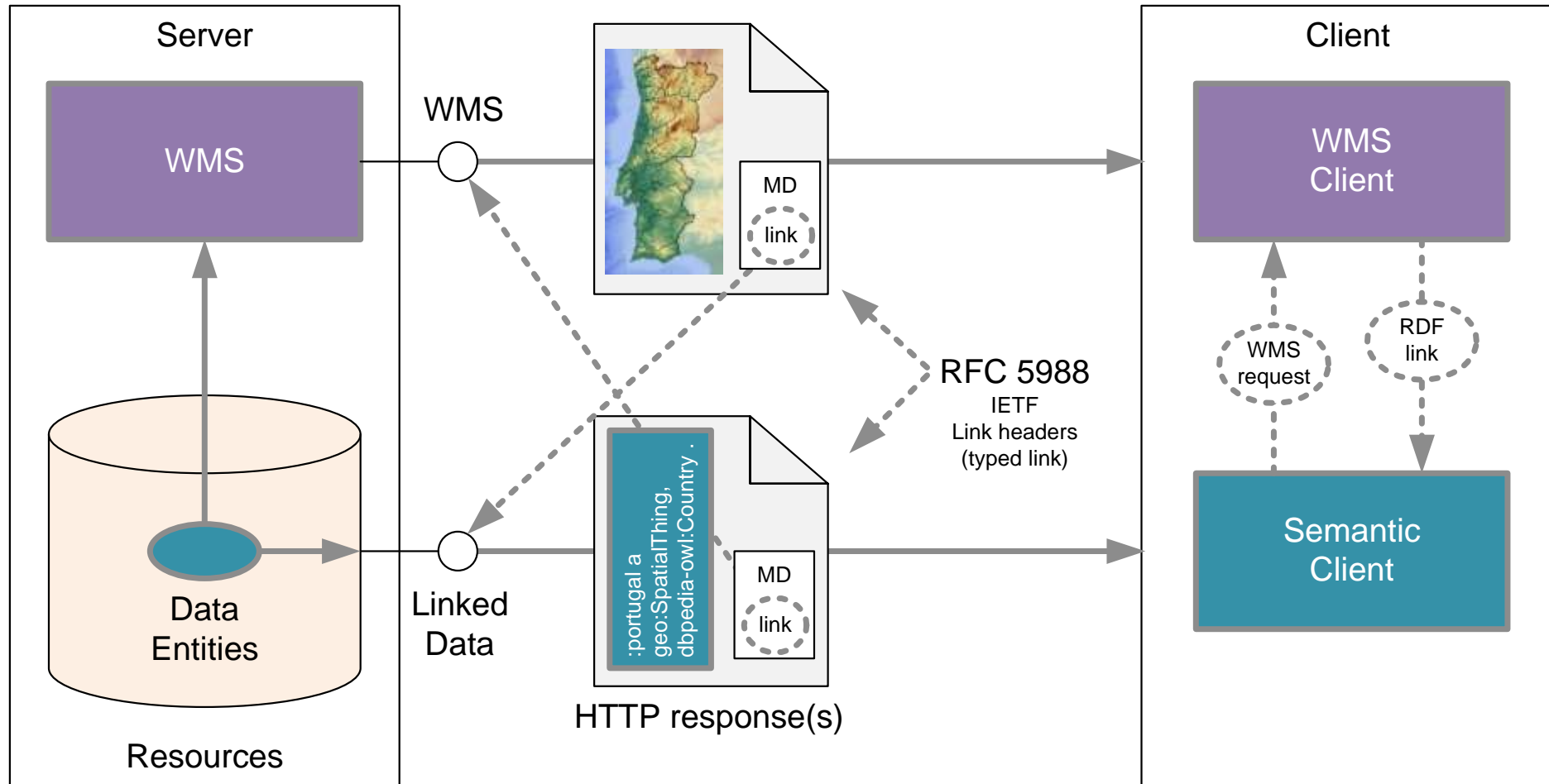
A data transformation recipe



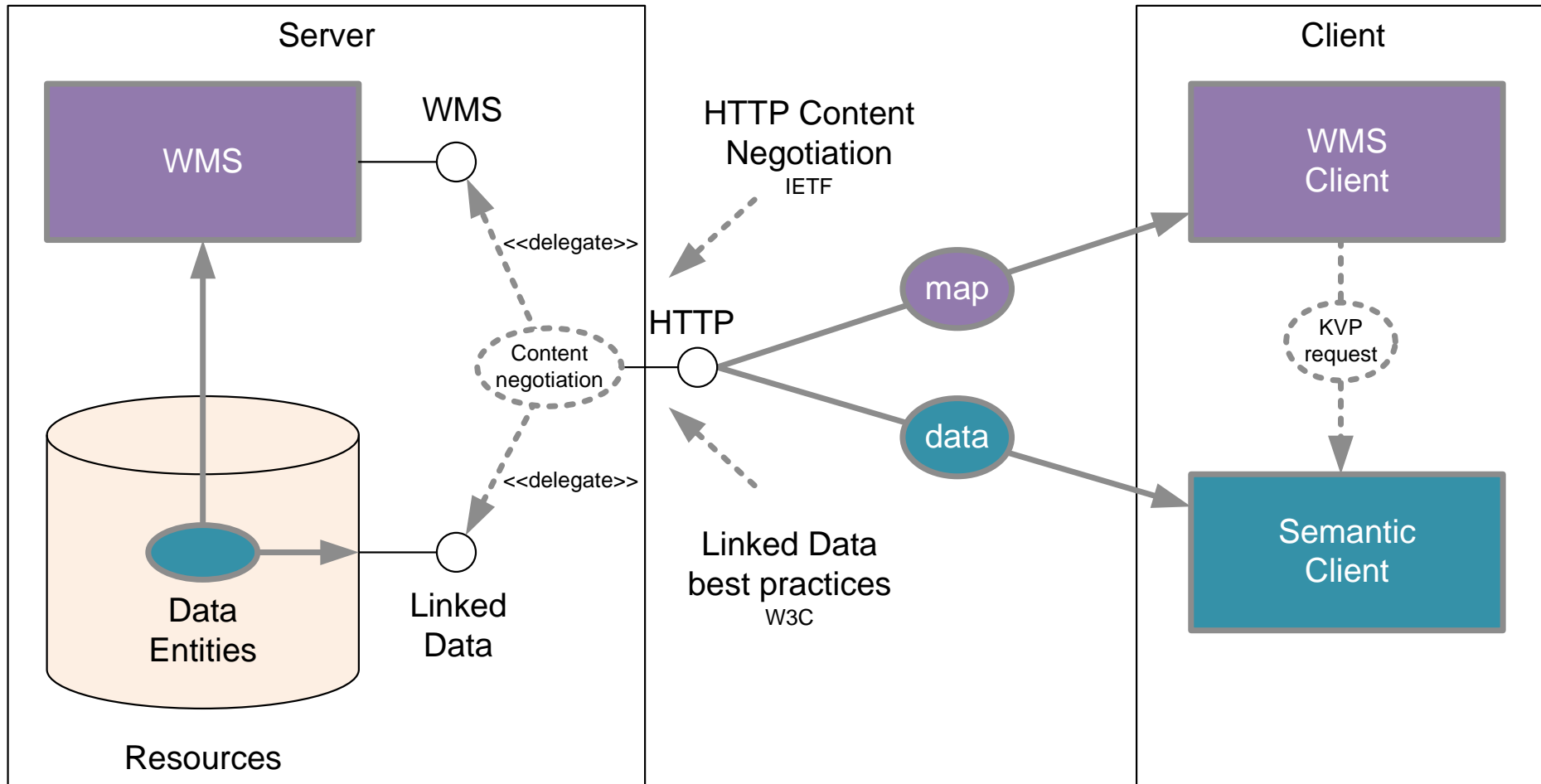
A lineage metadata recipe



A semantically enhanced view service recipe (1st step)



A semantically enhanced view service recipe (2nd step)



The need of standards for mixing standards

- **“Not Invented Here” syndrome in standards work**
- **The sad fate of homemade recipes (e.g. the recipes presented here)**
- **OGC/W3C Spatial Data on the Web WG**
 - A step in the good direction!
 - No more homemade recipes? Sadly, I see more in the near future!



*“The worlds of science and gastronomy may share similar processes and methodologies, **but they rarely intersect**”*
Pablo Rodriguez R+D Telefónica (2012)

OGC

OGC & W3C alliance's
ultimate goal: make spatial
knowledge accessible to all

W3C

ETF

Ferran Adrià and Pablo Rodriguez
Photo © Pablo Rodriguez

We should be more ambitious



OGC

ISO


W3C

IETF

Ferrá Adria and Pablo Rodriguez
Photo © Pablo Rodriguez

My two cents

- **We need joint cross-standards (at least, best practices)**
 - W3C R2RML for producing OGC GeoSPARQL
 - W3C PROV for producing ISO 19115 lineage metadata
 - IETF new headers and W3C best practices for OWS
 - ...
- **In addition emerging W3C/IETF standards are around the corner**
 - HTTP/2, WebSockets, EXI ...
- **We should be more ambitious ...**
 - ...or at least challenge the status-quo and the conventional wisdom as Ferran Adrià did!

Thanks for your time!
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May 28th, 2015, Lisbon

