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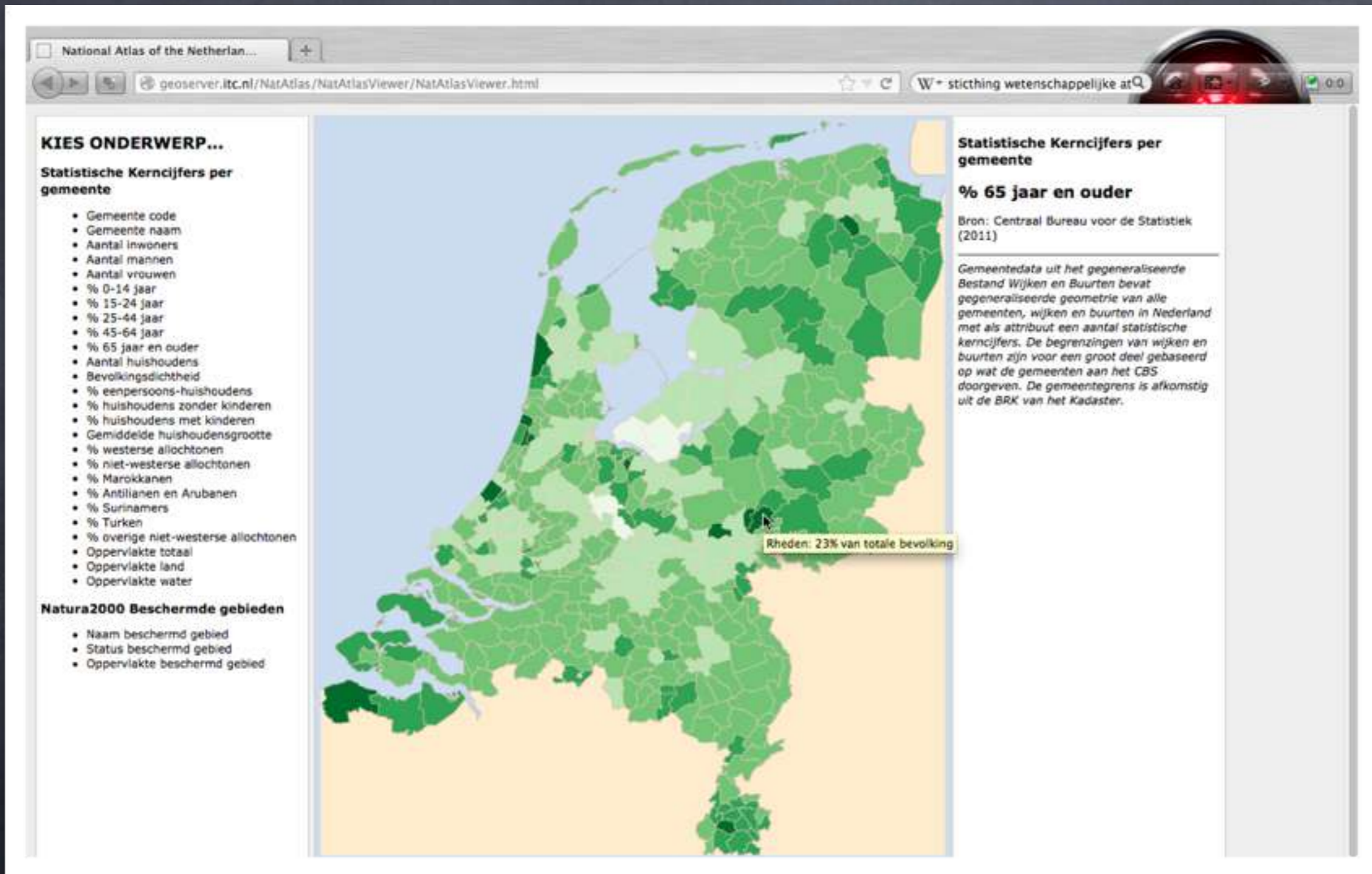
# Middleware Services for Atlases as Part of Spatial Data Infrastructures

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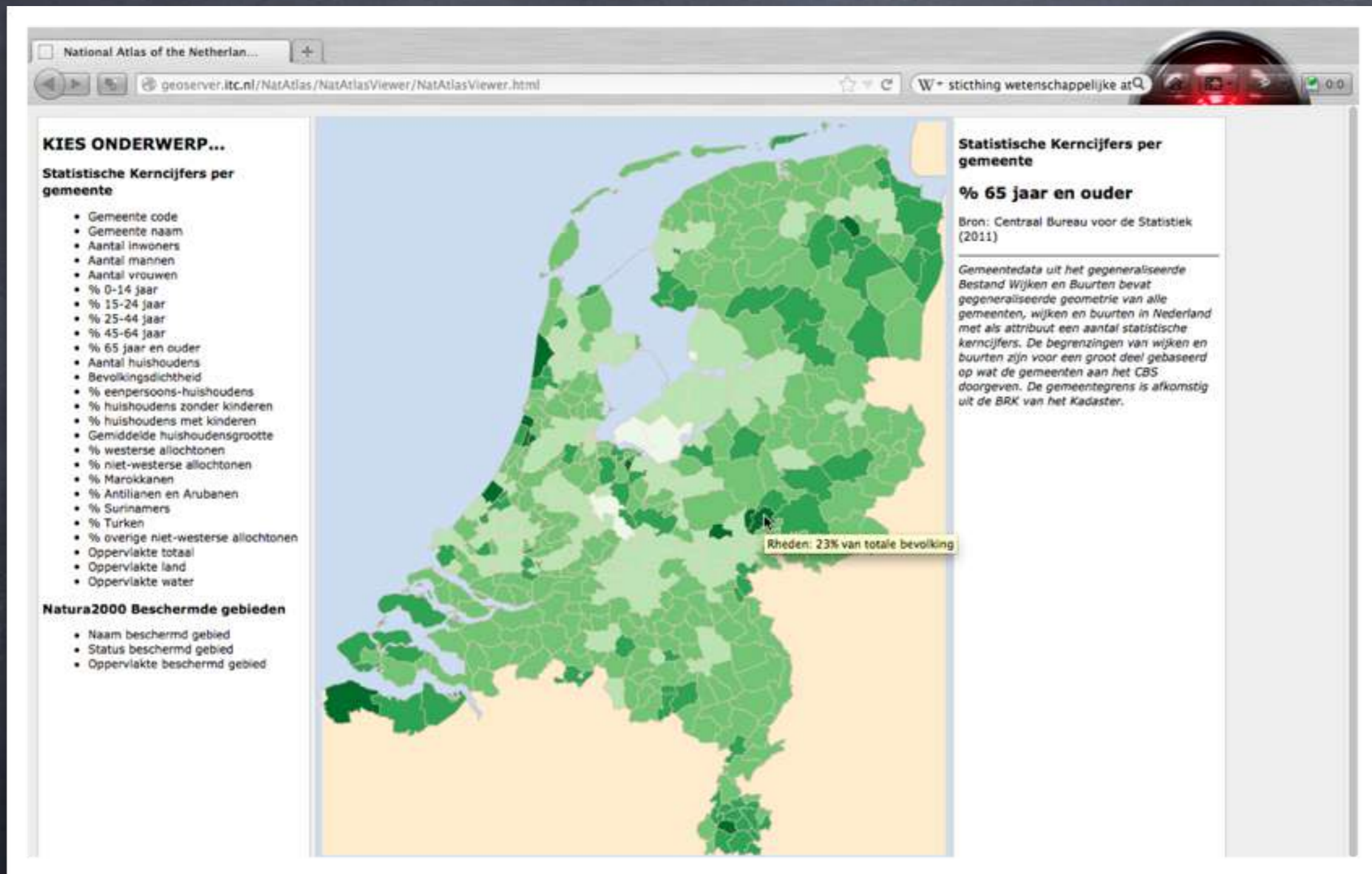
FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

# Demo time!





# demo shows the “public face”



# what's the story behind it?

# Brief history of the Dutch National Atlas

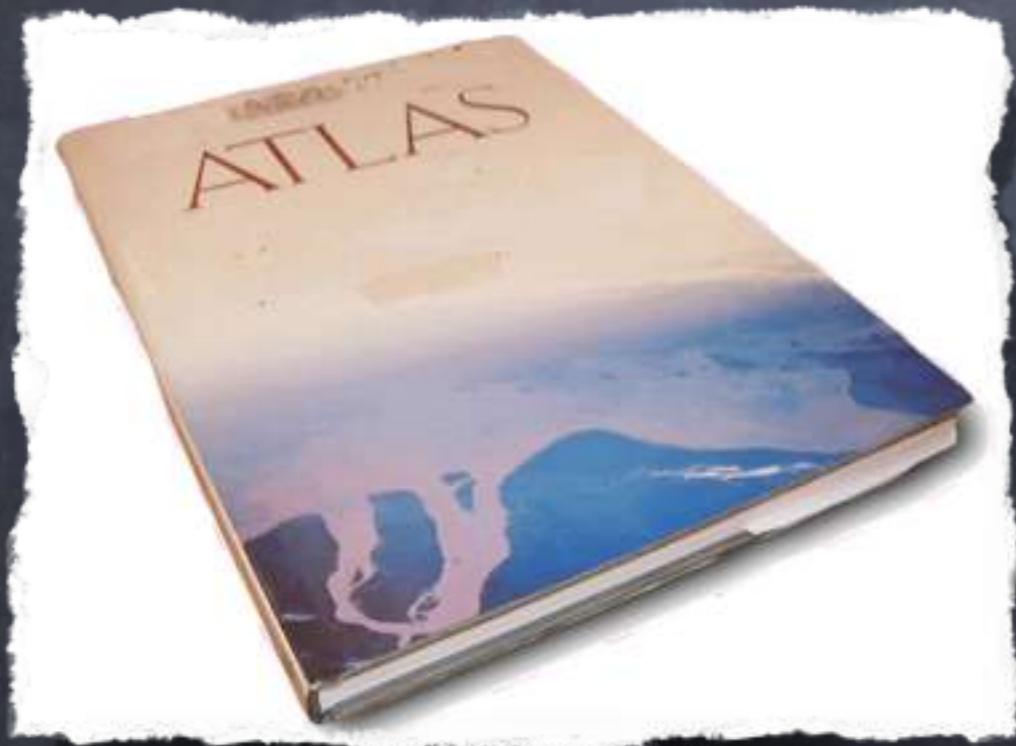
after 1998 government involvement  
and funding ended

=> limited and fragmented academic  
projects to keep atlas alive

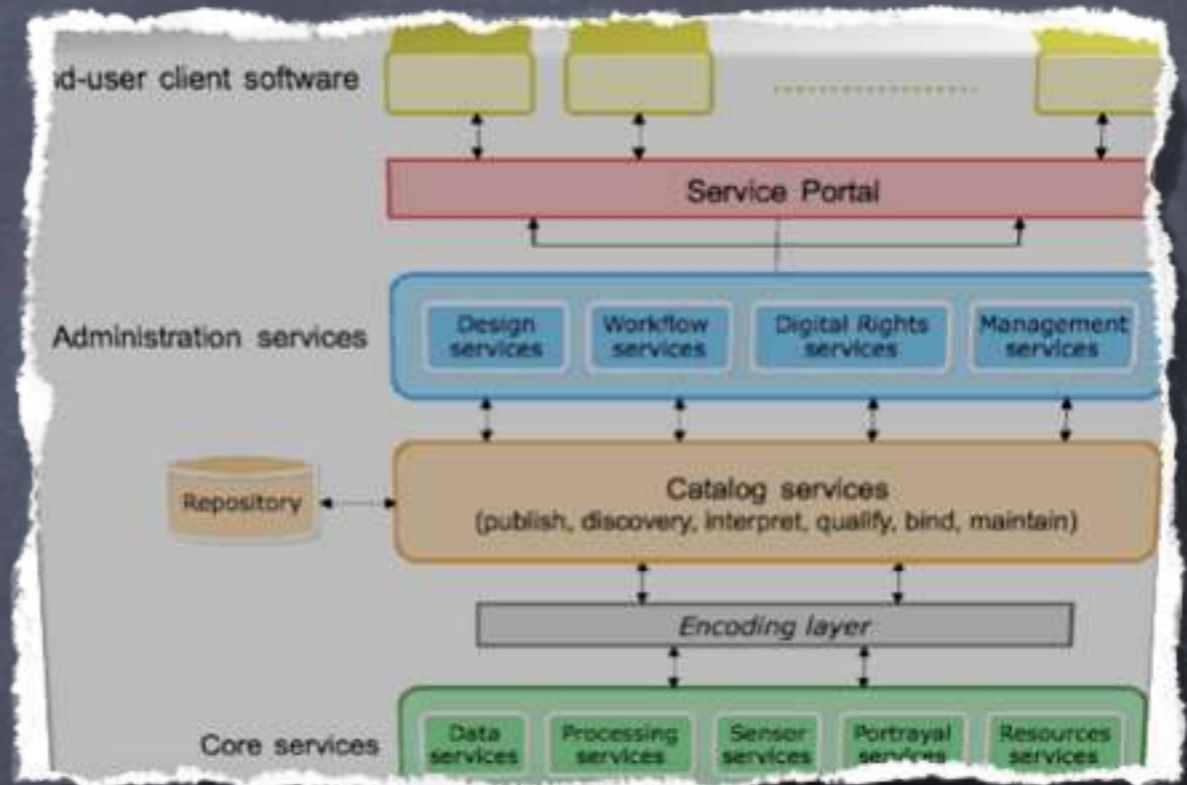
Prototype of 3rd edition



# Atlas as part of a Spatial Data Infrastructure



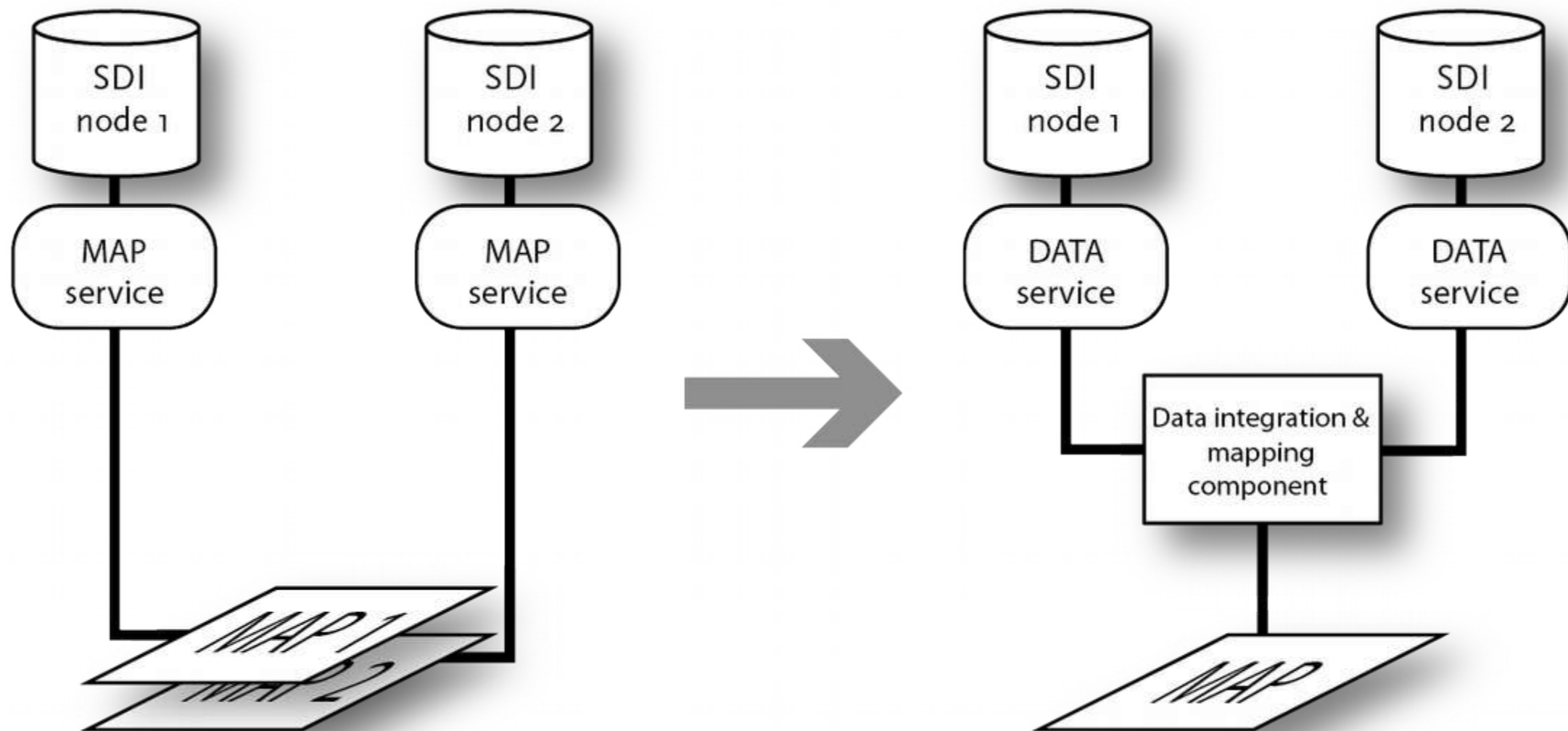
+



a combination of  
two different worlds

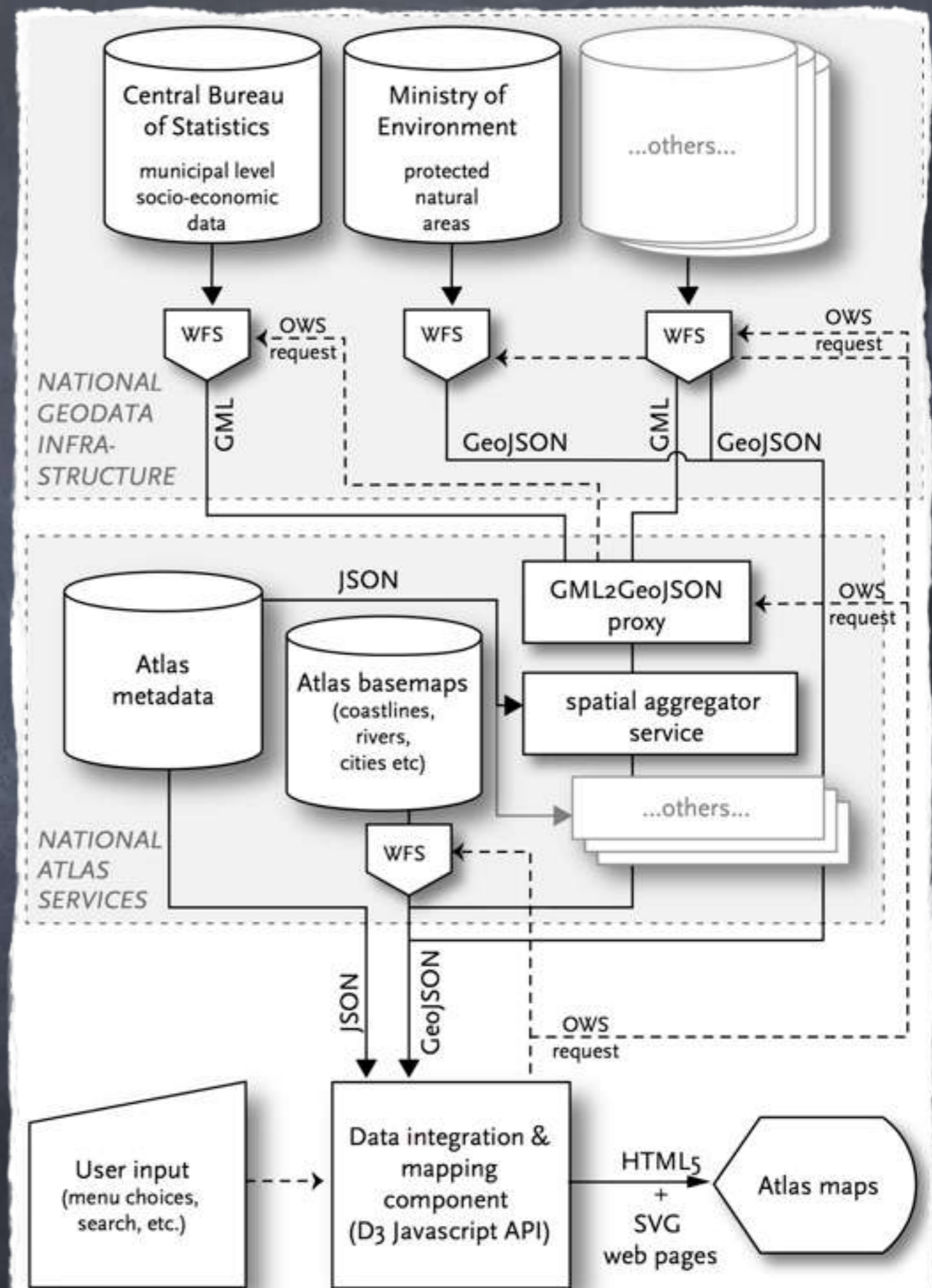
# Mapping in a webservices environment

where the atlas is  
“just another SDI node”...

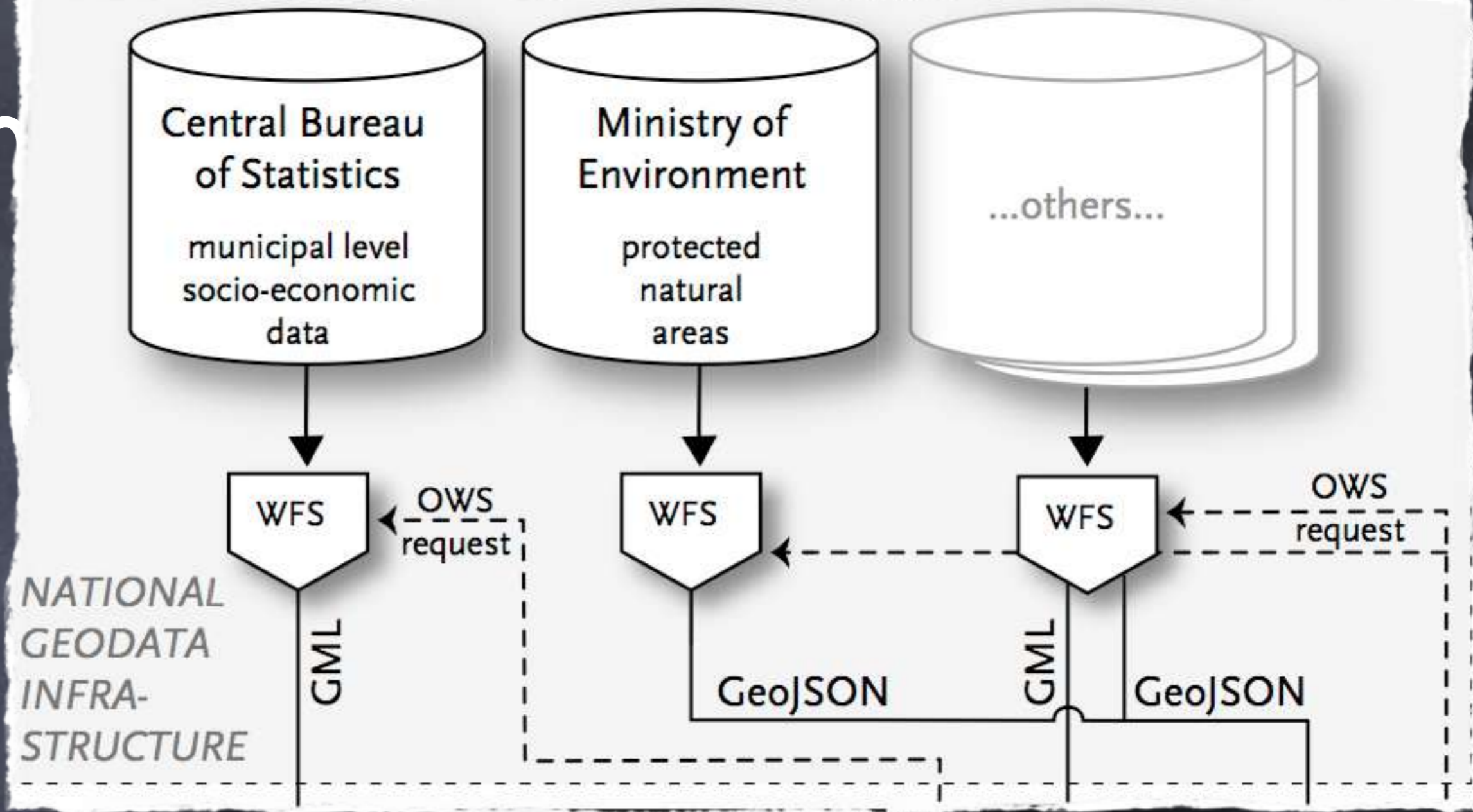




# Architecture



# Arch



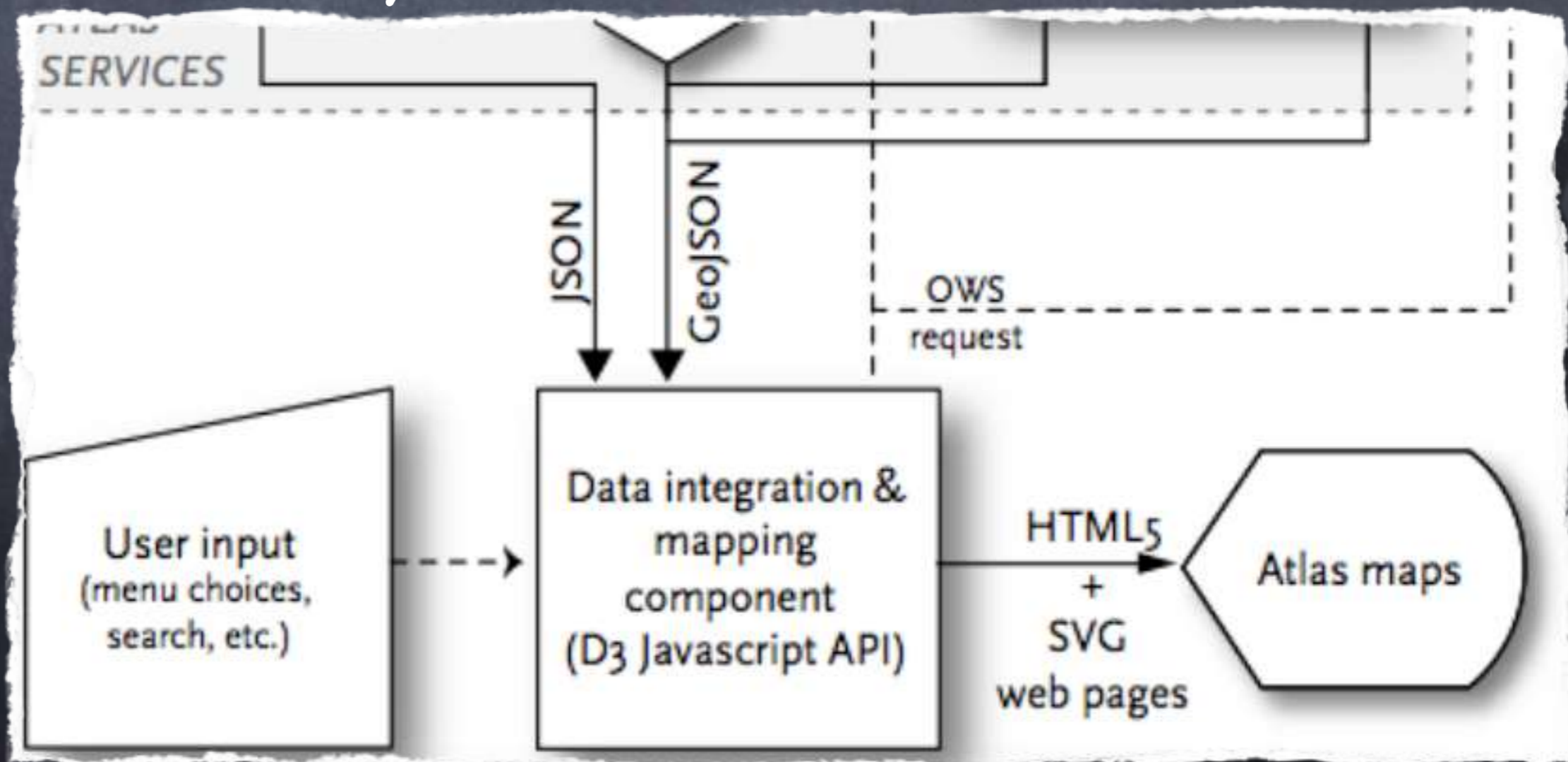
- use data services (WFS) requests
- GeoJSON where possible



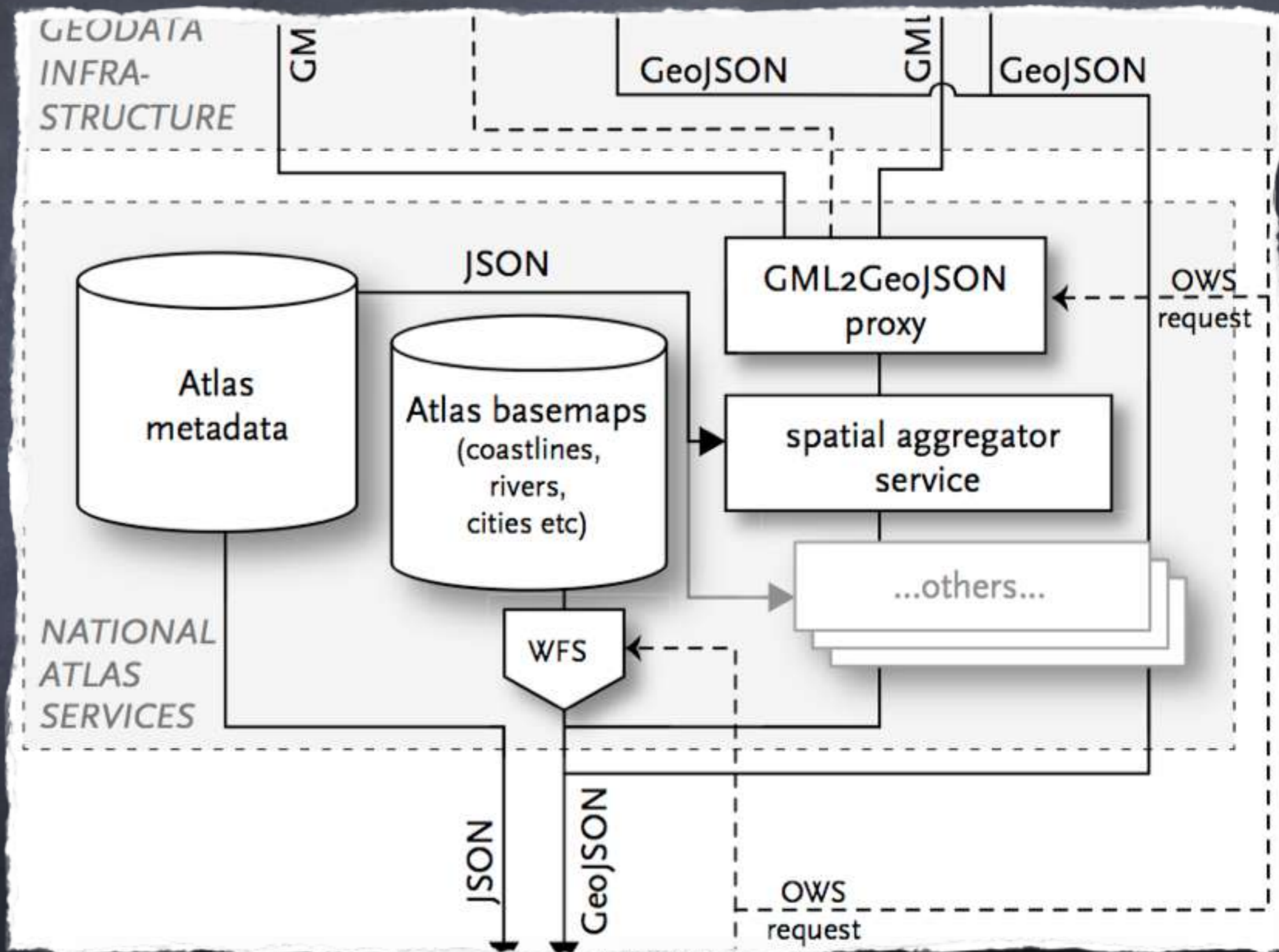
# Architecture

## Atlas Viewer:

- based on the Open Web Platform
- uses D3 library



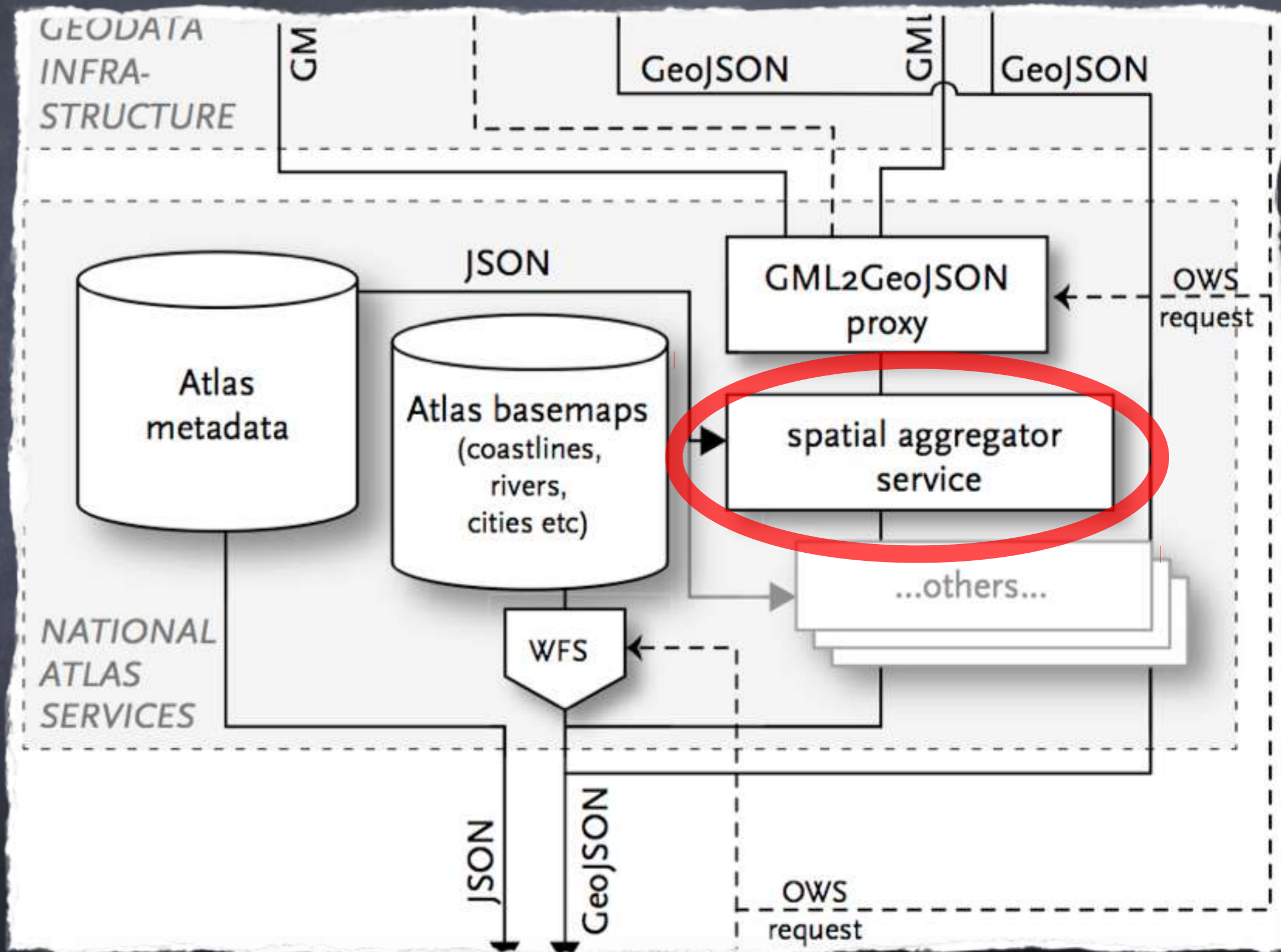
# Architecture: middleware



ATLAS  
utility  
services & basedata



# Architecture: middleware



ATLAS  
utility  
services & basedata

# Architecture

## NORMAL DATA SERVICE

```
"mapgroups": [
  {
    "groupnum": "0",
    "groupname": "Statistic Core Data per Municipality",
    "groupDescription": "Municipal data consists of the geometry of all municipa",
    "date": "2011",
    "defaultLabelAttribute": "GM_NAAM",
    "source": "Central Bureau for Statistics (CBS)",
    "serviceType": "WFS",
    "serviceVersion": "1.1.0",
    "serviceURL": "http://geoservices.cbs.nl/ArcGis/rest/services/wfs?",
    "serviceTypeName": "natatlas%3AWijkenBuurten2011%3AGemeenten_2011",
    "serviceOutputFormat": "json",
    "maps": [
      {
        "data_attribute": "GM_CODE",
        "unit": "",
        "name": "Municipality code",
        "maptype": "area_colour"
      },
      {
        "data_attribute": "GM_NAAM",
        "unit": ""
      }
    ]
  }
]
```

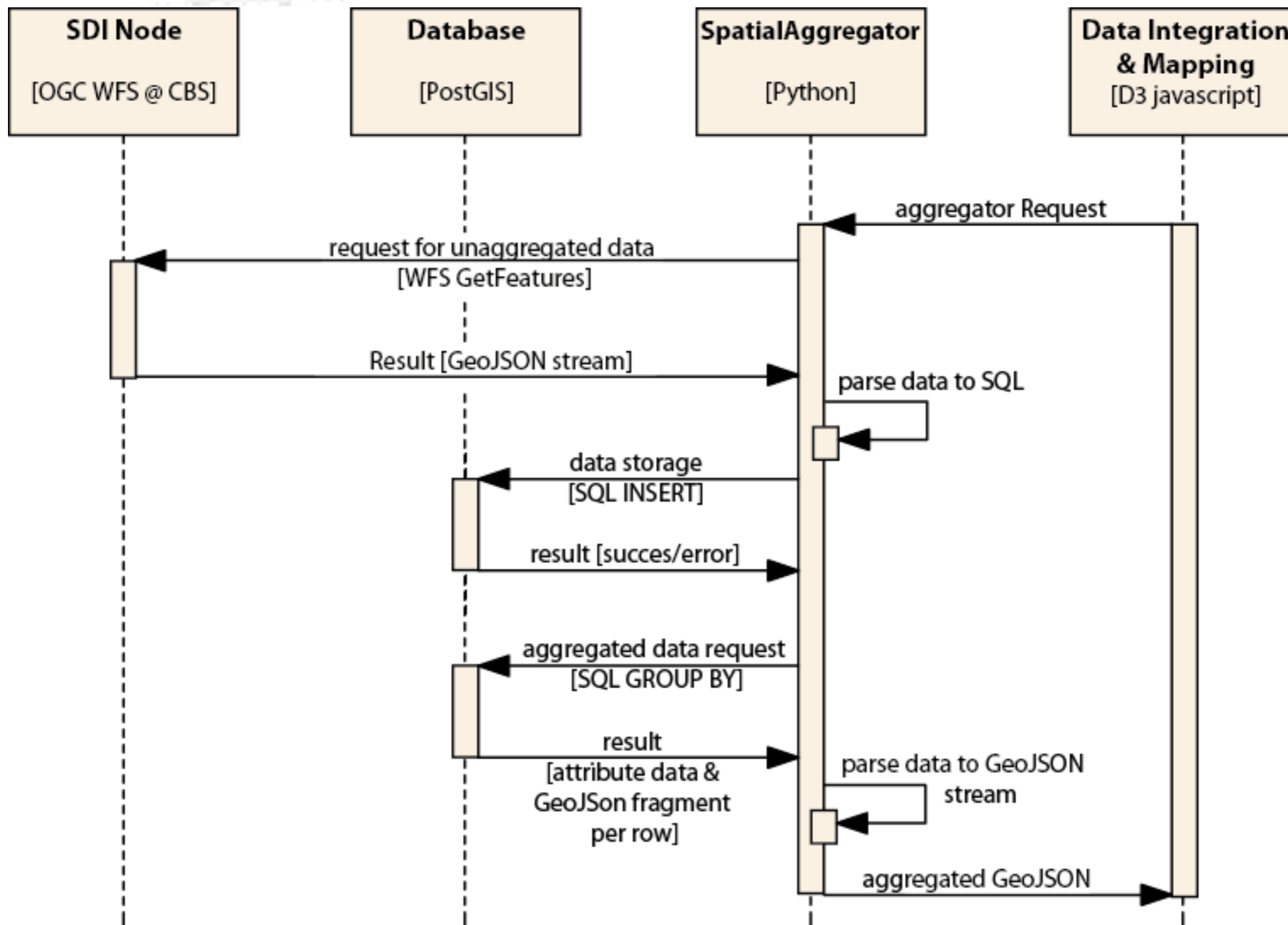


# Architecture

## SPATIAL AGGREGATOR SERVICE

```
"serviceType": "WFS",
"serviceVersion": "1.1.0",
"serviceURL": "http://geoserver.itc.nl/natatlas/spatialaggregator?",
"serviceTypeName": "gem2prov",
"serviceOutputFormat": "json",
"maps": [
  {
    "data_attribute": "aant_inw",
    "unit": " inhabitants",
    "name": "Population",
    "maptype": "point_size",
    "spatial_aggregation": "union",
    "attribute_aggregation": "sum"
  }
  {
    "data_attribute": "bev_dichth",
    "unit": " inhabitants per km2",
    "name": "Population density",
    "maptype": "area_value",
    "spatial_aggregation": "union",
    "attribute_aggregation": "round_average"
  }
],
```

# Architecture: middleware SPATIAL AGGREGATOR SERVICE





# Architecture: middleware

## SPATIAL AGGREGATOR SERVICE

very much a "proof-of-concept"

- tightly coupled to CBS WFS
- use of PostGIS is pragmatic, not robust
- more attention to interface needed

# Conclusions

the test bed shows:

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provides many advantages  
(up-to-date, flexible, extensible,  
interoperable)

# What's next?

work in slow progress (funding ended 2009)

core is implemented, still lots more needed

viewer:

better UI, combinations of maps

atlas services:

atlas metadata formalisation

# Thank you!

follow the progress at:

[www.nationaleatlas.nl](http://www.nationaleatlas.nl)  
(follow the english)

code on gitHub:

<https://github.com/kobben/NatAtlas>

For details see: Cartographic Journal 50:3, pp. 225–231