

GeoServer with SAP HANA

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Motivation

GIS developers use open-source tools like GeoServer, QGIS, etc. for publishing, sharing, processing and editing their geo-spatial data. They could only use these open-source tools for geo-spatial data in their file-system, but not when stored in SAP HANA. They needed a solution to bridge the gap between the open-source community and HANA.

GeoTools and GeoServer

What is **GeoTools**?

- Open-source GIS toolkit written in Java.
- Implementation of OGC specification and spatial features.
- Used by GeoServer, uDig, and many proprietary projects.

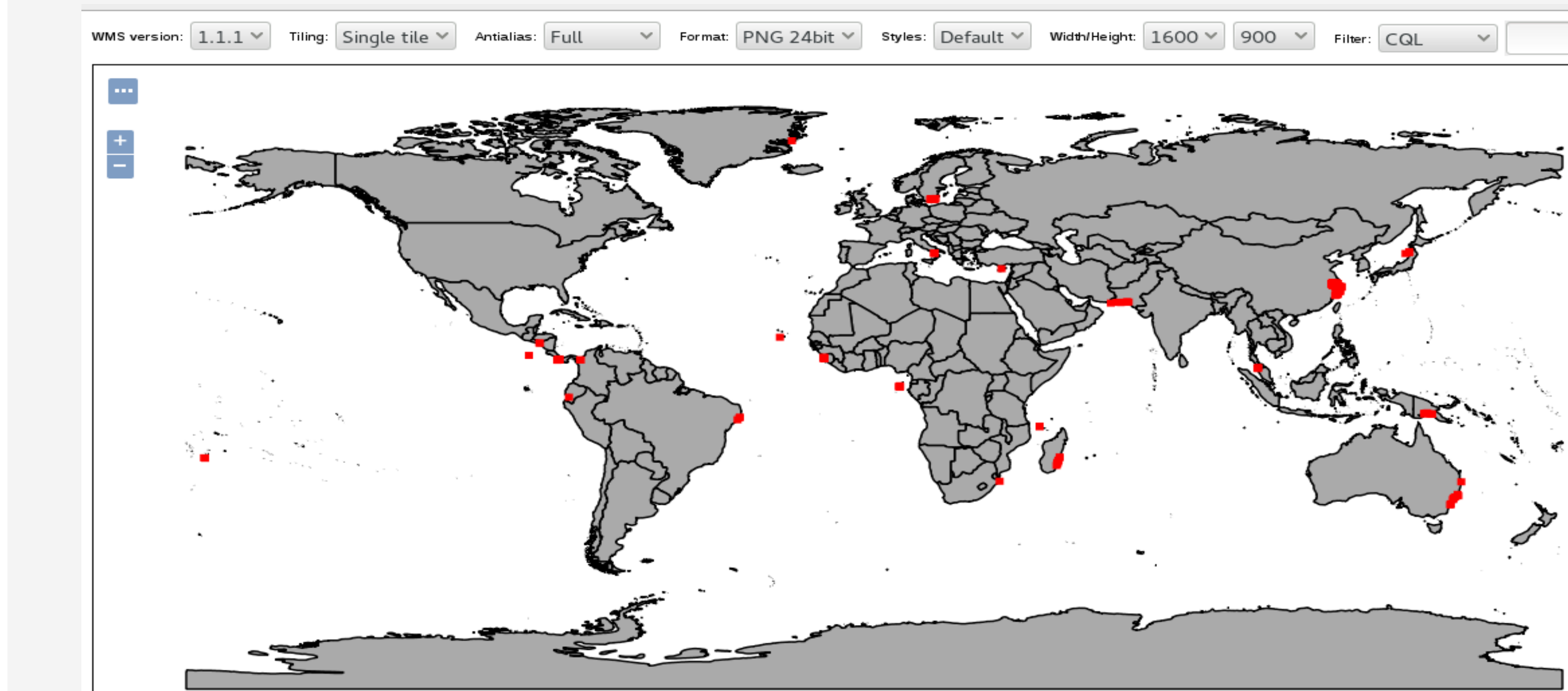
The code base of GeoTools has been extended to support **HANA** as a recognizable data-store by open-source GIS tools and servers.

Result:

- Leverage the features provided by all open-source GIS tools like QGIS, ArcGIS, UDig, **GeoServer**, etc. which use GeoTools.
- Publish, share, process and edit geo-spatial data stored in HANA.

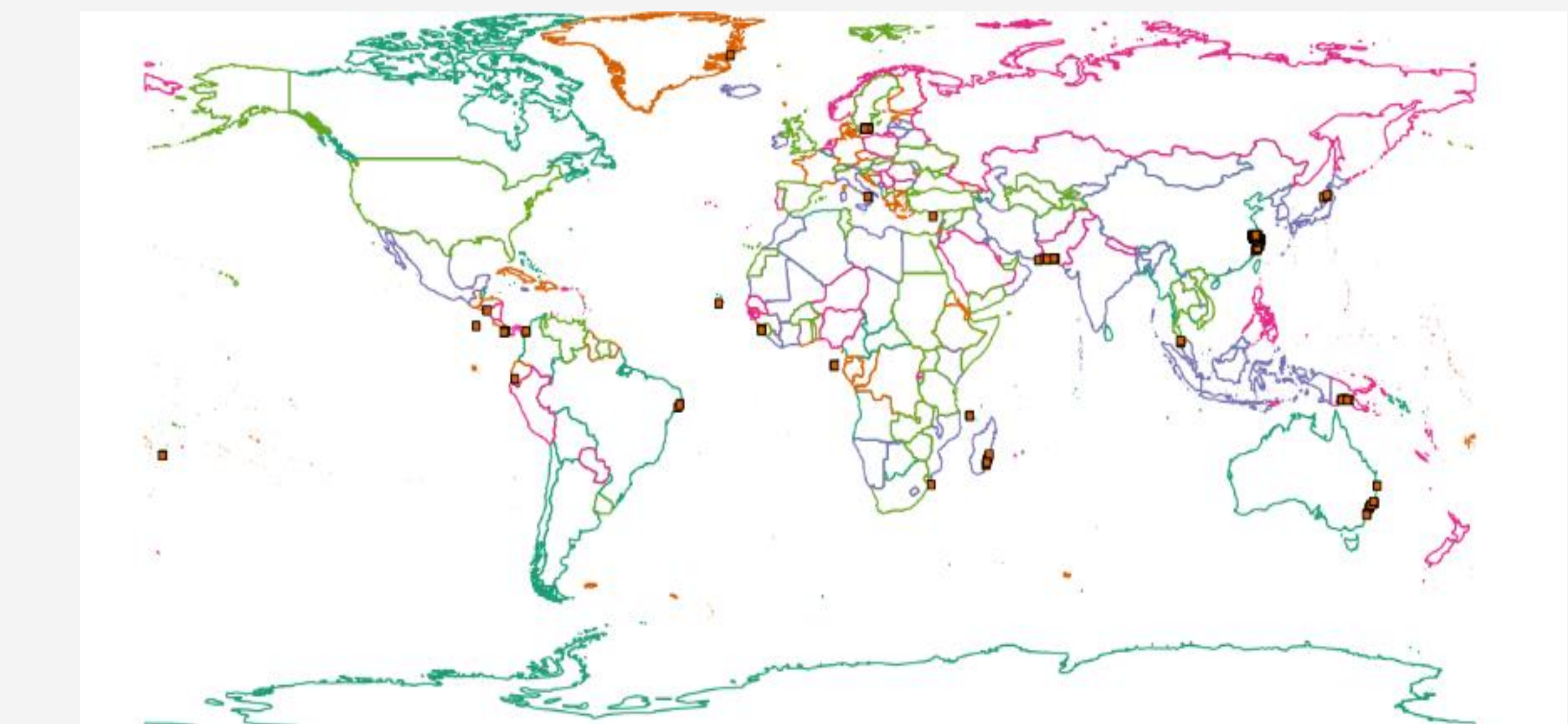


Publishing spatial data stored in HANA



Using GeoServer and HANA, one can publish layers in several formats such as AtomPub, GIF, GeoRSS, GeoTiff, JPEG, KML, OpenLayers, PDF, SVG, PNG, Tiff, UTFGrid, CSV, GML, GeoJSON and Shapefile

Customizing Layer Styles



GeoServer uses Styled Layer Descriptor (SLD), which is an XML-based file to add/edit a style for a layer published from HANA.

Running spatial queries to filter layers

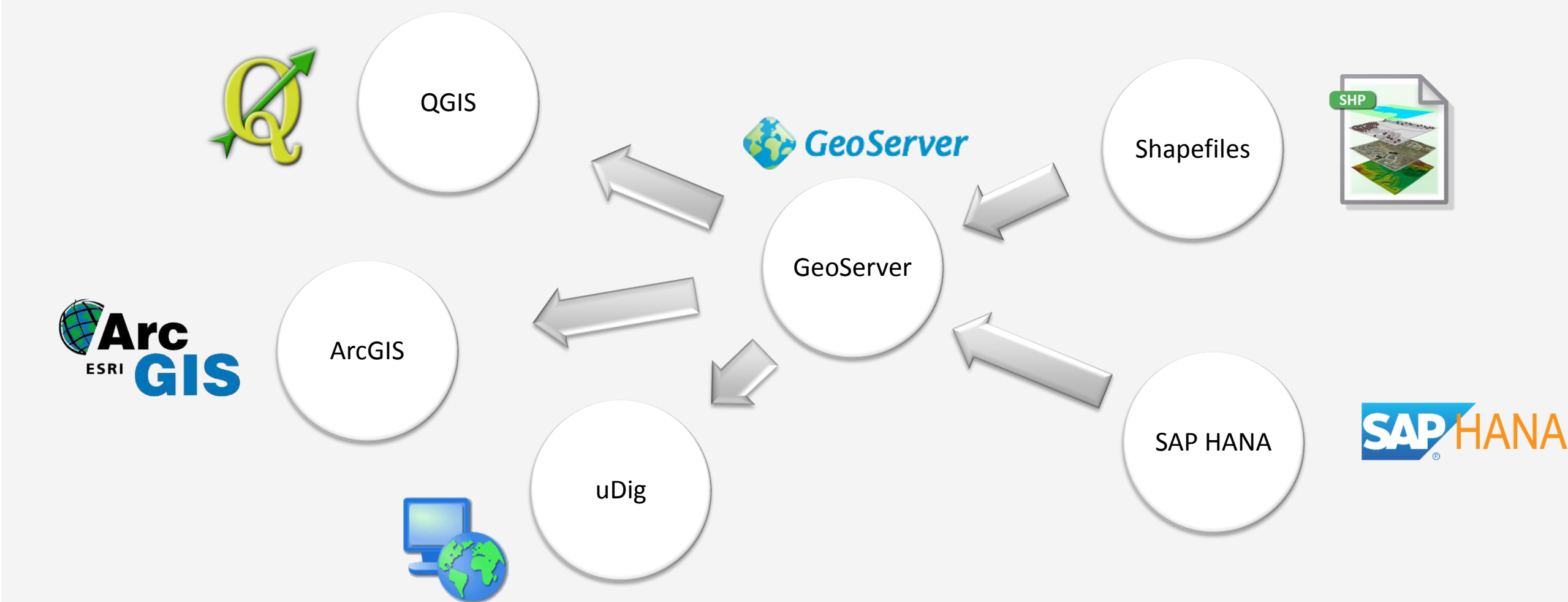


Common Query Language (CQL) by Open Geospatial Consortium (OGC) uses a familiar text-based syntax. It can be used to query the spatial data in HANA from GeoServer or any other GIS application.

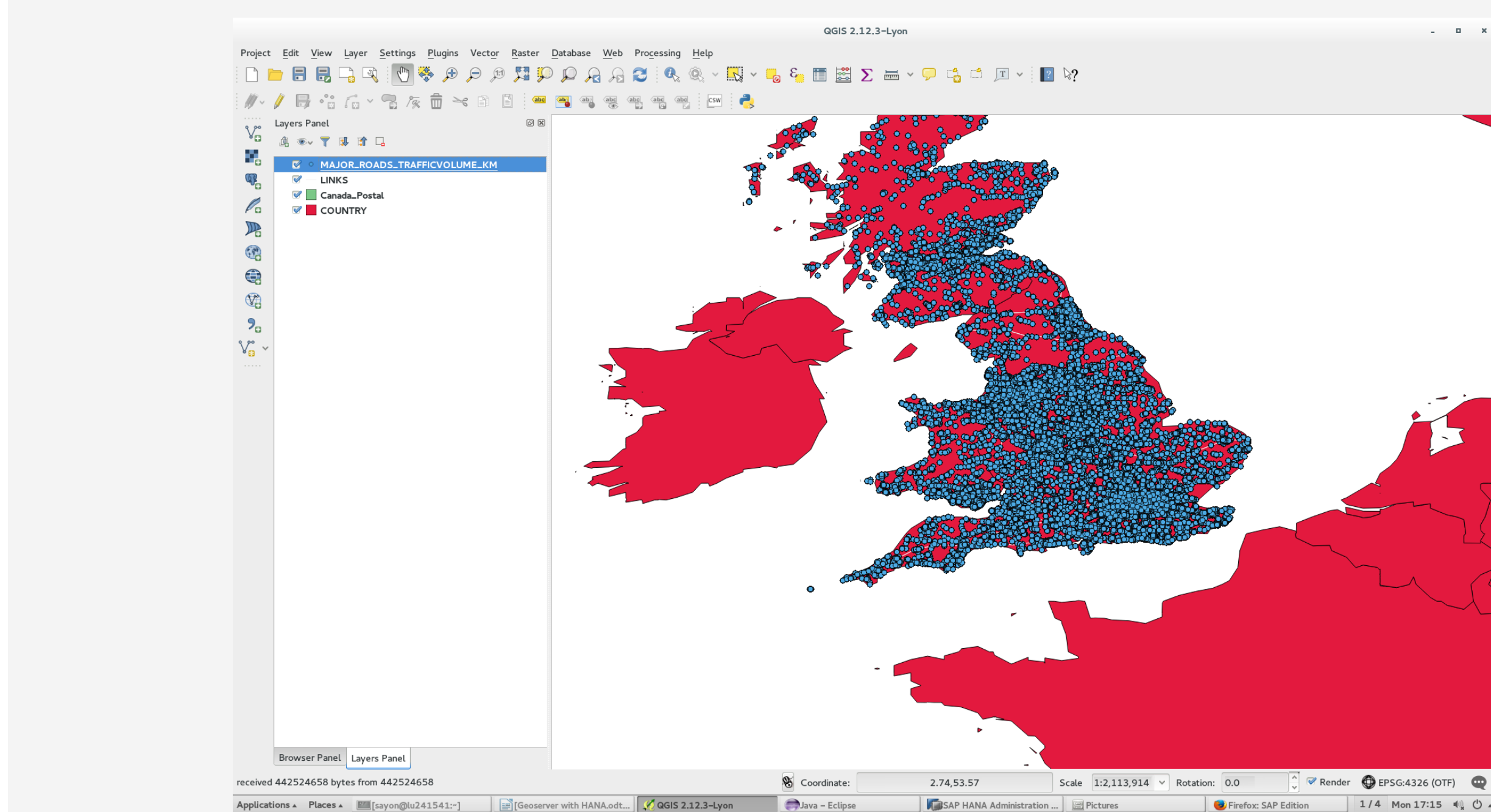
OGC Standardized Services: WFS, WMS

GeoServer provides these services which can be **consumed** by GIS tools and applications, allowing web clients to query and receive geographic information.

The **Web Feature Service (WFS)** allows direct access to the data like reading, writing, and updating data features. **Web Map Service (WMS)** is concerned with transforming the data into a map (image).



Web Feature Service (WFS) in QGIS



QGIS consumes WFS service from GeoServer connected with HANA. In the above screenshot QGIS publishes the UK road traffic data-set stored in HANA, for further querying and filtering.