

geGIS 2.0

*An SDI based on editable nodes
powered by Geomajas technology*

Web 2.0 brings GIS to the World Wide Web

- The Problem
- The Challenge
- The Solution: Geomajas as editing framework
- geGIS 2.0
 - The start
 - What is geGIS 2.0?
 - Open, Open, Open: Standards, Architecture, OSS
- Conclusion

“Sharing and integrating
geographic data is often hell

not to mention updating ...”

Dirk Frigne

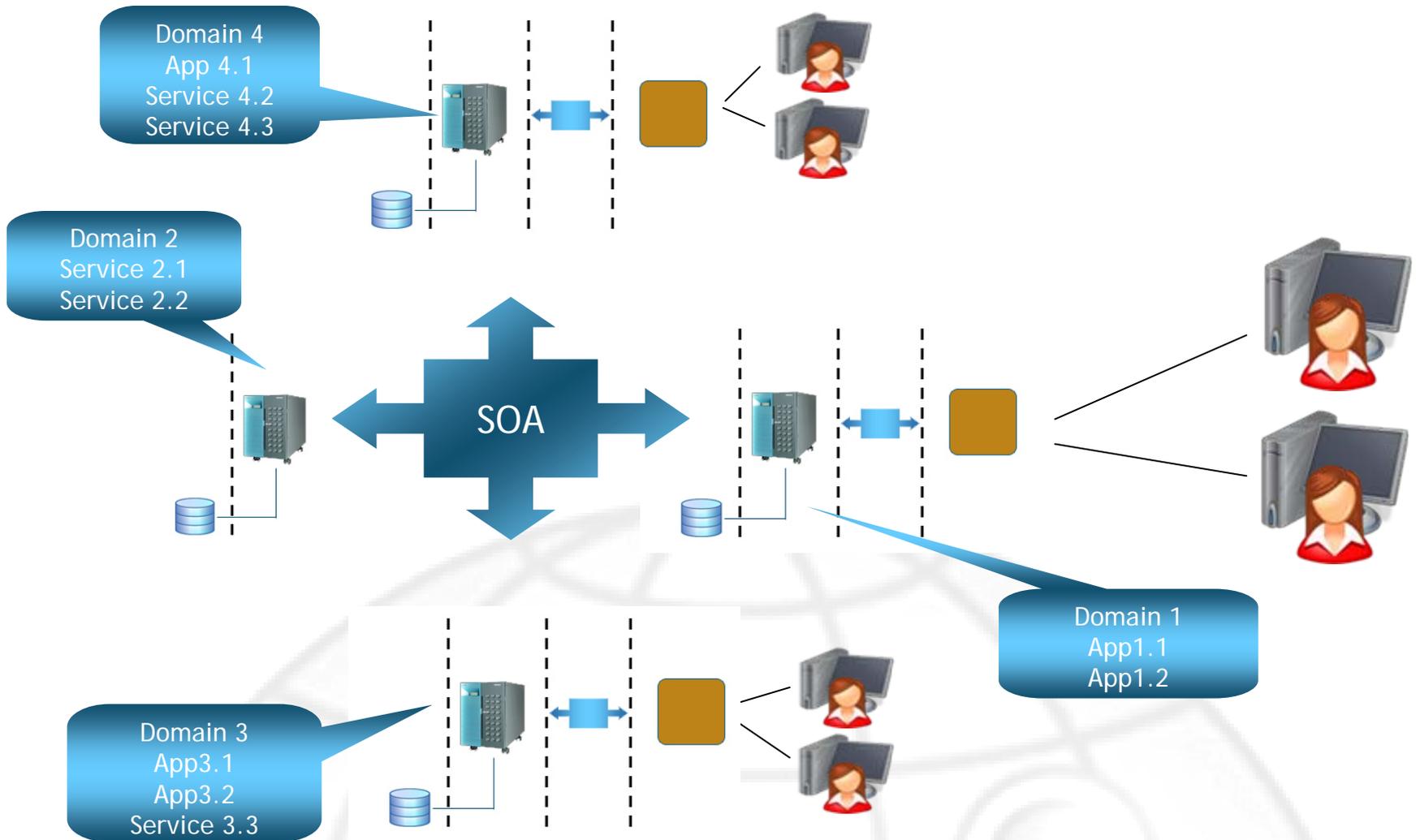
- To design a system that ...
 - Enables mutual exchange and adaptation of geographical data
 - Allows editing of vector data with snapping capabilities
 - Is as easy to use as a GIS desktop application

- And ...
 - ... where the user only needs a web browser
 - ... is very flexible concerning the data
 - ... with no license cost 😊

- A **Spatial Data Infrastructure (SDI)** is a framework of spatial data, metadata, users and tools that are interactively connected in order to use spatial data in an efficient and flexible way. Another definition is *the technology, policies, standards, human resources, and related activities necessary to acquire, process, distribute, use, **maintain, and preserve** spatial data.*
- Some of the main principles are that data and metadata should not be managed centrally, but by the data originator and/or owner, and that tools and services connect via computer networks to the various sources. A GIS is often the platform for deploying an individual node within an SDI. To achieve these objectives, good coordination between all the actors is necessary and the definition of standards is very important.
Source: Wikipedia

- **Authentic sources of information** *(CORVE)*
 - Authentic sources of information are "top quality sources of information" offering explicit guarantees in terms of the quality of the information and how it can be deployed.
- **Enriched domain data** *(Dirk Frigne)*
 - Enriched domain data is constructed from authentic sources of information to provide necessary information based on know and well defined processes
- **Web 2.0** *(Stephen Fry)*
 - " ...an idea in people's heads rather than a reality. It's actually an idea that the reciprocity between the user and the provider is what's emphasised. In other words, genuine interactivity, if you like, simply because people can upload as well as download."

Architecture - Web Services





The Solution: Geomajas



Geomajas, the Editing Framework

- Geomajas was designed:
 - to commoditize GIS web technology
 - to offer an end-to-end GIS solution
 - to allow simple integration of GIS in web applications
- Geomajas is offered as an open source web mapping framework

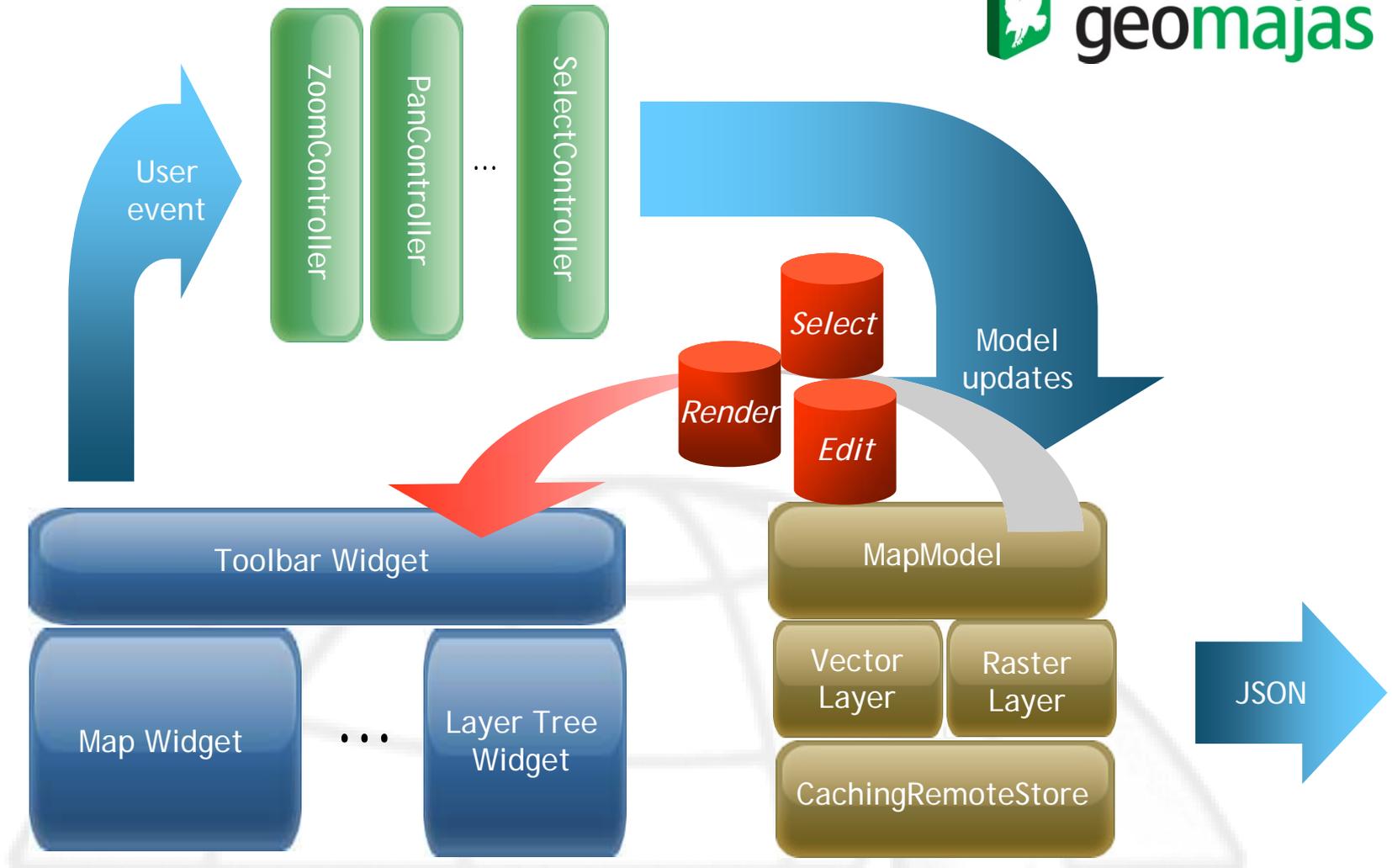


Geomajas: Architecture



- The Geomajas Architecture
 - Front-end
 - Thin client GIS engine
 - Desktop GIS in the browser
 - Based on DOJO and AJAX technology
 - Back-end
 - Extensible
 - Seamless integration with existing J2EE world
 - Written in JAVA, based on the hibernate framework

Geomajas: Client-side Architecture





geGIS 2.0

MAIAS tutorial: Features - Mozilla Firefox

Bestand Bewerken Beeld Geschiedenis Bladvijzers Extra Help

http://majas.dfc.be/majas-1.3.0/applications/tutorial/html/sample-features.html

Aan de slag Laatste nieuws OSOR Forge: Welkom

Layers

- Google satellite
- Provinces

◆ Population > 1500000
◆ Population > 1250000
◆ Population > 1000000
◆ Population > 750000
◆ Population < 750000

Introduction Navigation Layers tree Stylefilters Features Feature table

Click to initialize the features table

id	Name	Area (km ²)	Capital
8	Antwerpen	2867	Antwerpen
9	Hainaut	3800	Mons
6	Oost-Vlaanderen	2991	Gent
7	Brussels Region	161	Brussels
11	Vlaams-Brabant	2106	Leuven
4	Liège	3884	Liège
1	West-Vlaanderen	3125	Brugge

Klaar



geGIS 1.2: The Start

- e-gouvernement project (CORVE-RWO)
 - Thin-client
 - Geographic Data Editing
 - Re-usability
 - Easy-of-use
- Open Source Project started in 2006
 - Specific demands: built-in processes, work flow
 - Limited budget & short timeframe
 - Very local initiative: one government
 - First presented on FOSS4G2007



What is geGIS 2.0

- geGIS 2.0 is an editable intelligent SDI node
 - Thin client GIS-RIA
 - Browser based topological editing & snapping
 - Configurable electronic service
 - Setup nodes with enriched domain data
 - Platform independent
 - Ensures privacy of data



geGIS 2.0: 3 times Open

geGIS 2.0 is based on

- Open Standards
- Open Architecture
- Open Source Software

[more info on http://www.gegis.org](http://www.gegis.org)



geGIS 2.0: 3 times Open

1. geGIS 2.0 supports Open Standards

- OGC
 - WMS
 - WFS
- W3C
 - SOA
 - http
 - XML
- JSON



geGIS 2.0: 3 times Open

1. geGIS 2.0 supports Open Standards (part 2)
 - geGIS uses geoServer to adapt and support open standards
 - geoServer is supported by a huge community, working together with OGC. This guarantees the support of the standard.



geGIS 2.0: 3 times Open

2. Open Architecture

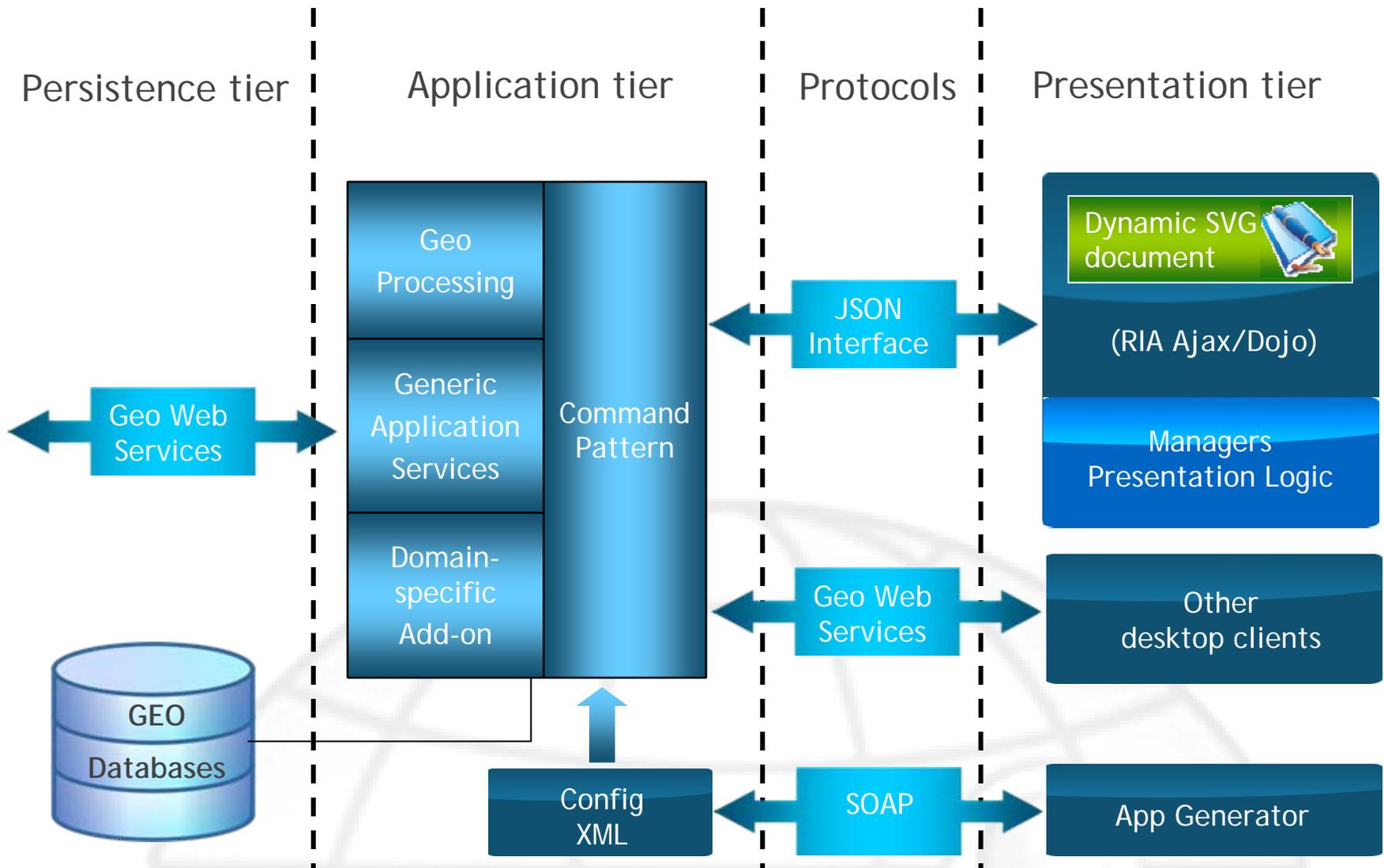
- Supported patterns
 - Command pattern
 - MVC pattern
 - Observer pattern
- Architecture
 - Microscopic view
 - Frontend
 - Backend
 - Macroscopic view
 - SDI architecture based on webservices

2. Technology

- Server
 - JAVA
 - Hibernate
- Client
 - Javascript
 - DOJO
 - AJAX / VML



geGIS 2.0: architecture





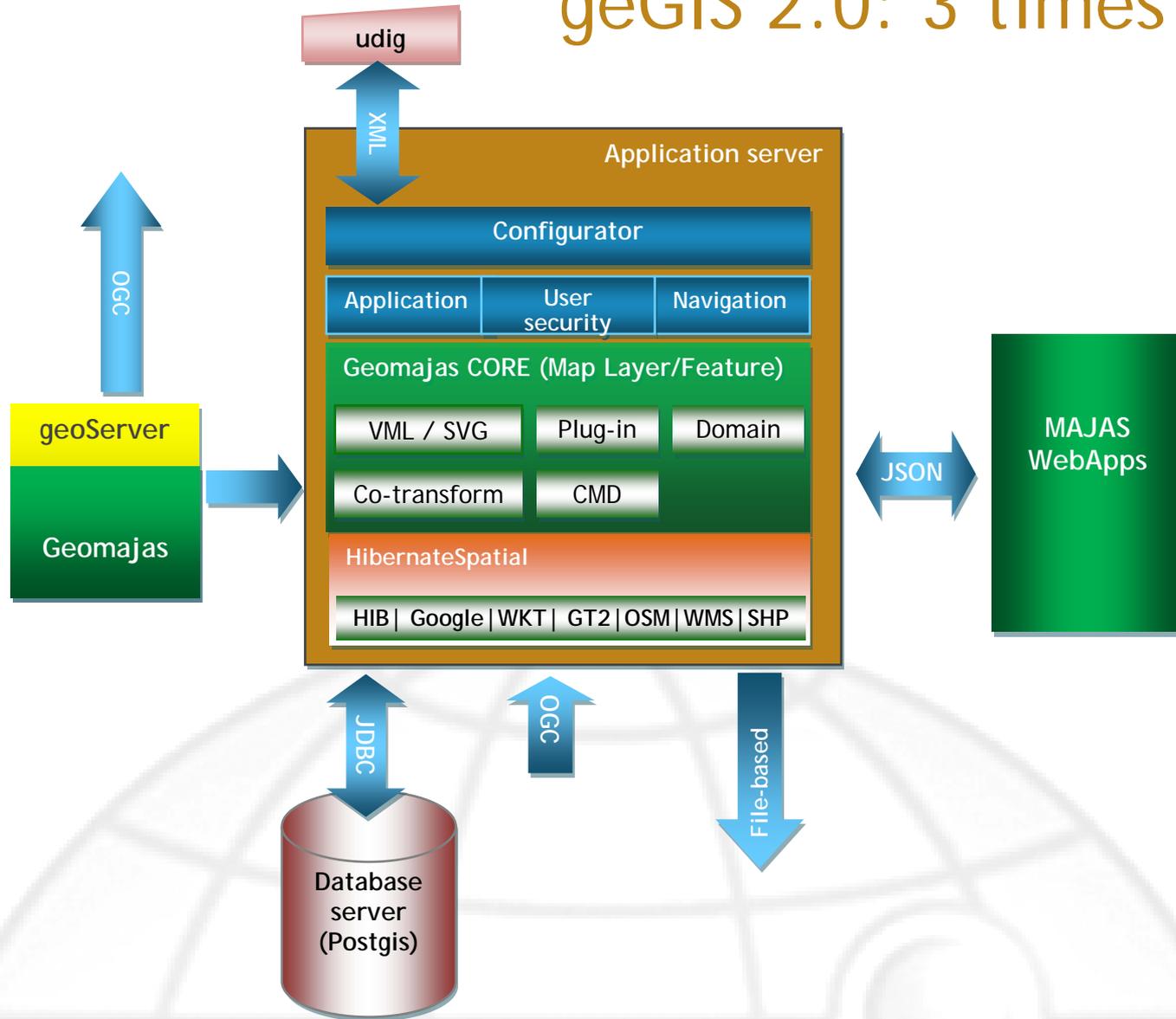
geGIS 2.0: 3 times Open

3. geGIS 2.0 is an Open Source Software Stack

- geoServer
 - WMS Server
 - WFS Server
- Hibernate Spatial
 - geoDatabase
 - File system
 - Real time storage (track & trace)
- MAJAS



geGIS 2.0: 3 times Open



- geGIS 2.0 is an editable intelligent SDI node
- Open, open, open
- Round tables are organised
- Community is growing
- Many concrete live cases
- Service network based on local partners get organized
- Solution for SDI & domain-based services



Questions?

Thank you for your attention!

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