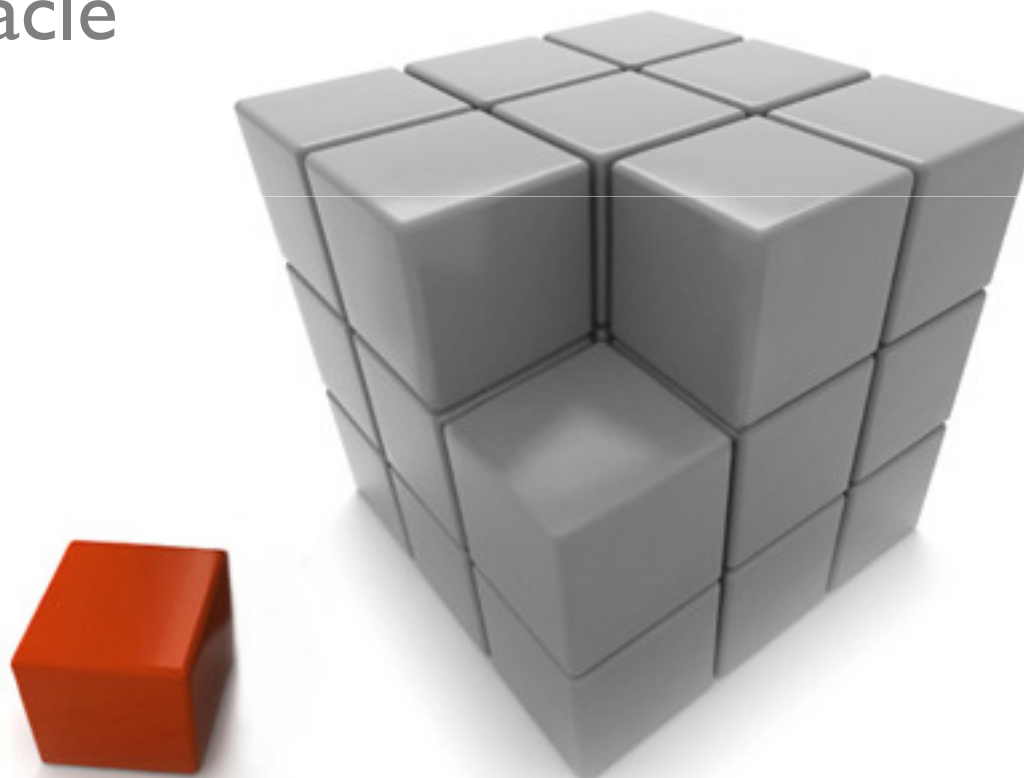


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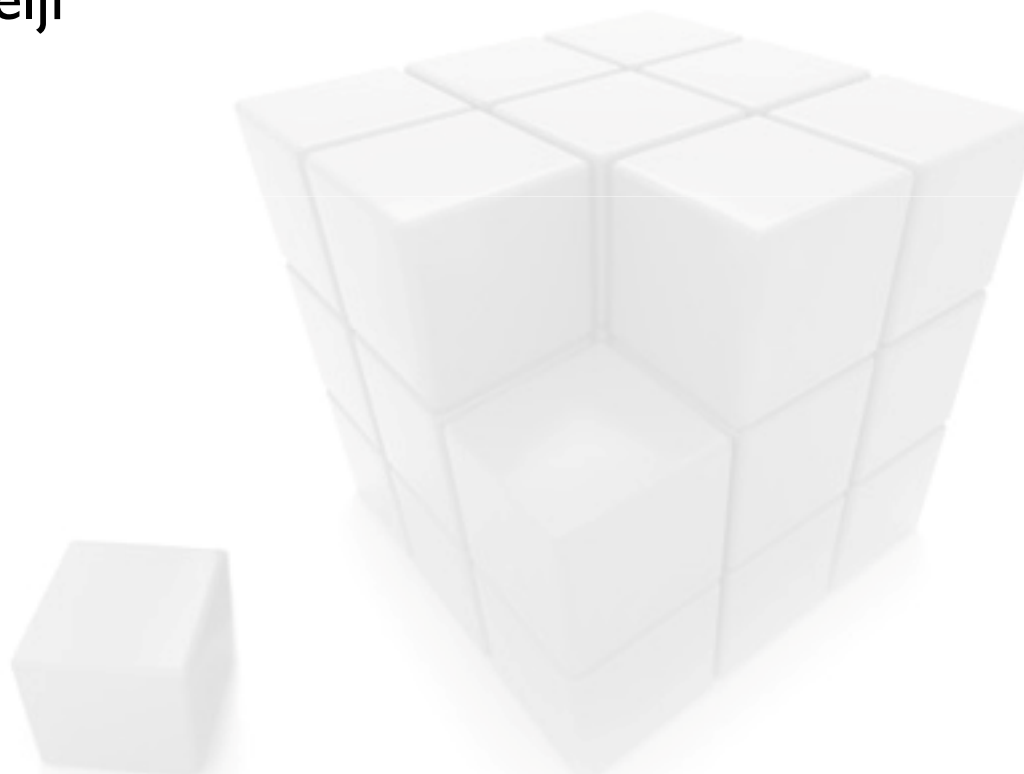
Geo plugin za Oracle APEX

Marin Huljev
Dalibor Kušić
Listopad 2011.

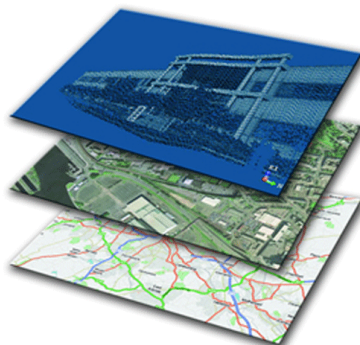


Pregled

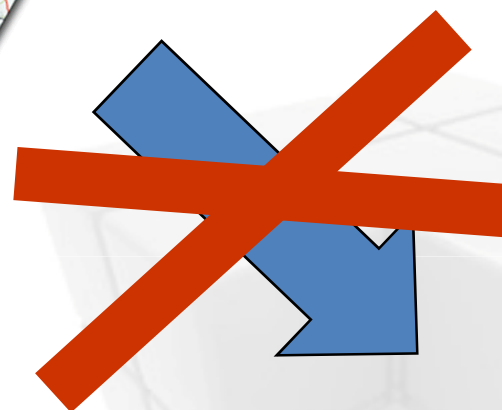
- Uvod
- Oracle Spatial
- Geoprostorni poslužitelji
- Mapping API
- Implementacija
- APEX plugin



Uvod

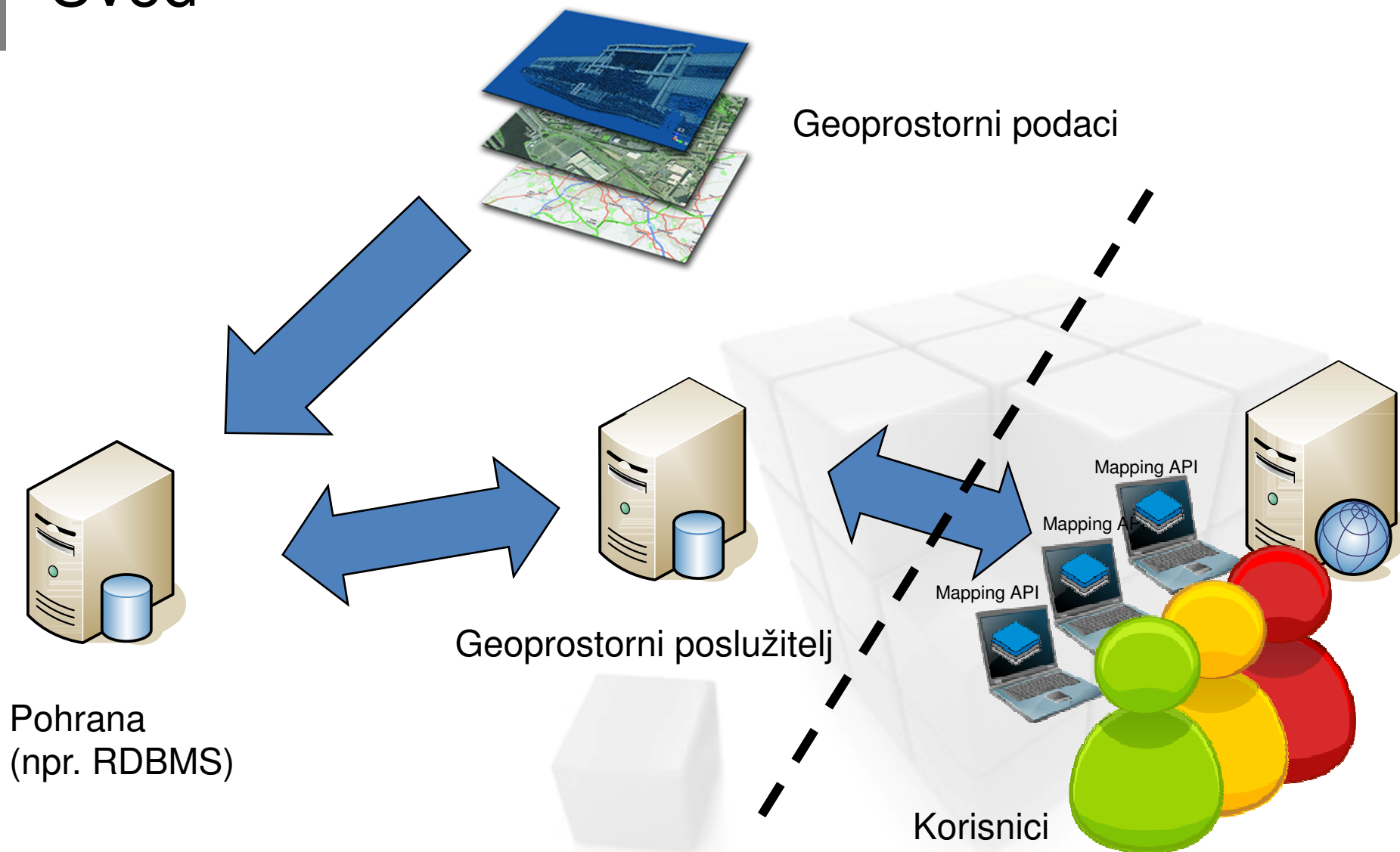


Geoprostorni podaci



Korisnici

Uvod



Uvod

❑ Pohrana geoprostornih podataka

- Baze podatak - Oracle Spatial, PostGIS, etc...
- Datotečni sustavi – geoTIFF, SHP-file, etc...

❑ Vizualizacija

- Middleware – Geoprostorni serveri (Geoserver, Mapviewer,...)
- Front-end – Mapping API (OpenLayers, GoogleMaps, OracleMaps,...)

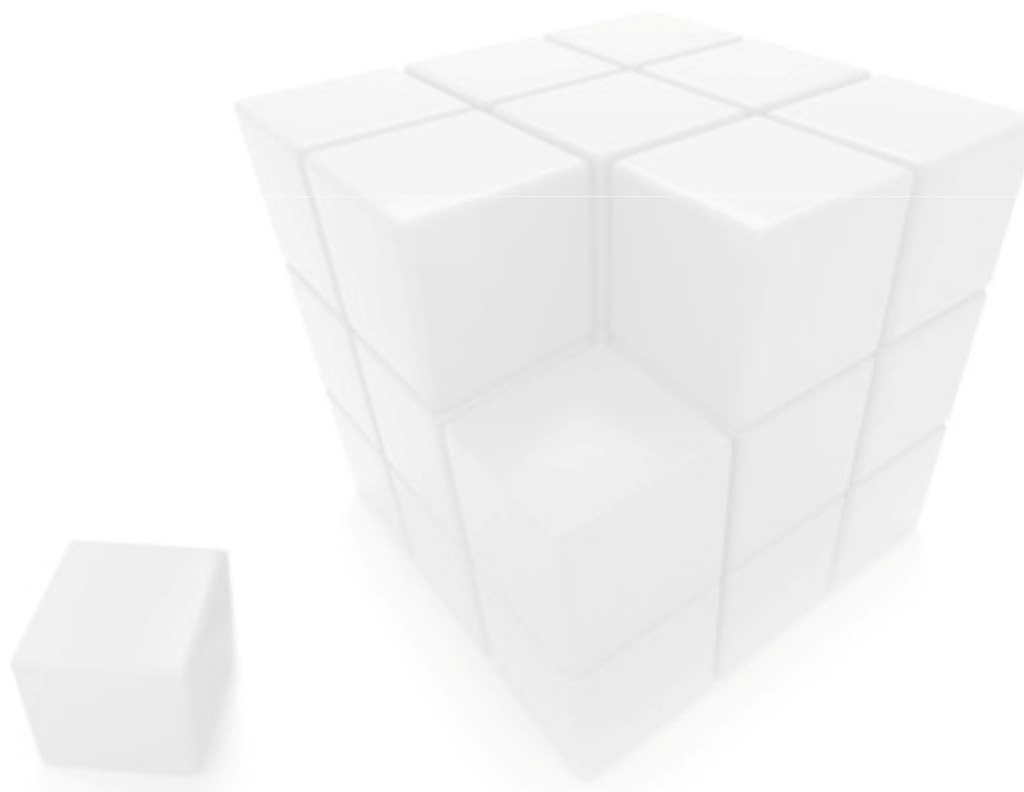
❑ Integracija

- APEX Geo plugin



Oracle Spatial

- ❑ Kolekcija objekta, tablica, i paketa za manipulaciju geoprostornih podataka

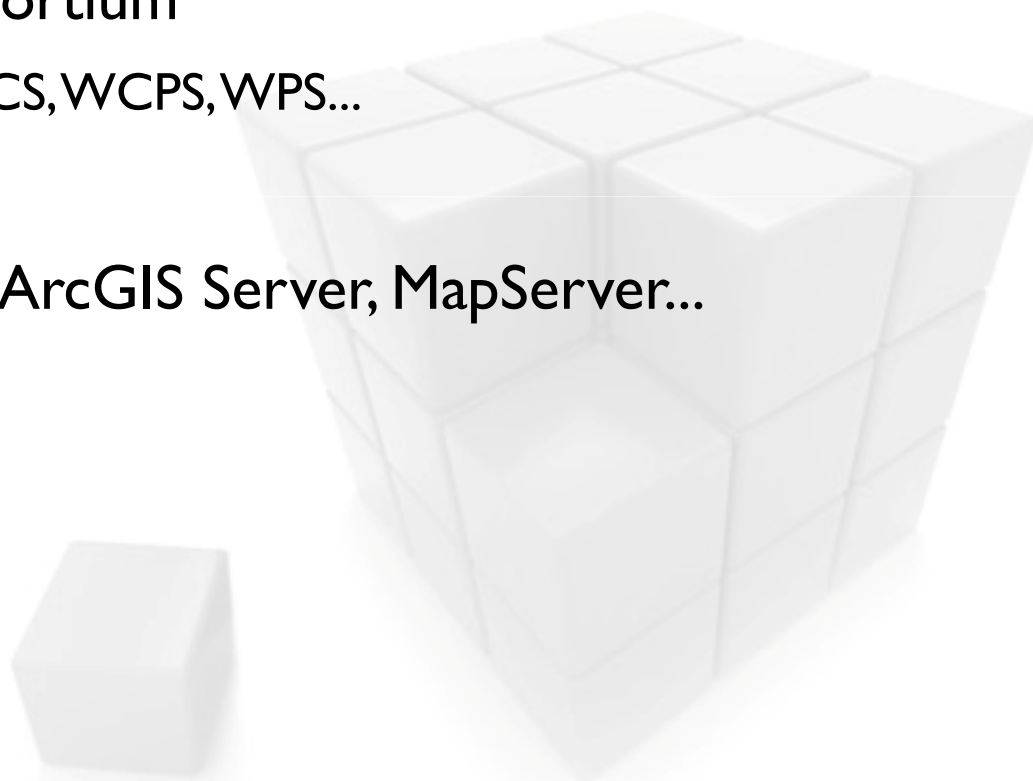


Geoprostorni poslužitelji

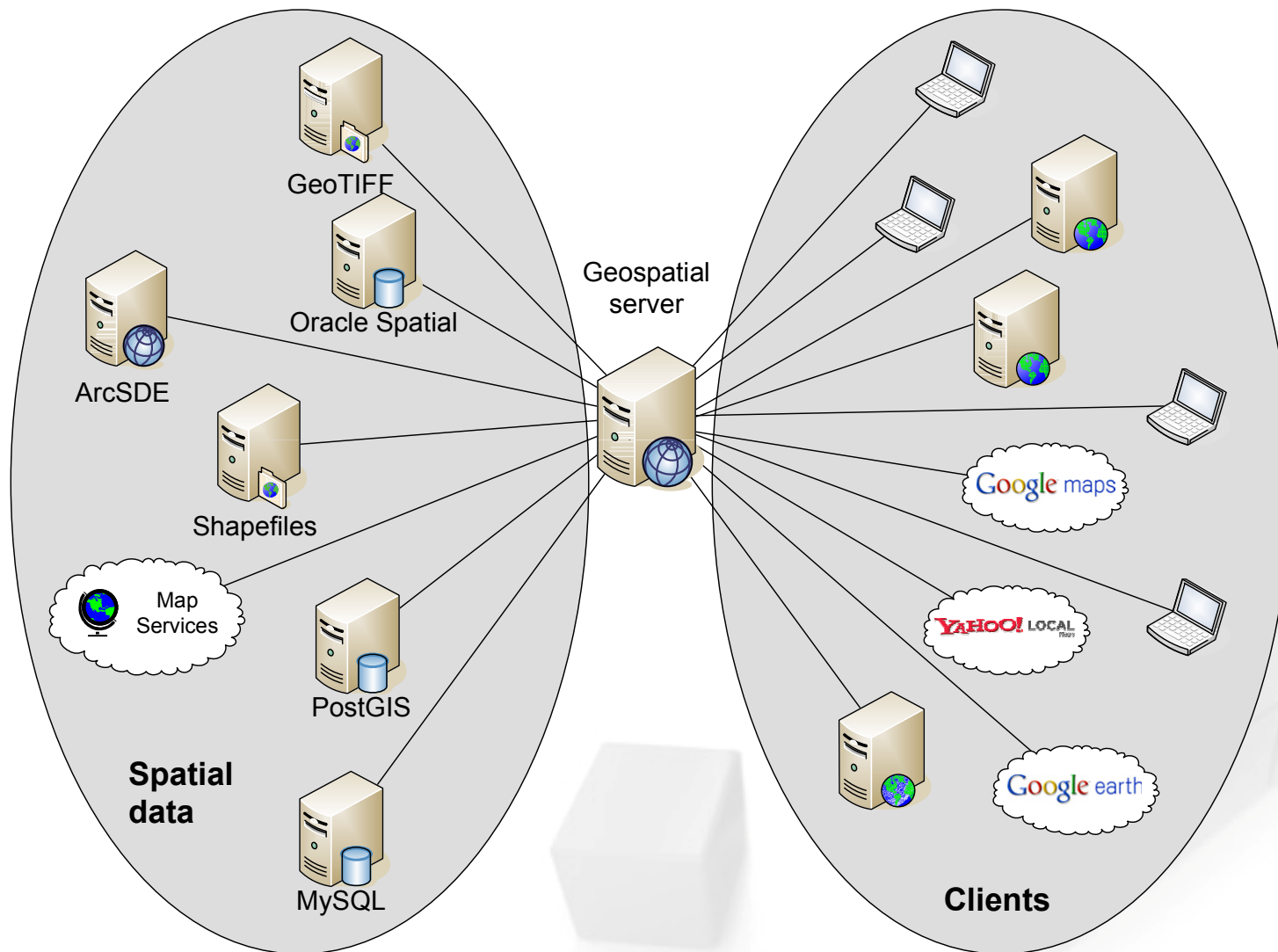
- ❑ Univerzalno sučelje za dohvat geoprostornih podataka

- ❑ Open Geospatial Consortium
 - WMS, WMTS, WFS, WCS, WCPS, WPS...

- ❑ Geoserver, Mapviewer, ArcGIS Server, MapServer...



Geoprostorni poslužitelj

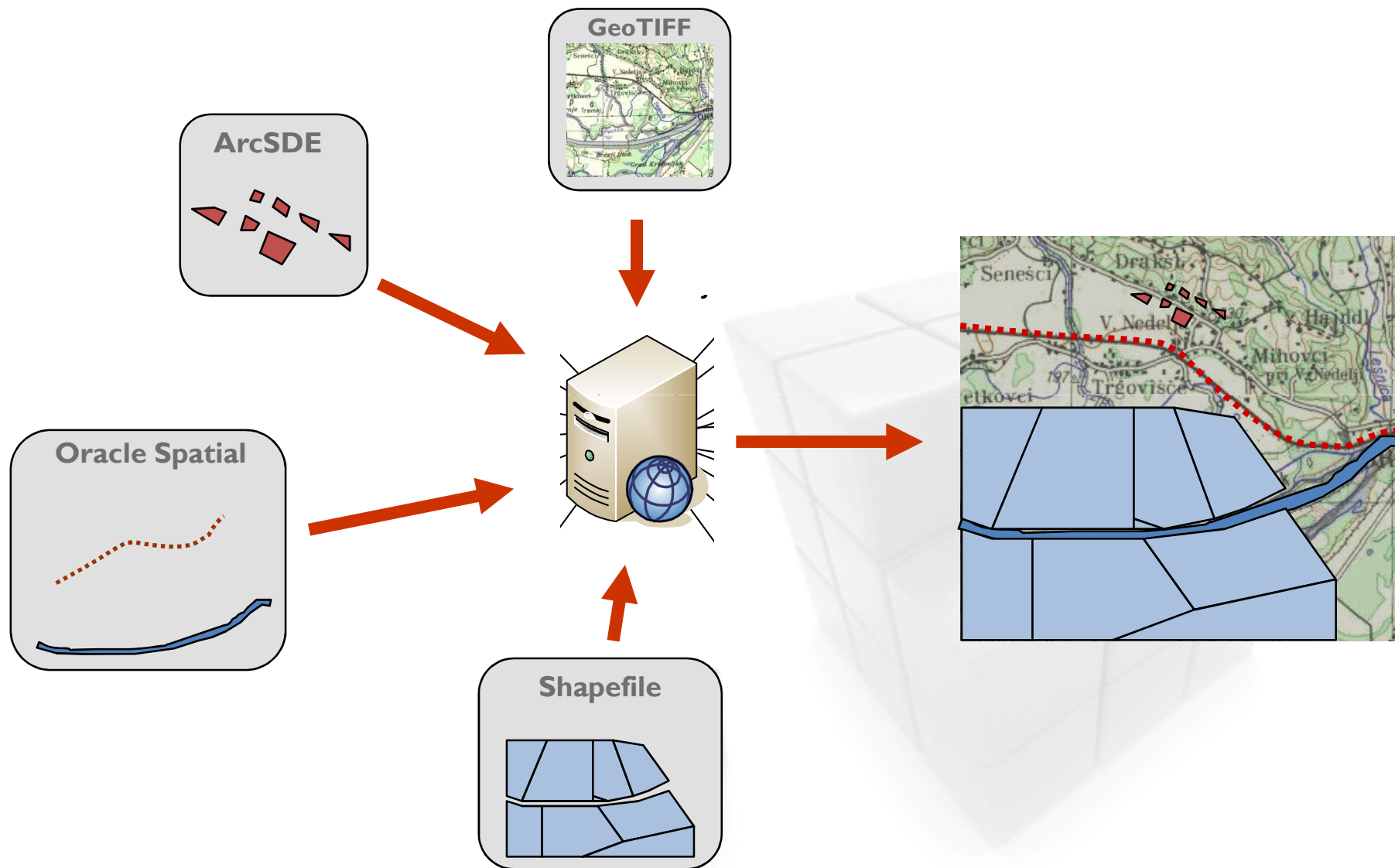


Geoprostorni serveri

- ❑ Web Mapping Service
- ❑ Web Mapping Tiling Service
 - WMS-C - OSGeo
- ❑ Web Feature Service
- ❑ Web (Coverage) Processing Service

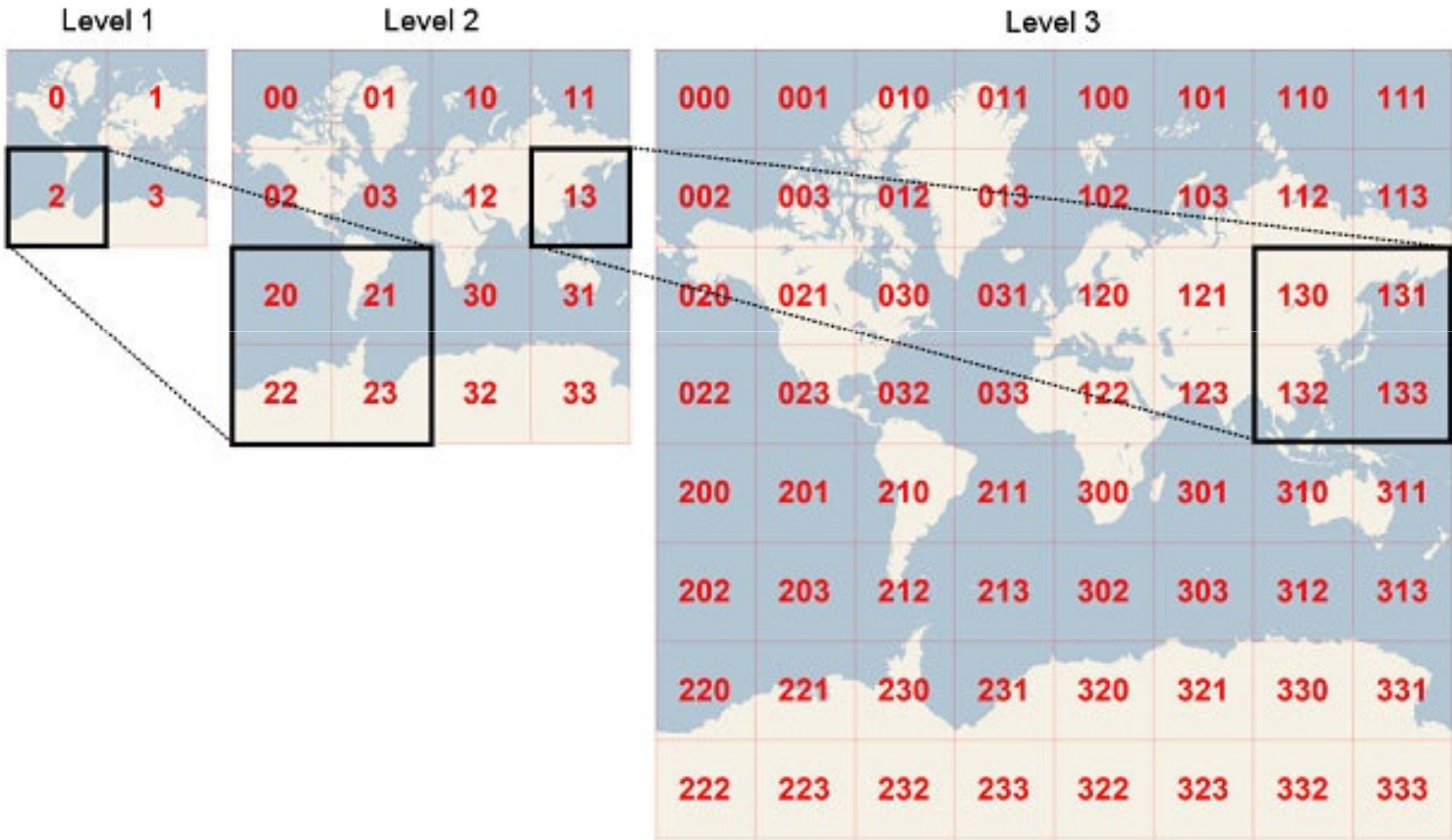


Geoprostorni poslužitelj - WMS

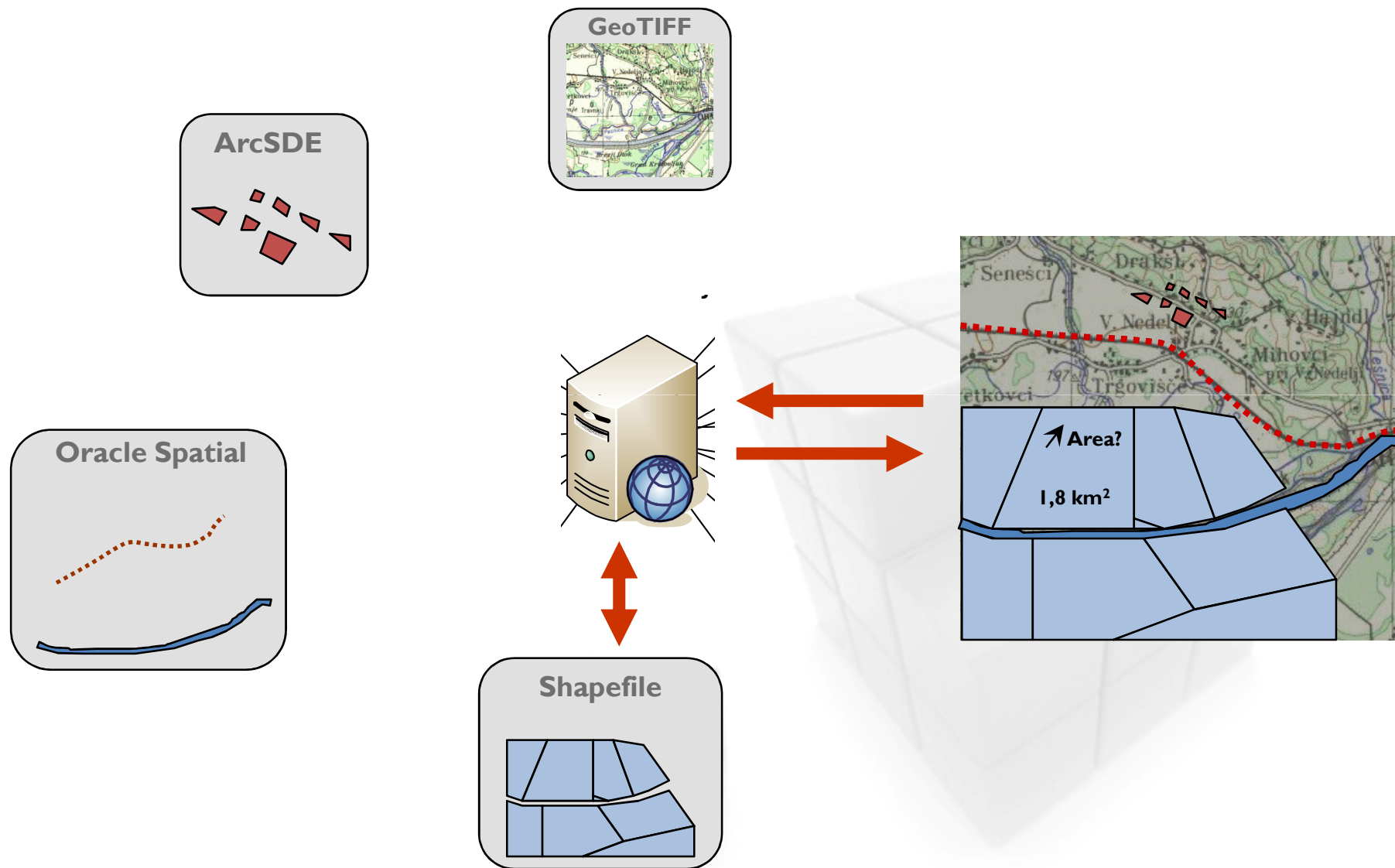


Geoprostorni poslužitelj - WMTS

- Tiling and caching

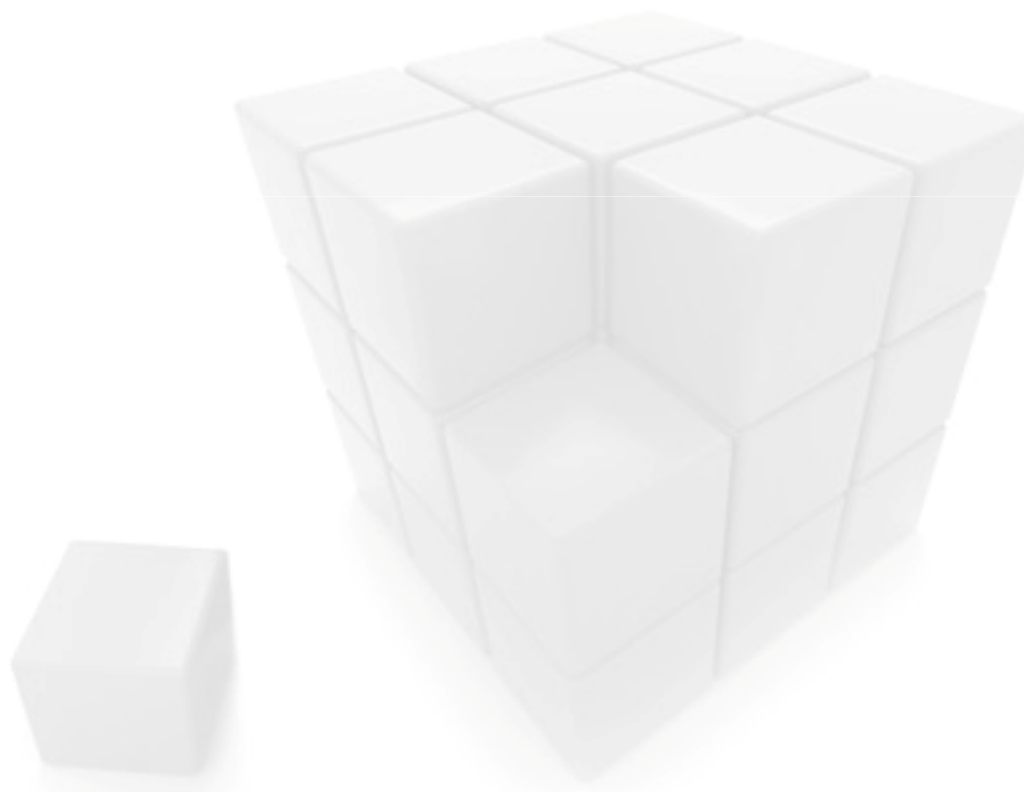


Geoprostorni poslužitelj - WFS



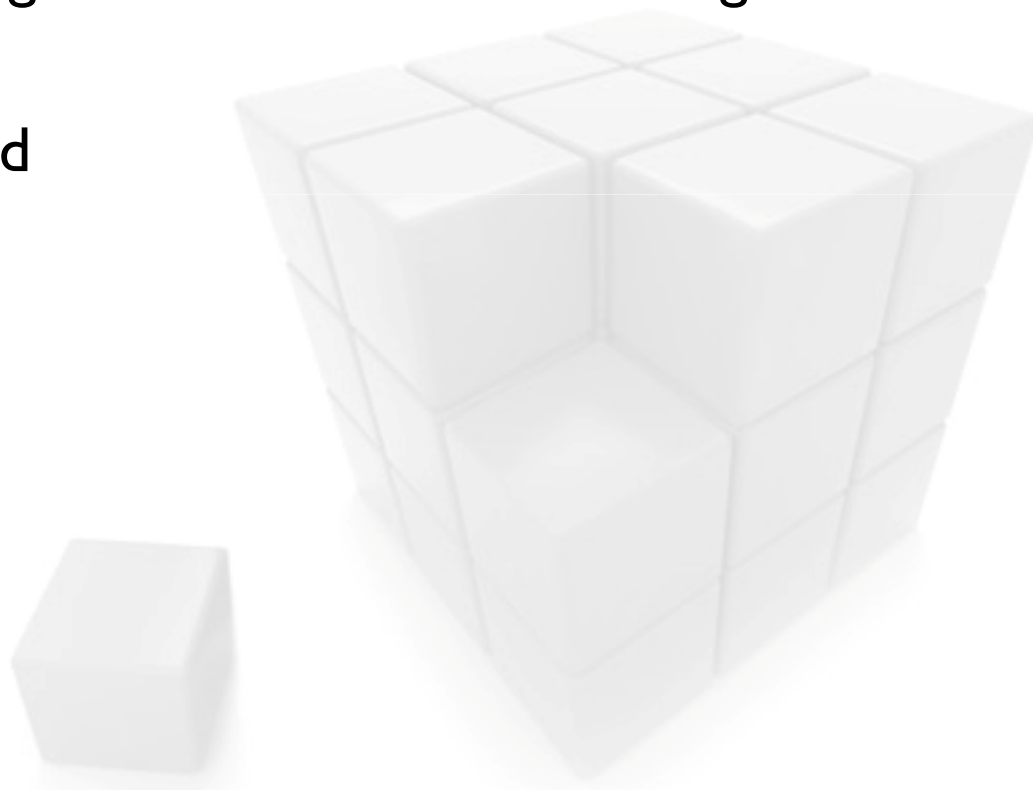
Mapping API

- GoogleMaps
- OpenLayers (GeoExt) – koristi se u ovom primjeru
- OracleMaps



Google Maps

- ❑ Enables direct integration of Google Maps interface with custom web pages
- ❑ Toggling of layers, adding controls and events onto generated maps
- ❑ API license key required
- ❑ Licensing options

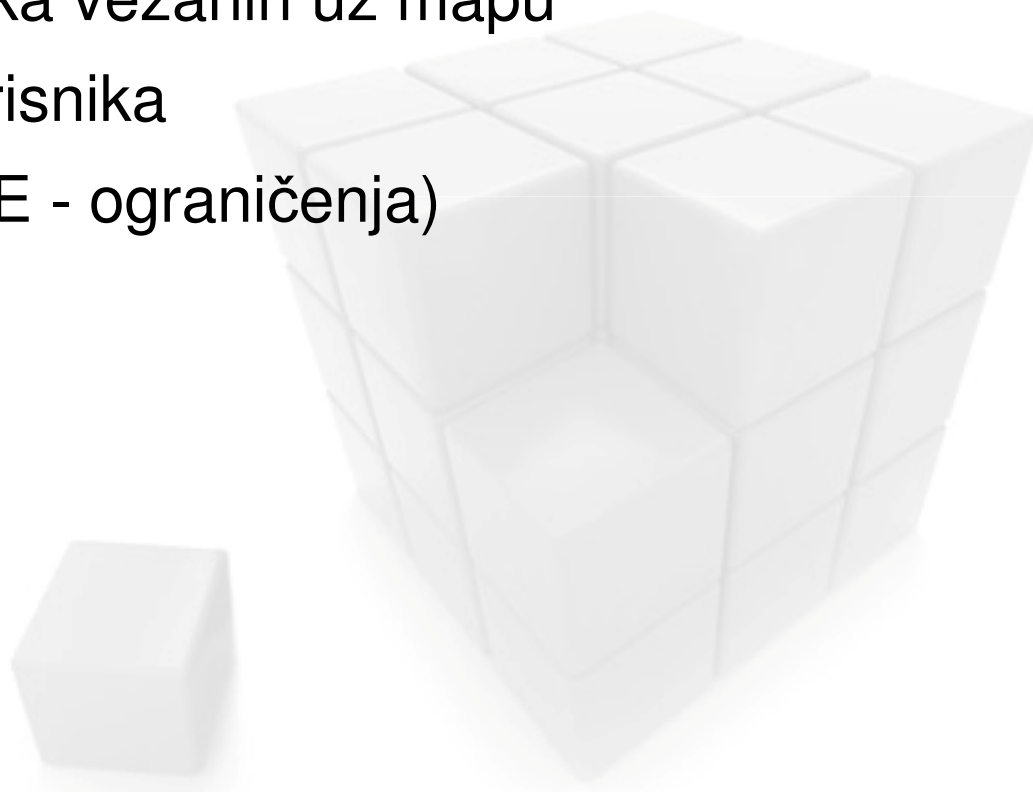


GeoExt

- ❑ JavaScript alat za izradu web GIS aplikacija
- ❑ OpenLayers (geoprostorni podaci) + Ext JS (korisničko sučelje)
- ❑ BSD licenca
- ❑ Posljednja verzija – 1.0 (Listopad 2010)
- ❑ Integracija s Google, Yahoo, Bing maps...
 - Korisno za osnovne slojeve
- ❑ WMS capabilities querying
- ❑ Grupiranje slojeva
- ❑ Ispis mapa

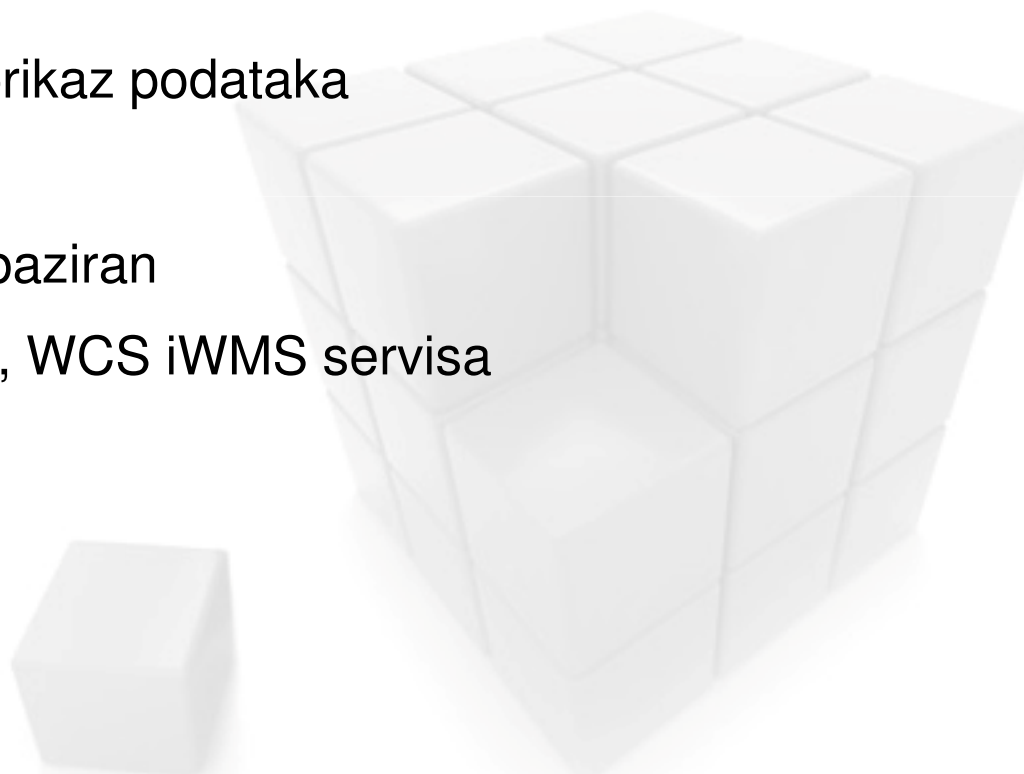
Oracle APEX

- ❑ Oracle RAD alat (posljednja verzija 4.1)
- ❑ Služi za prikazivanje mapa
- ❑ Manipulacija podataka vezanih uz mapu
- ❑ Sigurnost i prava korisnika
- ❑ Besplatan (Oracle XE - ograničenja)



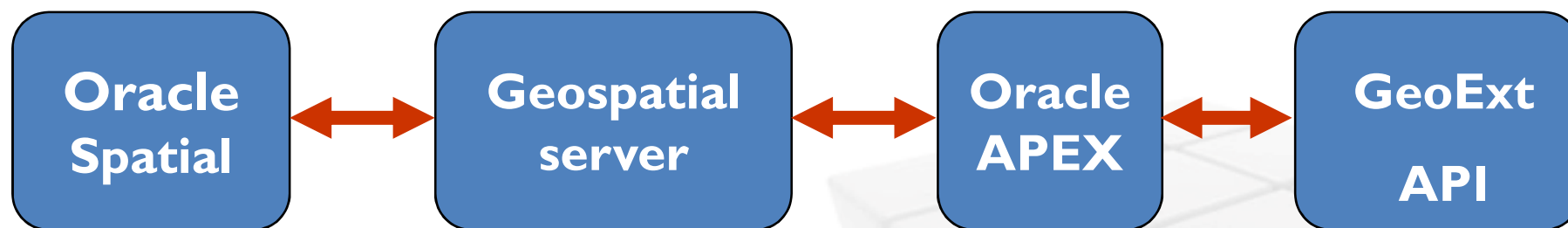
Implementacija

- ❑ Oracle 11g R2 Express Edition
 - Oracle Locator
- ❑ Oracle APEX GUI
 - Prikaz karta, unos i prikaz podataka
- ❑ Geoserver
 - Open source, Java baziran
 - Implementacija WFS, WCS iWMS servisa



Implementacija

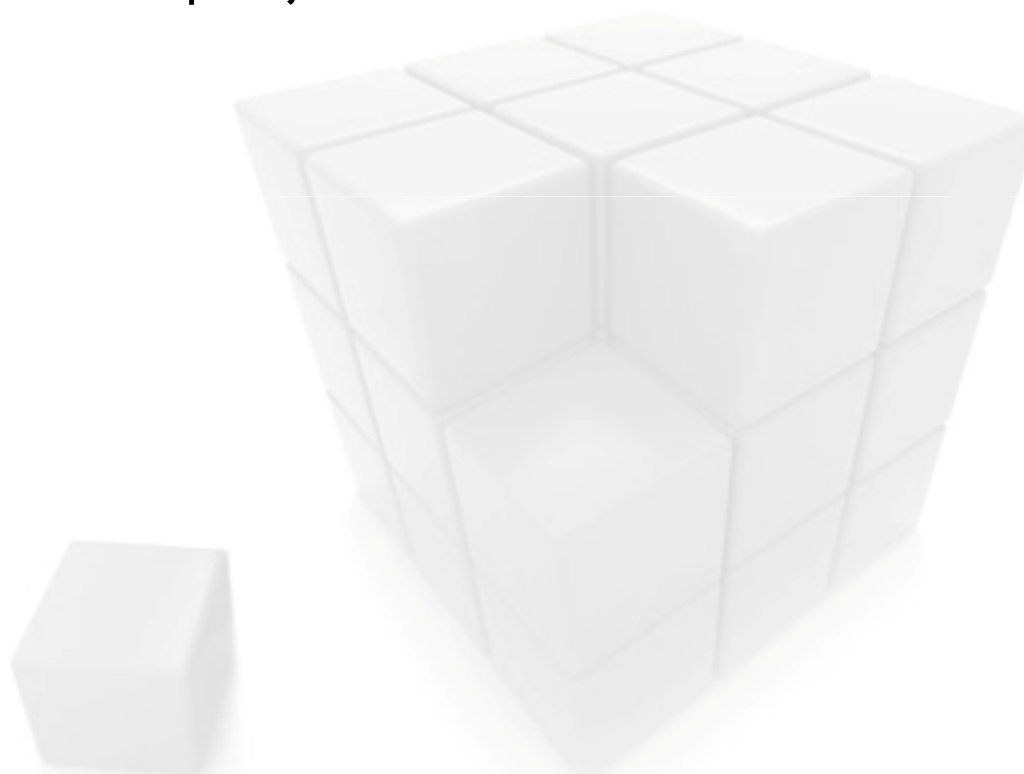
- GeoExt (OpenLayers)



Oracle APEX pluginovi

□ Vrste pluginova

- Item type
- Region type – korišten u ovom primjeru
- Process type
- Dynamic Action type



Region type plugin

❑ Custom attributes

- Application
- Component

❑ Source

- PL/SQL Code
- Render Function Name
- Parametars
 - p_region (apex_plugin.t_region), p_plugin (apex_plugin.t_plugin), p_is_printer_friendly (boolean)
- Return
 - apex_plugin.t_region_render_result

Region type plugin

❑ Pristup “Custom attributes”

- p_plugin.attribute_0x (maksimalno)
- p_region.attribute_0x (maksimalno)

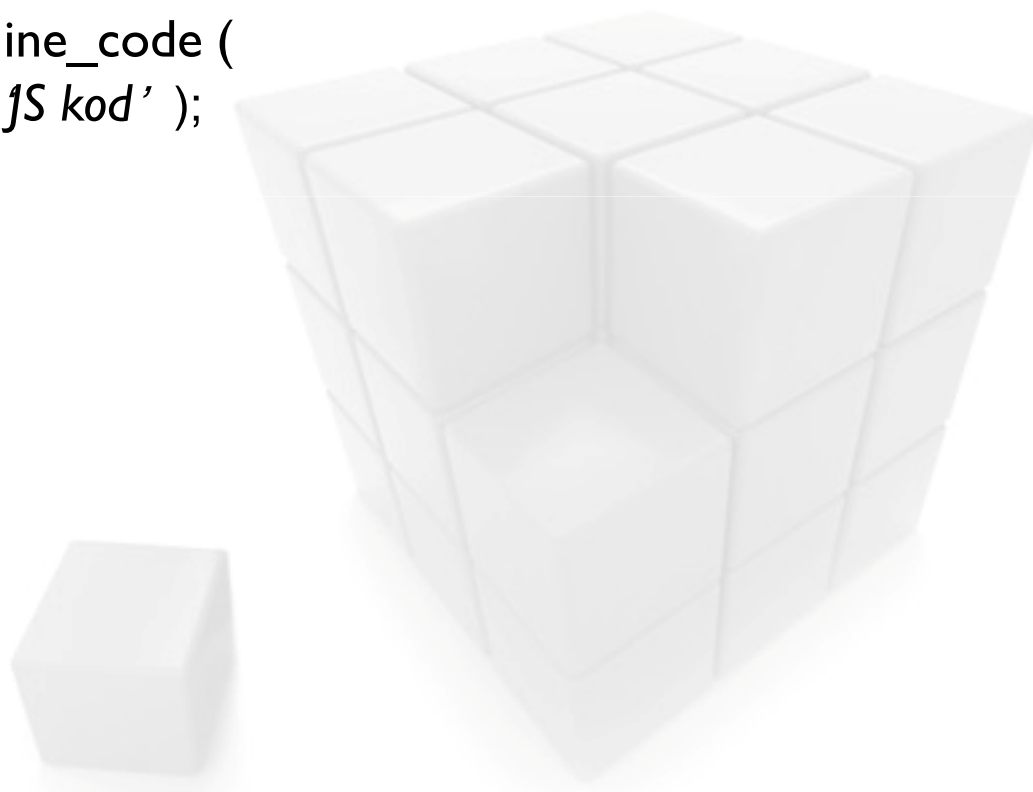
❑ Dodavanje librarya i vlastitog HTML koda

- apex_javascript.add_library (
 - p_name => 'maps?file=api&v=2&key='|||_api_key,
 - p_directory => 'http://maps.google.com/',
 - p_version => null,
 - p_skip_extension => true);
- apex_css.add_file – isti parametri
- sys.htp.p

Region type plugin

□ Dodavanje librarya i vlastitog HTML koda

- `apex_javascript.add_onload_code (`
 `p_code => 'JS kod');`
- `apex_javascript.add_inline_code (`
 `p_code => 'JS kod');`



Oracle APEX i Mapping API integracija

□ Javascript

- Inicijalizacija i prilagodba karte
- Manipulacija karte i prikaz slojeva

□ 2 overlay methods:

- KML (GGeoXML interface) – Google Maps
- Raster – GeoExt and Oracle Maps



Demo

The screenshot displays a web-based GIS application interface. At the top right, it says "Welcome: ADMIN Logout". Below this, there are four navigation tabs: "WMS Capabilities demo", "Tree Grouping Demo", "WMS Capabilities Tree demo", and "Oracle Maps".

The main interface is divided into two primary sections:

- Layers Panel (Left):** A tree view of map layers. It includes:
 - Base Layer:** Contains "Google Physical", "Google Hybrid", "Google Satellite" (selected), and "Google Streets".
 - Overlays:** Contains "HAC_SDO_KOL_V2 -" and "HAC_SDO_KOL_V - U", both with checked checkboxes.
 - Tasmania (Group Layer):** Contains "topp.tasmania_roads", "topp.tasmania_cities", "topp.tasmania_water_bo", and "topp.tasmania_state_bo".
- Map (Right):** A satellite view of a road network with several red square markers overlaid on the roads. Navigation controls (compass, zoom in/out, globe) are visible in the top left of the map area.

At the bottom of the layers panel, there is a "Show/Edit Tree Config" button. The map area includes a "Google" logo and the text "Slikovni prikaz ©2010 - Uvjeti uporabe".

in2

Pitanja?

IN2 d.o.o.

Marohniceva 1/1

10000 Zagreb

+385 1 6386 800

www.in2.hr

