

# A full-fledged cutting-edge FOSS4G map production system

## A Case Study

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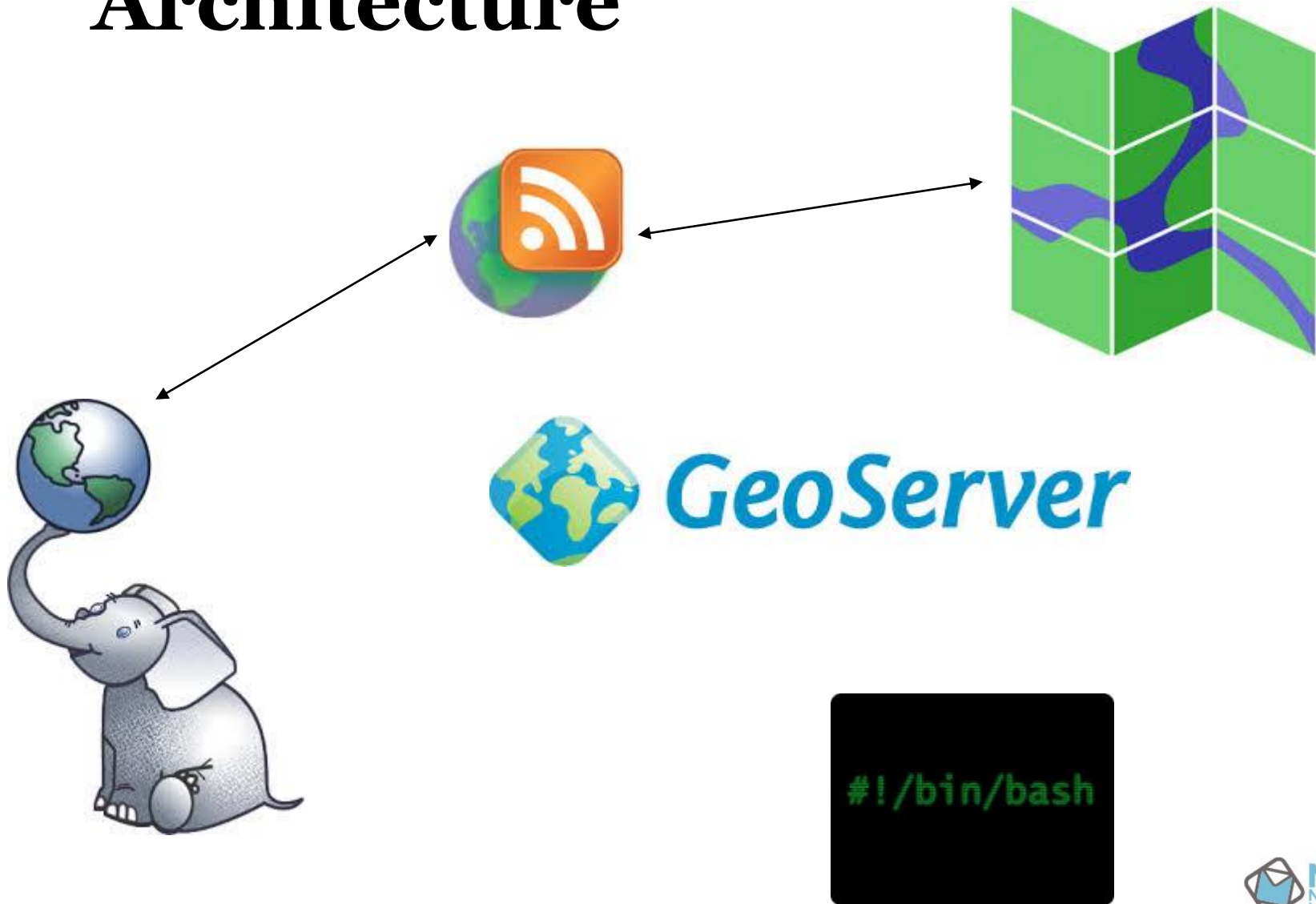
# Overview

- Background
- Architecture
- Technology
- Achievements
- Challenges encountered
- Work in progress and future work

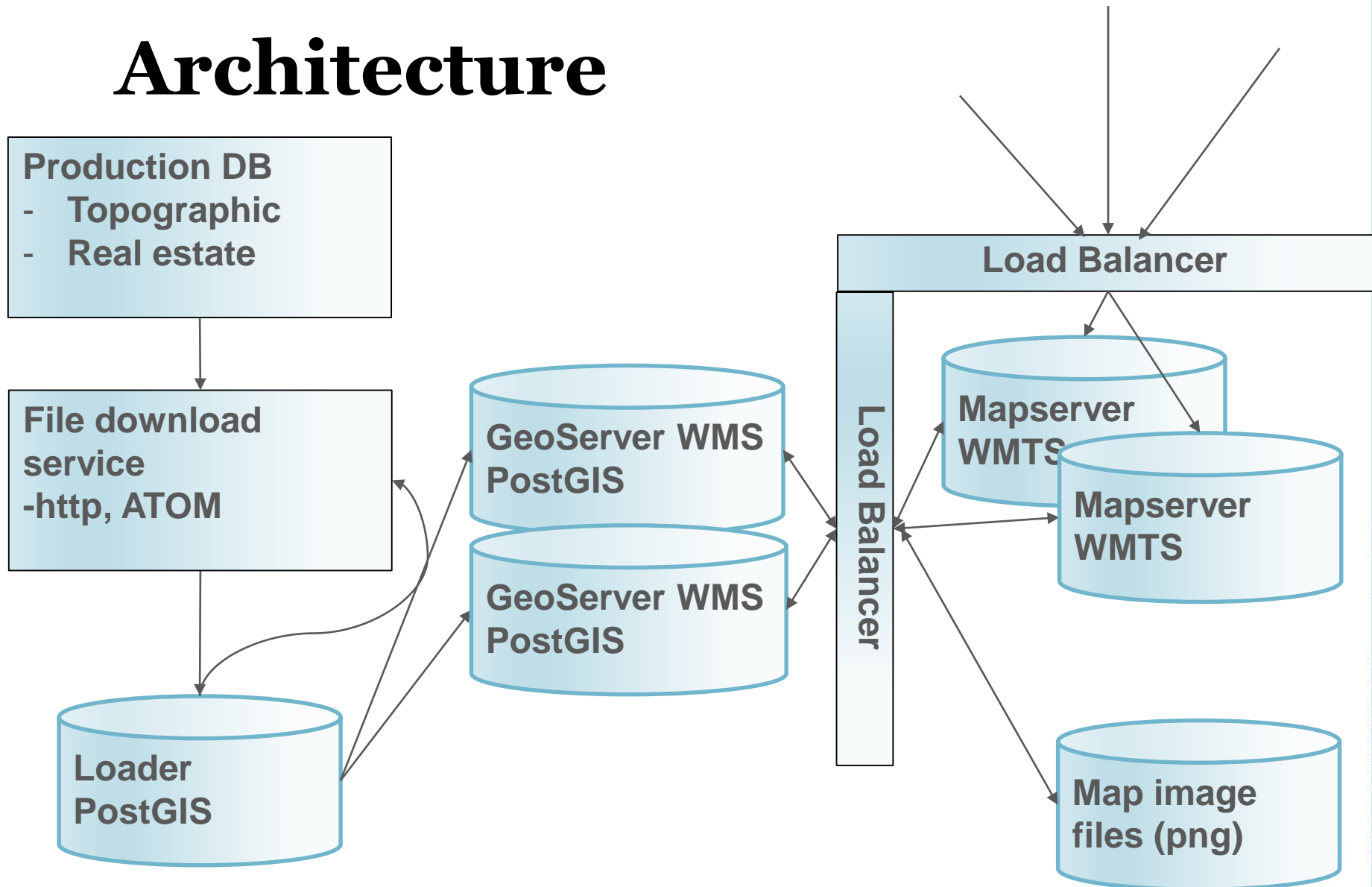
# Background

- Huge increase on WMS services usage
- Desire towards open software
- The life span of the existing software had come to an end
- Need to serve up-to-date maps
- Need to take part in international projects
- First thing to be done was a WMTS tile cache in 2013
- First test for the map production system was done in 2012

# Architecture



# Architecture



# Technology: Loader

- In-house developed java-loader takes care of the ETL process
- PostGIS:



# Technology: Web Map Server

- Geoserver 2.6.2 at the moment
  - WPS
- 5 Data Stores with generalized topographic data
- 374 SLD-styles
- 342 layers
- 52 Layer Groups
- Performance
  - Runs on physical servers (24 cpus / 256 GB ram)

# Technology: WMTS

- MapCache? Why?
  - Decision made before GeoServer was taken into use
  - Effective utility for seeding, easy to configure and automate
  - General features better for our needs
- Seeding the area of Finland (~300 000 square km) takes ~20 hours
  - 2 visualizations
  - 13 zoom levels (1m/px -> 4096 m/px)
  - ~10 million tiles / visualization
  - ~60 GB / 25 GB
- Weekly updates ~ 1h / visualization



# Achievements

- Each week changed areas are updated to the WMTS cache
  - ~10 continuously updated products (WMTS) up to 1 m / px resolution
  - ~160 Million hits each month
- Each week raster files of changed areas are updated and transferred to the open data download service



# Challenges encountered

- GeoServer & SLD:
  - Hard to render all labels & road names
  - Workaround:
    - Placenames are single characters in db
    - `<VendorOption name="partials">true</VendorOption>`
  - Zonal area fills
  - Road labels on top of the road
  - LOTS of sld-files...



# Work in progress and future work

- Work in progress:
  - Print-on-demand service
  - International projects
- Plans for the future:
  - Dynamic WMS
  - INSPIRE/ELF-projects
  - Maps updated every 24 h

# More information

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