



## Abstract

GeoShield is a project born to offer a centralized way to define **security access-control to geo-services**. It acts like a proxy, intercepting all the communications between clients and OGC compliant services (WMS, WFS, WPS, SOS).

GeoShield is able to manage users and groups, it handles **authentication** and **privileges** settings among groups and registered services. It is capable to analyse requests applying the filters setted to the user and manipulating the response.

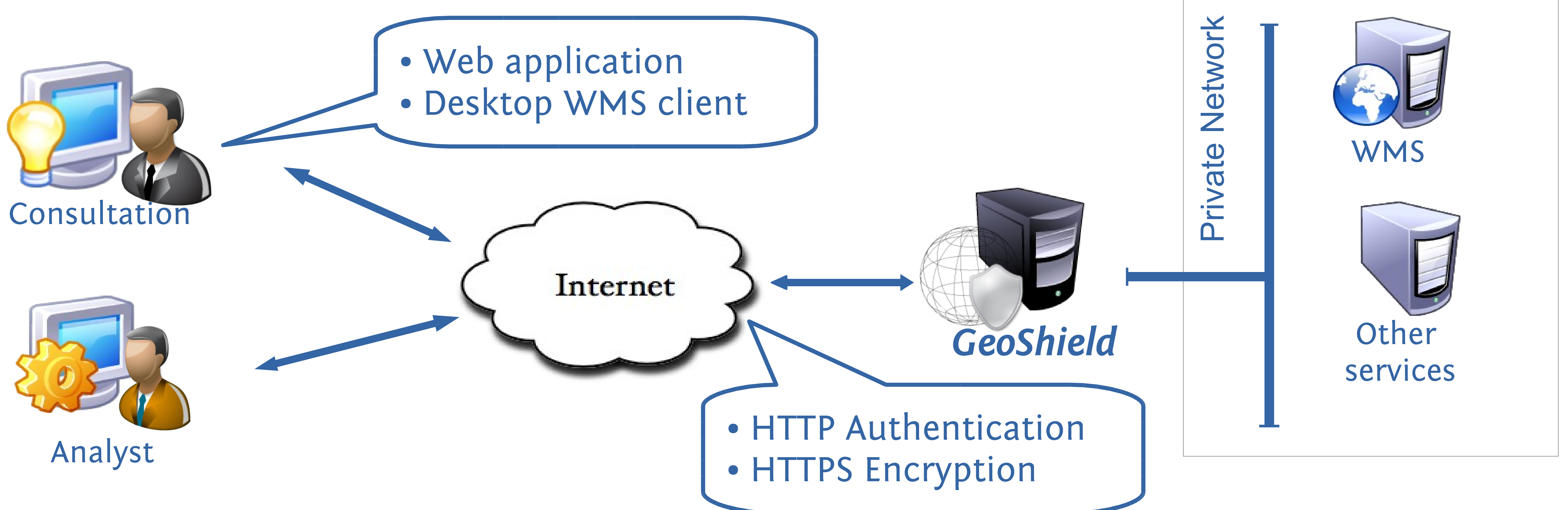
For example handling **WMS security**, with GeoShield we can:

- define access privilege for each layer provided by the service,
- specify if a layer can be viewed or not,
- define geometrical extent of view permission



All privileges on single layers are based on **Common Query Language (CQL)** filters, that allow interesting combination of permissions definition that operate in a hidden way to end-user.

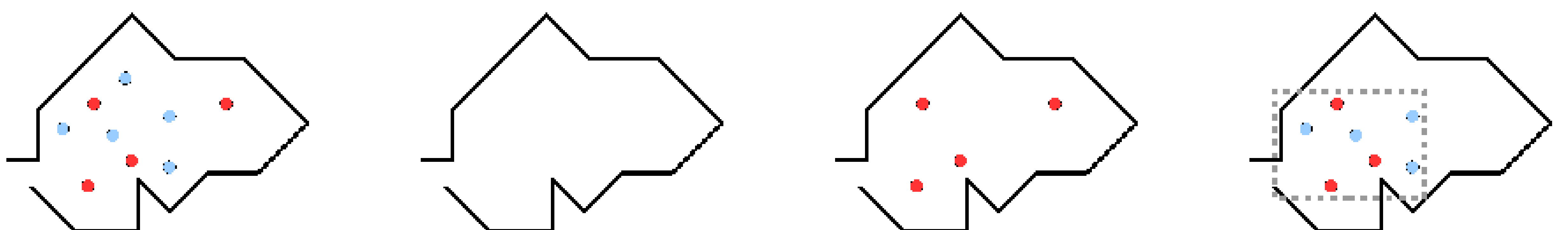
## Architecture



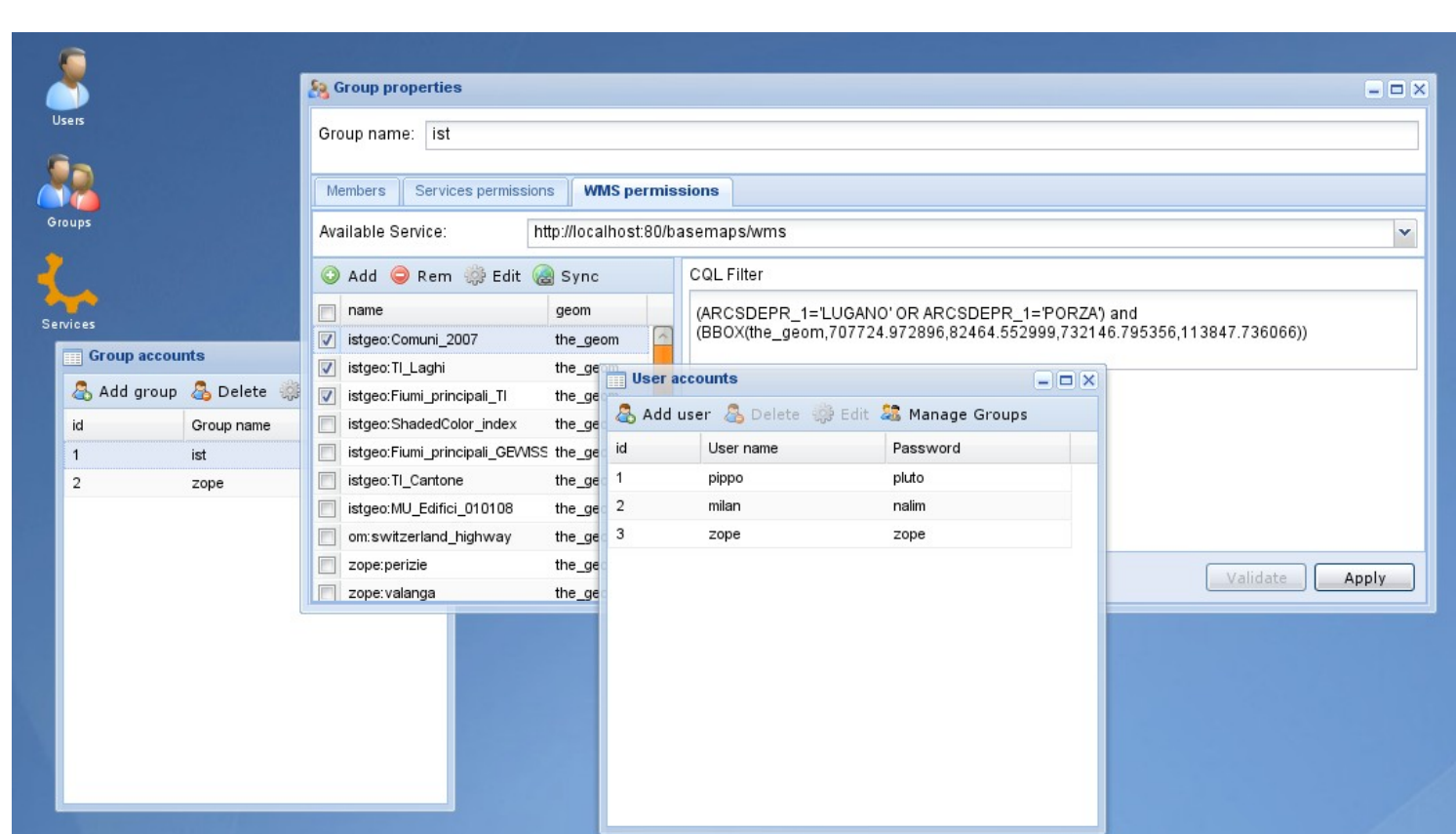
## WMS module

CQL Permission: **INCLUDE**      **EXCLUDE**      **COLOR='RED'**      **BBOX(the\_geom,X<sub>1</sub>,Y<sub>1</sub>,X<sub>2</sub>,Y<sub>2</sub>)**

Result map:



## Web Administration



- Password protected
- Desktop-like interface
- User / Group management
- Service initialization
- Policy definition

## Tecnologies:

- **Java Servlet:**
  - Handling http request
- **Peristence Api (TopLink lib):**
  - Database interfacing framework
- **GeoTools, GeoApi:**
  - CQL to OGC:FILTER conversion
  - Merge FILTERS
- **PostgreSQL database**
  - Storing User-Group data and Services policies