License and Permission-based access to OGC Web Services with 52°North

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52North.org

52N Security Community

http://www.52north.org/security

- Topics
  - Access Control for Services in SDI

Alice is allowed to access all layers except <points of interest>

  - License Management

Alice must agree to the terms of use before she can access the WMS

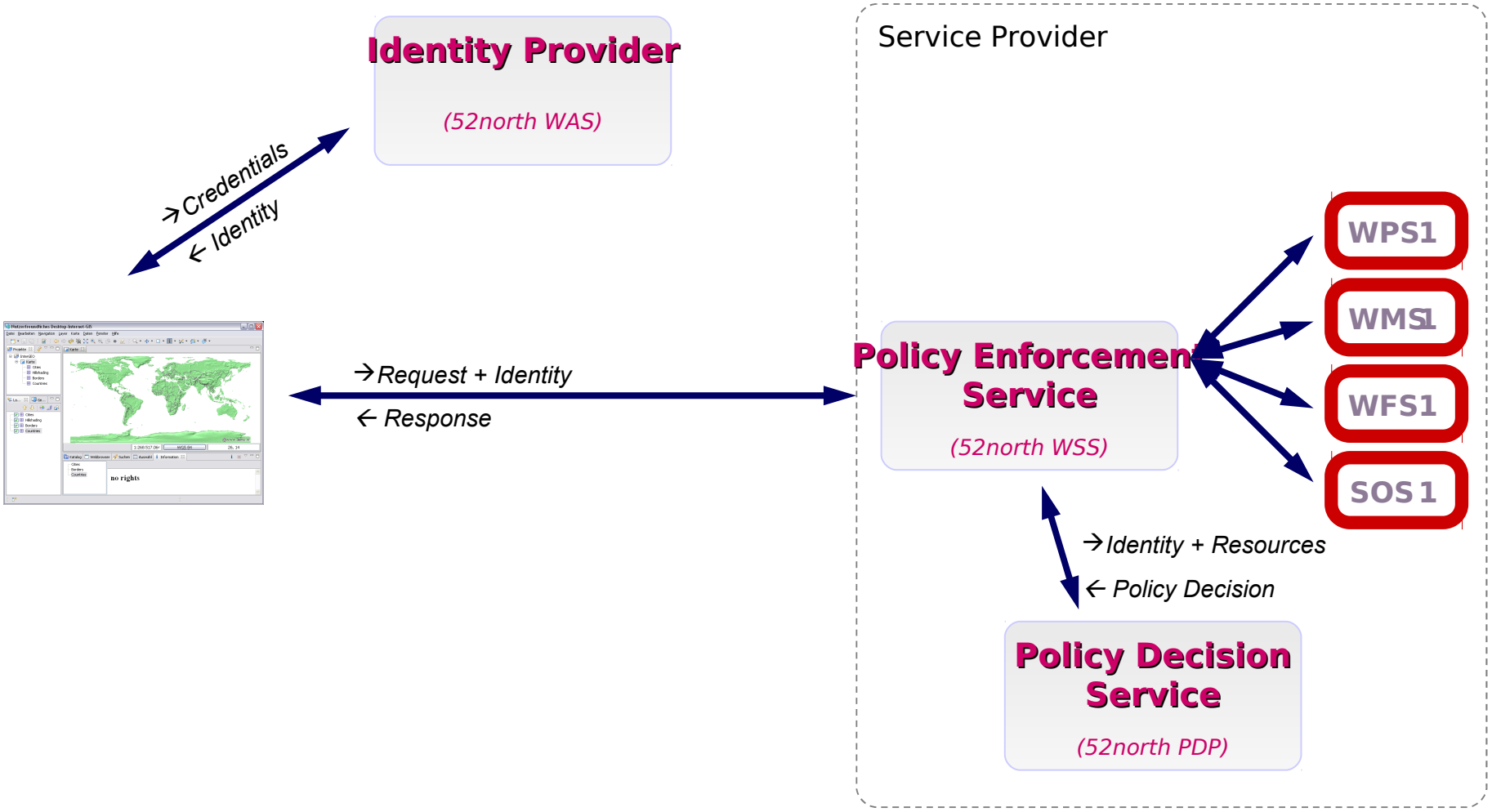
  - Client Software

Alice wants to access the protected service with her favorite map client software as usual

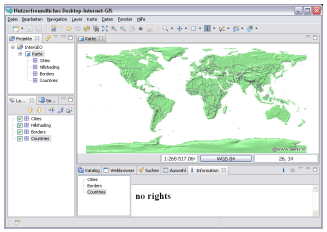
52north exploring horizons

Security Architecture

Basic Architecture



Basic Architecture



→Request + Credentials

← Response

Service Provider

Identity Provider

(52north WAS)

→Credentials

← Identity

Policy Enforcement Service

(52north WSS)

WPS1

WMS1

WFS1

SOS 1

→Identity + Resources

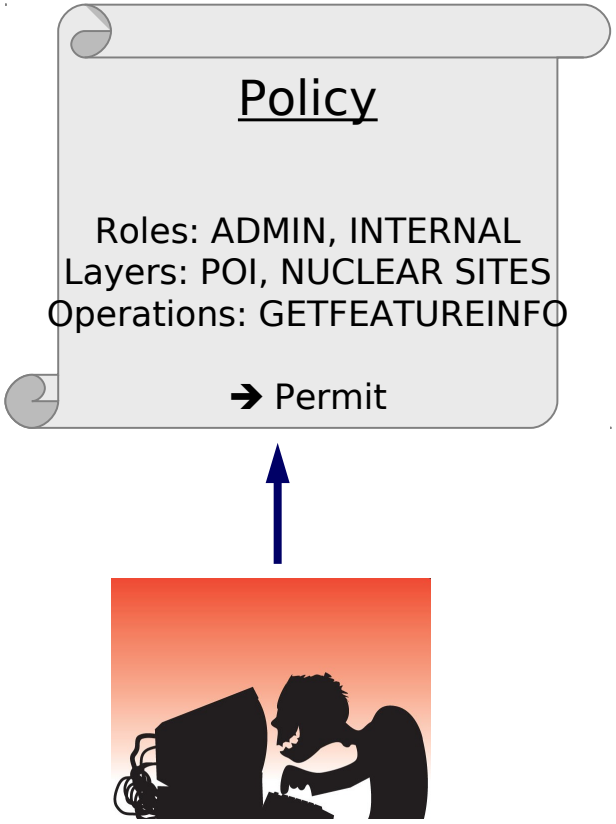
← Policy Decision

Policy Decision Service

(52north PDP)

How to get access

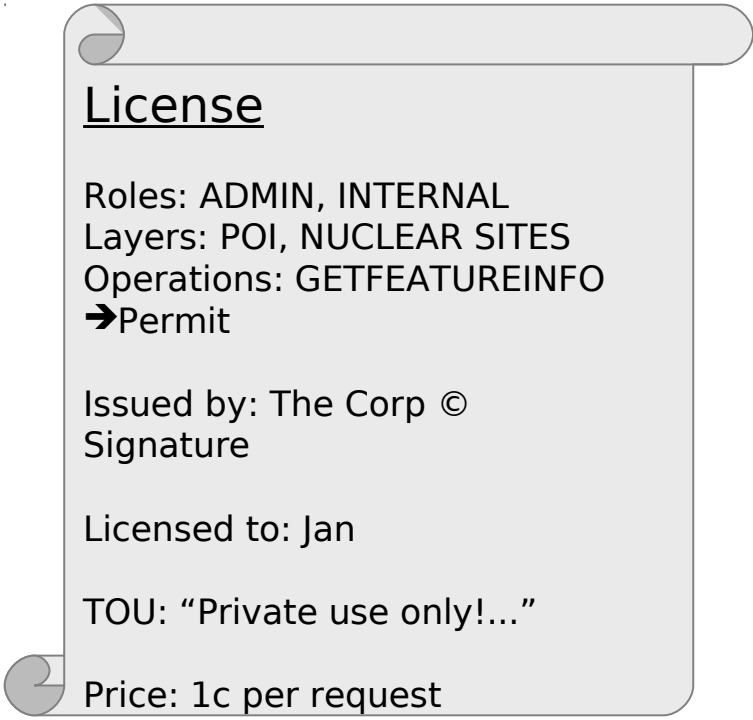
- …by **policies** established by some admin user
- Policy describes permissions and denials
- Policy refers to dedicated
  - Subject: users, roles, IP addresses, …
  - Resources: layers, areas, …
  - Actions: GetMap, GetFeature, GetCapabilities,…



vodafone
FIAT

How to get access

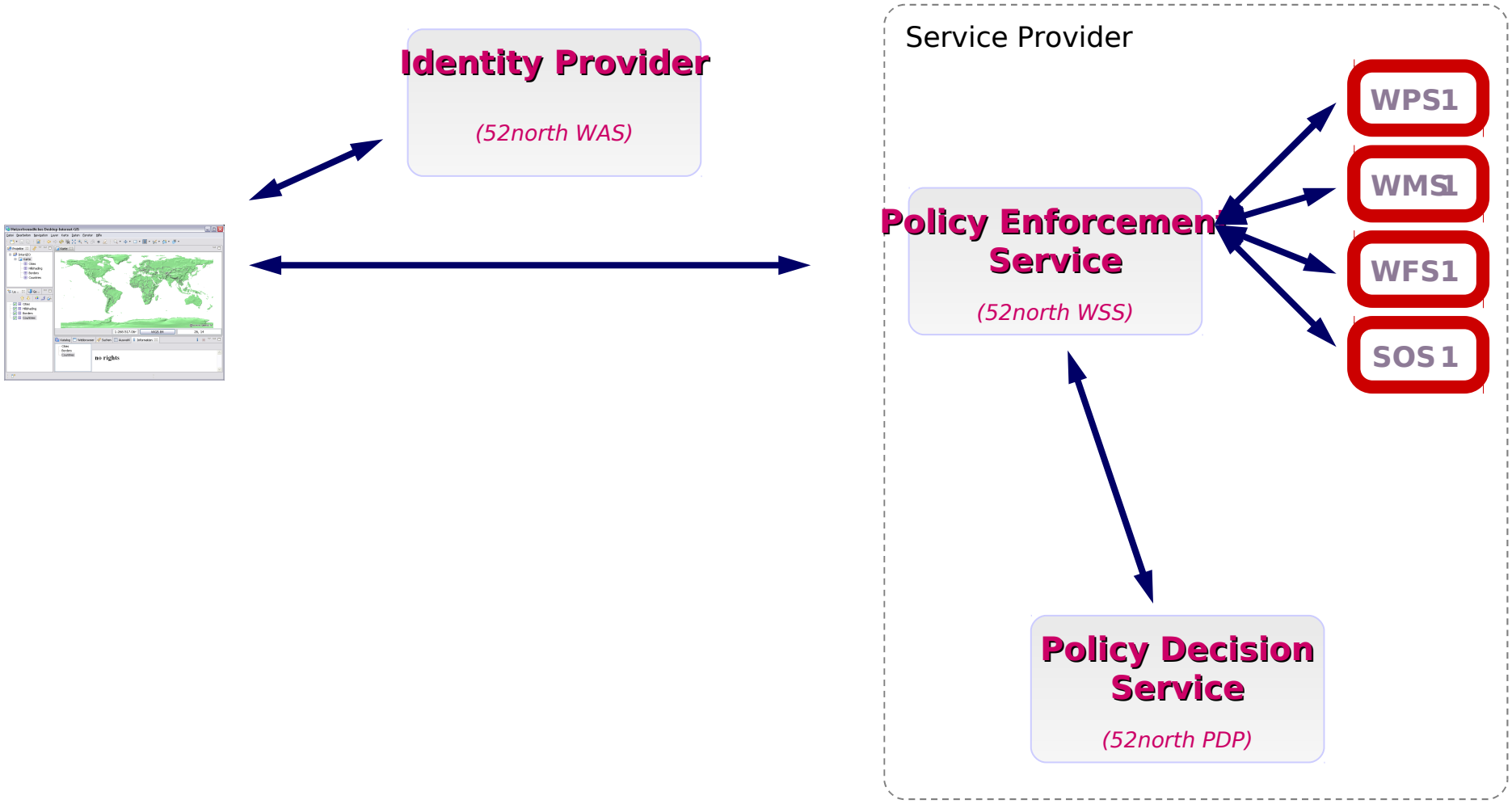
- …by **licenses** as a result of accepting certain terms of use (online!)
- A particular license includes
  - policy
  - licensor (issuer)
  - Signature
  - licensee
  - terms of use: acadamic, private, …
  - duration
  - price model: once, per-use
- Advantages of online-licensing
  - speed
  - cost
  - transparency
  - expand business



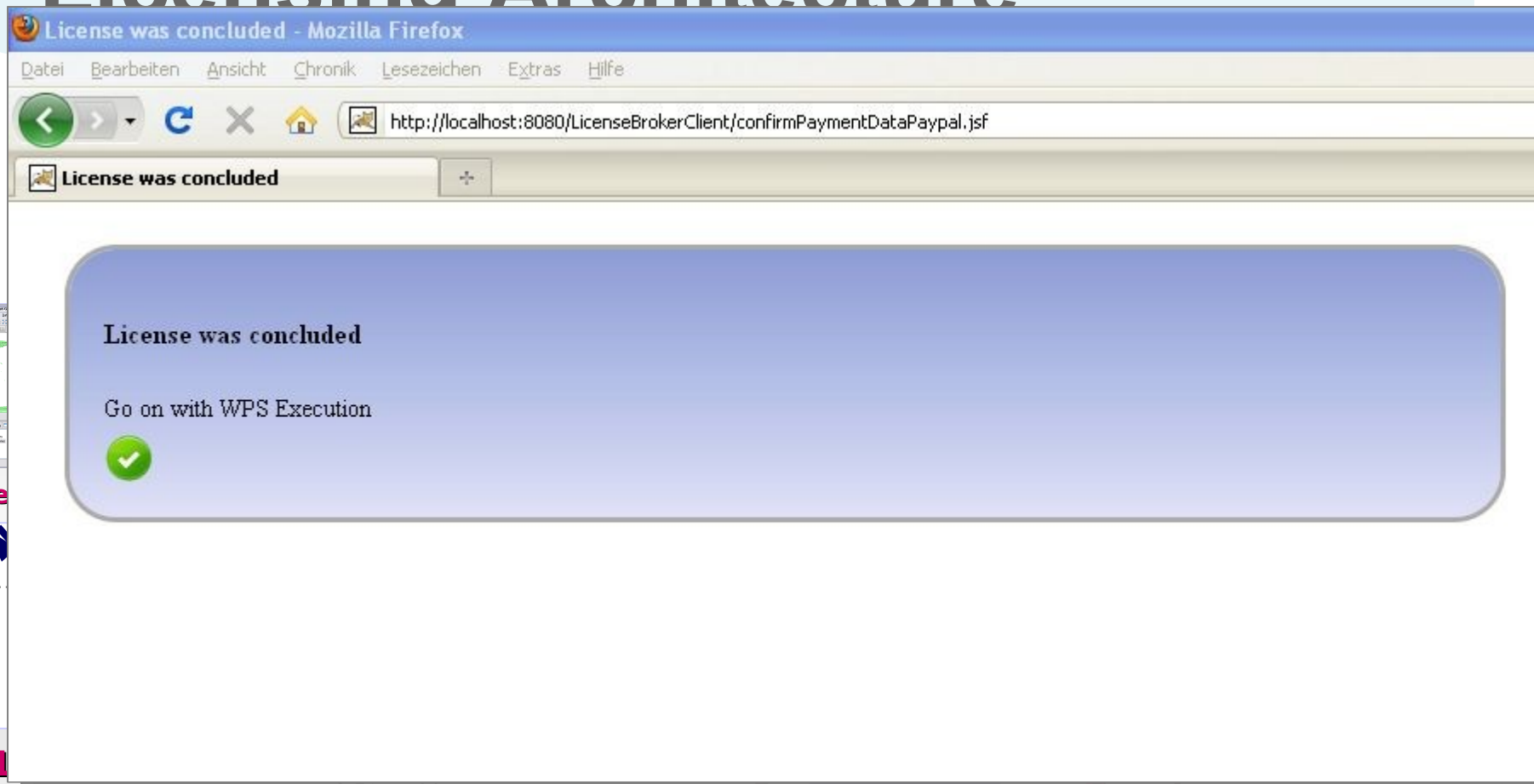
License vs. License Model

- License
  - concrete instance
  - licensee, policy, price, period of validity
- License Model
  - no concrete licensee
  - defines parameters and value ranges
  - defines price models that may depend on the parameters

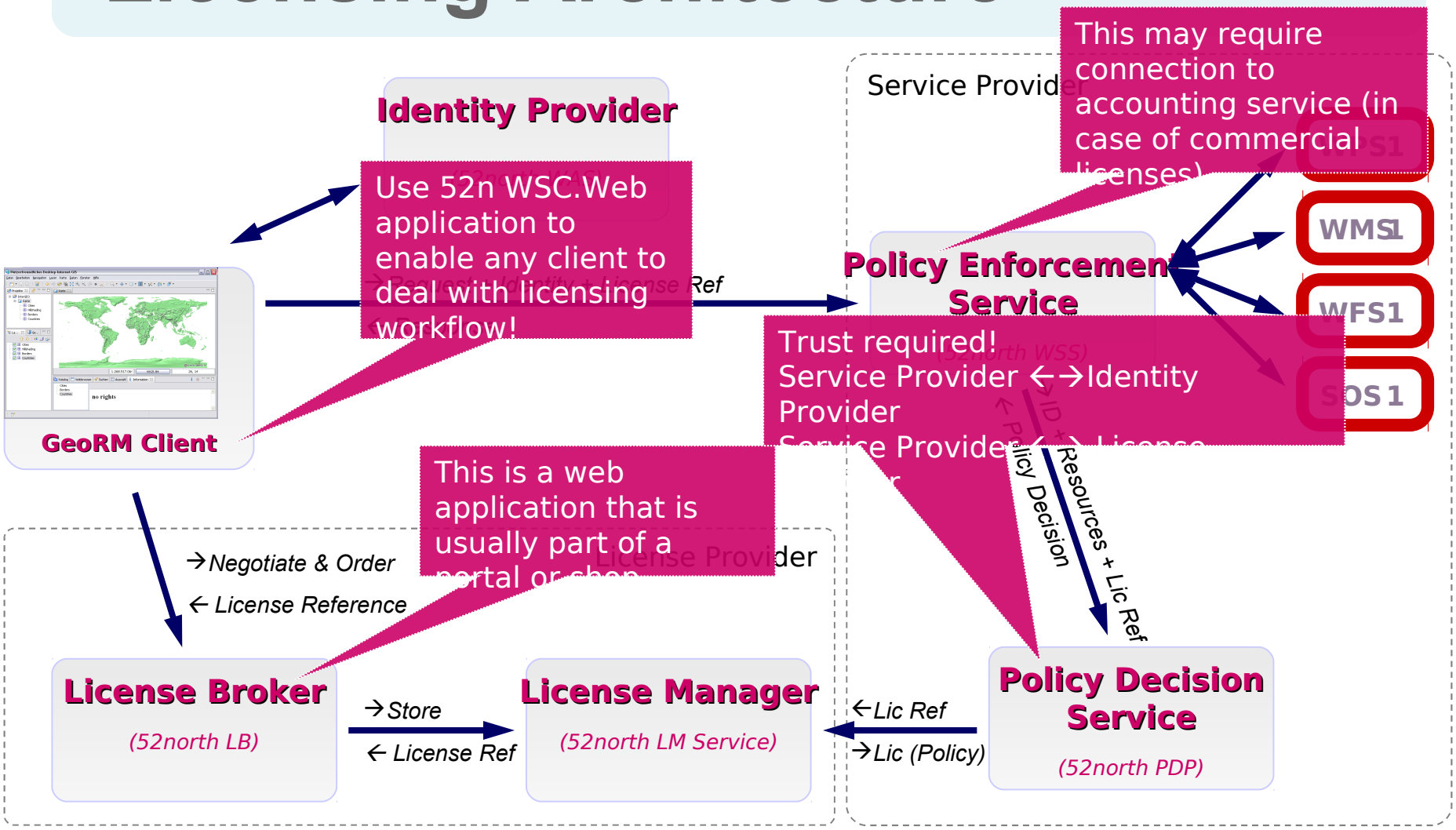
Pre-Licensing Architecture



Licensing Architecture



Licensing Architecture



Summary

- Dynamic Access Control
- Advantages of online-licensing
  - speed
  - cost
  - transparency
  - expand business

Current State

- 52N completely implements the licensing workflow
- License Broker currently limited to static license models (no parameterization)
- In accordance with OGC GeoRM Reference Model

➔ 52N allows to implement policy & license-based access to

  - WMS (layers, area, operations)
  - WFS (feature types, features, attributes, area, operations)
  - WPS (processes and operations)
  - SOS (observations, POI, … plus operarations)

Enjoy FOSS4G!

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