

Deploying and securing Spatial data infrastructures (SDI) with GISpatcher

09.09.2010, FOSS4G 2010, Barcelona, Spain



FOSS4G 2010
Barcelona



- Secure SDI-Plattformen – our definition
- Basics of secure SDIs
- Possibilities of accounting OGC-services
- Technical capabilities
- The project GISpatcher
 - Distribution and Deployment
 - Maintainability
 - Components
- (Lunch)

- **Providers point of view:
Securing against**
 - wiretapping
 - Unauthorized usages of
 - processing requests
 - editing requests
- **Users point of view:
Securing against**
 - Abuse of own user account
 - Slipping wrong data on you
 - many more important points

- **User accounts**

- Without user accounts no useful assignment of rights
- This means: Authentication necessary
- Alternatives: eg. IP-based shares (not very workable, high administrative effort)

- **Encrypted connections: SSL, TLS, partly VPN**

- Securing against wiretapping

- **Authentication**

- Name/Password, biometrical (ohh no!!)
- One option: authenticate against other services, e.g. LDAP
- Enhancement: usage of tickets (user accounts will be maintained by others, roles will become important)

Secure SDI: existing software



- Server-components (Authentication und Authorisation of OGC-services)
 - deegree OWSproxy / deegree SecureProxy
 - Mapbender
 - 52N
 - Geoserver (http basic auth)?
- Client-components (SSL, login)
 - InteProxy
 - 52N
 - http basic auth: QGIS, InteProxy

Technical requirements



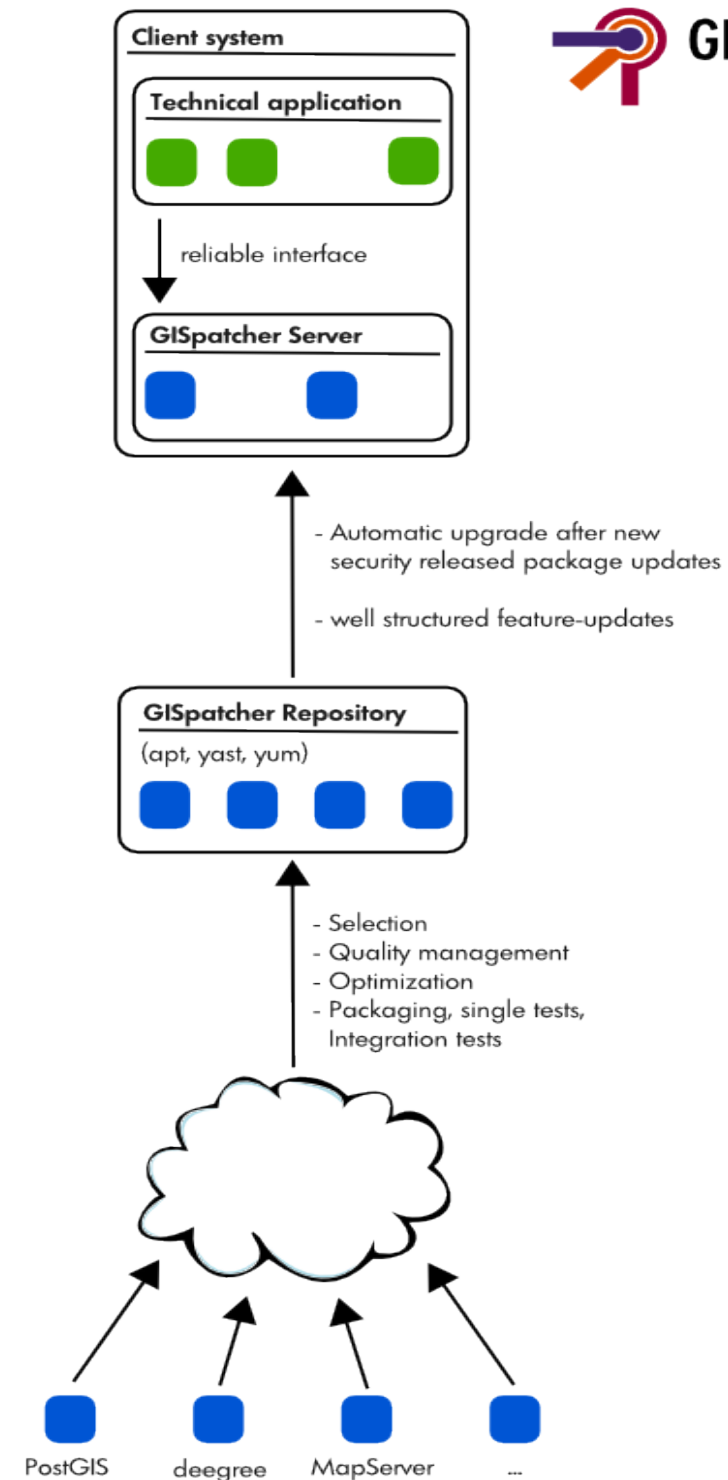
GISPATCHER

- Secure communication between client and server (SSL)
- Authentication (who)
- Authorisation (what)
- Accounting and billing (how much)
- Minimally invasive for server- and client-programms
- Vendor independent (Free Software, „Open Source“)
- Platform independent (Windows, Linux, ...)
- Whenever possible usage of approved technical solutions

Organizational requirements GISPATCHER

- Care and maintenance of installation:
 - Huge installations have to be maintainable -> package management of OS (deb/RPM)
 - Reliable versions with defined package status
- Doable user administration
- Accounting and Billing
 - Customer oriented accounting (after guidelines of AdV [German survey organisation])
 - Connection with standard reporting-tools
- Solution: GISpatcher (<http://www.gispatcher.com>)

GISpatcher - functional diagram

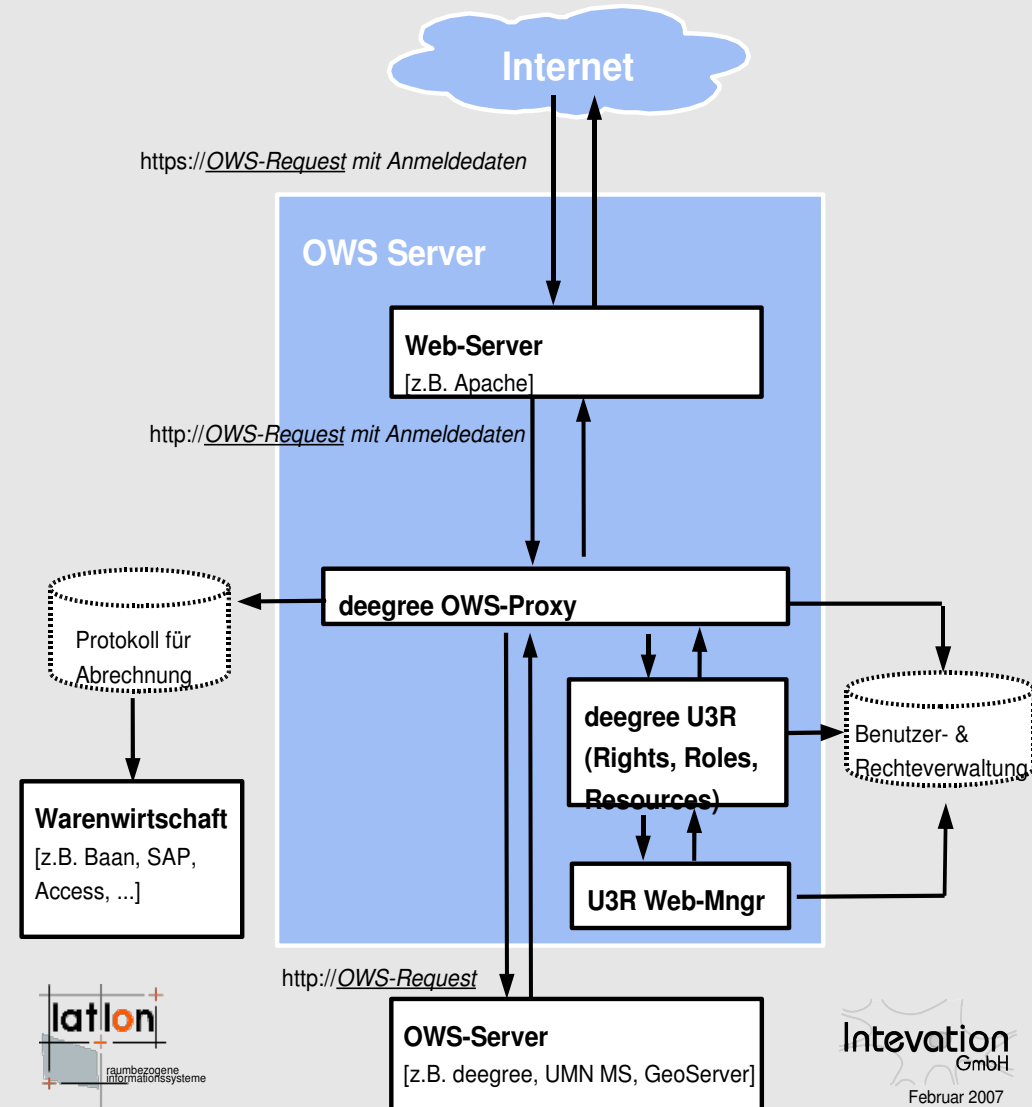


- All GISpatcher products are
 - packaged (currently Debian Lenny, OpenSuse 10.3 / SLES 10)
apt.gispatcher.com / rpm.gispatcher.com
 - Quality assured, signed
 - Version controlled within a defined status
 - Free and Open Source software
- GISpatcher-Server
 - Geodatabase (PostGIS)
 - Securing components (deegree OWSProxy / deegree U3R)
 - Accounting and billing component (OSAAS)

Component: deegree OWSProxy

- Userbased security through transparent security proxy
- every WMS-Server can be secured (UMN MapServer, Geoserver, deegree, foo-OWS,...)

deegree OWS-Proxy und deegree U3R: Security-Erweiterung für



Component: deegree U3R GISPATCHER

- Web-interface to manage user-access on layer-/featuretype basis

Services Benutzer Gruppen Rollen Logout (SEC_ADMIN)

Services-Editor

Typ: WMS WFS

Eingabe:

Nr.	Titel <>	Adresse <>	Typ <>	Aktion
1	Frida Osnabrück DemoServer	http://demo.intevation.org/cgi-bin/frida-wms	WMS	Löschen Aktualisieren Bearbeiten

Services Benutzer Gruppen Rollen Logout (SEC_ADMIN)

Rollen-Editor

Rollen

- SEC_ADMIN
- meier
- schmidt**

zugewiesene Gruppen

- schmidt

verfügbare Gruppen

- SEC_ADMIN
- meier

Services Benutzer Gruppen Rollen Logout (SEC_ADMIN)

Rechte-Editor

Definieren Sie hier, welche Informationsebenen für die Rolle 'schmidt' freigeschaltet sein sollen

Service: Frida Osnabrück DemoServer (WMS)

Freigeschaltete Layer

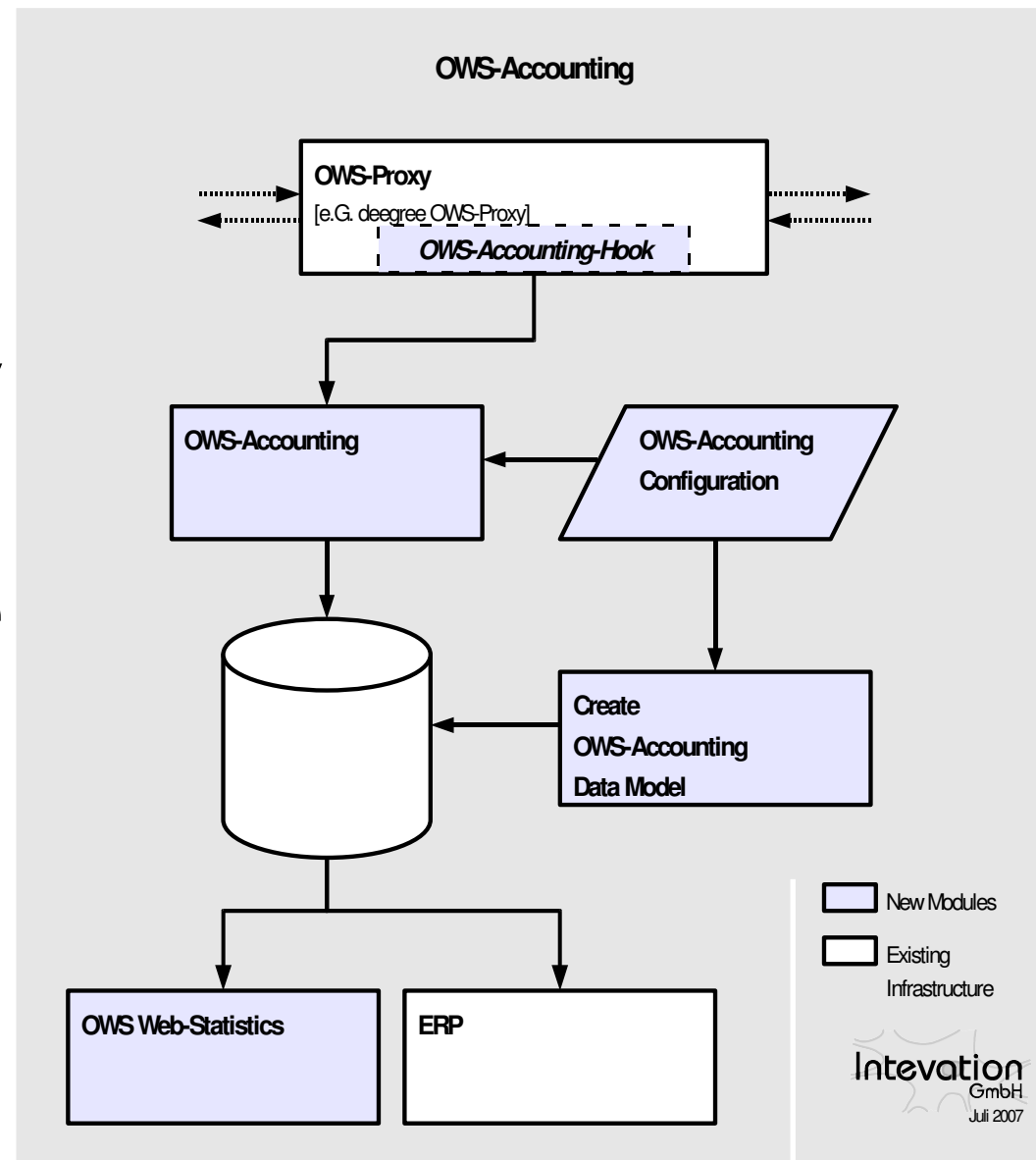
Nr.	Name <>	Titel <>
1	gruenflaechen	Grünflächen
2	gewaesser	gewaesser
3	gewaesserpolyl	Gewässerflächen
4	gewaesserlinien	Gewässer
5	sehenswuerdigkeiten	Sehenswürdigkeiten

Gesperrte Layer

Nr.	Name <>	Titel <>
1	Osnabrueck	Frida Osnabrück DemoServer
2	strassenall	strassen
3	sonststrassenhinten	Sonstige Straßen (Hintergrund)
4	nebenstrassenhinten	Nebenstraßen (Hintergrund)
5	hauptstrassenhinten	Hauptstraßen (Hintergrund)
6	bundesstrassenhinten	Bundesstraßen (Hintergrund)
7	autobahnhinten	Autobahnen (Hintergrund)
8	sonststrassen	Sonstige Straßen
9	nebenstrassen	Nebenstraßen
10	hauptstrassen	Hauptstraßen
11	bundesstrassen	Bundesstraßen
12	autobahn	Autobahn

Component: OSAAS

- OGC Statistics and Accounting System: billing component
- Userdata also in any ERP usable
- Every request to the secured service will be logged



Conclusion



- Security is complex, so make sure it keeps maintainable!
 - Standardized packages
 - Quality assured and well tested
 - Update-path clearly defined
 - Transparent development process
- <http://www.gispatcher.com>

Thank you...



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