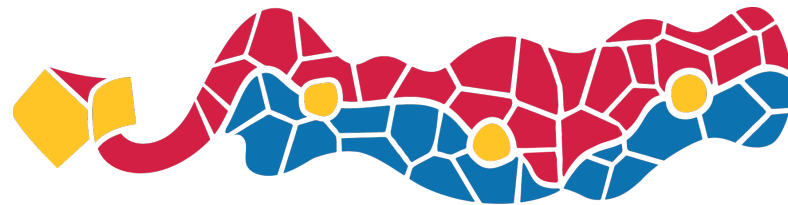# deegree project report:

Past, present, future

FOSS4G 2010 Barcelona

Markus Schneider

Judit Mays

[schneider|mays]@lat-lon.de

http://www.lat-lon.de

OSGeo Project

Markus Schneider

Involvement with deegree

- Core developer since 2001

- TMC member since 2008

Involvement with lat/lon

- Developer since 2001

Involvement with OSGeo

- Incubation Committee Member
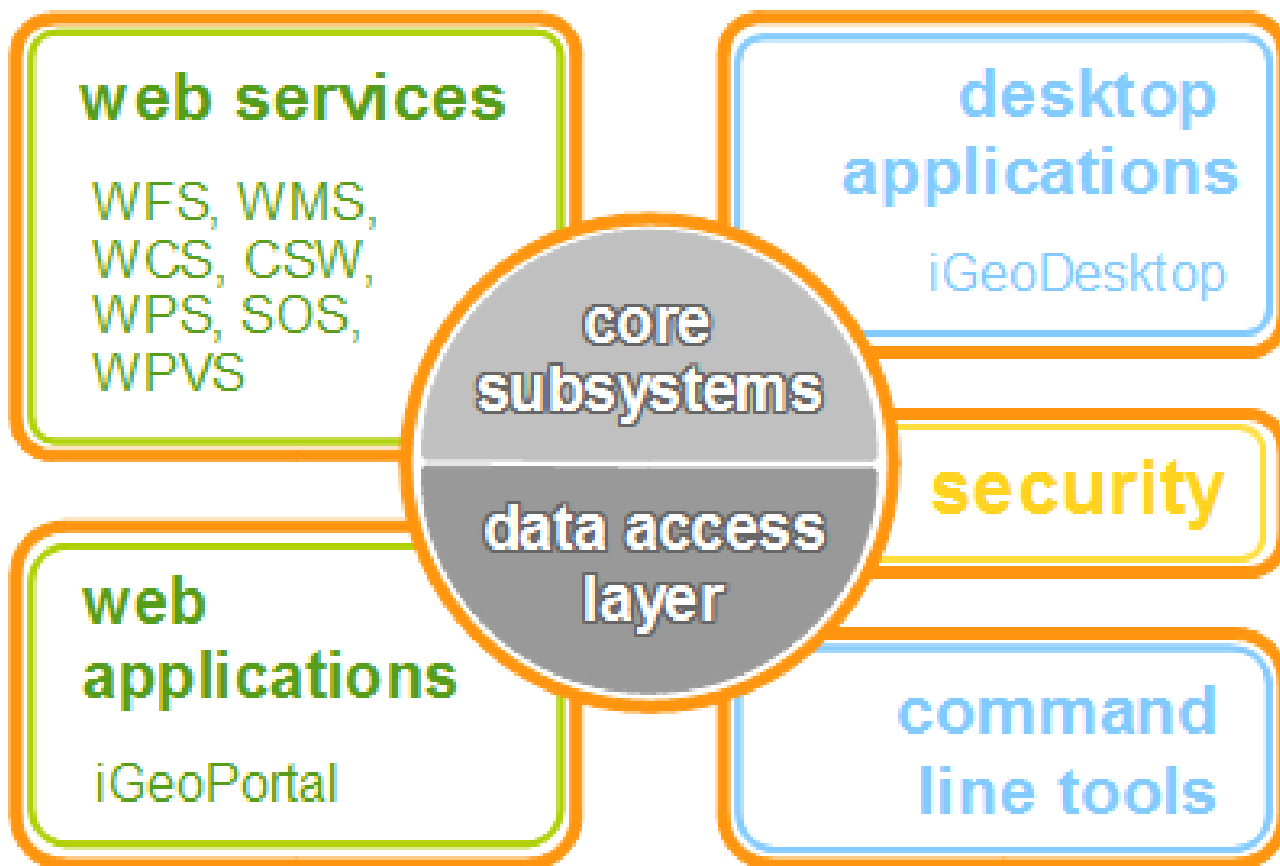
Outline

- **What is the deegree project?**

- Past and present: From SF4Java to deegree

- Near future: deegree 3 series

- Major features of deegree 3.0

- Beyond 3.0

What is the deegree project?

- Provides Open Source geospatial components

- Official OSGeo project

- Java

- LGPL

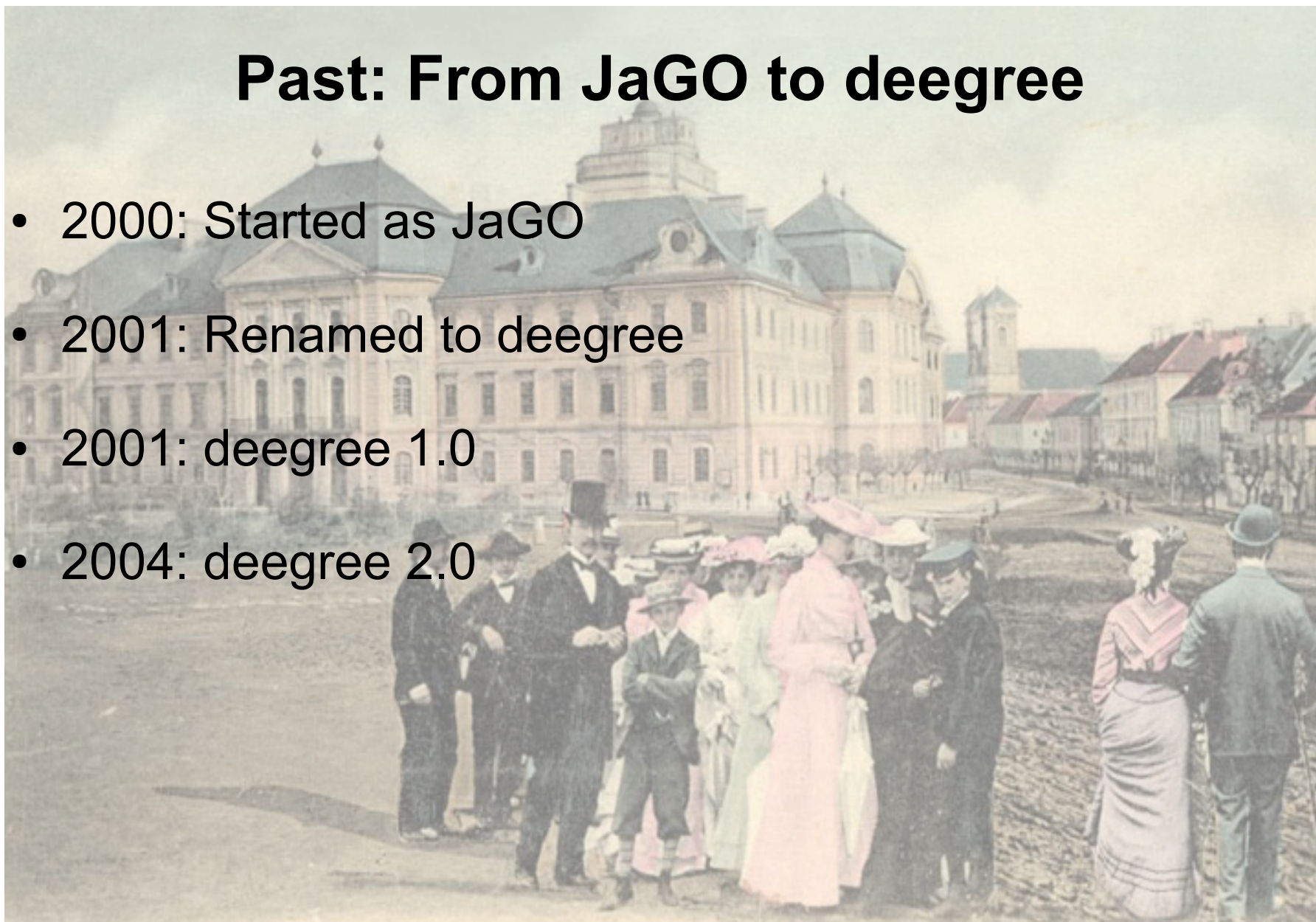# Which components does deegree offer?

Outline

- What is the deegree project?

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Past: Beginnings of deegree

- Origin: University of Bonn (Department of Geography)

- 1998-2000: SF4Java

- 2000: Spin-off: lat/lon GmbH

- Since 2000: joint project between

    - University of Bonn (Department of Geography)

    - lat-lon GmbH

Past: From JaGO to deegree

- 2000: Started as JaGO

- 2001: Renamed to deegree

- 2001: deegree 1.0

- 2004: deegree 2.0
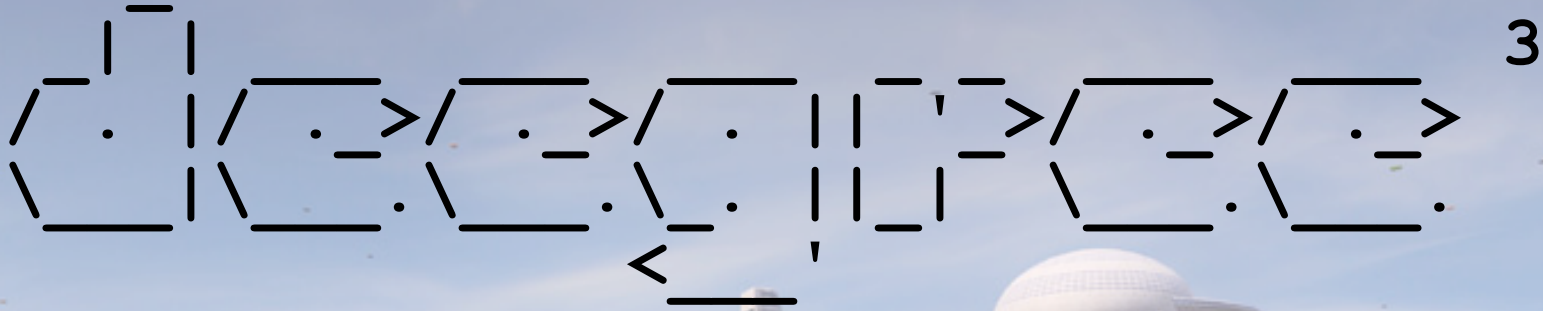
Present: deegree 2

- Current release: 2.3

- Lots of components

- Many installations

- Succesfully used in many complex scenarios, but:

   - Complex configuration

   - Scalability / performance limitations

Outline

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OSGeo Project

- Change is coming!

- Almost 100% rewritten from scratch

- Since 2 years in the making

- Based on up-to-date base technologies

- Modular, pluggable design

General goals for deegree 3

- Easier setup

- Easier, cleaner configuration concept

    – Separation of concerns

    – Service config separated from data access

    – No XSL...

- Better performance

- High scalability

Organisational changes with deegree 3

- OSGeo project

- Opened up development process

- Project steering committee (PSC)

- Technical management committee (TMC)

- Weekly developer meeting protocols (in the Wiki)

Upcoming deegree 3 releases

Release	Codename	Scheduled Date
3.0	Celsius	November 2010*
3.1	Fahrenheit	May 2011
3.1 + 1	?	November 2011
3.1 + 2	?	May 2012
...	...	...

* targeted for deegree day 2010: 16th - 17th November, Bonn, Germany

OSGeo Project

Goals for deegree Celsius (3.0)

- Scheduled date: November 2010

- Focus: Stable core web services

- Enterprise-ready:

  - WFS (WebFeatureService)

  - WMS (WebMapService)

  - WPS (WebProcessingService)

  - CSW (CatalogueService for the Web)

Outline

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deegree 3: Application schema support

- Handles complex schemas out-of-the box, e.g.

    – INSPIRE Data Themes

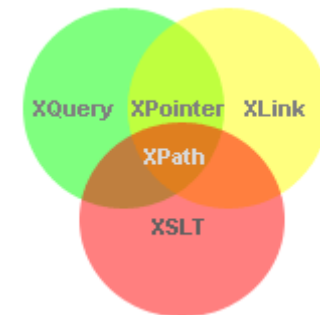   – GeoSciML

    – XPlanung, ALKIS, ATKIS, AFIS

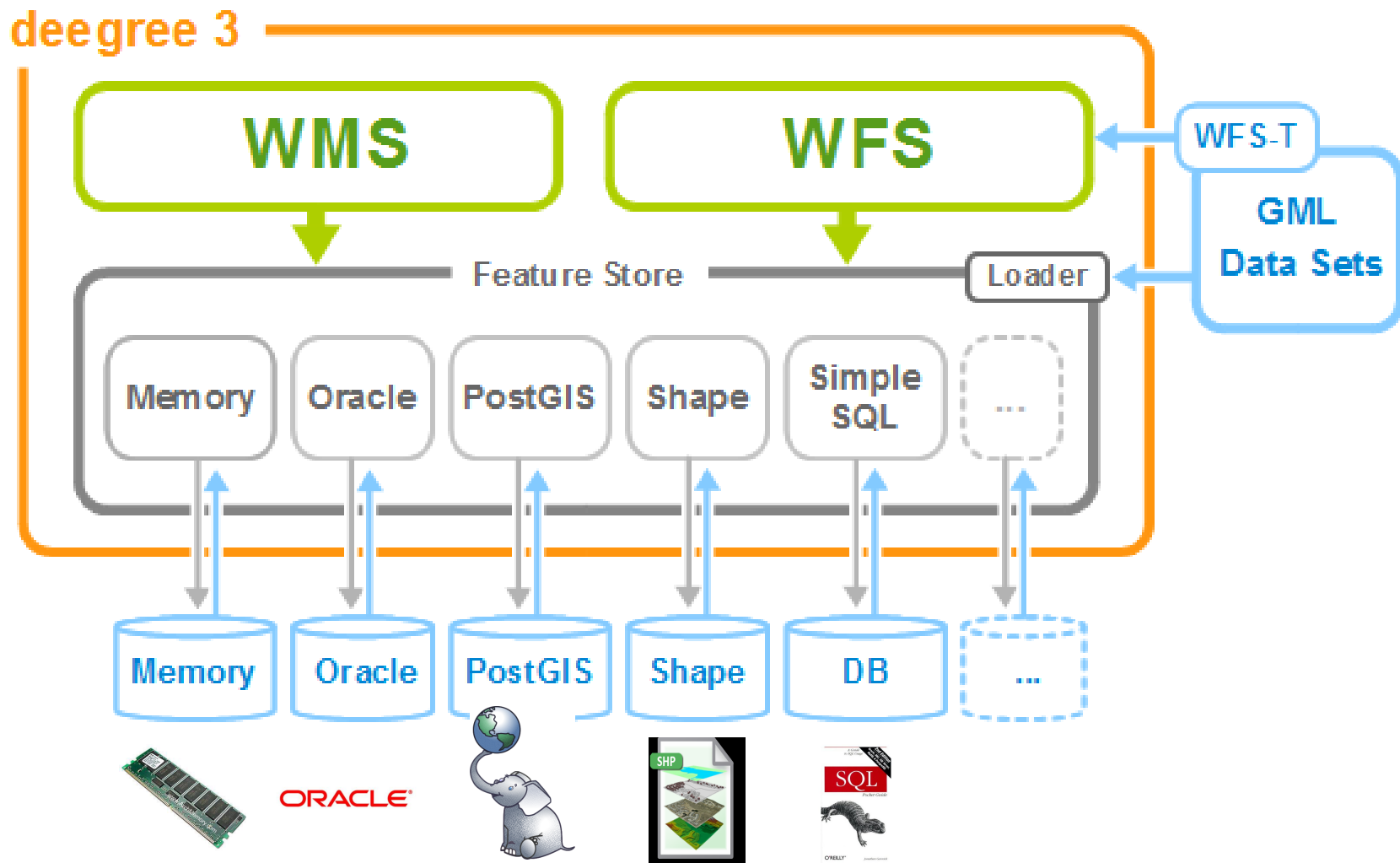- Configuration based on unmodified schemas

    – No XSL!

- Work with unmodified GML datasets (e.g. WFS-T)

Features of deegree 3 WFS

- WFS 1.0.0 / 1.1.0 (CITE-tested), 2.0.0 coming

- WFS-T + XLink profiles

- Streaming architecture

- GML 2 / 3.0 / 3.1 / 3.2 output / input

- ISO 19107: Supports complex geometries
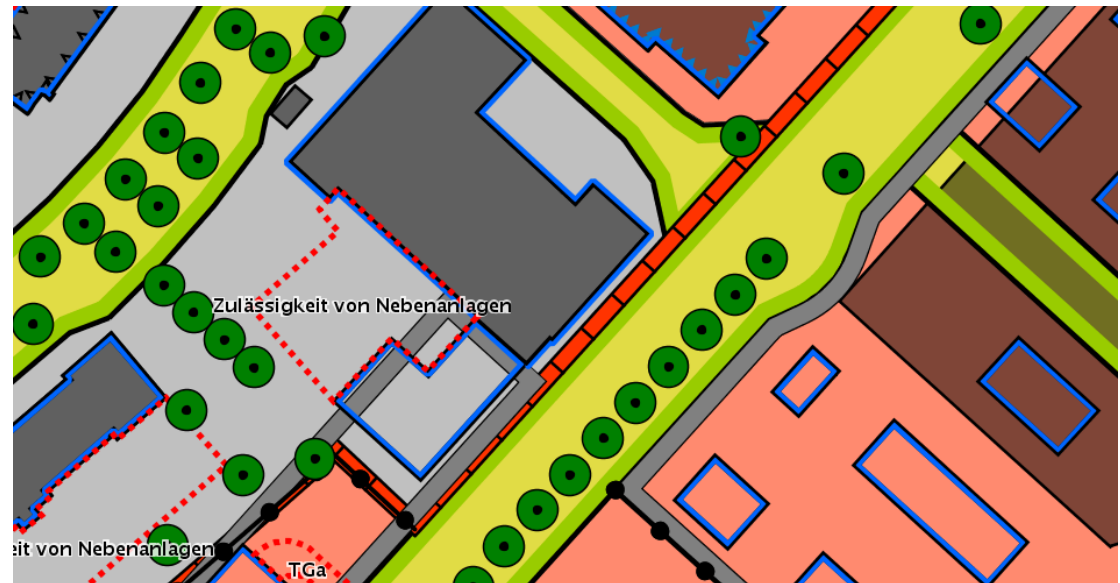
- Full XPath 1.0 support in Filters

deegree 3: Pluggable feature storage
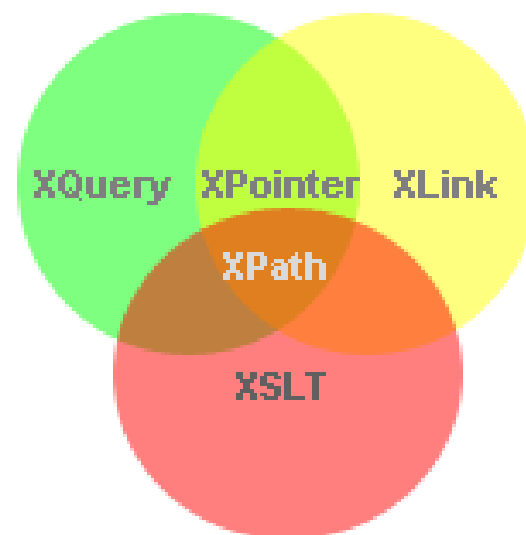
Features of deegree 3 WMS

- WMS 1.1.1 / 1.3.0 (CITE-tested)

- Rendering of complex datasets

- Sophisticated stylings using SLD or SE 1.0

- UOM support

- Streaming

- High scalability

Styling of complex features

```
...
<Rule>
 <Name>INSPIRE Addresses (AD)</Name>
 <Description>
  <Title>INSPIRE Addresses (AD)</Title>
 </Description>
 <PointSymbolizer>
  <Geometry>
   <ogc:PropertyName>ad:position/ad:GeographicPosition/ad:geometry</ogc:PropertyName>
  </Geometry>
  <Graphic>
   <Mark>
    <WellKnownName>circle</WellKnownName>
    <Fill>
     <SvgParameter name="fill">#111111</SvgParameter>
     <SvgParameter name="fill-opacity">10.0</SvgParameter>
    </Fill>
   </Mark>
   <Size>11</Size>
  </Graphic>
 </PointSymbolizer>
</Rule>
...
```
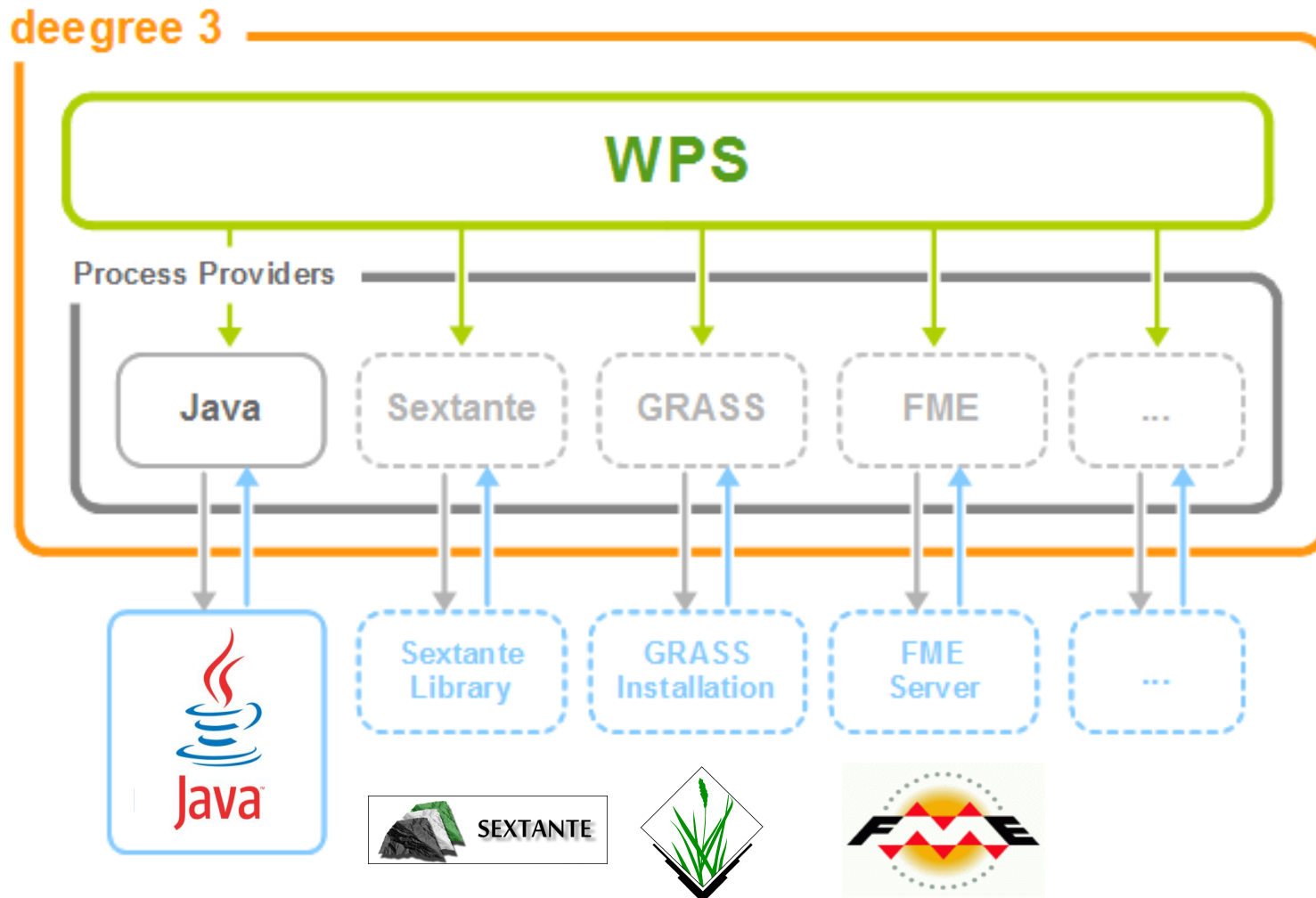
XQuery XPointer XLink

XPath

XSLT

Features of deegree 3 WPS

- Full implementation of WPS 1.0.0 spec.

  - GetCapabilities, DescribeProcess, Execute

  - KVP, XML, SOAP

  - Input / Output parameter variants

  - Asynchronous execution

- Process API abstracts from protocol details

- Streaming access to complex inputs / outputs

WPS: Process providers

Features of deegree 3 CSW

- Thorough implementation of CSW 2.0.2

- Fully transactional

- ISO AP + INSPIRE on PostGIS / Oracle

- High performance / scalability due to

  – BLOB-based storage

  – Streaming
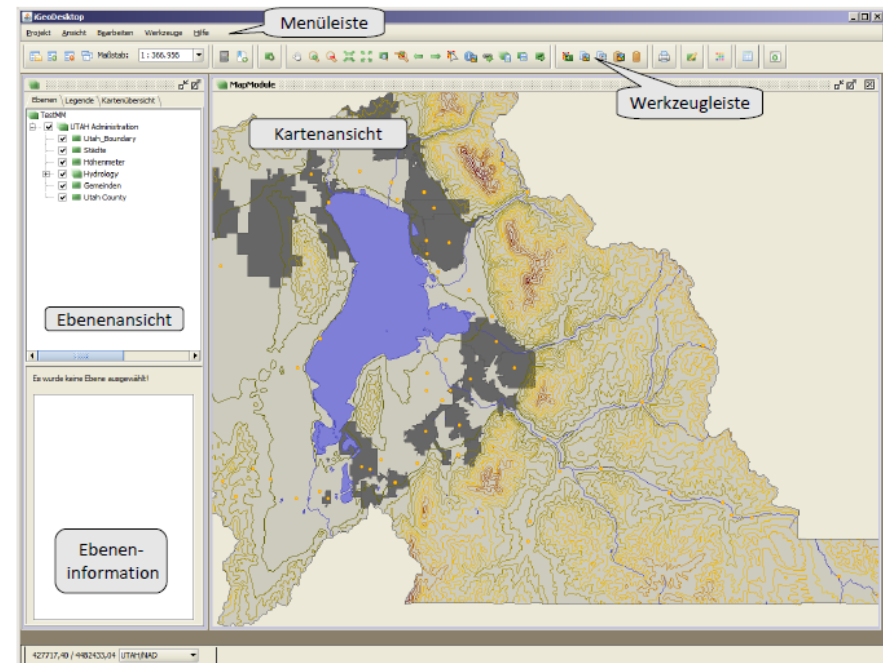
- Pluggable AP / backend layer

Outline

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- Major features of deegree 3.0

- **Beyond 3.0**

Goals for deegree Fahrenheit (3.1)

- Scheduled date: May 2011

- Focus: Web services, API

- Improve WFS, WMS, WPS, CSW

- Reach enterprise quality for WCS, WPVS, SOS

- Security subsystem (rights management)

- Stabilize some core APIs

- Build the community

OSGeo Project

iGeoDesktop – deegree desktop GIS

- Based on deegree 2 API

- Modular

- Highly configurable

- Personalizable

Currently at 0.3.3, Stable release: Summer 2011

OSGeo Project

WANTED

- Coders

    - Web GUI (service administration)

    - WPS: Additional process providers

    - WMS/WFS: Additional feature stores

- Non-coders
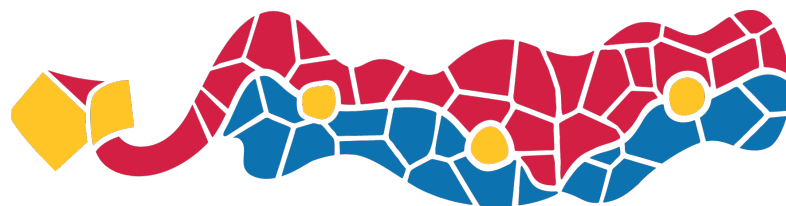
    - Testing, Documentation, Wiki

deegree@FOSS4G

Tutorial: Conquering complex application schemas (INSPIRE Data Themes, GeoSciML, ...) with deegree 3 web services

Thursday, September 9th, 11:00-13:00, sala 11

Presentation: Introducing deegree 3 WPS

Thursday, September 9th, 14:00-15:30, sala 3

FOSS4G 2010 Barcelona

OSGeo Project

Thank you for your attention!

- Visit http://www.deegree.org, http://wiki.deegree.org

- Follow us on Twitter: @deegree_org

- Come to the deegree day 2010 (it's free)

  – November 16th -17th 2010

  – Bonn, Germany

  – http://deegreeday.deegree.org

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OSGeo *Project*