deegree project report:
Past, present, future

FOSS4G 2010 Barcelona

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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?

- **web services**
  - WFS, WMS, WCS, CSW, WPS, SOS, WPVS

- **web applications**
  - iGeoPortal

- **desktop applications**
  - iGeoDesktop

- **security**

- **data access layer**

- **core subsystems**

- **command line tools**
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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
- Successfully used in many complex scenarios, but:
  - Complex configuration
  - Scalability / performance limitations
Outline

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- **Near future: deegree 3 series**
- Major features of deegree 3.0
- Beyond 3.0
- 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

<table>
<thead>
<tr>
<th>Release</th>
<th>Codename</th>
<th>Scheduled Date</th>
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</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Celsius</td>
<td>November 2010*</td>
</tr>
<tr>
<td>3.1</td>
<td>Fahrenheit</td>
<td>May 2011</td>
</tr>
<tr>
<td>3.1 + 1</td>
<td>?</td>
<td>November 2011</td>
</tr>
<tr>
<td>3.1 + 2</td>
<td>?</td>
<td>May 2012</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

* targeted for deegree day 2010: 16\textsuperscript{th} - 17\textsuperscript{th} November, Bonn, Germany
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)
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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

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  <Description>
    <Title>INSPIRE Addresses (AD)</Title>
  </Description>
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    <Geometry>
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    </Geometry>
    <Graphic>
      <Mark>
        <WellKnownName>circle</WellKnownName>
        <Fill>
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          <SvgParameter name="fill-opacity">10.0</SvgParameter>
        </Fill>
      </Mark>
      <Size>11</Size>
    </Graphic>
  </PointSymbolizer>
</Rule>
```
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
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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
iGeoDesktop – deegree desktop GIS

- Based on deegree 2 API
- Modular
- Highly configurable
- Personalizable

Currently at 0.3.3, Stable release: Summer 2011
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
Thank you for your attention!

- Follow us on Twitter: @deegree_org
- Come to the deegree day 2010 (it's free)
  - November 16\textsuperscript{th} - 17\textsuperscript{th} 2010
  - Bonn, Germany
  - http://deegreeday.deegree.org

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