Implantation of OGC geoprocessing services for Geoscience

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Setting the context

- **Focus on OGC Web Processing Service 1.0.0 (2007)**
  - Simple HTTP interface
  - Publish (geo) processing algorithms
    - Describe + Execute
  - Scalable
    - Web accessible outputs
    - Long-running requests
  - Interoperability features
    - Application profiles
    - WSDL/SOAP support
- +15 products implement WPS 1.0.0
Questions on public OGC geoprocessing services

• Can be found using Web indexing systems?
• Localization?
• Scalable geoprocessing Web support?
• Geoscience support?
Can be found using Web indexing systems?

- March 2011: Our crawler found 9239 public OGC Web services
  - Only 58 were WPS
Localization?
Scalable geoprocessing Web support?

• **1316 processes offered**
  • Median 4 processes per service
  • But 3 services offer 750 processes (!)

• **Good news**
  • 92% storage of outputs in server
  • 75% long running requests

• **Bad (semantic interoperability) news**
  • Spartan (even missing) human-readable documentation
  • Rare machine-readable documentation (no profiles, no ISO metadata)

• **Bad (technical interoperability) news**
  • Mangled URL endpoints
Geoscience support?

Geoscience processes:
- Simple (1032): 79%
- Complex (149): 10%
- No (135): 11%

GRASS commands:
- GRASS (284): 51%
- GRASS-like (358): 27%
- No (674): 22%
Summary

• Can be found using Web indexing systems? YES
  • Less than expected (58 out of 9239)
  • These results only shows VISIBLE trends!

• Localization? EUROPE
  • Germany (obvious) and especially Spain (less obvious)

• Scalable geoprocessing Web support? BARRIERS DETECTED!!
  • Scarce descriptions, no application profiles, few WSDL support

• Geoscience support? YES
  • Reuse requires human intervention

• More details...
  • Forthcoming Special Issue Computers & Geosciences “Towards a Geoprocessing Web”