Towards an Interoperable Web Generalization Services Framework – Current Work in Progress

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Web Generalization Services (WGS)

- Started as a research platform in 2003
- Overcoming the lack of knowledge about
  - generalization
  - algorithms
- Network and processing capabilities available
- Also in line with early activities of OGC
  - Transforming data to information
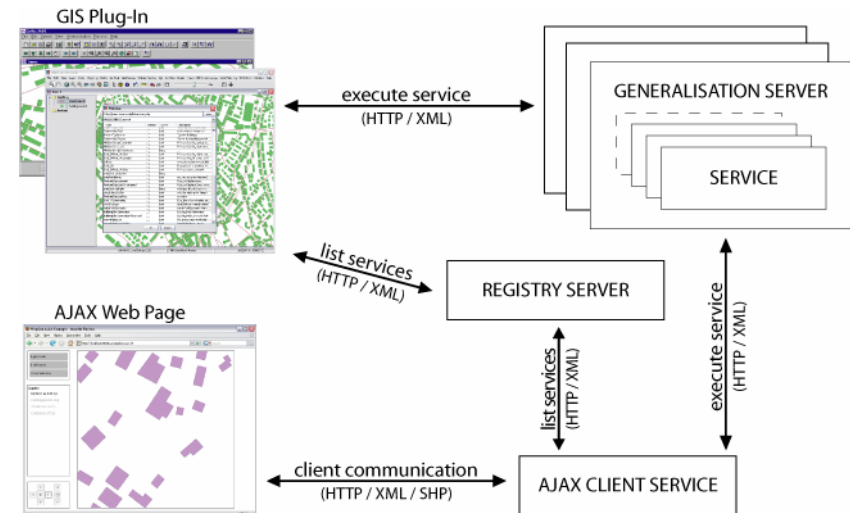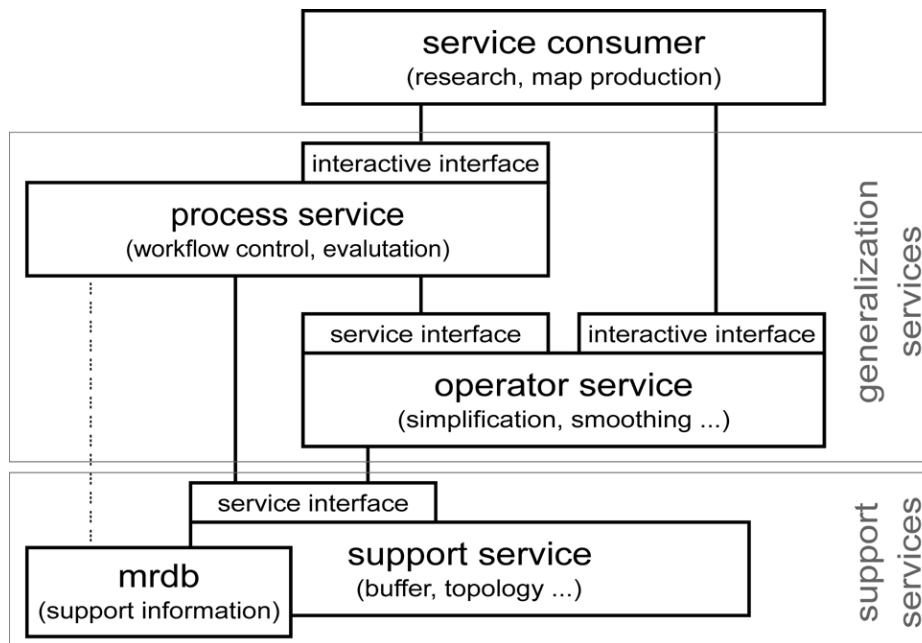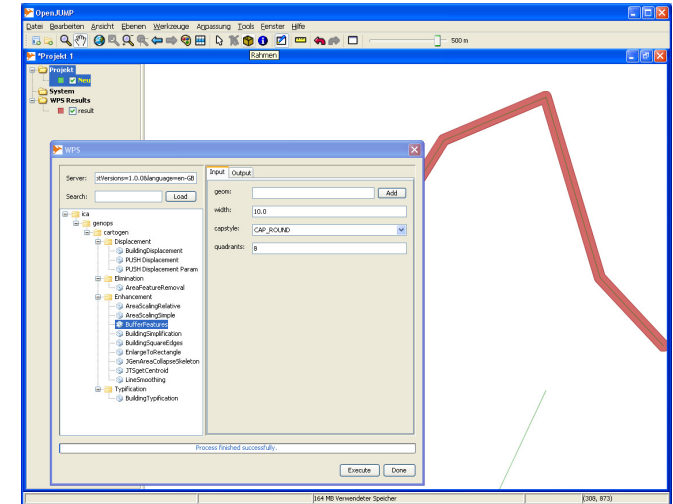 - The next step after data dissemination

Research projects
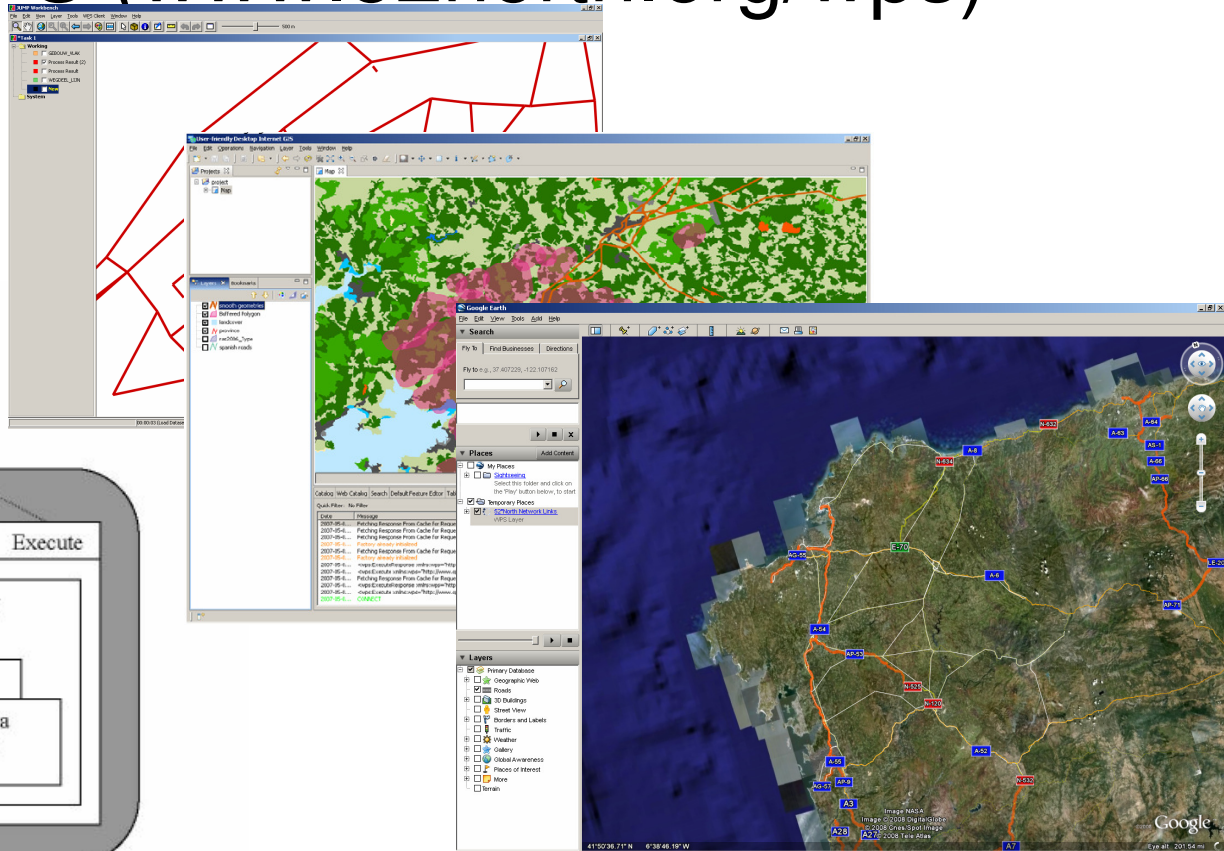
- ## WebGen framework
  (http://webgen.geo.uzh.ch/)

Research projects

- ## 52° North WPS (www.52north.org/wps)
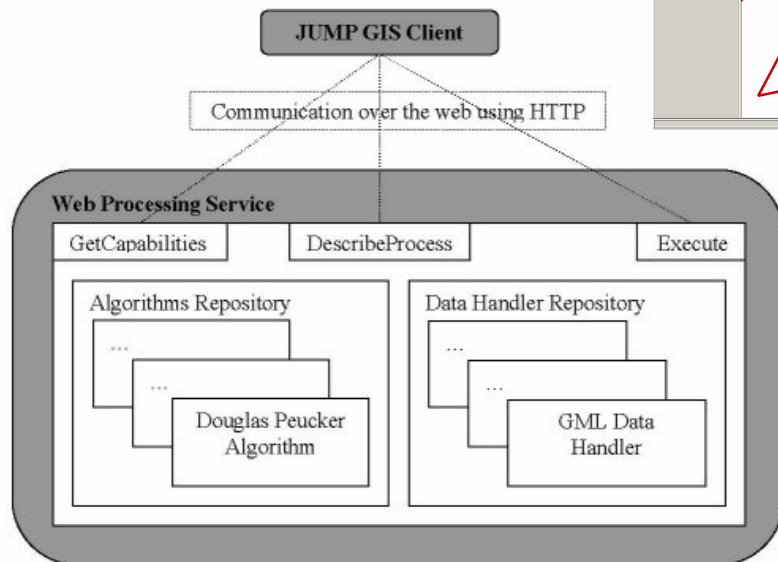
Current situation

- Still generalization functionality isolated
  - Data structures
  - Algorithms
  - Generalization workflow facilities
- Growing interest in Web Generalization Services

Web Generalization Services are not interoperable

Workshop on WGS

- Initiated at the ICA workshop in 2007
  - Solve the interoperability issue
  - Increase the involvement of industry and NMAs
- Hosted by OS in Southampton in November 2007
  - Industry bodies
  - NMAs
  - Research institutes

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Workshop results

- Requirements of participants towards WGS

- Ensure sustainable work by constant involvement of main bodies in the field of generalization

  ➔ Memorandum of Understanding

- Technical solution should be generic & standards-based

  ➔ Technical Task Force

Memorandum of Understanding

- Ensures commitment of different bodies
  - Promoting the platform
  - Developing clients/servers
  - Enriching/hosting the platform
- Increases the visibility of the efforts of the community to the outside
- Has to be signed by the major bodies
  - ICA (etc.)

Technical Task Force

- Meeting hosted at University of Zurich in January 2008
  - University of Zurich
  - Ordnance Survey
  - University of Nottingham
  - ITC, NL
- Specifying the technical requirements for the platform
  - Generic & standards-based
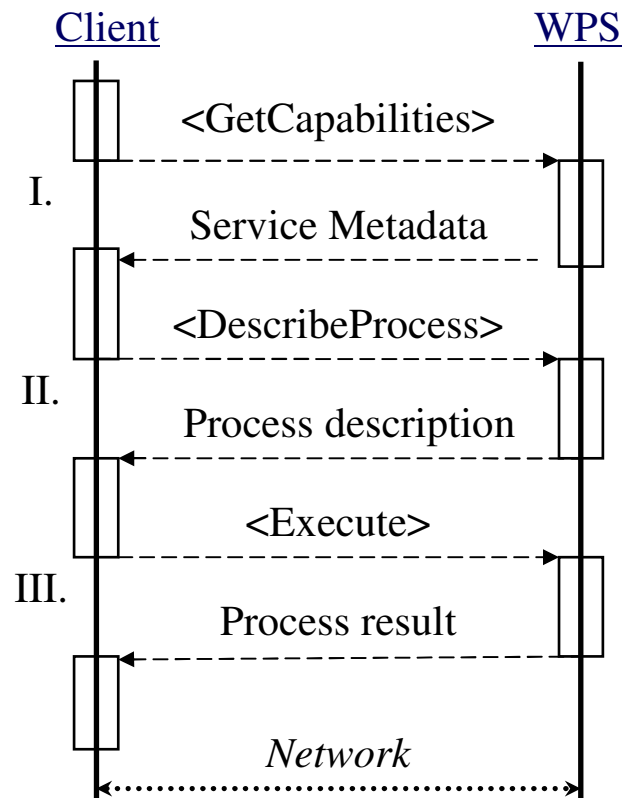 - ➔ Based on OGC Web Processing Service

Introduction to OGC WPS

- Official standard since mid 2007 (version 1.0.0)

Drawbacks of OGC WPS

- No specification of specific format for parameters
  - Constraints
  - Data structures
  - Common exchange format
- No support of semantic descriptions
  - Operator descriptions
  - Comparison of functionality

Task Force results

- Registry for WPS
- Established a standardized data model for generalization purposes
- Extended WPS.DescribeProcess
- Implementation of the requirements in a new version of WebGen

Registry for WPS
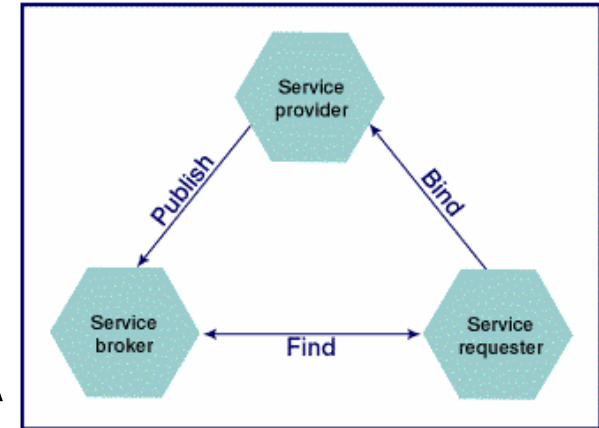
- Important component in SOA

- Allows finding functionality hosted on remote services

- Finding appropriate functionality is enabled by generalization operator classification
  - Described as keywords
  - Example: ica.genops.modelgen.Collapse

Standardized data model of WPS

- Common data model enhances interoperability
- Complex data types
  - Geometry (GML2)
  - Feature (GML2)
  - FeatureCollection (with constraint or symbolization) (GML2)
  - List
  - Map
  - Placeholders (Constraints, Tree, Symbolization, MesoObjects

Outlook

- Discussion of the preliminary results of the working group
- Solving issues of namespaces
- Testing and using the new developed platform
- Completing and submitting the MoU

Conclusion

- Working group identified requirements
  - Ensuring the support of the community through MoU
  - Enhancing interoperability by using a standardized and generic approach
- Preliminary results available, further research and testing needs to be done
- WebGen website: http://webgen.geo.uzh.ch

Participating organizations of the Southampton workshop