# Geospatial Data Integration with Linked Data and Provenance Tracking

Andreas Harth
Karlsruhe Institute of Technology

Yolanda Gil
USC Information Sciences Institute

NeoGeo Vocabulary
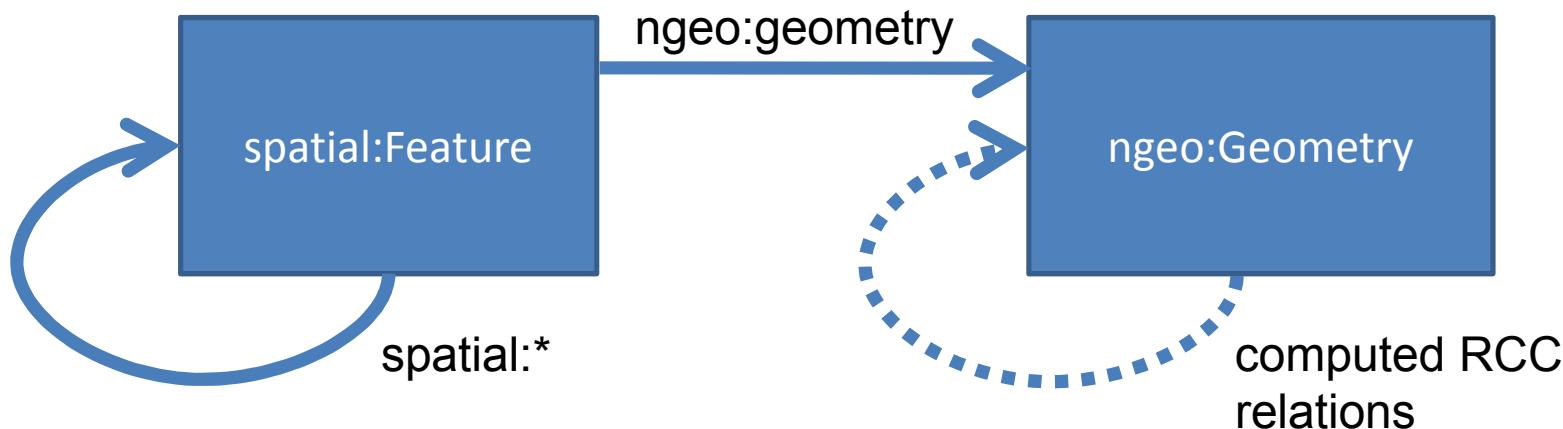
NeoGeo	Location Core	GeoSPARQL
spatial:Feature	dcterms:Location	<http://www.opengis.net/ont/geosparql#Feature>
ngeo:Geometry	locn:Geometry	<http://www.opengis.net/ont/geosparql#Geometry>

Geometry Representations

- Feature is just a URI
  - http://gadm.geovocab.org/id/0/135
  - http://nuts.geovocab.org/id/LU
- Geometry is just a URI
  - http://gadm.geovocab.org/id/0/135/geometry
  - http://nuts.geovocab.org/id/LU_geometry
- Content Negotiation on URI
  - KML
  - WKT
  - GML
  - …
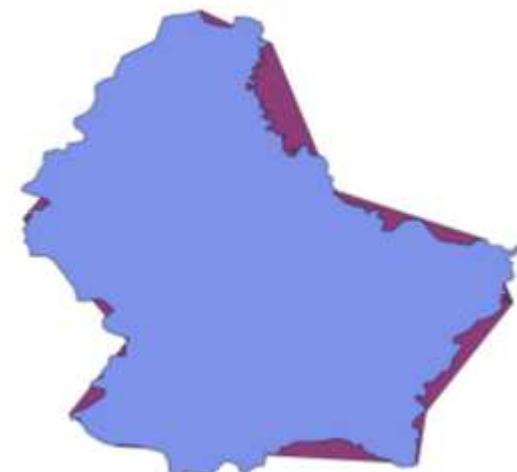
Region Connection Calculus (RCC)

- RCC functions on the level of geometries

- REST API
  - http://gadm.geovocab.org/neogeo/PP?bbox=10,47,7,50
  - http://gadm.geovocab.org/neogeo/PP?point=49.3,10.7
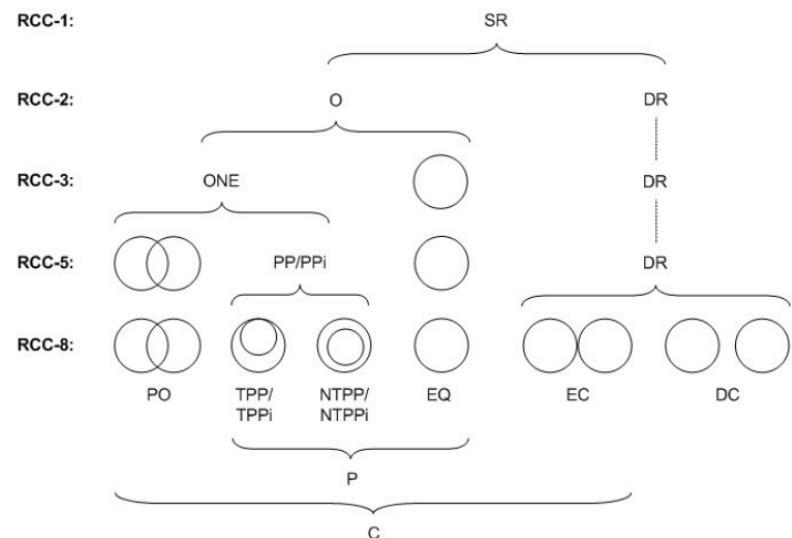
D.A. Randell, Z. Cui, and A.G. Cohn. A spatial logic based on regions and connection. KR, 92:165–176, 1992.

Provenance

- Need provenance to trust integrated data
- Corner case when integrating geo:Point

```
_:point geo:lat 49, 49.32, 48.9 ;
         geo:long 9.8, 9.9, 10 .
```

Check out NeoGeo

- http://geovocab.org/
- http://gadm.geovocab.org/
- http://nuts.geovocab.org/