Big Data approaches – State of the play
- Use Open Source & Open Data -

Actinia - using the power of GRASS GIS in the cloud
BigData – Cloud processing
- Why would you do that?

- Process data, where the data is
- Use the power of ("endless") scalable hardware-power
- Receive only required information, no intermediate results
- Concentrate on your business!
How does it work?

- A powerful geoprocessing engine needs:
  - API-Interface in order to receive process requests
    - e.g. REST API, openAPI and Web Services
  - Engine that manages requests and scales **massive parallel processing** in the cloud
Challenges & Examples:
- (some) Geospatial Challenges in Africa -

- Remote Sensing is a source of geodata – especially for regions where availability of base geodata data is sparse or unavailable
- Monitoring of forest, bush encroachment supports local authorities in identifying and locating problems
  - Degradation of rain forest
  - Forest concession monitoring
  - Desertification
- Intensity of agricultural use of grassland
- Urbanization
  - Monitoring of city growth
  - Temperature-patterns in mega-cities
Conclusions

- Earth observation data in particular is a good basis for geospatial questions
  - e.g. European Copernicus Sentinel or NASA’s Landsat Programme are Open Data

- Processing of this data in the cloud saves time, know-how and hardware costs

- Actinia is an Open Source solution for cloud based Geo-Processing
  - mundialis’ actinia platform can be used on a cost-by-usage base

- The core of actinia, GRASS GIS is a manifold Geographic Analysis Engine