

Big Data approaches – State of the play

- Use Open Source & Open Data -


Actinia - using the power of GRASS GIS in the cloud



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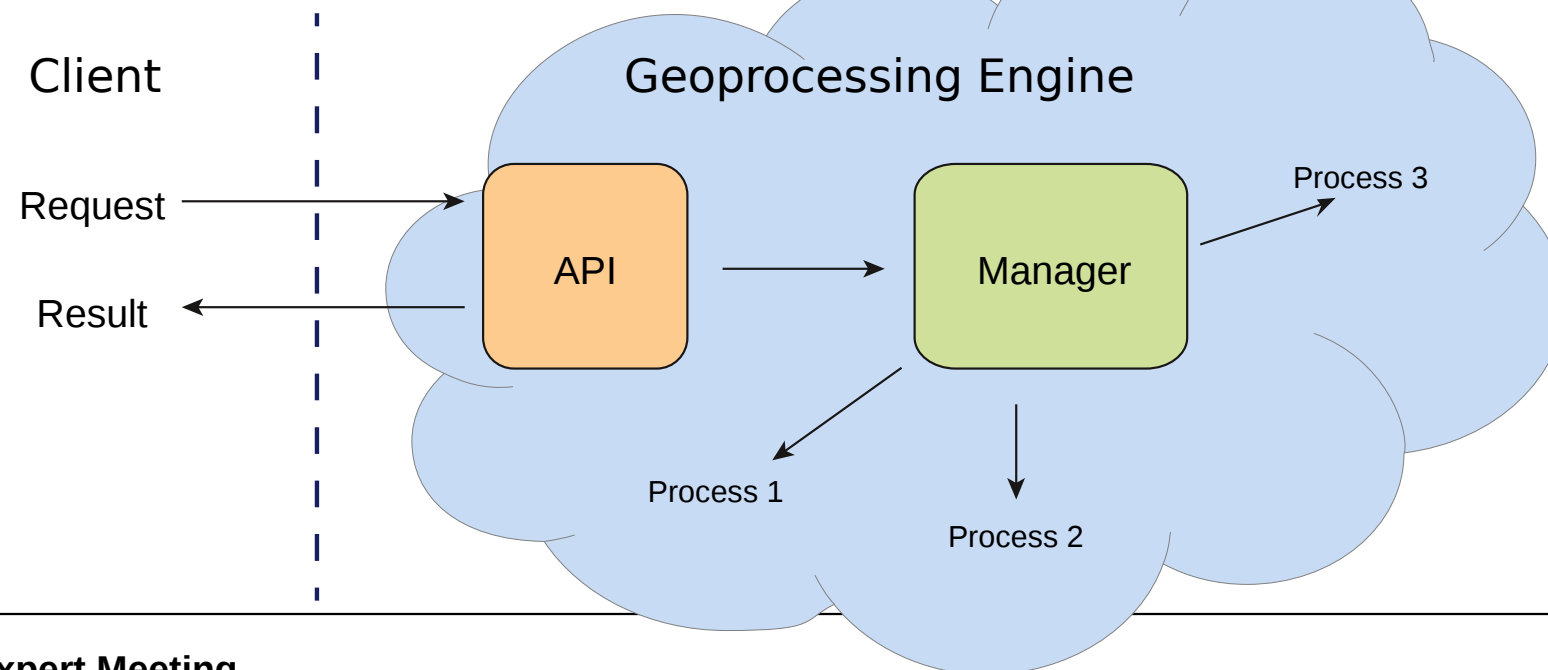
BigData – Cloud processing

- Why would you do that?

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- 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 -

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- **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

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- **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**