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BIGDATACUBE: MAKING BIG DATA A COMMODITY

Abstract

The BigDataCube project aims at advancing the innovative datacube paradigm – i.e., analysis-ready spatio-temporal raster data – from the level of a scientific prototype to pre-commercial Earth Observation (EO) services. To this end, the European Datacube Engine (in database lingo: "Array Database"), rasdaman, will be installed on CODE-DE as well as in a commercial cloud environment to exemplarily offer analytics services prototypically.

Started in January 2018 with a runtime of 18 months, BigDataCube will complement the Hadoop service already available on CODE-DE with rasdaman thereby offering important additional functionality, in particular a paradigm of "any query, any time, on any size", strictly based on open geo standards and federated with other data centers. On this platform novel, specialized services can be established by third parties in a fast, flexible, and scalable manner.

To this end, several features crucial for operational services need to be tested and/or implemented, such as securing access (in particular in a federation context), optimal operation in a cloud configuration like CODE-DE, support for radar data, and further items to be determined in the initial requirements analysis phase. The result will be the prototype of a federation of rasdaman installations on CODE-DE, CloudEO, as well as the (external) EarthServer federation; further, best practices on the use of array databases in operational environments will be established. This will pave the way for individual value-adding services by third parties.