

# High Performance Data Analytic for Earth Observation

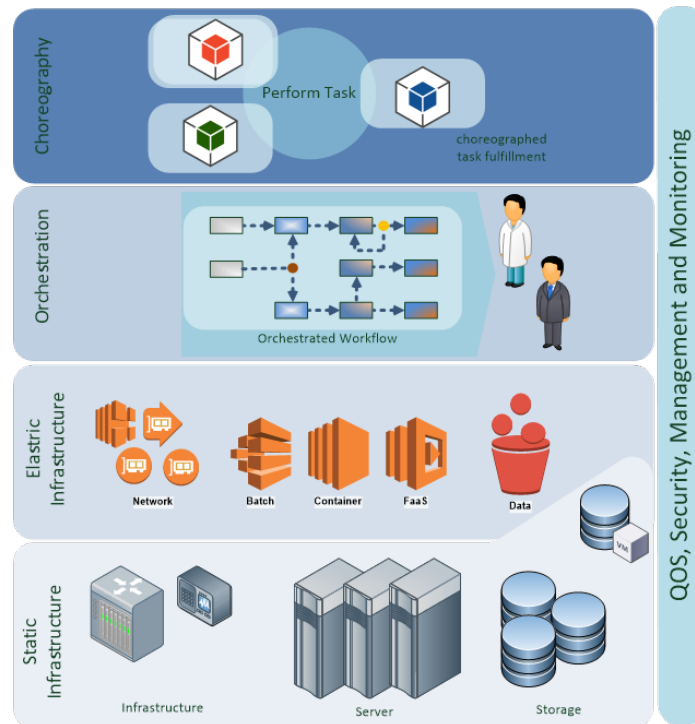
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*Under the cooperation agreement Terra\_Byte between Europe's second largest high performance computing center LRZ and the German Aerospace Center a high performance data analytics and infrastructure fit for the specific requirements of earth observation processing is procured and developed. The environment is composed from an optimized hardware layer which can answer the high I/O requirements of earth observation requirements and a software stack, which provides the earth observation scientists with an easy access to the available resources*



*Core of the HPDA Terra\_Byte is a large high performance online storage based on the LRZ's Data Science Storage (DSS) concept which provides more than 30 PByte of relevant earth observation data online for use in different applications. The identification and access of the data is one of the major tasks to be accomplished: applications need a simple way to identify relevant data in hundreds of millions of data files, each larger than 1GByte.*

*Besides the identification and access of data, the usage of the significant computing infrastructure of the HPDA-Terra\_Byte (already in the PoC-Phase of more than 4000 CPU-Cores) simple means for earth observation scientists are required. To provide this easy access and simple scalability the HPDA infrastructures stack will provide Platform as a service (PaaS) as well as Function as a service (FaaS) capabilities.*



*To achieve this target an analysis and extension of available open source software will take place. For the usage within the infrastructure a set of functions will be developed taking away logistical core tasks from the scientists to provide them the freedom to focus on their work.*