TUM

ObservaToriUM: A Simple Scalable Earth Observation Processing Engine

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Context

The amount and complexity of Remote Sensing data increasing. Contrary to that most of available tools are either complex GIS software or restricted cloud services. Often very traditional and cumbersome workflows are still in place. Researchers download huge data packages, even if only a fraction of them is relevant.

Objective

We aim to provide a platform that is, operated by our university and focused on our university's interests and research areas. Initially we build a light-wight middleware between data providers and data users. It is used to compute and share processed products between users, that will reduce energy consumption, time efforts and error probability.
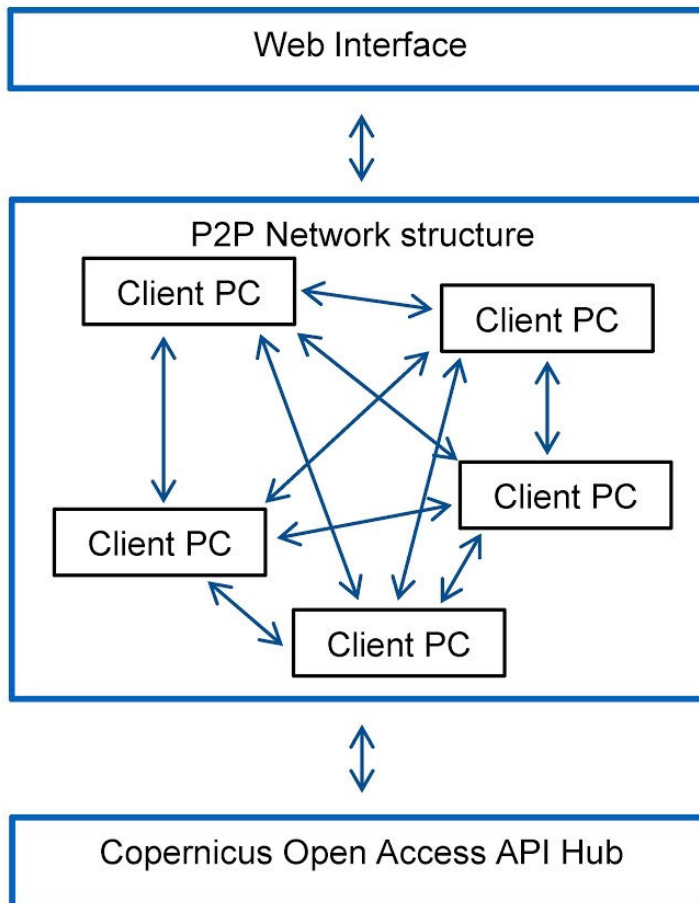
Concept

We propose a network of machines running the processing middleware. Tasks are distributed and the results are shared all over the network. Already processed products are directly sent to the requesting machine. Standard processes for frequently requested processing steps are already implemented and often requested products are generated automatically.

Advantages

This approach implements standards for commonly used algorithms and processing steps and products are only processed once. This promotes reproducibility. This approach makes huge amounts of processing power possible.

https://www.bgd.lrg.tum.de/resources/observatorium.html

Web Interface

P2P Network structure — Client PC, Client PC, Client PC, Client PC, Client PC

Copernicus Open Access API Hub