Services for domain specific developments in the Cloud

Horst Schwichtenberg and André Gemuend

Fraunhofer Institute SCAI, IT-S, St. Augustin, Germany (horst.schwichtenberg@scai.fraunhofer.de)

We will discuss and demonstrate the possibilities of new Cloud Services where the complete development of code is in the Cloud. We will discuss the possibilities of such services where the complete development cycle from programing to testing is in the cloud.

This can be also combined with dedicated research domain specific services and hide the burden of accessing available infrastructures. As an example, we will show a service that is intended to complement the services of the VERCE projects infrastructure, a service that utilizes Cloud resources to offer simplified execution of data pre- and post-processing scripts. It offers users access to the ObsPy seismological toolbox for processing data with the Python programming language, executed on virtual Cloud resources in a secured sandbox. The solution encompasses a frontend with a modern graphical user interface, a messaging infrastructure as well as Python worker nodes for background processing. All components are deployable in the Cloud and have been tested on different environments based on OpenStack and OpenNebula. Deployments on commercial, public Clouds will be tested in the future.