

Supporting Native Cloud Tools in the EGI Federated Cloud via the FedCloud Client

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The EGI Federated Cloud (FedCloud) is a multinational cloud system that seamlessly integrates community, private, and public clouds into a scalable computing platform dedicated to research. Each cloud within this federated infrastructure configures its Cloud Management Framework (CMF) based on its preferences and constraints. The inherent heterogeneity among cloud sites can pose challenges when attempting to use native cloud tools such as Terraform at the federation level.

The FedCloud client, the official client of the EGI Federated Cloud, plays an important role in simplifying the use of these tools. It offers the following capabilities:

- **Creating a working environment for the tools:** It can generate site-specific configuration files (cloud.yaml) or set up essential environment variables to ensure seamless tool integration.
- **Making the Tools Federation-Aware:** The tools can Utilize site IDs and Virtual Organization (VO) names for streamlined access to individual sites within the federation. It facilitates also global, all-site operations to enhance tool functionality.
- **Selecting Suitable Resources and Configurations:** efficiently searches for local cloud images, helps in selecting the most appropriate cloud flavors to optimize resource utilization.

In essence, the FedCloud client serves as a valuable bridge, simplifying the use of native cloud tools within the EGI Federated Cloud environment. Its features contribute to a more user-friendly and efficient cloud computing experience, particularly when dealing with the diverse cloud infrastructure found within the federation.

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