GÉANT Cloud Flow platform

Introduction

Dan Still, Task Leader of the GÉANT Community Cloud Offerings
CSC

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Description of the GÉANT Cloud Flow

GÉANT Cloud Flow (GCF) is an integrated cloud platform for

- defining and implementing compute resources & workflows
- within a single, unified and easy-to-use dashboard

GCF is an open source collection of tools

- Supporting a broad spectrum of scientific services by containers.
- Delivering large scale workflow analysis across international boundaries
- Based on technology developed by the Global Alliance for Genomics and Health (GA4GH) and ELIXIR
Envisioned interest in the service

- Natural language processing (chatbots, analysing qualitative surveys)
- Chemistry, physics (virtual labs for constructions, molecule reactions, etc)
- Meteorology (weather & climate simulations)
- Earth Observation (earthquakes, simulations of satellite data, including archaeology)
Key Components and Features

- Interpretation and scheduling of CWL workflows
- Move computation closer to the data
- Integrated user federation into local compute and data deployments
- AAI and federated access
- Secure transmission of information between parties
  - RFC 7519 JSON Web Token (JWT)
- Leverage GÉANT Trust and Identity management IdM systems
Benefits

Delivering large scale workflow analysis across international boundaries

Containers are the future carrier of reusable scientific software contents

- The user-friendly web interface – no need for programming skills.
- Importing the CWL document profits from publicly available workflows and tools.
- Input for large sample batches specified by a simple HTML form or spreadsheet.
- Fully compatible with the standard (GA4GH WES).
- Input abstraction model enables implementation of additional workflow languages.
Architecture
Demonstration

Video at: https://drive.google.com/file/d/1-7IsACOW3y12uhdbnLLMCRoPgiEnexsE/view

Scheduling scientific containers on a cluster of heterogeneous machines

Run software images
Development Team
NRENs in the GN4-3 Project Community Clouds Team

https://clouds.geant.org/community-cloud/

Access to the Community Cloud Beta Programme for approved, on-boarded users: https://ui.gcf.cloud.grnet.gr
Thank you

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