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Building a European wide, Bioinformatics jobs execution network

Friday, 27 September 2019 09:00 (25 minutes)

With more than 2,000 bioinformatics tools available, Usegalaxy.eu (https://usegalay.eu) is the biggest Galaxy instance in Europe covering most of the hottest bioinformatics topics and communities.
After one year from its public launch into March 2018, Usegalaxy.eu has reached the important milestone of 5 million jobs executed and over 6 thousand registered users.

Several computer centers across Europe are currently sharing their remote computation power to support the Usegalaxy.eu load: IT, UK, CZ, DE, PT, ES,...
To create this network of shared computational resources, we leverage:
Pulsar (https://pulsar.readthedocs.org), a TES-like service written in Python that allows a Galaxy server to automatically interact with those remote systems,
VGCN (https://github.com/usegalaxy-eu/vgcn), a virtual image which has all of the required components to act as a galaxy compute node as part of an HTCondor cluster.
Terraform (https://github.com/usegalaxy-eu/terraform), a set of scripts for safely and efficiently building the infrastructure into a modern cloud environment.
Galaxy's job destination framework allows job execution parameters to be determined dynamically at runtime, offering a flexible option for choosing the job endpoints, and the Pulsar layer ensures execution details are correctly exchanged to correctly perform jobs into the local and/or remote HTCondor clusters.

Desired slot length

Speaker release

Yes

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Session Classification: Workshop presentations

Track Classification: HTCondor presentations and tutorials