

# Federated Cloud Appliances Available in Public Cloud

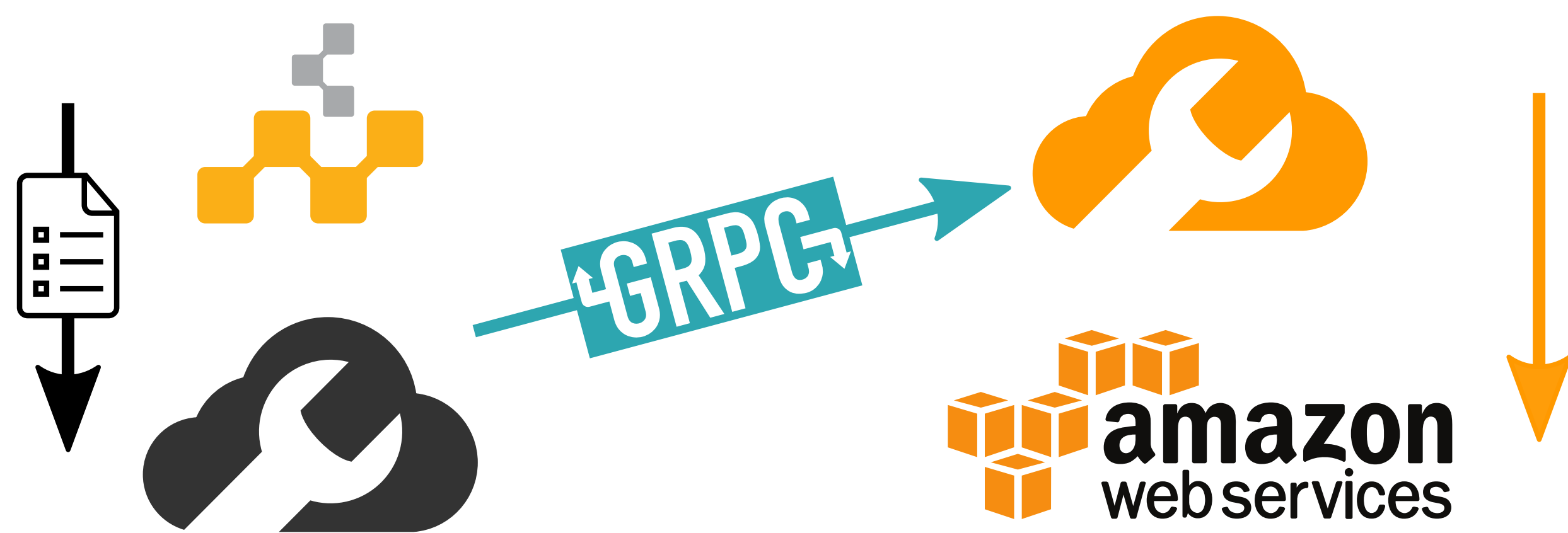
Michal Kimle, Dušan Baran – CESNET, a. l. e.

## Introduction

Academic and scientific organizations need a specialized set of tools for their research. In case of huge federations such as EGI it is mandatory that these tools are accessible on multiple cloud management frameworks from various cloud providers, usually all over the world. Instead of synchronizing what we, scientists, call an "appliance" manually, we came up with an automatic approach in the form of Cloudkeeper.



## Cloudkeeper



Cloudkeeper is a tool used in a hybrid federated cloud platform operated by the EGI to synchronize virtual appliance images across the infrastructure. Cloudkeeper reads lists of appliances provided by the EGI Application DB and synchronizes updates to target cloud sites.

## Public Clouds

**Virtual operators** resource providers who do not own their own resources on-premise but rent cloud resources from public clouds.

One of the scenarios where the use of public cloud resources in EGI FedCloud become relevant is a collaboration with virtual operators. Such a collaboration gives scientific and academic organizations an opportunity to explore an option of hosting virtual machines in public clouds.

Currently, nearly all EGI sites are using Cloudkeeper with at least one of its CMF backends aimed at private clouds. To meet the demand of public cloud platforms we present our newest part of the Cloudkeeper family – Cloudkeeper-AWS.



## Cloudkeeper-AWS



Cloudkeeper-AWS, the newly introduced extension, uses Amazon Web Services as an environment that enables participation of virtual operators of FedCloud use cases. It extends Cloudkeeper to enable imports of virtual appliances from EGI AppDB to AWS. Cloudkeeper-AWS is very similar to its sibling components Cloudkeeper-OS and Cloudkeeper-ONE so users transferring from one cloud platform to another will be able to do so easily. This demonstrates the feasibility of seamlessly transferring HPC workloads between private and public cloud.

## Future

All Cloudkeeper components are currently undergoing major update to their 2.0 version. Probably the most notable change is the new deployment model of Cloudkeeper. New deployment model follows a trend of microservices and loose coupling allowing for easier configuration and containerization of components. This way, Cloudkeeper instances can be run and managed by communities instead of cloud providers.

Developed by:



Participating in:



Contacts:

Michal Kimle (kimle@cesnet.cz)  
Dušan Baran (baran@cesnet.cz)



the-cloudkeeper-project/cloudkeeper-aws