

Representing Cloud Services with GLUE 2

Salvatore Pinto
Cloud Technologist
EGI.eu

Describe the properties and state of all the **Cloud Services** in a uniform way among multiple providers.

To ensure:

- **Interoperability** among different infrastructures and cloud services implemented with different middlewares.
- **Aggregation** of the information coming from multiple providers, for comparison and automatic selection

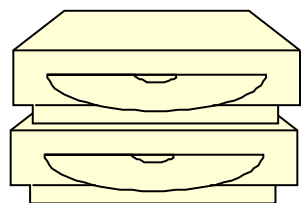
The need for a standard



Where can I start a VM requiring Scientific Linux OS, IA64 architecture, with software package X ?

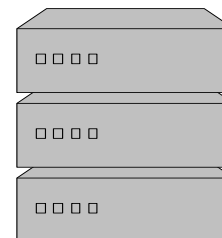


As part of the VO A, how much storage can I attach to a VM?

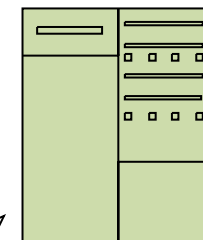


I offer 15 TB of storage for the VO A, maximum 1 TB disks can be attached to a VM, disks are volatile, ...

I can offer 10 virtual cores, 10 GB of RAM, Debian OS image, CloudInit contextualization, ...



I have CentOS image, I cannot have more than 5GB of RAM per VM, I do not have public IPs, ...



To represent Cloud entities, two strategies are under evaluation in GLUE WG :

- **Community Practice Profile** for using GLUE 2.0 to describe Cloud Infrastructures using Computing Service GLUE 2.0 entities (proposed by XSEDE)
- **GLUE 2.1 revision**, with addition of separated Cloud Computing entities, starting from the GLUE 2.0 Main entities (proposed by EGI)

Advantages:

- Limited updates needed to the existing implementations.
- No need to manage two separate group of entities.
- Possibility to reuse old GLUE 2.0 tools.

Disadvantages:

- Mapping between GLUE 2.0 computing entities and cloud services may not be straightforward
- More than half of the GLUE 2.0 Computing entities attributes are not usable because they cannot be mapped in the Cloud

Advantages:

- Possibility to represent a different conceptual model, more closer to the Cloud
- Easier extension to future non-iaaS computing services
- Clearer entities definition, with nomenclature closer to the Cloud terminology

Disadvantages:

- Need to update the implementation, adding the new cloud entities.
- New renderings for Cloud objects need to be defined
- Cloud and Grid are seen separated, not as an unique computing resource.

Proposal for the WG is to implement both approaches, with different targets:

Community Practice Profile for using GLUE 2.0 to describe Cloud Infrastructures

- To be used by XSEDE and other interested communities to represent internally Cloud entities without need to migrate to 2.1

GLUE 2.1 revision

- As base for inter-project interoperability and for development of new broker and automatic systems solution to consume the information

Thank you!

Questions?