ENG use cases in the EGI FedCloud: SCIDIP-ES HAPPI and INERTIA

EGI CONFERENCE, Lisbon 19/05/2015

Pietro Fragnito
Junior Researcher

Giampaolo Fiorentino
Senior Researcher
ENG use cases in the EGI FedCloud: SCIDIP-ES HAPPI and INERTIA

1. Engineering Group – R&D Lab
2. EGI & Engineering collaboration
3. Next Use Case Steps
4. Future Advices
Engineering Group – R&D Lab

Engineering...
- Has a Research and Development Lab. from 1987 (1980 is the foundation year of Engineering Ingegneria Informatica spa)
- Invests 7% of revenues of all Group
- Has 6 laboratories of R&D throughout the area
- Has 250 researchers
EGI for ENGINEERING

1. Engineering Group – R&D Lab
2. EGI & Engineering collaboration
3. Next Use Case Steps
4. Future advices
EGI and Engineering collaboration

EGI aims

- Exploit EGI Federation Cloud as IAAS
- Evaluate usage of standard interface (OGF OCCI)
- Test cloud elasticity: to scaling out according to the workload
- Check StorageAAS: dynamically attach block storages to increase space for data

ENG use cases in the EGI FedCloud: SCIDIP-S HAPPI and INERTIA
EGI and Engineering collaboration

INERTIA and SCIDIP-ES use cases

**HAPPI use case**

**HAPPI** toolkit is a software designed, developed and tested for supporting Authenticity, Provenance, Integrity and Persistent Identifiers in the frame of SCIDIP-ES project.

**INERTIA use case**

**INERTIA** addresses the "structural inertia" of existing Distribution Grids by introducing more active elements combined with the necessary control and distributed coordination mechanisms. So, INERTIA adopts the *Internet of Things/Services* principles to the Distribution Grid Control Operations.
EGI and Engineering collaboration

ENG aims

HAPPI use case

- Set up an infrastructure in order to offer HAPPI toolkit for evaluation to other communities (*DCH-RP, INGV, ESA*)

HAPPI VM instance & tech

- 2 CPU
- 4 GB of Primary Memory
- Ubuntu 14.04.1 LTS – Trusty
- OrientDB 1.5.0
- Tomcat 8.0.18
EGI and Engineering collaboration

ENG aims

INERTIA use case

- Set up an infrastructure in order to integrate App Controller, Grid Coordination and KPI services with external INERTIA models and components through the cloud (*Internet of things*)

INERTIA instance & tech

- 2 CPU
- 4 GB of Primary Memory
- Ubuntu 14.04.1 LTS – Trusty
- Tomcat 8.0.18
- Java 8
- RESTful and socket communication

ENG use cases in the EGI FedCloud: SCIDIP-S HAPPI and INERTIA
EGI for ENGINEERING

1. Engineering Group – R&D Lab
2. EGI & Engineering collaboration
3. Next Use Case Steps
4. Future advices
Next Use Case Steps

INERTIA use case

INERTIA project is going on (final review in December 2015).

- At now we are switching and cycling between Developing and Testing & Integration phases
- At the end of the project we want deploy the App to the Apple Store, so we need scaling out EGI VMs in order to have more powerful web servers
Next Use Case Steps
SCIDIP-ES use case

**SCIDIP-ES** project is over.

After the last phase of *Testing & Integration* there are two opportunities:

- Considering the usage of EGI FedCloud in Follow Up projects
- Considering to deploy HAPPI toolkit in a production EGI FedCloud
EGI for ENGINEERING

1. Engineering Group – R&D Lab
2. EGI & Engineering collaboration
3. Next Use Case Steps
4. Future advices
Future advices

- Should be nice implementing a service that
  - automatically records all the installation in the VM
  - automatically generate an installation script

- Some steps for Mac installation of OCCI client are not clear or not described (I’ve found on Google)
ENG use cases in the EGI FedCloud: SCIDIP-S HAPPI and INERTIA
EGI for ENGINEERING