EGI Federated Cloud Update
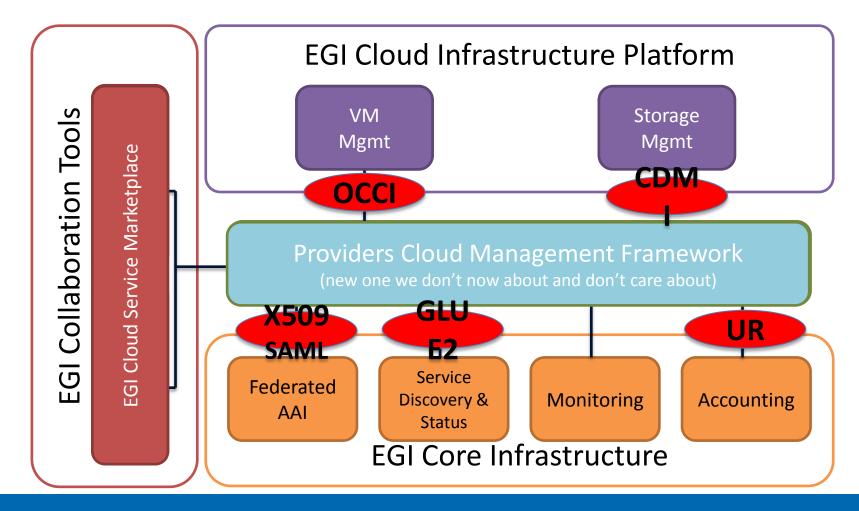
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e-infrastructure

EGI Fedcloud task force

- Activities started two years ago
- Two main goals:
  - Enable cloud services technical integration in the EGI Infrastructure
  - Support user communities in porting their applications to a federated cloud environment

- GOCDB
  - Cloud services registered in GOCDB
- Information system
  - Cloud sites are publishing partial information in the Top-BDII
  - Extension for GLUE2 submitted to OGF
- Federated AA
  - Integration of X509 in Keystone

- Accounting
  - Usage of cloud resources is sent using an extended Usage Record to the APEL repositories.
  - Now using the production accounting infrastructure
  - New view in the accounting portal (beta)
- Monitoring
  - The following probes are available:
    - OCCI, test of the functionalities
    - CDMI, basic connection test
    - Accounting publishing
    - BDII publishing

Cloud specific services

- [Cloud Marketplace in AppDB](#)
  - Metadata repository for virtual appliances
  - Distribution mechanism of images to the sites
    - Integrating VMCatcher & VMCaster technology
    - Sites subscribe to individual's or VO image lists
    - Image list updates trigger sites to pull updates automatically
    - ~~VO Managers to distribute VMI in the sites supporting their VO~~
  - ~~Support for VMCatcher/VMCaster~~
  - Marketplace for VMI discovery/search
  - Future work: full integration with the info system
- Brokering
  - SlipStream is being extended within an EGI mini-project to support the OCCI interface

- Now EGI Cloud resources are moving to full production
  - May 2014
  - Sites who successfully completed the certification
- Cloud resources available for the users
  - May 2014: 5000 cores, 225 TB storage
  - End of 2014: 18.000 cores, 6000 TB storage

Certification process

The certification procedure for cloud sites is very similar to the certification of Grid sites:

- Registration in GOCDB, with all the required information
- Check for:
  - Published in the information system
  - Publishing accounting data
  - Resources are monitored (using ops VO)
+ Security assessment with the EGI CSIRT
  - To be replaced with the security survey
- Site is passing successfully all the SAM tests for three days
- ✓ Certified

Security survey

- EGI SVG team and CSIRT prepared a security survey for Cloud technology poviders and service provider
  - Assess the compliance with the EGI security policies
- Survey for the Cloud service providers:
  - Cloud Infrastructure (6 questions)
  - About Cloud services (3 questions)
  - About VMs (5 questions)
  - About EGI and Non-EGI co-tenancy of services (6 questions)
- Survey has been beta-tested by two Cloud sites, and will be part of ~~the~~ future certification processes

Certified sites

The following 14 sites/Clouds are already certified to be production cloud sites:

- **100IT**, Commercial provider (UK)
- **BIFI**, Ibergrid
- **Cyfronet**-**CLOUD**, NGI_PL
- **CESGA**, Ibergrid
- **CESNET-MetaCloud**, NGI_CZ
- **GoeGrid**, NGI_DE
- **IFCA-LCG2**, Ibergrid
- **HG-09-Okeanos-Cloud**, NGI_GR
- **IISAS-FedCloud**, NGI_SK
- **INFN-CATANIA-NEBULA**, NGI_IT
- **INFN-CATANIA-STACK**, NGI_IT
- **KTH-CLOUD**, NGI_SE
- **PRISMA-INFN-BARI**, NGI_IT
- **SZTAKI**, INFN_HU

Sites under certification

- **TR-FC1-ULAKBIM**, NGI_TR
- **UKIM**, NGI_MK

- A (cloud) site has successfully ~~done~~ passed the certification procedure
- The (cloud) site is endorsing the EGI policies and following the procedures
- The cloud services are monitored using SAM as the grid services
  - Alarms generate tickets to the site administrators
  - Site must guarantee the minimum availability/reliability

Use cases ready to use cloud for production:

- Peachnote, BioVel (OpenModeller, BioSTIF, Openrefine), CHAIN-REDS science gateways (Octave, R, WRF)

PoC deployed or under deployment:

- WeNMR, EISCAT-3D, DRHIM, ESA*
  - (*) through the collaboration with HN

Thanks

- Questions?