The EGI Federated Cloud, using standards to create a fair and open European Cloud marketplace

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e-infrastructure

Objectives:

- Identify and investigate the capabilities needed to federate clouds
  - Be technology and provider agnostic
  - Promote adoption of documented open standard interfaces
  - Establish best practices and document
  - Investigate available business models & Service Level Descriptions
- Identify the technical solutions, deploy proof of concepts in a pre-production testbed, test the solutions with real use cases
  - **Integrate** the cloud services with **the EGI core platform**

Capabilities

1. Manage VM instances
2. Data access/transfer interface
3. Cloud service information federation
4. Resource consumption management
5. Cloud service availability

6. Notification & Automation
7. Federated AAI
8. VM Image Management
9. Brokering
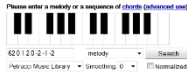10. Contextualisation
11. SLA & Business Models

Participation – Feb 2014

Cyfronet	FZJ	OeRC	EGI.eu	CESNET	GWDG	BIFI	KISTI	INFN-BARI

Members

- 142 individuals
- ~37 institutions
- 20 countries (EU & non-EU)

Stakeholders

- 23 Resource Providers
  - 13 production
  - 10 Certified
- 10 Technology Providers
- 10 User Communities
- 4 Liaisons

Technologies

- OpenNebula,
- StratusLab*,
- OpenStack,
- Synnefo,
- Cloudstack,
- PERUN,
- SlipStream
- APEL
- GOCDB

Left column:
- Cyfronet
- CNRS
- SAGrid
- KTH
- FCTSG
- CETA
- IGI
- RADICAL
- STFC
- BSC
- ISRGrid
- LMU

Right column:
- INFN-BARI
- IN2P3
- Masaryk
- INFN-CNAF
- CESGA
- SARA
- IFCA
- SZTAKI
- GRNET
- DANTE
- SRCE

Bottom row:
- LMU
- IPHC
- IISAS
- SixSq
- 100%IT
- CSC
- IFAE
- DESY
- SRCE

EGI Core Platform

Services that federate and integrate any user facing functional service deployed in **production**

- Resource Registration & Status Service
- AAI
- Service Monitoring & Metrics Visualisation
- Usage Accounting and reconciliation
- Help and Support
- Security Co-ordination
- Training Availability and publicity
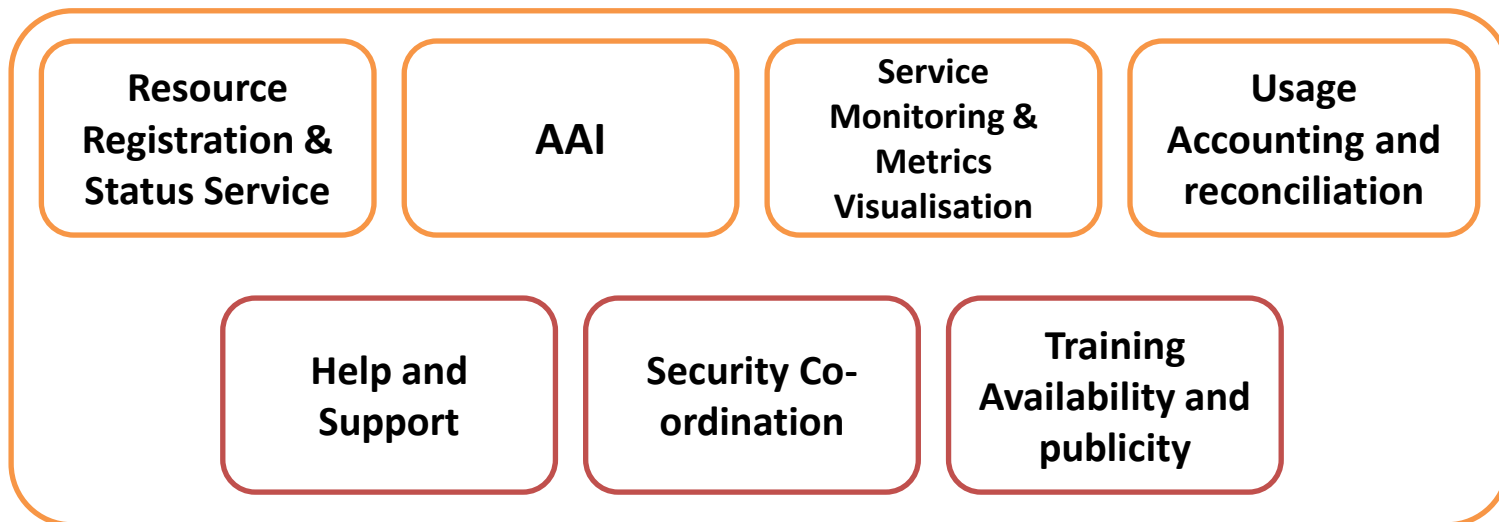
For e-Infrastructures & Research Infrastructures

Enabling an open ecosystem of services

EGI Cloud Infrastructure Platform

VM Mgmt

Storage Mgmt

OCCI

CDMI

EGI Collaboration Tools

EGI Cloud Service Marketplace

OVF

Providers Cloud Management Framework
(new one we don't now about and don't care about)

SAML

GLUE2

UR

Federated AAI

Service Discovery & Status

Monitoring

Accounting

EGI Core Infrastructure
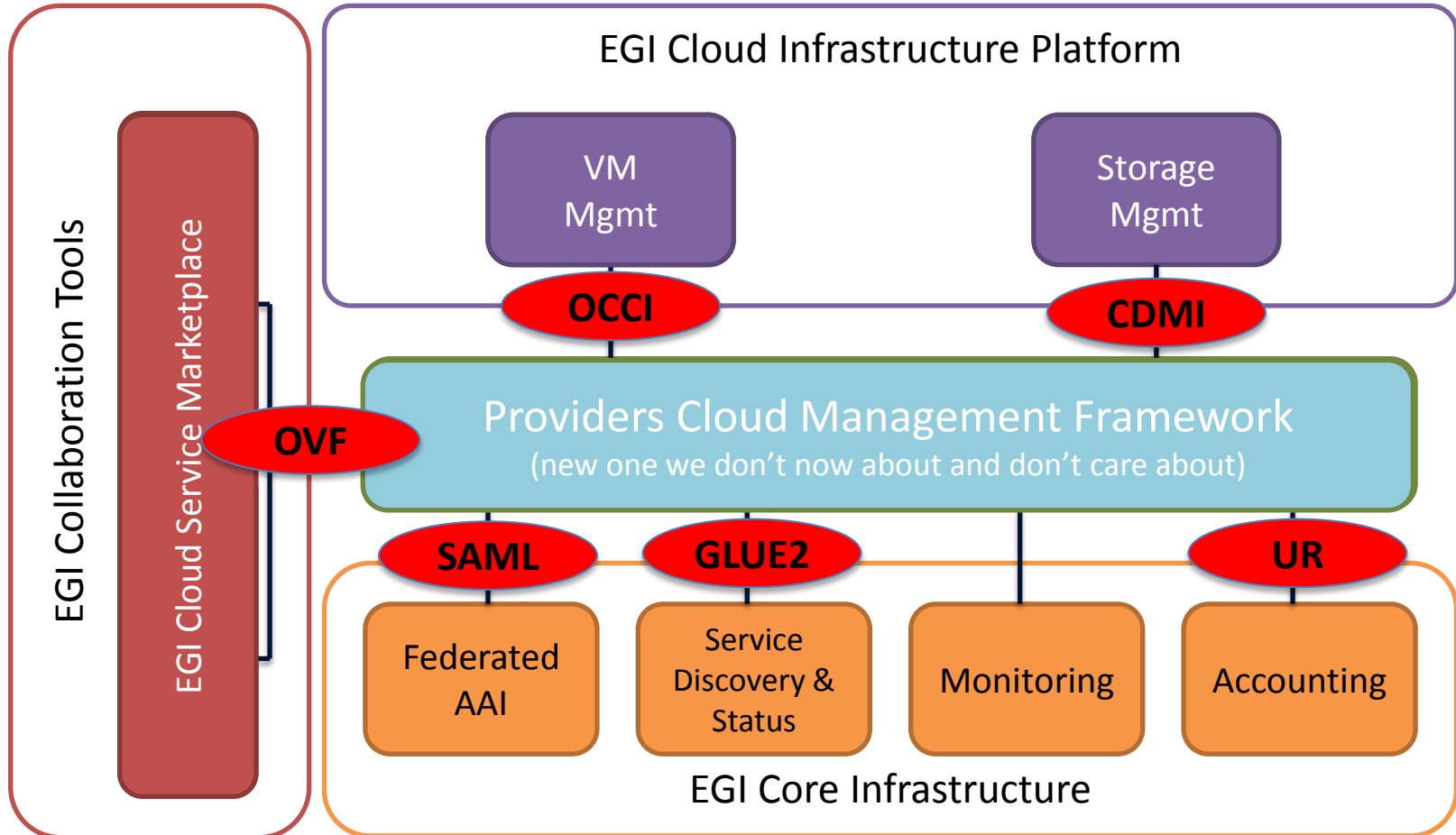
To support the digital European Research Area through a pan-European research infrastructure based on an open federation of reliable services that provide uniform access to computing and data resources provided by the public and private sector.

EGI federated Cloud capability vision
10M cores Cloud compute
1 EB Cloud storage

- Paving the way for a federated cloud in Europe
  - Established best practice
  - Open standards, open technology
  - Open membership, open processes
  - Open competition
  - Full production, May 2014

Thank you!

Questions?