



# **EGI Federated Clouds Task Force**

**GDB – CERN, May 9, 2012**

Matteo Turilli

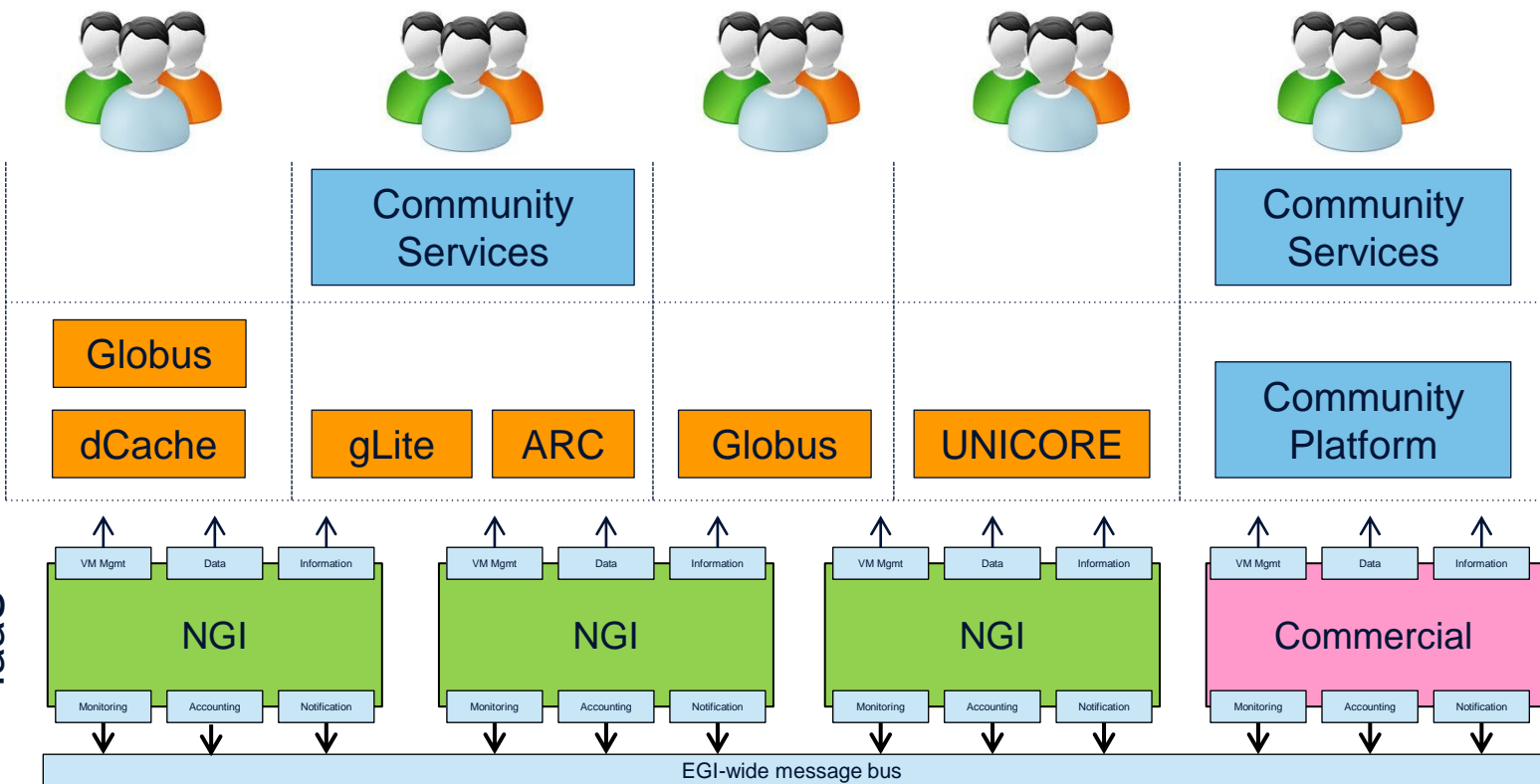
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# Outline

- EGI cloud model;
- FedCloud Task Force:
  - objectives, activities, mandate and outputs;
  - TF Guiding principles.
- TF Members;
- TF Test bed, blueprint and demo;
- what's next;
- upcoming milestones.

# EGI Cloud Model

Personalised environments for individual research communities in the European Research Area.



EGI.eu Coordination  
 Core software and support



# TF Objectives

- **Integration**: integration of virtualised resources with EGI's production infrastructure – e.g. monitoring, accounting and resource publishing.
- **End-user requirements**: elicit requirements for community facing requirements.
- **Technical feedback**: feedback to technology providers on any changes needed for the deployment of their implementations.
- **Early adopters**: identify and work with user communities willing to be early adopters of the resulting virtualised infrastructure.
- **Recommendations**: identify issues that need to be addressed by other areas of EGI – e.g. policies, operations, support and dissemination.

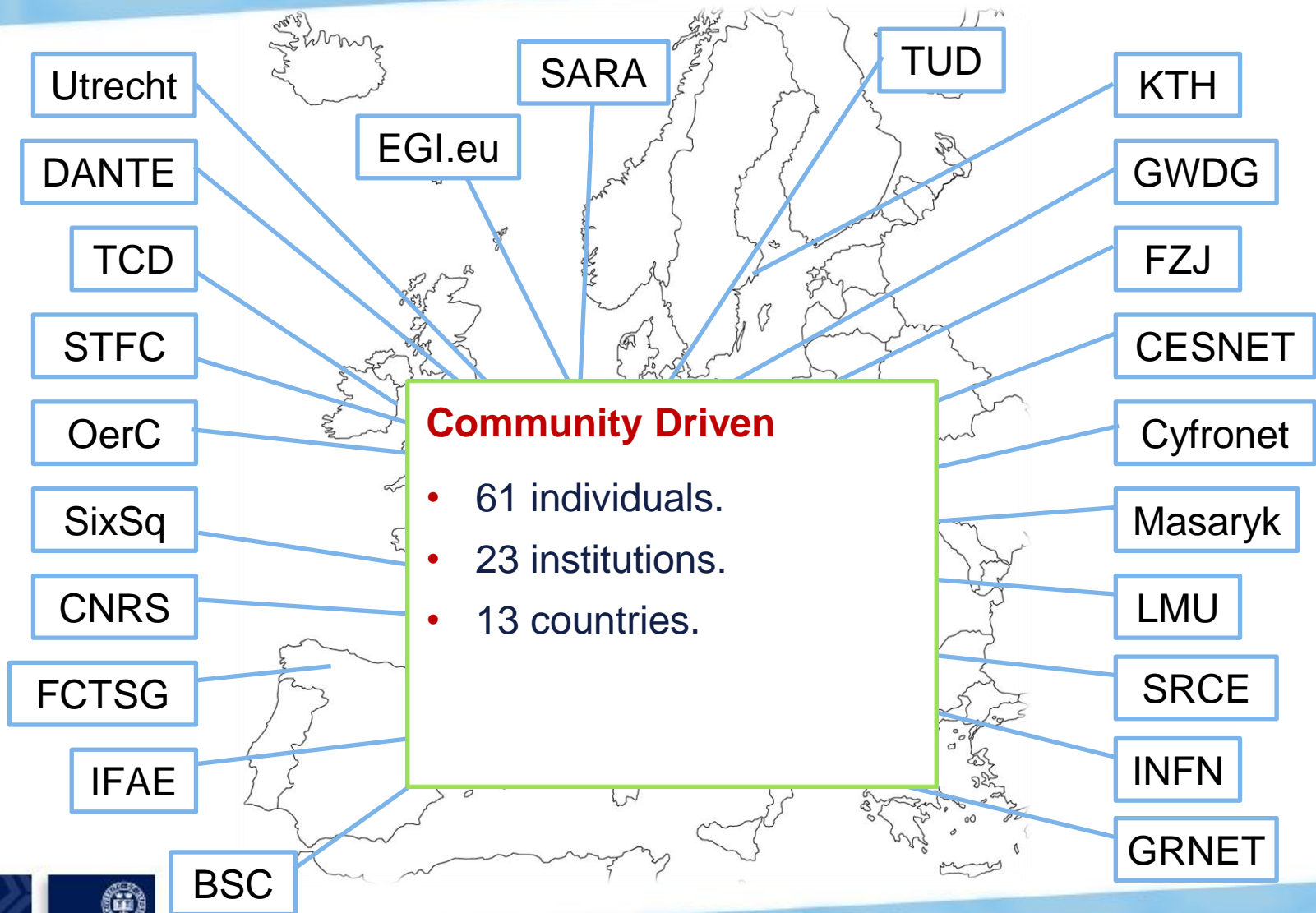
# TF Mandate, Activities and Outputs

- **Mandate:** 18 months, September 2011 – March 2013.
- **Workgroups:** Investigate a specified set of capabilities for a federation of clouds. VM/Data management, information system, accounting, monitoring, notification, federated AAI, VM repository and brokering.
- **Engagement:** identification of resources centres and user communities willing to commit actively to this Task Force.
- **Dissemination:** periodic “success stories” through dissemination channels.
- **Blueprint document:** advice/full documentation to resource providers/users on how to engage with the federated virtualised environment.
- **Test bed:** deploy interfaces and services for a federated cloud on the basis of the Task Force blueprint and the available standards and technologies.

# TF Guiding Principles

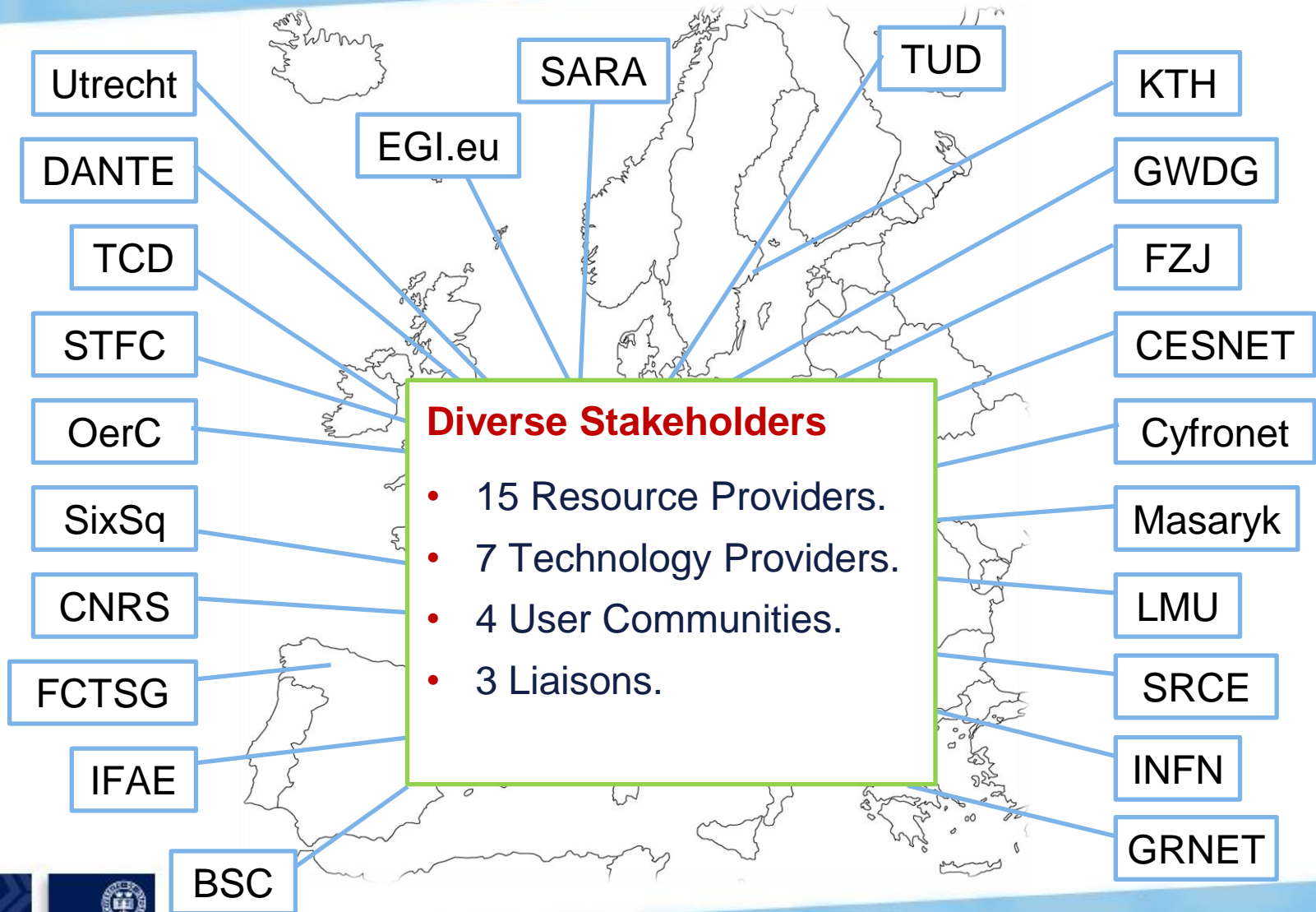
- **Standards and validation:** the goal of the TF effort is to produce a validation procedure for clouds federation based on the emerging standards in Cloud Computing. E.g. OVF, OCCI, CDMI, etc.
- **Resource typologies:** EGI offers already a number of validated services to the community. Virtualisation and Cloud Computing should be considered just as another type of resource to integrate into the existing production infrastructure.
- **Heterogeneous implementation:** there should be no specific mandate on the implementation of virtualisation/cloud technology but only the validation of a prescribed set of functionalities, standards and interfaces.
- **Provider agnosticism:** no distinction should be made on the nature of each provider. Private, public, research and business oriented should make no difference once the federation criteria have been established and agreed upon.

# Task Force Members



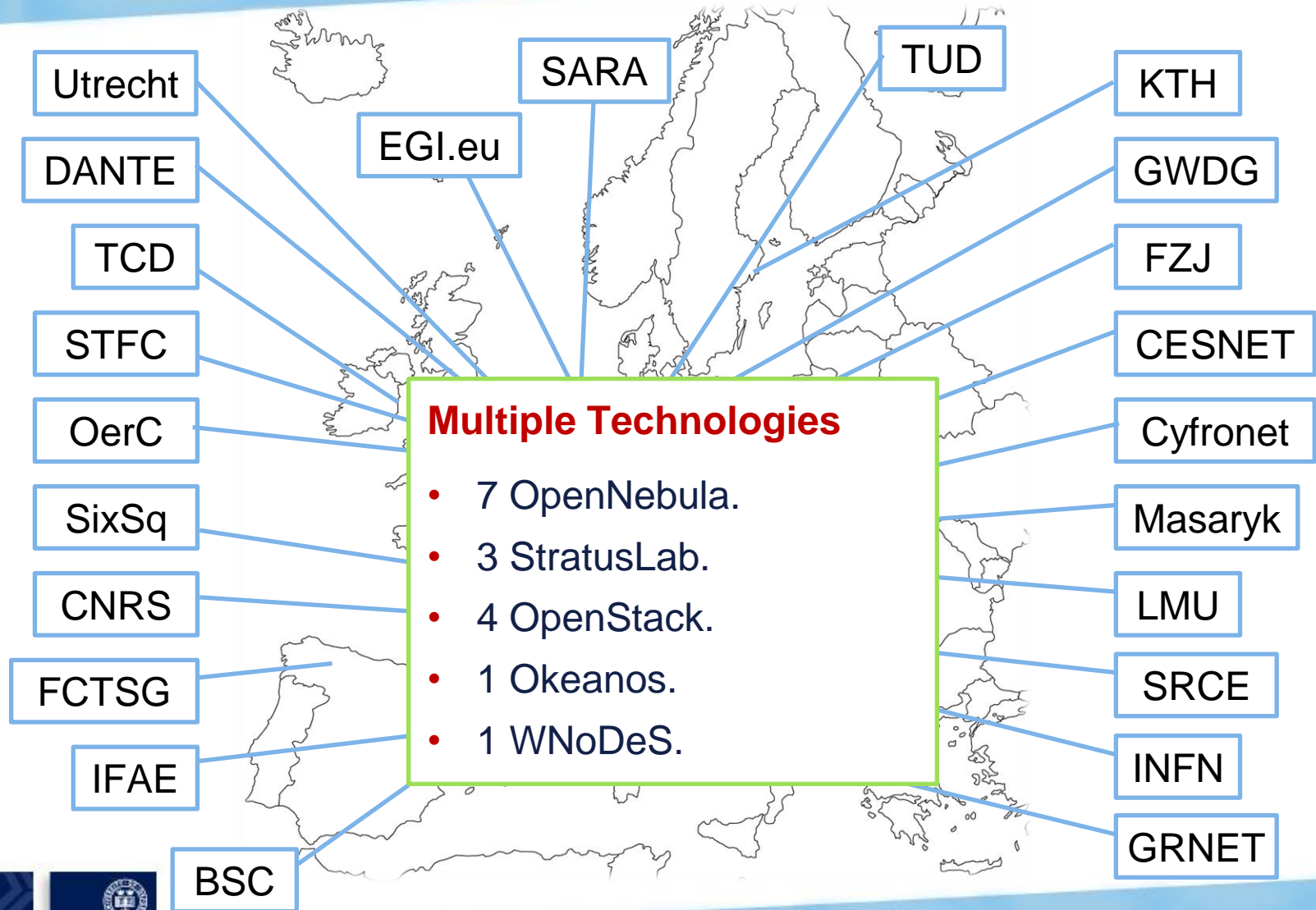


# Task Force Members

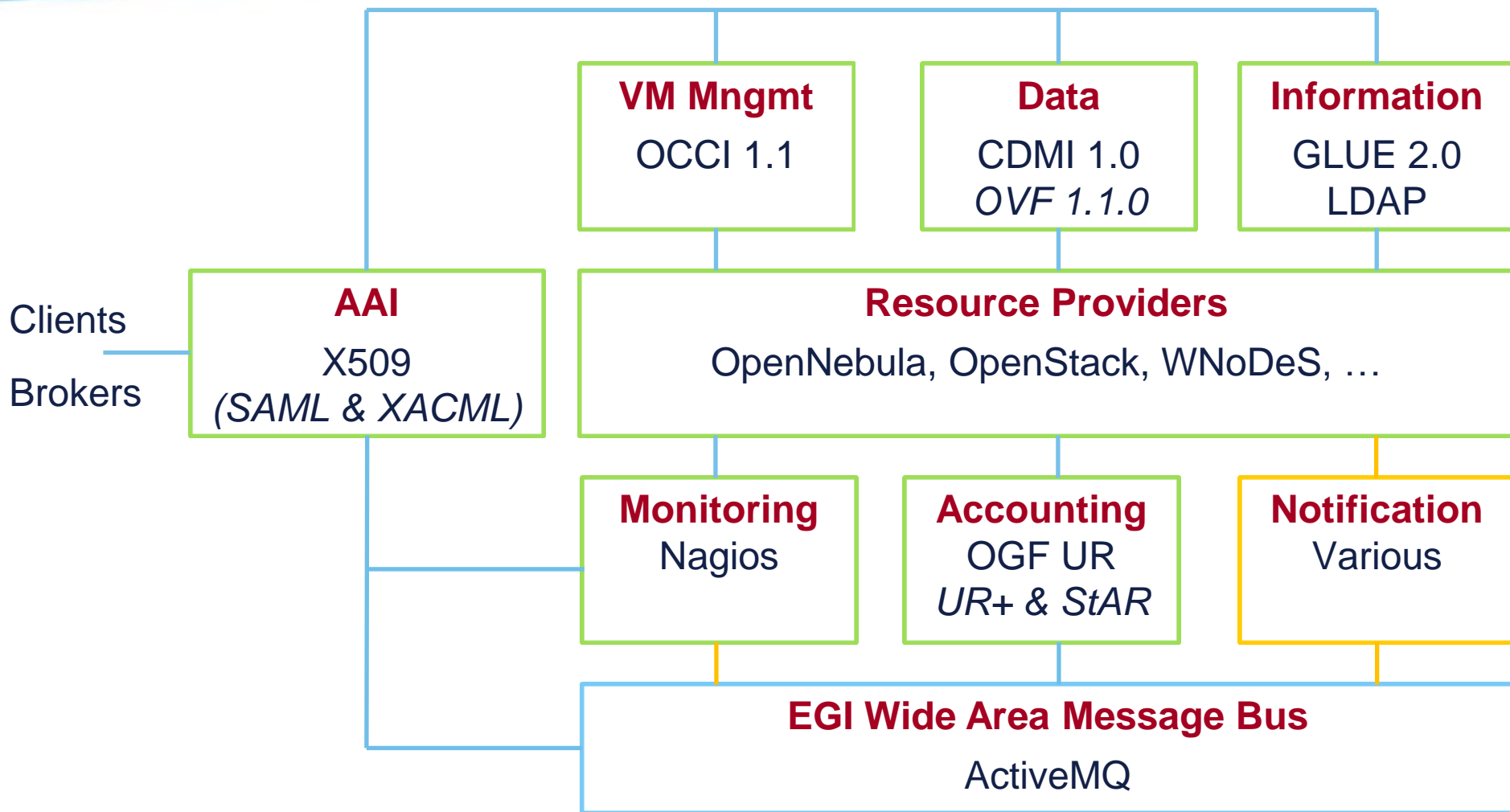




# Task Force Members



# Federation Testbed





Fedcloud-tf **Discussion**

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## Fedcloud-tf:Blueprint:Introduction

(Redirected from [Fedcloud-tf:Blueprint](#))

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**Capabilities:** [VM management](#) | [Data management](#) | [Information discovery](#) | [Accounting](#) | [Monitoring](#) | [Notification](#) | [Authentication and Authorisation](#) | [VM sharing](#) |

### Introduction [\[edit\]](#)

This blueprint document will be assembled and written by the Task Force members providing EGI Resource Centres with all information necessary to provision computing and storage resources through a cloud management layer so that they can be easily and securely federated as part of the EGI production infrastructure.

### High-level scenarios [\[edit\]](#)

The blueprint is based on a collection of six high-level Cloud usage scenarios that were collected and validated at a number of occasions in the EGI community. Those usage scenarios represent six archetypical Cloud scenarios that are common (or perceived to be common) in a distributed, hybrid Cloud landscape provided by EGI resource centres. Associated with these six scenarios are six key capabilities that, when implemented on a technical level, ensure interoperability across individual Cloud providers.

The following sub-sections illustrate the six usage-scenarios providing an overview of the technical issues that the Task Force is dealing with.

### Scenario 1: VM Management [\[edit\]](#)

"I want to start a single existing VM image on a remote cloud."

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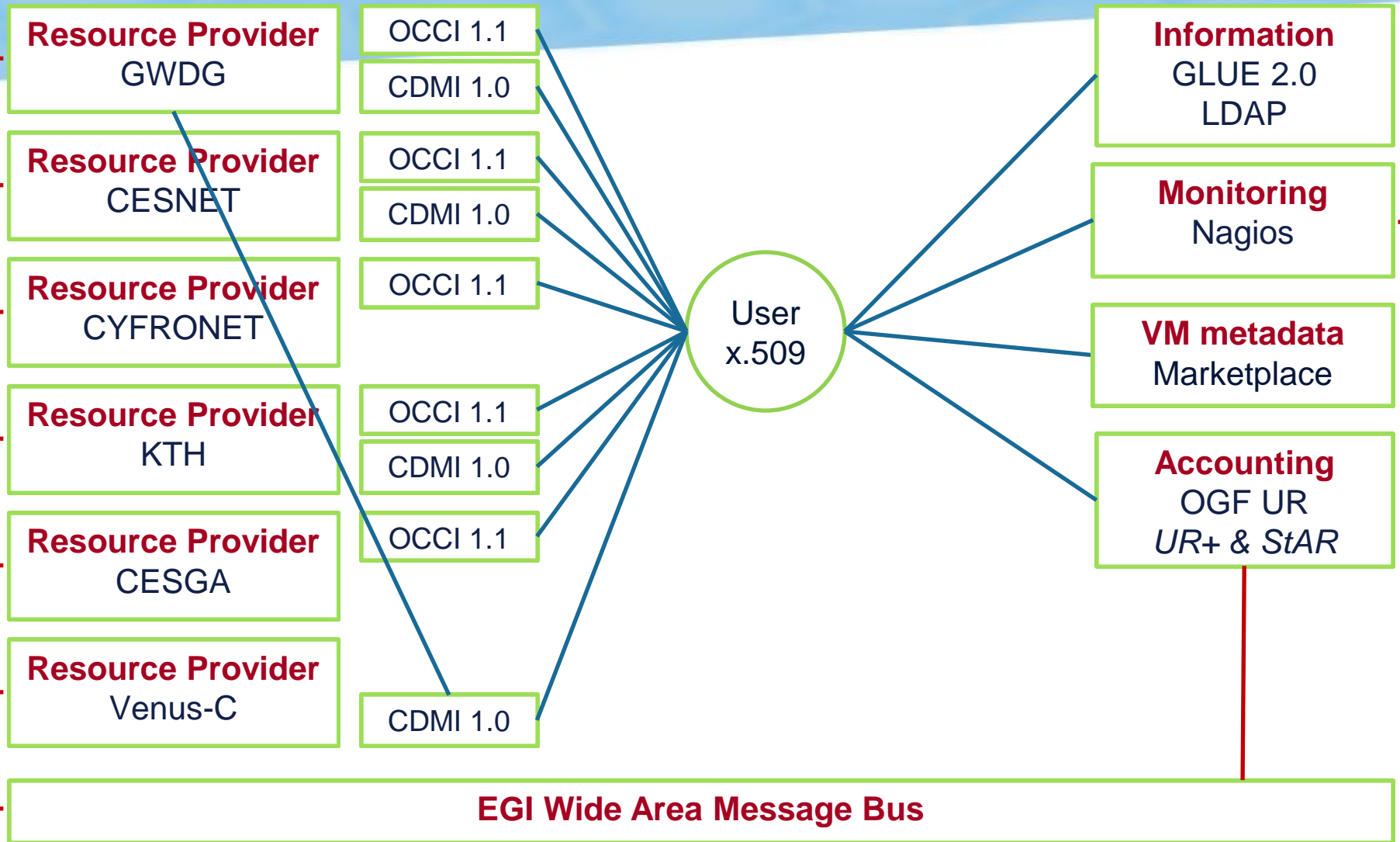
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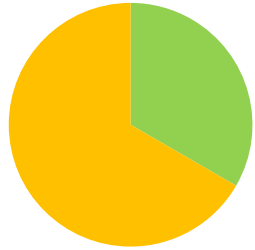
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<https://wiki.egi.eu/wiki/Fedcloud-tf:Blueprint>

# EGI CF2012 – Demo



# Mar/Sep 2012 – Consolidation



## Federation

- OCCI/CDMI deployment

## Information System

- GLUE2 extension
- upload from the RPs

## Accounting

- OGF UR extension
- upload clients

## Monitoring

- Metrics
- Availability -> performance



x.509

## Notification

- Review available implementations.

## Federated AAI

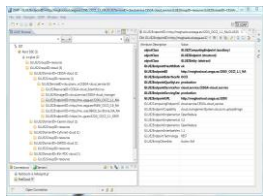
- RP account integration
- VOs?

## Image management

- Multiple storage model

## Brokering

- Review of available solutions



Account	Resource	Usage	Cost	...
...	...	...	...	...

Host	Service	Status	Output
...	...	...	...

Appliance Name	Version	Release Date
...	...	...



# Conclusions

## **OGF35: Delft, June 17-19, 2012**

- Coordination with OGF initiatives about OCCI, CDMI, OVF.
- Demo with real use case: CLARIN.

## **EGI Technical Forum: Prague, Sep 17-21, 2012**

- End of the secondTF cycle.
- Consolidation of the test bed.
- Demo.

## **Task Force resources**

- Mailing List: [fedcloud-tf@mailman.egi.eu](mailto:fedcloud-tf@mailman.egi.eu)
- Wiki site: <http://go.egi.eu/tf-fedclouds>
- Indico site: <https://www.egi.eu/indico/categoryDisplay.py?categId=56>





# Thank you.

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