





### **EGI Future Plans**

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### Outline

- Development of a European cloud platform
- Technical innovation
- Business Development
- Towards e-Infrastructure Commons
- EGI-Engage







# Development of a European cloud platform







### Why a Federated Cloud?

- Build a network of trusted cloud providers
  - compliance to security policies and data privacy regulations, security auditing and certification
- Discoverability of cloud services
  - service catalogue → market place
- Ease deployment of services from independent existing community publicly funded clouds through
  - AAI, accounting, discovery, VM management
- Address the need of big data analysis requirements
  - Institutional/national/community distributed data archives → cloud services move to data, discovery and brokering capabilities, VM migration → adoption of cloud open standards
  - Deploy and host community-specific services rely (PaaS and SaaS)



### Requirements for federation

- Two federation profiles
  - Basic
    - Security compliance, AAI, accounting
  - Advanced
    - Adoption of cloud open standards
    - VM management
    - Cloud service information
    - SLA, availability/reliability management
- See also: EGI Federated Cloud

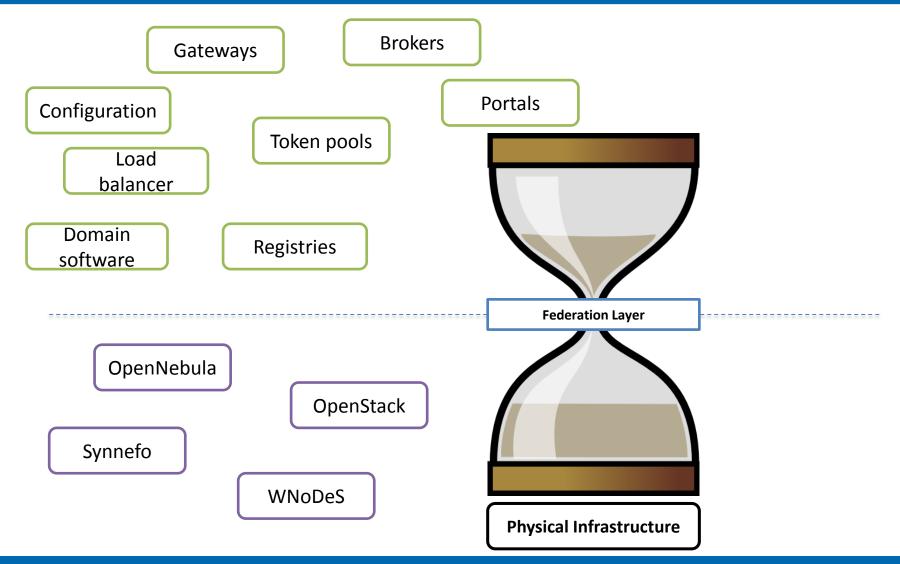


## Future steps

- Start of production activities in May 2014
- Complete the federation integration and extend the federated laaS layer
  - Open standard support integration
  - Cloud and storage including personal storage, secure data storage
  - Adoption of federated IdM
- User-driven co-development of PaaS and SaaS
  - federated secure data analysis platform PaaS for commercial and scientific users on top of a standard-based Cloud laaS federating heterogeneous cloud infrastructures
  - Development → testing → operations → market place
  - current <u>proof of concepts</u>
- From service catalogue to a EGI market place
  - In collaboration with other e-Infrastructures
  - Combining different business models



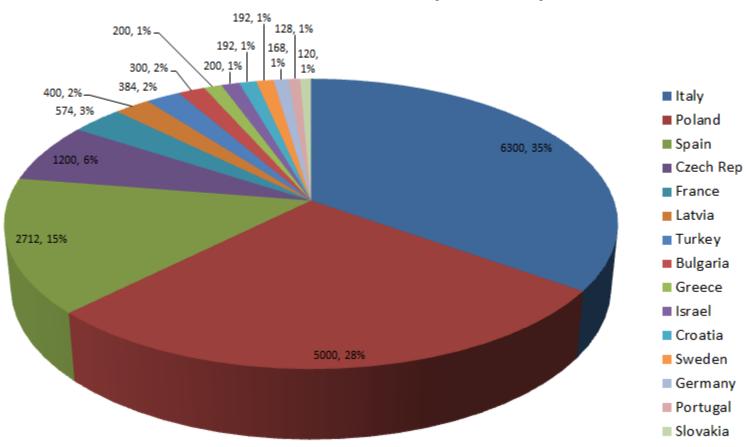
### EGI cloud ecosystem





### Resources, 2014 1/2

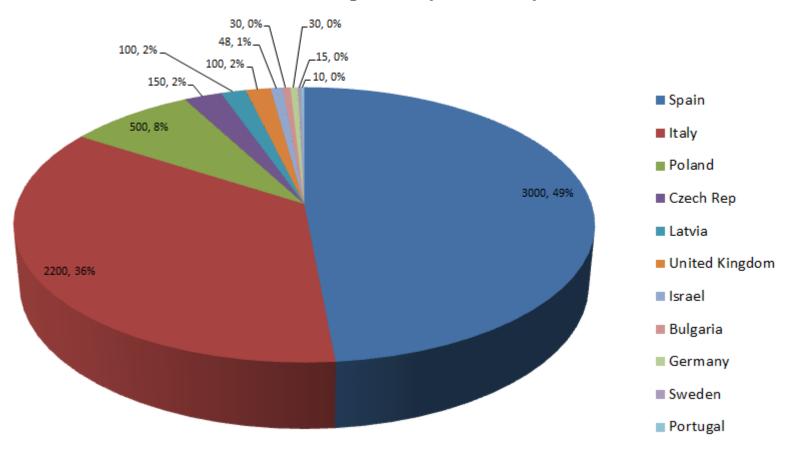
#### Federated Cloud Cores, 2014 (TOT: 18070)





# Resources, 2014 2/2

#### Federated Storage, 2014 (TOT: 6.2 PB)





### Marketplace(s) for Cloud Services

#### EGI Marketplace

- Rich and diverse set of community offerings
- Application/VM Image repository
- User community choice of provider at all levels
- Academic and commercial resource & service providers
- Extend to a service marketplace

#### Helix Nebula Marketplace

- EGI Federated Cloud as service provider
- "Hidden" behind a single technical and policy broker

#### EU Cloud for Europe marketplace

- Integrate EGI's solution and service portfolio
- Provide services for academia, government and business







### **Technical Innovation**

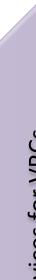






# Extension of the core infrastructure

- Federated ID management
  - Improve AAI Inter-operability among existing e-Infrastructures, policy and best practices harmonisation
  - Develop/Support a set of community use cases
- Evolution of the EGI operations tools
  - Grid and cloud platforms
  - EGI operation tools towards open source projects for wider deployment across e-Infrastructures and RIs (e.g. SAM now ARGO)





### User-driven innovation 1/2

Value added services for VRCs

- Use federated laaS Cloud as EGIs backbone
- Open standards for open platforms
- Innovate and deploy PaaS & SaaS on top
  - Innovate on EGI service tiers 2, 3 and 4
- Engaging in Proof of Concepts
- Strategic EC project proposals



### User-driven innovation 2/2

- Establish a network of thematic and/or discipline-oriented competence centres
  - Providing training, consultancy and engaged in a number of community-oriented projects
  - Partners
    - International user communities (requirements, co-development, sustainability)
    - Developers (development, testing, sustainability)
    - Service providers (exploitation) NGIs, RCs
    - International engagement → Europe, US, Asia Pacific and other regions (discussions in progress)
  - Distributed, European footprint, collaborating with national e-Science centres and CoEs
  - Call: April-May, selection May-June → EGI-Engage project proposal







# **Business Development**







### **Business Models**

Model	Certification	API	Consultancy	Allocation	MSA	Accounting Reports	Invoicing
Invisible Federator	<b>/</b>	<b>/</b>					
Advisor	<b>/</b>	<b>/</b>	<b>/</b>				
Matchmaker	<b>V</b>	<b>V</b>	<b>V</b>	<b>/</b>	<b>( / )</b>		
Trusted Third Party	<b>/</b>	<b>/</b>	<b>/</b>	<b>/</b>	<b>/</b>	<b>/</b>	
One Stop Shop	<b>/</b>	/	<b>/</b>	<b>/</b>	<b>/</b>	<b>V</b>	<b>V</b>

Each role has different implications in the functions and structure of EGI.eu



### Resource Pricing

#### Free at the point of use

 accounted resource consumption, best effort support, no direct reimbursement of accrued costs

#### Try before you buy

- Limited access to free resources, expires after defined time.
- Facilitates conversion rate from user to customer

#### Pay-as-you-go

 Fixed price per consumption unit, fees directly correlate with consumed resources

#### Wholesale resource guarantee

 Soft-quota, 2-tier cost plan: Resources within quota paid as you go on wholesale price, overdraft within limits costed at pay-as-you-go plan

#### Reserved resources

 Exclusive resource reservation up to agreed limits. Overdraft not allowed, fixed payments



### SLA governed services

#### Basic

- Managed through EGI OLA framework
- Available at all Cloud service providers
- "Free at the point of use" billing plan and higher

#### Advanced

- Available on a subset of Cloud service providers
- "Pay-as-you-go" plan or higher

#### Custom/Premier

- Tailored to community requirements
- Advanced SLAs subject to research and innovation
- Applicable to subset of providers







# Towards E-Infrastructure Commons







# International cooperation

- Ensuring continued e-Infrastructure technical and operations coordination
- Common service catalogue
- Coordination on training, outreach, user forum through the distributed competence centres



# EGI-Engage

- March. Consultation with council members
- Objectives agreed
  - Coordination of operations, software provisioning, tool development, user engagement
  - User-driven innovation for provisioning of new services (compute and data)
  - Development of the grid and cloud platform
  - EGI market place and business development
  - International cooperation with other e-Infrastructures
- Consortium
  - Strong user community participation, NGIs, technology providers
- Out of scope
  - EGI central operations services no longer supported through EC funding as of 01 May, relying on EGI council fees (40%) and NGI in-kind contributions (total cost: 1.5 MEuro) - <a href="https://wiki.egi.eu/wiki/Core\_EGI\_Activities">https://wiki.egi.eu/wiki/Core\_EGI\_Activities</a>
  - NGI operations (35% EC funding in EGI-InSPIRE until April 2014)



# EGI-Engage

- Editorial board core defined /T. Ferrari coordinating
- Mid Apr: call for competence centres
  - Proposing projects with user communities for innovation
  - Providing support and training
  - with involvement of other e-infrastructures
- May: submissions of competence centre proposals
- June: evaluation
- Proposal preparation
  - I draft for council discussion at the May meeting (CF2014)
  - 30/06: II draft for council review
  - 31/07: III draft + budget