

BioVeL services as cloud appliances



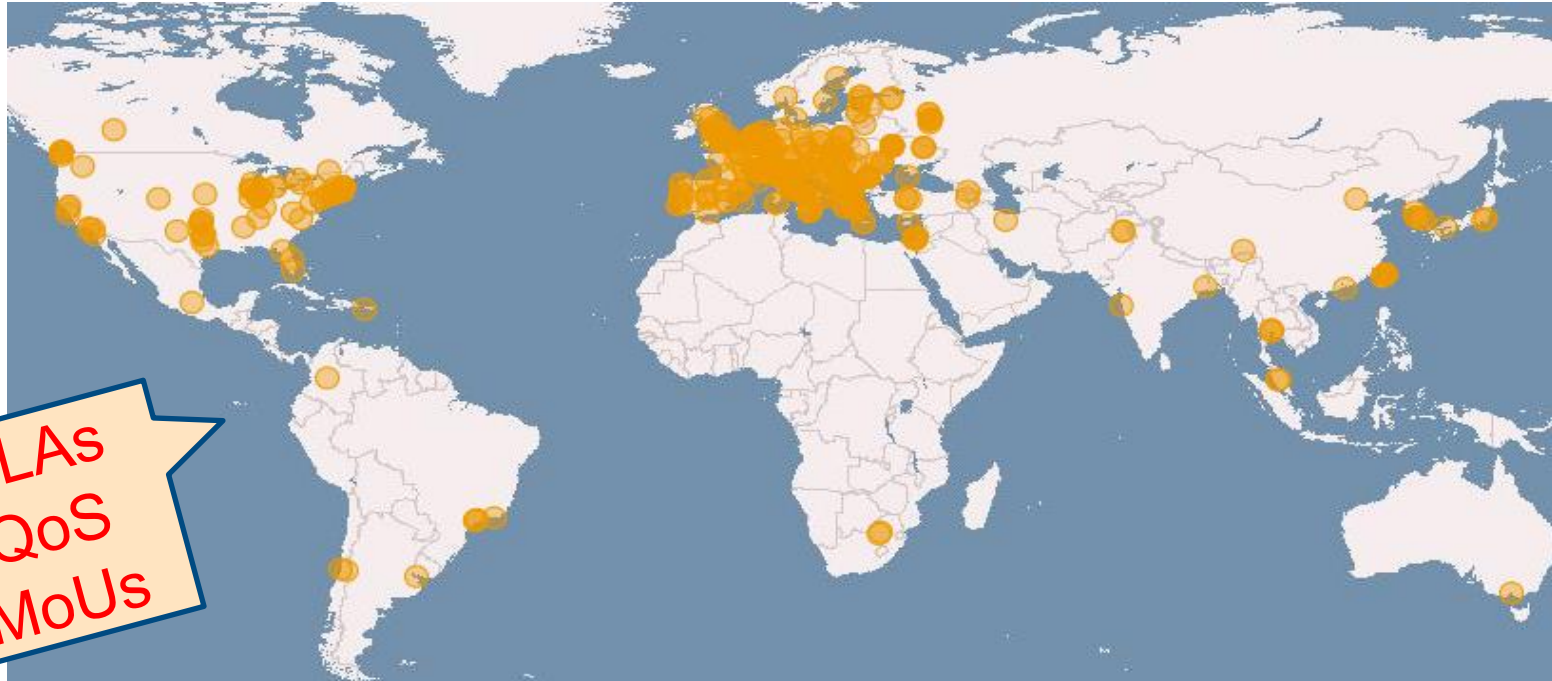
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- The European Grid Infrastructure
- The EGI Federated Cloud
- BioVeL services @ EGI
- Lessons learned

- **E**uropean
 - Over 35 countries
- **G**rid
 - Services for the sharing of IT resources
- **I**nfrastructure
 - Computers
 - Data
 - Applications
 - **and beyond!!**
- **S**ustainability
 - NGI membership fees
 - FP7-H2020 projects
 - EDG → EGEE → EGI
 - 2002-04 → 2004-2010 → 2010-



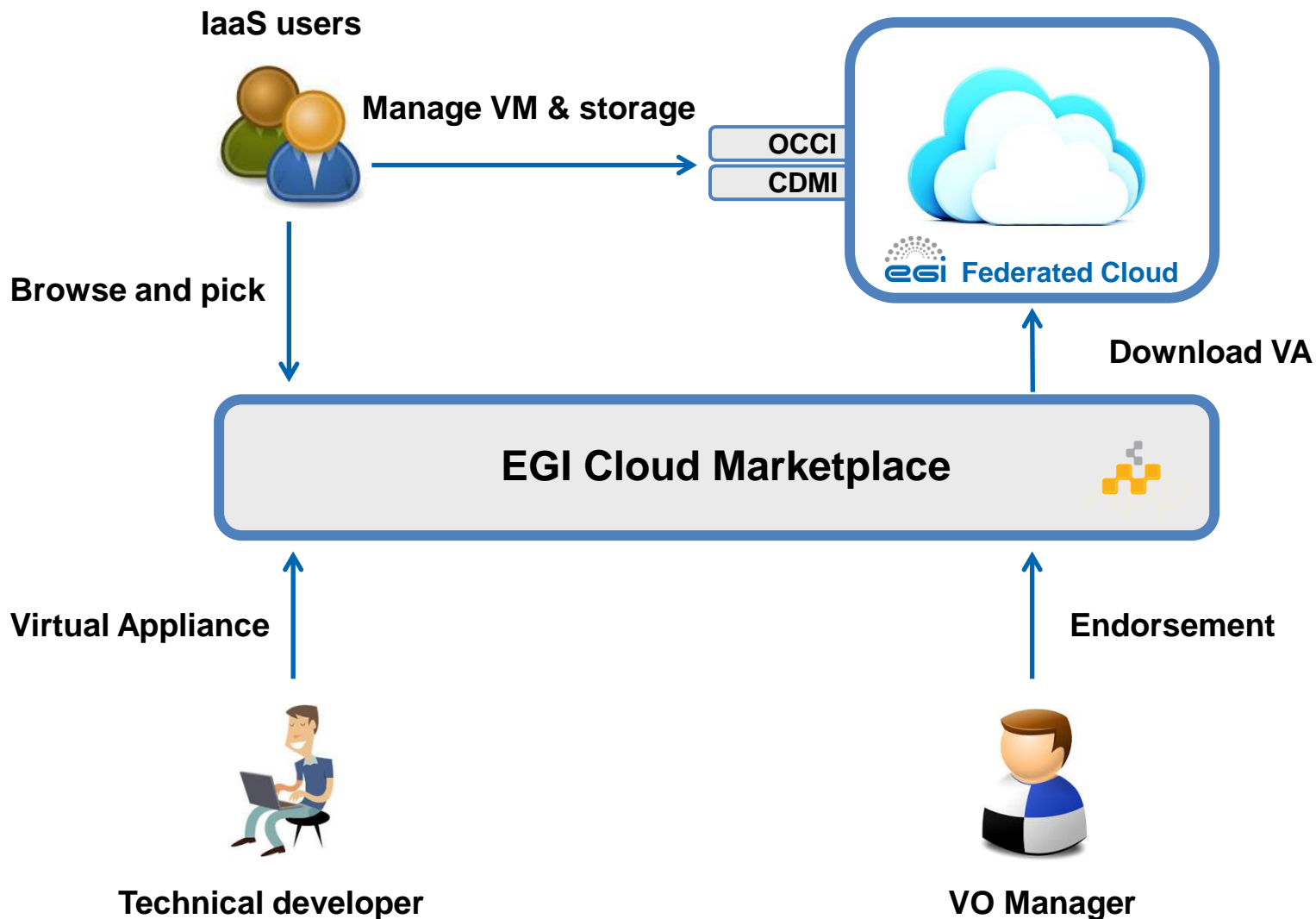


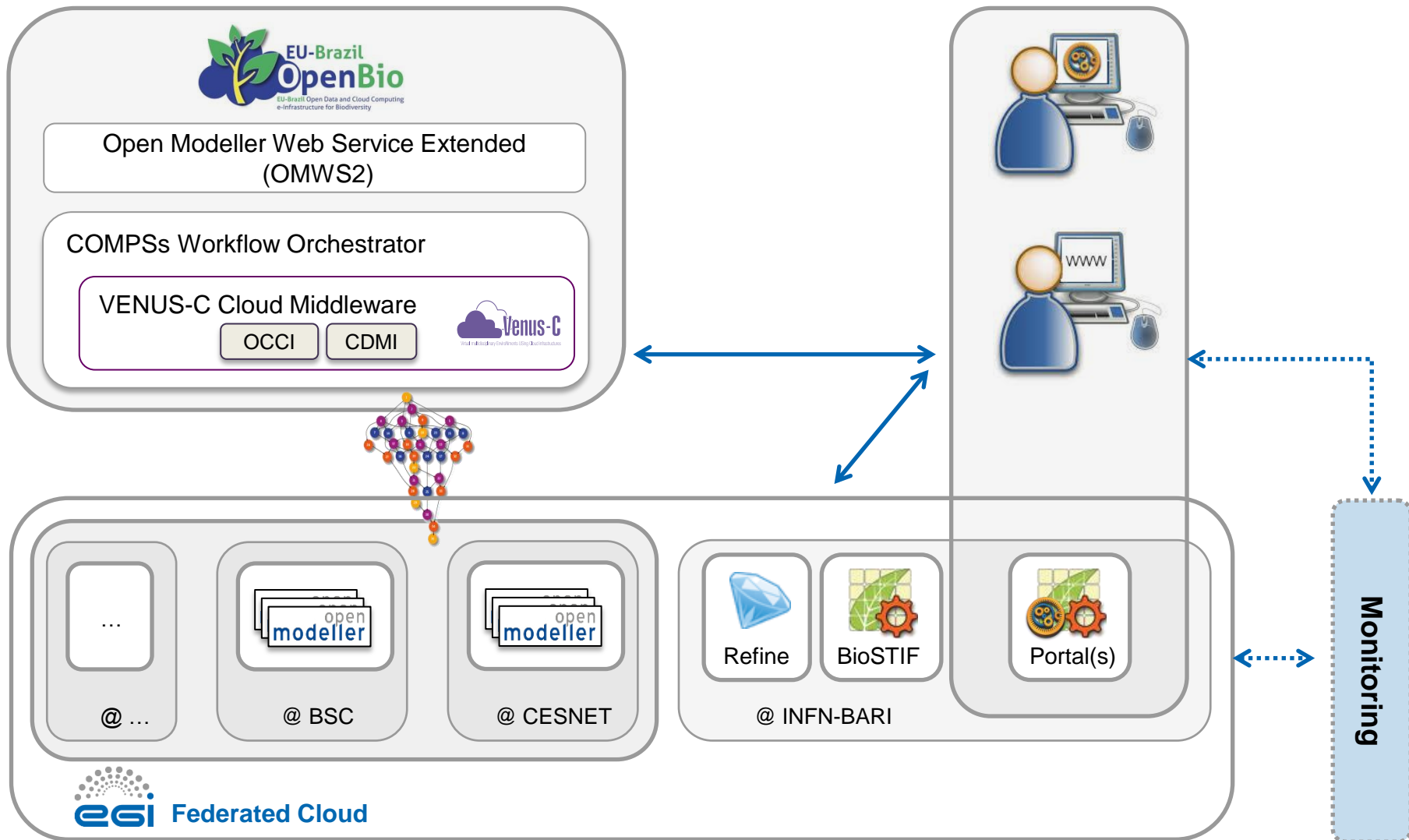
- Distributed, federated storage and compute facilities
- Grid and Cloud compute platforms
- Virtual Research Environments
- > 200 user research projects
- 350 resource centres in 40 countries
- 400,000 logical CPU cores
- 190 PB disk, 180 PB tape
- > 99.6% reliability

The EGI Federated Cloud is **federation of institutional private Clouds**, offering Cloud Infrastructure as a Service to scientists in Europe and worldwide.

- **Standards and validation**: federation is based on common **Open-Standards** – OCCI, CDMI, OVF, GLUE, etc...
- **Heterogeneous implementation**: no mandate on the cloud technology, the only condition is to expose the chosen interfaces and services.
- **IaaS oriented** with PaaS/SaaS growing interest
- **Distributed Competence Center**







“Exploiting **cloud computing paradigm**, greatly **increase the capabilities of supporting new use-cases ...**”

Giacinto Don Vito, INFN BARI

EGI Federated Cloud evolves with community needs:

- Robust **federated storage**
- **Common AAI** across all platform layers (brokers, portals, ...)
- **AWS Route 53** similar service
- **Simple Email Service**
- **Reliable service management**

D. Lezzi, BSC; R. Haines, UNIMAN; Renato De Giovanni, CRIA

Technical areas:

- Resource provisioning
- Operations services
- Helpdesk
- Software and applications distribution

Outreach, support, policy areas:

- Distributed Competence Center
- Centers of Excellence
- Service Management (FitSM)

- **BioVeL greatly helped EGI** to establish and evolve the Federated Cloud
- **Resource providers** from BioVeL became long-term **cloud providers in EGI**
- **BioVeL operates 4 use cases on EGI.** This is the highest number from a single community.
- The **Cloud provides flexibility** that can serve diverse use cases
- The **cloud still needs to evolve to fully serve BioVeL:** robustness, federated storage, VA maintenance

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Thank you BioVeL for pushing the EGI FedCloud limits!

