

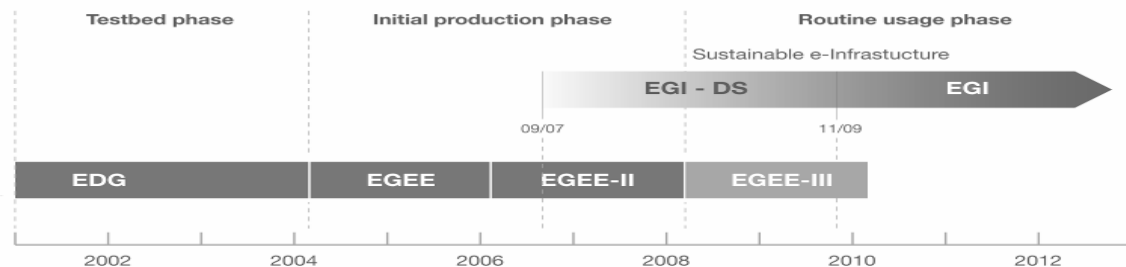
# The European Grid Infrastructure

Steven Newhouse  
Project Director, EGI.eu



- European:
  - Focus on meeting the needs of European Researchers
  - Their key need is to collaborate internationally
- Grid:
  - Federation of shared resources
  - Supportive of the collaborative social network
- Infrastructure:
  - Physical and organisational structures
  - Services and facilities for an economy to function

- European Data Grid (EDG)
  - Explore concepts in a testbed
- Enabling Grid for E-science (EGEE)
  - Moving from prototype to production
- European Grid Infrastructure (EGI)
  - Routine usage of a sustainable e-infrastructure



Status April 2010 (yearly increase)

- 10000 users: +5%
- 243020 LCPUs (cores): +75%
- 40PB disk: +60%
- 61PB tape: +56%
- 15 million jobs/month: +10%
- 317 sites: +18%
- 52 countries: +8%
- 175 VOs: +8%
- 29 active VOs: +32%

Imperial College  
London

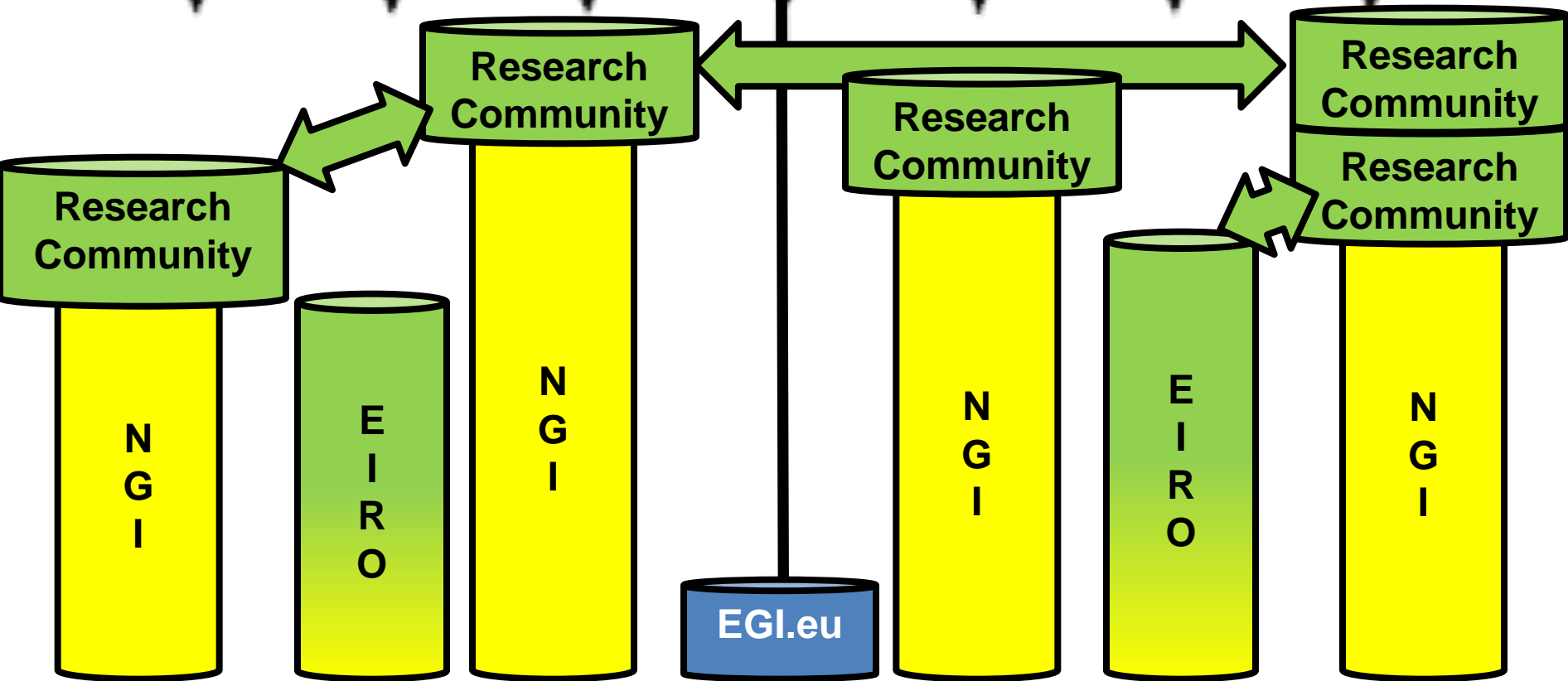
**GridPP**  
UK Computing for Particle Physics



**10:14:26 UTC (3 minutes ago)**

# EGI

# Collaboration



- Coordination for European Grid resources
  - Established February 8th 2010
  - Central policy & services needed to run a grid
  - Sustainable small coordinating organisation
- Based in Amsterdam
  - Coordinating core (~20 people) in Amsterdam
  - Technical services from partners (~20 people)

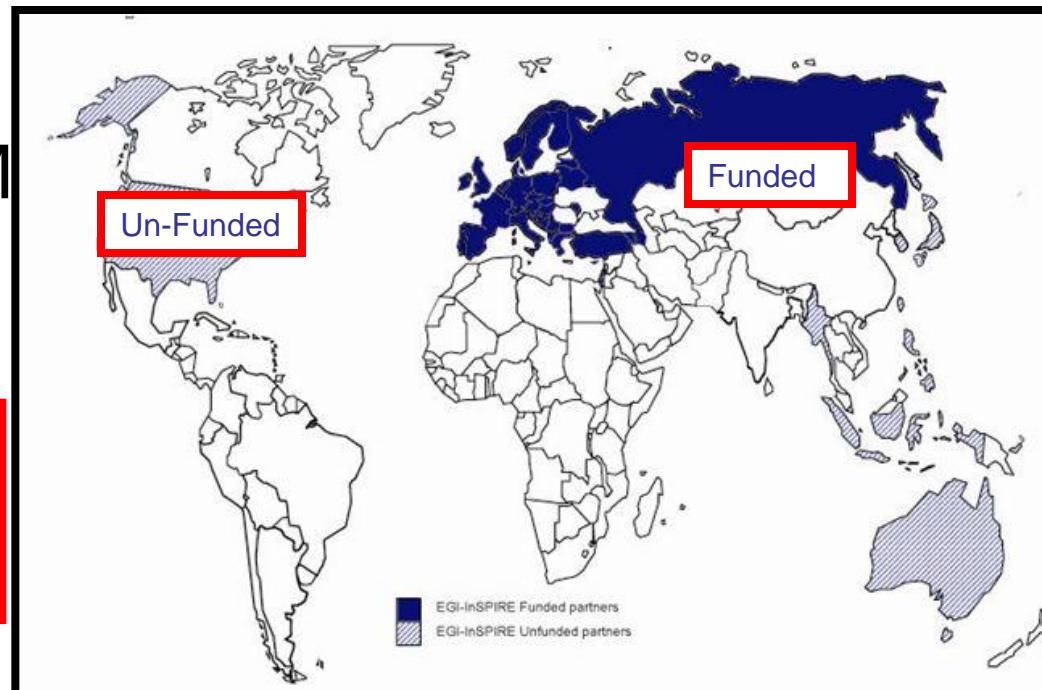
EGI and EGI.eu supported initially by EGI-InSPIRE

## Integrated Sustainable Pan-European Infrastructure for Researchers in Europe

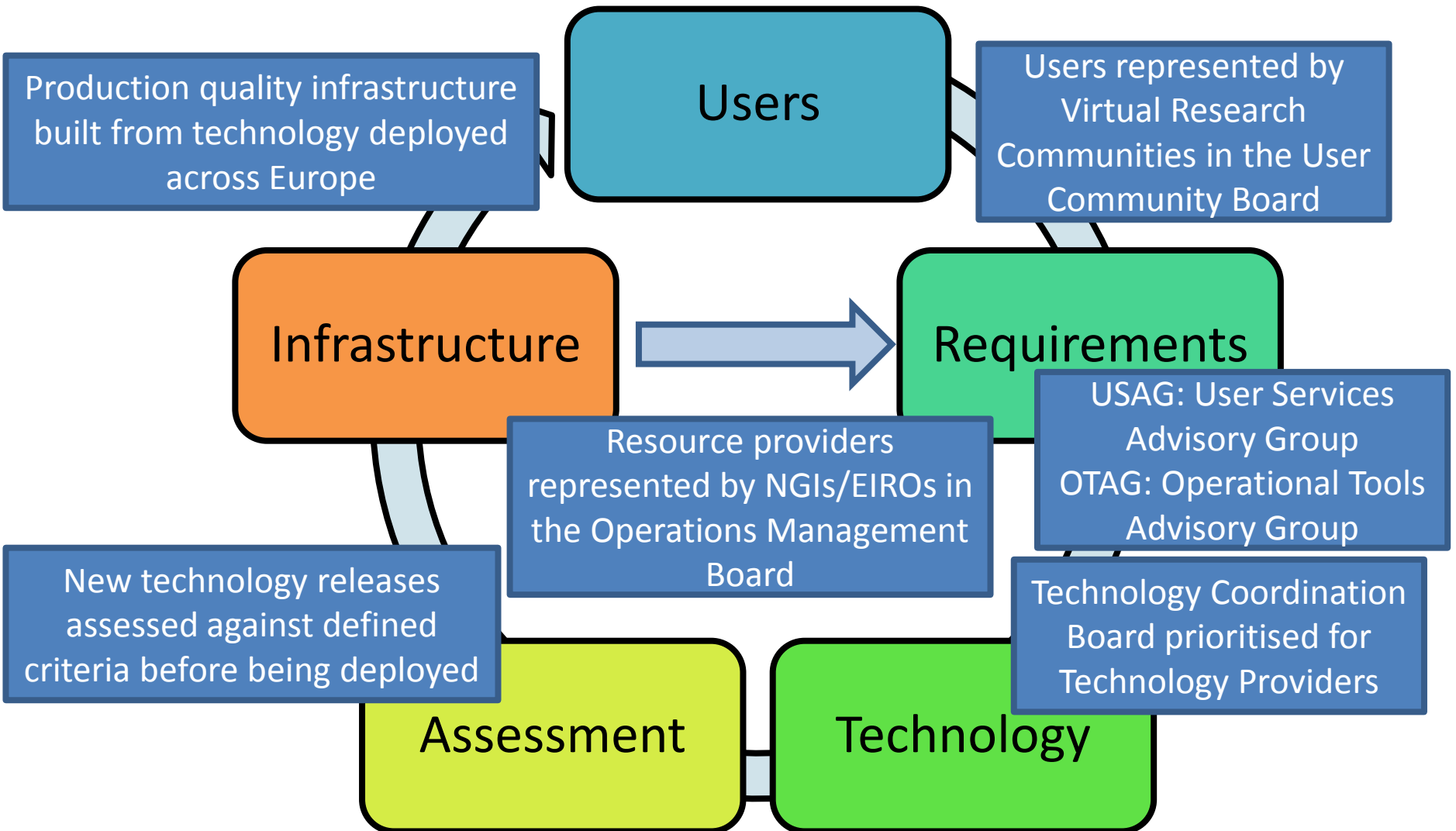
- A 4 year project with €25M EC contribution
  - Project cost €72M
  - Total Effort ~€330M
  - Effort: 9261PMs

### Project Partners (51)

- EGI.eu, 40 NGIs, 2 EIROs
- Asia Pacific (8 partners)



# A Virtuous Service Cycle



- **Deploy Technology Innovation**
  - Distributed Computing continues to evolve
    - To include: Grids, Desktops, Virtualisation, Clouds, ...
- **Enable Software Innovation**
  - Provide reliable persistent technology platform
    - Tools built on gLite/UNICORE/ARC/Globus
- **Support Research Innovation**
  - Infrastructure for data driven research
    - Support for international research (e.g. ESFRI)

- Enable a human network
  - Researchers in International Collaborations
  - National Research Collaborations through the NGI
  - Scale up from the single VO to a community
- Provide a federated Helpdesk linking:
  - Human and Technical services (e.g. Training)
  - Discipline specific support (e.g. Bio Apps)
  - Operation teams in the resource centres

- Training Events
  - Calendar of training events available to all infrastructure providers and technologies.
- Training Repository
  - Central point for the training material from EGI community
- Applications Database
  - A catalogue of all applications that have been ported or are being ported within the infrastructure
- VO Services
  - To help build the collaborations within your community
    - VOMS
    - VO database & registration services
    - Basic portals
    - VO Dashboards

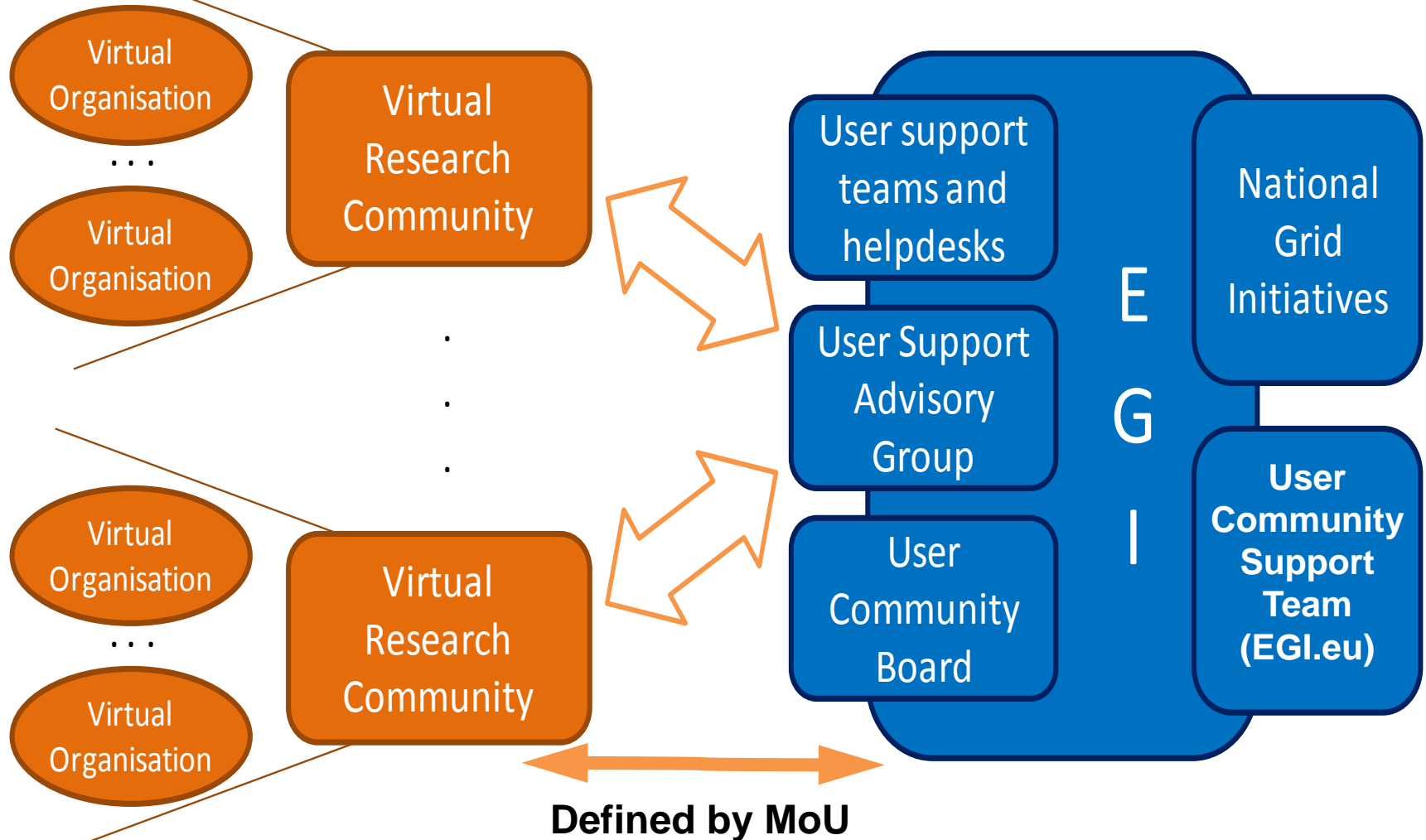
- Communication
  - With NGIs, VRCs, SSCs and other projects
- Needs of the Heavy User Communities
  - General & community specific services
- Building a community
  - Two Annual meetings: Users & Technology
- Technology Assessment and Integration
  - Liaison with software providers
  - Definition and verification of requirements

- Infrastructure to support European Researchers
  - Within the EU27
  - Geographical Europe
  - Interoperability worldwide for collaboration
- Work with Virtual Research Communities
  - Groupings of aligned Virtual Organisations
  - Enable their community specific support activity:
    - Support, training, consultancy, requirements etc.



- EGI has to scale
  - In terms of users & disciplines
  - Bring resources together to serve users
- Focus on Virtual Research Communities
  - VRCs links EGI to a community structure
    - Group defined by MoU, conference, organisation, ...
  - It is the human collaborative side of the grid
    - The VO is the technical instantiation of collaboration

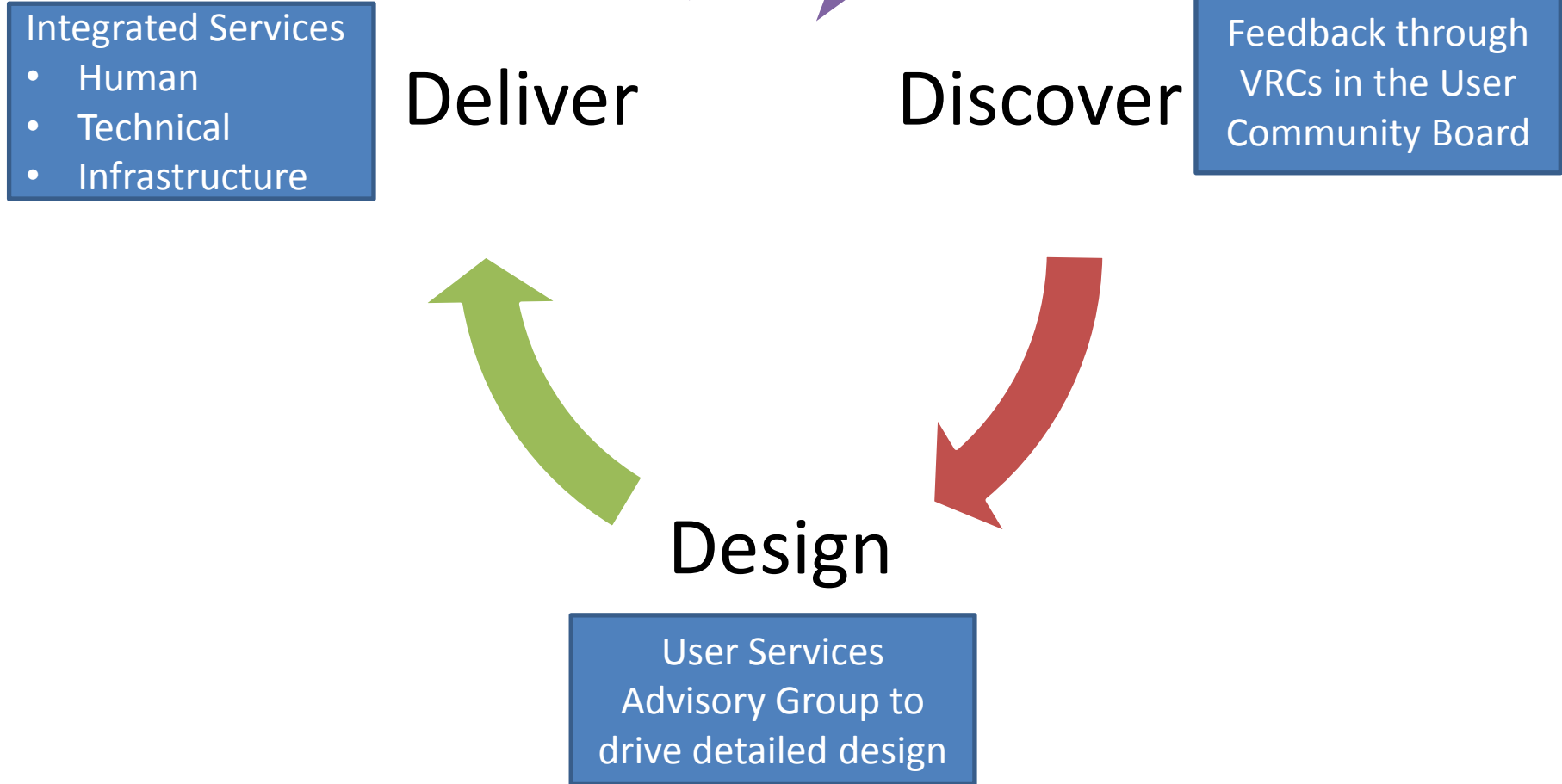
# An Evolving Relationship



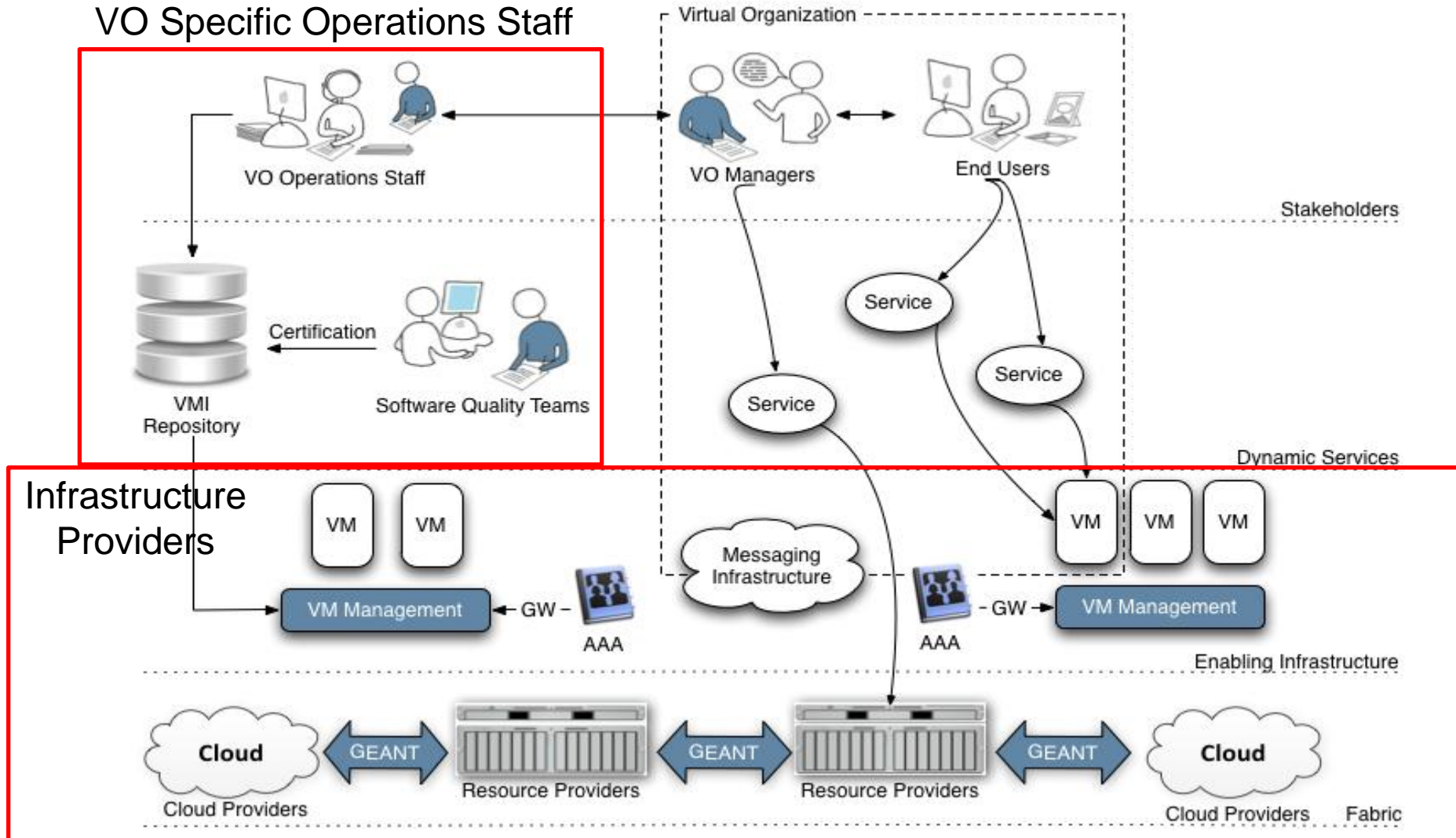
# Why become a VRC?

- Evolve EGI's services
  - User Community Board
    - Policy, procedures and technical management
  - User Services Advisory Group
    - Technical evolution of the provided services
- Benefit from and share your experiences with others
- Use our expertise to integrate your communities resources into the production infrastructure
- Managed helpdesk for resolving infrastructure and support issues – if you have them!

# A Virtuous User Cycle



# A Virtualised Future?



- EGEE:
  - Demonstrated a production e-infrastructure
- EGI:
  - Provide a sustainable production e-infrastructure
- EGI.eu established in Amsterdam
  - Supported transition through EGI-InSPIRE

# Questions?

## EGI User Forum 2011

11-15 April

Vilnius, Lithuania



European Middleware Initiative

Hosts: NGI LitGrid, presented by  
Vilnius University and Baltic Amadeus  
infrastruktūros paslaugos (BAIP)

Organisers: AIM Group Baltic UAB

- Call for papers opens October 2010
- See [www.egi.eu/EGIUF2011](http://www.egi.eu/EGIUF2011) for more details
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