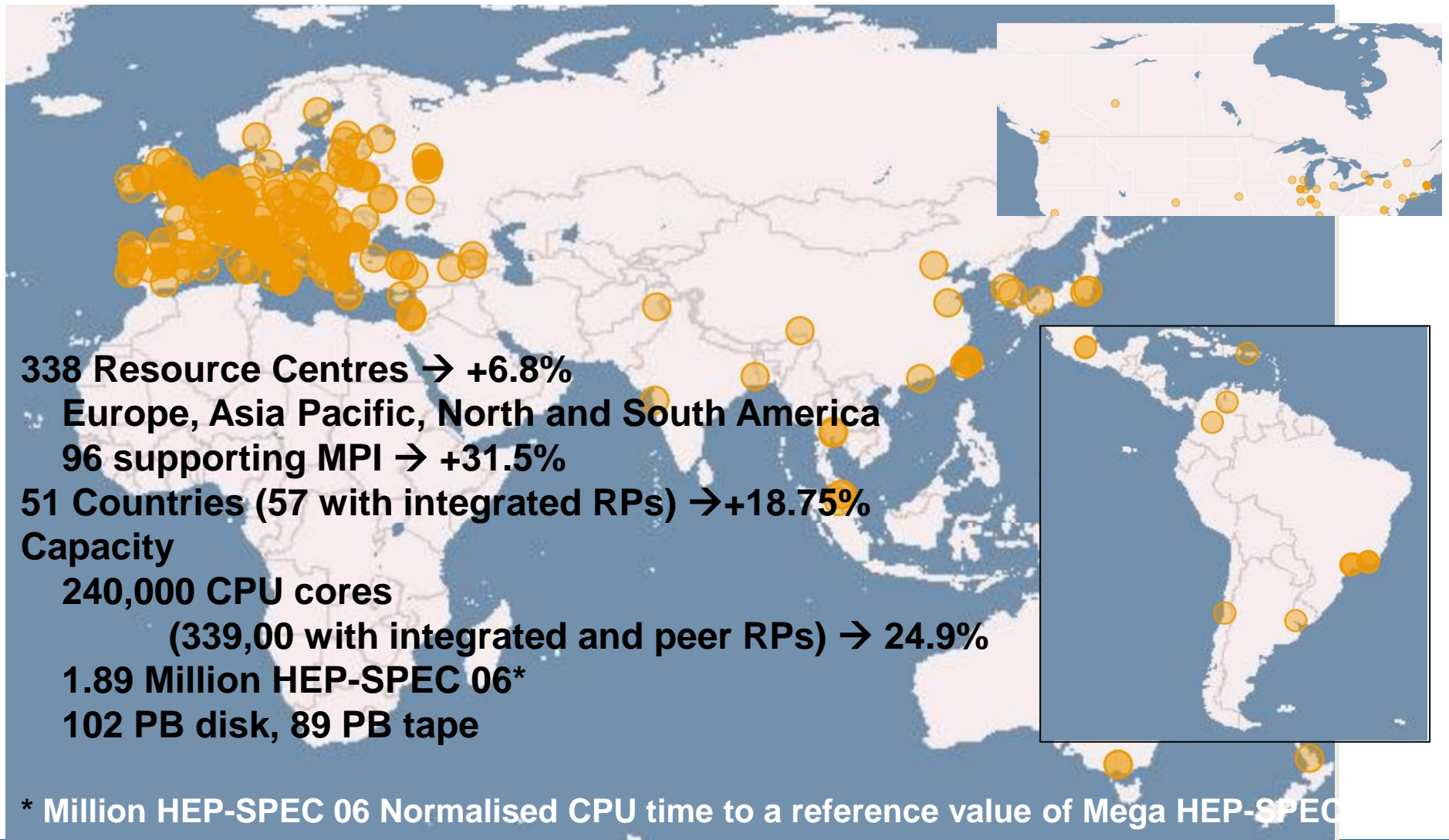


Virtual Research Communities: EGI's model for supporting the Life Sciences Grid Community

Steve Brewer, Chief Community Officer,
EGI.eu

steve.brewer@egi.eu

- 1. Managing a sustainable infrastructure**
2. Building sustainable user services
3. Cultivating sustainable communities



- A grid consists of distributed resources controlled by separate organisations that be systematically used securely by users external to that organisation
- Resources can include:
 - Commodity or HPC clusters
 - Disk or tape storage
 - Instruments
 - Data Archives or Digital Libraries

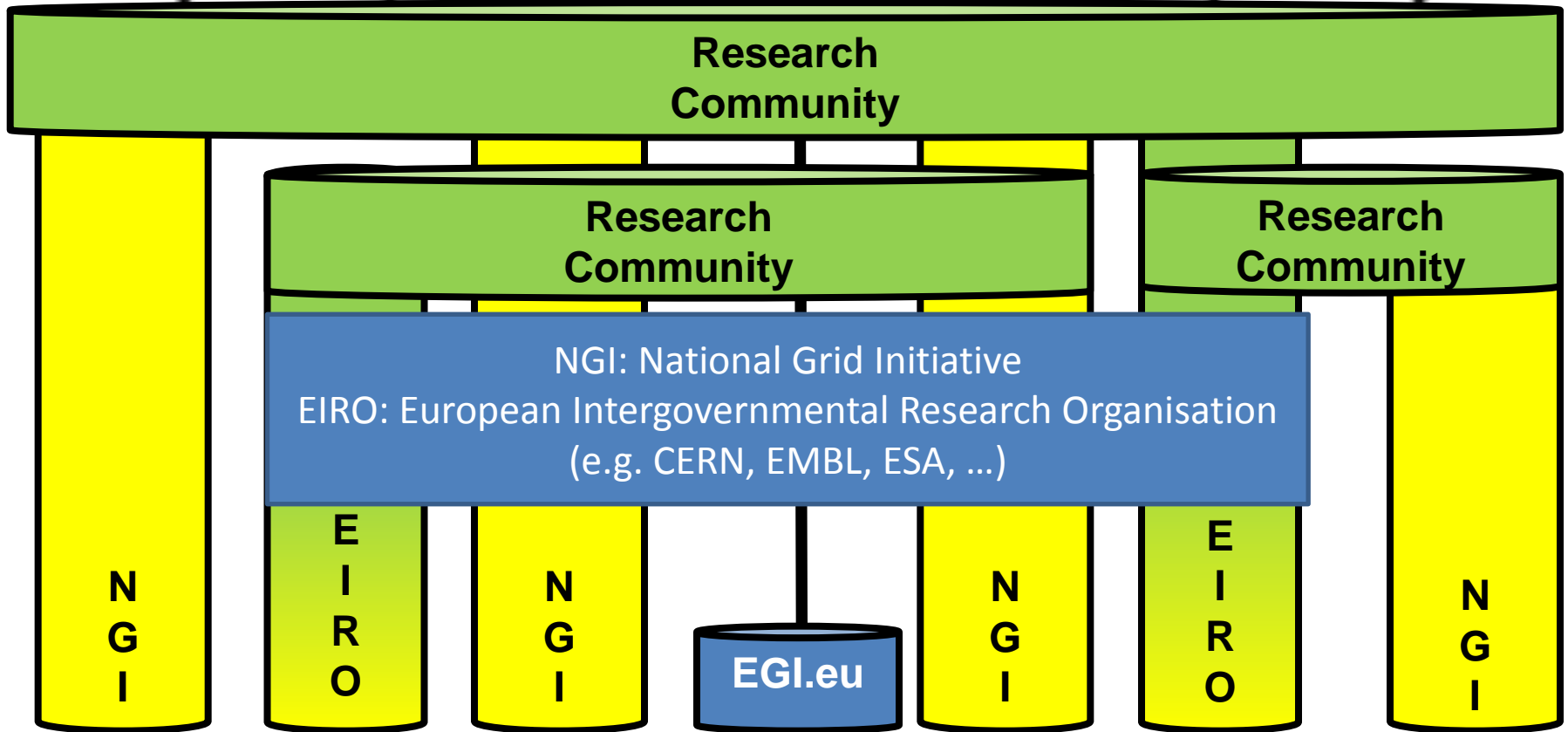
Infrastructure is the basic physical and organisational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function

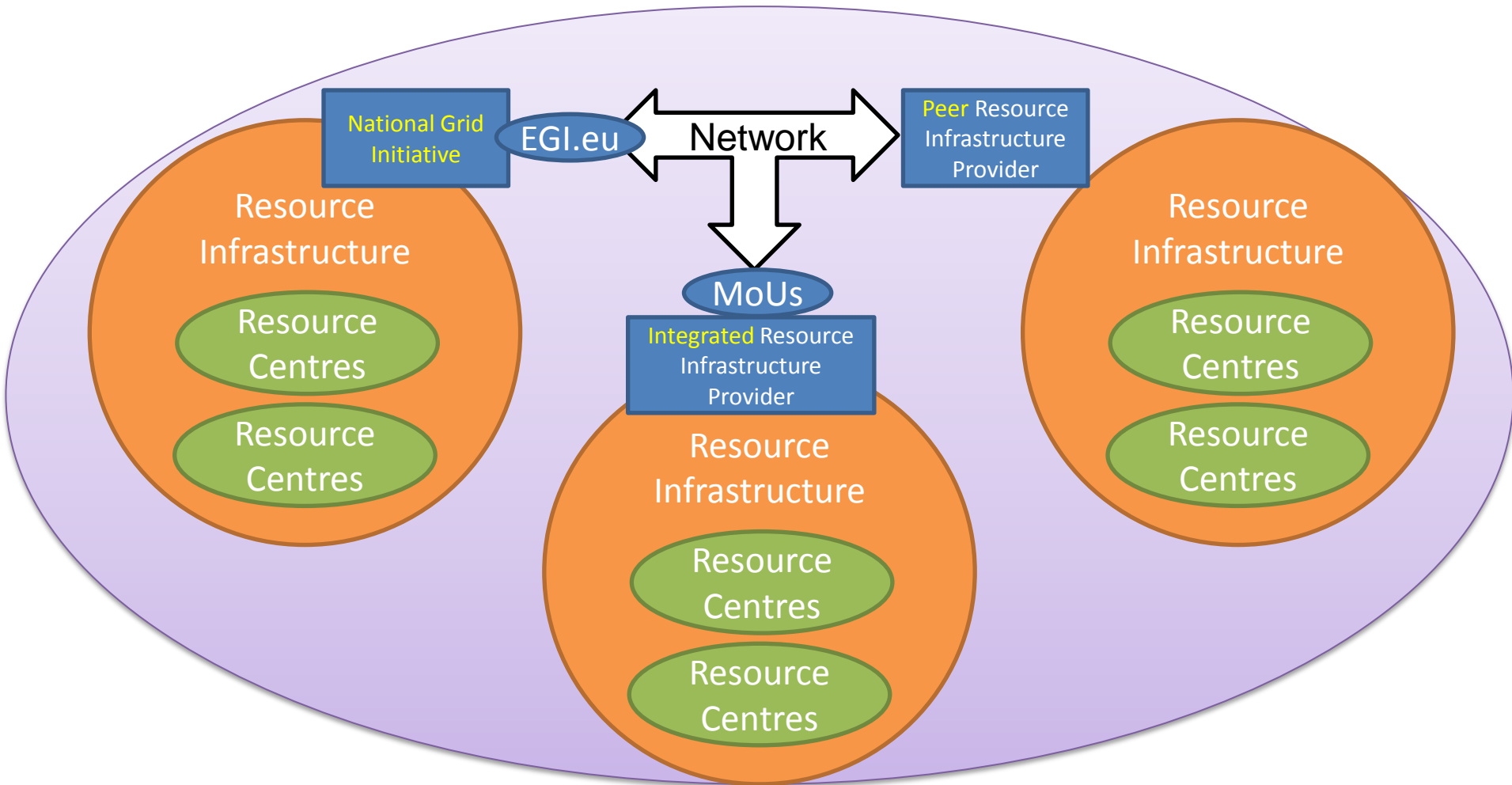
The Enterprise is the European Research Area

EGI provides a service infrastructure that exposes and helps coordinate a resource infrastructure

EGI

Collaboration





Integrated: infrastructure operated by a non-EGI-InSPIRE partner but relying on EGI operational services (MoU)

Peer: infrastructure accessible to EGI users, but relying on own operational services

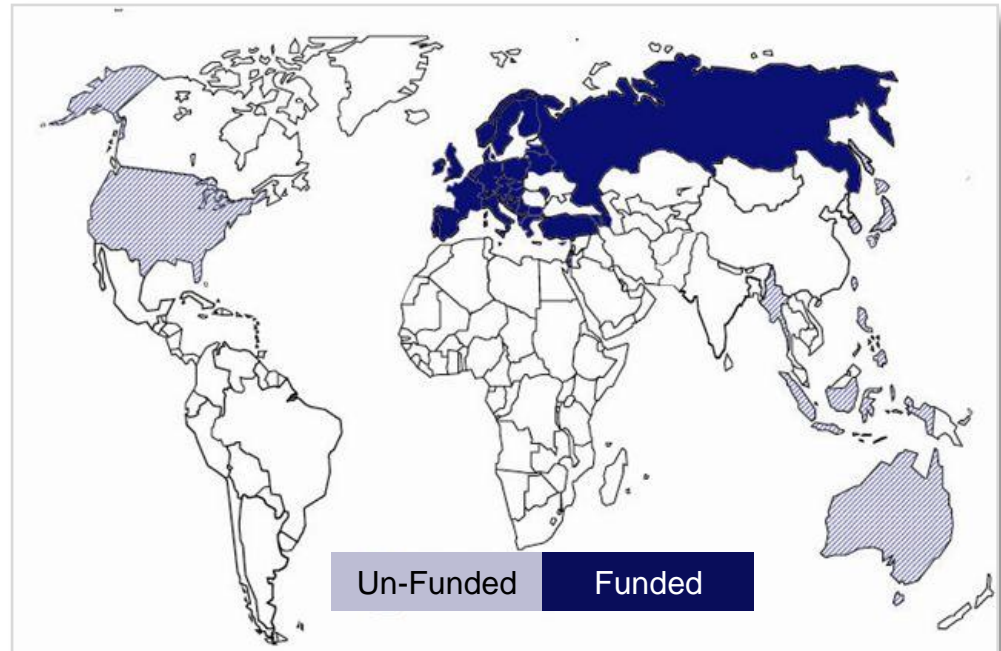
- Coordination for European Grid resources
 - Established February 8th 2010
 - Central policy & services needed to run a grid
 - Sustainable small coordinating organisation
- Based in Amsterdam
 - Coordinating core (~20 people) in Amsterdam
 - Technical services from partners (~20 people)

EGI and EGI.eu supported by EGI-InSPIRE project

Integrated **S**ustainable **P**an-European **I**nfrastructure for
Researchers in **E**urope

A 4 year project with €25M EC contribution

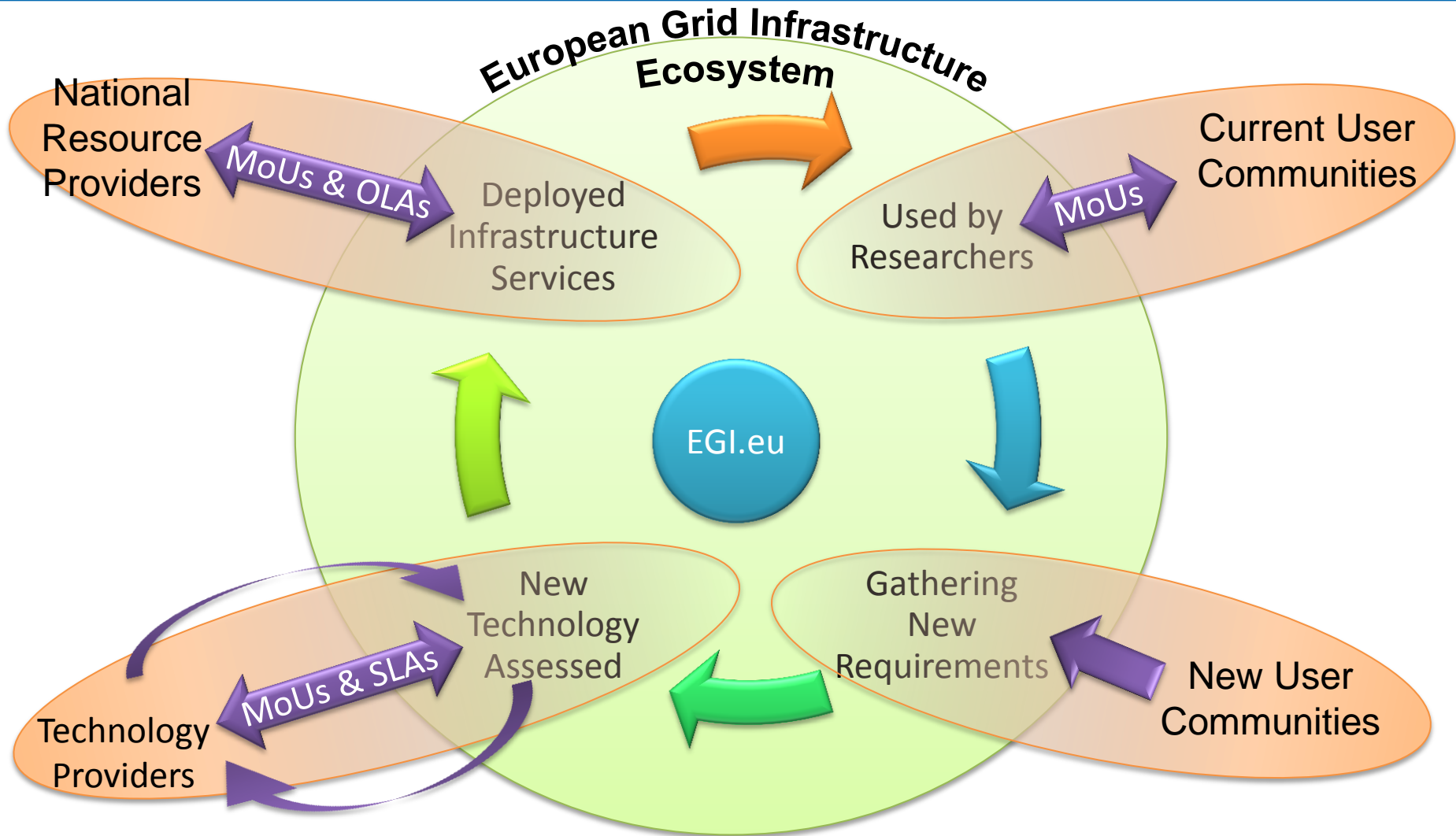
- Project cost €72M
- Total Effort ~€330M
- Effort: 9261PMs



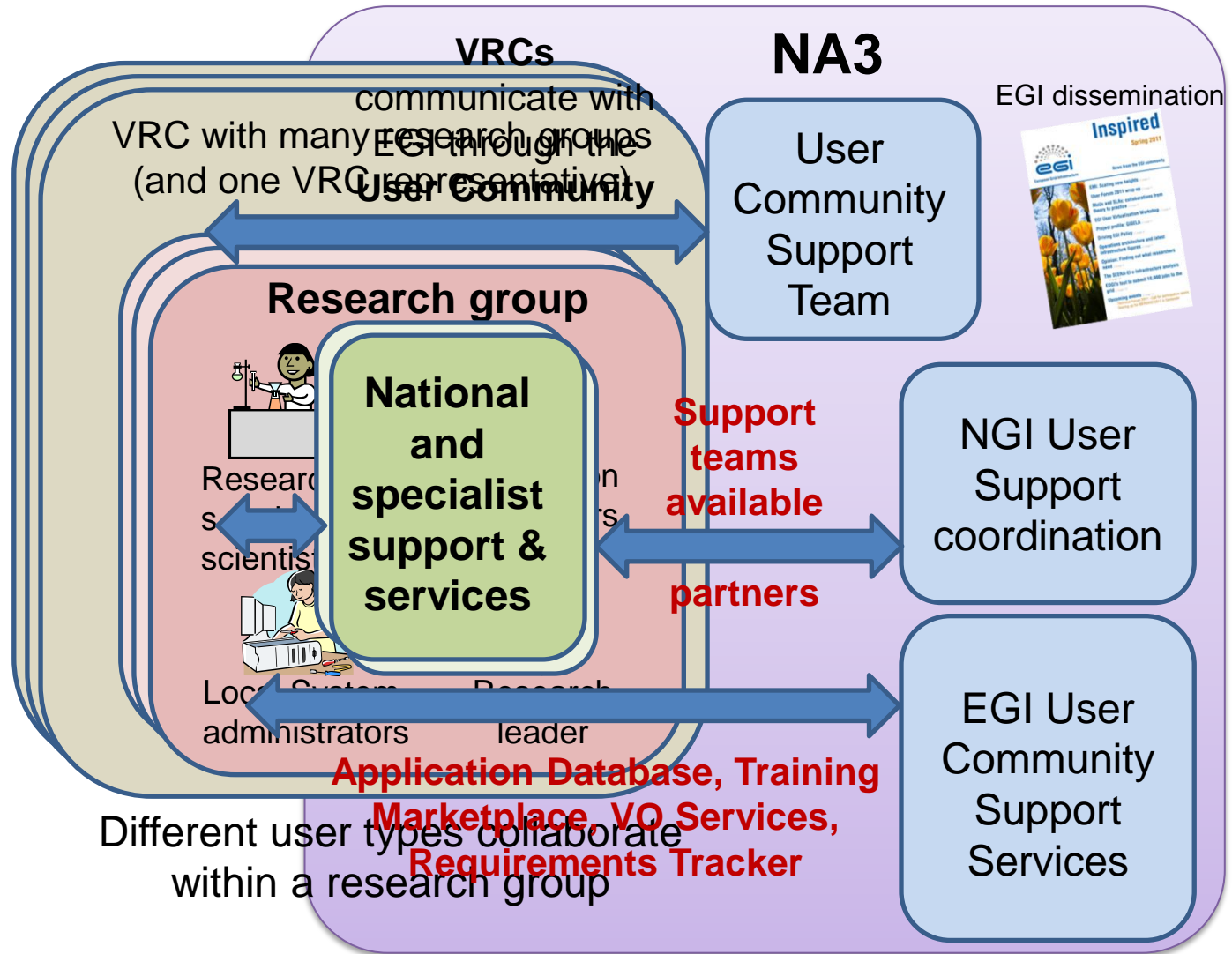
Project Partners (50)
 EGI.eu, 38 NGIs, 2 EIROs
 Asia Pacific (9 partners)

- A sustainable production infrastructure
 - Resource providers in Europe and worldwide
 - With new technologies as they mature
- Support structured international research
 - Sustain current domain specific services
 - Attract new user communities (e.g. ESFRI)

A Virtuous Service Cycle



1. Managing a sustainable infrastructure
2. **Building sustainable user services**
3. Cultivating sustainable communities



Support teams

- NGI User Support Teams Experts
- Site administrators
- Projects with focus on specific areas. e.g. EDGI; MAPPER; StratusLab

- Activity Management
- User Support Coordination
 - ucst@egi.eu
 - Ensures the flow of information, knowledge and solutions among stakeholders



Processes

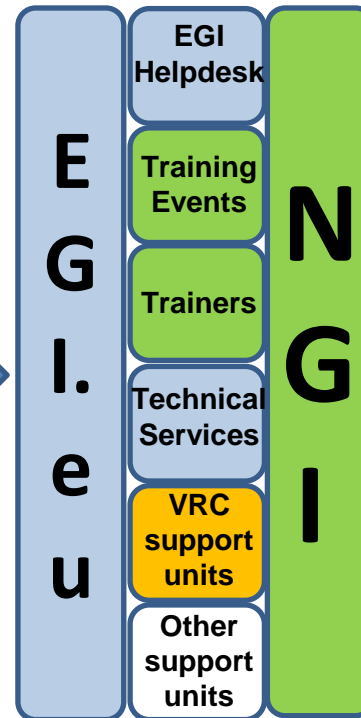
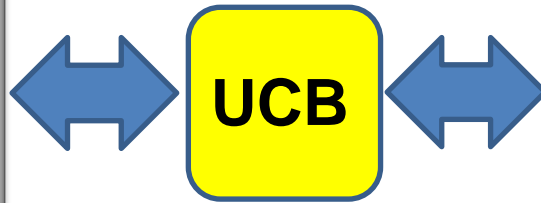
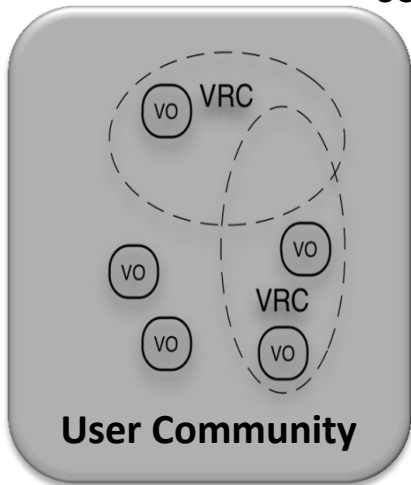
- User Community Board (UCB)
- VRC accreditation
- Requirements processing
- Training Working Group
- User Services Advisory Group (USAG)

Technical services

- Application Database
- VO services
- Training Marketplace
- Requirements Tracker

VO: a group of researchers working collaboratively

VRC: a grouping of research collaborations working in a common domain



Benefits:

1. **Defined communication channels:** named contact points between communities & EGI
2. **Application integration**
3. **Policy and procedures:** define interaction between EGI and users
4. **Requirements gathering:** solutions and influence
5. **Dissemination:** sharing of news, breakthroughs, best practice and innovation

User Community Board

with representation from: Life Sciences, WLCG, WeNMR, Astronomy & Astrophysics, Earth Sciences, Computational Chemistry, Arts & Humanities, Hydrometeorology

Application Details - SIMAP

Information



ID: 555 ([Permalink](#))
Type: Application
Name: SIMAP
Description: Simulating and analysing the dynamic models
Discipline: Computational Chemistry
Subdiscipline: Biochemistry

Website

The SIMAP Utility is a platform-independent environment for simulating and analysing the dynamic models, and also for simulating and analysing the dynamic models. The SIMAP utility provides a Graphical User Interface to import, create, edit, and export the biochemical models code. The core of the utility comprises the SBML ODE Solver Library of computational modules for simulating and analysing Ordinary Differential Equations-based simulator, a sequence scanner, a model fitting module, a gene knockdown analysis

Abstract:

The application was ported within the framework of the FP7 E

Related Country: [United Kingdom/Ireland](#)  

VOs:

Middlewares: [BOINC](#)

Status: Ready for standalone use/ running on a local cluster

Added on 2011-03-04, by [Noam Weingarten](#)

Scientific Contacts



Weingarten Noam
 Other
 University of Westminster



Kiss Tamas
 Scientific Coord
 University of

Training marketplace

[Home](#) • [User Support](#) • Training marketplace

The EGI Training Marketplace exists as a service to coordinate training across communities, projects and national teams. The new Training Marketplace enables trainers to advertise events and resources, and users to locate, comment on and suggest training material and events that meet their needs.

[Home](#) [User Support](#) [Filter](#) [More](#) [Europe/Belgrade](#) [English](#) [Login](#)

EGI Hands On Training for AEGIS Users

Friday 25 March 2011 from 10:00 to 17:25 (Europe/Belgrade)
at Institute of Physics Belgrade (Library)

Support slavnic@tpb.ac.rs

Friday 25 March 2011

10:00 - 10:05	Opening 05' Speakers: Antun Balaz (Institute of Physics Belgrade)
10:05 - 10:10	Overview of the training 05' Speakers: Antun Balaz (Institute of Physics Belgrade)
10:10 - 10:40	Introduction to Grid Technology 30' Speakers: Antun Balaz (Institute of Physics Belgrade) Material: Slides 
10:40 - 11:40	Hands-On Session: Linux shell environment 1h00' - Navigating the file system - Standard Linux commands - Archive tools - Data management - Script language Speakers: Nikola Grkic (Institute of Physics Belgrade) Material: Slides 
11:40 - 11:55	Coffee break
11:55 - 12:25	Hands-On Session: Setting up the user account 30' - User interface (UI) - Grid Security Infrastructure (GSI) - Obtaining certificate - How to use certificate - Proxies - Proxy renewal Speakers: Nikola Grkic (Institute of Physics Belgrade) Material: Slides 

SIMAP added:
 4 March
 2011, (Comp.
 Chem)

Services provided by a few NGIs **for the whole community**

- To support the Virtual Research Communities
- To facilitate the work of NGI support teams
- To improve communication among NGIs, **among** users and **with** users
- Bring in expertise and services from Heavy User Communities (HUCs)

Tools and services (current list – will be expanded):

1. **EGI Application Database** (Marios Chatziangelou, GRNET)
2. **Services for VOs** (Ignacio Blanquer Espert, UPV; Gonçalo Borges, LIP)
3. **Training Marketplace** (Claire Devereux, STFC)
4. **Requirement Tracker** (EGI.eu with help from CESNET)



Benefits of AppDB:

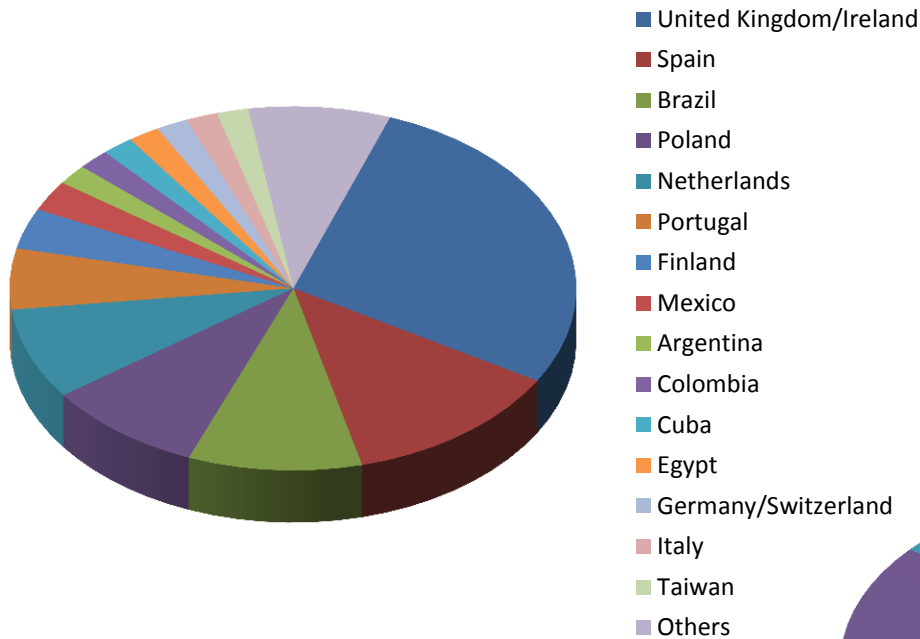
- gives recognition to reusable applications and tools
- gives recognition to application developers

Use of AppDB

- Register applications/tools
- Reuse of applications/tools
- Map of application landscape
- AppDB gadget has been instantiated by:
 - WeNMR, LSGC, GridPP, Serbian, UK and Hungarian NGIs

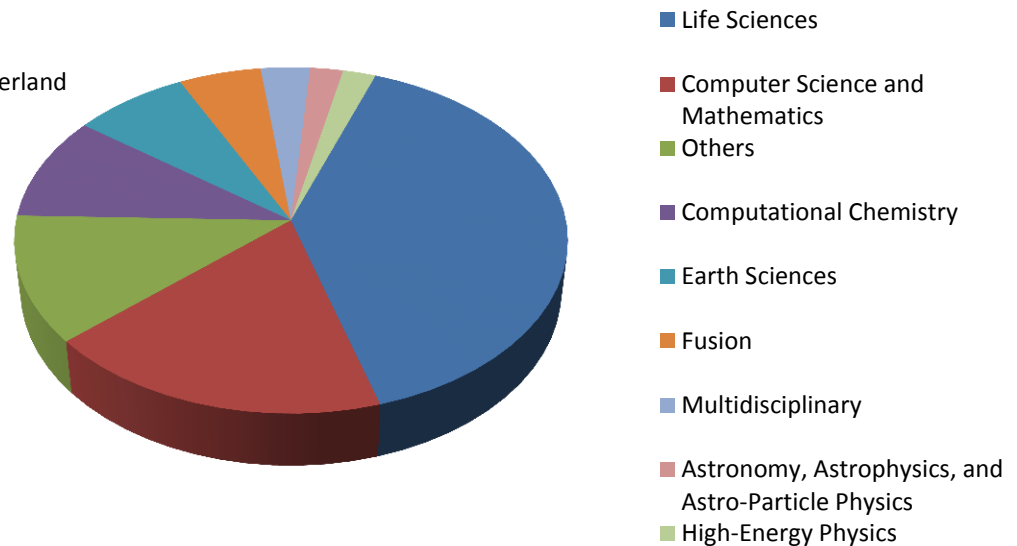
The screenshot displays the EGI Applications Database (AppDB) interface. At the top, it features the EGI logo and the text 'European Grid Infrastructure Towards a sustainable grid'. A navigation menu on the left includes 'Home', 'Applications & Tools', 'People', and 'VOs'. The main content area shows a list of applications with details for 'COMPACTION', 'PALEES', 'PBFS', and 'PROPEL'. Each entry includes a description, abstract, and discipline. A sidebar on the right contains 'Sections' and 'About GridPP' information. The bottom of the page includes a footer with 'HealthGrid 2011, Bristol, UK' and 'EGI-InSPIRE RI-261323'.

111 new applications per country



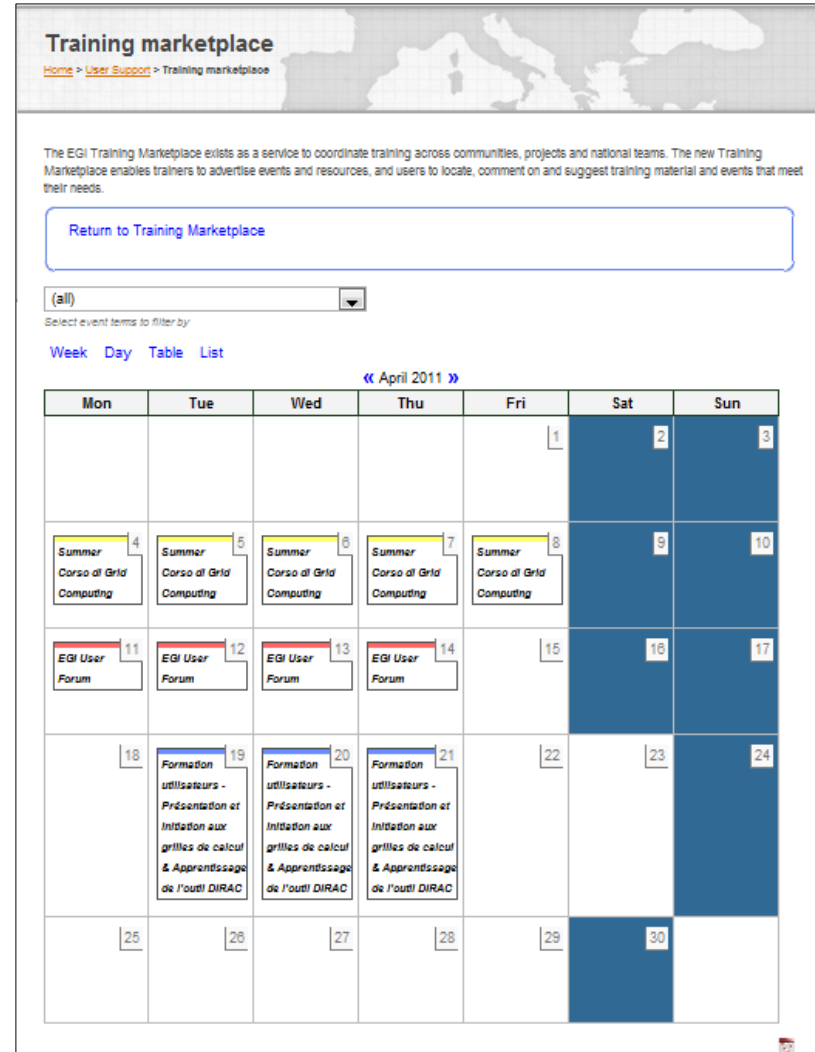
New additions to the **Applications Database** during Project Year 1 (Data: largest to smallest)

93 new applications by discipline



Note: Apps. Can be associated with > 1 country

- Integration of:
 - Training event calendar
 - Digital library (of training materials)
 - Service offering & requesting form
- Purpose of Training Marketplace:
 - Register training events
 - Use, reuse and share training materials
 - Offer training-related services (infrastructure, VO, CA, ...)
 - Feed training-requirements
 - Delegate representative to EGI Training Working Group
- Results:
 - Approximately 60 training events were added during Project Year 1.



Training marketplace
[Home](#) > [User Support](#) > Training marketplace

The EGI Training Marketplace exists as a service to coordinate training across communities, projects and national teams. The new Training Marketplace enables trainers to advertise events and resources, and users to locate, comment on and suggest training material and events that meet their needs.

[Return to Training Marketplace](#)

(all)
 Select event terms to filter by:

[Week](#) [Day](#) [Table](#) [List](#)

« April 2011 »

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4 Summer Corso di Grid Computing	5 Summer Corso di Grid Computing	6 Summer Corso di Grid Computing	7 Summer Corso di Grid Computing	8 Summer Corso di Grid Computing	9	10
11 EGI User Forum	12 EGI User Forum	13 EGI User Forum	14 EGI User Forum	15	16	17
18	19 Formation utilisateurs - Présentation et Initiation aux grilles de calcul & Apprentissage de l'outil DIRAC	20 Formation utilisateurs - Présentation et Initiation aux grilles de calcul & Apprentissage de l'outil DIRAC	21 Formation utilisateurs - Présentation et Initiation aux grilles de calcul & Apprentissage de l'outil DIRAC	22	23	24
25	26	27	28	29	30	

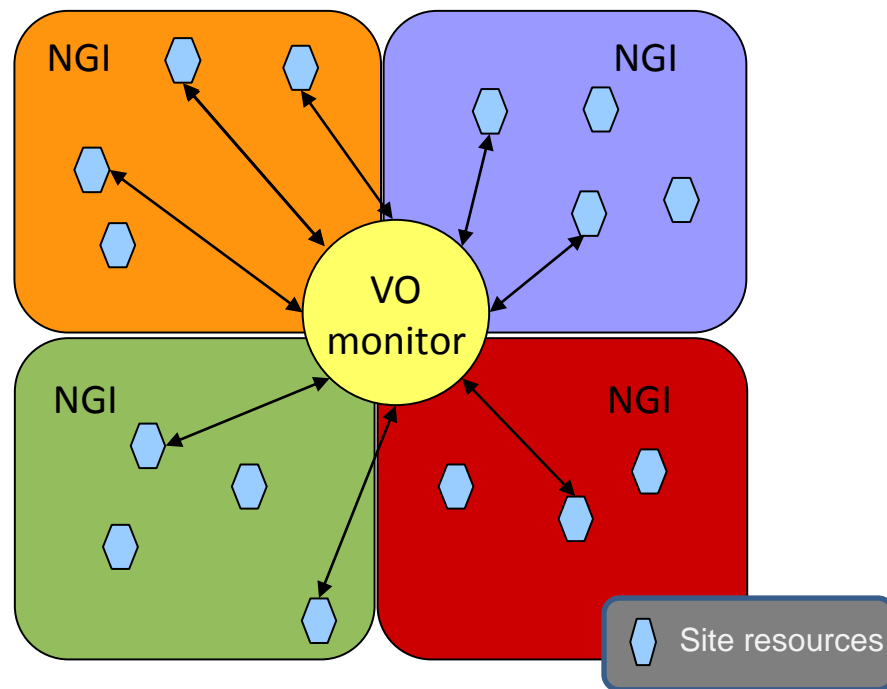
- VO-specific testing of sites is required by VO managers within VRCs
- basic services are available from within the infrastructure
- typically delivered through the operations teams and NGIs

Coordination consists of:

- Reviewing available services: management, monitor & accounting tools (NAGIOS SAM, GANGA, DIANE, CERN dashboard & mini dashboard)
- Consultancy/help for VO managers*
- Specification of requirements for improving operational tools to simplify VO management
- Provisioning basic services for new VOs
- Developing dashboard infrastructure

* Further consultancy is provided by NGIs

- VRCs contain one or more VO.
- Each VO needs to monitor many resources



Provision of VO support software for VRCs & VOs (e.g. WeNMR, BioMed)

Current Network Status
 Last Updated: Mon Feb 7 19:10:11 WET 2011
 Updated every 601 seconds
 Nagios® Core™ 3.2.3 - www.nagios.org
 Logged in as /C=P/O=LIPCA/O=LIP/OU=Lisboa/CN=Gonçalo Borges

Host Status Totals

Up	Down	Unreachable	Pending
16	10	0	0

Service Status Totals

OK	Warning	Unknown	Critical	Pending
168	0	2	12	75

Service Status Details For Service Group 'phys.vo.ibergrid.eu'

Host	Service	Status	Last Check	Duration	Attempt	Status Information
ce-iber.bifi.unizar.es	hr_sroc_CADist-Check-phys.vo.ibergrid.eu	OK	02-07-2011 18:57:50	3d 22h 32m 21s	1/2	wn31-prg.bifi.unizar.es: CA DIST OK - The official version is 1.38. Unable to get a list of obsolete CA list check will be skipped. Using BEGrid2008 to get CA distribution version (1.37), new version is -1 days old. We're still within grace period.
	org_sam_CE-JobState-phys.vo.ibergrid.eu	OK	02-07-2011 19:08:01	3d 22h 34m 26s	1/2	OK: success.
	org_sam_CE-JobSubmit-phys.vo.ibergrid.eu	OK	02-07-2011 19:08:01	3d 22h 23m 54s	1/2	OK: success.
	org_sam_WN-BI-phys.vo.ibergrid.eu	OK	02-07-2011 18:57:51	3d 22h 32m 21s	1/2	wn31-prg.bifi.unizar.es: OK: getCE: ce-iber.bifi.unizar.es:2119/jobmanager-icgpts-phys.vo.ibergrid.eu
	org_sam_WN-CAVer-phys.vo.ibergrid.eu	OK	02-07-2011 18:57:57	3d 22h 32m 15s	1/2	wn31-prg.bifi.unizar.es: OK
	org_sam_WN-C3h-phys.vo.ibergrid.eu	OK	02-07-2011 18:57:53	3d 22h 32m 19s	1/2	wn31-prg.bifi.unizar.es: OK
	org_sam_WN-Rep-phys.vo.ibergrid.eu	OK	02-07-2011 18:58:32	3d 22h 31m 38s	1/2	wn31-prg.bifi.unizar.es: OK: success.
	org_sam_WN-RepCrc-phys.vo.ibergrid.eu	OK	02-07-2011 18:58:06	3d 22h 32m 7s	1/2	wn31-prg.bifi.unizar.es: OK: File was copied to SE dpm-iber.bifi.unizar.es and register CLI
	org_sam_WN-RepDel-phys.vo.ibergrid.eu	OK	02-07-2011 18:58:32	3d 22h 31m 37s	1/2	wn31-prg.bifi.unizar.es: OK: Replicas for [fhn/agrid/phys.vo.ibergrid.eu/SAM/sam-log-prg.bifi.unizar.es:11020/7165757:26279997] were deleted. CLI
	org_sam_WN-RepFree-phys.vo.ibergrid.eu	OK	02-07-2011 18:57:54	3d 22h 32m 18s	1/2	wn31-prg.bifi.unizar.es: OK: ok
	org_sam_WN-Recnet-phys.vo.ibergrid.eu	OK				

Service Status Details for: **phys.vo.ibergrid.eu**

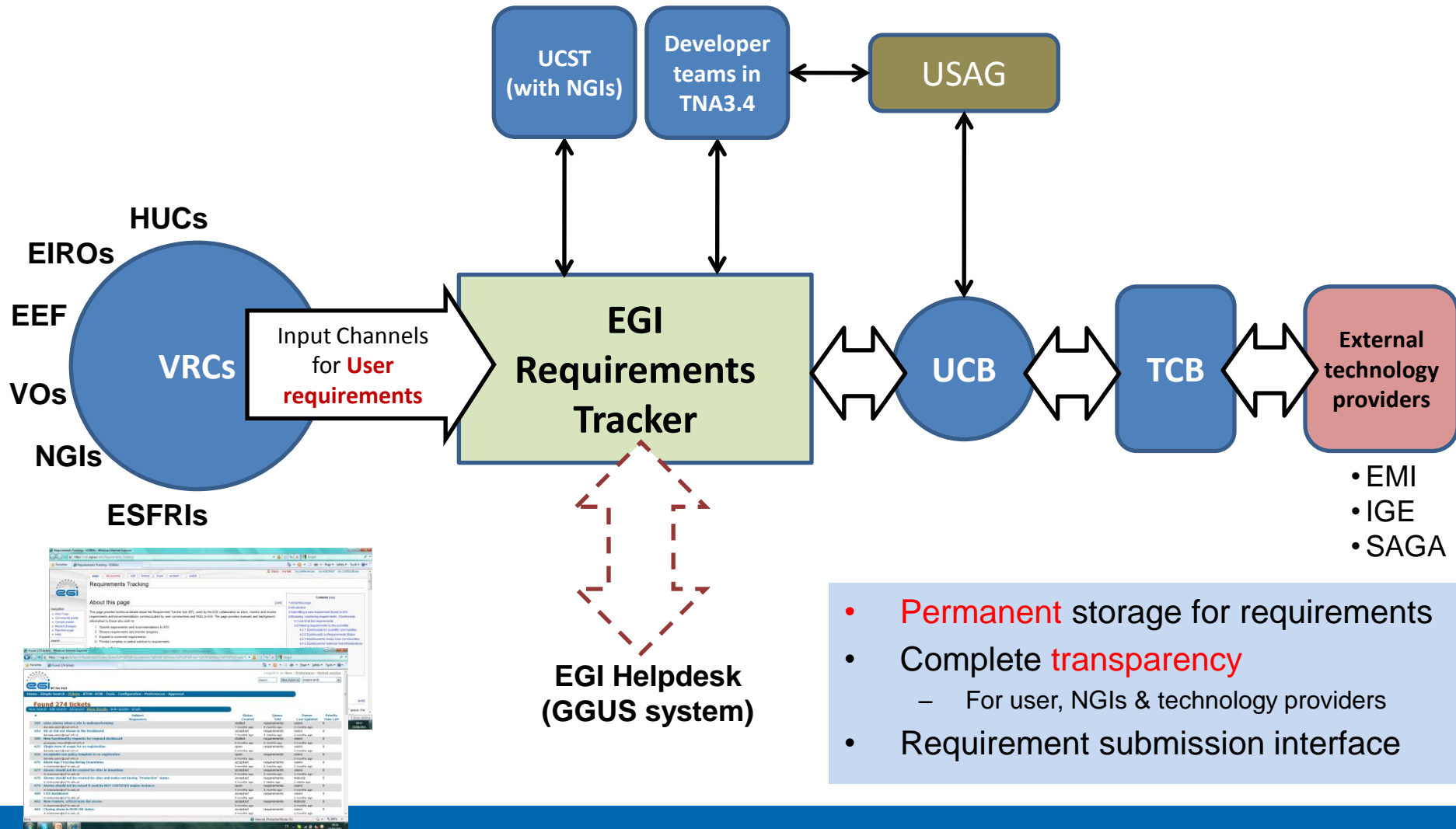
NAGIOS SAM triggers the executions of probes in grid sites

- Tests to the Storage resources
- Tests to the Computing Resources
- Summary views of successful and unsuccessful services
- Sends emails to the site admins in case of failures

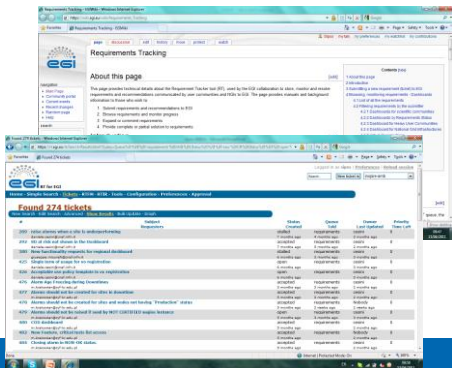
Benefits:

- Sites from a VO are tested (infrastructure tests run probes on NGIs)
- Ability to develop and integrate VO's own probes
- A VO can use the central installation from LIP/UPV, or can install its own

Processing EGI requirements; implementing solutions



- **Permanent** storage for requirements
- Complete **transparency**
 - For user, NGIs & technology providers
- Requirement submission interface







European Grid Infrastructure
Towards a sustainable grid infrastructure

[Contact us](#) | [Site map](#) | [Intranet](#)

About us >

User Support >

Technology >

Policy >

Infrastructure >

Partners >

News >

User Community Support

[Home](#) > [User Support](#)

Whether you are an individual researcher, a small research group or an international community this page will offer directions to resources and services that you might need.

- > [Your Virtual Research Community \(VRC\)](#)
 - VRC portals and gateways with resources and tools for your discipline
- > [Your National Grid Infrastructure \(NGI\)](#)
 - Access your national centre to learn about resources in your country
- > [Applications database](#)
 - Discover (and contribute) details of discipline-specific applications for your community
- > [Services and tools to support your work on the infrastructure](#)
 - A collection of resources that you can use to manage your work on the infrastructure
- > [Training marketplace](#)
 - Find, offer and suggest training events and material for your needs
- > [Getting help and requesting new features](#)
 - Use EGI Helpdesk (GGUS) to report a problem with the production infrastructure
 - Use the Requirements Tracking system to submit and follow new feature requests

How we work

- > Who we are: [Team and partners](#)
- > What we do: [Strategy and plans](#)

If you have any further questions, send us an email: ucst@egi.eu.

User and Community news

The user and community perspective on the EGI e-infrastructure

Latest blog post

- > [ISWG-Life2011 update](#) Portals and gateways play a crucial part in the ongoing process of increasing the number of scientists and researchers using the grid. Listening to what this group of specialist developers is doing was always going to be beneficial, but the coincidence of ...

Latest news

- > [Summary of workplans for the User Support Technical Services is available for May-October 2011](#)
- > DC-NET (Digital Cultural Heritage) Paris, Feb ([workshop report](#))



- Motivation for workshops (from EGI Forums):
 - Users indicated need for – collaboration & exploration
 - More smaller and focused meetings needed
 - Bring specialists together
- Purpose:
 - Inform and educate, clarify and specify
- Emerging themes (from requirements):
 - portals, visualisation, data management, scalability, workflow, supporting users, planning training events, developing and provisioning sustainable apps.

1. Managing a sustainable infrastructure
2. Building sustainable user services
3. **Cultivating sustainable communities**

What makes up a Virtual Research Community?

Discover

- Virtual Organisations
- Mailing lists
- Workshops
- Forums
- Blogs
- Projects
- Shared stories
- Best practices
- Collaborations
- Laboratories
- Partnerships



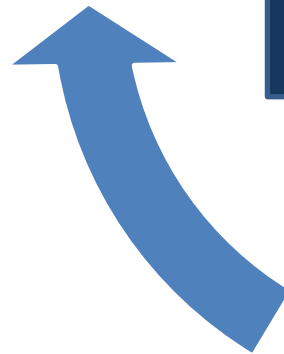
VRCs provide EGI with:

- Requirements
- Applications and tools
- Data collections
- Training modules
- Success stories
- Experts
- Users

Design

Integrated Services

- Human
- Technical
- Infrastructure



Deliver

EGI offers VRCs:

- Easy to use infrastructure
- Grid-ready applications
- Training resources
- Help and support
- Involvement in open development processes
- Workshops and forums

LSGC has just signed an MoU with EGI:

<http://www.egi.eu/collaboration/LSGC.html>

- Application developers will be major element
- Portal and gateway developers too
- Developers are the bridge between research and the infrastructure
- Event such as IWSG-Life2011 and the HealthGrid conference bring such people together

MoU – Memorandum of Understanding

The Life Sciences community:

- Clearly well established, however...
- Many new requirements to be satisfied
- Especially to increase researcher numbers

How will this be achieved?

- Use of the existing EGI support services
- Participation in UCB
- Workshops, forums and road-shows



Life-Science Grid Community

- **Timeline**

- June 2010: open workshop at the HealthGrid conference
- Agreed on a statement of goals and missions
- Monthly phone meetings

- **Participating user groups**

- VOs: biomed (catch-all), vlemmed, Isgrid
- German life-science user community
- Lifewatch

- **Supporting NGIs**

- Dutch, French, Italian, Spanish and Swiss

- **Hosting body**

- HealthGrid, a non-profit association

Purposes and goals (1)

- **Represent the LS grid users, in particular to**
 - Negotiate resources
 - Promote their requirements
 - Liaise with the European Grid Infrastructure
- **Coordinate actions**
 - Serve as a contact point for new users
 - Share expertise in the community
 - Avoid replication of efforts
 - Define common requirements
 - Encourage sharing of resources, data and tools

Purposes and goals (2)

- **Provide technical services**
 - Operate and support common VOs
 - Operate shared services
 - Provide targeted user support and application porting
- **Training and induction**
 - Organize community-specific training events
 - Smooth the learning curve, lower the start-up cost
- **Dissemination**
 - Transfer knowledge among VRC partners
 - Advertise actions
 - Liaise with other groups of interest

Filter Create

< 1 2 3 4 >



2d-ANACONDA

2d-ANALYSIS of COpy Number Data



ALMOST

almost - all atom molecular simulation toolkit



AMBER

The AMBER molecular dynamics workpackage



AMCBI

AMC e-Bioscience Infrastructure



AMIAS

A Model Independent Analysis Scheme (AMIAS) for Extracting Multipole Amplitudes.



AquaMaps

AquaMaps



ARCEM

Grid Computing Technology and the Recurrence Quantification Analysis to Predict ...



AutoDock (EUAsiaGrid)

Biomedicine / Molecular Biology - using Molecular dynamics



BiG (GISELA)

Blast in Grids



BioMD (EPIKH)

Life Sciences / Drug discovery - using Molecular dynamics



BLAST

Basic Local Alignment Search Tool



BLAST

To draw a comparison by BLAST between all sequences of prokaryotes, fungi, plant...



BLAST_in_JST

Large Scale Proteome Comparison



BM Portal

Bio Medical Portal



BTR

BIOTREE



CALnet

Combinatorial Association Logic Networks Inference



CardioGrid Portal (GISELA)

Laboratory for Complex Systems (LSC) Cardiology Portal



CD-HIT-Grid

Protein clustering on the Grid with CD-HIT



ClustalW

ClustalW



CLUSTALW

ClustalW



CLUSTER

Chaotic map clustering



CNS1.2

Crystallograph and NMR System - structure prediction



CNS1.2-para

Crystallography and NMR system - structure prediction



CS-Rosetta

NMR chemical shift-based structure prediction

More information

- **Contact**

- Wiki page: <http://wiki.healthgrid.org/LSVRC:Index>
- Mailing list: lsvrc@healthgrid.org

- **How to benefit from the LSGC?**

- Established VOs
 - Discuss technical issues with other VOs
 - Submit requirements to the EGI
 - Advertise your services ; use others'
- New communities
 - Join an existing VO and benefit from its expertise
 - Get information on related applications and porting efforts
 - Get application porting support
 - Browse training material and events

- EGI Virtual Research Community (VRC) model available and LSGC VRC created
 - LSGC participating in User Community Board
 - LSGC contributing to Requirements Tracker process
 - EGI supporting NGIs who support LSGC
- Technical Support Services:
 - User requirement-driven process established
 - AppDB gadget: being used by LSGC and NGIs
 - User Support Platform based around EGI gadgets
- Community Support Workshops:
 - Life Sciences themes will be investigated and acted upon; your themes

Thanks for your time!

steve.brewer@egi.eu