



E-science grid facility for
Europe and **L**atin **A**merica

The road to sustainable eInfrastructures in Latin America

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HPC workshop – Lamezie Terme – June 2010



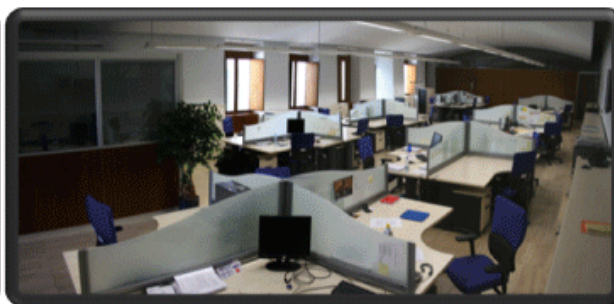
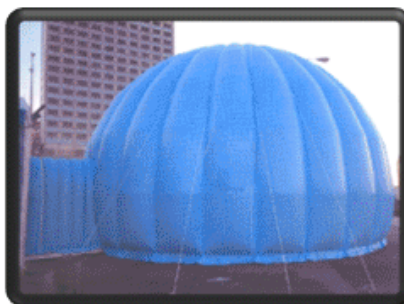


- **EELA:** eInfrastructure Shared between Europe and Latin America
 - FP6 - Jan 2006 – Dec 2007. 21 partners, 10 countries, 1.7M€ EU contriub, 400K€ CIEMAT fund, 1700 CPUs, 15 applications, 18 tutorials, 2 Grid schools
 - Goal: **Build pilot infrastructure**
- **EELA2:** eScience Grid Facility for Europe and Latin America
 - FP7 - Apr 2008 – March 2010
 - 2M€ EU contrib 2M€ unfunded 300K€ CETA-CIEMAT funds
 - 78 members (18 Partners, 9 JRUs)
 - 19 countries (14 LA, 5 EU)
 - Goal: **Build production infrastructure**
- **GISELA:** Grid Initiatives for eScience VRCs in EU and LA
 - FP7 – Sept 2010 – Aug 2011
 - 850 k€ (EC funding)
 - 19 Parterns (mostly NRENs) / 15 countries (11 LA, 4 EU)
 - Goal: **Hand over as LGI to continental/local bodies**

- **Center of Extremadura for Advanced Technologies**
 - Public Grid computer center (from MICINN)
 - Two missions: promote new Grid centers + new user communities
 - 1700 cores, 700 TB, 44 GPU cluster (47 TFlops)
 - Specially in **Latin America**

Iglesia y Conventual de San Francisco







EELA-2 Objectives and Approach

- **EELA-2 Objectives**

- Build on EELA a high capacity, production quality, scalable Grid Facility
- Ensure round-the-clock, worldwide access to distributed computing and storage resources
- Support a wide spectrum of applications for both European and Latin American scientific communities, industry and commerce
- Provide empowered Grid facility with versatile services fulfilling all application requirements
- **Ensure long-term sustainability of the e-Infrastructure beyond the term of the project (from 2010 onward)**

NA1: Management
NA2: Dissemination and training
NA3: Application Support

SA1: Infrastructure Services
SA2: Network Resource Provision

JRA1: Dev Servcs for Apps & Infrs

- **EELA-2 Approach**

- Expand the current EELA infrastructure
- Collaborate with NRENs and create Regional Operation Centres
- Support actively the creation of National Grid Initiatives (NGI)
- **Propose a model for a Latin American Grid Initiative (LGI)**



EELA-2 Production Infrastructure

- 29 resource centers
- 8000 cores, 200TB
- 2 ROCs @
UFRJ + CETA-CIEMAT
- Evolution to IGALC

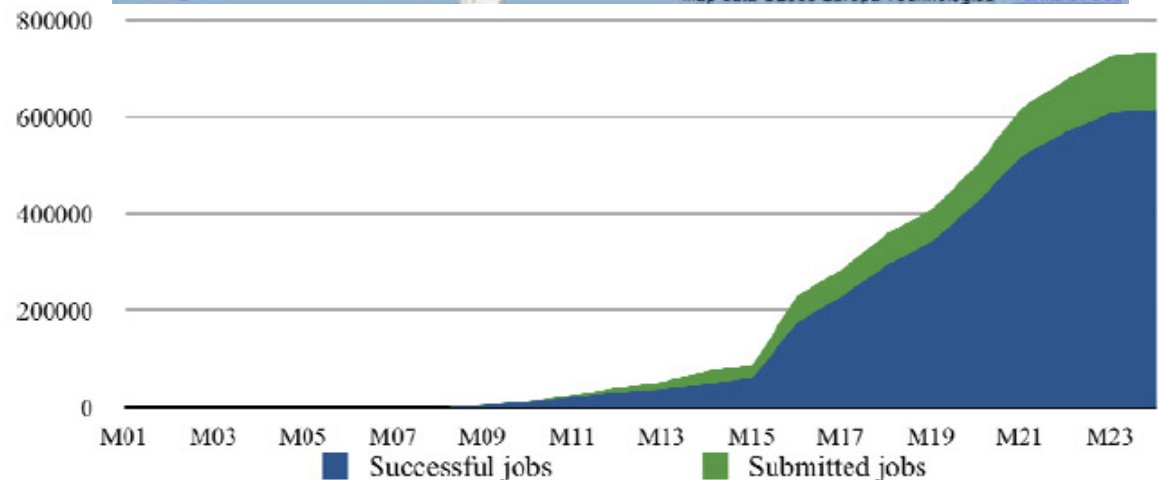


Figure 6 - Cumulative number of jobs - prod.vo.eu-eela.eu VO

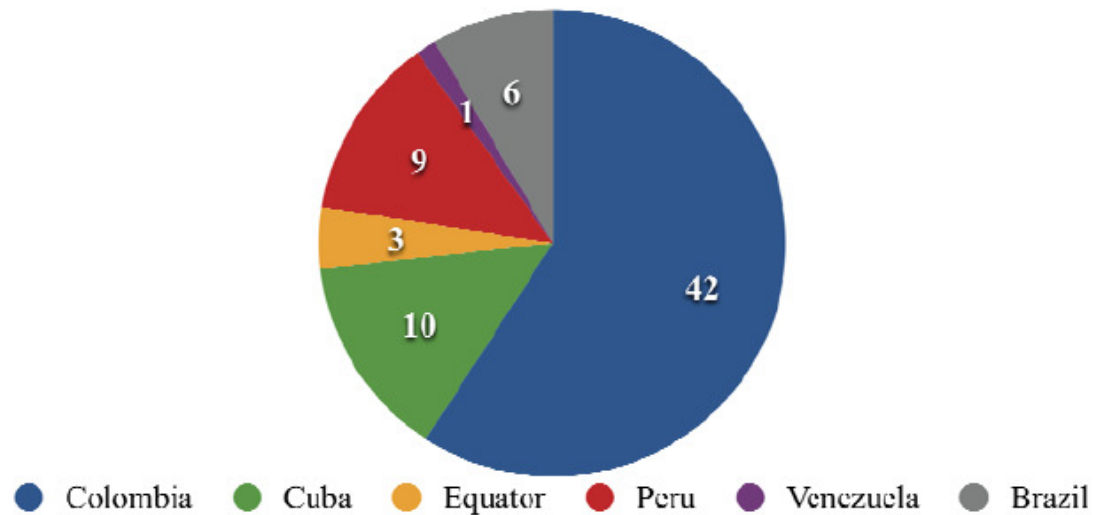
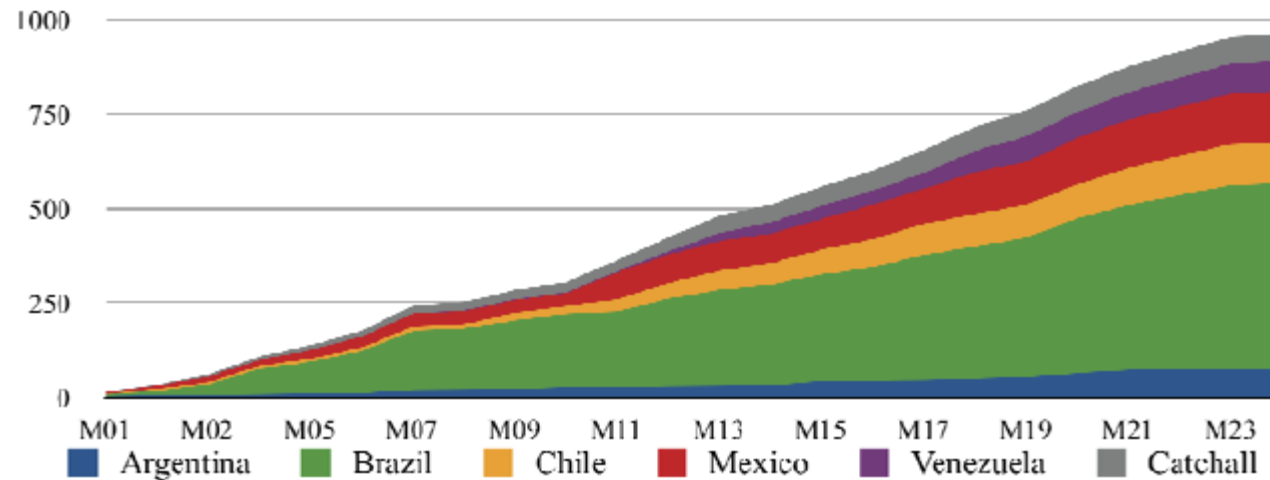
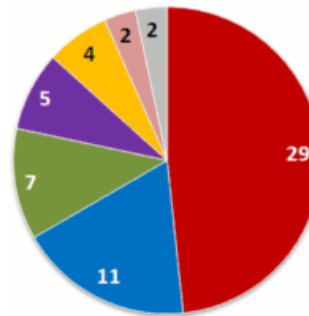


Figure 2 - Certificates emitted by the catchall CA per country

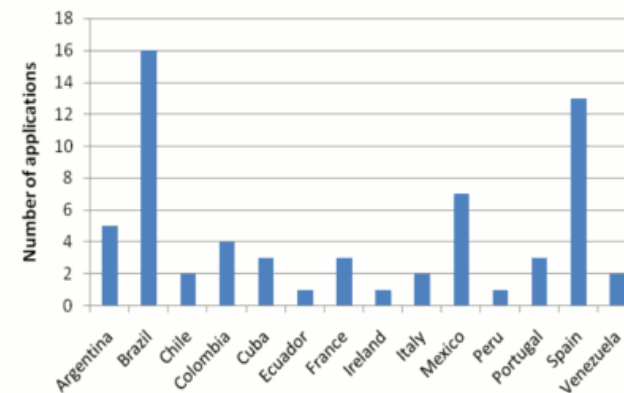
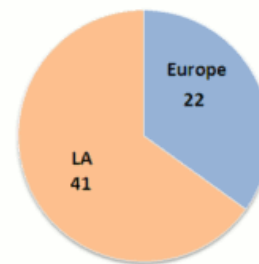
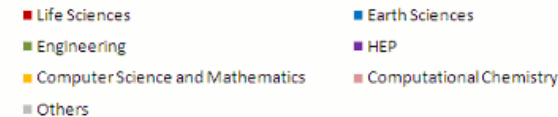


EELA-2 User Communities

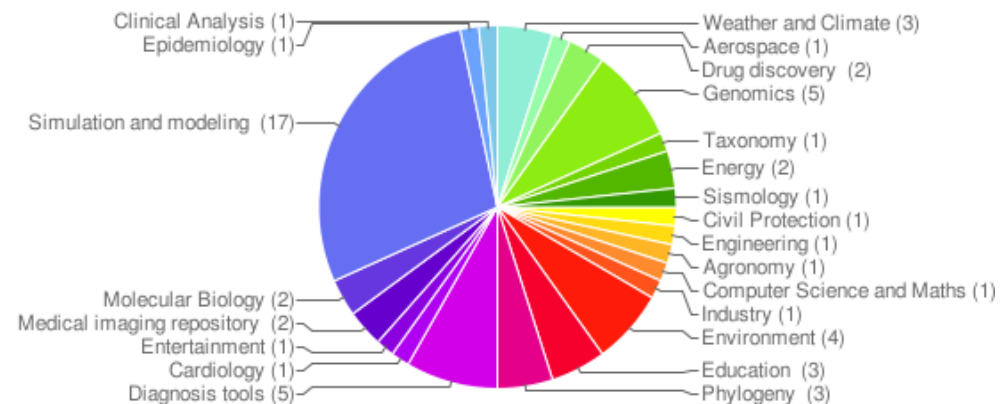
- 61 applications,
- 20 scientific areas

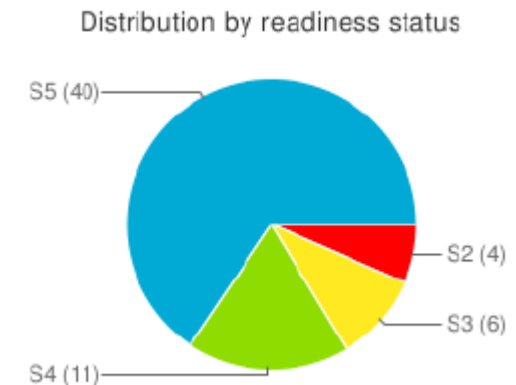
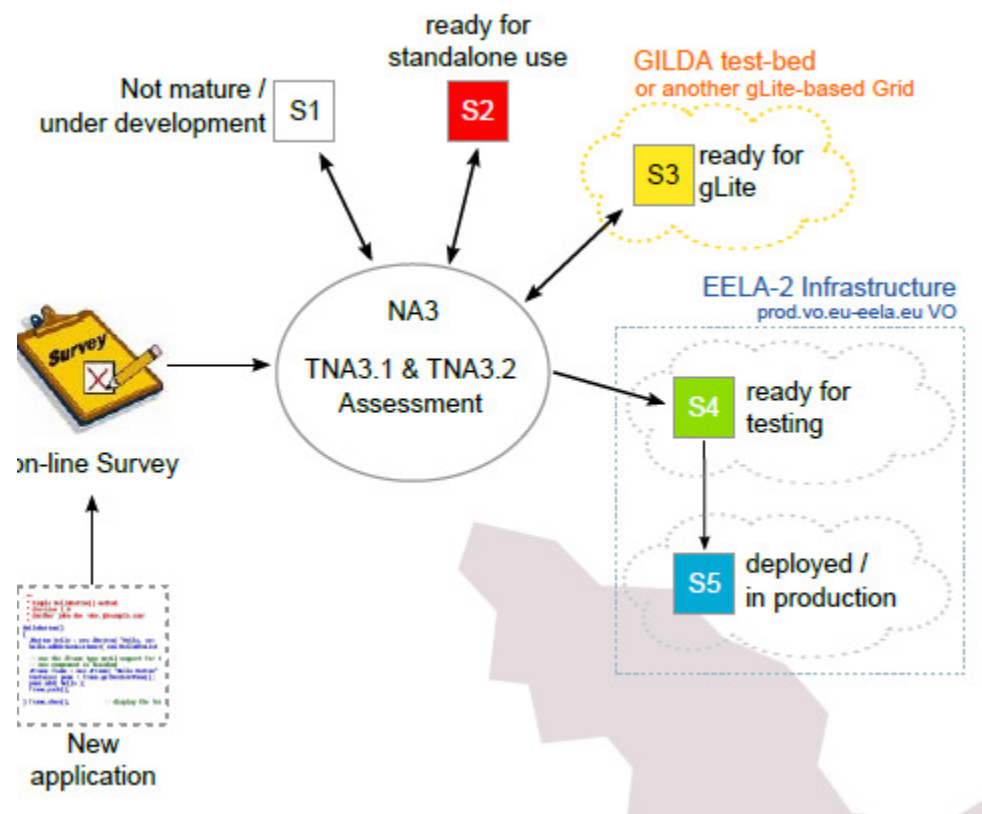


Scientific Domain



Distribution by application area



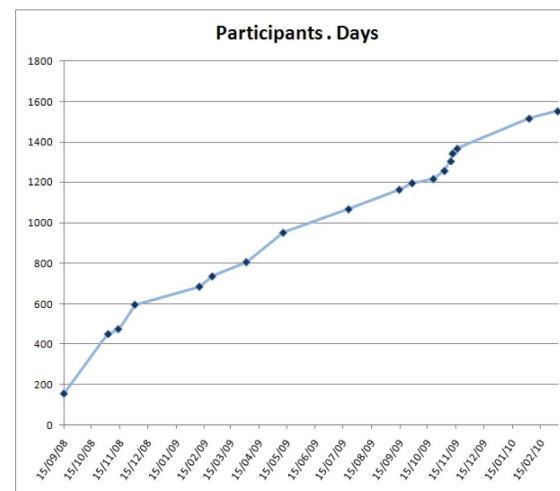
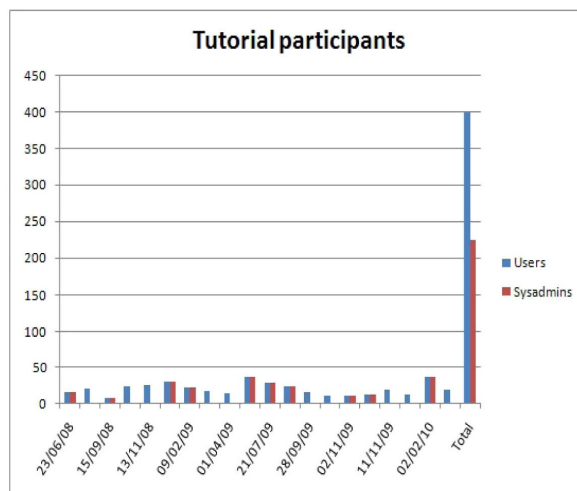


Event/Activity	Done 1st year	Done 2nd year	Committed 1st Year	Committed in 2 years	Total
Tutorials					
Users and administrators	5	10	—	≥ 6	15
For trainers	1		1	2	1 (*)
On remote grid site installation	1		—	—	1
Grid schools	1	1	1	2	2
On-line tutorials	1		—	—	1
Gridification weeks		11	—	—	11
Conferences	1	1	1	2	2
Workshops	4	4	—	—	8
User forum		1	—	—	1
Decision makers days	6	1	≥ 2	≥ 6	7
e-Science virtual days	1	4	—	≥ 4	5
Posters	3	+ 1	2	3	4
Brochures-Flyers	4	1	—	3	5
Bulletins	3	2 + 1	3	6	6
General public articles	≥ 6	≥ 15	—	≥ 6	≥ 21
Non EELA-2 events presentations	≥ 15	≥ 8	—	—	≥ 23
Press releases	≥ 20	≥ 20	—	—	≥ 40

Legend

—: not defined

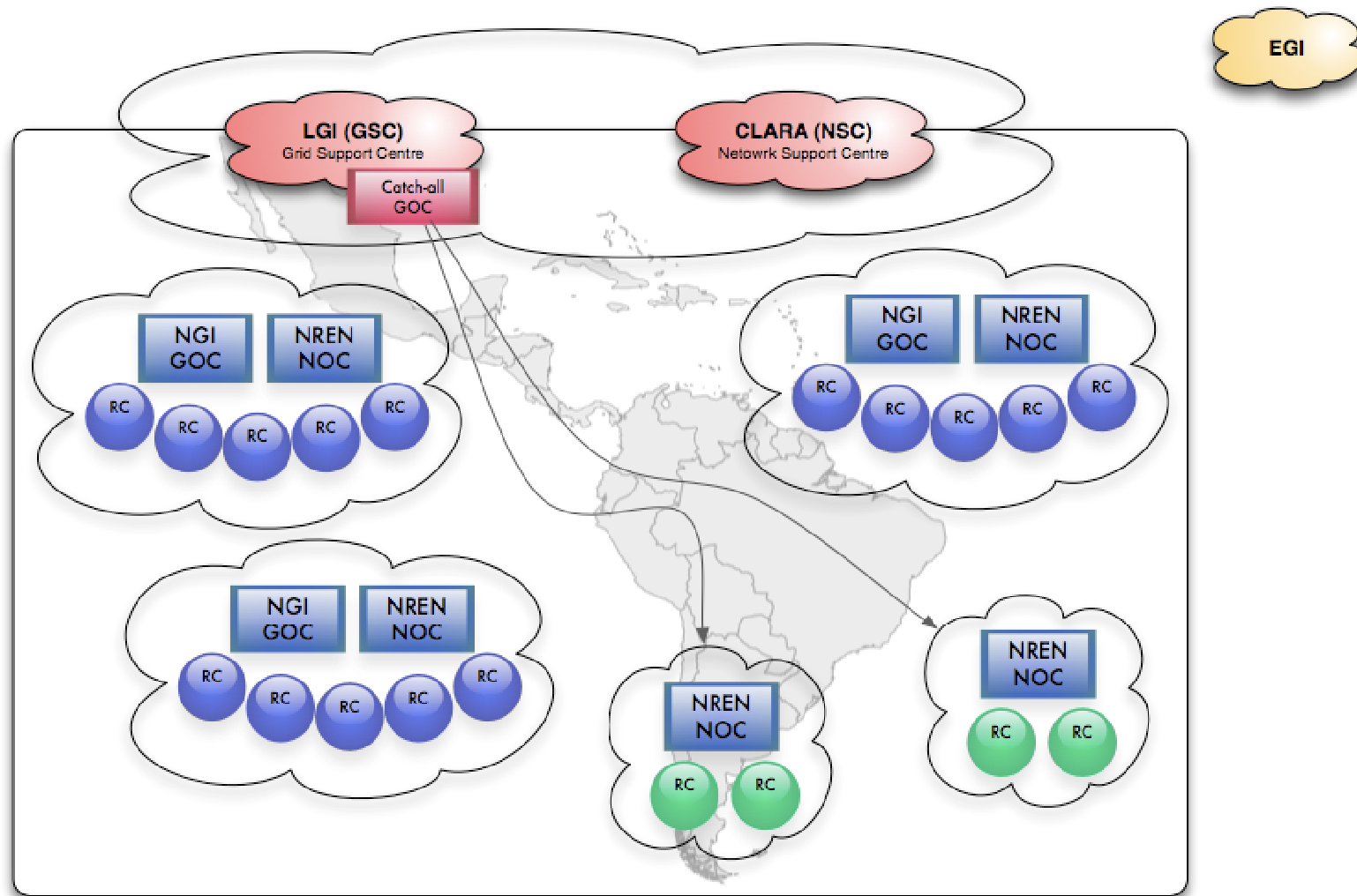
≥: at least

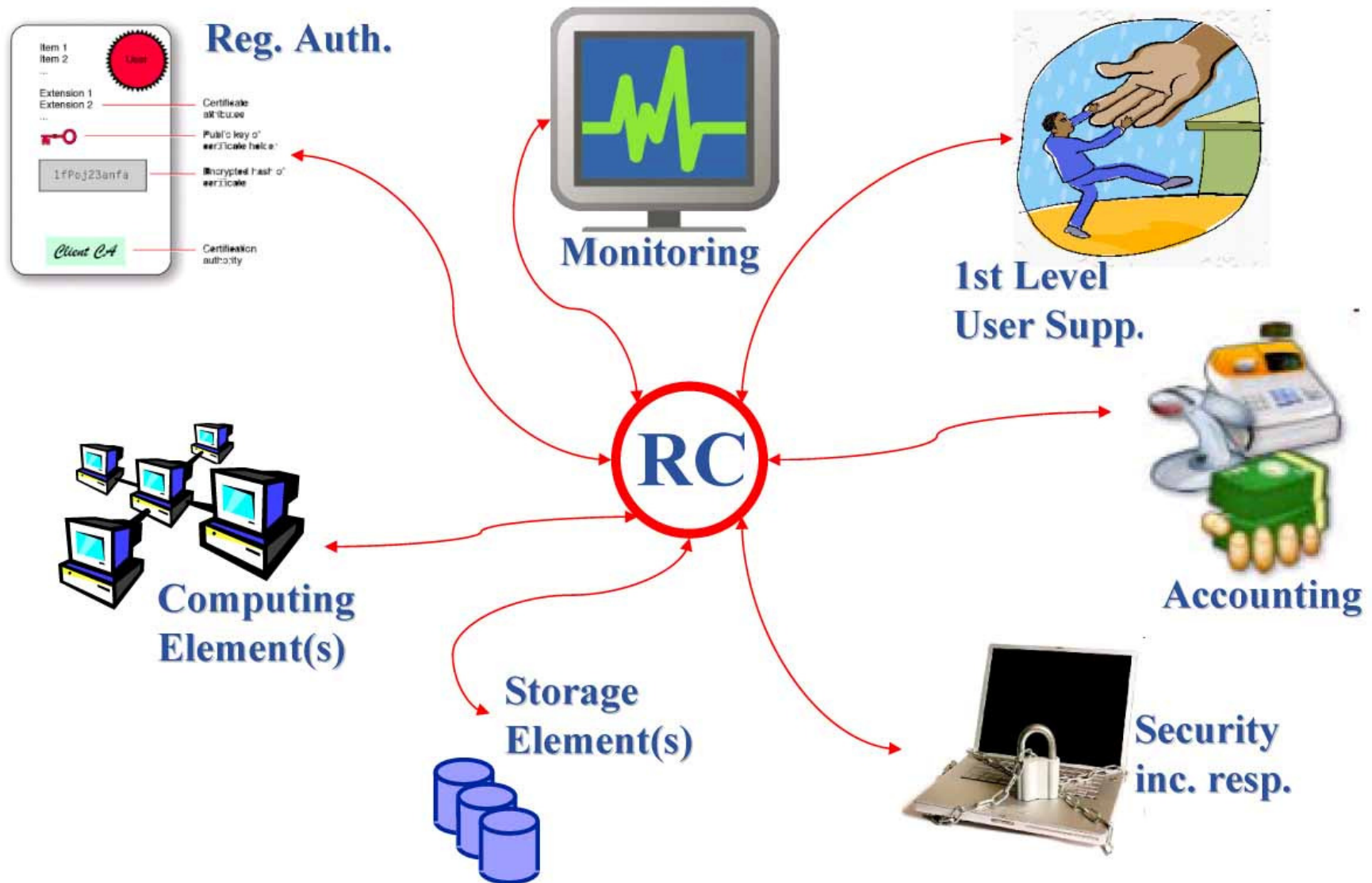


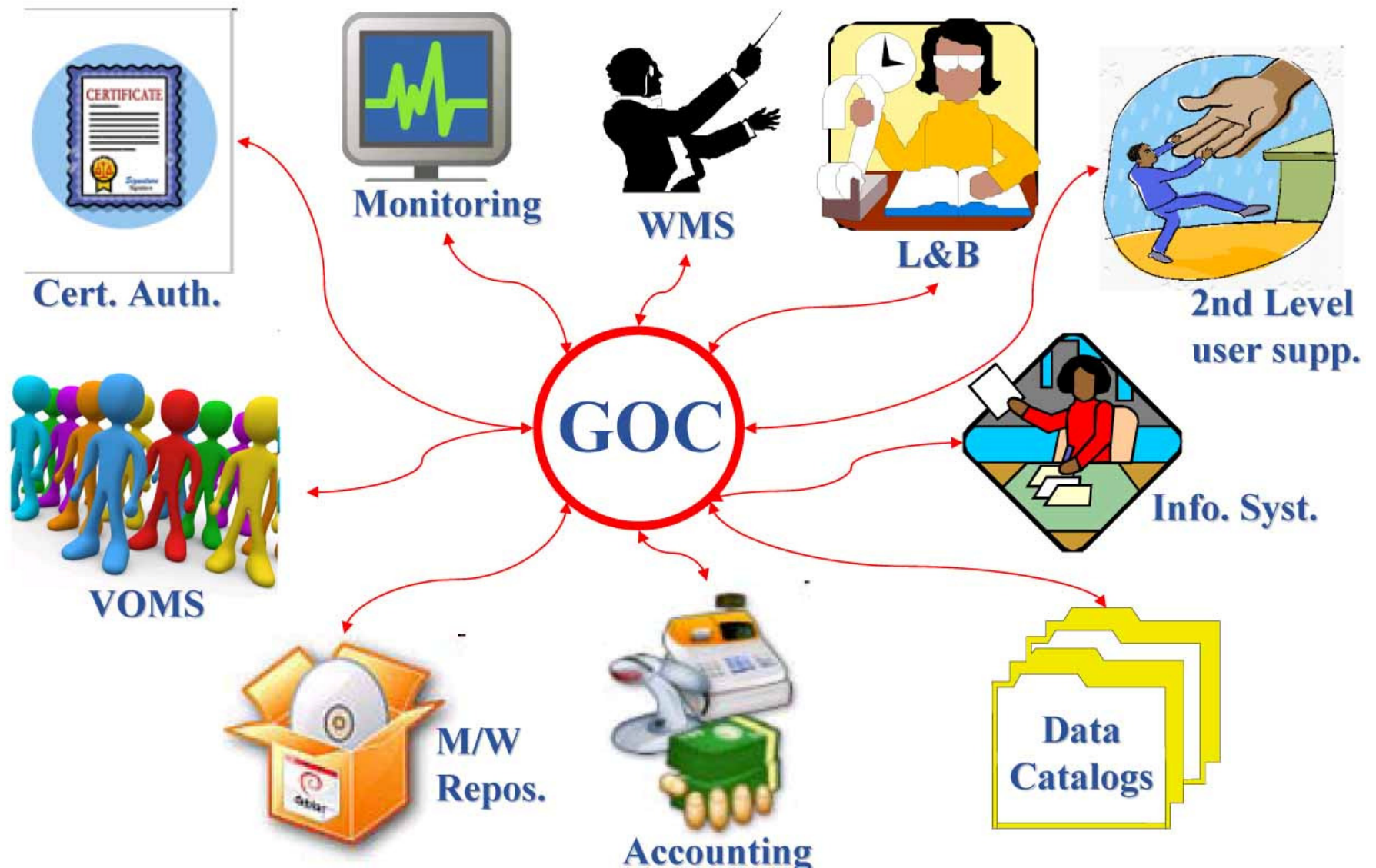


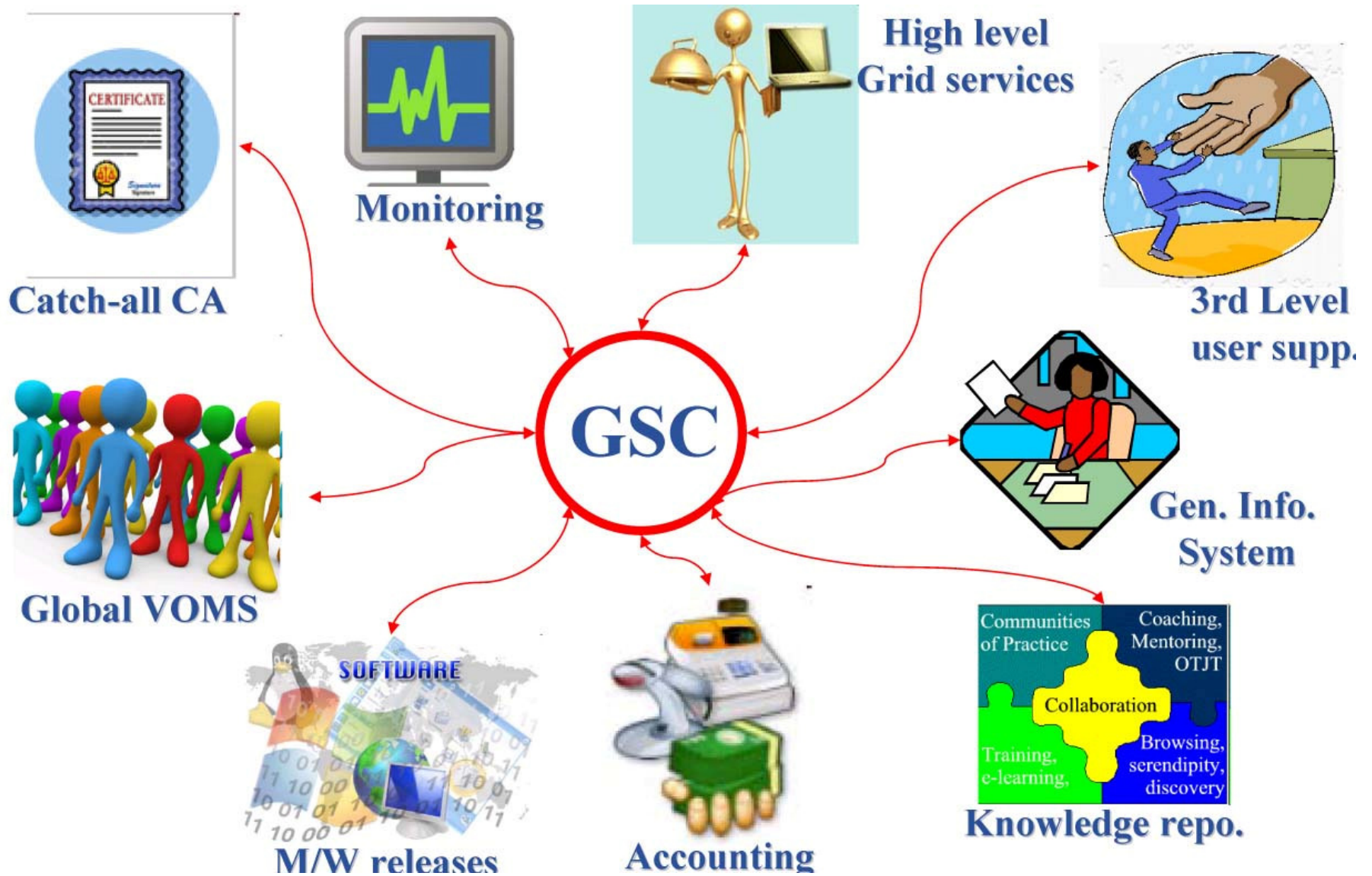
EELA-2 Sustainability Model

(<http://documents.eu-eela.org/record/1119/files/>)









- **Grid Initiatives for e-Science virtual communities in Europe and Latin America**
- **I³ @ INFRA-2010-1.2.3: Virtual Research Communities**
- **September 2010 – August 2011**
 - 850 k€ (EC funding)
- **19 Partners (mostly NRENs)**
- **15 countries (11 LA, 4 EU)**

Impressive mark after the hearings: 14.5 / 15

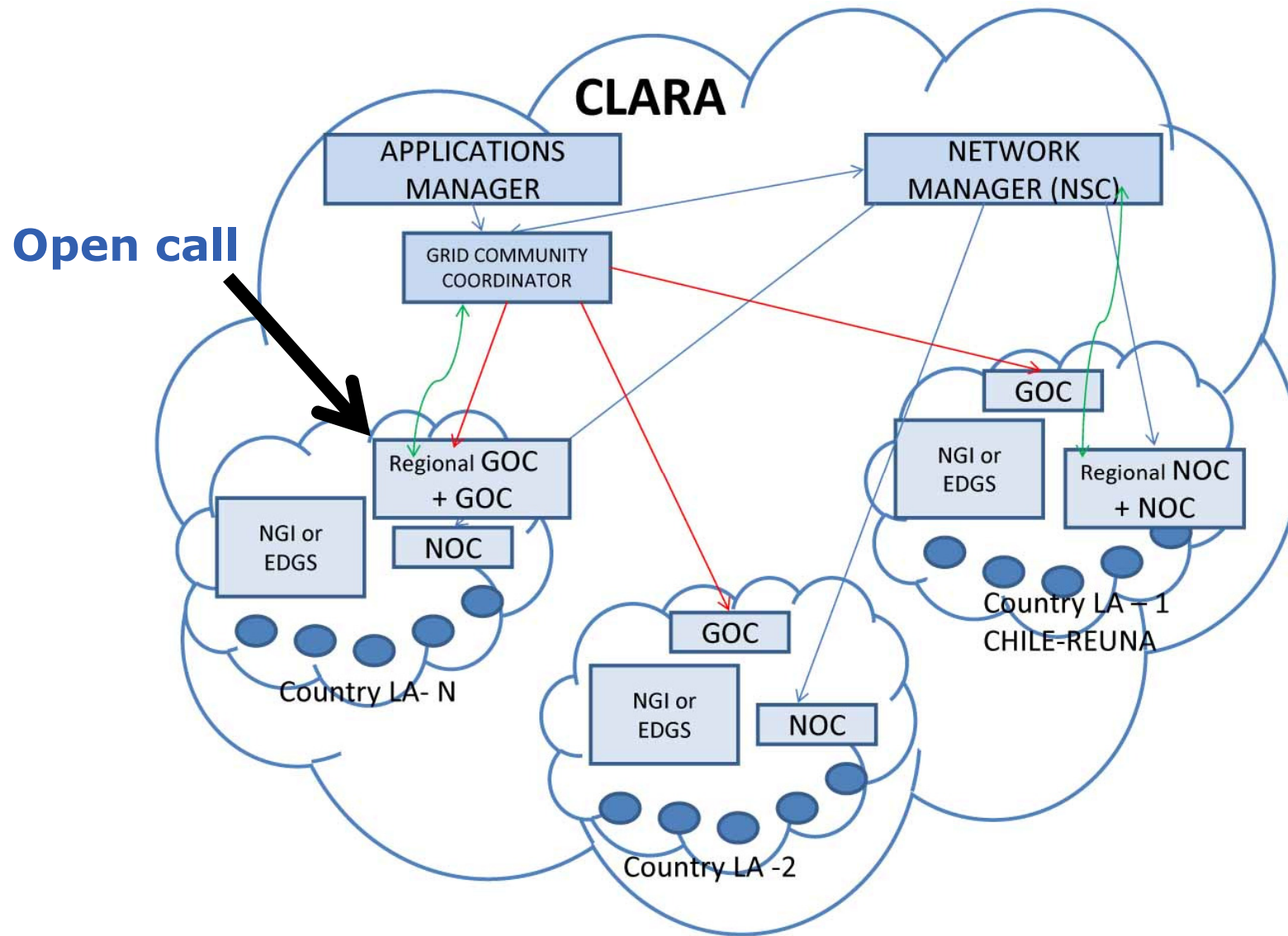


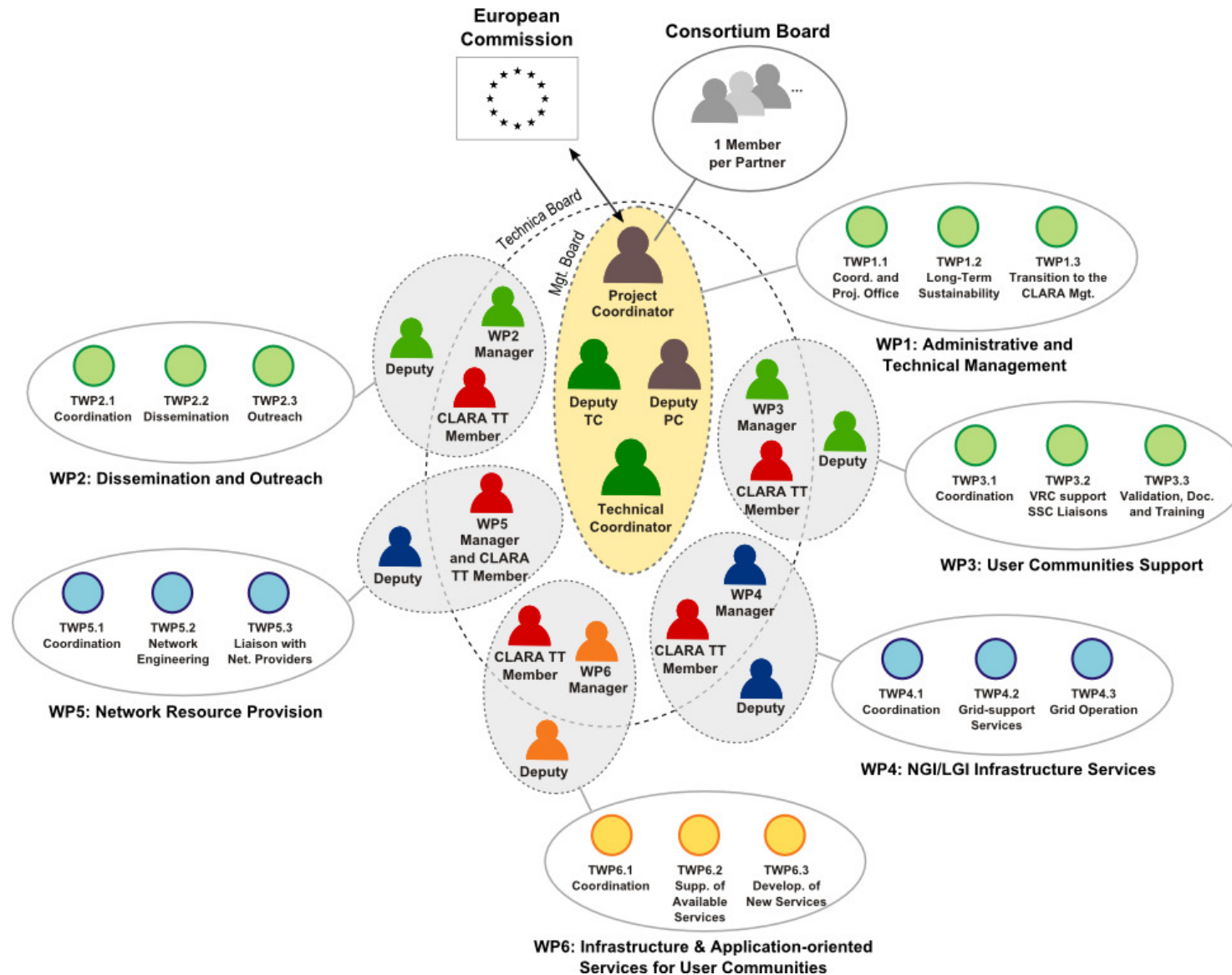
GISELA Objectives

- ***Ensure the sustainability of the EU-LA e-Infrastructure***
 - The sustainability of the European part of the e-Infrastructure being cared of by EGI, GISELA will concentrate on its Latin American component. The tasks, at each level of the e-Infrastructure are:
 - Get all Services fully operational at every Resource Centre (RC) / Institution Level;
 - Implement all Grid Operation Centre (GOC) Services at NGI / Country Level;
 - Implement all Grid Support Centre (GSC) & Network Support Centre (NSC) Services at LGI / Continent Level;
 - Support a catchall GOC for a duration depending of the NGI creation.
- ***Support Virtual Research Communities using the EU-LA e-Infrastructure***
 - Provide easy access to the EU-LA Infrastructure to VOs represented in GISELA (HEP, Biomedicine, Earth Sciences, etc.);
 - Publicise and support the available GISELA e-Infrastructure and Application-related Services;
 - Collaborate with VRCs or SSCs to the development and the deployment of integrated services (e.g. portals, gateways).
 - Training & Dissemination activities (coordinate local & national actions)

Red Clara









Conclusions

- EELA was a success, recognised by the **highest EC ranking**
- EELA and EELA-2 drastically changed the perspectives about e-Science in Latin America
- Long-term sustainability of e-Infrastructures worldwide is key for a continued support of Scientific Communities
- CLARA will be a major GISELA actor
- GISELA should start on 01 September 2010