

# LGI and CLARA

(CLARA / EELA-2 cooperation for sustainability)

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# Outline

- CLARA (Cooperación Latino Americana de Redes Avanzadas)
- The importance of Grids for CLARA
- The LGI model and the CLARA / EELA-2 cooperation for sustainability



# CLARA Objectives

- To develop a regional network for the connectivity of Latin American NREN's within the region and with other regional advanced academic networks
- Cooperation among members for Academic and Scientific development



# RedCLARA in 2007-2008

- ALICE ended in 2008
- 12 countries connected
- All NREN links are at least at 34 Mbps
- ALICE2, a new funding initiative started in December 2008



# The ALICE2 Project

(<http://alice2.redclara.net>)

- Budget of € 12 Million to be funded by the EC, EuropeAid
- Latin American counterpart of € 6 Million
- Started in December 2008
- Emphasis on building a sustainable infrastructure, Millennium Development Goals (MDGs), Inclusion
- Acquisition of networking assets (through Indefeasible Rights of Use)
- 4 years project
- Resources to include Bolivia, Cuba, Honduras, Nicaragua, Paraguay

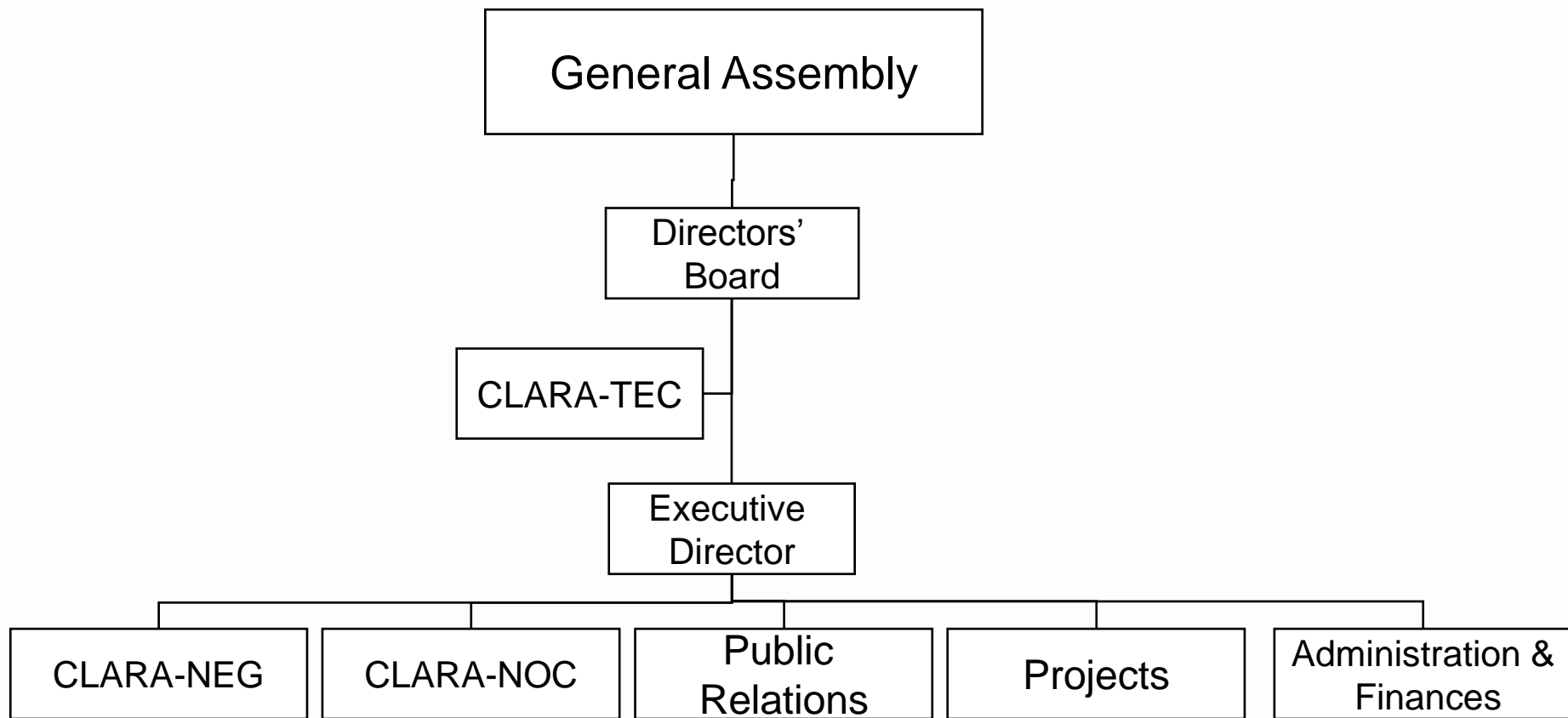


# ALICE2 Goals

- Red CLARA to become a basic infrastructure for research and academic cooperation in the region
- Will integrate user communities to work on common problems (like MDGs ) and that can participate in ALFA and FP7 calls
- Build a strong managerial organization with sustainable finances
- Reach all Latin American countries and tie with the Caribbean



# CLARA organization



Simple and geographically distributed



# Grids are a priority for CLARA

- One on the ALICE2 objectives is to create user communities and to consolidate applications;
- EELA-2 already supports many applications:
  - 29 Biomedicine;
  - 6 Physics;
  - 7 Earth Science;
  - 4 Artificial Intelligence / Optimization;
  - 3 Engineering;
  - 2 Data mining;
  - 1 Civil protection;
  - 1 Env. science;
  - 1 e-Learning;
- Growing importance of de-centralized (grid) computing;
- Offering both connectivity and de-centralized (grid) computing capabilities will become a very attractive challenge for LA NRENs.



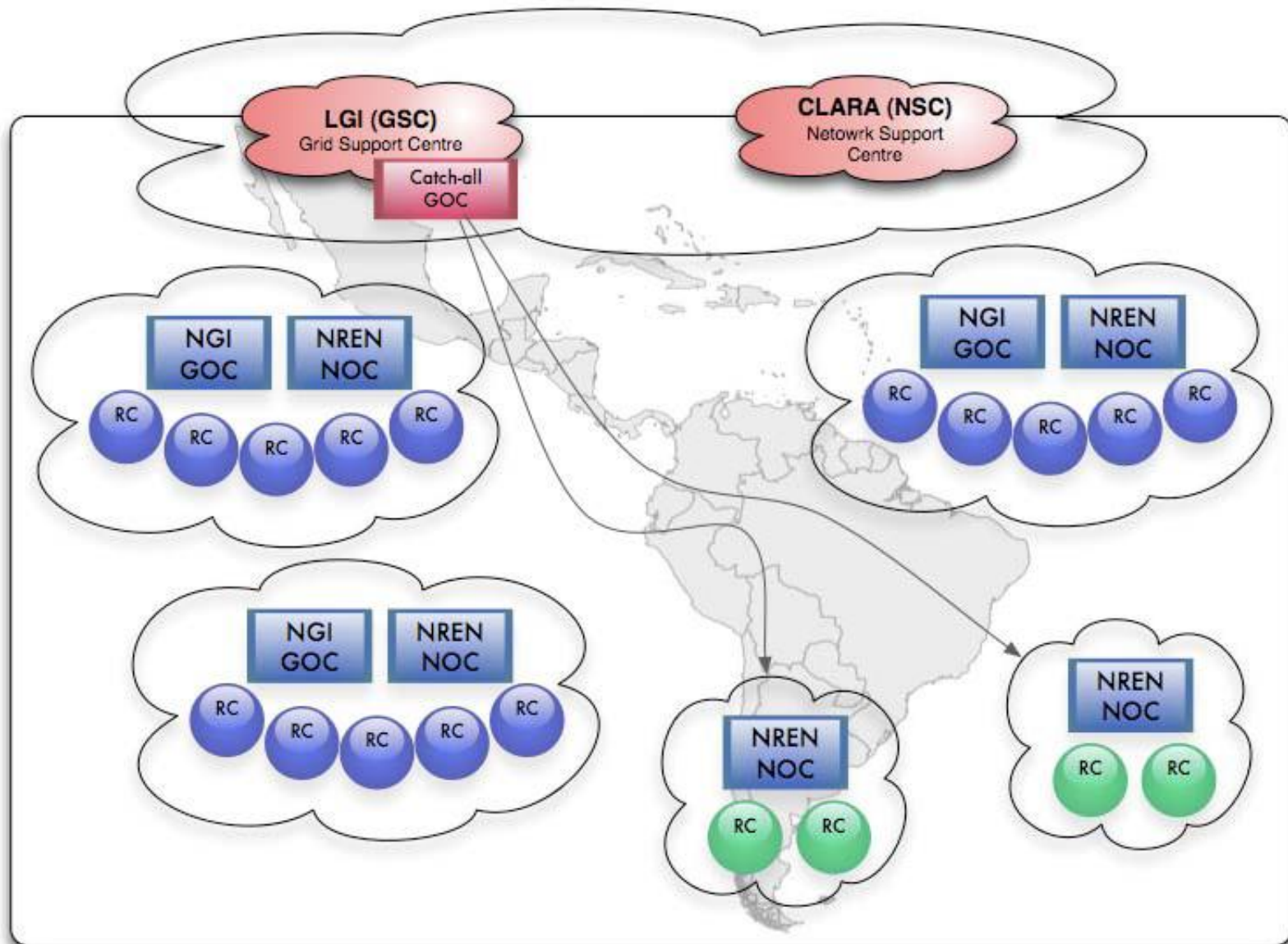


# A sustainability model for LA Grids (the EELA-2 LGI model)



# The Latin American Grid Initiative (LGI)

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





# The Architecture of LGI

- 3 level of computing and networking:
  - Institution:
    - Computing: institution;
    - Network: Campus network and NREN last mile;
  - Country:
    - Computing: National Grid Infrastructure, Grid Operation Center;
    - Networking: NREN, NOC;
  - Region:
    - Computing: LGI Gris Support Center;
    - Network: CLARA, NOC.



# Steps needed to implement the model

## 1. Moving from sparse research groups interested in grids to a NGI

- JRUs already established thanks to EELA-2 in Argentina, Chile, Peru, Venezuela, Colombia, Brasil, Ecuador, Mexico, and Panama;

## 2. Advantages of the Incorporation of LGI into CLARA:

- Cost effectiveness;
- Management and organizational economies;
- Better services to researchers.



# Problems in consolidating NGIs (The case of Mexico)

- Many grid initiatives (Delta Metropolitana, LNGSC, Fisica de Altas Energías) not very well coordinated among them;
- JRU has been created, but many key players have not joined yet;
- Insufficient resources to have a full time staff and become a NGI;
- Should have a GOC integrated with the CUDI NOC.



# CLARA / LGI integration issues


- The relative size of the organizations. CLARA is a very small organization
- Insufficient resources to absorb the operation of GridLGI:  $8 \text{ FTEs} \cdot 25 \text{ k\$/FTE} = 200,000 \text{ \$/year}$






# My vision as President of Clara

- CLARA should look favorably at the development of the EELA-2 production service into a regional grid infrastructure formed by a federation of NGIs;
- CLARA should carefully study the feasibility of integrating the operation of GridLGI into the CLARA operation in order to consolidate the value of both CLARA itself and EELA-2.




## CLARA commitments with EELA-2 (1/5) (Letter to the EELA-2 Project Coordinator)

- As a follow up of our meeting in Bogotá, we have read the EELA-2 deliverable “DSA1.3: The Long-Term Latin American Grid Initiative: Model And Operation Cost Estimate” and have been discussing within CLARA on **how our organization will work in a coordinated way towards supporting the Latin American Grid Initiative (LGI)** as well as the other Grid Initiatives that are beginning to appear in the region;
- **We are certain that NRENs are going to support Grid initiatives** since they consider it as a crucial part of the e-Infrastructure and because Grids are one of the most important applications requiring the use of advanced networks. **The users of the NRENs are requesting a stable Grid service infrastructure and are organizing themselves inside their countries in different ways, some of them leading to National Grid Infrastructures** of different types depending upon their own realities;




## CLARA commitments with EELA-2 (2/5) (Letter to the EELA-2 Project Coordinator)

- As a partner of both EELA and EELA-2 projects, CLARA supports the model where Grids are to be developed as a service provided to the final users through federated, cooperative, distributed infrastructures that closely link computing and networking both at national and regional levels;
- CLARA would like to ensure that the important **results of the EELA-2** Project, among which we certainly underline the availability of over 50 different applications requiring the use of Grids and hence demanding the existence of a powerful network to support it, **continue and grow** over time;




## CLARA commitments with EELA-2 (3/5) (Letter to the EELA-2 Project Coordinator)

- We are aware that the strong **ties** built by EELA-2 between the European Initiatives, like **EGEE and EGI**, and Latin America **are to be preserved and extended**;
- As part of the ALICE2 Project, **we are developing a new Services Structure that will ensure that all services provided to the partners are well designed and their funding is secured** throughout their life cycle, following in a certain way the ideas developed by the TERENA MSP (Managing Service Portfolios) working group. In this context, **we plan to support communities of Grid based e-researchers**, relying on the activities of these communities, acting together with CLARA, to obtain **resources to support training and technical support for Grid applications**;



## CLARA commitments with EELA-2 (4/5) (Letter to the EELA-2 Project Coordinator)

- On behalf of the CLARA Management Board, **we support the initiative of the EELA-2 Project to study all synergies between our organizations** so that a cost-effective, powerful, and dependable Latin American Grid Infrastructure and services are made available to our researchers.
- **We are currently developing a new structure for CLARA that aims to better support user communities** and provide new services to our members that will give due consideration to supporting the continuity of EELA's key results.



## CLARA commitments with EELA-2 (5/5) (Letter to the EELA-2 Project Coordinator)

- It is within this framework that CLARA presently conceives the evolution of Grid-related activities within the CLARA organization. Therefore, we will **pursue the following activities:**
  1. We will **appoint a CLARA Grid Users Committee** including representatives from groups working on Grid initiatives in the region;
  2. A **Joint Working Group, including representatives from this Committee, from CLARA member NRENs, from CLARA itself and from EELA-2, will act as a consultant body** to the CLARA Board of Directors and will propose the services that Latin America Grid users would like to request from their NRENs and from CLARA, discuss the LGI model proposed by the EELA-2 project and generate a proposal for a sustainable regional Grid Initiative;
  3. **The proposal for a regional Grid Initiative will be analyzed by the CLARA Board of Directors** to verify that CLARA can provide those services and that a business plan exists to ensure their sustainability.
- We know that **time is of the essence** and we will proceed immediately with the formation of the CLARA Grid Users Committee.





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