



European Grid Initiative



# EGGI Operations and Security

Tiziana Ferrari, Laura Perini

EGGI\_DS Project

# Outline: the basics ingredients for the EGI transition

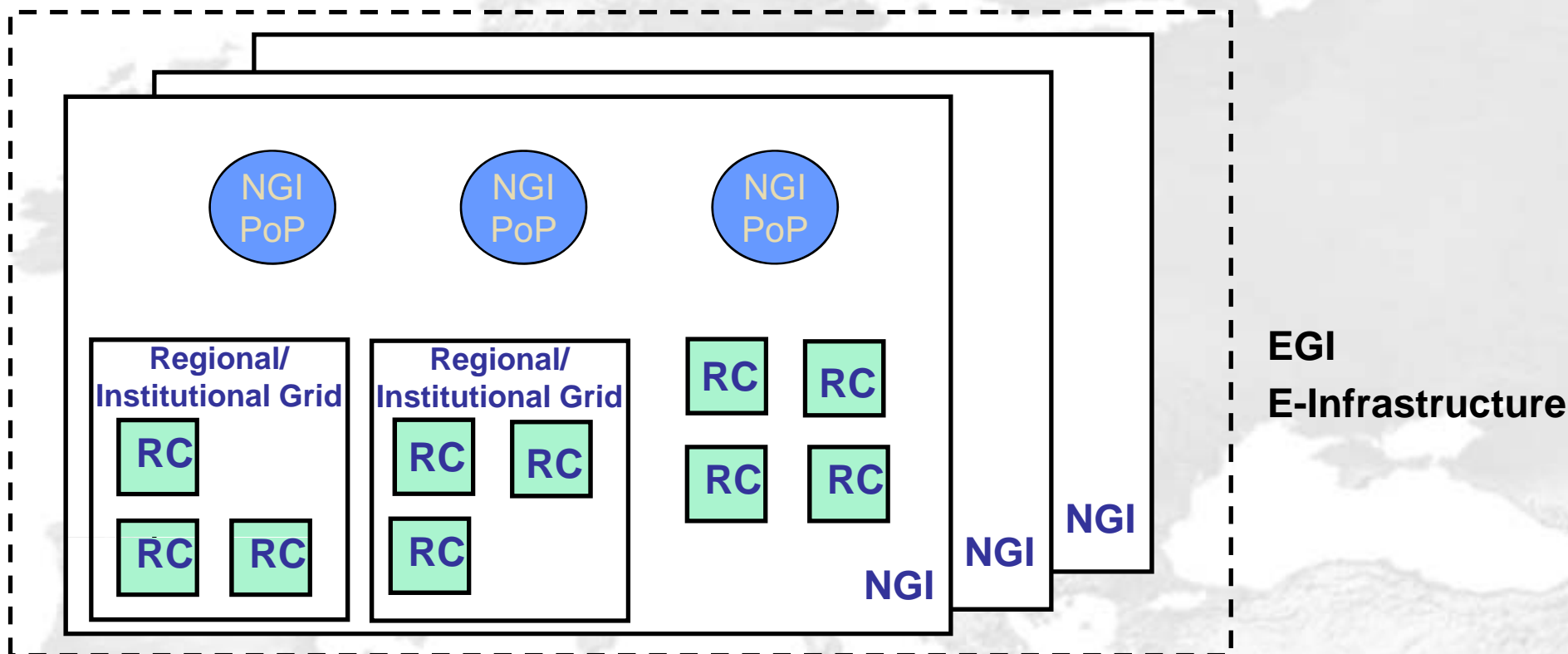
- The e-infrastructure and its components
- EGI business model: actors, offer, added value
- NGI national and international tasks
- NGI resources
- Future work
  - for NGIs
  - For Grid infrastructure projects
- Conclusions

# EGI and NGI e-infrastructure

## Components 1/2

- **NGIs** will deal with already existing:
  - **resource centres (RC) and regional/institutional Grids** including:
    - **distributed resources** funded and owned by national resource providers (computing, storage, network, data, ...)
    - **the technical interoperable Grid services** installed and operated at the Grid resource sites
  - **NGI Point of Presence (PoPs)**
    - **Grid core software services**
    - **the NGI operational services** (accounting, monitoring, help desk, etc.)
- the set of **common policies and rules** for the secure usage and sharing of the available resources and data
- the **Grid middleware** distribution and the testbeds for the its certification and integration

# EGI and NGI e-infrastructure Components 2/2



# EGI Actors

- National Grid Initiatives and the related national Resource Providers
- European International Research Organizations
- EGI.org
- Middleware consortia
- EGI Users
  - National Research Institutions: Universities, Research Laboratories, National Research Organizations.....
  - Research Teams operating across Europe and organized into pan-European Virtual Organizations (VOs)

# EGI Offer

- Secure sharing of ICT resources through common software tools of the partner Organizations “local” IT resources distributed among different administrative domains
  - primary *mandatory* purpose: satisfy the research communities is the enabling of **intra-VO sharing**, i.e. the possibility to get uniform standard access to the distributed pool of resources allocated to a given VO but from independent administration domains
  - in addition: **cross-VO sharing** to satisfy the demand of resource teams that do not own (neither directly nor indirectly) resources, but that are willing to pay for the uniform access to a certain amount of distributed resources
- Unified Middleware Distribution
- User community services (e.g. application porting support, training)
- Helpdesk
- Resource brokerage (for smaller Research Teams, optional)

# EGI Added Value

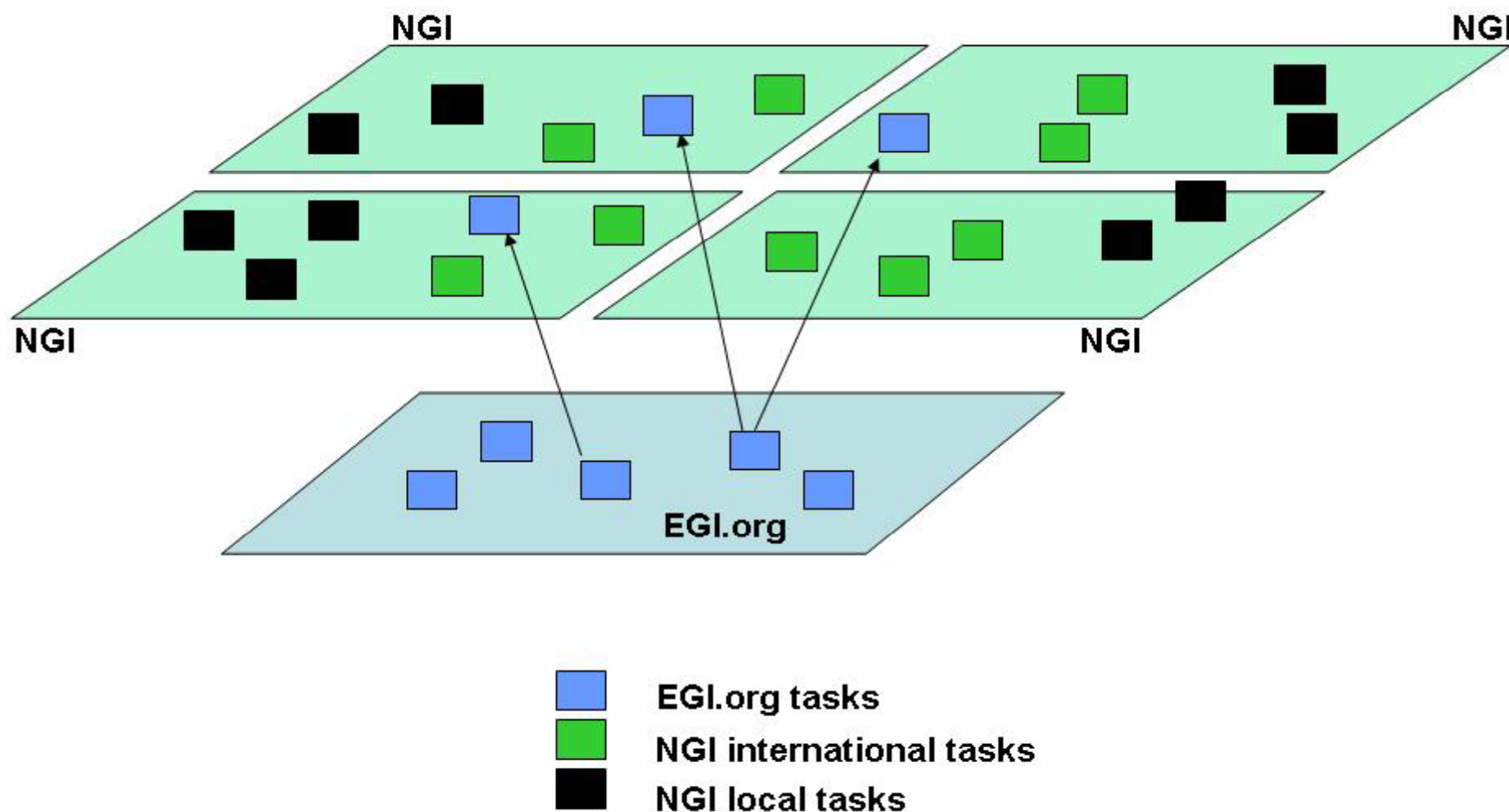
- Research teams
  - availability of an enabling pan-European infrastructure
  - easier establishment of multi-disciplinary projects
- Resource providers
  - efficient resource utilization thanks to a larger pool of international customers thanks to a progressively unified mw solution (e.g. scavenger service for utilization of idle resources)  
→ increased revenue
  - sharing of operational efforts and costs
- Funding agencies:
  - National level: better global return for the money invested by the funding bodies for the procurement of ICT resources, pushing for the creation of global pools based on a well defined certified set of services
  - International level: better return from past EC investments

# NGI tasks: national vs international 1/2

- NGI international tasks
  - aimed at allowing the **sharing** of the national IT resources at **pan-European and international level** in a uniform, robust, and seamless way, and at supporting the **international application communities**
- NGI national tasks
  - tasks each NGI performs for **supporting the national grid infrastructure** and the **national users and application communities**
- EGI.org
  - **Coordination** tasks to be run centrally
  - Other tasks can be **distributed** to NGIs



# NGI tasks: national vs international 2/2



# Effort for NGI International tasks

- According to the EGI blueprint:
  - “NGIs will contribute to the international tasks to a different extent, their **co-funding will reflect their commitment to the EGI international tasks**. The effort to be dedicated to these is in principle proportional to the amount of IT resources, number of sites and users that will be part of each NGI and involved in the international activities.”
  - **three categories**: small, medium, large

# NGI International tasks in EGI:

## Overview 2/2

- Operation of tools and Grid software core services
  - such as Grid configuration repositories, accounting repositories, monitoring and alarm systems, dashboards, portal
  - WMS, VOMS, FTS, etc.
- User and Grid site manager support
  - operation of regional trouble ticketing system interfaced to a central helpdesk
  - 1st and 2nd line support
  - monitoring shifts, dispatching of trouble tickets to the corresponding Support Units and sites, maintenance of the helpdesk tools to satisfy new user requirements
- Security policy development and maintenance, security and incident response

# NGI International tasks in EGI:

## Overview and Effort 2/2

- Development and maintenance of operational tools
- Middleware roll-out and deployment
- Resource allocation and brokering support for VOs from NGIs
- Interoperations between NGIs, network support

NGI Size	Small	Medium	Large
Resources [FTEs]	2-4	5-10	14-22

# Future work: NGIs

- Understand the implications of the EGI business model proposed
- Identify national/international tasks and related effort:
  - NGI international tasks are defined
  - Are national tasks needed to address specific needs (from institutional/regional Grids, regional user communities, resource providers, etc.)?
  - Any EGI.org ***distributed*** task of interest to the NGI?
- Define the organizational issues:
  - Is the NGI willing to **federate** with other NGIs to share the effort?
  - At the NGI level, are Operations and Security tasks going to be: **distributed, centralized**, or a **mix** of the two?
- Relationship/partnership with the middleware consortia?

# Future work:

## Grid infrastructure projects 1/2

- **BalticGrid, EGEE, SEE-GRID, ...**
- Define a plan to converge – as needed – towards a **unified** set of policies and operational and security procedures, interworking operational tools, etc.
- **Transition to EGI**
  - should be **transparent** to the users
  - will likely **continue** during the first years of EGI
- **Operational tools and procedures:**
  - Identify requirements from **all** the NGIs involved
  - Models: **centralized** (EGI-level) vs **distributed** (NGI-level)?
    - centralized and distributed will likely need to **coexist** for some time

# Future work:

## Grid infrastructure projects 2/2

- **Tool maintenance and development**
    - Several tools are currently developed by international partners in the framework of WLCG and/or EGEE. Are the existing development teams **committing** to this in the future?
    - Many tools need consolidation work; the transition to UMD will likely require **additional maintenance** work
    - Are **new tools** needed? How much effort does this require?
- Identify related **funding** requirements

# Conclusion

- An Operations and Security task force is likely needed to technically define a transition plan and tackle the various related issues. Actors involved:
  - Infrastructure projects operations representatives
  - NGI representatives
  - Developers of operational tools
  - EGI\_DS representatives