



Enabling Grids for  
E-science in Europe

*EGEE GR Third Parties Induction Course,  
May 26-27th, 2004*

# NA5 update – Policy and International Cooperation



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# Objectives of this session

- Explain NA5 plans
- Update of EU eInfrastructure initiative – meetings
- Review of the White Paper last version

# Outline

- **Background**
- **NA5 overview**
- **eInfrastructures overview**
  - Athens event – recommendations
  - Rome event – recommendations
  - Dublin event – recommendations

# Background

- **But still missing...**
  - **Administrative and policy decision mechanisms - framework**
    - satisfying the diverse end-user communities requirements:
      - E.g. single-sign-on, reliability, robustness, performance, security, end-to-end, AAA (Authentication, Authorisation, Accounting)
    - while achieving economies of scale in providing ever-growing resources at attractive cost pricing
    - Production-quality operational support

# NA5 objectives

- Foster **cooperation** between EGEE and the rest of the world Grid activities
- Establish a **elnfrastructure Reflection Group** in Europe
- Establish in-depth cooperation between two specific countries – the **United States of America** and **Russia** for mutual benefit.
- Be the European counterpart of the being launched US **Cyberinfrastructure** Initiative
- Play a leading role in **standards** setting through our attendance at global standards bodies such as the Global Grid Forum

# Description of Work

- A series of cooperation agreements with regions from around the world
- Through the establishment of a European **eInfrastructure Reflection Group** produce a series of eInfrastructure White Papers and roadmaps
- Establishment of pairing agreements between **US** projects and European Centres of Excellence
- Specific middleware and application components developed in both the United States of America and Russia to meet the particular needs of the EGEE user and applications communities. The work with the US will have a specific focus on Globus, Condor and in particular the Virtual Data Toolkit (VDT) which are fundamental components of the grid middleware

## NA5 partners

- CERN – NA5 leader
- PPARC – UK
- CNRS - France
- FZK - Germany
- INFN - Italy
- GRNET – Greek NREN
- CSIC – Spain (REDIRIS – Spanish NREN)
- DFN – German NREN
- GARR – Italian NREN

## NA5 roles

- CERN – NA5 leader (cooperation agreements, US-Russia, GGF etc.)
- NRENs (GRNET, Red.es/REDIRIS, DFN, GARR): Mainly staff eInfrastructure Reflection Group Support Teams:
  - eInfrastructure White papers on policy issues
- PPARC - UK: link to the UK e-Science programme and coordination with other UK Research Councils
- CNRS - France unfunded
- FZK – Germany unfunded
- INFN – Italy – eInfrastructure related

*Note that roles are NOT very clear yet*



# Deliverables - Milestones

## Deliverables

DNA5.1.1-4	M4	(CERN)	eInfrastructure reflection group White Papers in conjunction with the EGEE Project Conferences
DNA5.2	M6	(CERN)	European Grid project synergy roadmap (in collaboration with DEISA, SEE-GRID and other relevant initiatives and EU projects)
DNA5.3	M12	(CERN)	Progress report on International Cooperation Activities
DNA5.4	M18	(CERN)	European Grid project synergy report (in collaboration with DEISA, SEE-GRID and other relevant initiatives and EU projects)
DNA5.5	M24	(CERN)	Final progress report on International Cooperation Activities

## Milestones

MNA5.1	M9	European Grid project synergy roadmap. First draft eInfrastructure White Papers issued
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# GR Responsibilities

- GRNET – coordinating eInfrastructure White Paper Support Team
  - Fotis editor of Rome and Dublin meetings
  - To continue for the next meetings (Netherlands, Greece)
- Gr Third parties
  - **University of the Aegean**
    - To be involved in the White papers authoring:
      - Security and SLA issues
        - » Dimitris Vergados
        - » George Kourmentzas
        - » Aggelos Rouskas
        - » Christos Gizelis
- **Athens University of Economics and Business**, AUEB-I (Courcoubetis team)
  - to be involved in the White papers authoring:
    - Grid economics, business models, accounting, SLA definitions
      - » Panayotis Antoniadis
      - » Costas Courcoubetis

# GR Next Action Points

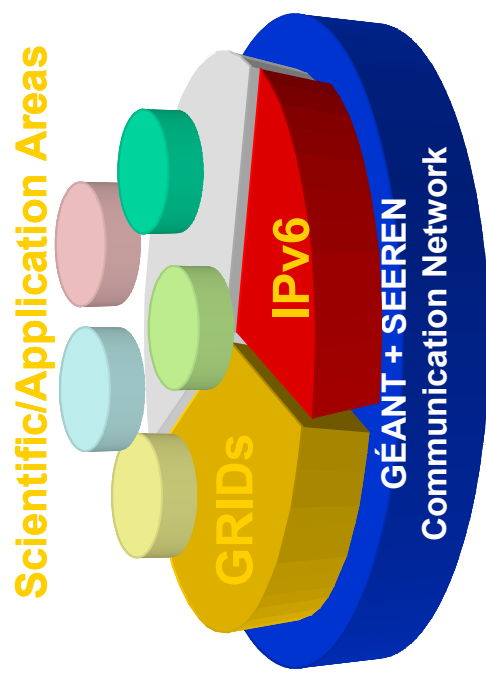
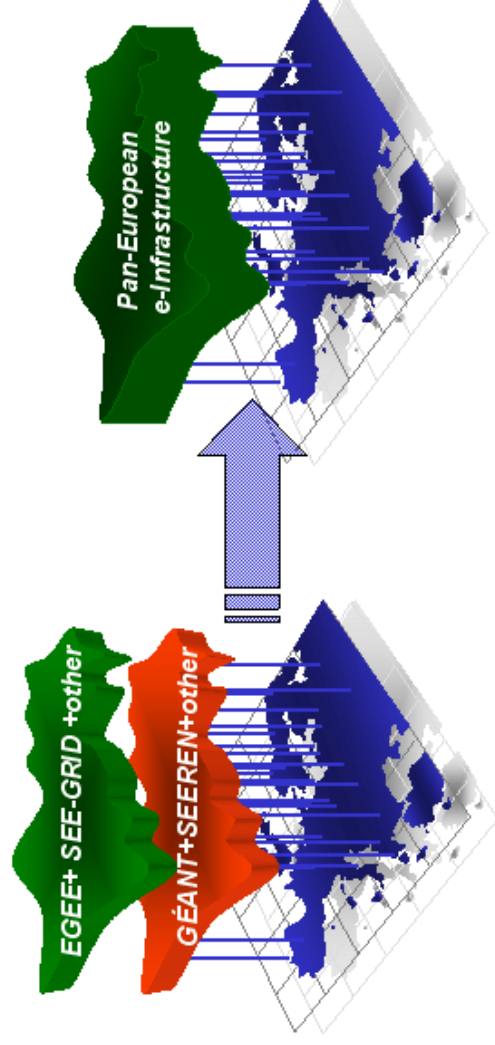
- Gr + Third parties will be the contributing in the next white paper:
  - Next white paper focusing on **Authorization**, Funding and Accounting policies
  - Identify Grid economics model for Research communities?
- AP: Confirm names that will contribute in the White papers

# Outline

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- **eInfrastructures overview**
  - Athens event – recommendations
  - Rome event – recommendations
  - Dublin event – recommendations

# eInfrastructure concept

- Grid should be considered as infrastructure
- Network+Grid M/W = eInfrastructure
- Applications run on top of the eInfrastructure



# Athens: 1<sup>st</sup> eInfrastructure meeting

- **Athens, 12 June 2003 - Launching the eIRG**  
<http://www.einfrastructures.org/>
- **Key recommendations**
  - **Establishment of eInfrastructures Reflection Group → eIRG:**
    - Composed of nominated National Programme representatives
    - **Working on:**
      - end-to-end user-perceived quality provisioning and appropriate resource sharing policies amongst all user communities involved
  - **ERA → ERIA: European Research & Innovation Area**
  - **Organisation into geographical regions → tool for co-operation**
  - **Further work needed → next events: Italy, Ireland, Holland**
  - **Rotating EU presidency Troicas → better planning & coordination**

# Rome: 2<sup>nd</sup> eInfrastructure meeting

- **Rome, 9 December 2003 - Launching the eIRG**  
<http://www.einfrastructures.org/> <http://www.pd.infn.it/einfrastructures/>
- Create **more awareness** on the eInfrastructure initiative and involve other important actors currently missing from earlier initiatives  
Decide on concrete next steps and actions in the context of the establishment of a policy- and administrative-level framework in Europe across technological, administrative and national domains
- Discuss and promote the **establishment of links** between the EU-eInfrastructure programme with similar programmes of other world regions US & AP (most notably, the US-Cyberinfrastructure). Participants in the meeting will therefore also include international representatives (e.g. NSF-officials)
- Facilitate and support the first meeting of the eInfrastructure Reflection Group.  
The creation of the Group was one of the recommendations arising from the Greek Presidency and it is expected that it will have been set up prior to the Rome-meeting

## Rome: 1<sup>st</sup> eIRG meeting

- **Rome, 10 December 2003 - Launching the eIRG**  
<http://www.pd.infn.it/einfrastructures/>
- ***“The main objective of the eIRG is to support on the political, advisory and monitoring level, the creation of a policy and administrative framework for the easy and cost-effective shared use of electronic resources in Europe (focusing on Grid-computing, data storage, and networking resources) across technological, administrative and national domains”***



# 1st eIRG meeting – eIRG objectives

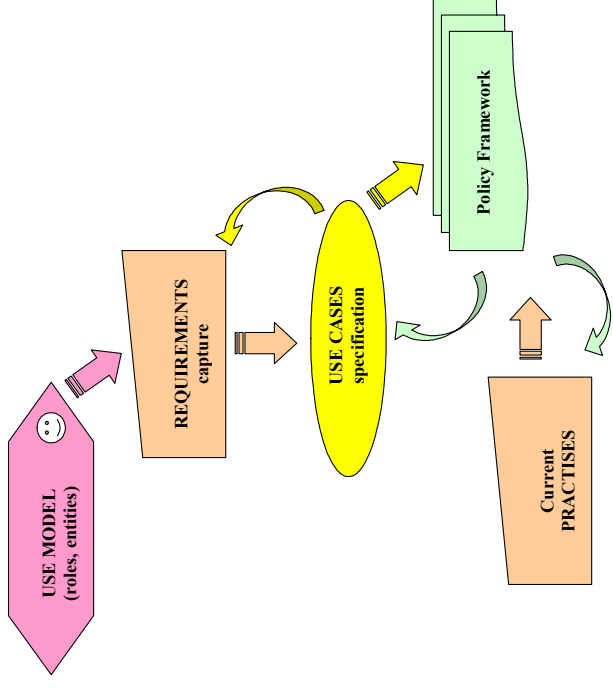
- **To identify the fundamental fabric, services and resources needed to enable pan-European e-Science**
- **Recommend resource sharing policy guidelines to:**
  - **National Grid initiatives**
  - **Regional & European – wide infrastructure projects**
- **Contribute to International policy fora**
- **Give input to other policy drafting bodies e.g. ESFRI, NREN PC etc.**
- **Focus first on eScience application user groups (as enablers of novel architectures) but also address wider application domains (e.g. eLearning, eGovernment, eHealth, eCulture, eBusiness, etc.) within the ERIA**
- **Identify, inform and promote GRID awareness among communities who can benefit from sharing resources**
- **Address Governance issues of Grid deployment**
- **Draw upon the experience of the NREN community (Structure, Operations, AUPs)**

## 1st eIRG meeting – eIRG structure

- ***Consists of appointed Member, Accession and Associated States Representatives plus EC officials***
- ***Initially co-ordinated by rotating EU Presidencies with the scheme of a troika of past – current – future presidencies***
- ***Supported by a Technical Support Group, via resources from EU flagship projects (EGEE, DEISA, GN2) and other possible initiatives.***

# 1st eIRG meeting – eIRG decisions

- **White paper first version:**
  - *Initial policy architecture*
  - *Identified Entities - roles*
  - *Current practices and achievements*
  - *Current Practices and Achievements in Resource Access and Sharing*
- **Focus on AAA: Authentication, Authorisation issues (and later on Accounting)**



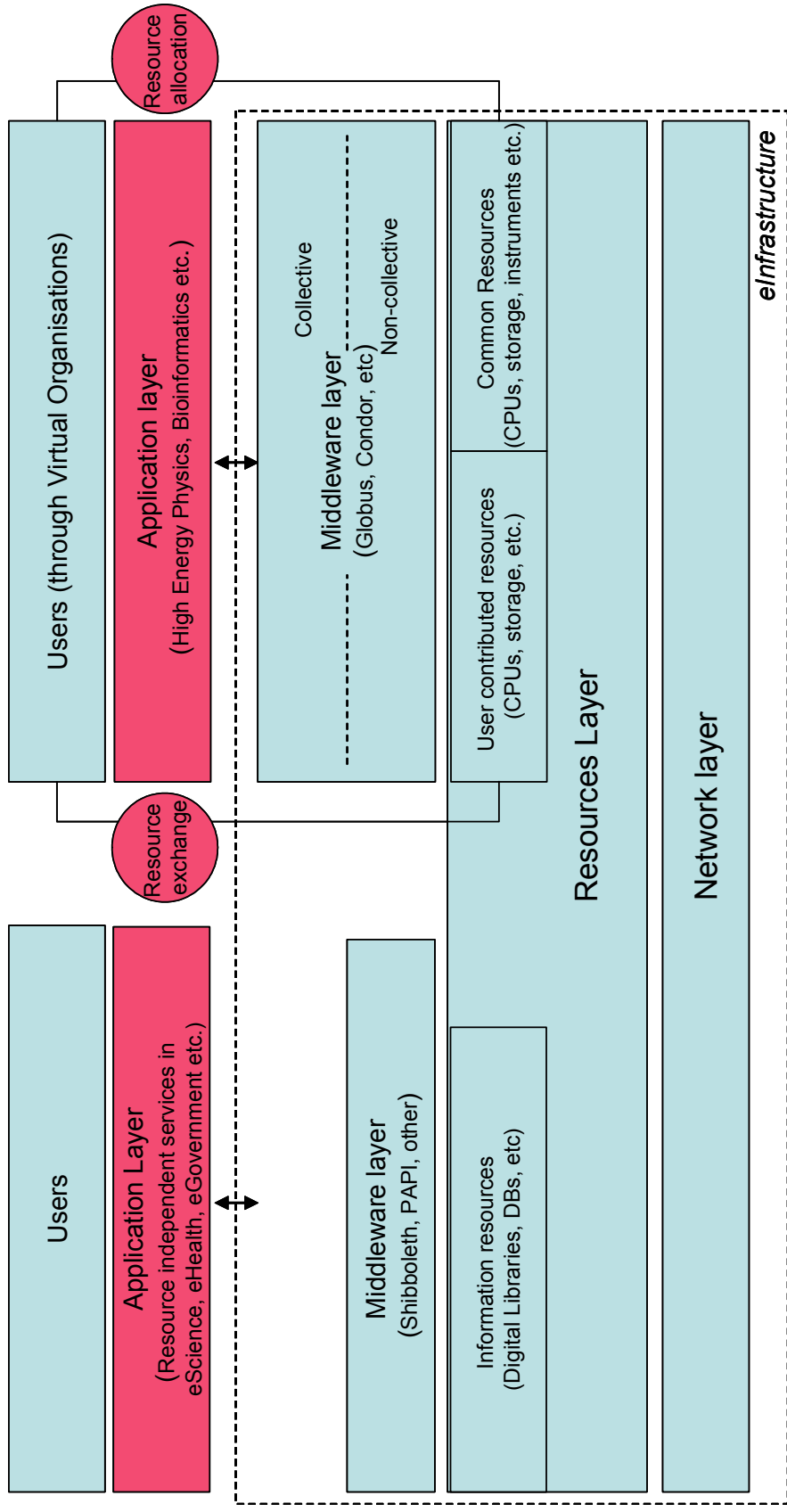
# Dublin: 3<sup>rd</sup> eInfrastructure event

- **Dublin, 15 April 2004 – First Steps**  
<http://www.einfrastructures.org/> <http://www.heanet.ie/einfrastructures/>
- **Objectives:**
  - Create more awareness on the eInfrastructure initiative and involve other important actors currently missing from earlier initiatives.
  - Discuss next steps and actions in the context of a policy and administrative framework in Europe that would cross technological, administrative and national domains.
  - Intensively discuss policies at the funding, sharing and user levels.
  - Discuss a concrete policy proposal relating to grid authentication and a way forward for grid authorization policies.
  - # Discuss better links and synergies between Europe and other regions (e.g. US, Japan) that are engaging in similar activities.
  - # In these ways facilitate and support the next meeting of the eInfrastructure Reflection Group.

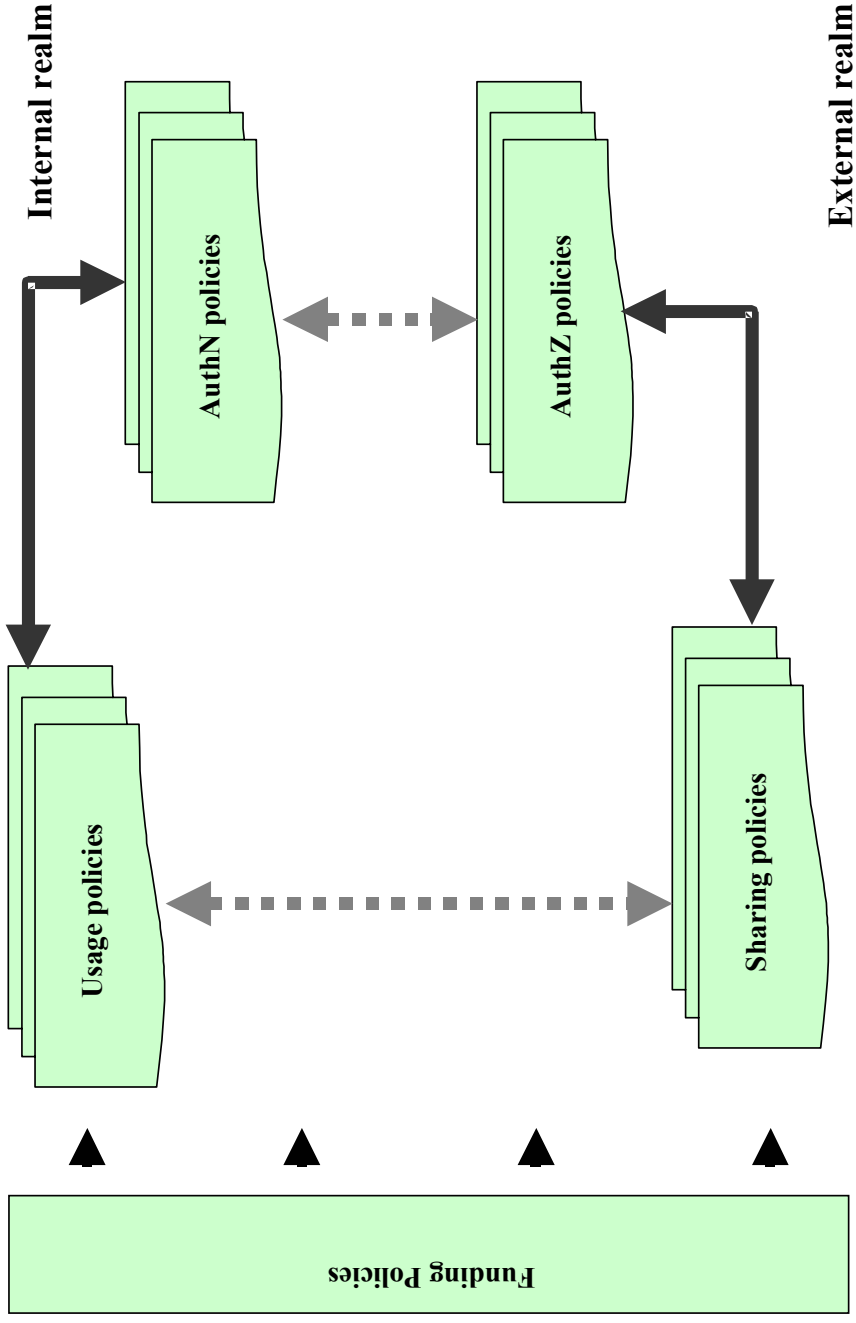
# Dublin: 2<sup>nd</sup> eIRG Meeting

- **Dublin, 16 April 2004** / <http://www.heanet.ie/einfrastructures/>
- 2<sup>nd</sup> version of the White Paper
  - Focusing in Authentication and Authorization current practices
  - Identifies first policies in:
    - Authentication Policies
    - Authorisation Policies
    - Funding Policies
    - Sharing Policies
    - Usage Policies
    - Policy Framework Roadmap

# eInfrastructures and policy architecture



# eInfrastructures policies



# Dublin: 2<sup>nd</sup> eIRG Meeting

- **Dublin White paper recommendations:**
  - **Decisions for immediate action have to be taken to:**
  - Promote interoperable authentication and authorisation infrastructures enabling seamless sharing of eInfrastructure resources: from network access to Grid interactions.
  - Endorse the EU Grid Policy Management Authority [www.eugridpma.org](http://www.eugridpma.org), as a group of mutually trusted Certification Authorities, and the TERENA TACAR [www.terena.nl/task-forces/tf-aace](http://www.terena.nl/task-forces/tf-aace) as the common repository for storing and validating the CA root certificates and policies; these constitute concrete first steps towards common EU authentication policies, essential for resource access and sharing in the major FP6 e-Science projects.



## Dublin: 2<sup>nd</sup> eIRG Meeting (2)

- **Dublin White paper recommendations:**
  - **Subsequent actions should be foreseen in order to:**
  - Enable the use of federated solutions, decoupling local authentication procedures at a user's origin organization from local authorisation at the target resource. Origins and targets are connected by the trust links built by the federation.
  - Apply techniques for privacy preservation, oriented towards avoiding unnecessary data leakage when performing AA interactions, providing users with the ultimate control over what information about them is exchanged for what transactions.
- Start working out policies towards resource sharing and accounting:
  - Intra-grid policies
  - Inter-grid policies

## Dublin: 2<sup>nd</sup> eIRG Meeting (3)

- **Final decision taken in the eIRG meeting:**
  - “The eIRG notes the timely operation of the EUGridPMA in conjunction with the TACAR CA Repository and it expresses its satisfaction for a European initiative that serves eScience Grid projects.”
  - “The eIRG endorses the principle of the EUGridPMA and TACAR. The eIRG welcomes this development which positions Europe in the forefront of Grid and eScience interoperability. The eIRG strongly encourages the EUGridPMA/TACAR to continue their valuable work and recommends that they be supported by the relevant EU/national projects and agencies.”