



**Enabling Grids for  
E-science in Europe**

[www.eu-egee.org](http://www.eu-egee.org)

**EGEE Kick Off Meeting  
SA2 Session**

**University College Cork  
Cork**

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# JRA4 Overview

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- EGEE brief description
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  - Network Performance Monitoring
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# EGEE Activity Areas

- **Services**
  - Deliver “**production level**” grid services (manageable, robust, resilient to failure)
- **Middleware**
  - Grid middleware re-engineering activity in support of the production services
- **Networking**
  - Proactively market Grid services to new research communities in academia and industry
  - Provide necessary education



# EGEE Activities

- EGEE includes 11 activities
- Services
  - SA1: Grid Operations, Support and Management
  - SA2: Network Resource Provision
- Middleware (Joint Research)
  - JRA1: Middleware Engineering and Integration
  - JRA2: Quality Assurance
  - JRA3: Security
  - JRA4: Network Services Development
- Networking
  - NA1: Management
  - NA2: Dissemination and Outreach
  - NA3: User Training and Education
  - NA4: Application Identification and Support
  - NA5: Policy and International Cooperation

## Equivalent EDG Work Packages / Groups

WP6

WP7

WP1-5 & 6

QAG

Security Group

WP7

WP12

WP11

WP11

WP8-10

?

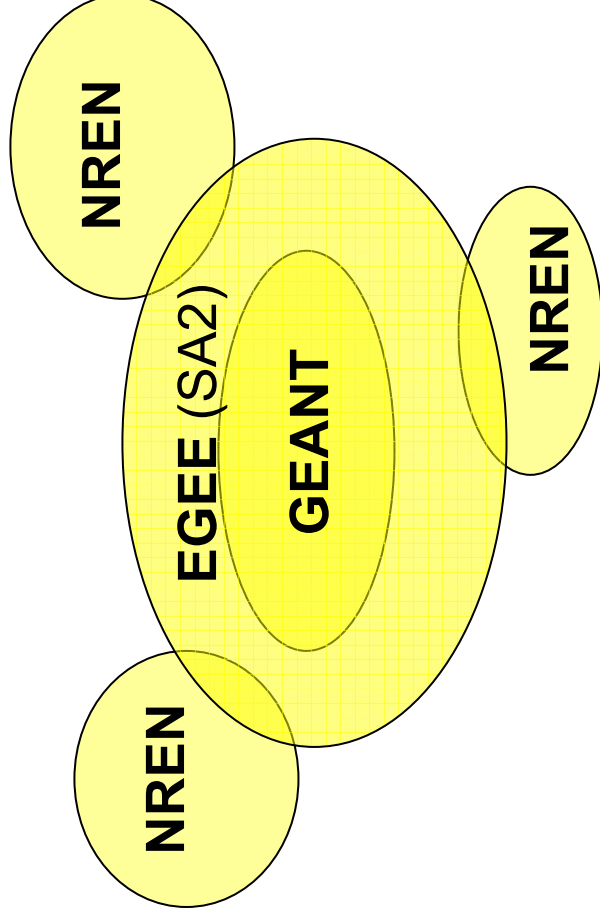
# Network Resource Provision (SA2) Objectives

Ensure EGEE can access the new network services provided by GEANT and the NRENs that will link:

- Users
- Resources
- Operations

## SA2 Partners

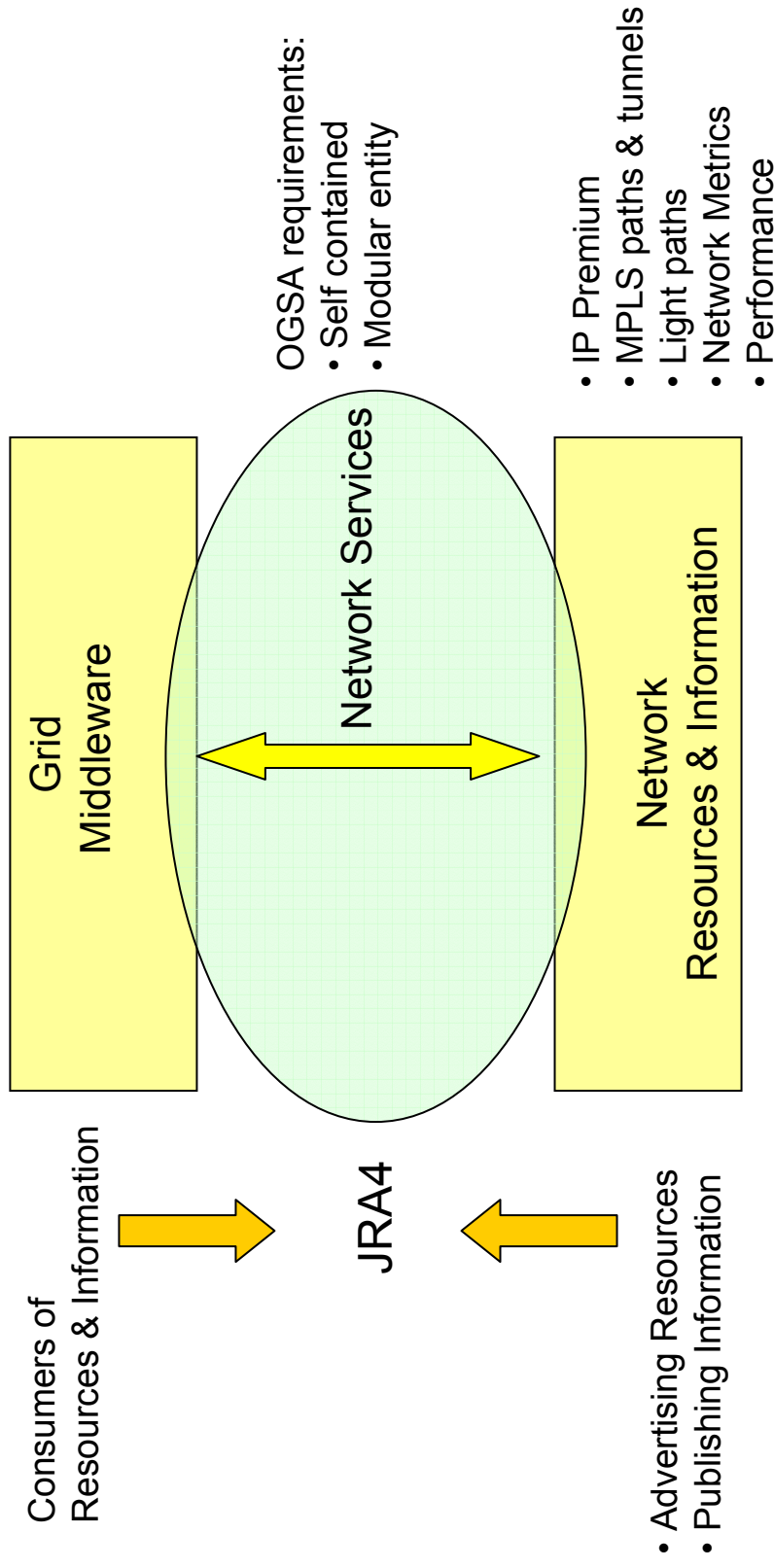
- CNRS / UREC
- RCC KI
- GRNET



**GEANT** High-speed pan-European backbone linking NRENs run by DANTE  
**NRENs** National Research and Educational Networks  
**DANTE** Not-for-profit company that manages GEANT

# Network Service Development (JRA4) Objectives

**JRA4 will provide common interfaces between  
Grid middleware and Network Resources**

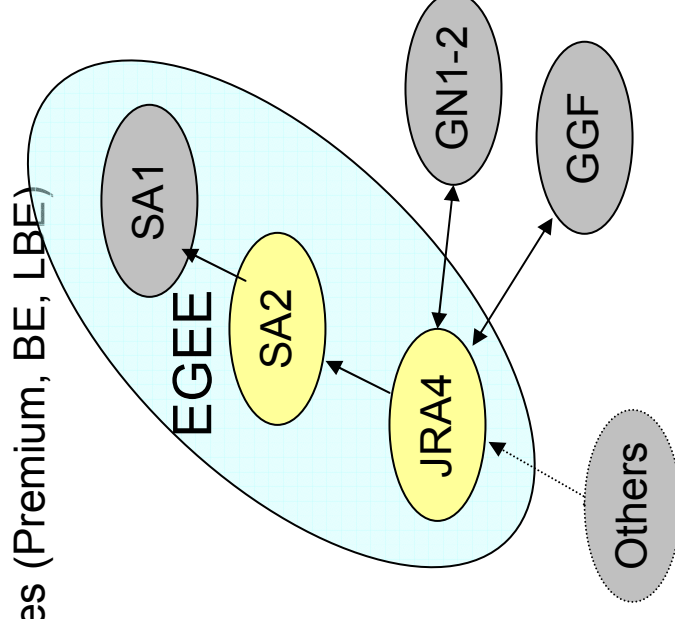


# JRA4 Tasks and Context

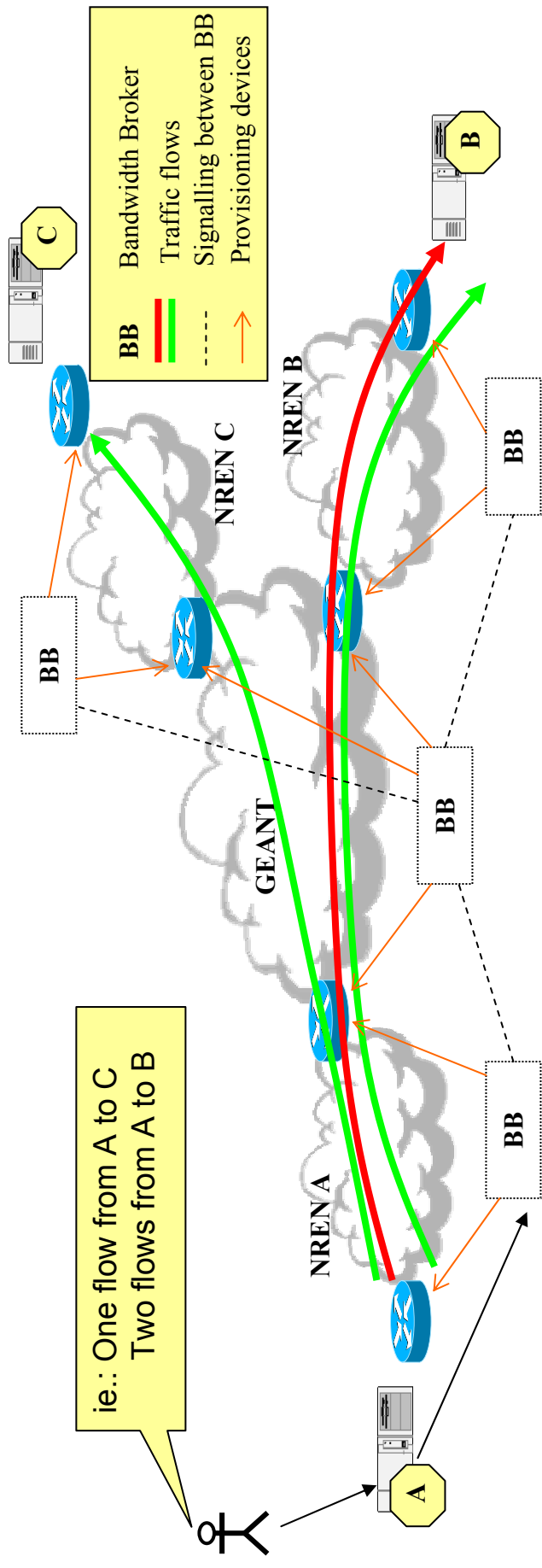
- **Main sub-activities:**
  - Bandwidth Allocation and Reservation
  - Network Performance Monitoring and Diagnostic tools
  - IPv6 uptake
- **DANTE already deploying basic infrastructure in GEANT (current GN1 and the coming GN2 projects):**
  - Introduction of Layer 3 differentiated services (Premium, BE, LBE)
  - Instrumentation for network measurement

- **JRA4 Partners**

- UCL
- CNRS / UREC
- DANTE
- DFN
- GARR



# Bandwidth Allocation & Reservation

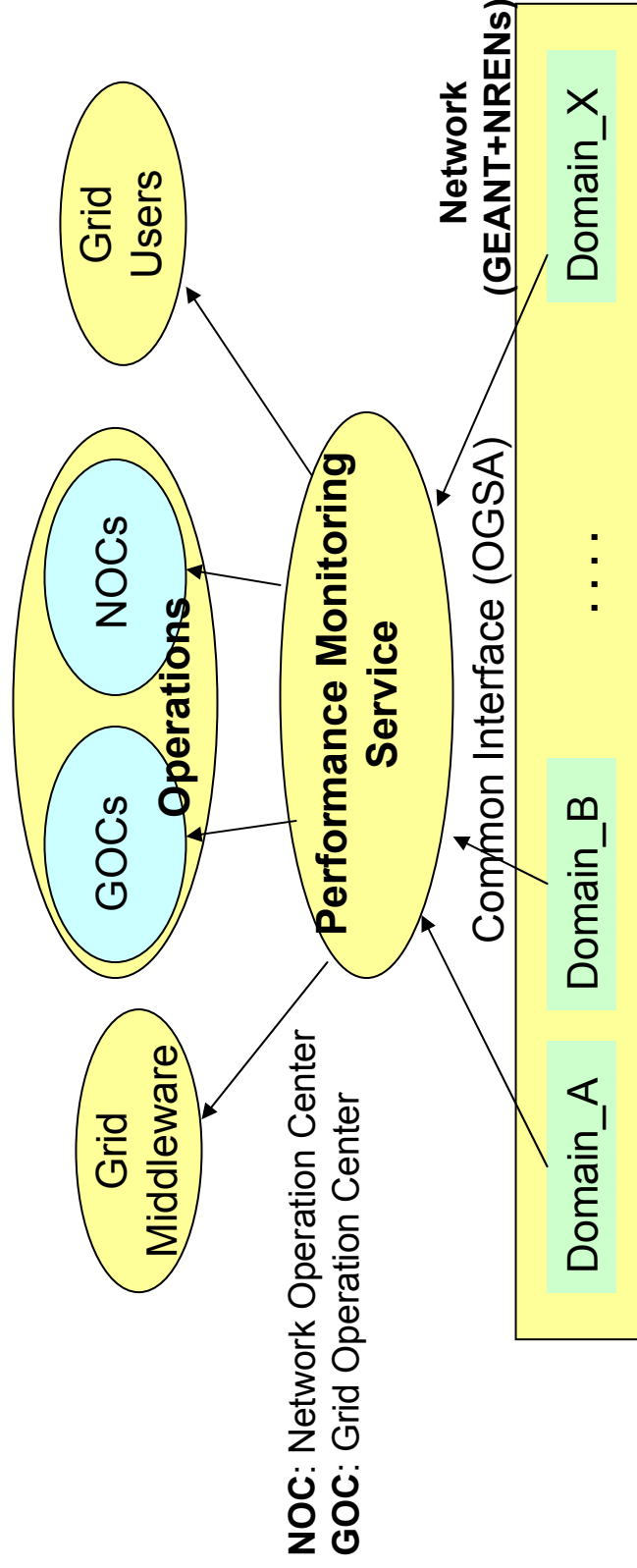


- Allocating network resources (IP Premium, Paths, etc... ) :
  - immediate
  - advance
- Two features:
  - multiple domains and,
  - Authorization and Authentication for end users



# Network Performance Monitoring

- **Grid Performance** closely linked to **Network Performance**
- **Network Performance?**, what for? :
  - Problem diagnostic and rectification
  - Facilitate resources allocation
  - Performance monitoring and SLA adherence



# IPv6 Uptake

## Study of the advantages of using IPv6 in Grid context:

- DANTE deploying IPv6 (already started)
- IPv6 is effective if deployed in all domains

## The report will cover:

- Study of features of IPv6, highlighting the ones of interest for Grids
- Availability of IPv6 in NRENs and access networks
- EGEE internal awareness of IPv6

## Also:

- Collaboration with 6NET.
- Possibility of building a testbed, needs to be agreed

# JRA4 Deliverables

- Bandwidth Allocation & Reservation:
  - DJRA4.1 (M6, Sep/04): Specification of Interfaces (network control plane & global resource reservation middleware)
  - DJRA4.4 (M21, Dec/05): Implementation of pilot
  - DJRA4.6 (M24, Mar/06): Final Report
- Network Performance Monitoring & Diagnostic tools:
  - DJRA4.2 (M9, Dec/04): Definition of standardised network measurement query/response interfaces
  - DJRA4.5 (M21, Dec/05): Service to supply network perf. Information to resource brokering
  - DJRA4.7 (M24, Mar/06): Final Report
- IPv6:
  - DJRA4.3 (M18, Sep/05): Final Report

# Thank you

<http://www.eu-egee.org>

<http://egee-jra4.web.cern.ch/EGEE-JRA4>