



*RIPE 51, Amsterdam, October 12<sup>th</sup>, 2005*  
Enabling Grids for E-science

# EGEE (JRA4)

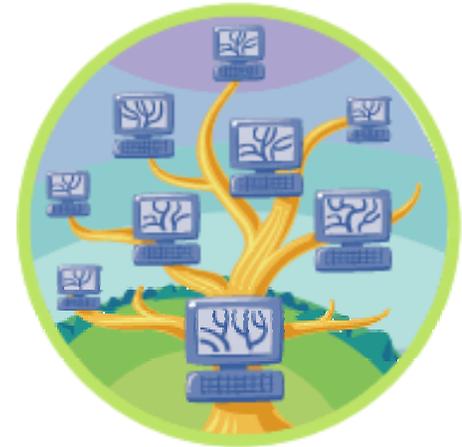
[www.eu-egee.org](http://www.eu-egee.org)

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- **Introductions**
  - EGEE, EGEE JRA4, GGF NMWG
- **Work of EGEE JRA4**
  - Prototypes
- **Demo: Diagnostic Tool**
- **Roadmap**
- **Conclusion & References**



- **Enabling Grids for E-Science**
  - 2 year project started in April 2004
  - Likely to continue into EGEE2 from April 2006
- **Organized into 11 Activities**
  - 5 NAs (Networking Activity)
  - 2 SAs (Service Activity)
  - 4 JRAs (Joint Research Activity)
- **EGEE JRA4 deals with Network Services Development**
  - Network Performance Monitoring (NPM)
  - Bandwidth Allocation and Reservation (BAR)
- **Partners in EGEE JRA4**
  - The University of Edinburgh (replaced UCL)
  - DANTE
  - CNRS-UREC
  - GARR
  - DFN

## Network Performance Monitoring

- **Standardizing access to Network Measurement data across different domains and different frameworks**
  - Backbone Network measurements
  - End-to-End Measurements
  - Use of GGF NMWG XML Schemas
- **Study of metrics of interest**
  - Metrics that might be important to Grid Middleware, GOCs (Grid Operations Center) and ROCs (Regional Operations Center)
- **Preliminary requirements capture for Diagnostic Tool and EGEE Middleware interface**

- **Global Grid Forum – Network Measurements Working Group**
  - Active participation by a heterogeneous crowd
- **Works include**
  - Two versions of XML Schemas for measurement data exchange
  - Categorization of network metrics in use by monitoring tools
- **Work in progress**
  - Version 2 of XML Schemas
- **Mailing list info: [nm-wg@gridforum.org](mailto:nm-wg@gridforum.org)**
- **EGEE's relation to GGF NMWG**
  - Early Adopters of GGF NMWG work
  - Feedback to NMWG about Schemas
  - Currently uses both versions of XML schemas

## NPM has produced 3 Prototypes so far

- **Prototype 1 (Dec 2004)**

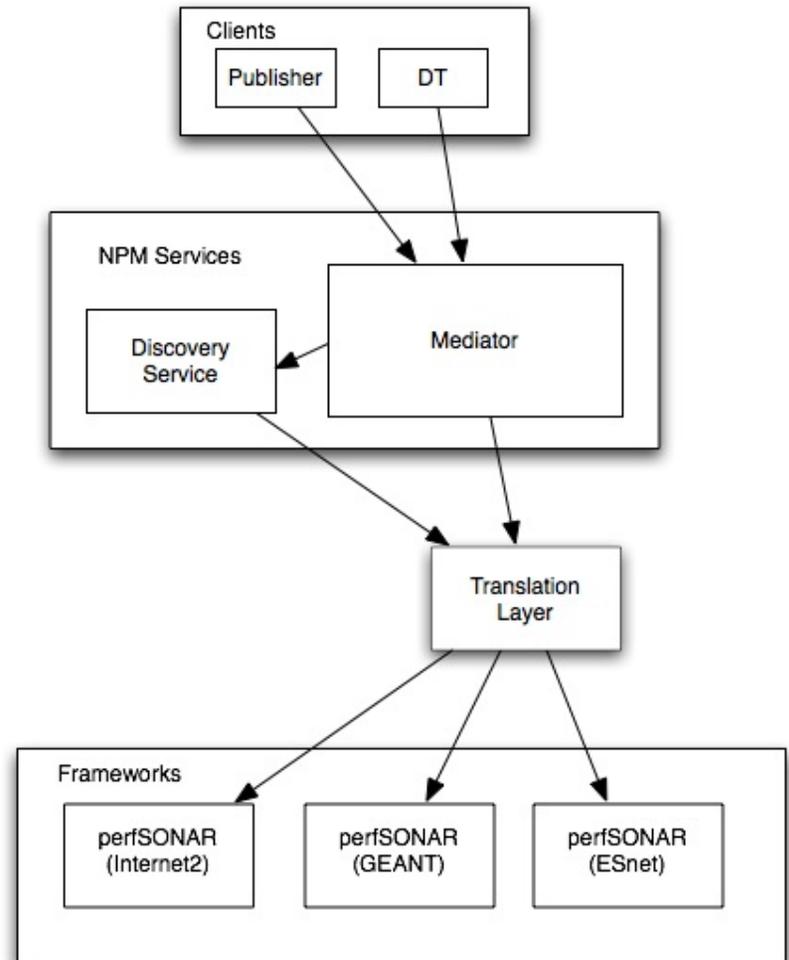
- Data from heterogeneous frameworks made available
  - End-to-End monitoring tools (e2emonit)
  - DANTE's Perfmonit
    - *One Way Delay data measured by RIPE TTM boxes*
- First usage of GGF NMWG version 1 schemas
- Valuable experience in implementation of Web Service Interfaces

- **Prototype 2 (April 2005)**

- Continued to retrieve One Way Delay data measured by RIPE TTM boxes
- Use of SSL and Certificates used by EU Grid PMA
  - Usage of Server and Host certificates
- NM-WG version 1 schema enhancements
- Demonstration for NMWG at GGF 13

- **Most recent: Prototype 3 – Diagnostic Tool (September 2005)**
  - Provide access to measurement data via GUI
  - Capability to communicate with perfSONAR (GÉANT2 JRA1 framework)
  - Retrieval of Capacity, Available Bandwidth & Utilization from
    - GÉANT, Abilene, ESnet
  - Discovery service
    - provide (static) information about frameworks and their capabilities
  - Authorization of requests
    - Authentication via x.509 Certificates issued by GRID CAs
    - Authorization based on Access Control List
      - *Certificate contents are used*

- **Prototype 3: contd...**
  - Support for Version 2 of GGF NMWG Schemas
    - Translation Layer (service) to translate communications from NMWG version 1 into NM-WG version 2 schemas
- <https://egee.epcc.ed.ac.uk:28443/npm-dt/>



- **EGEE (until March 2006)**
  - Work on interface with the middleware
  - Further requirements capture from operation centers
  - End-to-end monitoring (e2emonit)
    - Hardening and pilot deployment
  - Replace access-list security with VOMS
    - **Virtual Organization Membership Service**
- **EGEE 2 (April 2006 - March 2008)**
  - Current Plans
    - Focus on providing measurement data access **service**
    - Use available deployments in EGEE 1 (and possible new additions) to provide this service
    - Further development of Diagnostic Tool and Middleware Interface

- **RIPE TTM data useful for development of EGEE NPM Prototypes**
- **EGEE aims to provide a variety of data from heterogeneous frameworks as per user requirements**
  - Operation center users
  - Middleware
- **Data Disclosure Policies need to be set up and necessary measures will be used to uphold agreements**
- **Questions?**

- **EGEE:**
  - <http://egee-intranet.web.cern.ch/egee-intranet/gateway.html>
- **EGEE JRA4:**
  - <http://egee-jra4.web.cern.ch/EGEE-JRA4/>
- **GGF NMWG:**
  - Old: [http://www.didc.lbl.gov/NMWG/old\\_index.html](http://www.didc.lbl.gov/NMWG/old_index.html)
  - New: <http://nmwg.internet2.edu/>
  - Mailing list archives:
    - [http://www-unix.gridforum.org/mail\\_archive/nm-wg/maillist.html](http://www-unix.gridforum.org/mail_archive/nm-wg/maillist.html)
- **DANTE and GEANT2**
  - <http://www.dante.net>
  - <http://www.geant2.net>
- **perfSONAR (GEANT2 JRA1)**
  - <http://www.geant2.net/server/show/nav.754>
  - [http://monstera.man.poznan.pl/wiki/index.php/Main\\_Page](http://monstera.man.poznan.pl/wiki/index.php/Main_Page)