



RIPE 51, Amsterdam, October 12th, 2005
Enabling Grids for E-science

EGEE (JRA4)

www.eu-egee.org

Loukik Kudarimoti
DANTE

www.eu-egee.org



- **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**
- **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)**

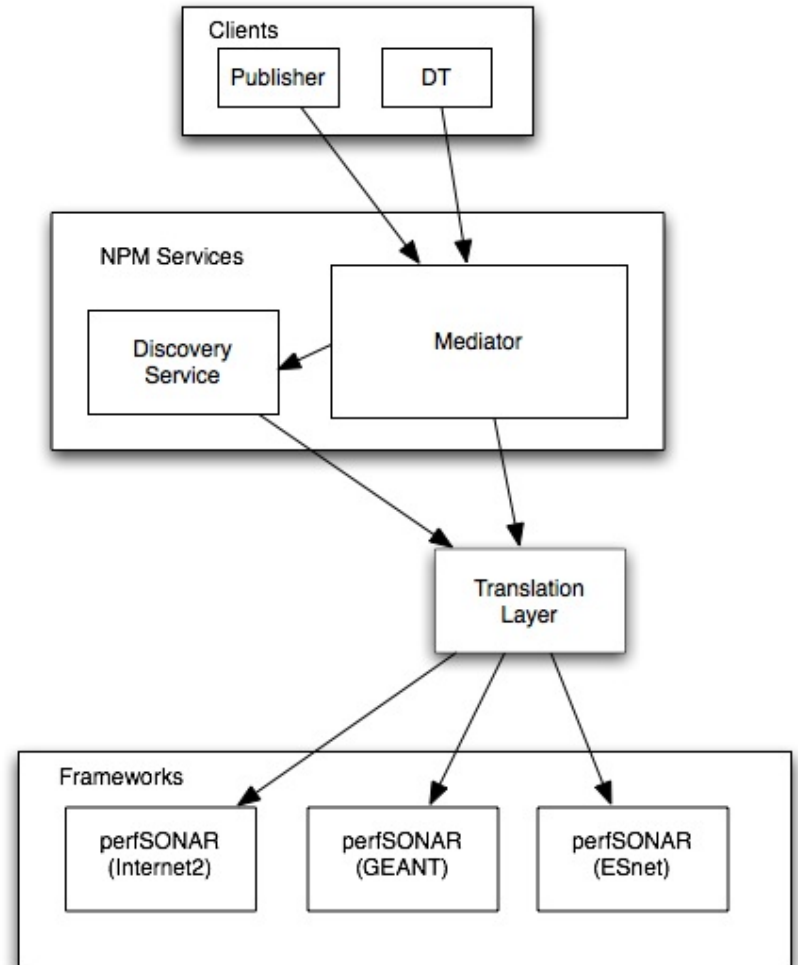
- Data from heterogeneous frameworks made available
 - End-to-End monitoring tools (e2emonit)
 - DANTE's Perfmonit
 - *One Way Delay data measured by RIPE TTM boxes*
- First usage of GGF NMWG version 1 schemas
- Valuable experience in implementation of Web Service Interfaces

- **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
 - New: <http://nmwg.internet2.edu/>
 - Mailing list archives:
 - 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