

## SA2 Network Resource Provision

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*All Activity meeting*

*19-20/01/2006*

- **DSA 2.3: Revised SLAs and Policies**
  - SLAs EGEE  $\Leftrightarrow$  Network (GÉANT + NRENs+ last miles networks)
- **MSA2.3 extension: Operational Interface**
  - EGEE  $\Leftrightarrow$  Network (GÉANT + NRENs)
- **Main issues**
- **Reviewer comments**

- **End-to-End Service Level Agreement**
  - After the definition of service classes (DSA2.1) and specification of network services as SLS (MSA2.2)
  - DSA2.2 in March 2005 : "Institution of SLAs and appropriate policies"
    - (<https://edms.cern.ch/document/565447>)
  - **DSA2.3 in January 2006: Revised SLAs and Policies**
    - (<https://edms.cern.ch/document/691426>)
- **Network Operational Interface**
  - Between EGEE and GÉANT/NRENs
  - MSA2.3 in March 2005 (<https://edms.cern.ch/document/565449>)
  - **Extension in January 2006**
    - Addenda in the MSA2.3 document
- **Validation and implementation of the above work**
  - QoS experiment
  - EGEE Network Operation centre (ENOC) trial
  - Grid sites connectivity informational schema

- **Main improvements since March 2005**

- End-to-end SLA processing definition

- Based on the DSA2.2 SLA model

- *This SLA is formed using the individual SLAs provided by all domains along the end-to-end path*

- SLA between the border of the NRENs cloud (border-to-border SLA)

- Difficulty to accommodate and take into account the “last mile”

- Compliant with the provisioning model defined by SA2 and JRA4

- To be used in the BAR context

- SLA monitoring

- *On demand/Periodic, Passive/Intrusive*

- In the network each domain is responsible for monitoring (DSA2.2)

- *GN2 will provide a solution for PIP monitoring*

- The application can provide monitoring data during its execution

- *Real time data (i.e. GRIDFTP)*

- NPM can be used to produce end-to-end information

- *The tools must use the NM-WG interface*

- Network informational schema for Grid sites  
(<https://edms.cern.ch/document/637321>)
  - The aim: To get an informational schema representing network infrastructure through the EGEE resource centres connectivity:
    - *For network operational tasks*
    - *For end-to-end SLAs*
  - The schema accommodates:
    - *Site information*
    - *Network connectivity*
    - *Network service information*
- The contact to implement this informational schema in the Grid Operation Centre Database (GOCDB) has been taken
  - The SA2 requirements will be submitted by John Gordon to an advisory group which decides on what developments are done and relative priorities.

- QoS experiment helps to validate the proposed model and process
  - Tests between pairs of EGEE sites:
    - *Four EGEE sites involved: Lyon, Athens, Moscow, Paris*
    - *Five networks involved: GÉANT, GRnet, RbNet, Renater, RAP (Paris MAN)*
    - *Tackle the network heterogeneity in the Grid world*
  - We tried to follow the whole process from configuring the testbed to establishing SLAs:
    - *Contact with EGEE sites and NRENs (NOCs)*
    - *Gather information and issues before a possible introduction into production*
- **The document is under writing, a draft version is available**
  - It should be submitted in time

- **An ENOC trial took place during the summer:**  
*EGEE Network Operation Centre*
  - Two NRENs involved: GÉANT and Renater
  - SA2 played the ENOC role
- **Aim:**
  - Work with GGUS to integrate the ENOC in their workflow
  - Test the ENOC procedures defined in MSA2.3
  - Implement software to parse and filter Trouble-Ticket (TT) emails
    - Early statistics from 5 July to 13 September:
    - About 1500 mails received (more than 600 per NREN, the rest from GGUS). This corresponds to about 450 unique TT (~200 per NREN)

- **Results**
  - The defined procedures for NREN-ENOC and GGUS-ENOC paths work
  - The filtering tool meets the current requirements
- **Next steps until M24**
  - Test if “grid user” workflow scales with more NRENs (workload on the filter tool and on the ENOC people)
    - *GARR is involved since the mid of November*
    - *DFN should join on February*
    - *Find new NRENs (reviewers comments)*
  - Extend workflow tests to encompass the whole procedure
- **ENOC will probably act as the network support unit for both EGEE and LCG**
  - Meeting with Roberto Sabatino (DANTE) in Bordeaux (15 Dec.)
    - Clearly the ENOC is established to support the networking needs of LHC : TT, lightpaths monitoring.
    - Perhaps, the ENOC may need extra resources for this.



- **Monitoring of QoS traffic to ensure SLA adherence is an open issue.**
  - SA2-JRA4 work until M24
- **Network informational database implementation in GOCDB**

- **Section 3.7 : Common to SA2 and JRA4**
  - Recommendation 19: *“Further test and validate operational procedures and interfaces involving more NRENs until project month 24.”*
    - We are trying to involve more NRENs but it takes time.
  - Recommendation 20: *“Target cooperation with the NOCs at resolving remaining issues, such as trouble ticket normalization. Implement and document solutions until project month 24.”*
    - The trouble ticket normalization is a huge problem, confirmation was done at the 2nd concertation workshop, which involve a work from the NRENs. It cannot be only a work from EGEE even we are thinking to some solutions. So mention "Implement and document solutions until project month 24" seems to us totally unrealistic.