



Enabling Grids for E-science

SA2: Networking support

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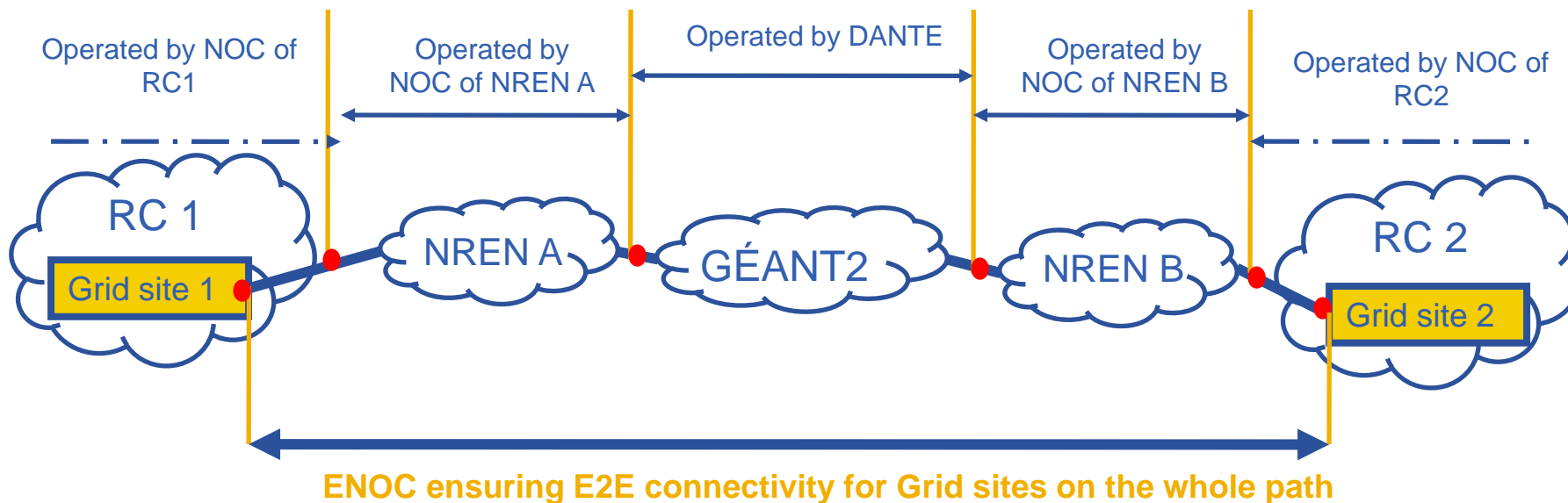
SA2 Activity Manager

Transition Meeting (CERN) – 6/7 May 2008

www.eu-egee.org



- **TSA2.1: ENOC running (CNRS)**
- **TSA2.2: Support for the ENOC**
 - TSA2.2.1: Operational procedures and follow-up (CNRS)
 - TSA2.2.2: LCG Support (CNRS)
 - TSA2.2.3: Operational tools and Maintenance (CNRS/RRC-KI)
 - TSA2.2.4: Network monitoring tools (DFN)
- **TSA2.3: Overall Networking coordination**
 - TSA2.3.1: Relationship with NREN, TNLC (CNRS)
 - TSA2.3.2: Advanced network services (GRNET)
 - TSA2.3.3: IPv6 follow-up (GARR/CNRS)
 - TSA2.3.4: Trouble ticket exchange standardization (GRNET)
- **TNA2.4: Management and general project tasks (CNRS)**



This schema applies for “standard connectivity”

(= outside of LHCOPN’s scope or some sites accessed over the Internet)

NREN: National research and educational network (RedIRIS, SWITCH, DFN ...)

NOC: Network operation centre

ENOC: EGEE NOC

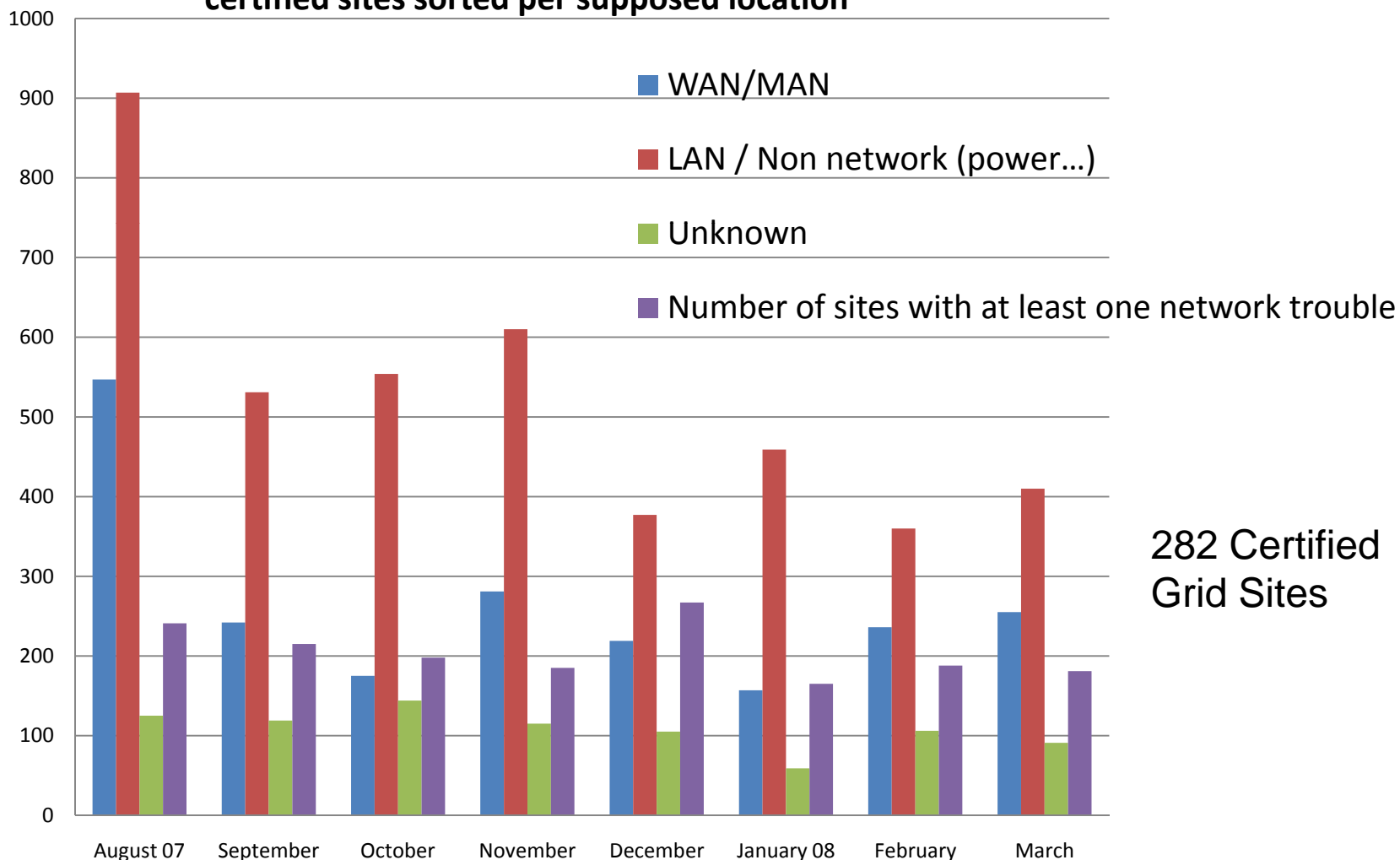
E2E: End to End

RC: Resource centre

● : Demarcation point

- Operational recurrent task

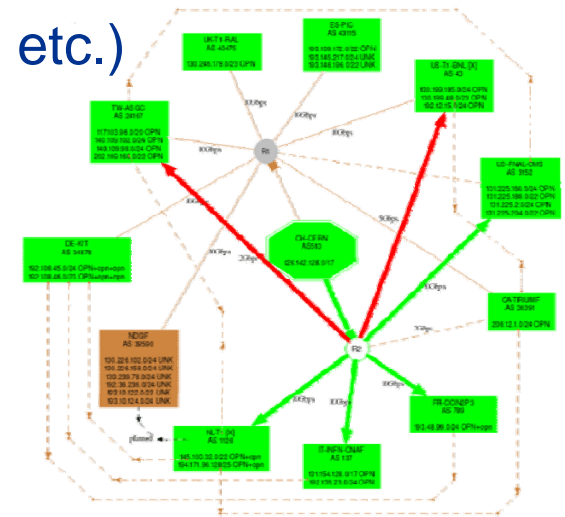
Number of connectivity troubles detected on EGEE Grid certified sites sorted per supposed location



282 Certified Grid Sites

- **Operational procedures and follow-up (TSA2.2.1) CNRS**
 - Procedures were specified during EGEE-I
 - Implemented and applied during EGEE-II
 - Never ending process of improvement

- Currently focused on supporting the LHC Optical Private Network
- SA2 objectives in LHCOPN context are:
 - Define accurately responsibilities of each actor
 - Ensure a problem resolution is not delayed by an unsuitable operational model
 - Ensure the LHCOPN is well monitored
 - Set up communication channels between this network and the EGEE Grid (scheduled downtimes, incidents etc.)
- Ongoing study about the usage of GGUS
- Participation in several related WG

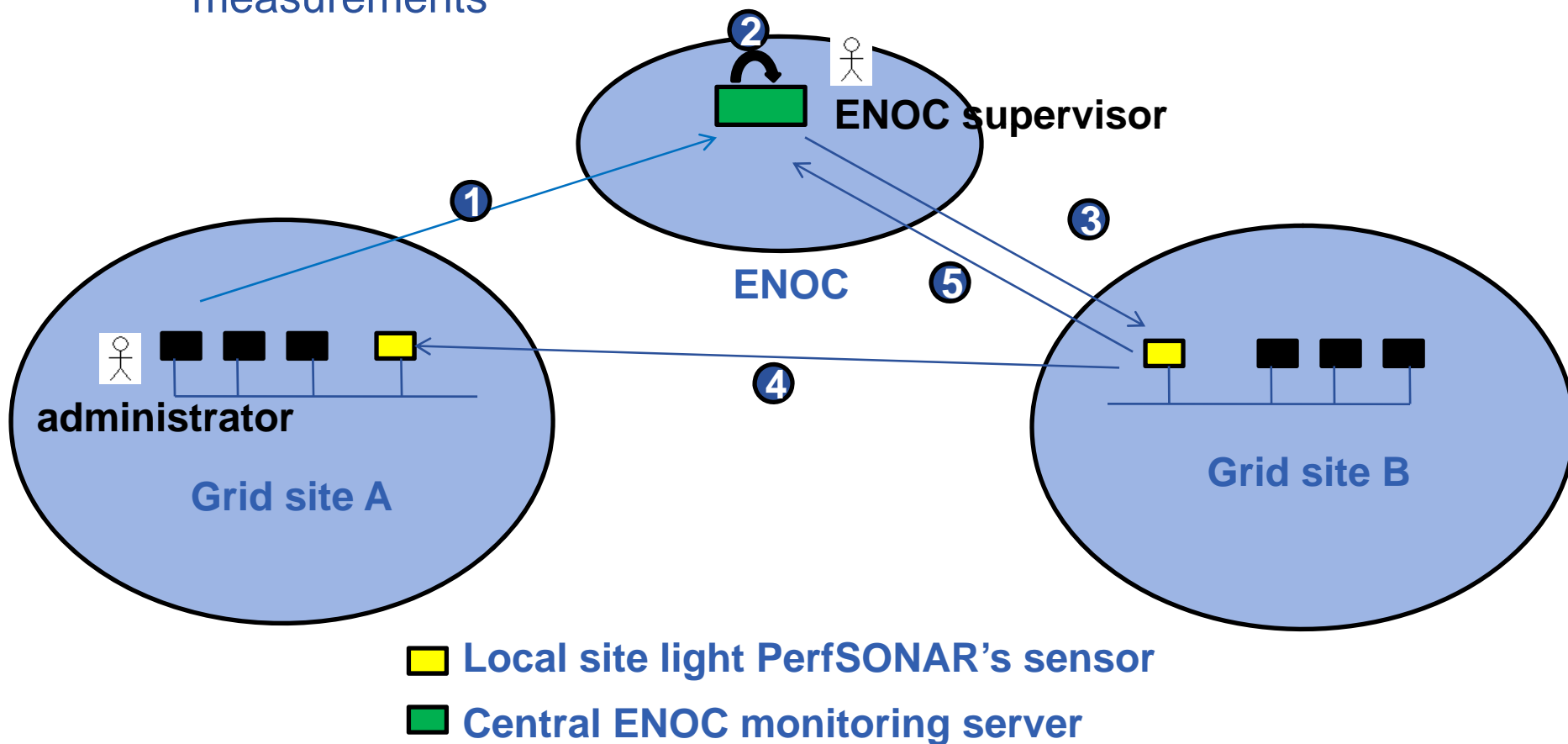


- **Improvement of tools used by the ENOC**
 - Tickets handling, monitoring, exchange of data...
 - <https://ccenoc.in2p3.fr/DownCollector/>

- **Trouble matching and correlation for the ENOC RRC-KI**
 - From a discovered incident find the related network trouble ticket
 - Better trouble localisation

- **Network monitoring tools for efficient troubleshooting**

- Launch test on demand from the Grid site under central server control: ping, traceroute, DNS lookup, nmap and bandwidth measurements



- **Technical Network Liaison Committee – TNLC (TSA2.3.1)**
CNRS
 - Facilitate cooperation between EGEE on the one hand and GÉANT2 and the NRENs on the other hand
 - CNRS, France; DANTE, UK - the GÉANT2 operator; RRC KI, Russia; SRCE, Croatia; DFN-Verein, Germany; GARR, Italy; GRNET, Greece...
- **Main themes**
 - Monitoring
 - Standardization of network trouble tickets
 - Advanced network services

- **SLA usage**
 - Facilitate SLA establishment by automation tools (AMPS)
 - Increase the usage by advertising projects about what the network can offer to their applications

- **Study SLA on heavy used links of the EGEE grid**
 - Identify heavy used links (acting as bottlenecks)
 - Links between specific Grid services (WMS and log&bookkeeping) or central services
 - Links around specific sites (CERN, Tiers 1, sites poorly bandwidth provided)
 - Check throughput or number of connections in comparison with bandwidth
 - Assess the impact of the SLA
 - Collaboration needed from sites and NRENs

- **Set up all elements needed to handle IPv6 in EGEE**
 - Middleware, collaboration with JRA1
 - gLite internal dependencies, IPv6 compliance
 - *Testbed (GARR, CNRS)*
 - *Automation of testing procedure ETICS*
 - External dependencies
 - Validation process, collaboration with SA3
 - Incorporate IPv6 in validation process
 - IPv6 knowledge dissemination
 - Training course, presentation
- **Testing Grid-FTP and DPM-LFC**
- **Assess and make available an operational EGEE IPv6 site - according to which IPv6 gLite modules are available**

- **Migration of NREN's trouble tickets to the standard format**
- **Provide the ENOC with a central server translating NREN's ticket into standard ticket**
- **Cooperate with the ENOC for a smooth transition from the current operational schema to the new one**
- **Help to adapt the translator to the requirement of NRENS willing to deliver standard tickets**

- **Ongoing integration of new partner Red.IRIS in SA2**
- **Running and support ENOC**
 - LCG support (LHCOPN),
 - Operational, network trouble and monitoring tools
- **Overall Networking coordination**
 - Advanced network services, IPv6 follow-up, tickets standardization
- **Collaboration with other activities and network providers**
- **Study possible migration of SA2's activities within NGI/EGI structure**
- **Need of an independent entity to monitor quality of network and able to put new network technology forward in the Grid process**

Thank you.