



Enabling Grids for E-scienceE

Technical Network Liaison Committee Update on the ENOC

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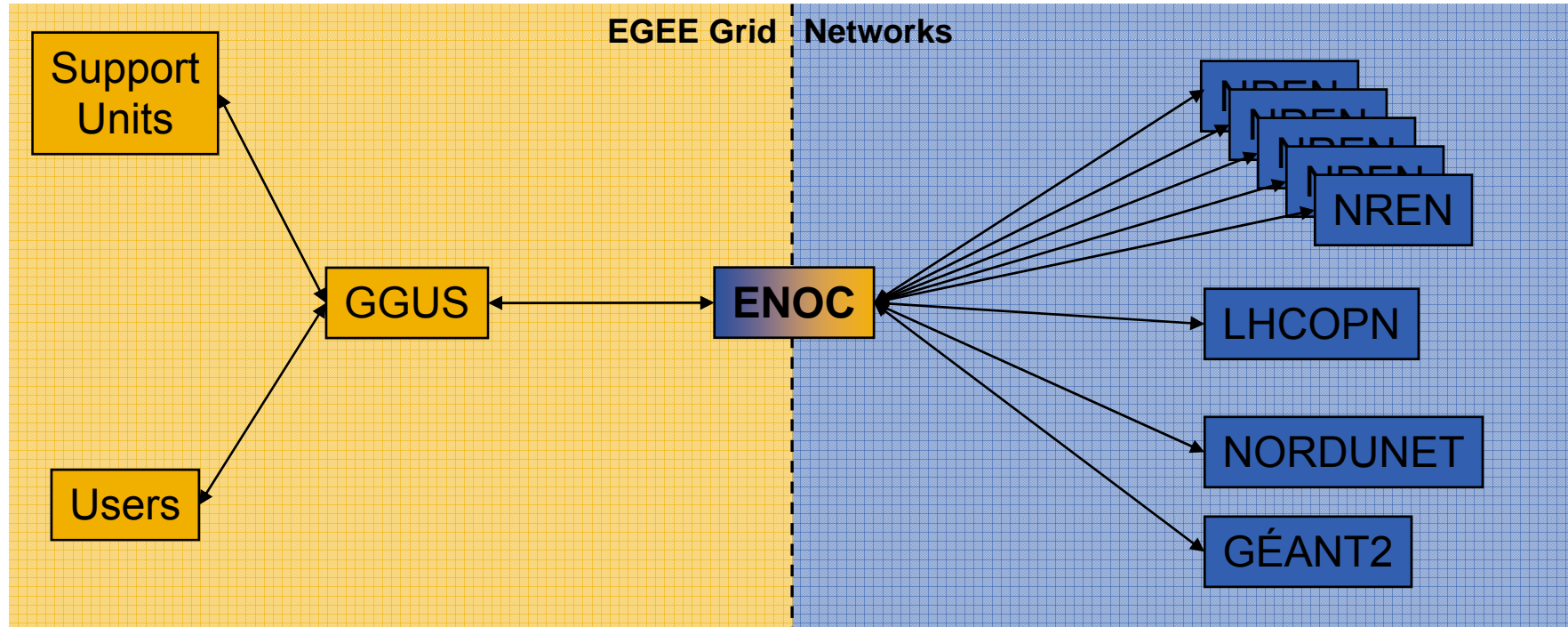
EGEE'07 conference – 2007-10-01, Budapest (HU)

www.eu-egee.org



Information Society
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- The ENOC acts as a **single** entry point
 - ⇒ From Grid to networks
 - ⇐ From networks to Grid

- **Store network topology related to the Grid**

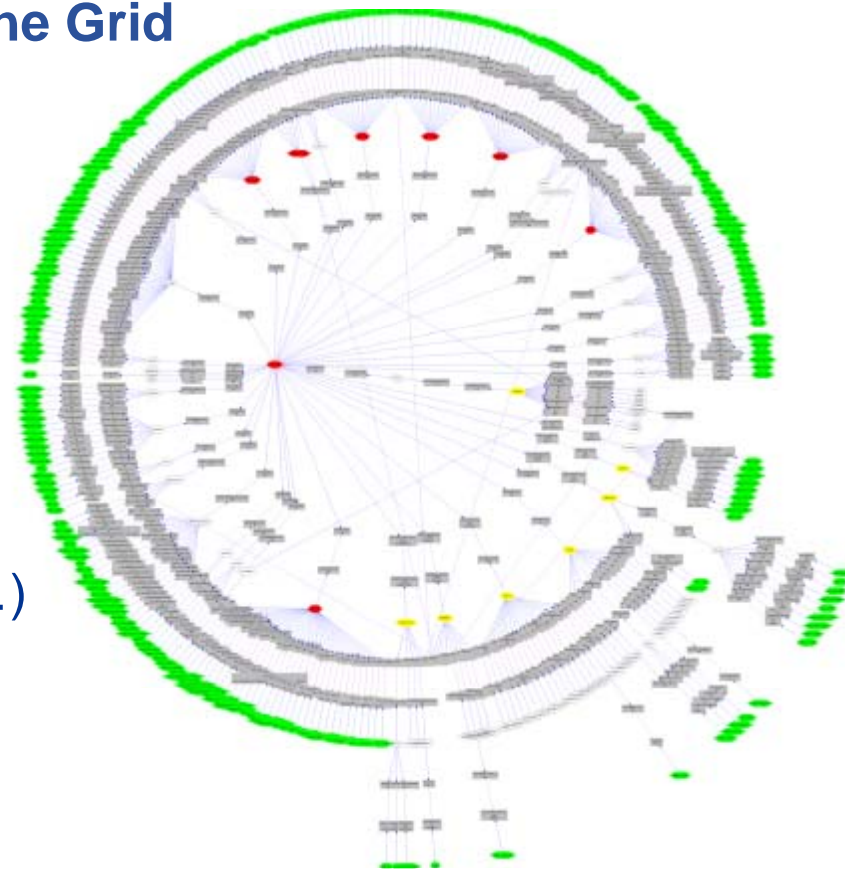
- 371 Grid sites
- 103 network domains
- 496 links

- **Goal:**

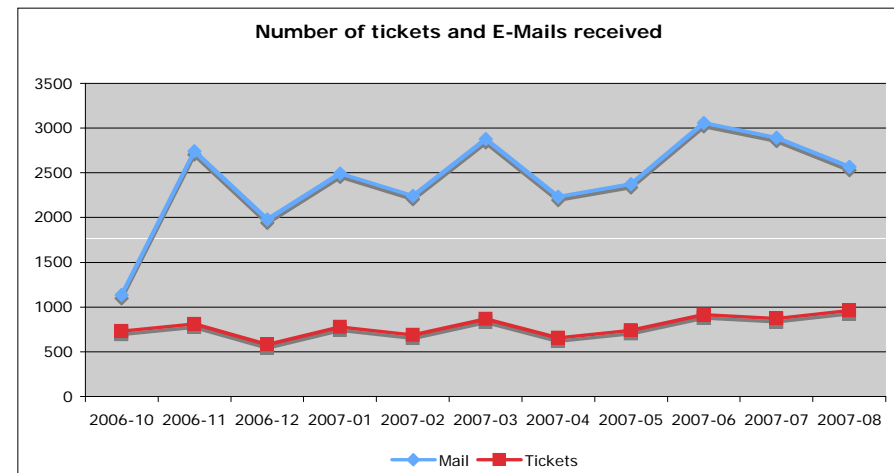
- Impact assessment
- Manage SLA
- Store operational details (contacts...)
- Show results

- **But still hard to fill and to maintain:**

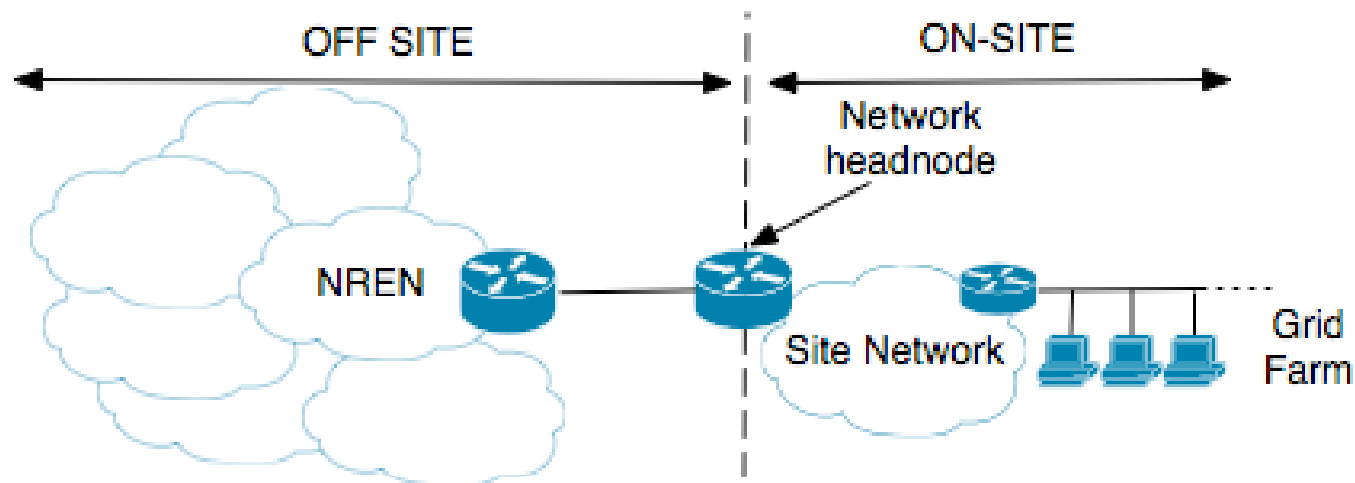
- Yet too many manual actions
- To be updated by site administrator
- GOCDB3 automatic filling and updates...
- **Manual filling/verification by people involved?**



- **Now receiving network tickets from 15 NRENs + NorduNET, GEANT2, and the E2ECU:**
 - ~70% of certified Grid hostname covered (~80% of European ones)
 - Huge network outage database acting as a knowledge database:
 - > 34,000 e-mails, > 11,000 tickets
- **Network tickets mandatory for scheduled troubles:**
 - 41% of tickets received are announcing scheduled troubles
 - Cannot rely only on monitoring
- **Still missing some NREN supporting many EGEE sites:**
 - Tickets needed...
 - Hard now to extend coverage
- **Huge workflow to process carefully**
 - Avg. 120 e-mails and 38 tickets per business day,
 - Tools improved for scalability,
 - Only 23% of tickets impact the Grid.



- **Tool to assess network availability of Grid Sites:**
 - Currently only on certified sites (~ 270 sites, 1600 nodes)
 - Each node “probed” every 2 minutes (≠ SAM frequency)
 - Also core Grid nodes (GOCDDB, SAM, CIC...)
 - Site down if no node reached (ENOC not interested in host availability)
 - Experimental computing of trouble’s location



- **Used to assess real impact on the Grid of network outages:**
 - Filter announced outages with empty impact on Grid
 - Be able to distinguish between issues network related or not

- <https://ccenoc.in2p3.fr/DownCollector/>

Results for nodes belonging to site 'BEIJING-LCG2':

- **Show results/**

- Details per sites, nodes
- History
- Also on maps

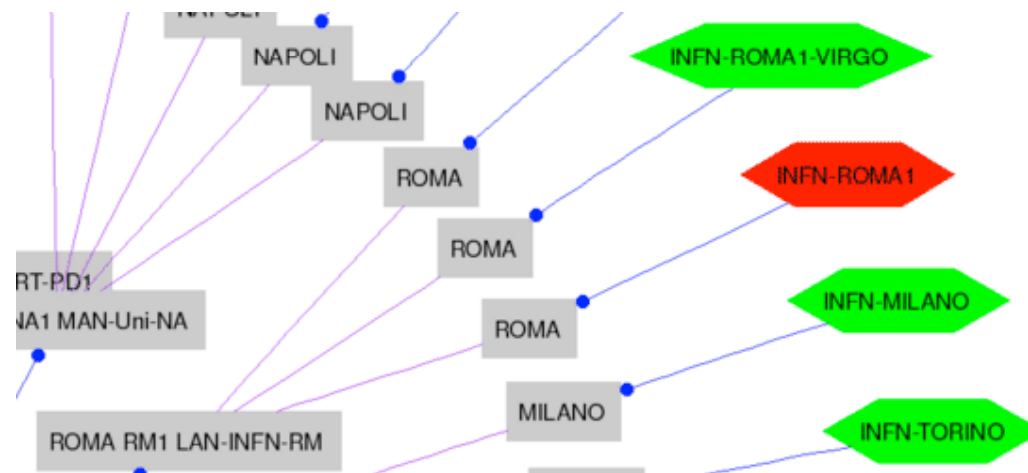
Node type	IP	Hostname	Port	Status	Date UTC
BDII	202.122.33.17	lcg007.ihep.ac.cn	2170	OK	2007-09-14 11:42:03
CE	202.122.33.12	lcg002.ihep.ac.cn	2119	OK	2007-09-14 11:42:05
MON	202.122.33.18	lcg008.ihep.ac.cn	8443	OK	2007-09-14 11:42:07
PROX	202.122.33.16	lcg006.ihep.ac.cn	7512	OK	2007-09-14 11:42:10
RB	202.122.33.15	lcg005.ihep.ac.cn	9000	OK	2007-09-14 11:42:08
SE	202.122.33.7	cmsse01.ihep.ac.cn	2811	OK	2007-09-14 11:42:10

- **Share results with others support units**

Network headnode for this site is 202.122.32.138,

- Be sure a network problem is tracked
- Do not open upper layer tickets for network troubles

- **Root cause analysis...**



- **Network trouble tickets:**
 - An extension limit is soon to be hit (no extra sources of tickets);
 - Room for enhancements in their usage;
 - Adoption of TT exchange standard should help;
- **Network Operational Database:**
 - Looking for a solution to maintain the data up-to-date...
- **DownCollector:**
 - Already used by PPS sites in NAGIOS;
 - Soon integrated in the COD dashboard;
- <https://ccenoc.in2p3.fr/>