

**Report of the TERENA Advisory Council  
Poznan, Poland  
Monday 6 June 2005**

Notes by: John DYER  
TERENA

12 July 2005

## **Introduction**

The 2005 Technical Advisory Council met at PSNC, Poznan, Poland on Monday 6 June. The meeting was attended by 45 delegates representing 27 organisations in 20 countries.

Claudio Allocchio welcomed the TAC delegates to the meeting. He went on to explain that since the Special Interest Areas were reviewed in 2004, this meeting should focus on the detailed discussion of three technical topics, each of which is introduced by a short presentation, leaving sufficient time for open discussion.

The topics and presenters were:

- End-to-End and Campus - Martin Sutter, SWITCH
- EUGridPMA - Christoph Graf, SWITCH
- Building Trust in Europe - Diego Lopez, RedIRIS

## **End-to-End and Campus Martin Sutter, SWITCH**

Martin Sutter explained that the End-to-End (E2E) portfolio of the TERENA Technical Programme had been discussed at length in the TTC and a good definition had been developed. The typical situation for a user accessing remote resources is that service is delivered over a concatenation of networks each being its own management domain. The mere existence of an E2E fat-pipe is not in itself sufficient to guarantee an acceptable level of E2E services. Martin mentioned four areas in which additional support is needed:

- End user aspects – helping the users to develop and/or use applications in such a way that they get the level of performance they expect.
- Technical aspects – solving problem relating to the underlying technology that supports the application/service.
- Organisational problems – developing a framework for managing services and problems (including escalation processes) along an E2E path of trust.
- Other aspects – many times if there are problems the users perceive the problem to be on the campus. The development of analysis tools could help in this respect.

Existing initiatives such as the GN2-PERT, CERTs, the MW-E2E diagnostic advisory group, and the I2-E2E performance initiative (E2E PI) were mentioned. Martin also expressed his desire to see an end-user tool that could probe the E2E path, diagnose where and what the problem might be and provide the user with a contact details of the appropriate person/team. In this respect, Klaas Wierenga mentioned the SURFnet Detective which has been developed to probe a number

of elements that may cause the problems. More details and download of SURFnet Detective from: <http://detective.surfnet.nl/>

During discussions regarding E2E issues, it became apparent that some terms have different meanings to different people or groups. It will therefore be vitally important to develop a glossary of common terms to avoid misunderstandings. Martin mentioned two specific examples of classification:

| Categories of Network Usage |   |  |
|-----------------------------|---|--|
| Baseline                    | Best Efforts IP service                         | Email, Web Browsing                                      |
| Medium                      | Better than Best Efforts                        | AV Streaming   |
| Heavy                       | Hybrid  | Sustained High Volume transfers, "Cultural applications" |
| Awkward                     | Non-Demanding Traffic, but awkward applications | Real-Time control  |

| Categories of User Segments |  |      |
|-----------------------------|--|------|
| Non-Demanding I             | No technical knowledge or interest         | ~90% |
| Power Users I               | With technical knowledge & understanding   | ~8%  |
| Power Users II              | Unconscious of possible technical problems | ~2%  |

It was also pointed out that in many cases, the elements of the network, application, system and security are so intimately intertwined, that it is not easy to separate out the components. Finally, Martin proposed a list of tasks for the TERENA E2E Portfolio:

| TERENA E2E Portfolio  |  |
|---|--|
| <b>Conduct surveys about E2E &amp; campus issues</b>  |  |
|   | e.g. about diagnostic tools                            |
|   | case studies (successful / unsuccessful)               |
| <b>Information Gathering and Surveying</b>  |  |
|   | Internet2 and CANARIE, in general                      |
|   | E2Epi and E2ED in particular                           |
|   | Other activities in the field of E2E & campus issues   |
| <b>Commonalities / disparities of:</b>  |  |
|   | university help desks                                  |
|   | PERT organizations                                     |
|   | CERT organizations                                     |
|   | Other "bodies" involved in E2E & campus issues         |
| <b>PR efforts / dissemination:</b>  |  |
|   | increase awareness of E2E & campus issues within NRENs |
| <b>Participate in relevant external groups &amp; feedback to our community</b>                        |  |
| <b>Browse minutes of external meetings with respect to particular issues</b>                          |  |
| <b>Develop a "Campus best practice guide" (for users, developers, organisation and architecture.)</b> |  |

Martin closed his presentation by asking the TAC members their opinions on what he had presented and the best way forward. The presentation material can be found at: <http://www.terena.nl/tech/tac/poznan/e2e-campus.pdf>

### ***End-to-End and Campus - Discussions***

Ingrid Melve of UNINETT explained that they had been undertaking some E2E initiatives on their network. The UNINETT experience is that once they start investigating performance issues they see user demands for upgraded systems. There are also questions regarding security issues. In spite of these effects and the fact that it takes a lot of effort, Ingrid encouraged other NRENs to undertake E2E initiatives.

Andrew Cormack of UKERNA thought that adhering to a "Campus Best Practice Guide" would go a long way to avoid many problems. He suggested that this should include such items the provision of a help desk, installation of CAT5-UTP cabling and the availability of appropriate diagnostic tools. Diego Lopez of RedIRIS added that a further complication is that there are many groups involved in running the elements of an E2E service (Systems Administrators, CERTs, NOCs and others) and the need to define ways in which these can effectively work together. Mauro Campanella representing GARR added that technical obstacles such as NAT and the special requirements of Grid applications conspire to make E2E service provision more difficult.

It is the expectation that Performance Enhancement and Response Teams (PERTs) such as those for GÉANT2 will help users and network providers to obtain the best possible E2E service. Information on the GÉANT2 PERT can be found at: <http://www.dante.net/server/show/conWebDoc.1061>. Victor Reijs of HEANET reported that there is collaboration between the Internet2 community and GN2 on the measurement infrastructure that will be needed for such PERTs. Victor went on to suggest that TERENA could assist in surveying the requirements and sharing this information with all NRENs. This should avoid the duplication of effort.

Brian Carpenter of IBM pointed out that the community should also consider the special case of E2E2E more commonly known as Peer-to-Peer where two end systems negotiate and refer to a third end system.

In terms of predictability, Lajos Balint of HUNGARNET thought that good E2E service provision between well known groups would be easier than when users only occasionally require heavy use of the network.

Roberto Barbera of Universita' di Catania explained that the Grid community have set up a comprehensive support system for Global Grid User Support (GGUS). Information on GGUS can be found at <http://www.ggus.org/>. Roberto suggested that the principle of the GGUS could potentially be extended for more general use.

In concluding the discussions Claudio suggested that Martin should send the existing E2E portfolio paper to the TAC email distribution list with a request to all NRENs to participate in extending and refining the text. Mauro suggested that the glossaries being produced by the GN2-JRAs could be a source of common definitions.

## **EUGridPMA**

### **Martin Sutter, SWITCH (on behalf of Christoph Graf, SWITCH)**

The European Policy Management Authority for Grid Authentication in e-Science (EUGridPMA) is a body to establish requirements and best practices for grid identity providers. It will enable a common trust domain for authentication of end-entities in inter-organisational access to distributed resources to be established. The EUGridPMA website can be found at: <http://eugridpma.org/>

Martin explained that EUGridPMA is doing a good job for the Grid Community and if the NRENs want to create a coordinated a Public Key Infrastructure (PKI) then they would need something similar. It was also reported that EUGridPMA intend to coordinate their activities with the US and Asia-Pacific regions.

Martin reported Christoph's view that EUGridPMA may not be sustainable in the long term if it focuses just on Grid PKI, he therefore recommends that it be opened up beyond the Grid Community if it wants to flourish.

Martin ended his presentation by encouraging the NRENs to become actively involved in the work of EUGridPMA. The presentation material can be found at <http://www.terena.nl/tech/tac/poznan/eugridpma.pdf>

### ***EUGridPMA - Discussions***

Licia Florio of TERENA reported that David Groep (chair of the EUGridPMA) has taken the message that they need to expand their role from the NREN-Grids workshop in Amsterdam on 12 May. Licia also reported that she had attended the EuroGridPMA on 25<sup>th</sup> May along with several NRENs. She believes there are now the conditions to move forward on this issue and some NRENs and institutions are already represented in EuroGridPMA. (A list of members can be found at <http://www.eugridpma.org/members/index.php>) It was reported that in the region of 4-8 bodies from our community are in the process of having their policies recognised by the EuroGridPMA.

There are some examples of NRENs providing CA services for both the traditional NREN community and the Grid community (CESNET, GARR). Diego Lopez pointed out that in a couple of years time when several NREN-AAI's are connected to the GÉANT2-AAI there will be a real need to have a pervasive PKI. At that stage it is possible that setting up a European Academic Community PMA or a TERENA PMA might be the best way forward. In his view such a step would not take long to implement. He also went on to remind the TAC that the community will need both long-lived and short-lived certificates.

It was agreed by the TAC that the EuroGridPMA is a good initiative and should be promoted as part of our social responsibility as custodians of the first line of Internet development in Europe. It is important that we do not attempt to duplicate the EuroGridPMA activities elsewhere in our community.

## **Building Trust with a European Style**

### **Diego Lopez, RedIRIS**

Diego pointed out the Europe is a region of many states, languages, priorities, laws and national prides. There is a tendency to undertake developments in a national context. As a consequence we have several AAI's that are currently being developed or already exist. Against this background, the Europeans are generally good at making successful inter-working agreements even if they are in some ways a compromise. Diego pointed out the work of EduRoam, GN2-JRA5, TF-EMC2 and The Cotswolds group as good examples. In his view Europeans have no aversion to importing interesting developments from elsewhere – noting the examples of Shibboleth and EduPerson from the US.

In Diego's view the most successful initiative for building trust has been Eduroam, the international roaming access service. In Eduroam, the remote hosting site must trust what the home institution is asserting about the user whilst keeping the users credential information protected.

The GÉANT2 AAI is intended to become of a basic service of the pan-European academic network. Diego is proposing to the e-IRG that the GÉANT2 AAI be the only AAI to be used in our community. That doesn't mean existing structures (legacy systems) have to be discarded. Instead there will be a federated structure.

Diego went on to report on work in The SChema Harmonisation Committee (SCHAC) of TF-EMC2. In particular he mentioned the schemas based on LDAP and XML. One of the main drivers for this work is the European Credit Transfer and Accumulation System (ECTS) for academic awards. Another important element of the TF-EMC2 work is the development of the TACAR pilot service which at the time of the TAC meeting hosted 22 certificates. There is a proposal being considered to add machine processable attributes to TACAR repository.

The status of the SCS proposal was reported. The SCS initiative will investigate the possibility of obtaining server-certificates to address the "browser pop-up problem". Several options are being explored including a bulk-deal coordinated by TERENA. Nine NRENs have signed up for the pilot phase which will last one year. Other NRENs are encouraged to join in the next phase, if the initial pilot turns out to be successful.

Diego concluded his presentation by mentioning the Cotswolds Group which had been initiated by the UK funding body, the JISC. The overall aim of the Cotswolds Group is to establish a framework for international collaboration of national education authentication and authorisation systems that would lead to convenient interoperable user mechanisms to support international research and education.

The presentation material can be found at:  
<http://www.terena.nl/tech/tac/poznan/trust-europe.ppt>

### ***Building Trust with a European Style - Discussions***

There was some discussion on the integration of Shibboleth into the AAI structures currently being used in Europe. Whilst ATHENS and PAPI have been connected, and A-SELECT and PAPI have been connected, in some quarters there was concern about the Shibboleth approach to privacy. Diego replied that privacy in Shibboleth is configurable and should not represent an insoluble problem.

The importance of involving the campuses was discussed. In summary, information about the development of a European AAI by the NRENs needs to be conveyed to the campuses. Licia reported that this is already happening and the

campuses have responded by sending delegates to the EuroCAMP organised by TERENA in March 2005. Some TAC members thought that although TERENA intends to run two EuroCAMP workshops each year, additional information dissemination and influencing in conjunction with the EPNG and EUNIS would be helpful. Karel expressed his concern that setting up a complete European AAI was beyond the remit of our community involving a wide ranging political dimension.

Diego closed the discussion by inviting Martin Sutter to participate in the next TF-EMC2 meeting in order to bring his E2E-Campus Issues perspective to the task force.

### **Meeting Close**

Claudio Allocchio brought the TAC to a close, reminding members that they should use the TAC email distribution list throughout the year. He also emphasised the importance of NRENs getting involved in EuroGridPMA.

**Attendees at the TERENA Advisory Council  
Poznan, Poland  
Monday 6 June 2005**

| <b>Surname</b>   | <b>Name</b> | <b>Affiliation</b>      |
|------------------|-------------|-------------------------|
| Allocchio        | Claudio     | VP Technical Programme  |
| Baldi            | Andrea      | ESA                     |
| Balint           | Lajos       | HUNGARNET               |
| Barbera          | Roberto     | University of Catania   |
| Bech             | Martin      | UNI-C                   |
| Binczewski       | Artur       | PSNC                    |
| Bonac            | Marko       | ARNES                   |
| Campanella       | Mauro       | GARR                    |
| Carpenter        | Brian       | IBM                     |
| Cavalli          | Valentino   | TERENA                  |
| Cormack          | Andrew      | UKERNA                  |
| Dohmen           | Maurice     | SURFnet                 |
| Dyer             | John        | TERENA                  |
| Eppenberger      | Urs         | SWITCH                  |
| Fernandes        | Jose        | FCCN                    |
| Fischer          | Lars        | NORDUnet                |
| Florio           | Licia       | TERENA                  |
| Gilmore          | Brian       | University of Edinburgh |
| Hallenmark       | Torgny      | SUNET                   |
| Jauk             | Avgust      | ARNES                   |
| Kaskina          | Baiba       | TERENA                  |
| Kovács           | András      | HUNGARNET               |
| Le Guigner       | Jean-Paul   | RENATER/CRU             |
| Lopez            | Diego       | RedIRIS                 |
| Macek            | Robert      | CARNet                  |
| Martin           | Olivier     | CERN                    |
| Melve            | Ingrid      | UNINETT                 |
| Meynell          | Kevin       | TERENA                  |
| Mifsud           | Dave        | University of Malta     |
| Mønster          | Dan         | UNI-C                   |
| Olifer           | Victor      | UKERNA                  |
| Reijs            | Victor      | HEAnet                  |
| Salminen         | Harri       | CSC/FUNET               |
| Sanchez-P.       | Jorge-A.    | GRNET                   |
| Sataki           | Katrina     | LATNET                  |
| Scott            | Terence     | University of Malta     |
| Sova             | Milan       | CESNET                  |
| Strømdal         | Magnus      | UNINETT                 |
| Sutter           | Martin      | SWITCH                  |
| Sverenyák        | Helmut      | CESNET                  |
| Veiga            | Pedro       | FCCN                    |
| Vietsch          | Karel       | TERENA                  |
| Westerlund       | John        | SUNET                   |
| Wierenga         | Klaas       | SURFnet                 |
| Williams         | Steve       | UKERNA                  |
| <b>APOLOGIES</b> |             |                         |
| Poppe            | Yves        | Teleglobe, Canada       |
| Wöber            | Wilfried    | ACOnet                  |