

## **TF-Mobility Meeting Berlin, 10 September 2004**

### **Attendees**

|                           |               |
|---------------------------|---------------|
| Hansruedi Born (HB)       | SWITCH        |
| Licia Florio (LF)         | TERENA        |
| Luís Guido (LG)           | FCCN          |
| Avgust Jauk (AJ)          | ARNES         |
| Sami Keski-Kasari (SK)    | TUT           |
| Diego Lopez (DL)          | RedIRIS       |
| Miroslav Milinovic (MM)   | CARNet / Srce |
| João Pagaime (JP)         | FCCN          |
| Spiros Papageorgiou (SP)  | GRNET         |
| Juergen Rauschenbach (JR) | DFN-Verein    |
| James Sankar (JS)         | UKERNA        |
| David Simonsen (DS)       | UNI-C         |
| Milan Sova (MS)           | CESNET        |
| Klaas Wierenga (KW)       | SURFnet       |
| Bart Kerver (BV)          | SURFnet       |

### **Welcome and agenda bashing**

James welcomed the participants and thanked everyone for their contribution to the end of taskforce report that will be published by TERENA. The TF-mobility meeting followed the JRA5 (the Joint Research Activity inside Geant2 project focused on AA and roaming issues) kick off meeting, during which the results of task force were presented and roaming issues were discussed; therefore it was not necessary to have the same kind of discussion during this meeting.

Most of the meeting was devoted to discuss the outstanding deliverables and the task force plans, taking also into account what will be carried out inside JRA5.

A brainstorming session then began to consider work items, a summary can be seen below.

#### **1. EDUROAM enhancements (National RADIUS Proxy Server Hierarchy)**

##### **EduRoam Web site to support end users**

KW gave an update about EduRoam, which is the name used to describe the European RADIUS infrastructure that works as back end to support the use of 802.1X. An updated map of the countries that joined (which currently are 11) is available on the mobility web page. Norway, Spain and Bulgaria have asked to join and HEAnet has showed interest as well.

The plan for the future is to move all the information related to EduRoam on an independent web site, called EduRoam.net or EduRoam.org.

ACTION: LF to coordinate this.

The map provides useful information about the institutions for each country that offer 802.1X. Users need though connectivity to access the map.

UNI-C proposed to use iPass, as complementary service for the EduRoam web site. In Denmark it is being used with success for other purposes. The service contains a phone book with all the SSID of the institutions that use the service.

The drawback of this solution is that iPass uses proprietary software and most people in the group felt uncomfortable to bind too much to proprietary solutions.

An option could be that the NRENs part of EduRoam set up a phone book similar to the one used by iPass and that they are responsible to maintain the entries related to their countries updated. This could be enforced by the policy as one of the requirements to join EduRoam.

SURFnet proposed to build an access point database that can show, based on the users' location, where the nearest EduRoam AP is. In the Netherlands some work in this direction has started. The information retrieved from the database is presented to the users via SMS. Other countries may want to investigate this possibility or explore other ways.

The infrastructure could also provide location based service.

ACTION: KW to be responsible of this task.

### **EduRoam next generation**

Currently, the top level European RADIUS servers are located in the Netherlands. Denmark has already bought and set up a 'secondary' international top level server (in June 2004). Other countries, like Croatia, Denmark and Germany expressed their interest in setting up a third top server to improve the resilience of the system.

It was also proposed to explore some implementations of RADIUS that move away from the hierarchical structure. An alternative could be having RADIUS servers to communicate amongst each other in a mesh or use DNSSEC, rather than through the top levels. IPsec was also considered as a possible solution to secure the communication between the servers.

The use of server certificates to secure the communication between the European top lever RADIUS server and the NRENs top level RADIUS server instead of using RADIUS shared secrets was proposed and will be explored. There are several possibilities to do this:

- self signed certificate
- tacar like approach
- commercial certificates

ACTION: the group will perform some small tests and will produce a small report, which will feed jra5 in the next months.

XML format for exchanging RADIUS configurations for European level RADIUS servers could be considered; information to be exchanged via a XML file could be ports open, shared secrets etc.

CARNET mentioned their RADIUS/LDAP combination as a RADIUS server redundancy solution, this was also agreed to be explored further.

Summary of task to be performed:

- top level server redundancy options: RADIUS hierarchy  
DNSSEC  
Diameter (SK)  
LDAP  
Others
- scalability of RADIUS
- transferring credentials options (es IPsec)
- XML format for exchanging radius credentials
- Using certificates to secure RADIUS

In order to monitor the service the following tasks were identified. JS and KW will coordinate this.

- load analysis /accounting log analysis (E2E)
- nsertracking.surfnet.nl
- infrastructure monitoring: ORPS (Organisational RADIUS Proxy Server), NRPS, TLRPS (TERENA Level RADIUS Proxy Server) (JS will lead the monitoring and measurement of RADIUS server availability to enhance the EduRoam infrastructure)

## **Deployment**

KW presented his idea called EduRoam in a box.

A cheap box (probably based on Linux on an open brick, soekris etc), containing all the necessary software to operate a fully functional integrated Web/VPN/802.1X access point, including RADIUS server and user interface to configure the device.

This will serve two purposes:

- 1) smaller institutions and end-users can participate in EduRoam without having to make large investments in hardware, software and knowledge
- 2) larger institutions have a low barrier to try things out, even though the aim is not to provide a 'carrier class' device.

Open source software would be used. It was also stressed that this would not be a supported solution.

ACTION: HB to be responsible for the implementation of the box

ACTION: JP to develop a checklist for EduRoam compatibility

## **EduRoam beyond EU boundary**

The group will try and extend EduRoam beyond Europe. American institutions are starting showing interest in EduRoam and could be in principle joining the infrastructure.

ACTION: LF to get feedback from American institutions about EduRoam.

## **2. Forum for mobility discussions**

The task force will provide a forum to discuss JRA5 topics and to disseminate the JRA5 work to non-JRA5 members. Furthermore the task force will discuss all the mobility technologies emerging in the next future.

It was also agreed to use an Instant Messaging service (like Jabber for instance) to have general mobility discussions.

ACTION: KW and JS to arrange an instant messaging support.

## **3. Broader mobility research**

New areas of interest have been identified by the group, namely location based service and Wi-MAX. Research will be undertaken in these fields.

## **4. Other business**

There was some concern as to the overlap of the TF-Mobility work with JRA5 that may affect members' ability to support JRA5 and the overall longevity of the taskforce.

Many members believed that at some point they may be asked to justify attendance and support to TF-Mobility. This would be especially so if there is a perception that JRA5 are working in the same development space as TF-Mobility but with the advantage of greater manpower and EU funding.

TF-Mobility members believe that the task force continues to have a relevant and broader role in the area of mobility that will be complementary to the work of JRA5 and will help the dissemination of the results achieved in JRA5. The forum provided by the task force is useful to discuss and test new technologies that might emerge in the short future.

The area of interest of TF-Mobility group identified so far are, such as Location based services, Wi-MAX (the common name given to IEEE 802.16 standard for fixed broadband wireless metropolitan access network), internet multimedia, mobile IPv6, seamless mobility/roaming, EduRoam beyond EU connectivity make the scope of task force broader than JRA5.

A review of task force work will be undertaken in September 2005.

## **5. Next meetings**

The next TF-mobility meeting will be held via videoconference at 4 - 6 pm on 18<sup>th</sup> November.

The next physical meeting will follow the next JRA5 meeting, which will in January 2005 in Zurich.

### Summary of the actions

| <b>Actions list</b>  | <b>Names</b>  |
|--|---|
| <b>EduRoam Next Generation</b>   | <b>MM, KW and DL</b>  |
| Using PKI to secure RADIUS   | The group to perform some tests and produce a small report, which will feed jra5 in the next months.          |
| Using IPSec over RADIUS  | ?   |
| Top level server redundancy options:<br>- hierarchy<br>- DNSSEC<br>- Diameter<br>- LDAP<br>- Others                  | SK to report about Diameter   |
| <b>End Users Mobility</b>  |   |
| EduRoam web site   | LF  |
| Access points phone book   | KW  |
| Location Based Service   | ?   |
| <b>Managing Monitoring Use/Abuse</b>   |   |
| Load analysis /accounting log analysis (E2E)   | ?   |
| Nnsrtracking.surfnet.nl  | KW  |
| Infrastructure monitoring: ORPS (Organisational RADIUS Proxy Server), NRPS, TLRPS (TERENA Level RADIUS Proxy Server) | JS to lead the monitoring and measurement of RADIUS server availability to enhance the EduRoam infrastructure |
| XML format to exchange RADIUS configurations   | ?   |
| <b>Deployment</b>  |   |
| EduRoam in a box   | HB  |
| EduRoam checklist for EduRoam compliance   | JP  |
| <b>EduRoam beyond EU</b>   |   |
| Get feedback from Americans about EduRoam  | LF + all  |
| <b>Others</b>  |   |
| Instant Messaging to support the mobility group  | KW+ JS  |