

TF-Mobility Meeting

28 September 2007, Zurich

Introduction

Klaas welcomed the participants and an introductory round followed. David Simonsen could not attend the meeting.

Klaas brought up the issue of the chairmanship of the task-force. Due to the fact that Klaas has left SURFnet and that he has joined a commercial company (Cisco Systems), he asked whether there were objections from the group concerning his role as TF-Mobility co-chair. No real objections were raised. It was agreed to re-discuss this during the next TF-Mobility meeting in six months time, in order to have more elements to verify whether Klaas' new job (and his new area of activity) would create problems with his current role in the group.

Klaas stressed that the meeting would focus largely on possible new activities (beyond eduroam) that the TF-Mobility group could undertake.

SensorNet- Torsten Braun

Prof Braun, presented the work done by the university of Berne on sensor networks and also explained how sensor networks work. The talk focused very much on the security issues related to sensor networks. There are many possible fields of application (i.e. disaster detection, recovery and emergency response, animal tracking etc.) for wireless sensor networks, but there are also some issues.

One of the problems is related to the energy consumption, especially in wireless sensor networks. In most of the cases batteries are used and due to the fact that they cannot be recharged they need to be replaced quite frequently.

The other (probably more important issue) involves security. Due to the limited memory available in a sensor, it is not possible to use asymmetric encryption; therefore protocols like TTLS cannot be used to secure the channel to exchange the data. Because symmetric key cryptographic is used, there is a need to distribute the keys among the sensors; for this different models can be used.

One of the things done by the University of Berne is the usage of SWITCH AAI to access the sensor network data via internet. This assures that only authorized people are able to access the sensor network.

There was a discussion to understand how sensor networks might be used within TF-Mobility. One possible usage of sensor networks would be the possibility to use them to monitor eduroam infrastructure. The sensor would need to be close to the access point and would verify the status of the access

point. As most of the access points are in-door, the energy consumption of the sensor would not be an issue. The NRENs would provide the infrastructure.

ACTION: Dubravko and Stefan to circulate more details on the proposal to use a sensor net to monitor eduroam access point.

QoS for wireless environment - Enrique de la Hoz

Enrique reported on the QoS solution developed by the University of Alcala de Henares. Traffic detection is important in order to allocate the right amount of bandwidth. Some problems were reported with detecting some types of traffic, such as Skype. Some heuristic protocols make the detection of Skype-type traffic possible.

Klaas asked what is the general feeling about the possibility of exploring this area in tf-mobility. It was remarked that having a wireless network such as eduroam opens the possibility to have applications running over wireless. This means doing bandwidth reservation and QoS and therefore the solution presented might be interesting. There was however no real agreement on what and how to proceed.

It was pointed out that the solution presented is not a generic solution but it's very much connected to a specific environment.

Location Awareness and Mobile-IPv6 – Josh Howlett

Josh reported that some activity on location awareness applications is starting within JANET(UK), but that the solutions available today are still very much proprietary and therefore there are interoperability issues. One of the things that TF-Mobility group could work on is the harmonization of the various front-end that connects to the various back-end.

Josh also reported on the Mobile IP6 project that has just started in UK. University of Southampton are developing linux-based WAP/routers. Lots of research is oriented to MobileIP6, but most of the resources available today are based on MobileIP4. The only Mobile-IPv4 implementations are commercial.

Josh tackled the NAC issues as well. According to Josh the only reason for institutions to have NAC would be to increase the trust in the machines that are allowed on a network. In the eduroam case, eduroam is not a single source application therefore only NAC alone would not be sufficient to build such a trust. Some middleware would be needed. One option would be to transport posture information as SAML-assertions over eduroam, for this the DAME work can be used. Because RADIUS only carries the users' credentials, extension to RADIUS/SAML to handle the machine credentials is needed. The attribute authority might have to store info on the users devices, whereas the user IdP would provide the info on the users.

Josh mentioned OpenSEA alliance, the organization supporting the development of a Xsuplicant. There are currently two important opensource

supplicants for Windows (SecureW2 and OpenSEA) and maybe there should be some work done to move to one.

It was pointed out that the developer of SecureW2 is also involved in OpenSEA, although the intention appears not to be to merge SecureW2 with OpenSEA.

Josh reported that OpenSEA is willing to engage with other communities; therefore a collection of requirements would be very much appreciated. Some of the attendees remarked that NRENs are not in the position to develop a super supplicant client, but they are in the position to influence some of the development.

ACTION: Rok to collect the requirements for the OpenSEA group.

Network Admission Control (NAC) issues – Stefan Winter

Stefan provided an overview on NAC, the technology pushed by Cisco and explained why NAC has heavy implications on eduroam to the point that if NAC were widely deployed eduroam would not work anymore. This is due to the fact that visiting eduroam users may not have NAC compatible clients or they may not be able to interoperate with the NAC-server at the visited institution..

NAC transactions take place after users' authN.

There are two possible cases that are covered by NAC: malicious users and malicious software.

The idea behind NAC is to use a strong authN to be sure who the users are and how secure their devices are before they are allowed onto a network. The NEA WG active within IETF has not produced results yet; they are still in the stage of gathering requirements and for the time being they are not looking at the roaming use case.

Stefan pointed out that NAC issues need to be addressed and that this group would be in the position to influence some developments.

NAC – Justin Rowling

Justin presented the motivations that pushed Cisco to define NAC. NAC was meant to provide a differentiated access to the network based on who the user is and the type of device the users has. Nowadays system administrators seem to want to use NAC to deal with malware on Windows 2k upwards. NAC could be good to enforce the policy at institutions.

Cisco does not yet use 802.1x to deliver their solutions, but this is in the roadmap.

It was pointed out that it would be good if Cisco joined Trusted Network Computing (TNC) framework. TNC has defined and released an open architecture and a set of standards for endpoint integrity. OpenSEA support TNC.

NRENs updates

SWITCH – More institutions are expected to join eduroam in the next year. eduroam experiences were reported by Daniel Grandjean from EPFL. One of the main issues is the SSID name; in many cases institutions are eduroam-enabled, but the SSID is not called eduroam.

CESNET – No major issues. Just worth to report the problem with overlapping networks, that has been solved by the universities via agreements to share the same network.

CARNET – Deployment of eduroam going on very well.

UNINETT – The deployment of eduroam started later than in other NRENs, but they have progressed very fast. The new release of the RADSEC proxy is available. It would be possible to test the usage of the proxy instead than the national top level server. For more information about the proxy: software.uninett.no

FCCN – The SSID has been changed and it is now eduroam.

FINLAND – No news to report

ARNES – Funds became available from the ministry, therefore eduroam covers now almost all the universities

SUNET – Nothing to report.

HEANET – A workshop will take place during the annual conference to encourage users

GRNET – Most of the universities are connected, but there are not enough hot-spots. There are still universities are using web-based redirect.

DFN – Quite a lot of institutions connected but there a few institutions that only use the SSID eduroam.

RedIRIS – Work carried out on the eduroam.es website. Some work is planned to interconnect different hotspots in the country.

SURFnet – Plans to move the top-level server to RADSEC. Work is ongoing to improve the monitoring and statistics. The new equipment can broadcast more SSID at the same time, so more and more institutions are using eduroam.

Discussion

Jose-Manuel asked about the possibility of using eduroam for VoIP applications.

Two possible ways to use eduroam were considered:

1. SIP proxies mutual authentication (this prevents among other things spam) - this is not very much related to the RADIUS infrastructure, but more to authN.
2. Using the wireless infrastructure opens the possibility to have applications running over wireless. This means doing bandwidth reservation and QoS. One of problems on these cases is that when users roam from one AP to the other the authN takes too long and therefore the application cannot run. The 802.11e should be able to handle these cases.

ACTION: FCCN will follow-up with the ECS group.

ACTION: Jose-Manuel to follow-up on a possible test with Enrique.

There was a discussion on whether TF-Mobility should also look at supporting applications over wireless. Stig reported also that there are problems with wireless and multicast and asked for volunteers to test this issue.

Summary of the actions and next meeting

The next meeting will take place on 6 February in Marseilles.

Action	Description	Status
Action280907-01	Dubravko and Stefan to circulate more details on the proposal to use sensor net to monitor eduroam access point. (Started)	Started
Action280907-02	Rok to collect the requirements for the OpenSEA group.	Done
Action280907-03	FCCN will follow-up with the ECS group.	
Action280907-04	Jose-Manuel to follow-up on a possible test with Enrique.	