

Task Force Mobility and Network Middleware

Terms of Reference

Final Version

September 2008

1. A task force is established under the auspices of the TERENA Technical Programme (<http://www.terena.nl/about/tech/ToR.html>) to promote development and deployment of mobile technologies, to promote the usage of network middleware and to support open and interoperable roaming services among NRENs and academic research institutions.

The remit of the task force has been changed to reflect the outcome of the redefinition of focus of the two middleware-oriented taskforces, known as TF-EMC2 and TF-Mobility. Consequently, Task Force Mobility and Network Middleware will focus on roaming and networking middleware.

The Task Force will be renamed as '**Task Force Mobility and Network Middleware**' (or in short TF-MNM).

2. The aims of this Task Force will be:

- 2.1 To provide a forum for exchanging knowledge and for testing (new) mobile technologies;
- 2.2 To explore middleware technologies to support network services, such as DNSsec;
- 2.3 To promote common standards and procedures to increase security on network access;
- 2.4 To influence vendors' initiatives to support the concept of federated network access;
- 2.5 To liaise at the international level, with other relevant project activities organisations and standardisation bodies, such as the Open Grid Forum (OGF), GN2/GN3, Internet2 and IETF, on mobility related activities;
- 2.6 To co-ordinate and provide support to other TERENA activities and task forces and, more specifically, to continue to work in close cooperation with the Task Force on European Middleware Co-ordination and Collaboration (TF-EMC2) on common federated network resource access goals;

3. The Task Force will focus its activities predominantly on Europe. It will collaborate with organisations or other relevant initiatives outside of the European area, whenever opportunities for collaboration arise that assist in achieving the aims of the Task Force.

4. The Chair of the Task Force will be Klaas Wierenga (Cisco Systems), who will be responsible for preparing the agenda of each meeting and for co-ordinating the work of the Task Force. He will also be responsible for ensuring that the agreed deliverables are produced. Work item leaders will support the chair in ensuring the smooth operation of the Task Force, and in preparing agendas for specific ad-hoc sub-group meetings, whenever they are deemed necessary.

5. TF-MNM will liaise with TF-EMC2 through ECAM (European Committee for Academic Middleware).

ECAM will continue its activities as a leadership group dedicated to promoting innovative and open middleware technologies and infrastructures. TF-MNM's representatives in ECAM will be its Chair and Work Item Leaders. Additional members may be added to ECAM by unanimous agreement of its current members.

ECAM will meet (approximately) every month, via telephone or videoconference. ECAM Face-to-face meetings may be held adjacent to regular meetings of TF-MNM and TF-EMC2. Reports on the activities of ECAM and eventual proposals for actions will be presented at TF-MNM and/or TF-EMC2 meetings.

Once per year, a joint meeting of TF-MNM and TF-EMC2 will be organised to exchange information and disseminate results and experiences. Guests from other environments may be invited depending on the items to be discussed.

6. The secretary of the Task Force will be appointed by TERENA. He/she will be responsible for taking minutes at each meeting, and for making logistical arrangements as necessary.
7. The Task Force will operate with a two-year mandate, starting 1 September 2008. A report on the progress of the Task Force and the results achieved will be made at the TERENA Networking Conference 2009. At the end of the two-year period, the mandate of the Task Force may be renewed by the TERENA Technical Committee (TTC). If the mandate is not renewed, the Task Force will be dissolved. The Task Force may also be dissolved if the TTC considers that it is making insufficient progress or that its activities are no longer useful or relevant, or if the Task Force chair resigns and no replacement can be found.
8. The Task Force will meet approximately three times per year (this may be either in person or via telephone or videoconference). Physical meetings will be held at various locations, taking care to reduce overall costs to the participants. Videoconferencing facilities will be made available whenever possible for these meetings. Videoconferencing or phone meetings shall be the preferred method for any other intermediate meetings, when necessary.
9. The Task Force will be open to any individual who can offer appropriate expertise, manpower, equipment or services.
10. Reports and other results will be placed in the public domain, with the exception of information that is known to be commercial in confidence and subject to Non-Disclosure Agreements.
11. TF-MNM will continue to use the existing mailing list '**mobility@terena.org**' for communication between participants. The mailing list archive will be publicly available.

List of Work Items and Deliverables

1. Standardisation process - *Leif Johansson (Stockholm University) and Klaas Wierenga (Cisco Systems)*

One of the aims of the task force is to promote the usage of standardised technologies in the field of mobility. To achieve this, the group will liaise with other relevant projects as well as international bodies exchanging results and ideas.

One of the tasks of this item includes reports from IETF meetings as far as mobility standards are concerned.

2. Support for the development of the next generation eduroam - *Stefan Winter (RESTENA)*

Most development of eduroam in Europe takes place within the GN2 and GN3 projects. However, in many cases input from the community at-large is desirable or needed. This work item will ensure that engagement with the wider community is achieved.

3. Location awareness - *Mark O'Leary (JANET (UK))*

Mobile devices use network technologies that can provide user location and context cues. Location data can expand the variety of mobile applications through delivery of relevant, timely, and personalised content reactive to dynamic environments.

This work item explores the use of the ability of mobile nodes to determine their position and the ability of the network operator to monitor the position of nodes.

4. DNSsec - *Milan Sova (CESNET)*

Recent publications exposing security problems with the DNS system have renewed the interest in secure DNS. This work item explores the roll-out models in the NREN community both from a technological and a policy point of view.

5. Integration with other operators - *Stefan Winter (RESTENA)*

This work item will focus on collaboration with (commercial) WiFi, GPRS and UMTS operators and explore integration from a technical viewpoint and possible business models, including the possibility for the NREN community to become a (virtual) wide area wireless operator.

6. Metering and monitoring - *Miroslav Milinović (Srce)*

Due to the distributed nature of network middleware infrastructure (such as eduroam) it is hard to gather relevant information for monitoring and statistical purposes. This activity looks at technologies for monitoring and measuring that can be applied to federated network middleware infrastructure.

7. Sensor and mesh networking - *Kurt Bauman (SWITCH)*

Sensors are making their way into campus networks, bringing a range of new applications. However, there are also challenges such as the fact that sensors do not often have a lot of processing power and need to be energy efficient. This activity will look at the risks and challenges introduced by bringing nodes with less capacity onto the secure network, and automatic creation of ad-hoc and mesh networks to reach remote locations.

8. Liaison with GN2/GN3 (TERENA)

The task force will be a forum where the results of the task force itself as well as the results of GN2 and GN3 projects and other related networking middleware will be discussed and promoted if deemed appropriate.

TF-MNM will also work to encourage and support new ideas and (whenever possible) transform them into new joint activities, which can ultimately be embraced by the GN2 and GN3 project.

9. Cooperation with other initiatives (Klaas Wierenga, Cisco Systems)

TF-MNM is working closely with other groups in Europe, in the Asia-Pacific region and in North America and with other research networking communities in order to identify possible collaboration and exchange of knowledge.

10. New mobile technologies (Klaas Wierenga, Cisco Systems)

Upcoming mobile technologies that may become important in the roaming and mobility environment are a natural part of TF-MNM's area of interest. When deemed appropriate these will be evaluated for their relevance and usability.

New deliverables and work items may be added as the Task Force sees fit.