

Task Force on Mobility and Network Middleware

Terms of Reference

Version 1.0

September 2010

1. The mandate of the Task Force on Mobility and Network Middleware is renewed under the auspices of the TERENA Technical Programme (<http://www.terena.org/about/tech/ToR.html>) to promote the development and deployment of network middleware and to support open and interoperable roaming services among national and regional research and education networking organisations and academic and research institutions.

The Task Force will be known as **TF-MNM** (Task Force for Mobility and Network Middleware).

2. The aims of this Task Force will be:

- 2.1 To provide a forum for exchanging experiences and knowledge on the development, deployment and testing of innovative network middleware and mobility technologies.
- 2.2 To provide a forum for the global co-ordination and support of eduroam.
- 2.3 To promote the use of common standards and procedures in middleware and mobility infrastructure for the campus.
- 2.4 To liaise with other similar or complimentary activities at an international level, such as the IETF, Internet2 and initiatives in other regions.
- 2.5 To co-ordinate and provide support to other TERENA activities and task forces and, more specifically, to continue close co-operation with TF-EMC2 on common goals concerning federated access.
- 2.6 To provide a forum where GN3 middleware-related activities can receive feedback from a wider community.

3. The Task Force will focus its activities predominantly in Europe. The Task Force is committed to assess middleware solutions proposed by other TERENA Task Forces or within the GN3 projects and other relevant activities in the academic community.

The Task Force will collaborate with organisations outside the European area or on a broader scope with other relevant initiatives world-wide whenever opportunities for collaboration arise that support 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 the agreed deliverables being produced. Additional work item leaders will support the chair in ensuring the smooth operation of the Task Force and in preparing the agenda for specific or ad-hoc sub-group meetings, whenever they are deemed necessary.

5. The Task Force will co-ordinate its activities with TF-EMC2 and other middleware focused task forces through the European Committee for Academic Middleware (<http://www.terena.org/activities/ecam/>). Guests from other environments may be invited depending on the items to be discussed. At least once per year a joint meeting of these middleware focused task forces will be organised to exchange information and disseminate results and experiences.

6. The secretary of the Task Force will be appointed by TERENA. He/she will be responsible for managing membership of the mailing list or lists, maintaining and publishing information on the web site, taking the minutes at each meeting and for making the necessary logistical arrangements.

7. The Task Force will operate with a two-year mandate, starting 1 September 2010. Progress of the Task Force and the results achieved will be presented at the TERENA Networking Conference and in the TERENA Annual Report. At the end of the two-year period, the TERENA Technical Committee (TTC) may renew the mandate of the Task Force. 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 be open to any individual who can offer appropriate expertise, manpower, equipment or services. Participation will be on a voluntary basis.

9. The Task Force will meet at approximately four-monthly intervals (facilities for remote participation should be made available). Physical meetings will be held at various locations, taking care to reduce overall costs to participants.

10. Reports and other results of the Task Force shall be placed in the public domain, with the exception of information that is known to be commercial in confidence and subject to a Non-Disclosure Agreement.

11. The Task Force will have a mailing list (**mobility@terena.org**) for communication between the participants. Separate mailing lists may exist for specific work items and sub-tasks (such as **dnssec@terena.org** for the DNSSEC activity). The mailing list archive will be publicly available.

List of Work Items

1. Standardisation process – *Stefan Winter*

One of the aims of the task force is to promote the usage of standardised technologies in the field of mobility and network middleware. 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.

2. Support for the development of the next generation eduroam – *Stefan Winter*

Most development of eduroam in Europe takes place within the GN3 project. 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. Support for eduroam world-wide – Miroslav Milinovic

eduroam is now available in many parts of the world, as these initiatives develop and evolve it is increasingly important to co-ordinate best practice on deployment, operation, promotion and support to ensure a consistent user experience and maintain the security and interoperability of the service.

4. Location awareness – Mark O'Leary

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.

5. Future DNS – Roland van Rijswijk

A comprehensive survey of DNS-based activities (such as DNSSEC deployments) at TERENA member NRENs will be performed and engage organisations such as TLD registries and international NREN partners to support best practice.

6. Enabling Ubiquitous Mobility – Paul Dekkers

Campus Wireless Local Area Networks have, by their nature, a limited coverage area. Emerging standards for interworking between 3G and WiFi networks (4G/LTE) promise ubiquitous network access. This task will investigate various current and future technologies and possible NREN involvement.

7. Metering and monitoring – Miroslav Milinovic

Due to the distributed nature of network middleware infrastructure (such as eduroam and DNSSEC) it is hard to gather relevant information for monitoring and statistical purposes. This activity looks at technologies for monitoring and measuring in eduroam and at a distributed peer-to-peer monitoring system to ensure the availability and integrity of DNSSEC signed zones.

8. Sensor and mesh networking – Kurt Baumann

This task will examine sensor and mesh networking technology with an emphasis on authentication and authorisation.

9. Integration of network middleware with identity federations – Leif Johansson

Recent developments in the application of technologies for WebSSO for non-Web use cases (like project Moonshot and the SASL-SAML Internet draft) show a blurring of the border between WebSSO technologies (SAML etc.) and network middleware (EAP, RADIUS). This work item will focus on enabling community contributions to initiatives like the ones mentioned above. Due to the nature of this work a strong collaboration with TF-EMC2 is envisioned.

10. Liaison with GN3 and other initiatives – Licia Florio

The task force will be a forum where the results of the task force itself as well as the results of the GN3 project 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 project.

TF-MNM is also 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. In particular the EU Future Internet initiative and Internet2 activities are of interest.

11. New mobile technologies – *Klaas Wierenga*

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.

12. Scalable 2-factor AuthN – *Joost van Dijk*

Explore 2-factor authentication solutions and assess their applicability, flexibility and scalability for identity federation size deployments. Specifically including the use of mobile phone handsets as a second factor in innovative ways, distinct from SMS authentication services.

Deliverables

Work item activity plans will be maintained and revised by each work item leader to ensure its continued relevance with respect to changes in community participation, technology and standards. New deliverables and work items may be added as the Task Force sees fit.