Task Force on Web Real Time Communications (TF-WebRTC)

WebRTC is a combined effort by the IETF and the W3C consortium to enable real-time communications in web browsers: voice calling, video communication, and data sharing without plugins.

WebRTC offers high quality audio/video communication capabilities to anyone with a web browser, capabilities that previously only were available using proprietary systems and software. This creates an opportunity for the European R&E community to solve its real time communication challenges in novel ways. WebRTC may finally offer a path towards a large-scale, low-cost and easy to use real time communication infrastructure for group conversations across institutional boundaries. Whether and how it can deliver on its promise, needs to be investigated. A feature-rich web complemented with real-time communication capability will also offer the opportunity for a more component-based approach to including real-time communication in all sorts of e-Learning and e-Research web applications at a low price point and without locking our community to any particular vendor or solution.

The NREN community needs to prepare for this change in real time communication technology and enable itself to meet the opportunities and challenges with the right and timely response.

Terms of Reference

1. A Task Force is established under the auspices of the TERENA Technical Programme to provide a forum for exchanging and promoting ideas, experience and knowledge, as well as fostering collaborations among National Research and Education Networks and academic and research institutions on web - real time communication solutions, services, developments and deployments including the technical areas of:

   - Security architecture and integration with SAML 2.0 / eduGAIN.
   - IPv4/IPv6 interworking, NAT traversal and STUN/TURN servers.
   - Legacy VC/VoIP system integration and commercial WebRTC interoperability/interworking gateways.
   - Streaming solutions from PC with a webcam or any other media sources for supporting e-learning and e-research.
   - Web-rtc bridges, peer to peer architectures and their interaction.
   - Strategies for smooth conversations with participants at long latency.

   The Task Force shall be known as **TF-WebRTC**

2. The aims of this Task Force are:

   a) **To investigate** whether and how WebRTC based solutions and services can be used to enable large scale, easy-to-use, easy to integrate and low-cost use of real-time communication across institutional boundaries for all researchers, lecturers, administrative staff and students in European R&E.

   b) **To ensure** the European NRENs are well positioned to realise the full potential of WebRTC technology for their community as the technology emerges in the years to come.

   c) **To foster** the establishment of an NREN knowledge community as a recognised representative for the European R&E in relevant Web-RTC arenas.

   d) **To build** competence, track national developments, collect use cases as well as demonstrate possibilities and identify possible challenges.

e) **To imagine** future WebRTC-based NREN services and infrastructural components that contribute to a smooth evolution of the real time communication infrastructure.

f) **To liaise** with the GN4 SA8 WebRTC Task as well as with commercial partners and industry led standardisation activities related to WebRTC by providing an open, public forum for gathering and exchanging wider aspects, knowledge and expertise.

3. 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.

4. The TF-WebRTC Chair and Secretary will jointly lead the task force, and prepare the agenda for each meeting. They will also actively consider the task force's future focus and direction, and solicit and coordinate input from its participants for this purpose. The Chair will also coordinate the work of the task force, and is responsible for ensuring that agreed deliverables are produced.

    The Chair of the task force will be **Mihály (Misi) Mészáros, NIIF**.

5. The Secretary is also responsible for taking the minutes at each meeting, and making logistical arrangements in cooperation with the meeting host institution. The Secretary will support and contribute to work items, as appropriate. The Secretary will be a member of the TERENA Secretariat staff.

6. The Task Force will operate with a **2-year mandate, starting on the 1st of October 2014**. 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.

7. The Task Force will traditionally meet at approximately six-monthly intervals. Those physical meetings (with online participation possibility) will be held at various locations, taking care to reduce overall costs to participants by co-locating with other events, local workshop and/or relevant national conferences.

8. Beside those meetings, regular "social gatherings" will be popped-up ad-hoc on virtual hang-out places (to be agreed) that are recorded and 'archived' on the web. Virtual working groups and discussion sub-groups will dynamically be created on demand.

9. Reports and other results of the Task Force will be placed in the public domain, with the exception of information that is subject to a Non-Disclosure Agreement.

10. The Task Force will have a mailing list (**webrtc@terena.org**) for primary communication between the participants. The mailing list archive will be publicly available.

List of Work Items

Following NRENs and research organisations have expressed their interest to contribute to the work items:

NIIF, NORDUnet, RENATER, SUNET, UNINETT, DeIC, CSC/FUNET, PSNC, FCT/FCCN, JANET, CARNet, CESNET, DFN/ Leibniz-Rechenzentrum

The following work items are considered relevant to the Task Force:

I. **Forum for gathering expertise, exchanging and promoting ideas, experience and knowledge** related to WebRTC based solutions and services. Gather and organise the NREN community to be ready for the change in real time communication technology and enable them to meet the opportunities and challenges with the right and timely response.

Led by: NIIF

II. **WebRTC technology scouting and feature testing**; investigate and where possible test and validate the open source as well as vendor specific WebRTC developments and service deployment.
Led by: RENATER

III. **Liaison activity** with the potential GN4 SA8 WebRTC Task as well as the relevant commercial and industry partners; provide an open, public interface for the necessary technical contacts and standardisation liaisons.
Led by: UNINETT

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