

Proposal for a session at the Future Internet Assembly

Subject: Real World Internet

Scope (5 lines): The increasingly growing importance of enabling interactions with the real world and making its information accessible to services on the Internet, human users and machines alike, will lead to a situation where sensor and actuator nodes will account for the majority of connected nodes in a Future Internet environment. These nodes, forming the Real World part of the Internet, will undeniably have a huge impact on the required mechanisms and architecture of the Future Internet as their numbers will be orders of magnitudes higher than the ones currently connected; consequently increasing the amount of information that should be searchable and accessible via the Internet.

This cross-domain topic addresses aspects covered in wireless communications, networking, security, service platforms, service creation environments and content, addressing in one system, wireless sensor and actuator networks, the internet and services and applications.

Initiator domain: Network of the Future

Priority from the Originator Domain: High

Projects involved:

- SENSEI (<http://www.sensei-project.eu/>),
 - Mirko Presser (m.presser@surrey.ac.uk)
 - Stephan Haller (stephan.haller@sap.com)
 - Laurent Herault (laurent.herault@cea.fr)
 - Fabrice Forest (fabrice.forest@umanlab.eu)
- 4WARD (<http://www.4ward-project.eu/>),
 - Henrik Abramowicz (henrik.abramowicz@ericsson.com)
- C-CAST (<http://www.ist-ccast.eu/>),
 - Telma Mota (telma@ptinovacao.pt)
- EuroNF (<http://euronf.enst.fr>),
 - Daniel Kofman (daniel.kofman@telecom-paristech.fr)
- PROSENSE (<http://www.prosense-project.eu/>),
 - Srdjan Krco (srdjan.krco@ericsson.com)

Projects with potential interest:

- InterMedia (<http://intermedia.miralab.unige.ch/>)
- ECRYPT II (<http://www.ecrypt.eu.org/>),
 - Ingrid Verbauwhede (Ingrid.Verbauwhede@esat.kuleuven.be)
- PSIRP (<http://psirp.org/>),

- Sasu Tarkoma (sasu.tarkoma@nokia.com)
- ASPIRE (<http://www.fp7-aspire.eu/>),
 - Michel Cezon (michel.cezon@inria.fr)
- FAST (<http://fast.morfeo-project.eu/>)
- SOA4ALL (<http://www.soa4all.org/>)
- SENDORA (<http://www.sendora.eu/>)
- OneLab2 (<http://www.one-lab-2.org/>)

Duration of the session: ~2 hours

1. Overview of other EU funded work in the area (involved projects) (~4 * 5 min talks + discussion)
2. Initial proposal for a research programme / white paper contents (40 min)
3. Panel on WS&ANs in the Future Internet (60 min)

Other domains required, and why?

- Security, Privacy, and Trust: These topics are of utmost importance in practically any system in use today and even more in such a large distributed system that provides a link to the real-world. Ensuring integrity of information, protecting the source of information and establishing the trust and using the trustworthy sensors and actuators only are some of the key challenges that have to be addressed with specialists in this domain.
- Internet of Services: sensors and actuators are providing information about or are influencing the physical environment. In both cases, from the user point of view these actions are seen as atomic services that can be combined together and potentially with other Internet services to provide more complex services of interest to the end users.
- Internet of Things: This domain is currently focusing on RFID aspects, but in the near future (call 2) we will most likely see more R&D projects on WS&AN. In any case, the RFID dimension is of great importance to be included in the Real World Internet as well as innovations in reliable low power networking and context gathering.
- FIRE: The real-world Internet is posing many challenges and it is of crucial importance to verify the new architecture and design solutions in a real environment, in particular from the scalability, interoperability of heterogeneous devices, networks and services as well as management point of view.

Some possible endorsement/support from other domains:

eMobility expert group addressing WS&AN and context

Pending: NEM, NESSI