Project Information

Easy Wireless 2

The Easy Wireless 2 project addresses the issues surrounding the open service architecture for heterogeneous networks. The project serves as a proof-of-concept of the integrated technologies and studies the impact of heterogeneous networks.

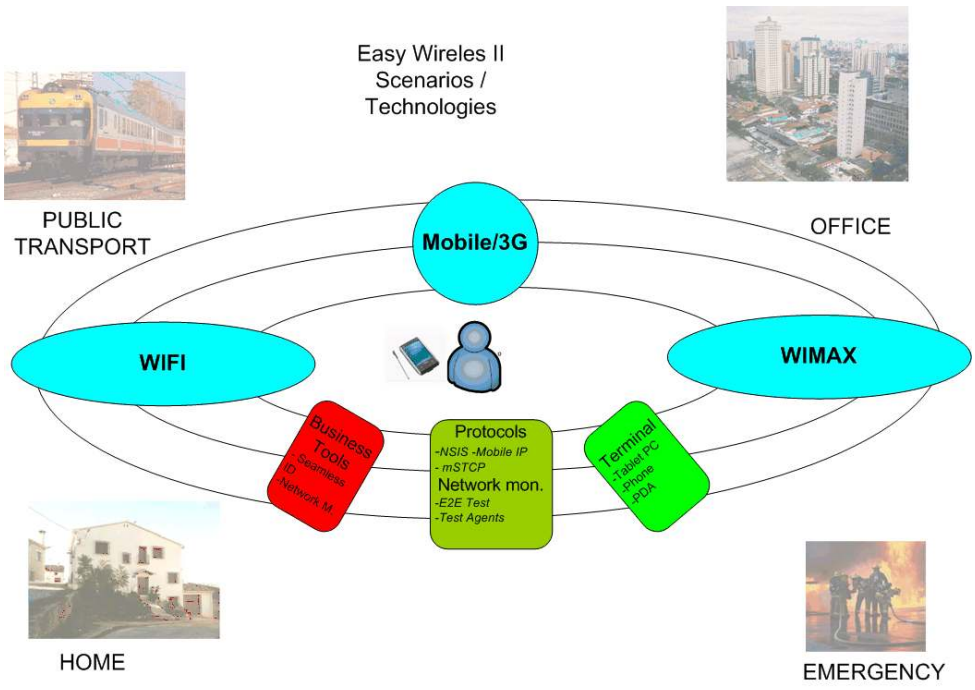
Main focus

Easy Wireless 2 aims at improving user experience and access dependability in the context of heterogeneous mobile and wireless systems. This will be done by means of analyzing and improving service continuity refining the dimensioning and deployment rules with the help of scenario analysis. To serve this objective several areas of research will be investigated including seamless roaming, Quality of Service (QoS), service continuity, QoS measurements as well as the integration of mesh.

Currently, in wireless and mobile networks it is required to find a way to connect to different types of networks without loosing connectivity and QoS. In a building, a WLAN network may be used; for longer distances, a city MAN (Metropolitan Area Network, e.g., based on WiMAX) or 3G/HSPA can be used; and when driving through the countryside, WiMAX or proprietary technologies like Flash OFDM may be used. This requires the user terminal to be equipped with multiple wireless access technologies and the required applications that enable the user to choose the preferred network according to the selected user profile.

Approach

The main approach is to evaluate and further develop the technologies and tools required to monitor the **network status** from the point of view of the individual **user/service** and to optimize its **dynamic wireless network access**. This evaluation will be performed by **simulations** and by development of core applications for **demonstrators** where actual performance measurements can be carried out.



EW-2

Project ID: CP5-006

Start Date: 1 September 2008

Closure date: 30 June 2011

Partners:

Alcatel-Lucent España SA, Spain

Alcatel-Lucent Teletas, Turkey

APIF MOVIQUITY SA, Spain

Avea, Turkey

BaseN Corporation, Finland

INNOVA, Turkey

Nethawk Oyj, Finland

VTT (Technical Research Center of Finland), Finland

Universidad Carlos III, Spain

Universida Politécnica de Madrid, Spain

Co-ordinator:

Wendy Moreno

APIF MOVIQUITY SA, Spain

E-mail: wmp@moviquity.com

Project Website

www.celtic-initiative.org/projects/ew-2

These applications will be developed and evaluated for a range of devices including the **mobile phone, tablet, and portable PC**.

Different solutions and tools will be developed by the different partners and will be evaluated jointly in the **demonstrators** that will be prepared with **overlapping competing technologies**.

These solutions will be evaluated and prioritized based on the proposed scenarios and the corresponding **business opportunities**.

A summary of the selected work areas is listed below:

- The **Protocols** under evaluation will be: **mSCTP, Mobile IP, and HIP**.
- The **Network evaluation** technology will have two approaches: the First: **Agent based**, by small localized programs running in the network nodes and in the user terminals and the Second, Centrally **based** using external sensing and probing equipment. Both can take advantage of **user localization technologies** to predict dynamically the evolution of the networks under scrutiny.
- **Fast Sign-on** technology will be developed and evaluated based on **Federated Identification**. A central system will control premium user access and will administer and reserve network bandwidth based on a **Spot Market Model**.
- One of the activities will be evaluation by simulation and measurements of radio access performance figures for the **different access technologies (3G/HSPA, Wifi, WiMAX, LTE, …)**, focusing the control and improvement of QoS .

The solutions proposed will be extended to other areas like **Ad-hoc** ,and **Multimedia Broadcast** and **Dual Mobile/IP terminals** and the performance will be evaluated in various combined environments that include the **Private Home, SOHO and Corporate**.

Standardization of the solutions will be pursued as an essential activity this will take place in the Protocol area **(mSTCP)**, and in **Federated Identification**, **Hot-spot access** and **SIP for SMS over IP (3GPP)** areas.

Main results

A **set of solutions** and tools are being developed and validated in regard to their performance in real environments in order to facilitate user communication experience in a heterogeneous wireless environment.

The solutions include operation architectures, protocol specifications and applications together with the scenario, market analysis and business models and perform market and scenario analysis.

- Develop network architecture with quality and continuity of service analysis.
- Measurement and monitoring solutions.
- Develop support protocols and technology analysis focused on QoS and continuity of service in heterogeneous networks.

Perform the integration of the proposed solutions in a demonstrator to evaluate real performance. Participate in dissemination and standardization activities business models required to exploit this knowledge in the market by the different Industrial partners.

The solutions will be embedded in current products and tools or offered to customers as a specific application to be installed on their communication devices.

Return on the research investment due to the sales of these products is expected to be healthy for the various industrial partners in view of the growing prospective market the demand for increased communication quality of experience and the novelty of the solutions.

Impact

The impact of the project will take place at different levels:

- Industrial partners will incorporate these validated solutions and tools in their portfolios and will be able to compete profitably in a demanding market where Innovation is an important asset of the companies.
- For the research centres the project will increase core competence in the development of products of QoS and continuity of service for heterogeneous wireless networks.
- For the universities the project will provide the opportunity to proceed in the improvement of the curricula and of the experience of their researchers in this field. The important dissemination capabilities associated with their teaching and basic research activities in an environment of future young professionals will be therefore act as a multiplication factor for Innovation.
- The public at large and, particularly, the European countries that are supporting this project with public money, will benefit through an improved facility of access to wireless communications infrastructures that need to be developed to ensure a sound industrial and societal evolution.

About Celtic

Celtic is a European research and development programme, designed to strengthen Europe's competitiveness in telecommunications through short and medium term collaborative R&D projects. Celtic is currently the only European R&D programme fully dedicated to end-to-end telecommunication solutions.

Timeframe: 8 years, from 2004 to 2011

Clusterbudget: in the range of 1 billion euro, shared between governments and private participants

Participants: small, medium and large companies from telecommunications industry, universities, research institutes, and local authorities from all 35 Eureka countries.

Celtic Office

c/o Eurescom, Wieblinger Weg 19/4,

69123 Heidelberg, Germany

Phone: +49 6221 989 405, e-mail: office@celtic-initiative.org

www.celtic-initiative.org

EUREKA