



## PROJECT RESULTS

# Universal access to mobile services

### 'On-the-fly' service continuity for communications and media services



**The SUMO project set out to provide enhanced functionality towards uninterrupted mobile services. It sought ways of ensuring easy and continuous access to tailored services through mobile and wireless networks whenever needed by users on the move. Live services remain accessible, regardless of the underlying infrastructure, in environments where different wireless-access technologies exist.**

Mobility is everywhere. Transparency of use and seamless connectivity are significant requirements in future applications, with most interpersonal and professional communications becoming hybrid wireless. Whether in trains, offices, meeting rooms, cars, airports, home or on holiday, people need to access services without worrying about the 2.5G, 3G, wireless local area network (WLAN), WiMAX or xDSL connections available.

The motivation for the SUMO service continuity was on-going trends within communications technologies and markets:

- Growing abundance of new high capacity and wireless networks;
- Rise and proliferation of advanced services, and users' expectations for added features;
- Changes in value networks;
- Developments within software technologies; and
- Device convergence: growth of multimode terminal market.

#### SUMO value proposal

Universal communications are continuously enriched with presence, instant messaging, personalised rings, video streaming and conferencing. All of these interpersonal, media and Internet services can be consumed using various kinds of terminals – such as e.g. multimode smart phones, personal computers (PCs), personal digital assistants (PDAs), TV sets with set-top boxes or media centres – employing seamless connectivity. Indeed, according to IDC forecast, the fixed/mobile convergence (FMC) service market is set to increase at a compound annual growth rate (CAGR) of 173% until 2011.

For SUMO partners, 'smart roaming', voice-call continuity and IP multimedia service (IMS) platform based FMC solutions leveraged the power of service continuity in the market. Typically, SUMO exemplified the following value proposition for two targeted use scenarios:

1. Corporate ubiquitous services: work efficiency on the move; and

## SUMO (ITEA 04042)



#### Partners

- Alcatel-Lucent Bell Labs
- Beep Science
- Birdstep Technology
- CEIT
- DoNewTech Solutions
- Euskaltel RTD
- INT
- NRK
- Telenor R&D
- UNIK
- University of Evry
- University Paris 6

#### Countries involved

- France
- Norway
- Spain

#### Start of the project

July 2005

#### End of the project

December 2007

#### Project website

[www.itea-sumo.org](http://www.itea-sumo.org)



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2. Private media entertainment: nomadic comfort.

Concerning revenue generation for service continuity, two options are possible:

1. Offer SUMO for free to protect average revenue per user (ARPU) on main services, versus.
2. Charging SUMO per use.

An internal quantitative market study on willingness to pay revealed the average 'reasonable' price per use – such as transferring an ongoing session from one terminal to another – equal to €0.40 and a monthly subscription fee at €5.80 for corporate service continuity.

### Tailored solutions for session continuity

The SUMO consortium developed a comprehensive software platform for unbounded mobility with features that include an efficient delivery environment, multi-level adaptation, seamless session transfer, vertical handover prediction, 'always best connected' (ABC) and other features.

In the trend towards 'non-stop' services, session continuity is focused on ensuring that personalised services are delivered to users in the most convenient

manner, without any perceivable disruption of communication session or media streams from a user's perspective.

A functional architecture targeting the handling of SUMO system requirements has been elaborated and concerns three different levels: the terminal, the network infrastructure and the service infrastructure. Therefore, SUMO innovation outpaced current FMC deployments because SUMO proposes an à la carte solutions set – service platform, network and home media centre oriented solutions – and covers both communications and media services.

### Targeted application domains

Tangible service use case scenarios have been enabled by property-rich terminals with globally harmonised mobile service support and including seamless interactivity. SUMO investigated the use of service continuity in two market segments:

1. Rich media streaming and
2. Transparent access to corporate services.

A series of project demonstrators were elaborated: mobile seamless streaming; personal ubiquitous media access; roaming/voice call continuity; and IMS media session mobility.

### Major project outcomes

#### Dissemination

- Total of 111 publications/presentations/demos, including 18 papers in peer-reviewed journals and 2 book chapters – a full list is available on the project website: [www.itea-sumo.org](http://www.itea-sumo.org)

#### Exploitation

- Four new service solutions implemented and deployed
- One enhancement of an existing product line: IMS Application Server

#### Patents

- Three patent applications filed

#### Contributions to standardisation

- 3GPP: SA2 – service architecture – workgroup
- WIMAX Forum: NWG workgroup
- OMA: DRM group
- IEEE 802.21 'media-independent handover'
- IETF: MIP, MOBIKE, MIPSHOP, SIP/SIPPING workgroups
- UMA Forum

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