

# Open Platform for Integration of UMTS Middleware

## OPIUM

The OPIUM project is about validating the introduction of wireless based applications in Europe - based on a combination of wireless protocols (GPRS and UMTS). This is being achieved through the provisioning of end-to-end services across a Pan-European 2.5-3G network of interconnected platforms, that demonstrate and validate network and service interoperability, roaming and accounting solutions.

The project considers 3GPP OSA/Parlay/JAIN APIs as the starting point for service level interoperability and is providing an important platform for their validation and enhancement.

## Partners



## Trial Infrastructure

The following is a summary of the infrastructures available at each of the project's (2.5 and 3G) trial sites. These sites have been interconnected at middleware and physical level to provide this Pan-European trial infrastructure:

**Trial site 1 Portugal:** Siemens Portugal provided and managed this trial site. It consists of a UMTS network, deploying a Siemens Advanced Parlay Gateway and using on top of this the IKV enago platform for providing a customer care and smart messaging service.

**Trial site 2, UK:** Motorola provides and manages this trial site. It consists of a GPRS network incorporating an OSA/Parlay gateway. The Test Network allows extra servers to be added and tested with the GPRS test net. This site provides real wireless GPRS experience.

It is intended that the project results will accelerate the move towards harmonization of 3G-network functionality.

The project partners encompass a range of disciplines that include:

- Equipment Vendors
- Network Operators
- Middleware Operators
- Service Providers
- Standards Body

## Project Goals

The overall goal of the project is to support the accelerated rollout of commercial 3G services within Europe by addressing some of the key issues, such as roaming and billing, prior to the delivery of commercial services.

To achieve this goal the project has defined a development plan that has ensured the delivery of meaningful, strategic results to the wider European service and network provider community.

A User Forum has been setup within the project whereby project results are made available.

## Expected Outcomes

The expected outcomes for the project are:

- Provide the industry with important intelligence and guidelines on the rollout of Pan European 3G mobile applications.
- Provide recommendations on technical solutions for network interoperability and service roaming in 2.5 and 3G environments.
- Provide recommendations on VHE /Mobile Portal service delivery.
- Key position papers to the 3G standards bodies (ETSI and 3GPP).

**Trial site 3, Spain:** Vodafone and Nortel Networks are providing and managing one of the trial sites through the interconnection of the Vodafone UMTS core network to Nortel Networks applications laboratory which allow for a set of identified terminals to access a set of 3<sup>rd</sup> party applications that use the OSA Gateway for enhancing the application functionality, like location capabilities, terminal identification, notification.

**Trial site 4, Germany:** As part of its "3G-Beyond Wireless All-IP Networking" activities, Fraunhofer FOKUS is in the process of setting up a 3G-Beyond wireless test bed that comprises of several technologies. It is interconnected to the IKV++ enago platform, to support enago-based mobile

applications within the Berlin UMTS testbed.

**Trial site 5, China:** The fifth trial site is located in Nanjing and is being provided by TMC and ZTE Co. of China. The trial site is composed of 3 layers. The network access layer includes MSC and SGSN, giving access to the UMTS core network. The middle layer is the ZTE Parlay Gateway, which is connected to the original network entities. It provides an interface to the application layer which is composed of two parts:

1. ClientHUB, which provides encapsulation for some completed Corba-related invocation and the Parlay Framework
2. User applications that provide Location Based Services and Unified Message Services.

# Open Platform for Integration of UMTS Middleware

## Objectives

The principal objectives of the OPIUM project were as follows:

- To validate the introduction of the new wireless based applications in Europe - based on a combination of new wireless protocols (GPRS and UMTS) and internationally standardized open network/service APIs (3GPP OSA, Parlay). To achieve this we demonstrated the operation of a typical subset of innovative multimedia and m-business services across the pan European network exploiting the capabilities of 3GPP OSA / Parlay APIs. These services include location-based services, unified messaging services, multimedia access services and m-commerce (Accounting) services.
- To build a Pan European network of interconnected 2.5G and 3G platforms, from multiple platform manufacturers and operators, to demonstrate and validate commercially applicable network and service interoperability, and roaming solutions. It is vital that the equipment providers, network operators and services providers establish a consensus on how roaming, service migration and accounting will be implemented.
- To test through live trials the seamless end-to-end provision of advanced 3G services across the Pan European network. The project has demonstrated the seamless end-to-end provision of a set of advanced business and multimedia services across this Pan-European test bed and demonstrated the operation of advanced services capable of providing the following functionality:

- Connectivity and coverage, anywhere and anytime – getting access to business critical information (e.g. e-mail, critical corporate apps, shared information) when users move around the European Union (or Worldwide countries).
- Effective management of personal information.
- Enhanced communications – multimedia applications (including video, music and messaging).
- Demonstration of Location based service.

A key requirement to this will be the establishment of what information is to be shared and how this shared information can be managed.

- To implement and demonstrate mobile accounting and advanced multimedia services based on industry standards. In the project we demonstrated federated charging solutions for Pan-European 3G services by applying state of the art solutions derived from IP and ATM based service solutions. In particular, the project has validated the IPDR specification for 3G-service accounting.

## Information and Contacts

For further information please visit: [www.ist-opium.org](http://www.ist-opium.org) or email [info@ist-opium.org](mailto:info@ist-opium.org)

Barry Downes.

Telecommunication Software and Systems Group (TSSG)

[bdownes@tssg.org](mailto:bdownes@tssg.org)

## OPIUM Testbed Architecture

