Project Achievements

Deployment of Next Generation Services

The objective of the project was to build a pre-commercial platform, which would act as a prototype for the development, deployment and evaluation of VoIP and value-added services by real users. The platform has now been developed and integrated with an IMS core and users can access the deployed services over heterogeneous networks.

Main focus

The main focus was to build a platform capable of serving and deploying advanced VoIP services over a next generation network (NGN), in a rural setting. The platform deployed uses an Open IMS core, a SIP Servlet container (V1.1), a Media Server (JSR 309 compliant), a Services Configuration Manager (TR-069) and users are able to access all provided services from wired (ADSL2+) and wireless access networks (WiMAX). Customer premises equipments (CPE) have been integrated in the WiMAX network thereby providing CPEs with advanced features and ensuring Quality of Service (QoS) for VoIP services.

The platform offers examples of Telco 2.0 services, such as the Auto-conference, Agenda or Text2Call. In addition, the platform includes a Service Deployment Framework that offers service providers a tool to develop and deploy value-added VoIP services to: SMEs with advanced NGN-ready CPEs or SMEs using Centrex-like hosted services or residential users using VoIP gateways.

Approach

Genesis has developed an Integrated Telecommunication Test-bed capable of offering NG services to a rural community in the Sobrarbe region of Aragon in Spain. Over a hundred real users now have access to these services over the high-speed WiMAX access network and in the first phase of the project our field trial users (corporate and residential) have had NGN CPE installed and integrated with the sample Telco 2.0 services. The platform acts as a model for existing or emerging service providers to show how VoIP services may be offered to SMEs over a NGN infrastructure and also elicits user feedback about those services. In addition, the platform provides QoS enablers on the WiMAX access network, a

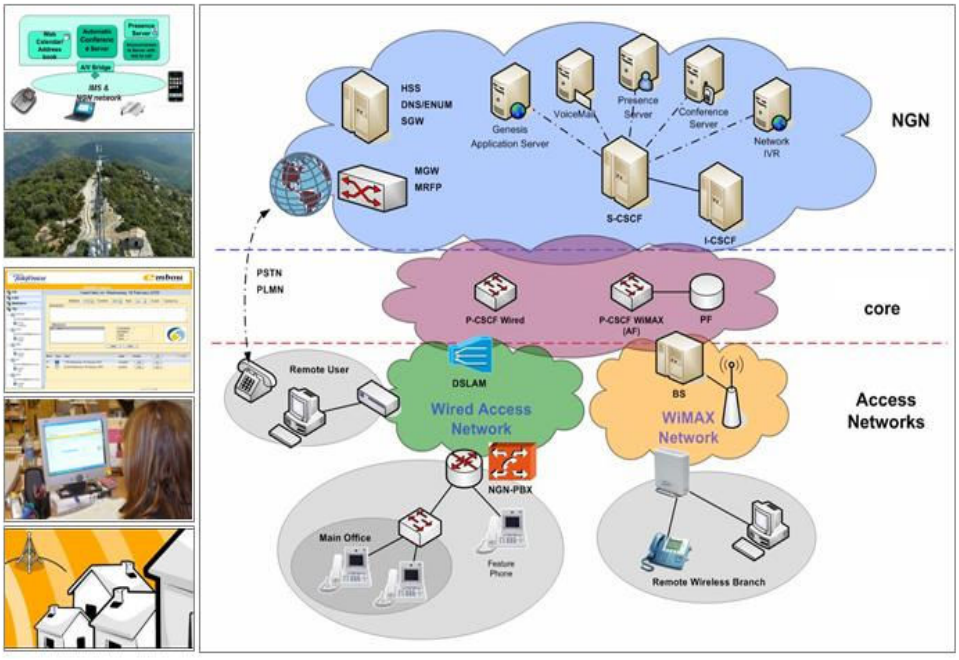

Figure 1: High-level Genesis Architecture

GENESIS

Project ID: CP4-011

Start Date: 1 March 2007

Closure date: 28 February 2009

Partners:

Alvarion, Spain

Embou, Spain

Gintel, Norway

Instituto Tecnológico de Aragón, Spain

LAKE Communications, Ireland

MailVision, Israel

Telefónica I+D, Spain

Co-ordinator:

Mark Roddy

LAKE Communications, Ireland

E-mail:
mark.roddy@lakecommunications.com

Project Website

www.celtic-initiative.org/projects/genesis

key issue for real-time multimedia services over NGNs. The platform demonstrates how to deploy NG services to CPEs through a Service Configuration Manager, as well as their integration with wireless and wired access networks.

time services and optimization of the available bandwidth over the WiMAX airlink. A proposal has been sent to the WiMAX Forum for a service initiation-termination protocol that includes Admission Control and Dynamic Resources Allocation. The project has proposed a

more limited than in the urban environment. The platform is a participating test-bed in the PanLab initiative, a Pan-European Laboratory for next generation services and networks and as such, the Test-bed is seen as a potential model for exploitation of the Genesis platform.

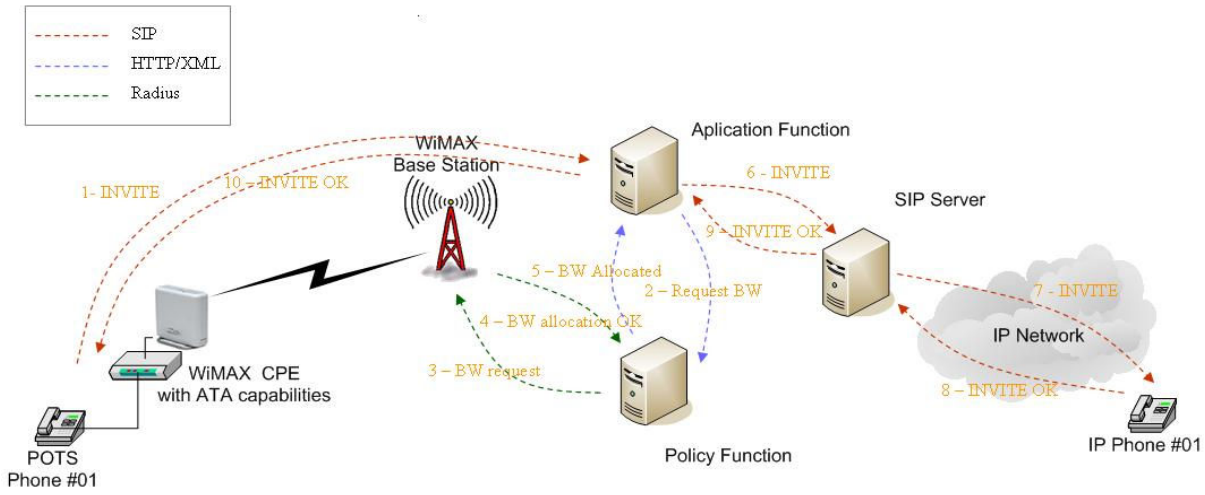

Figure 2: WiMAX QoS Management

Achieved results

The pre-commercial Test-bed and the sample set of Telco 2.0 advanced services have been successfully tested over heterogeneous access networks, through their integration with NGN-ready CPEs. A SIP Servlet framework was integrated on top of the NGN, giving service providers an additional utility to easily design and develop advanced VoIP services (e.g. HelpDesk).

The project ensures QoS for real-

TR-069 architecture for the deployment of NG services to NGN-CPEs over heterogeneous networks.

Real users, the customers of Embou (rural service provider participating in the project) have evaluated the advanced services and the customer feedback is very positive. Ultimately the definitive test of the platform will be the migration of Embou's customers from their existing legacy voice networks to the Genesis network. The platform was deployed in a rural area, where access to broadband connectivity is

Finally, as an evolution of the project, the GenesisX project (a Celtic Call6 labeled project starting Mar09) aims to add mobility enablers on top of the service and deployment platform.

Impact

The Genesis project produced an integrated demonstrator using the following key enablers; IMS core, deployment infrastructure, NG CPEs, Telco 2.0 VoIP services, QoS management in the WiMAX network and validation by real users in a small rural environment. Examples of partner exploitation; MailVision commercializing the SIP container (Kinor); LAKE Communications implementing future product portfolio based on the NGN CPE; Alvarion doing beta testing with several potential customers of the WiMAX QoS subsystem.

This innovative platform will impact on European industry by providing a service model, following a cooperative framework between the NGN elements, hosted by Telcos and Service Providers, and the CPEs provided by hardware manufacturers. Low cost next generation networking technology for wireless infrastructure (WiMAX) has the capacity to become increasingly important in the rural and emerging markets. Genesis is focused on technologies that will enable development and deployment of VoIP and value added services in such environments.

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