CELTIC
Telecommunication Solutions
www.celtic-initiative.org

Broadband Access Networks Integrated Telecommunication Systems

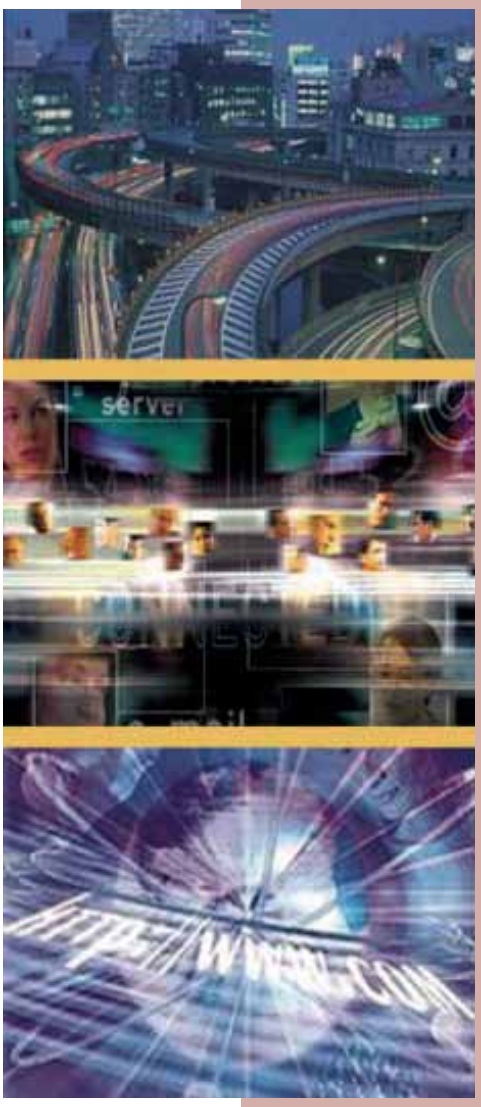
BANITS aimed to extend the knowledge in the area of access networks to deliver new multimedia service packages to residential and business customers. A special focus was on maximising the utilisation of the existing network infrastructure, in the access and metropolitan areas, covering technologies like xDSL, SDH, and Ethernet. New advanced multimedia services have been developed, enabling network operators and services providers to increase their revenues.

Main focus

The overall objective of BANITS has been to explore ways to improve usability and increase revenues in existing networks through new technological solutions in access and metropolitan networks.

Furthermore, BANITS has implemented a comprehensive service test bed, which enabled multi-service offerings to business and residential users, including multimedia services. For fulfilling the requirements of new multimedia services, BANITS investigated access and metropolitan networks with the following target features:

- Low investment cost and operational expenses: the solution aimed to leverage existing infrastructures of telecom operators (first of all DSLAMs and SDH infrastructures) combined with a well-known and inexpensive technology like Ethernet for minimizing CAPEX and reducing OPEX of network operators and also within the customer's premises.
- Multi-service capabilities: suited for the provision of the new services with the appropriate service attributes (performance, quality of service, security) while maintaining the traditional services over a single infrastructure.
- Well integrated in an end-to-end view: effective inter-working between different network infrastructures (DSLAM, SDH, GbE metro, IP/MPLS) as well as between various network types (metro/core networks and home networks).



BANITS

Banits

Project ID: CP1-032
Start Date: 1 January 2004
Completion date: 1 April 2006

Partners

Alcatel NV, Belgium

Ericsson, Sweden

Inelcom, Spain

Katholieke Universiteit Leuven, Belgium

Optibase, Israel

RAD Data Communications, Israel

Robotiker Infotech, Spain

Telefónica I+D, Spain

UpZide Labs, Sweden

Co-ordinator

Javier Hurtado
Telefónica I+D, Spain
E-mail: hurtado@tid.es

Project web site

www.celtic-initiative.org/projects/banits

Approach

BANITS started from existing network solutions, investigating new ways to extend their use both in time and in service availability. This approach was the keystone of the project. It is based on the key relevance of the huge investment in network infrastructure already made by the main actors in the telecommunication business.

Thanks to the availability of an integrated test bed, BANITS has shown novel ways to develop business around the deployed network scenarios integrating advanced multimedia services. BANITS worked to solve the typical "bottleneck" in broadband and metropolitan access by optimising the access networks to transport Ethernet traffic and enabling, at the same time, the low cost and flexibility that have characterized the "good old Ethernet", taking advantage of its features like low complexity and cost of protocol translation. BANITS focused on enhancing the access network with the ability to support the QoS and protection that characterizes TDM networks. The goal was to satisfy the future demand for broadband connectivity and real-time constraints at a reasonable price, aiming at the provisioning of "end-to-end Ethernet services", maximizing the use of existing DSLAM and SDH infrastructure.

Achieved results

The project has finished its works with a number of activities just ending by the end of the project, mainly related to demonstrations and dissemination. The different technological lines have worked in parallel with a common management, and their results have been integrated in the common test bed where they have been used as a concept validation tool for both networking and services developments.

The main achievements of the different working lines of the project, covering mainly access and metropolitan networks and services, are represented by the following products:

- RAD E-gate 100 (with Robotiker know-how)
- Optibase Multimedia Server MGW 1100
- INELCOM Supervision and Access System IMUX
- Ericsson Ethernet DSL Access (EDA)
- Alcatel DLM package integrated in the 5530 Network Analyser
- Robotiker Ethermapper prototype for EoSDH
- Telefonica I+D Multi video-conference prototype and video-distribution service deployment

There has been also a strong activity in the standardization bodies with a high involvement from partners, mainly Alcatel and Ericsson, and an important activity in the academic and commercial dissemination area by Ericsson and RAD:

- Standardisation bodies: 45 contributions
- Academic publications: 20 papers, PhD, etc.
- Commercial dissemination: 15 events

Demonstration activities have been focused on highlighting and showing the technical achievements of the project in a number of events, fostering the dissemination activities. Special relevance on the demos carried out in the Intermediate Review MTR held in Telefónica I+D premises in 2005, in the CELTIC-Event in Dublin in 2006, in the Final Review held at the Telefónica I+D premises, and other specific trials and demos conducted over the integrated test bed in real-life scenarios for network operators, with a very good acceptance.

Impact

BANITS has been a successful arena for cooperation between a number of the largest telecom players in Europe, focusing and coordinating significant expertise onto the development of access and metropolitan networks and services with a real impact on products, standards and services enabling new business on legacy networks. BANITS solution allows the reusability of existing telecommunication infrastructures to extend their profitability thanks to novel ways of exploiting them. A number of new technologies found their way into this scenario to use this opportunity: novel xDSL technologies for spectrum management and to increase range and/or speed, native Ethernet transport over SDH, advanced multimedia services, etc.

Telecom manufacturers found new opportunities to extend their market presence through the findings of BANITS in such key areas as metro or access networks. They have the opportunity to leverage BANITS findings and easily gain valuable knowledge to accelerate the market launch of their products. BANITS provides tools to network operators that enable better and extended business models, ensuring an earlier return on their huge infrastructure investment, allowing also to offer their customers an extended portfolio of advanced services.

Furthermore, the solutions developed by BANITS allow users to benefit from a broader range of better and much more appealing services and applications. These new services are likely to be offered at very attractive prices due to the limited investment needed.

About CELTIC

Celtic is a European research and development programme, established as Eureka cluster, 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. Launched in November 2003, Celtic (Cooperation for a sustained European Leadership in Telecommunications) was founded and has been supported by major European telecommunication players, both vendors and operators. Celtic fills the gap between public R&D programmes not specifically focused on telecoms and short-term R&D efforts by the telecoms industry

Timeframe: 8 years, from 2004 to 2011

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

Participants: companies from the telecommunications industry (small, medium and large), universities, research institutes, and local authorities from all 35 Eureka countries may participate in Celtic projects.

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
Σ! 3187