

Broadband, multimedia applications in the home; business models and architectures

Broadband access technologies like ADSL and cable modems are currently mainly used for fast internet access and being always on line. The next generation will provide a much better end-to-end “quality of service”, guarantees for security and privacy and provisions for service management. Broadband access and home networks will become intertwined. The objective of this project is to develop new business models and service architectures for end-to-end provision of broadband services to the home. This is absolutely necessary to boost the acceptance and realisation of broadband services.

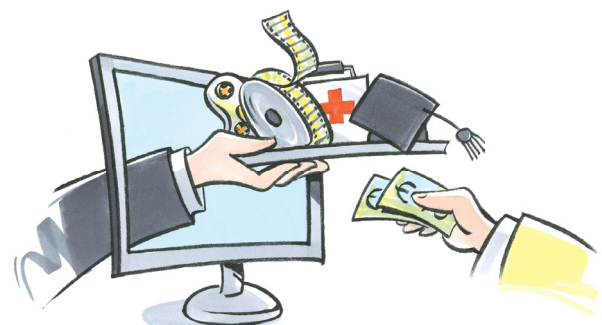
The use of broadband access technologies like ADSL and cable modems is in acceleration in Europe. The next generation (4G) will bring us connections that are symmetric, with a sustained rate of 10 Mbps and higher. It will give a much better end-to-end “quality of service”, guarantees for security and privacy, provisions for the management of service and a better ease-of-use. All kinds of wireless personal and home networks will bring broadband further into the home to a broad range of terminals.

This further extension of the reach and the magnitude of broadband will need huge investments, which needs to be done by a range of public and private organisations. It has been made a priority in the European member states, because it is viewed as a powerful source of productivity gain and improvement in living standards.

State of the art

In the application domain of media entertainment, the state of the art is mainly ‘delivery of content’ to the end-user via broadcast channels.

IP based networks are also used to deliver media content which allows for delivering Video on Demand (VoD) services. In the years to come one of the challenges for the media industry is to adapt to a changing user environment. More and more the PC – and other internet devices – becomes a part of the delivery chain. People become content producers by themselves: with digital cameras (sometimes in mobile phones) photo or video content is created and shared with others. The question is how media productions should change to adapt to this type of user, and how broadband and broadcast technology should be used in this changing environment. And what kind of business models and end-to-end service architectures are most suit-



B@HOME

able for this application domain?

Goal and objectives

The project B@Home aims to develop new business models and technical architectures for end-to-end provision of ubiquitous broadband services to the home, supporting people with their needs for infotainment, health care, education and work.

Research questions

The most important research questions are:

- Which dynamic business models are viable for network and service architectures connecting broadband access networks and home networks in different application domains? Which roles in these business models are feasible for policy makers and end-users?
- What are the implications of evolving standardization efforts in broadband home networks and applications for business and policy?
- How can networks and services be managed (remotely) in an environment of multiple service and network providers? What are the viable architectures for service discovery, access and delivery in heterogeneous home networks?
- What are the functional and technical requirements, the user experiences and the useful business models for applications in media-entertainment at home?

Results

The main results planned in the project are:

- *Applications and demonstrator*: a validated demonstrator in the media entertainment domain. This demonstrator will use prototype applications and proof-of-concept infrastructure parts. It will fit into the end-to-end architectures and business models defined elsewhere in the project.

- *Business models, standards and policies*: a validated, dynamic business model for generic network and service architectures connecting multiple access networks and home networks in different application domains, including new roles for end-users. A framework for the evaluation of standards and recommendations for government policy and regulation based on this business model and these standards.
- *End-to-end service architecture*: a reference architecture including requirements for the integration of public access and private home networks and integral service management.

Freeband

The B@Home project is part of the research programme Freeband Communication. For more information: <http://www.freeband.nl>

Project website

<http://bathome.freeband.nl>

Duration

2004 – 2008

Contacts

Dr. Jack Verhoosel

Project Manager B@Home

TNO Information and Communication technology
Colosseum 27

7521 PV Enschede

The Netherlands

Phone: +31 53 4835215

E-mail: jack.verhoosel@tno.nl

