Project Results

Personalising home multimedia
Accessing and sharing any contents from any network

The CAM4HOME project has created a common metadata-enabled contents delivery framework enabling rich, personalised multimedia experiences in the home. The project simplifies access to and sharing of all contents with any terminal through any network and through peer-to-peer networks. It exploits a novel concept of collaborative aggregated multimedia to create individualised multimedia contents bundles that can be delivered as coherent sets of content and related services over various communications channels.

TV is no longer limited to direct broadcast but increasingly being provided by broadband and mobile network services. However, dedicated provisioning is still required for different networks and user devices, leading to unbalanced services and difficulties in sharing content between TVs, personal computers (PCs) and mobile phones.

CAM4HOME has developed a 'create-once, deliver-anywhere' approach to enable ubiquitous access to any contents on any device through all networks. The ITEA 2 project has simplified access to content of specific personal interest with any terminal through any network while enabling easy sharing and collaboration with multimedia contents regardless of the terminal or network in use.

ENABLING INTERACTIVITY BETWEEN NETWORKS
The ITEA 2 project focused on interactivity and facilitating multimedia content delivery between heterogeneous networks, user devices and users in social networks while easing user operation for various services. By enabling exchanges between video, web pages and mobile contents, CAM4HOME has enabled rich media interaction between all devices.

The main benefits offered by rich media services and multimedia deployment in the digital home are the possibility of developing personalised search and aggregation of contents on an overall range of related media according to user profile and user device. It also becomes possible to provide strong links and interaction with social networks that can offer friends' recommendations.

BUILDING NEW COMMERCIAL OFFERS
Personalised search and aggregation of contents is crucial as the sustained growth of media contents including rich media contents, emergence of social networks and a trend to non-linear contents speeds up and impacts commercial providers' business plans. Such suppliers must build new offers to satisfy these requirements.

For the broadcast industry, CAM4HOME offers an enrichment of contents thanks to broadband connectivity. By providing true convergence at the metadata level, CAM4HOME allows the seamlessly delivery and sharing of multimedia content to any device.

For users, CAM4HOME enables seamless access and interaction to a wide range of media contents with a possibility to share and collaborate with media content.

ADVANCED TECHNOLOGIES AND METHODOLOGIES
The main technical advance in CAM4HOME was the concept of collaborative aggregated multimedia (CAM) which provided a

---

CAM4HOME
(ITEA 2 ~ 06017)

• • • • • • • • • • • • •

■ **Partners**
Atos Origin
Centre Henri Tudor
CNRS (LIFL)
DracoTIC
France Telecom R&D
Institut Telecom (IT Sud Paris)
IWEDIA
Kapion
NDS
Neusoft Mobile Solutions
Nokia
Ouestaudiovisuel
Sanoma Entertainment
Sofia Digital
Technicolor
Thomson Video Networks
Universidad de Murcia
University of Oulu, MediaTeam
VTT Technical Research Centre of
   Finland

■ **Countries involved**
Finland
France
Luxembourg
Slovenia
Spain

■ **Project start**
June 2007

■ **Project end**
June 2010

■ **Contact**
Project leader :
Patrick Schwartz, Thomson Video Networks (formerly Head-End Business Unit of Thomson Grass Valley)
Email :
patrick.schwartz@thomson-networks.com

Project website :
www.cam4home-itea.org

Project Results

common vision. This involves aggregation of contents and services into described collections or bundles which can be delivered as a semantically coherent set of contents and related services over various communications channels to a variety of terminals.

Technical challenges lay in describing, processing and exchanging the CAM bundles. In addition, it was necessary to tackle content and metadata interoperability, cross-media and cross-network delivery of CAM content, user experience, context-aware and personalised CAM content provisioning, and the integration and use of peer-to-peer community networks.

Advanced and new technologies and methodologies developed in CAM4HOME included:
- The metadata framework which eases interaction between heterogeneous contents;
- An open service platform supporting interoperable description and processing; and
- Domain-specific devices such as content analysis, content adaptation and content delivery through heterogeneous networks.

EXPLOITATION UNDERWAY
Initial applications are already developing. These include:

- Personalised online gaming with Facebook-like updates, games ratings and new-friend notifications for the PELIKONE games portal in Finland;
- Synchronised content aggregation for on-line business services already being exploited to improve VideoNavig management of live webcasts;
- Live sports events production with automated media asset management being developed for the 2012 London Olympic Games;
- Enhanced TV-centric user experience with personalised video-on-demand contents, personalised electronic programme guide and interaction with social networks and web contents;
- Sharing contents between fixed and mobile devices including rich media sharing, IP multimedia subsystem notification and mobile broadcasting with mediation.

CAM4HOME partners have also targeted standardisation, with contributions to the Digital Video Broadcasting (DVB) and Open Mobile Alliance (OMA) standards bodies.

Major project outcomes

DISSEMINATION
- 32 scientific publications
- 12 international conferences
- 5 joint workshops
- More than 12 appearances in trade shows and symposia
- 2 journals
- 4 news letters
- 7 Master's theses

EXPLOITATION
- Partners are currently working on developing products based on CAM4Home results
- 3 new services in beta-test deployment
- Open CAM4HOME platform to enable development of new multimedia services

STANDARDISATION
- Large contributions to several standardisation bodies such as DVB-CBMS, DVB-CM IPTV, DVB-TM IPI, OMA BCAST and ETSI

PATENTS
- 1 patent on Interactive TV synchronisation

CAM4HOME
(ITEA 2 ~ 06017)   October 2010