ITEA
INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

PROJECT RESULTS

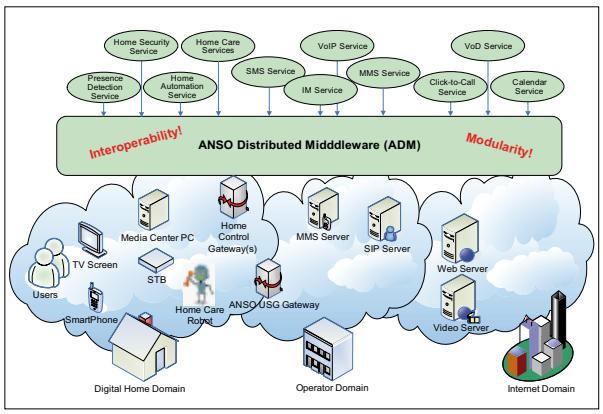
Autonomic networks for SOHO users

Technology development extends the exploitation of digital services in the home

ANSO has developed an open, intelligent and dependable platform for the broad variety of small office/home office (SOHO) network environments. Its success will dramatically accelerate development of new networked multimedia services and content as well as their use in building innovative applications to boost digital home services in Europe.

This project set out to overcome technological constraints and create a standards-based network system comprising hardware and distributed embedded software. Its success enables universal access to multimedia services including a full range of automation, computing and entertainment products.

Open interfaces and a powerful and scalable middleware based on open standards improve competitiveness and avoid citizens being locked into one proprietary home network system. Thus, applications providers can compete with service innovation and manufacturers of home appliances with device functionality. Such a market is no longer limited to global players but is also open to small and medium-sized enterprises (SMEs).



ADM service chain

Closing the digital gap
Project results enable distribution of traditional set-top box functions as well as advanced communications and multimedia applications through multiple low cost appliances in the home. This allows more citizens to access digital services, and gives them a greater freedom of choice when mixing and matching services and appliances to suit specific needs. ANSO thus encourages social cohesion by enabling the housebound and those currently excluded through the 'digital divide' to participate in high quality digital services.

Through a range of service offerings, ANSO permits network operators, content providers and appliance manufacturers to consider new business models and deliver sustainable, high quality services to the home.

In addition, ANSO enhances domestic security by facilitating greater safety in the home through a low-cost infrastructure for monitoring applications. Examples include assisted living for the disabled or housebound, low-cost home surveillance for security and fire prevention through wireless integration with domestic appliances such as heaters and ovens.

Determining consumer needs
The project studied and evaluated market and end-user needs. This included a public survey and

ANSO (ITEA 04016)

Partners
CEA-List
DS2
EADS DS
France Telecom
HITEA
Icecom
Schneider Electric
SESCA Innovations
Sofia Digital
SWelcom
Thales
Thomson
Université Joseph Fourier
University of Murcia
Vaasa Telephone Company
VTT, Technical Research Centre of Finland

Countries involved
Finland
France
Spain

Start of the project
October 2005

End of the project
September 2007

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interviews of technical people that showed the market clearly moving towards the networked home environment, which needs to provide open access to Internet services and to services in heterogeneous home networks.

Consumers expect support for home automation, communications, entertainment and all services required throughout the home environment. Key consumer issues included security, and ease of use and integration.

ANSO addressed all these points. Its results target a very fast growing market with great revenue potential being exploited by three actors represented in the consortium: service providers, network operators and appliance manufacturers.

Interoperability and modularity

The main technological constraints addressed were the interoperability and modularity of services for the digital home environment. This led to the design and development of a common ANSO Distributed Middleware (ADM) offering inter-operability of traditionally isolated and non-interacting services in modular fashion, including:

- A novel extendable ADM Service Framework providing interoperability of multiple service-oriented software technologies extending the existing OSGi bundle model;
- Novel component models enabling easy development and deployment of modular and behaviourally-adaptive service components extending the OSGi bundle model;
- Bringing distributed capability to the OSGi ecosystem; and
- Completing the device profile for web services (DPWS) ecosystem and extending it to dynamic service-oriented architecture.

ADM enables the development of novel and innovative applications by combining home automation, multimedia, security and communications services.

Main applications include:

- Home gateways and other related devices and applications:
  - Home-automation applications such as security, remote control and management,
  - Assisted living for disabled or elderly people, and
  - Home networking;
- Communications applications:
  - Voice over Internet (VOIP), and
  - Chat; and
- Multimedia applications and devices:
  - Video-on-demand services,
  - Set-top boxes and services, and
  - Context-aware Internet applications.

Major project outcomes

Dissemination

- 17 scientific papers to recognised forums
- One journal article
- Ten appearances as poster, demonstration or stand at trade shows or other events
- Eight presentations, including three talks to the OSGi community
- One master's thesis

Exploitation

- Five new products
- Three new services
- Two new methods for the digital video broadcasting multimedia home platform (DVB-MHP)
- One open source driver specification and implementation

Standardisation

- Five contributions to the OSGi, DVB-MHP, IEEE Power Line Networks WG standardisation bodies

Patents

- One application filed

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ITEA - Information Technology for European Advancement - is an eight-year strategic pan-European programme for pre-competitive research and development in embedded and distributed software. Our work has major impact on government, academia and business.

ITEA was established in 1999 as a EUREKA strategic cluster programme. We support coordinated national funding submissions, providing the link between those who provide finance, technology and software engineering. We issue annual Calls for Projects, evaluate projects, and help bring research partners together. We are a prominent player in European software development with some 10,000 person-years of R&D invested in the programme so far.

ITEA-labelled projects build crucial middleware and prepare standards, laying the foundations for the next generation of products, systems, appliances and services. Our projects are industry-driven initiatives, involving complementary R&D from at least two companies in two countries. Our programme is open to partners from large industrial companies, small and medium-sized enterprises (SMEs) as well as public research institutes and universities.

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