PROJECT RESULTS

Opening up the potential
of interactive Digital TV

An example of an e-commerce application

European television systems are rapidly converging towards open digital signal reception. As a result, the TV set will soon be able to bring 'Internet-like' as well as other interactive services to the general population.
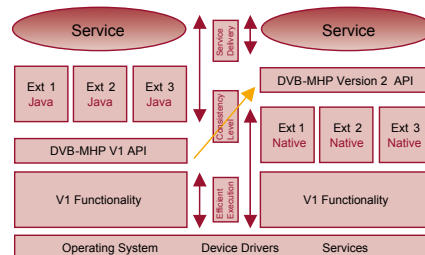
A software platform for digital consumer electronics appliances
The current European market for digital video broadcasting (DVB) is fragmented. Several proprietary platforms have been developed (such as Media Highway from Canal+ in France and Premiere World's D-box in Germany), but there is a clear need for an open standard. What's more, the existing hardware architecture cannot support the full spectrum of upcoming applications for set-top boxes if the terminal resources and quality of service mechanisms are part of the open standard. The standardised digitalisation of the total chain allows the exploitation of interactive personalised content alongside traditional programmes.

The EUROPA project results make it possible for content providers to exploit the full potential of interactive Digital TV (DTV). By defining a set-top box reference architecture with enhanced functionality capable of delivering next-generation services on a DVB multimedia home platform (DVB-MHP), the EUROPA project has considerably extended current functionality. The project has also accelerated the adoption of new standards, such as MPEG-4, MPEG-21, cryptography for secure on-line banking and online shopping, as well as agent technology for advanced user interfaces.

New services and platforms for a new market
New services include for example electronic newspapers, electronic banking, e-commerce, on-line supermarkets, interactive TV guides and interactive catalogues. New trends in broadcasting, such as pay-per-view, programme bouquets and thematic channels have the potential to improve consumer choice. TV-based solutions using digital broadcast links (terrestrial, satellite or cable) provide an economical alternative to current distribution methods.

The MHP Stack before & after EUROPA: the three benefits

The suppliers of integrated set-top boxes use middleware that interfaces to multi-service receivers to provide the additional functionality these services require.

PROJECT RESULTS

This additional functionality, however, has to be provided at reasonable cost to persuade end-users to buy it, one of the major goals of the EUROPA project.

These developments provide new opportunities for economic growth and employment with opportunities for enhancing the quality of European citizen's lives, by increasing consumer choice, facilitating access to the benefits of the Information Society and promoting cultural diversity. Although it is not yet clear which services will be commercially successful, a common platform for such applications can already be built. Without it, no services can or will be launched.

Advanced user interface

A reference architecture for a new generation of set-top boxes

The EUROPA project has developed open, platform-independent reference architecture for a new generation of set-top boxes that will support next-generation services, such as:
- Interactive TV with personalized, adaptive and attractive user interfaces
- Secure online shopping and online banking
- Complex digital streaming multimedia content.

Another key result has been the provision of software modules to the European industry for implementing the reference
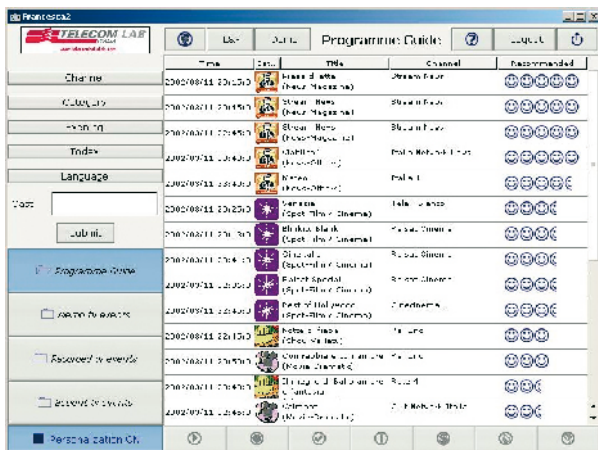
architecture, including flexible methodologies for mapping software modules onto hardware modules. Extensions to the current standards for Interactive DTV applications defined by the EUROPA project (e.g. intellectual content management & protection and integration of video and graphics content under control of QoS management) have been submitted to standardisation bodies such as DVB-MHP (Security and Lifecycle Management), MPEG-4 (Broadcast Aspects, Terminal Management) and MPEG-21 (Terminal Architecture, QoS).

Enabling the full possibilities of interactive Digital TV

The EUROPA project results are taking interactive Digital TV into a number of areas such as privacy protection, security and electronic commerce, advanced content formats and personalised interaction. The open platform approach will enable an open market for application developers, service providers and platform manufacturers.

Advanced content

The EUROPA project has also extended the functionality of the DVB-MHP terminal with interoperable end-user platform specifications so that the CE industry can deliver them to the intended audience, providing benefits for all the players in the multimedia delivery chain from content provider to end user. The consortium partners are currently engaged - as early adopters of the new technologies - in developing prototypes and product concepts and running trials.