

The Convergence of Technology and Media - Efficient digital transactional Television & Internet Platform

The Comparative Competitive Advantage of the EuproMedia Approach

With the abundance of mainstream content now on-line and the increasing preponderance of household WiFi-functionalities, the convergence of TV and Internet at first glance appears to be nearing its tipping point to widespread adoption. But if we look a bit more closely at what is really happening in the European TV markets, we feel that things have not evolved very much, at least in terms of TV and interaction design. We are still far away from a real convergence of linear and nonlinear TV functionalities; as well as of related media and technologies. Even worse interactivity and interactions with the viewer remain totally on the track.

Indeed, the convergence of Internet and TV is not about putting TV shows on computers or about putting web pages on TVs. It is about seamlessly migrating transactional business along with a vast majority of content consumption from the computer to the living room – using large TV TFTs to display both signals – in one single organizational and technical environment.

Sure, in the last few years we have seen lots of experimentation with split screens showing supplementary (secondary) information alongside live broadcast. This may be a first step. But it clearly points in the wrong direction, as long as linear television programs and nonlinear PC images and streams remain caught in their own restricted worlds. Missing real convergence does not give rise to anything but a frustrating experience of the lack of interactivity.

The shift has already begun

Nevertheless the shift has already begun and the new concept of EuproMedia S.A. is at the forefront of creating a fluid hybrid TV experience pushing the convergence of both traditional and pioneering media technologies of Television and the Internet towards a new level of interaction and interactivity. EuproMedia's new hybrid program scope will change the way people consume infotainment and entertainment. The company designs and delivers a variety of special interest programs (health, sports, lifestyle and travel) and services (eBusiness) to target related communities of interest (potential buyers).

Integrating multithematic, multimedia content and a high performance online transaction platform, EuproMedia enables a next generation of digital presentation and (self-) promotion of companies, brands, products and services. The Luxembourg based young multimedia company is a pioneer to leverage the convergence of digital TV, Web 2.0 and eBusiness technologies and reaches a poten-

tial of more than 100 million viewers in the German speaking European markets of „free-to-air“ TV and sophisticated Digital Signage.

EuproMedia makes the difference with its convergent cross-media TV and transaction platform

EuproMedia operates its own integrated TV broadcasting and Internet platform. All programs are seamlessly carried forward from satellite & cable broadcast to Web-TV combined with sophisticated eBusiness services. Thereby traditional viewing experience is “transformed” into an interactive one, providing viewers with access to value-added services and content allowing an enhanced emotional environment that not only gives benefits to the audience but also generates additional revenues.

EuproMedia S.A. has a general broadcast license granted by the Luxembourg government to air its programs by satellite, cable and IPTV; as well as through Web-environments under the brand name **em24**.

The concept of an integrated convergent cross-media TV and transaction platform cannot be compared with options for Internet TV such as Google TV nor with hardware or software set-top boxes such as Boxee or similar developments.

A digital **set-top box** (STB) is a device that connects to a television and an external source of digital multiplexed signal, turning the signal into content which is displayed on the television screen.

Internet television (known also as Online TV, and not to be confused with Web television or Internet protocol television (IPTV)), is a more or less dedicated television service distributed via the Internet.

The set-top boxes and the known solutions for Internet TV do not offer

- digital linear television functionalities, play-out- and uplink-services;
- transaction platforms for virtual galleries and online shops;
- support for hybrid TV;
- support for mobile applications;
- Digital signage facilities.

Actually STB- and Internet television solutions do not pursue any convergence strategy. They rather try to migrate content more or less efficiently from one world into another.

Is Android the best thing that can happen to TV?

Is Android is really the best thing that can happen to the television community, as some experts suggest? What does the free operating system mean for traditional DVB services, as well as for emerging new TV standards? What does Android offer to the viewer; and what to the TV or set-top box manufacturer?

Android is open source. To conclude thereby that Android is free of costs; if used the open source version; however is a worse fallacy. Indeed the Smartphone Version is not the STB or iDTV version and there is a lot of confusion at all levels of the information chains.

Android gives users the possibility to add TV-functionalities to some of their mobile and fixed devices. But there is no Android standard profile for classic linear television. Though; thanks to the media player architecture of Android (OpenCore or Stagefright); it is not very hard to implement media and container formats to support DVB services; it gets much more complicated, when you try to "consolidate" different devices such as tuners, smart cards, etc., in a common platform. Without consensus among chip and STB manufacturers there will be no standard profile for TV and Android apps written to best exploit the functionality of a given platform, can completely fail in another TV environments.

In addition, Android is not designed for traditional TV. The software comes from the Smartphone and Tablet PC domain. This market is well-acquainted with streaming video over IP, but it has little or no knowledge about classical linear TV via satellite or cable. No wonder that we find chips and modules in set-top boxes, which are actually at home in the tablet or smartphone world. This is probably the reason why virtually all Android showcases are designed for IPTV and not for traditional broadcasting.

In summary Android indeed may support DVB; although there are currently pitfalls in doing so.

Is this true for HbbTV also?

HbbTV or Hybrid Broadband Broadcast TV is a pan-European standardization effort to combine the best of broadcast TV with broadband services. Major TV and STB manufacturers have, or are launching compliant receivers, and HbbTV has serious chances to become the hybrid digital TV and IP standard of the future in Europe.

Android and HbbTV can quite happily co-exist, though Android is not designed to support HbbTV; but it could be modified to do so. However, there are a few snags. HbbTV requires for example that the browser supports a specific profile of CE-HTML to which the Webkit browser employed by Android today is not compliant. Therefore Android is not a substitute or replacement for standards such as DVB or HbbTV. It rather goes for a closer partnership by providing a framework for downloadable multimedia applications. From there it's still a long way to real convergence.

Legal and technical limitations of Internet TV

Google and other companies that operate Internet TV as well as providers of set-top boxes do not have official governmental licenses for broadcasting digital television via satellite, cable and / or IPTV. The provision of their programs based on third party content is therefore exclusively limited to the Internet as distribution channel. Moreover, they are in some danger, to come in conflict with the new European TV directive "Television without Frontiers" and national media legislations governing TV when the number of their viewers exceeds a certain limit, thus getting assimilated with broadcasters.

Quite apart from these organizational limits the existing network infrastructures are far from providing the transmission capacity and speed that are needed to receive and display TV signals on large TFT screens. This is true in many parts of Germany, France, Italy, Spain, etc.

The approach of Internet TV and Set-Top Box providers

To illustrate the differences between Internet TV and Set-Top Box offerings on one hand and the concept of EuproMedia on the other, let us shortly describe the approach of the main representatives of Internet TV and Set-Top Box providers.

Google TV is an internet-connected television platform. It was announced by Google on May 20, 2010 at Google's Google I/O event and was co-developed by Google, Intel, Sony and Logitech. Google TV integrates Google's Android operating system and Google's Chrome browser to leverage many of Google's existing products. Google's Chrome browser provides a gateway to the Internet, allowing consumers to browse web sites and watch non-linear television, in tandem. Google TV products ship with wireless remote controls with a full QWERTY keypad.

International cable operators as well as content providers have been slow to warm to Google TV. NBC, ABC, CBS, and Hulu have blocked Google TV enabled devices from accessing their web content since Google TV's launch. Of the satellite providers, only Dish Network is promoting Google TV, offering customers a discount on the Logitech Revue.

Apple TV is a digital media receiver sold by Apple Inc. It is a small form factor network appliance designed to play IPTV digital content originating from the iTunes Store, Netflix, YouTube, Flickr, MobileMe or any Mac OS X or Windows computer running iTunes onto an enhanced-definition or high-definition widescreen television.

In September 2010, Apple announced a second-generation version of the Apple TV. About a quarter of the size and one-third of the price of the original Apple TV, the new device can stream rented content from iTunes and video from computers or iOS devices via AirPlay. All content is drawn from online or locally connected sources.

Roku announced on May 20, 2008 the first Netflix Internet video streaming receiver box, the Roku DVP. The NXP-powered device runs Linux. Roku is an open-platform device with a freely available SDK (*Software Development Kit*) that enables anyone to create new channels. Developers who wish to test their channels before a general release, or who wish to limit viewership, can create "private" channels that require a code be entered by the user in the account page of the Roku website

Content on the Roku DVP is provided by Roku partners, and identified using the "channel" vernacular. Each separate channel supports content from one partner though some content partners have more than one channel. Users can add or remove different channels from the Roku Channel Store. The current premium channel lineup consists of Hulu Plus, Netflix, Amazon Video on Demand, UFC, MLB.TV, WealthTV, Kung Fu Theater, Drive-In Classics, Cowboy Classics, Moonlight Movies, Midwest Cage Championship (MCC), Frightology, Weiss Money Network, and Mobile Tribe.

Boxee (officially trademarked as BOXEE) is a cross-platform freeware HTPC (Home Theater PC) software application with a user interface and social networking features designed for the living-room TV. Boxee was originally a fork of the free open source XBMC media center software which Boxee now uses as an application framework for its GUI and media player core platform, together with some custom and proprietary additions.

Marketed as the first ever "Social Media Center,"[citation needed] Boxee enables its users to view, rate and recommend content to their friends through many social network services and interactive media related features. One notable feature missing in Boxee is the ability to watch and record live TV received via over-the-air TV, cable or satellite signals.

Smart or Connected TV

The approach of EuproMedia S.A. is more comparable to the so-called Smart TV.

Smart TV, which is also sometimes referred to as "Connected TV", (not to be confused with Internet TV, Web TV or LG Electronics's upcoming "SMART TV" branded NetCast Entertainment Access devices), describes the integration of internet functionality into modern television sets, as well as the technological convergence between computers and these new television sets. Smart TVs run complete operating system or mobile operating system software providing a platform for application development to which EuproMedia has added sophisticated database driven transaction protocols.

Smart TV allows viewers to handle transactional business, as well as to search and find videos, movies, photos and other content on the web, on a local cable TV channel, on a satellite TV channel, or stored on a local or remote hard disk.

Smart TV offers more advanced computing ability and connectivity than a contemporary basic television set. Smart TVs may be thought of as an information appliance from a stationary or handheld computer integrated within a television set unit.

To summarize: There is no doubt that the convergence between linear and non-linear TV is unstoppable. The viewer wants to "consume" television programs both actively and passively depending on his mood. Pioneering TV concepts must therefore integrate flexible TV platforms with high-performance transaction systems to ensure a seamless interaction and interactivity between the two worlds.