



TAKING TELEVISION TO THE NEXT LEVEL THE COMBINATION OF HD AND IPTV

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ABSTRACT

Early adopters are showing considerable interest in High Definition Television (HDTV), largely because of the dramatic increase in picture quality which supports these consumers' demand for ever larger screen sizes. In order to appeal to the wider consumer audience, many of whom will not be persuaded by screen size arguments, HDTV will need to demonstrate considerable additional value over that of the standard definition incumbent.

Internet Protocol Television (IPTV) offers a foundation for the delivery of such incremental value. IPTV provides the capability to offer truly tailored television services in either a lone viewer or community viewer based environment. The additional resolution afforded by HDTV, enables the compelling visual presentation of the information and controls which will form a vital part in the translation of HDTV demand from the early adopters to the high value mass market.

INTRODUCTION

For most people, television today still consists of a small number of channels with little or no information about the programming which is on offer. Over the past 25 years, the introduction of cable, satellite and digital terrestrial television delivery has seen the addition of many more channels, increased programme information, Electronic Programme Guides (EPGs), and most recently, interactive services.

Consumer acceptance of the increase in available programming has been largely positive, with some regions (the UK for instance) experiencing extremely high take up rates. Acceptance and usage of the additional programme information and EPGs has been less positive and in many cases interactive services have received very poor feedback. The most common complaint levelled against these services is that they are difficult to use, provide only a restricted view of the information and lack visual appeal.

The increased screen resolution afforded by HDTV provides an opportunity for television service providers to address many of the issues of visual appeal and can, if combined with some of the other developments in television transmission, also address the issues of ease of use. What HDTV alone can't provide is the transformation of television from a singular experience, where programming is broadcast to the consumer, to a truly tailored service where customers see what they want, when they want to see it. For that, IPTV is also needed.

WHAT CAN IPTV DELIVER THAT OTHER DELIVERY SYSTEMS CAN'T

IPTV is the term often used to describe the delivery of television over Digital Subscriber Loop (DSL) access technology and for this reason it's also sometimes referred to as Telco TV. In fact, IPTV has a much wider scope than just delivery over DSL. IPTV uses the same World Wide Web Consortium (W3C) standards as that of the public Internet, and whilst its usage so far has most commonly been associated with DSL delivery, it is equally applicable to cable delivery and hybrid delivery. Hybrid delivery combines IPTV over a DSL or other data network with broadcast delivery over cable, satellite or terrestrial.



What IPTV offers that other delivery systems can't is a one-to-one relationship between the viewer and the content they are viewing. This one-to-one relationship means that a viewer has the capability to pause, rewind or skip through a programme under their direct control without affecting other viewers in different locations.

The flexibility afforded by this one-to-one relationship extends far beyond the control of broadcast programming. Most basic IPTV systems offer on-demand movies, special interest channels and compelling interactive services ranging from gambling and Karaoke on demand to simple gaming for the children.

Put simply, customers can watch what they want to watch, when they want to watch it.

WHY IS HD IMPORTANT TO IPTV

As described above, IPTV offers immense flexibility and considerable potential customer value. With flexibility, however, comes the potential for confusion. In a truly on-demand world, the concept of channels becomes less important. Indeed the channel is simply a list of programmes in a suggested viewing order available from a supplier (the channel provider). If uncontrolled, the presentation of such flexibility could become so complex that the mass market customers reject the service in favour of a few simple channels that meet most of their needs.

HD provides a dramatic increase in screen resolution which, in turn, provides the potential for more information to be displayed in a clear and easy to understand form. Over the past five years, ANT Software Limited (ANT), the UK based software company that has been at the forefront of IPTV, has been developing the next generation of technologies which enable the clear presentation of programming and control information. Working with operators such as Chunghwa Telecom, France Telecom, SaskTel and Telecom Italia, ANT has demonstrated that the key to ease of use lies in the consistent presentation of all the services being offered. This consistency spans from programme information (via the EPG), through all interactive services and beyond to include all TV products within the home.

Through the combination of this technology and the increased screen resolution of HD, ANT has been able to demonstrate levels of service presentation which bridge the gap between the early adopter and the mass market consumer. In support of this need, ANT has developed the concept of the TV Application Manager, which provides a consistent platform for the service provider and third parties upon which to provide their services.

DELIVERING THE VALUE OF ENHANCED SERVICES

Fundamental to the provision of the consistent presentation of all services being offered is the need to separate the user interface from the control logic in each of the services being offered. Within the ANT Galio Client, the industry's first incarnation of a TV Application Manager, HTML browser technology is used to separate the presentation from the service control.

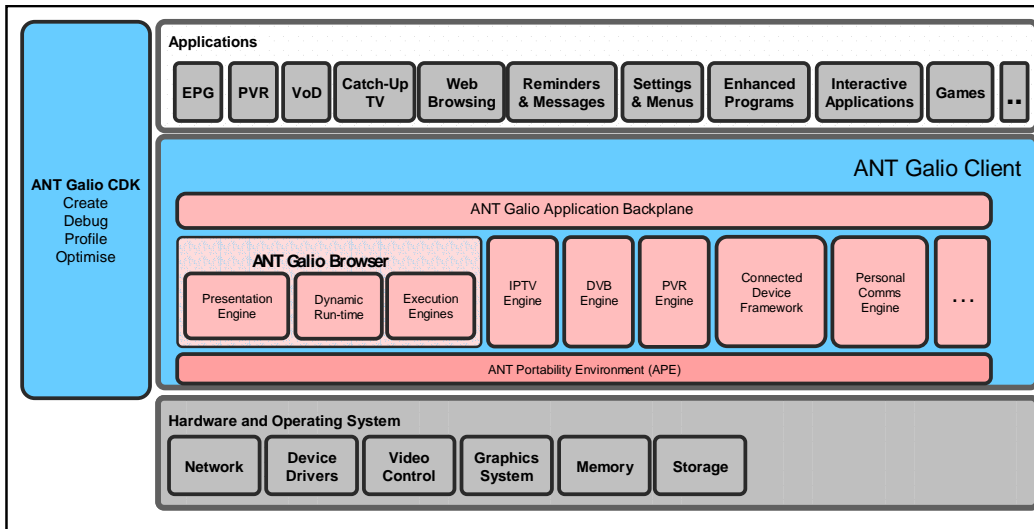


Figure 1. ANT Galio Client, the industry's first incarnation of a TV Application Manager

In addition to providing the basis for a consistent look across all services, the separation of service presentation and service logic also provides the ability for services to be used on both HD and Standard Definition (SD) devices without the need to change the service logic. This ability to re-use services as customers migrate from SD to HD systems is seen by most operators as a fundamental requirement on achieving a smooth customer transition to HD.

The provision of single viewer services is just the start. As can be seen from figure 1 above, the ANT Client has also been designed to provide connected device capabilities. The connected device framework in the ANT Galio Client enables the resources of one set top box to be made available to another that is on the same home network. This means that programmes recorded on a Personal Video Recorder (PVR) in one room can be viewed on via a set top box in another room.

With the addition of personal communications, connected devices take yet another huge step forwards. Within their community of friends and family, a viewer will be able to chat to other viewers and recommend programmes they are watching, even instructing their friends PVRs to record them if permitted.

Whilst it is possible to imagine many of the services that will become possible over time and will be enhanced by the increased resolution and display quality of HDTV, it will never be possible to conceive all future services. One of the key value propositions of a TV Application Manager is that the services themselves can be introduced and iterated many times over the product's lifetime without needing to change the core logic components upon which the services rely.

This flexibility provides the foundation for the development of a rich set of enhanced services within the bounds of real work commercial constraints. These services, coupled with the enhanced picture quality will create the compelling reasons needed to ensure the mass market adoption of HD.

SUMMARY

HDTV has made an impressive impact amongst the early adopter consumers although the value proposition of improved picture quality and the ability to support larger screen sizes is unlikely to be sufficient to ensure mass market success. IPTV and the HTML based



technologies associated with IPTV have much to offer in building the incremental value necessary to underpin HDTV mass market adoption.

Through the development of concepts like the TV Application Manager, ANT, along with the industry's other leading software providers are putting in place the necessary foundation for a range of products and services which will enhance the HDTV value proposition and create the required market pull to ensure success.