

Review Article

Status of Television in Colombia under the IP Standard

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Abstract: This study describes the main features of a television system broadcast by the IPTV internet protocol. Basic IPTV functionality starts in different broadcast sources or a VoD source, then passes through their respective encoders and brings together all these sources into a single streaming system, then this signal is directed to the subscriber management system, which is connected to the IP network via a conventional modem and the TV signal can be received either on a computer or on a TV via a set top box. Objective: Give an overview of the status of television via IP network in Colombia. Results: IPTV as a service, allows user tailoring of content and would virtually turn your TV into a system to surf the Web, shop, record and play back either movies downloaded from the network or broadcast television programs, among other features making IPTV a comprehensive television system with many benefits for the user and the service provider; since this system is based on IP protocols and existing broadband infrastructure, it is much easier and inexpensive to implement than to adopt other systems such as satellite. Conclusion: One reaches the conclusion that IPTV is a technology that should be applied in Colombia because of its multiple benefits.

Keywords: CNTV, IP, IPTV, Regulation

INTRODUCTION

Telecommunications have been steadily growing worldwide. Television has evolved together with telecommunications and is now able to receive this integrated signal in a single broadband connection supplied by any company providing local telecommunications services or a local operator.

According to countries at the forefront of IPTV, such as the US, China, Japan and several European countries, the main advantage of implementing this system is practicality, enabling the end user easy access to the multiple benefits that IPTV provides and making the difference.

Prior to the entrance of IPTV in Colombia, a significant interest has been generated in aspects such as cost reduction of TV sets and broadband popularization, which is seen as the driving force that will propel this novel technology (Muñíz, 2008). "Internet Protocol TV" IPTV is a technology by which television and video signals are distributed using broadband connections on the IP Protocol enabling full service convergence by transmitting via a single channel, television, telephone and Internet signals directly to the end user.

CURRENT STATUS AND TELEVISION TRENDS IN COLOMBIA

The communications sector has widely observed the technological revolution taking place in recent decades, given that the various media have not only fulfilled the purpose for which they were created which is the transmission of information, but has been adding value, achieving exponential growth and expansion of a world increasingly larger and more complex due to the large amount of positive flow managed by the number of channels in the world (HTC, 2000). Thus, the change in the communication map from the early days of television to the present has been very abrupt. Colombia has also been influenced by this information globalization from the introduction of black and white television in the middle of the past century, up to the present with the Terrestrial Digital Television project (TDT). It would not be mistaken to believe that in the future, the higher middle classes will have one or more high tech TV sets at very low prices in their homes.

IPTV definition, technical and functional description: In theory, the basic operation of IPTV is very simple and allows for different configurations and different means of access to the medium, both for

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transmission and reception, but basically, IPTV starts in the various broadcast sources or a VoI source), then goes through their respective encoders and bring together all these sources into a single streaming system, then this signal is directed to the subscriber management system, which is connected to the IP network through a conventional modem and the TV signal can be received either in a computer or on a TV via a set top box.

Internet Protocol TV (IPTV) technology, was created specifically to provide video and television via Internet protocols, specifically by IP. This technology that connects the TV directly to the broadband router that receives the TV signal via Internet IPTV is definitely the trend that will set the standard for television services in the future. IPTV is basically the binding of voice, video and data services due to the increase in Internet speed by Internet providers around the world.

IPTV television works the same as conventional cable television; the difference is that IPTV needs to transform the signal to be able to play it back. Decoding is the process it performs to transform the incoming IP protocol signal into standard language; the decoder is called set top box. IPTV has great advantages since it can offer different services such as videoconferencing, video telephony, distance education, surveillance, among other services that require monitoring. IPTV will become a key factor to maximize the use of current infrastructure and will increase competition among operators.

One commercial advantage of having IPTV (Sacristán, 2005) is that it greatly benefits users, since they will have the possibility of receiving discounts by contracting several services with the same company such telephony, broadband and television packages. Another advantage is that it allows applications that facilitate interactivity, the ability to surf the Internet while simultaneously watching a program, record content, forward programs, stop or delay them.

"One of the advantages of IPTV over conventional television is that technological innovations are gradually diminishing in the latter; this will contribute to a strong impact when IPTV is launched in the market. However at present, it cannot offer simultaneous channels service and high definition signals because the bandwidth is not enough for a competitive IPTV offer". A major constraint in Latin America is not having the necessary income levels, as does Europe and Japan where IPTV has completed a good coverage; therefore potential customers will be from the higher income classes and cable TV customers who are willing to migrate to the new service. Another barrier is the low number of connections, for example, Chile is the country with the highest internet penetration but others like Paraguay, Bolivia and Ecuador, have very low penetration.

The possibility of extending IPTV to low-income classes is very small taking into account the cost of adapting networks in areas where the cost benefit relation is highly unfavorable and the cost will be much higher than the benefits; since deploying the infrastructure would be costly there would be few service users. The success or failure of IPTV in Latin America will depend mainly on three key factors: First, that services provided are perceived as attractive and involve interaction between television, internet and telephony in the same package. The second factor is that exclusive and competitive services must be offered including a wide range of contents, the last factor and perhaps one of the most important is that rates must be competitive with other alternatives on the market (HTC, 2000).

As previously mentioned IPTV has not been released in Latin America, however, many telephone service companies are conducting pilot tests; to mention some cases within the Latin American context, the three Brazilian telephony giants, Telemar, Telefonica and Telefonica Brazil, Telecom in Argentina, Telmex in Mexico, Antel in Uruguay, CANTV in Venezuela, ETB in Colombia and Telefónica headquarters throughout the continent..

IPTV Regulation and marketing: IPTV regulation is set out from the beginning to be exercised by two bodies, the National Television Commission and the Ministry of Communications. The National Television Commission (CNTV, 2006) is the agency responsible for current television regulation in Colombia according to article 77 of Colombian Constitution (CPC, 1991):

"Art 77-The policy direction on television matters determined by law without compromising freedoms established in this Constitution (CPC, 1991), will be the responsibility of the previously mentioned body; television shall be governed by an autonomous national entity subject to its own rules. Management and execution of the entity functions will be run by a board of directors comprised of (5) members who will appoint the director. The board members will have a set period. The national government will designate two of them. Another will be chosen among legal representatives of the regional TV channels. The law will determine matters regarding the appointment of other members and the organization and operation of the entity. Paragraph. -The stability and rights of Inravisión workers will be respected and ensured"

While the Ministry of communications is the governing body that directs, regulates and represents Colombia internationally in the field of communications and information technologies. From the above we can deduce that the National Commission for Television (CRT, 2008) will only be in charge of IPTV regulation regarding content for users, while the Ministry of communications will be responsible for the

regulation of transport networks and the technological infrastructure used in implementing IPTV. The National Television Commission in its statement concerning the system regulation, adds that the content located on the Internet that reaches the end-user through a provider of value added services, is not part of the public television service and that a quick review of the Constitution and the law, confirms that its regulation, control and surveillance, is not the responsibility of the National Television Commission; It also points out that subscription television service should be allowed in the country in a neutral technological environment against protocols, networks, means of transmission, transportation and user access. The Colombian Association of Electrical, Electronic and Mechanical Engineers-ACIEM considers that with regard to Decree 2870 of 2007 on convergence in telecommunications, it is inappropriate that this Decree seeks to regulate a technology or Protocol, in this case the IP protocol on which IPTV is based, since this would practically impose regulation and ruling for every new technology emerging in the market and recommends not to regulate technologies and much less protocols that in time will be greatly exceeded, ensuring that legislation remains transparent with respect to technological development. If the Ministry of communications assigns IPTV a service typology it can adapt it to the existing legal regime or create a specific regime for it in order not to change the its nature and assimilate it with the Internet TV, Web TV, or iTV experience, in order to qualify as a value-added service, although both the National Commission for Television (CRT, 2008) as well as other entities familiar with the issue claim that IPTV is a subscription television service under IP Protocol, within the concept of public television service, satisfying the same needs of current subscribers and participating in the same market.

CONCLUSION

IPTV technology has been developed from the beginning based on the infrastructure of telephone and internet services companies and has focused on satisfying the current or future end user needs that may arise, since it was created to be very dynamic and able to adapt to each particular client.

As for the market, companies and providers will be in competition which should end up in partnerships with companies providing internet services. This will benefit the end customer who will enjoy the service at very competitive prices.

From a technical point of view, IPTV is firmly established, because the necessary infrastructure to properly provide the service already exists, it will only be necessary for the company providing the service to make some equipment modifications and resource optimization. IPTV will be viable as the companies developing the technology and the market see the need

to have the most competitive price in order to promote this new service in the market, although it should be noted that the carrier networks are not new and will almost certainly need maintenance, this may be reflected initially in the launching price, decreasing mass service deployment.

Internationally IPTV has been implemented due to the large amounts of money that major multinational companies have invested in research, both as a possible source of income and as a possible technological solution to the problem of high costs of transmitting television signals to end customers; in addition, with the blackout proposed by the European Commission in May 2005, both manufacturers and service provider companies, focused their efforts on producing efficient technological solutions, as is the case of IPTV.

In Colombia the TV sector is very competitive, several companies provide this service, such as UNE EPM Telecomunicaciones, the multinational Telmex Mexico, among others, which have been developing research and field trials with this new system. According to the preliminary analysis made on the job, one can say that in Colombia there is a market for IPTV to develop, as there is a high penetration of TV subscription service, there is good infrastructure coverage to provide the service, but it will depend on the price users are willing to pay. We must also rely on the State, since the different bodies which regulate this matter are involved and with apparent evidence of work on the subject and benefits are both for the service providers and the end users; and finally the end user must be made aware that this is the new television system in Colombia and that sooner or later everyone will have either a set top box at home, or a new TV set capable of directly receiving this service and IPTV will be the evolution of television in Colombia, without overlooking the need for specific economic feasibility studies, depending on the services and the potential users of the service.

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