

## **Summary: How to architect an IPTV system**

In recent times, Internet Protocol Television has brought a radical change in the way telecom networks are designed. In this paper, the author introduces the concept of IPTV (also called triple play) as a solution that provides voice, data and video services on a single broadband access that can be Ethernet, PON, FTTH or DSLs. In this paper, the author presents a detailed description of what is IPTV and all of its critical aspects to architect a new IPTV solution and the key drivers and challenges in doing so. He also describes the MPEG transport stream, IP multicast, all the components and user services descriptions. Finally the author concludes with inspiration for upcoming researches.

In the next section the author presents a list challenges pertaining to building the IPTV system. The main challenge is to integrate all the components with the existing OSS/BSS. Other challenges involve ensuring high availability, scalability, and security to block DOS attacks. The main problem faced by the IPTV system is channel zapping mainly because of the network bandwidth between the last hop router and the home gateway.

In the third section, the author briefly describes the transport stream used for the IPTV system. The design goal for the MPEG-TS is to allow multiplexing of the video, audio, and data and to synchronize the output. This transport stream also offers other features like error correction for transportation over unreliable media. The IPTV program consists of some elementary streams consisting of data, video, audio or subtitles stream. The author then talks about the H264 compression technique and compares it with the MPEG-2 and Microsoft's proprietary VC-1 technique. He also talks about the use of IP Multicast to provide content to requesting groups and not all groups. He also explains how it is better than Unicast and Broadcast. He also talks about the Quality of Service and the properties that it takes into consideration.

In the fourth section, the author talks about the IPTV components like Head Ends, Middleware, Video servers, Content protection, ad insertion equipment, Transportation and Access Network.

The author concludes by stating that the TV industry is having a paradigm shift towards IPTV and next generation of digital programming viz. HDTV. He suggests future researches in emerging access technologies like VDSL2 and IPTV as an IMS application which would allow IPTV content on mobile phones or pocket PCs.