Abstract

This paper presents the working and implementation of streaming rate control mechanism in real time video streaming over IP for Digital Video Broadcasting using PCR (Program Clock Reference). DVB (Digital Video Broadcasting) supports MPEG-TS mode of transmission such that videos are encoded in transport streams. Moving video images must be delivered in real time and with a consistent rate of presentation in order to preserve the illusion of motion. The PCR is a time reference that is sequentially transmitted with each program of a transport stream. PCR refers to the timing information for proper synchronization of audio and video which simultaneously control the rate of the packet transmitted. For sequential streaming of multiple MPEG-TS parameters in PAT (Program Association Table) are required to be same for all programs being streamed. PAT table is generated in transport stream packet with specific PID values.
Transport Stream Playout System for MPEG-TS using Program Clock Reference

- ETSI TR 101 290: "Digital Video Broadcasting (DVB) Measurement guidelines for DVB systems"
- ISO-13818/1: "Generic Coding of Moving Pictures"
- http://www.interactivetvweb.org/tutorials/getting_started/application_development/generating_a_transport_stream.html
- Corona Publishing - "Lecture pdf on Overview of MPEG-2 Systems"
- Alexandru - "A new method for calculating PCR in packet based transmission network"
- Thesis - "Comprehensive PCR Analysis Using the &S®DVM Family from Rohde & Schwarz R&S®DVM50/DVM100/DVM20/DVM400"

Index Terms

Computer Science
Communications

Keywords

Digital Video Broadcasting-DVB  Transport Stream-TS  Program Clock Reference-PCR
Program Association Table-PAT