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A Survey on Streaming Video

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Abstract: - **This study presents a video streaming system for wireless networks that employ effective optimization of the pre-compressed video. Among the different approaches, the video Stream-switching technique is getting wide receiving the data. We assessment the VoD and Live streaming data, video in crossing through different paths from compression. The case of multicast video can be delivered to the high performance of the proposed scheme, i.e., significantly improved for good channel conditions, while improving is utilization minimized in the low. This routing metric takes a report of geometric proximity and congestion degree in order to enlarge delivery ratio and decrease end-to-end delay, which determines the quality of the delivered video. To offer high playback quality to users by maintaining highly effective data.**

Index Terms: - Video streaming, Video compression, Priority encoding, transmission, streaming servers, Zapping Server.

I. INTRODUCTION

In the last two decades, video streaming is one of the more popular as well as challenging to the day to world. The need for more consistent transmission of real time video streams over the Internet has lately become more urgent due to the appropriateness of video streaming too many sides of human endeavor. Areas like telemedicine, coordination of relieve efforts in disaster areas, videoconferencing and demands real-time video communications. Coverage of sports and games likely football tournaments etc Streaming systems like as Coolstreaming [1], PPLive [2], Joost [3], UUsee [4] etc. have been deployed to a huge market share.

Now days cellular traffic is rising exponentially (tripling every year), with a share of video traffic growing from 50% now to an expected 66% by 2015 [5]. Credit Suisse reported in [5] that 23% of base stations internationally have utilization rates of more than 80 to 85% in busy hours, up from 20% of the previous year. This dramatic increase in demand poses a challenge for 2G, 3G and 4G networks which is likely to remain in 4G networks as well in 5G.

There are two modes for transmission of stored video over the Internet, that is the download mode and the streaming mode (i.e., video streaming). In the download mode a client downloads the whole video file and then plays back the video file. The file transfer in the download mode usually suffers long and perhaps unacceptable transfer time and break of data. In contrast in the streaming mode, the video content need not be downloaded in full, but is being played out although parts of the substance are being received and decoded. Due to its real-time nature, video streaming typically has bandwidth, delay and loss requirements.

It covers key areas of streaming video namely: video compression and streaming servers.

1.1 VIDEO COMPRESSION

Unprocessed video must be compressed before transmission to achieve competence. Video compression schemes divide into two categories: scalable and nonscalable video coding. Since scalable video is accomplished of gracefully coping with the bandwidth fluctuations in the Internet [6]. Compressed media data from the Web were predictable to be downloaded on local machines, where they could be played back using the standard multimedia software. Compression is useful as to help and reduce reserve handling, such as data storage space or transmission ability. Compressed data must be decompressed before to be used [7].

A. PET and LR-PET

This paper shows the study priority encoding transmission (PET) protection for streaming scalable compressed video streams further than erasure channels. Attend to the technique to get the effective recovery-probability versus redundancy-rate characteristic for the LR-PET process with some number of transmission opportunities [8]. The program of the above stream is agreed in a series of "transmission slots" T [n], n = 1, 2, 3, . . . , in each of which a permanent number of packets are sent according to the resources of transmission bandwidth. The scalable video executed in progression of independently compressed "source frames" F[n], n = 1, 2, 3, . . . , each of which consists of a collection of embedded element set Eq [n], q = 1, 2, . . ., Q, having lengths Lq [n] and utilities Uq [n], which increasingly augment the quality of reconstructed F[n].

The video is compressed into a scalable stream with a no of quality layers, assigning stronger safeguard to the added important quality layers. The source frame corresponds to one video frame, scalable compressed by a scalable image coder such as EZW [9], SPIHT [10]. Source frame has a inadequate no of transmission opportunities PET [11]-[18] and Limited-Retransmission PET [19, 20].

B. Encryption of H.264/AVC Video Streaming

The data bit stream will be personalized directly in the Data Hiding in Encrypted H.264/AVC Video Streams by Codeword Substitution [21]. Some compressed packed domain has been already presented on context-adaptive variable length coding (CAVLC) [22] and context-adaptive binary arithmetic coding (CABAC) [23]. The server is taken for diapered and the compressed bit streams the encoders to all connected splitters who have connected to the broadcast. The encrypted bit stream is still H.264/AVC compliant and can be decoded by any standard-compliant H.264/AVC decoder, but the encrypted video data is treated completely and the unusual compared to plaintext video data. Performing the format-compliant encryption directly on the compressed bit stream is particularly difficult as the inside states of the encoder data contain to be preserved.

1.2 STREAMING SERVERS

Streaming servers take part in a key function in providing streaming services. To gives a high quality streaming services, streaming servers are necessary to process multimedia data underneath timing constraints in order to stop artifacts (e.g., jerkiness in video motion and pops in audio) during playback to the user.

A. Zapping Server

P2P live streaming [24] systems are predictable due to its high scalability. Because of this characteristic, P2P live streaming systems are also able for the multi-view video data in the distribution ends. P2P nodes data can be obtained. Long switching wait for the poorer impact to multi-view video sharing services compared with current P2P live streaming systems.

The "Zapping Server", is to assist the user to switch viewing video streaming. Zapping Server helpful in two functions. First one is to make available for the fast video switching service. Second one is to connect to a number of peers as reserved peers along with existing peers in P2P video distribution network on behalf of future inward peers. In other words, Zapping Server accepts another method of switching to another distribution network, which dominates switching time instead of user. As pre-arrangement procedure, we offer three methods; the Time-driven method, the Event-driven method, the Hybrid method.

The first type in the Zapping Server requests peers in the distribution networks periodically. The second method type is that Zapping Server received the data from the peers in the distribution network from leaving peer. The third method type is the blending of time-driven and event-driven methods. When users want to switch video, Zapping Server contributes the connection of pre-reserved peer for changing viewing data of and the users immediately. As a result the system can reduce switching moment in time. Users can switch view fast streaming video and therefore they cannot miss single frame scene which want to be watched. Note that this future system is appropriate for not just multi-view video services but also other P2P live streaming services in order to decrease switching delay.

Zapping Server yields the fast viewing video switching service to help users switch view video streams. To recognize the fast viewing video switching service, Zapping Server pre-reserves several peers in each View Video Distribution Network as reserved peers. Zapping Server realizes quick outlook video switching service because Zapping Server introduces reserved peer to the peer when it switches to another distribution network.

II. CONCLUSIONS

We reported significant factors in the VoD service and streaming data. It is based on privileged attachment that takes into explanation the quality level the peer can get from its neighbors, and the quality level it is enthusiastic to serve to other peers. The value of multiple transmitted video sequences can be improved still if more than two senders transmit concurrently. Multicast video delivery demonstrated necessitate for channel adaptive scheme while the performance of the future framework is significantly better for good channel in multipath.

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