

## ABSTRACT

Transcoding is a method for transferring the media archive or object from one format to another format. Transcoding is frequently utilized to translate the video formats in specific patterns for example VHS to QuickTime, QuickTime to MPEG, MPEG to H.263/AVC. These are the video coding models which replicate the current advanced video coding techniques. The main aim of these models is to transform the various applications like multimedia application for extensive variety of bit rates execution. The output, bit rate and video quality of the encoder of these models depend on many video coding parameters like quantization and coding mode parameter. While determining, large quantization parameters are utilized to reduce the resulting bit rates and also decrease the viewing value of encrypted video. The output bit rate is naturally variable where the level of reputation is modified from one frame to another.

Each application determines the constant output bit rates, which are required for the constant bit rate application. The important issue related to the transcoding B-frame to P-frame from MPEG-2 to H.263 is to receive discrete cosine transforms coefficients. These coefficients of B-frame are predicted from the forward and backward prediction techniques. Some of the predicted errors in discrete cosine transforms, occurred in audio frame are not noticed. It requires re- estimation of prediction errors with high complexity process.

High complexity exists not only in the heterogeneous compressed domain but also while re-estimating the new errors. Certain existing techniques focus on predicting the frame difficulties but it suffers from the time varying packet loss rate and fluctuating bandwidth. In addition, video transcoding faces low bit rate resolution qualities and services. In order to overcome all the above issues, a novel technique is used to solve this demand with proper contributions. Moreover, the challenge lies in efficient transcoding of audio and video with high quality bit rate and service without any packet loss.

Covered Coding Technique is proposed to provide an effective solution for predicting the errors in transcoding and also to execute the heterogeneous compressed domain with inventive applications. This technique is based on Ascendable Sub-band Coding (CC-ASC) for encoding and decoding audio frames with synchronized transmission. The purpose of this research is to sustain the heterogeneous domain with an individual bit-stream, from the amount of sub-streams of varying bit-rates extracted. Multicast transmission is introduced to the dissimilar receivers. This transmission is more efficient for accepting various bit rate streams from the same source in an effective and scalable manner. The multi rate property of CC-ASC also offers an effective solution for predicting the errors in the frequency domain, when utilized over the networks with the approval of various priorities.

Contemporary multimedia applications are developed into an advanced multimedia compression techniques. They mostly focus on the 4-D perceptual quantization modeling (PQrc) for forecasting the frame difficulty. It is suffered by time varying packet loss rate and unpredictable bandwidth. In order to solve packet loss problem, Single and Compound Report Transcoding Method is proposed. This method also deals with an adaptive error control scheme to commence the fault flexibility aspects in condensed videos. This method offers more flexibility for the roaming end-users.

Single and Compound Report Transcoding method separates the error control scheme into single and multiple or compound report models. These models are mostly preferred for channel availability. In single report model, Subject Prioritized Retransmission (SPR) technique is developed to moderate the fault transmission, when packet failure occurs in video transmission. The SPR technique is utilized to determine the retransmission schedule for packet failures. It is obtained by front end encoding technique. In compound report mode, Channel Alert Compound Report Transcoding (CA-CRT) technique is initiated to decrease the fault propagation due to packet failure. It is mainly caused by transient channel exchanging.

Video transcoding faces the elementary problem of providing the target bit rate to decide the spatial resolution. Spatial resolution process faces the trouble in determining the frame size, frame rate, SNR and constant video quality. In order to tackle this problem, Coequal Support Video Transcoding

(CSVT) technique is employed in video coding method. It facilitates an efficient transcoding in covered streaming with stable video quality.

CSVT utilizes the dynamic co-equal cooperation without requiring infrastructure support like transcoding server. Transcoding is computationally scrupulous while the various devices used by preformed nodes have minimum computing energy and bandwidth. Additionally this technique covers Meta-Video transcoding approach for creating the CSVT method with immediate allocation for transitional coding. It is also utilized to reduce the computational overhead in transcoding. Above all ,the proposed centralized techniques are evaluated by using MATLAB to verify their respective performances.

The experimental evaluations are conducted in MATLAB to obtain the effective result in terms of error prediction efficiency, packet loss rate and video quality. Error prediction efficiency is improved to 2- 5 %. Computational complexity is decreased to 5- 10 %. PSNR value is improved to 5 – 10 % whereas packet loss rate is reduced to 10 -20 %. The quality of video achieves 15 % improvement with a less processing time of 8 % and transmission cost is also reduced to 9 %. The experimental results demonstrate that the proposed scheme has got better performance than the existing techniques.