ERROR RESILIENCE TRANSCODING USING PRIORITIZED INTRA−REFRESH FOR VIDEO MULTICAST OVER WIRELESS NETWORKS (WedPmOR4)

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Abstract: Avoiding error propagation to subsequent frames due to motion−compensated prediction techniques used in standard video codecs, we propose a two−pass intra−refresh transcoding scheme for inserting error−resilience features to a compressed video at the media gateway of a three−tier streaming system. The proposed transcoder can adaptively vary the intra−refresh rate according to the video content and the channel's packet−loss rate to protect the most important macroblocks (MBs) against packet loss. In this work, we consider the problem of multicast of video to clients having disparate channel loss profiles. We confine system to have only a single multicast stream, though it can be extended to more than one stream. Experimental results show that the proposed method can effectively mitigate the error propagation due to packet loss and offer fairness for multicast.