COMPUTATIONAL COMPLEXITY REDUCTION OF INTRA−FRAME PREDICTION IN MPEG−2/H.264 VIDEO TRANSCODERS (WedPmPO1)

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Abstract :
MPEG−2 is the most widely digital video−encoding standard in use nowadays. It is being widely used in the development and deployment of digital TV services, DVD and video−on−demand services. However, recent developments have given birth to the H.264/AVC, offering better bandwidth to video quality ratios than MPEG2. It is expected that the H.264/AVC will take over the digital video market, replacing the use of MPEG−2 in most digital video applications. The complete migration to the new video−coding algorithm will take several years given the wide scale use of MPEG−2 in the market place today. This creates an important need for transcoding technologies for converting the large volume of existent video material from the MPEG−2 into the H.264 format and vice versa. However, given the significant differences between the MPEG−2 and the H.264 encoding algorithms, the transcoding process of such systems is much more complex to other heterogeneous video transcoding processes. In this paper, we introduce and evaluate a novel intra−frame prediction algorithm to be used as part of a high−efficient MPEG−2 to H.264 transcoder.
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**Abstract :**

Our evaluation results show that the proposed algorithm considerably reduces the complexity involved in the intra-frame prediction: a key operation in the transcoding process.