

ABSTRACT

A METHOD AND DEVICE FOR PROCESSING AT LEAST A FIRST DIGITAL VIDEO AND A SECOND DIGITAL VIDEO; A COMPUTER READABLE MEDIUM AND A COMPUTER PROGRAM ELEMENT

A method for processing at least a first digital video and a second digital video, the first digital video and the second digital video comprising a sequence of digital picture frame, respectively, wherein the first digital video is grouped into a first base-layer bit-stream for providing a basic video quality for the first digital video, and one first enhancement-layer bit-stream with at least one bit-plane for providing enhanced video quality for the first digital video compared to the basic video quality; the second digital video is grouped into a second base-layer bit-stream for providing a basic video quality for the second digital video, and one second enhancement-layer bit-stream with at least one bit-plane for providing enhanced video quality for the second digital video compared to the basic video quality; and the first digital video and the second digital video are statistically multiplexed to a multiplexed bit-stream, which comprises at least the first base-layer bit-stream and the second base-layer bit-stream, and, dependent on the available network bandwidth, at least a part of the first enhancement-layer bit-stream and/or at least a part of the second enhancement-layer bit-stream. The bit-rate of the digital video can be dynamically altered by altering the bit-planes of the enhancement-layer of the digital video. The multiplexing efficiency is improved by using a frame lag scheme. The inter-program fairness and intra-program smoothness are achieved by an optimal bit-planes truncation scheme which determines the optimal bit-planes of an enhancement-layer of the digital video to be truncated by minimizing the deviation of bit-planes that are not multiplexed under the constrain of the available bandwidth and smoothness of the digital video.

Figure 1