Coding Concept Allowing Parallel Processing, Transport Demultiplexer and Video Bitstream

Abstract

A raw byte sequence payload describing a picture in slices, WPP substreams or tiles and coded using context-adaptive binary arithmetic coding is subdivided or chopped into tranches with continuing the context-adaptive binary arithmetic coding probability adaptation across tranche boundaries. By this measure, tranche boundaries additionally introduced within slices, WPP substreams or tiles do not lead to a reduction in the entropy coding efficiency of these elements. On the other hand, however, the tranches are smaller than the original slices, WPP substreams or tiles and accordingly they may be transmitted earlier, i.e. with lower delay, than the un-chopped original entities, i.e. slices, WPP substreams or tiles. In accordance with another aspect, which is combinable with the first aspect, substream marker NAL units are used within a sequence of NAL units of a video bitstream in order to enable a transport demultiplexer to assign data of slices within NAL units to the corresponding substreams or tiles so as to be able to, in parallel, serve a multi-threaded decoder with the corresponding substreams or tiles.

FIG.3