Claims

1. A method for decoding a video data stream having video content encoded therein in units of slices of pictures of the video content using predictive and entropy coding and using a coding order among the slices, wherein each slice is encoded into one or more payload packets of a sequence of packets of the video data stream and the predictive and entropy coding is restricted to the inner of tiles into which the pictures of the video content are spatially sub-divided so that each slice is either completely contained within one tile or completely covers two or more tiles and so that the sequence of packets is divided into a sequence of access units so that each access unit collects the payload packets relating to a respective picture of the video content, the method comprising

using a buffer for buffering

the video data stream or

a reconstruction of the video content obtained therefrom by the decoding of the video data stream and

looking for timing control packets which are SEI messages and are interspersed into the sequence of packets,

subdividing the access units into decoding units at the timing control packets so that

for each timing control packet, one decoding unit is present

the payload packets of which follow the respective timing control packet in the sequence of packets until the earlier of

an end of a current access unit, and

a next timing control packet in the sequence of packets, and

the payload packets of which have packetized thereinto one or more slices overlaying one or more of the tiles, and

at least some access units are subdivided into two or more decoding units, and

emptying the buffer in units of the decoding units.

2. Digital storage medium storing a video data stream comprising

a sequence of packets and

timing control packets interspersed thereinto,

wherein the video data stream has video content encoded therein in units of slices of pictures of the video content using predictive and entropy coding and using a coding order among the slices, wherein each slice is encoded into one or more payload packets of the sequence of packets of the video data stream and the predictive and entropy coding is restricted to the inner of tiles into which the pictures of the video content are spatially sub-

divided so that each slice is either completely contained within one tile or completely covers two or more tiles and so that the sequence of packets is divided into a sequence of access units so that each access unit collects the payload packets relating to a respective picture of the video content,

wherein the timing control packets are SEI messages and subdivide the access units into decoding units so that

for each timing control packet, one decoding unit is present

the payload packets of which follow the respective timing control packet in the sequence of packets until the earlier of

an end of a current access unit, and

a next timing control packet in the sequence of packets,

the payload packets of which have packetized thereinto one or more slices overlaying one or more of the tiles, and

for which the respective timing control packet indicates a decoder buffer retrieval time, and

at least some access units are subdivided into two or more decoding units,

wherein the video data stream, if subject to decoding by a decoder, makes the decoder performing a method according to claim 1.

3. Digital storage medium according to claim 2 wherein the slices comprise independently decodable slices and dependent slices allowing, for WPP processing, decoding using entropy and predictive decoding beyond slice boundaries.

4. Digital storage medium according to claim 2 wherein each packet comprises a packet type indicating syntax element portion.

5. Digital storage medium according to claim 4 wherein the packet type indicating syntax element portion comprises a packet type field in a packet header of the respective packet, the content of which differs between payload packets and timing control packets, and, for timing control packets, a SEI packet type field differentiating between the timing control packets on the one hand and SEI packets of different type on the other hand.

6. Encoder for encoding into a video data stream video content in units of slices of pictures of the video content using predictive and entropy coding and using a coding order among the slices, with respectively encoding each slice into one or more payload packets of a sequence of packets of the video data stream and so that the predictive coding and the

entropy coding is restricted to the inner of tiles into which the pictures of the video content are spatially sub-divided so that each slice is either completely contained within one tile or completely covers two or more tiles and so that the sequence of packets is divided into a sequence of access units and each access unit collects the payload packets relating to a respective picture of the video content, the encoder being configured to intersperse into the sequence of packets timing control packets so that

the timing control packets subdivide the access units into decoding units so that at least some access units are subdivided into two or more decoding units,

each timing control packet is an SEI message which signals a decoder buffer retrieval time for a decoding unit,

the payload packets of which follow the respective timing control packet in the sequence of packets until the earlier of

an end of a current access unit, and

a next timing control packet in the sequence of packets, and

the payload packets of which have packetized thereinto one or more slices overlaying one or more of the tiles.

7. Encoder according to claim 6 wherein herein the encoder is configured to, during encoding a current picture of the video content,

encode a current slice of a current picture into a current payload packet of a current decoding unit,

transmit, within the data stream, the current decoding unit prefixed with a current timing control packet with setting a decoder buffer retrieval time signaled by the current timing control packet, at a first time instant; and

encode a further slice of the current picture at a second time instant, later than the first time instant.

8. A method for encoding into a video data stream video content in units of slices of pictures of the video content using predictive and entropy coding and using a coding order among the slices, with respectively encoding each slice into one or more payload packets of a sequence of packets of the video data stream and so that the predictive coding and the entropy coding is restricted to the inner of tiles into which the pictures of the video content are spatially sub-divided so that each slice is either completely contained within one tile or completely covers two or more tiles and so that the sequence of packets is divided into a sequence of access units and each access unit collects the payload packets relating to a respective picture of the video content, the method comprising interspersing into the sequence of packets timing control packets so that

the timing control packets subdivide the access units into decoding units so that at least some access units are subdivided into two or more decoding units,

each timing control packet is an SEI message which signals a decoder buffer retrieval time for a decoding unit,

the payload packets of which follow the respective timing control packet in the sequence of packets until the earlier of

an end of a current access unit, and

a next timing control packet in the sequence of packets, and

the payload packets of which have packetized thereinto one or more slices overlaying one or more of the tiles.

9. A decoder for decoding a video data stream having video content encoded therein in units of slices of pictures of the video content using predictive and entropy coding and using a coding order among the slices, wherein each slice is encoded into one or more payload packets of a sequence of packets of the video data stream and the predictive and entropy coding is restricted to the inner of tiles into which the pictures of the video content are spatially sub-divided so that each slice is either completely contained within one tile or completely covers two or more tiles and so that the sequence of packets is divided into a sequence of access units so that each access unit collects the payload packets relating to a respective picture of the video content, the decoder

comprising a buffer for buffering

the video data stream or

a reconstruction of the video content obtained therefrom by the decoding of the video data stream and

configured to

look for timing control packets which are SEI messages and are interspersed into the sequence of packets,

subdivide the access units into decoding units at the timing control packets so that for each timing control packet, one decoding unit is present

the payload packets of which follow the respective timing control packet in the sequence of packets until the earlier of

an end of a current access unit, and

a next timing control packet in the sequence of packets, and

the payload packets of which have packetized thereinto one or more slices overlaying one or more of the tiles, and

at least some access units are subdivided into two or more decoding units, and

empty the buffer in units of the decoding units.

10. A decoder according to claim 9, wherein the decoder is configured to, in looking for the timing control packets, inspect, in each packet, a packet type indicating syntax element portion with, if a value of the packet type indicating syntax element portion equals a predetermined value, recognize the respective packet as a timing control packet.

11. A computer readable medium storing a video data stream, wherein video content in units of subportions of pictures of the video content is encoded into the video data stream, by the method according to claim 8.

12. A computer readable medium storing a video data stream, wherein video content encoded in the video data stream in units of subportions of pictures of the video content is decoded from the video data stream, by the method according to claim 1.