

CLAIMS

1. A method of video processing, comprising:
 - performing a conversion between a video comprising one or more video regions and a bitstream of the video according to a format rule,
 - wherein the format rule specifies that a variable X indicates whether B slice is allowed or used in a video region, and
 - wherein the format rule further specifies that the variable X is based on values of a reference picture list information present flag and/or a field indicating a number of entries in a reference picture list syntax structure.
2. The method of claim 1, wherein the video region corresponds to a picture or a slice.
3. The method of claim 1 or 2, wherein the reference picture list information present flag is in a picture header.
4. The method of any of claims 1 to 3, wherein the reference picture list information present flag is `rpl_info_in_ph_flag` and the field indicating the number of entries in the reference picture list syntax structure is `num_ref_entries[i][RplsIdx[i]]`, and wherein the variable X is derived using at least one of followings:
 - a) `( rpl_info_in_ph_flag && num_ref_entries[ 0 ][ RplsIdx[ 0 ] ] > 0 && num_ref_entries[ 1 ][ RplsIdx[ 1 ] ] > 0 );`
 - b) `( rpl_info_in_ph_flag && num_ref_entries[ 1 ][ RplsIdx[ 1 ] ] > 0 );`
 - c) `( rpl_info_in_ph_flag && num_ref_entries[ 1 ][ RplsIdx[ 1 ] ] > 1 );`
 - d) `( rpl_info_in_ph_flag && num_ref_entries[ 1 ][ RplsIdx[ 1 ] ] > 0 );`
 - e) based on a number of active reference indices to be used for a slice; or
 - f) based on a number of allowed reference pictures for list 1,
 whereby i is an integer.

5. The method of any of claims 1 to 4, wherein the format rule further specifies that signaling and/or semantics and/or inference of one or more syntax elements included in the syntax structure corresponding to a picture header is dependent on the variable X.
6. The method of claim 5, wherein the one or more syntax elements enable a coding tool which requires more than one prediction signal.
7. The method of claim 6, wherein the coding tool corresponds to a bi-prediction, a mixed intra and inter coding, or prediction with linear or non-linear weighting from multiple prediction blocks.
8. The method of claim 6, wherein the one or more syntax elements include a first syntax element indicating whether collocated pictures used for temporal motion vector prediction is derived from a reference picture list 0 or reference picture list 1, a second syntax element indicating whether motion vector difference coding syntax structure for list 1 is parsed or not, a third syntax element indicating whether a bi-directional optical flow coding is disabled, a fourth syntax element indicating whether a decoder-side motion vector refinement is disabled, a fifth syntax element indicating a number of weights signalled for entries in the reference picture list 1.
9. The method of claim 8, wherein the first syntax element corresponds to `ph_collocated_from_l0_flag`, the second syntax element corresponds to `ph_mvd_l1_zero_flag`, the third syntax element corresponds to `ph_disable_bdof_flag`, the fourth syntax element corresponds to `ph_disable_dmvr_flag`, and the fifth syntax element corresponds to `num_l1_weights`.
10. The method of claim 5, wherein the format rule further specifies that, only in case that the variable X indicates that the picture contains one or more B slices, the one or more syntax elements are included.
11. The method of claim 5, wherein the format rule further specifies that in case that the variable X indicates that the picture contains no B slices, the one or more syntax elements are skipped.

12. The method of claim 5, wherein the format rule further specifies whether to signal the one or more syntax elements are based on the variable X.
13. The method of claim 5, wherein the format rule further specifies that when the variable X is equal to 0 and a syntax element indicating whether motion vector difference coding syntax structure is parsed or not is not signaled, a value of the syntax element is inferred to be equal to a certain value.
14. The method of claim 13, wherein the format rule further specifies that when the variable X being set to "rpl_info_in_ph_flag" is equal to 0, the value of the syntax element is inferred to be equal to 1.
15. The method of claim 13, wherein the format rule further specifies that when the variable X being set to "num_ref_entries[1][RplIdx[1]] > 0" is equal to 0, the value of the syntax element is inferred to be equal to 1.
16. The method of claim 5, wherein the format rule further specifies that the inference of the one or more syntax elements is dependent on a value of the variable X.
17. The method of claim 16, wherein the one or more syntax elements include a PH (picture header) syntax element indicating whether a bi-directional optical flow coding is disabled and wherein the format rule specifies that a value of the PH syntax element is inferred based on the value of the variable X.
18. The method of claim 16, wherein the one or more syntax elements include a PH (picture header) syntax element indicating whether a decoder-side motion vector refinement is disabled and wherein the format rule specifies that a value of the PH syntax element is inferred based on the value of the variable X.
19. The method of claim 16, wherein the one or more syntax elements include a PH (picture header) syntax element indicating whether collocated pictures used for temporal motion vector

prediction is derived from a reference picture list 1 or a reference picture list 0 and wherein the format rule specifies that a value of the PH syntax element is inferred to be equal to a certain value in case of satisfying (1) a value of another PH syntax element indicating an applicability of temporal motion vector predictor to a picture is equal to 1, (2) a value of the reference picture list information present flag in a picture header is equal to 1, and (3) the value of the variable X is equal to 0.

20. The method of claim 19, wherein the value of the PH (picture header) syntax element is inferred to be equal to 0 in case of satisfying (1) the value of another PH syntax element indicating the applicability of temporal motion vector predictor to the picture is equal to 1, (2) the value of the reference picture list information present flag in a picture header is equal to 1, and (3) the variable X being set to “num_ref_entries[1][RplIdx[1]] > 0” is equal to 0.

21. The method of claim 16, wherein the one or more syntax elements include a PH (picture header) syntax element indicating a number of weights signalled for entries in the reference picture list 1 and wherein the format rule specifies that a value of the PH syntax element is inferred to be equal to a certain value in case that the variable X is equal to a certain value.

22. The method of claim 21, wherein the value of the PH syntax element is inferred to be equal to 0 in case that the variable X being set to “num_ref_entries[1][RplIdx[1]] > 0” is equal to 0.

23. The method of claim 22, wherein when the value of the PH syntax element is inferred to be equal to 0, weighted prediction parameters for the reference picture list 1 are not signalled in a picture header or slice headers of a picture.

24. The method of any of claims 1 to 23, wherein the conversion includes encoding the video into the bitstream.

25. The method of any of claims 1 to 23, wherein the conversion includes decoding the video from the bitstream.

26. The method of claims 1 to 23, wherein the conversion includes generating the bitstream from the video, and the method further comprises: storing the bitstream in a non-transitory computer-readable recording medium.
27. A video processing apparatus comprising a processor configured to implement a method recited in any one or more of claims 1 to 26.
28. A method of storing a bitstream of a video, comprising, a method recited in any one of claims 1 to 26, and further including storing the bitstream to a non-transitory computer-readable recording medium.
29. A computer readable medium storing program code that, when executed, causes a processor to implement a method recited in any one or more of claims 1 to 26.
30. A computer readable medium that stores a bitstream generated according to any of the above described methods.
31. A video processing apparatus for storing a bitstream representation, wherein the video processing apparatus is configured to implement a method recited in any one or more of claims 1 to 26.