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 first syntax element indicates whether a bi-directional optical flow inter prediction based inter bi-prediction is disabled for a video region of the one or more video regions, and

wherein the format rule further specifies that a presence in a picture header of the first syntax element is based on values of a second syntax element which is a reference picture list information present flag that indicates whether the reference picture list information is present in the picture header and a third syntax element indicating a number of entries in a reference picture list syntax structure,

wherein the format rule further specifies that a presence in the picture header of an eighth 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 is at least based on that a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1, and

wherein the format rule further specifies that when a value of a ninth syntax element indicates that a temporal motion vector predictor is enabled, the value of the second syntax element rpl_info_in_ph_flag is equal to 1 and the value of the third syntax element num_ref_entries[1][RplsIdx[1]] is equal to 0, the value of the eighth syntax element is inferred to be equal to 1 which indicates that the collocated pictures used for temporal motion vector prediction is derived from the reference picture list 0.

2. The method of claim 1, wherein a video region of the one or more video regions corresponds to a picture or a slice.

3. The method of claim 1, wherein the second syntax element is rpl_info_in_ph_flag and the third syntax element is num_ref_entries [i][RplsIdx [i]], wherein i is an integer, and

wherein the first syntax element is present in the picture header at least based on (rpl_info_in_ph_flag && num_ref_entries[1][RplsIdx[1]] > 0), wherein num_ref_entries[1][RplsIdx[1]] indicates that the number of entries in the RplsIdx[1]-th reference picture list syntax structure for a reference picture list 1.

4. The method of claim 3, wherein the first syntax element being present in the picture header is further based on a value of a fourth syntax element indicating that the first syntax element is allowed to be present.

5. The method of claim 1, wherein the format rule further specifies that a presence in the picture header of a fifth syntax element indicating whether a decoder-side motion vector refinement is disabled is based on the values of the second syntax element and the third syntax element.

6. The method of claim 5, wherein the fifth syntax element is present in the picture header, when a value of a sixth syntax element indicates that the fifth syntax element is allowed to be present, a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1.

7. The method of claim 1, wherein the format rule further specifies that a presence in the picture header of a seventh syntax element indicating whether motion vector difference coding syntax structure for list 1 is parsed or not is at least based on that a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1.

8. The method of claim 1, wherein the format rule further specifies that a presence in the picture header of a tenth syntax element indicating a number of weights signalled for entries in a reference picture list 1 is at least based on that a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1.

9. The method of claim 1, wherein the format rule further specifies that a presence of an eleventh syntax element in a sequence parameter set that indicates a constraint on loop filtering across subpicture boundaries is based on whether a number of subpictures in a picture is greater than 1,

wherein the eleventh syntax element equal to 1 specifies that all subpicture boundaries in a coded layer video sequence are treated as picture boundaries and there is no loop filtering across the subpicture boundaries,

wherein the eleventh syntax element is not present in case that the number of subpictures in the picture is equal to 1, and

wherein in case that the eleventh syntax element is not present, a value of the eleventh syntax element is inferred to be equal to 1.

10. The method of claim 1, wherein the format rule further specifies that in case that a twelfth syntax element is not present, a value of the twelfth syntax element is inferred to be equal to 1 that specifies an i-th subpicture of each coded picture in a coded layer video sequence is treated as a picture in an encoding or a decoding process excluding in-loop filtering operations, wherein i is an integer.

11. The method of claim 10, wherein the format rule further specifies that during an inter-prediction process, how clipping is performed at a boundary of a video region of the one or more video regions is based on a thirteenth syntax element at a picture parameter set level, specifying whether a horizontal wrap-around motion compensation is enabled for pictures referring to a picture parameter set and the twelfth syntax element at a sequence parameter set level.

12. The method of claim 1, wherein the conversion includes encoding the video into the bitstream.

13. The method of claim 1, wherein the conversion includes decoding the video from the bitstream.

14. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

perform 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 first syntax element indicates whether a bi-directional optical flow inter prediction based inter bi-prediction is disabled for a video region of the one or more video regions, and

wherein the format rule further specifies that a presence in a picture header of the first syntax element is based on values of a second syntax element which is a reference picture list information present flag that indicates whether the reference picture list information is present in the picture header and a third syntax element indicating a number of entries in a reference picture list syntax structure,

wherein the format rule further specifies that a presence in the picture header of an eighth 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 is at least based on that a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1, and

wherein the format rule further specifies that when a value of a ninth syntax element indicates that a temporal motion vector predictor is enabled, the value of the second syntax element rpl_info_in_ph_flag is equal to 1 and the value of the third syntax element num_ref_entries[1][RplsIdx[1]] is equal to 0, the value of the eighth syntax element is inferred to be equal to 1 which indicates that the collocated pictures used for temporal motion vector prediction is derived from the reference picture list 0.

15. The apparatus of claim 14, wherein a video region of the one or more video regions corresponds to a picture or a slice,

wherein the second syntax element is rpl_info_in_ph_flag and the third syntax element is num_ref_entries [i][RplsIdx [i]], wherein i is an integer,

wherein the first syntax element is present in the picture header at least based on (rpl_info_in_ph_flag && num_ref_entries[1][RplsIdx[1]] > 0), wherein

num_ref_entries[1][RplsIdx[1]] indicates that the number of entries in the RplsIdx[1]-th reference picture list syntax structure for a reference picture list 1, and

wherein the first syntax element being present in the picture header is further based on a value of a fourth syntax element indicating that the first syntax element is allowed to be present.

16. The apparatus of claim 14, wherein the format rule further specifies that a presence in the picture header of a fifth syntax element indicating whether a decoder-side motion vector refinement is disabled is based on the values of the second syntax element and the third syntax element, and

wherein the fifth syntax element is present in the picture header, when a value of a sixth syntax element indicates that the fifth syntax element is allowed to be present, a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1.

17. A non-transitory computer-readable storage medium storing instructions that cause a processor to:

perform 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 first syntax element indicates whether a bi-directional optical flow inter prediction based inter bi-prediction is disabled for a video region of the one or more video regions, and

wherein the format rule further specifies that a presence in a picture header of the first syntax element is based on values of a second syntax element which is a reference picture list information present flag that indicates whether the reference picture list information is present in the picture header and a third syntax element indicating a number of entries in a reference picture list syntax structure,

wherein the format rule further specifies that a presence in the picture header of an eighth 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 is at least based on that a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1, and

wherein the format rule further specifies that when a value of a ninth syntax element indicates that a temporal motion vector predictor is enabled, the value of the second syntax element rpl_info_in_ph_flag is equal to 1 and the value of the third syntax element num_ref_entries[1][RplsIdx[1]] is equal to 0, the value of the eighth syntax element is inferred to be equal to 1 which indicates that the collocated pictures used for temporal motion vector prediction is derived from the reference picture list 0.

18. A non-transitory computer-readable recording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

generating the bitstream of the video comprising one or more video regions according to a format rule,

wherein the format rule specifies that a first syntax element indicates whether a bi-directional optical flow inter prediction based inter bi-prediction is disabled for a video region of the one or more video regions, and

wherein the format rule further specifies that a presence in a picture header of the first syntax element is based on values of a second syntax element which is a reference picture list information present flag that indicates whether the reference picture list information is present in the picture header and a third syntax element indicating a number of entries in a reference picture list syntax structure,

wherein the format rule further specifies that a presence in the picture header of an eighth 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 is at least based on that a value of the second syntax element rpl_info_in_ph_flag is equal to 1 and a value of the third syntax element num_ref_entries[1][RplsIdx[1]] is greater than 1, and

wherein the format rule further specifies that when a value of a ninth syntax element indicates that a temporal motion vector predictor is enabled, the value of the second syntax element rpl_info_in_ph_flag is equal to 1 and the value of the third syntax element num_ref_entries[1][RplsIdx[1]] is equal to 0, the value of the eighth syntax element is inferred to be equal to 1 which indicates that the collocated pictures used for temporal motion vector prediction is derived from the reference picture list 0.