CONFORMANCE WINDOW PARAMETERS IN VIDEO CODING

CROSS REFERENCE TO RELATED APPLICATIONS

[001] ~~Under the applicable patent law and/or rules pursuant to the Paris Convention, this application is made to timely claim~~ This application is based on International Patent Application No. PCT/US2021/024675, filed on March 29, 2021 which claims the priority to and benefits of U.S. Provisional Patent Application No. 63/002,064, filed on March 30, 2020. ~~For all purposes under the law, the entire disclosure of the aforementioned application is incorporated by reference as part of the disclosure of this application.~~ All the aforementioned patent applications are hereby incorporated by reference in their entireties.

TECHNICAL FIELD

[002] This patent document relates to image and video processing.

BACKGROUND

[003] Digital video accounts for the largest bandwidth use on the internet and other digital communication networks. As the number of connected user devices capable of receiving and displaying video increases, it is expected that the bandwidth demand for digital video usage will continue to grow.

SUMMARY

[004] The present document discloses techniques that can be used by video encoders and decoders for processing coded representation of video using control information useful for decoding of the coded representation.

[005] In one example aspect, a video processing method is disclosed. The method includes performing a conversion between a video comprising one or more pictures comprising one or more slices and a bitstream of the video, wherein the bitstream conforms to a format rule; wherein the format rule specifies whether or how a slice type of a slice of the one or more slices is indicated in the bitstream depends on a condition, wherein the condition is based on a general constraint flag, a network abstraction layer unit type or whether the slice is in a first picture of an access unit.

[006] In another example aspect, a video processing method is disclosed. The method includes performing a conversion between a video comprising a picture comprising multiple slices and a bitstream of the video, wherein the bitstream conforms to a format rule that specifies that a flag in a picture header controls applicability of adaptive loop filtering of all slices in the picture.

CLAIMS

1. A video processing method, comprising:

performing a conversion between a video comprising a picture in a video unit and a bitstream of the video according to a format rule,

wherein the format rule specifies that, responsive to a width of a picture being equal to a maximum allowed picture width in the video unit and a height of the picture being equal to a maximum allowed picture height in the video unit, a conformance window flag in a picture parameter set corresponding to the picture is set to a zero value.

2. The method of claim 1, wherein the maximum allowed picture width and the maximum allowed picture height are indicated in a sequence parameter set referred to by the video unit.

3. The method of claim 2, wherein the format rule specifies that responsive to the width of a picture being equal to the maximum allowed picture width in the video unit and the height of the picture being equal to the maximum allowed picture height in the video unit, conformance window syntax elements are excluded from the picture parameter set and are inferred to have same values as indicated in the sequence parameter set.

4. The method of claim 2, wherein the format rule specifies that responsive to the width of a picture being not equal to the maximum allowed picture width in the video unit or the height of the picture being not equal to the maximum allowed picture height in the video unit, conformance window syntax elements are inferred to have zero values.

5. The method of any of claims 1 to 4, wherein the conversion comprises generating the video from the bitstream.

6. The method of any of claims 1 to 4, wherein the conversion comprises encoding the video into the bitstream.

7. A video decoding apparatus comprising a processor configured to implement a method recited in one or more of claims 1 to 5.

1. A video processing method, comprising:

performing a conversion between a video comprising a picture in a video unit and a bitstream of the video according to a format rule,

wherein the format rule specifies that, responsive to a width of the picture being equal to a maximum allowed picture width in the video unit and a height of the picture being equal to a maximum allowed picture height in the video unit, a conformance window flag in a picture parameter set corresponding to the picture is set to a zero value.

2. The method of claim 1, wherein the conformance window flag being equal to the zero value indicates that conformance cropping window offset parameters are not present in the picture parameter set.

3. The method of claim 1, wherein the maximum allowed picture width and the maximum allowed picture height are indicated in a sequence parameter set referred to by the video unit.

4. The method of claim 3, wherein the format rule specifies that responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being equal to the maximum allowed picture width in the video unit and the height of the picture being equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are excluded from the picture parameter set and are inferred to have same values as indicated in the sequence parameter set.

5. The method of claim 3, wherein the format rule specifies that responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being not equal to the maximum allowed picture width in the video unit or the height of the picture being not equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are inferred to have zero values.

6. The method of claim 1, wherein the conversion comprises decoding the video from the bitstream.

7. The method of claim 1, wherein the conversion comprises encoding the video into the bitstream.

8. A video encoding apparatus comprising a processor configured to implement a method recited in one or more of claims 1 to 6.

9. A computer readable medium having code stored thereupon, the code, when executed by a processor, causes the processor to implement a method recited in any of claims 1 to 6.

10. A method of video processing comprising:
generating a bitstream according to a method recited in any one or more of claims 1 to 6, and
storing the bitstream on a computer readable medium.

11. A computer readable medium having a bitstream stored thereon, the bitstream being generated from a video according to a method recited in any one or more of claims 1 to 6.

12. A method, an apparatus, a bitstream or a system described in the present document.

8. 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 a picture in a video unit and a bitstream of the video according to a format rule,

wherein the format rule specifies that, responsive to a width of the picture being equal to a maximum allowed picture width in the video unit and a height of the picture being equal to a maximum allowed picture height in the video unit, a conformance window flag in a picture parameter set corresponding to the picture is set to a zero value.

9. The apparatus of claim 8, wherein the conformance window flag being equal to the zero value indicates that conformance cropping window offset parameters are not present in the picture parameter set.

10. The apparatus of claim 8, wherein the maximum allowed picture width and the maximum allowed picture height are indicated in a sequence parameter set referred to by the video unit.

11. The apparatus of claim 10, wherein the format rule specifies that responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being equal to the maximum allowed picture width in the video unit and the height of the picture being equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are excluded from the picture parameter set and are inferred to have same values as indicated in the sequence parameter set.

12. The apparatus of claim 10, wherein the format rule specifies that responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being not equal to the maximum allowed picture width in the video unit or the height of the picture being not equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are inferred to have zero values.

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

perform a conversion between a video comprising a picture in a video unit and a bitstream of the video according to a format rule,

wherein the format rule specifies that, responsive to a width of the picture being equal to a maximum allowed picture width in the video unit and a height of the picture being equal to a maximum allowed picture height in the video unit, a conformance window flag in a picture parameter set corresponding to the picture is set to a zero value.

14. The non-transitory computer-readable storage medium of claim 13, wherein the conformance window flag being equal to the zero value indicates that conformance cropping window offset parameters are not present in the picture parameter set.

15. The non-transitory computer-readable storage medium of claim 13, wherein the maximum allowed picture width and the maximum allowed picture height are indicated in a sequence parameter set referred to by the video unit.

16. The non-transitory computer-readable storage medium of claim 15, wherein the format rule specifies that

responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being equal to the maximum allowed picture width in the video unit and the height of the picture being equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are excluded from the picture parameter set and are inferred to have same values as indicated in the sequence parameter set; or

responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being not equal to the maximum allowed picture width in the video unit or the height of the picture being not equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are inferred to have zero values.

17. 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 for the video comprising a picture in a video unit according to a format rule,

wherein the format rule specifies that, responsive to a width of the picture being equal to a maximum allowed picture width in the video unit and a height of the picture being equal to a maximum allowed picture height in the video unit, a conformance window flag in a picture parameter set corresponding to the picture is set to a zero value.

18. The non-transitory computer-readable recording medium of claim 17, wherein the conformance window flag being equal to the zero value indicates that conformance cropping window offset parameters are not present in the picture parameter set.

19. The non-transitory computer-readable recording medium of claim 17, wherein the maximum allowed picture width and the maximum allowed picture height are indicated in a sequence parameter set referred to by the video unit.

20. The non-transitory computer-readable recording medium of claim 19, wherein the format rule specifies that

responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being equal to the maximum allowed picture width in the video unit and the height of the picture being equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are excluded from the picture parameter set and are inferred to have same values as indicated in the sequence parameter set; or

responsive to (a) the conformance window flag having the zero value and (b) the width of the picture being not equal to the maximum allowed picture width in the video unit or the height of the picture being not equal to the maximum allowed picture height in the video unit, conformance window syntax elements indicating the conformance cropping window offset parameters are inferred to have zero values.