Amended Set of Claims 1 to 51

1. A method of coding video data, the method comprising:

coding a video parameter set (VPS) for a plurality of layers of video data, wherein each of the plurality of layers of video data refer to the VPS, and wherein coding the VPS comprises coding data of the VPS indicative of a number of frames to be reordered in at least one of the plurality of layers of video data and data of the VPS indicative of a number of pictures to be stored in a decoded picture buffer (DPB) during decoding of the plurality of layers of video data; and

coding the plurality of layers of video data based at least in part on the VPS.

2. The method of claim 1, wherein coding the VPS comprises coding data of the VPS indicative of a maximum number of temporal layers in the plurality of layers.

3. Cancelled.

4. Cancelled.

5. The method of claim 1, wherein coding the VPS comprises coding data of the VPS indicative of one or more sets of hypothetical reference decoder (HRD) parameters.

6. The method of claim 1, wherein coding the VPS comprises coding data of the VPS indicative of whether the VPS includes an extension beyond a corresponding standard, and when the VPS includes the extension, data for the extension.

7. The method of claim 1, wherein coding the plurality of layers comprises coding the plurality of layers in accordance with High Efficiency Video Coding (HEVC).

8. The method of claim 1, wherein coding the plurality of layers comprises coding the plurality of layers in accordance with at least one of Multiview Video Coding (MVC) and Scalable Video Coding (SVC).

9. The method of claim 1, wherein coding the VPS comprises coding information specifying, for one or more dimensions of the plurality of layers of video data, one or more of a number of priority layers in the plurality of layers of video data, a number of dependency layers in the plurality of layers of video data, a number of temporal layers in the plurality of layers of video data, a maximum number of quality layers for any of the dependency layers in the plurality of layers of video data, and a maximum number of views in the plurality of layers of video data.

10. The method of claim 9, wherein when a subset of the plurality of layers of video data have the same spatial resolution and the same bit depth, each of the layers of the subset corresponding to a different one of the dependency layers.

11. The method of claim 10, wherein coding the VPS comprises coding information defining a sample index to characteristics mapping, and wherein coding the information defining the sample index to characteristics mapping comprises coding information that specifies a respective characteristics indicator for each of a plurality of characteristics indexes when a characteristics indicator of a dimension of the plurality of layers of video data is not within an index range from zero to a sample dimension counter minus 1.

12. The method of claim 10, wherein coding the VPS comprises coding information defining a sample index to characteristics mapping, and wherein coding the information defining the sample index to characteristics mapping comprises coding one or more of a respective spatial resolution for each of a plurality of dependency index, a frame rate for each of a plurality of temporal indexes, a view identifier for each of a plurality of view indexes, a pair of specific depth values for luminance and chrominance for each of a plurality of bit depth indexes, and a specific chrominance sampling format indicator for each of a plurality of chrominance sampling formats.

13. The method of claim 1, wherein coding the VPS comprises coding information defining control parameters and one or more tool enabling/disabling flags.

14. The method of claim 13, wherein the control parameters and the one or more tool enabling/disabling flags comprise one or more of a pcm_bit_depth_luma_minus1, a pcm_bit_depth_chroma_minus1, a loop_filter_across_slice_flag, a pcm_loop_filter_disable_flag, a temporal_id_nesting_flag, one or more tile related syntax elements, a chroma_pred_from_luma_enabled_flag, a sample_adaptive_offset_enabled_flag, an adaptive_loop_filter_enabled_flag, and an inter_4x4_enabled_flag.

15. The method of claim 1, wherein coding the VPS comprises coding information defining one or more operation point descriptors.

16. The method of claim 15, wherein coding the information defining the one or more operation point descriptors comprises coding information defining one or more of a number of maximum operation points, dependency between different layers or views, profile and level for each of the operation points, for each operation point, operation point video coding layer (VCL) network abstraction layer (NAL) unit representation, for each dimension one or more of a specific index value, a range of potential index values for the dimension, and a list of index values, bit rate for each of the operation points, dependency between the operation points, restrictions for each of the operation points, video usability information (VUI) for each of the operation points, and VUI for each of the plurality of layers of video data.

17. The method of claim 1, further comprising coding a respective layered sequence parameter set (LPS) for each of the plurality of layers of video data, wherein coding the plurality of layers of video data based at least in part on the VPS comprises coding the plurality of layers of video data based at least in part on the VPS and the respective LPS.

18. The method of claim 17, wherein coding the respective LPSs for each of the plurality of layers of video data comprises coding information defining a sample dimension indication that indicates, for each dimension, an index to each dimension.

19. The method of claim 17, wherein coding the respective LPSs for each of the plurality of layers of video data comprises coding information defining control parameters and tool enabling/disabling flags.

20. The method of claim 19, wherein the control parameters and the one or more tool enabling/disabling flags comprise one or more of a pcm_bit_depth_luma_minus1, a pcm_bit_depth_chroma_minus1, a loop_filter_across_slice_flag, a pcm_loop_filter_disable_flag, one or more tile related syntax elements, a chroma_pred_from_luma_enabled_flag, a sample_adaptive_offset_enabled_flag, an adaptive_loop_filter_enabled_flag, and a coding unit (CU) hierarchy.

21. The method of claim 17, wherein coding the respective LPSs for each of the plurality of layers of video data comprises coding information defining information of one or more other parameter sets applying to at least one of a slice, a group of slices, a picture, and several pictures referring to a common picture parameter set (PPS).

22. The method of claim 1, further comprising coding one or more picture parameter sets (PPSs) such that the PPSs do not refer to the VPS, do not refer to layered sequence parameter sets (LPSs) of the plurality of layers of video data.

23. The method of claim 22, wherein coding the plurality of layers of video data based at least in part on the VPS comprises coding the plurality of layers of video data based at least in part on the VPS, the PPSs, and the LPSs, such that when a syntax element of one of the PPSs conflicts with the VPS or a respective one of the LPSs, coding a corresponding one of the plurality of layers of video data based on the syntax element of the one of the PPSs.

24. The method of claim 1, further comprising coding a grouping parameter set (GPS) that groups all parameter sets, including the VPS, for the plurality of layers of video data together.

25. The method of claim 24, wherein coding the GPS comprises coding information defining an identifier of the GPS, the method further comprising coding information of a slice header corresponding to the identifier of the GPS.

26. The method of claim 1, wherein coding the plurality of layers of video data comprises decoding the plurality of layers of video data, and wherein coding the VPS comprises parsing the VPS.

27. The method of claim 1, wherein coding the plurality of layers of video data comprises encoding the plurality of layers of video data, and wherein coding the VPS comprises constructing the VPS.

28. A device for coding video data, the device comprising a video coder configured to code a video parameter set (VPS) for a plurality of layers of video data, wherein each of the plurality of layers of video data refer to the VPS, and wherein the video coder is configured to code data of the VPS indicative of a number of frames to be reordered in at least one of the plurality of layers of video data and data of the VPS indicative of a number of pictures to be stored in a decoded picture buffer (DPB) during decoding of the plurality of layers of video data, and code the plurality of layers of video data based at least in part on the VPS.

29. The device of claim 28, wherein the video coder is configured to code data of the VPS indicative of a maximum number of temporal layers in the plurality of layers of video data.

30. Cancelled.

31. Cancelled.

32. The device of claim 28, wherein the video coder is configured to code data of the VPS indicative of one or more sets of hypothetical reference decoder (HRD) parameters.

33. The device of claim 28, wherein the video coder is configured to code data of the VPS indicative of whether the VPS includes an extension beyond a corresponding standard, and when the VPS includes the extension, data for the extension.

34. The device of claim 28, wherein the video coder is configured to code the plurality of layers of video data in accordance with one of High Efficiency Video Coding (HEVC), Multiview Video Coding (MVC), and Scalable Video Coding (SVC).

35. The device of claim 28, wherein the video coder comprises a video decoder.

36. The device of claim 28, wherein the video coder comprises a video encoder.

37. The device of claims 28, wherein the device comprises at least one of:

an integrated circuit;

a microprocessor; and

a wireless communication device that includes the video coder.

38. A device for coding video data, the device comprising:

means for coding a video parameter set (VPS) for a plurality of layers of video data, wherein each of the plurality of layers of video data refer to the VPS, and wherein the means for coding the VPS comprise means to code data of the VPS indicative of a number of frames to be reordered in at least one of the plurality of layers of video data and data of the VPS indicative of a number of pictures to be stored in a decoded picture buffer (DPB) during decoding of the plurality of layers of video data; and

means for coding the plurality of layers of video data based at least in part on the VPS.

39. The device of claim 38, wherein the means for coding the VPS comprise means to code data of the VPS indicative of a maximum number of temporal layers in the plurality of layers of video data.

40. Cancelled.

41. Cancelled.

42. The device of claim 38, wherein the means for coding the VPS comprise means to code data of the VPS indicative of one or more sets of hypothetical reference decoder (HRD) parameters.

43. The device of claim 38, wherein the means for coding the VPS comprise means to code data of the VPS indicative of whether the VPS includes an extension beyond a corresponding standard, and when the VPS includes the extension, data for the extension.

44. The device of claim 38, wherein the means for coding the VPS comprise means to code the plurality of layers of video data in accordance with one of High Efficiency Video Coding (HEVC), Multiview Video Coding (MVC), and Scalable Video Coding (SVC).

45. A computer-readable storage medium having stored thereon instructions that, when executed, cause a processor to:

code a video parameter set (VPS) for a plurality of layers of video data, wherein each of the plurality of layers of video data refer to the VPS, and wherein the instructions that cause the processor to code the VPS comprise instructions that cause the processor to code data of the VPS indicative of a number of frames to be reordered in at least one of the plurality of layers of video data and data of the VPS indicative of a number of pictures to be stored in a decoded picture buffer (DPB) during decoding of the plurality of layers of video data; and

code the plurality of layers of video data based at least in part on the VPS.

46. The computer-readable storage medium of claim 45, wherein the instructions that cause the processor to code the VPS comprise instructions that cause the processor to code data of the VPS indicative of a maximum number of temporal layers in the plurality of layers of video data.

47. Cancelled.

48. Cancelled.

49. The computer-readable storage medium of claim 45, wherein the instructions that cause the processor to code the VPS comprise instructions that cause the processor to code data of the VPS indicative of one or more sets of hypothetical reference decoder (HRD) parameters.

50. The computer-readable storage medium of claim 45, wherein the instructions that cause the processor to code the VPS comprise instructions that cause the processor to code data of the VPS indicative of whether the VPS includes an extension beyond a corresponding standard, and when the VPS includes the extension, data for the extension.

51. The computer-readable storage medium of claim 45, wherein the instructions that cause the processor to code the plurality of layers of video data comprise instructions that cause the processor to code the plurality of layers of video data in accordance with one of High Efficiency Video Coding (HEVC), Multiview Video Coding (MVC), and Scalable Video Coding (SVC).

CLAIMS

1. An invention not claimed in any divisional application.