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Amended Set of Claims

1. A method of decoding video data, the method comprising:
decoding a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and wherein the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the active parameter sets SEI message and the video data;
activating the one or more SPSs and the VPS for decoding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message; and
decoding the video data based on the one or more activated SPSs and the activated VPS.
2. The method of claim 1, wherein the active parameter sets SEI message indicates a plurality of SPSs, activating the one or more SPSs comprises activating the plurality of SPSs based on the indication of the plurality of SPSs in the active parameter sets SEI message, and decoding the video data based on the one or more activated SPSs comprises decoding the video data based on the plurality of activated SPSs.
3. The method of claim 2,
wherein the video data comprises at least one of a plurality of layers or a plurality of views,
wherein each of the plurality of SPSs is associated with a respective one or more of the plurality of layers or plurality of views, and
wherein decoding the video data based on the plurality of SPSs comprises, for each of the layers or views, decoding the video data of the layer or view based on the SPS associated with the layer or view.
4. The method of claim 1, wherein the active parameter sets SEI message includes a first syntax element that indicates a first SPS of the plurality of SPSs, a second syntax element that specifies a number of additional SPSs indicated in the active parameter sets

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SEI message, and one or more additional syntax elements that respectively indicate the additional SPSSs.

5. The method of claim 4, wherein the first syntax element comprises a `active_seq_param_set_id` syntax element, the second syntax element comprises a `num_additional_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `additional_active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

6. The method of claim 1, wherein the active parameter sets SEI message includes a first syntax element that specifies a number of the plurality of SPSSs, and one or more additional syntax elements that respectively indicate the plurality of SPSSs.

7. The method of claim 6, wherein the first syntax element comprises a `num_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

8. Canceled.

9. The method of claim 1, wherein the syntax information further comprises a buffering period SEI message that excludes any indication of the one or more SPSSs.

10. Canceled.

11. The method of claim 1, wherein the active parameter sets SEI message precedes, in decoding order, a first portion of the video data of an access unit comprising the active parameter sets SEI message and the video data.

12. Canceled.

13. Canceled.

14. Canceled.

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15. The method of claim 1, wherein activating the one or more SPSs and the VPS for decoding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message comprises:

identifying raw bite sequence payloads (RBSPs) for the one or more SPSs and the VPS based on the indication in the active parameter sets SEI message; and

copying the RBSPs into respective video decoder data structures,

wherein decoding the video data based on the one or more activated SPSs and the activated VPS comprises decoding the video data based on the RBSPs in the video decoder data structures.

16. A method of encoding video data, the method comprising:

encoding a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and wherein encoding the bitstream comprises encoding the bitstream such that the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message; and

encoding the video data based on the one or more SPSs and the VPS indicated in the active parameter sets SEI message.

wherein encoding the bitstream to include the active parameter sets SEI message comprises encoding the bitstream such that a video decoder activates the one or more SPSs and the VPS for decoding the video data in response to the indication of the one or more SPSs and the VPS in the active parameter sets SEI message.

17. The method of claim 16, wherein the active parameter sets SEI message indicates a plurality of SPSs, encoding the video data based on the one or more SPSs comprises encoding the video data of based on the plurality of SPSs, and wherein encoding the bitstream such that the video decoder activates the one or more SPSs and the VPS comprises encoding the bitstream such that a video decoder activates the plurality of SPSs and the VPS in response to the indication of the plurality of SPSs and the VPS in the active parameter sets SEI message.

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18. The method of claim 17,
wherein the video data comprises at least one of a plurality of layers or a plurality of views,
wherein each of the plurality of SPSs is associated with a respective one or more of the plurality of layers or plurality of views, and
wherein encoding the video data based on the plurality of SPSs comprises, for each of the layers or views, encoding the video data of the layer or view based on the SPS associated with the layer or view.

19. The method of claim 16, wherein the active parameter sets SEI message includes a first syntax element that indicates a first SPS of the plurality of SPSs, a second syntax element that specifies a number of additional SPSs indicated in the active parameter sets SEI message, and one or more additional syntax elements that respectively indicate the additional SPSs

20. The method of claim 19, wherein the first syntax element comprises a `active_seq_param_set_id` syntax element, the second syntax element comprises a `num_additional_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `additional_active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

21. The method of claim 16, wherein the active parameter sets SEI message includes a first syntax element that specifies a number of the plurality of SPSs, and one or more additional syntax elements that respectively indicate the plurality of SPSs.

22. The method of claim 21, wherein the first syntax element comprises a `num_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

23. Canceled.

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24. The method of claim 16, wherein the syntax information further comprises a buffering period SEI message, the method further comprising encoding the buffering period SEI message to exclude any indication of the one or more SPSs.

25. Canceled.

26. The method of claim 16, wherein the bitstream comprises a plurality of access units and a plurality of active parameter sets SEI messages, and encoding the bitstream comprises encoding the bitstream such that each of the access units that includes a buffering period SEI message also includes one of the active parameter sets SEI messages.

27. The method of claim 16, wherein encoding the bitstream comprises encoding the bitstream such that the active parameter sets SEI message precedes, in encoding order, a first portion of video data of an access unit comprising the video data and the active parameter sets SEI message.

28. Canceled.

29. Canceled.

30. Canceled.

31. A device comprising a video decoder configured to:
decode a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and wherein the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message;

activate the one or more SPSs and the VPS for decoding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message; and

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decode the video data based on the one or more activated SPSs and the activated VPS.

32. The device of claim 31, wherein the active parameter sets SEI message indicates a plurality of SPSs, and the video decoder is configured to activate the plurality of SPSs based on the indication of the plurality of SPSs in the active parameter sets SEI message, and decode the video data based on the plurality of activated SPSs.

33. The device of claim 32,
wherein the video data comprises at least one of a plurality of layers or a plurality of views,
wherein each of the plurality of SPSs is associated with a respective one or more of the plurality of layers or plurality of views, and
wherein, for each of the layers or views, the video decoder is configured to decode the video data of the layer or view based on the SPS associated with the layer or view.

34. The device of claim 31, wherein the active parameter sets SEI message includes a first syntax element that indicates a first SPS of the plurality of SPSs, a second syntax element that specifies a number of additional SPSs indicated in the active parameter sets SEI message, and one or more additional syntax elements that respectively indicate the additional SPSs.

35. The device of claim 34, wherein the first syntax element comprises a `active_seq_param_set_id` syntax element, the second syntax element comprises a `num_additional_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `additional_active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

36. The device of claim 31, wherein the active parameter sets SEI message includes a first syntax element that specifies a number of the plurality of SPSs, and one or more additional syntax elements that respectively indicate the plurality of SPSs.

37. The device of claim 36, wherein the first syntax element comprises a `num_sps_ids_minus1` syntax element, and the one or more additional syntax elements

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comprise active_sps_id[i] syntax elements for $i = 0; i \leq$
num_additional_sps_ids_minus1; $i++$.

38. Canceled.

39. The device of claim 31, wherein the syntax information further comprises a buffering period SEI message that excludes any indication of the one or more SPSs.

40. Canceled.

41. The device of claim 31, wherein the active parameter sets SEI message precedes, in decoding order, a first portion of video data of an access unit comprising the video data and the active parameter sets SEI message.

42. Canceled.

43. Canceled.

44. Canceled.

45. The device of claim 31, wherein, to activate the one or more SPSs and the VPS for decoding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message, the video decoder is configured to:
 identify raw bite sequence payloads (RBSPs) for the one or more SPSs and the VPS based on the indication in the active parameter sets SEI message; and
 copy the RBSPs into respective video decoder data structures,
wherein the video decoder is configured to decode the video data based on the RBSPs in the video decoder data structures.

46. The device of claim 31, wherein the device comprises at least one of:
 an integrated circuit implementing the video decoder;
 a microprocessor implementing the video decoder; and
 a wireless communication device including the video decoder.

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47. A device comprising a video encoder configured to:
 encode a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and wherein the video encoder is configured to encode the bitstream such that the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message; and

encode the video data based on the one or more SPSs and the VPS indicated in the active parameter sets SEI message,
 wherein the video encoder encodes the bitstream to include the active parameter sets SEI message such that a video decoder activates the one or more SPSs and the VPS for decoding the video data in response to the indication of the one or more SPSs and the VPS in the active parameter sets SEI message.

48. The device of claim 47, wherein the active parameter sets SEI message indicates a plurality of SPSs, the video encoder is configured to encode the video data based on the plurality of SPSs, and the video encoder encodes the bitstream such that the video decoder activates the plurality of SPSs in response to the indication of the plurality of SPSs in the active parameter sets SEI message.

49. The device of claim 48,
 wherein the video data comprises at least one of a plurality of layers or a plurality of views,
 wherein each of the plurality of SPSs is associated with a respective one or more of the plurality of layers or plurality of views, and
 wherein, for each of the layers or views, the video encoder is configured to encode the video data of the layer or view based on the SPS associated with the layer or view.

50. The device of claim 47, wherein the active parameter sets SEI message includes a first syntax element that indicates a first SPS of the plurality of SPSs, a second syntax element that specifies a number of additional SPSs indicated in the active parameter sets

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SEI message, and one or more additional syntax elements that respectively indicate the additional SPSs.

51. The device of claim 50, wherein the first syntax element comprises a `active_seq_param_set_id` syntax element, the second syntax element comprises a `num_additional_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `additional_active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

52. The device of claim 47, wherein the active parameter sets SEI message includes a first syntax element that specifies a number of the plurality of SPSs, and one or more additional syntax elements that respectively indicate the plurality of SPSs.

53. The device of claim 52, wherein the first syntax element comprises a `num_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.

54. Canceled.

55. The device of claim 47, wherein the syntax information further comprises a buffering period SEI message, and the video encoder is configured to encode the buffering period SEI message to exclude any indication of the one or more SPSs.

56. Canceled.

57. The device of claim 47, wherein the bitstream comprises a plurality of access units and a plurality of active parameter sets SEI messages, and the video encoder is configured to encode the bitstream such that each of the access units that includes a buffering period SEI message also includes one of the active parameter sets SEI messages.

58. The device of claim 47, wherein the video encoder is configured to encode the bitstream such that the active parameter sets SEI message precedes, in encoding order, a

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first portion of video data of an access unit comprising the video data and the active parameter sets SEI message.

59. Canceled.

60. Canceled.

61. Canceled.

62. The device of claim 47, wherein the device comprises at least one of:
an integrated circuit implementing the video encoder;
a microprocessor implementing the video encoder; and
a wireless communication device including the video encoder.

63. A device for coding video data, the device comprising:
means for coding a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and wherein the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message;

means for activating the one or more SPSs and the VPS for coding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message; and

means for coding the video data based on the one or more activated SPSs and the activated VPS.

64. The device of claim 63, wherein the active parameter sets SEI message indicates a plurality of SPSs, the means for activating the one or more SPSs comprises means for activating the plurality of SPSs based on the indication of the plurality of SPSs in the active parameter sets SEI message, and the means for coding the video data of the access unit based on the one or more SPSs comprises means for coding the video data of the access unit based on the plurality of SPSs.

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65. The device of claim 64,
wherein the video data comprises at least one of a plurality of layers or a plurality of
views,
wherein each of the plurality of SPSs is associated with a respective one or more
of the plurality of layers or plurality of views, and
wherein the means for coding the video data based on the plurality of SPSs comprises
for each of the layers or views, means for coding the video data of the layer or view
based on the SPS associated with the layer or view.

66. Canceled.

67. Canceled.

68. The device of claim 63, wherein the means for coding the bitstream comprises
means for decoding the bitstream, and the means for coding the video data comprises
means for decoding the video data.

69. The device of claim 63, wherein the means for coding the bitstream comprises
means for encoding the bitstream, and the means for coding the video data comprises
means for encoding the video data.

70. A computer readable storage medium having instructions stored thereon that,
when executed by one or more processors of a video coder, cause the video coder to:
code a bitstream that includes video data and syntax information for decoding
the video data, wherein the syntax information comprises an active parameter sets
supplemental enhancement information (SEI) message, wherein the active parameter
sets SEI message indicates one or more sequence parameter sets (SPSs) and a video
parameter set (VPS), and wherein the active parameter set SEI message is a first SEI
message in a first SEI network abstraction layer unit of an access unit comprising the
video data and the active parameter sets SEI message;
activate the one or more SPSs and the VPS for coding the video data based on the
indication of the one or more SPSs and the VPS in the active parameter sets SEI
message; and

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code the video data based on the one or more activated SPSs and the activated VPS.

71. The computer-readable storage medium of claim 70, wherein the SEI message indicates a plurality of SPSs, the instructions that cause the video coder to activate the one or more SPSs comprise instructions that cause the video coder to activate the plurality of SPSs based on the indication of the plurality of SPSs in the active parameter sets SEI message, and the instructions that cause the video coder to code the video data of the access unit based on the one or more SPSs comprise instructions that cause the video coder to code the video data of the access unit based on the plurality of SPSs.

72. The computer-readable storage medium of claim 71, wherein the video data comprises at least one of a plurality of layers or a plurality of views.

wherein each of the plurality of SPSs is associated with a respective one or more of the plurality of layers or plurality of views, and wherein the instructions that cause the video coder to code the video data based on the plurality of SPSs comprise instructions that cause the video coder to, for each of the layers or views, code the video data of the layer or view based on the SPS associated with the layer or view.

73. Canceled.

74. Canceled.

75. The computer-readable storage medium of claim 70, wherein the instructions that cause the video coder to code the bitstream comprise instructions that cause the video coder to decode the bitstream, and the instructions that cause the video coder to code the video data comprise instructions that cause the video coder to decode the video data.

76. The computer-readable storage medium of claim 70, wherein the instructions that cause the video coder to code the bitstream comprise instructions that cause the video coder to encode the bitstream, and the instructions that cause the video coder to

CLAIMS

1. A method of decoding video data, the method comprising:
decoding a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and
activating the one or more SPSs and the VPS for decoding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message; and
decoding the video data based on the one or more activated SPSs and the activated VPS, characterized in that the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the active parameter sets SEI message and the video data.
2. The method of claim 1, wherein the active parameter sets SEI message indicates a plurality of SPSs, activating the one or more SPSs comprises activating the plurality of SPSs based on the indication of the plurality of SPSs in the active parameter sets SEI message, and decoding the video data based on the one or more activated SPSs comprises decoding the video data based on the plurality of activated SPSs.
3. The method of claim 1, wherein activating the one or more SPSs and the VPS for decoding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message comprises:
identifying raw bite sequence payloads (RBSPs) for the one or more SPSs and the VPS based on the indication in the active parameter sets SEI message; and
copying the RBSPs into respective video decoder data structures,
wherein decoding the video data based on the one or more activated SPSs and the activated VPS comprises decoding the video data based on the RBSPs in the video decoder data structures.

4. A method of encoding video data, the method comprising:

encoding a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and

encoding the video data based on the one or more SPSs and the VPS indicated in the active parameter sets SEI message,

wherein encoding the bitstream to include the active parameter sets SEI message comprises encoding the bitstream such that a video decoder activates the one or more SPSs and the VPS for decoding the video data in response to the indication of the one or more SPSs and the VPS in the active parameter sets SEI message,

characterized in that encoding the bitstream comprises encoding the bitstream such that the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message.

5. The method of claim 4, wherein the active parameter sets SEI message indicates a plurality of SPSs, encoding the video data based on the one or more SPSs comprises encoding the video data of based on the plurality of SPSs, and wherein encoding the bitstream such that the video decoder activates the one or more SPSs and the VPS comprises encoding the bitstream such that a video decoder activates the plurality of SPSs and the VPS in response to the indication of the plurality of SPSs and the VPS in the active parameter sets SEI message.

6. The method of claim 2 or claim 5,

wherein the video data comprises at least one of a plurality of layers or a plurality of views,

wherein each of the plurality of SPSs is associated with a respective one or more of the plurality of layers or plurality of views, and

wherein coding the video data based on the plurality of SPSs comprises, for each of the layers or views, coding the video data of the layer or view based on the SPS associated with the layer or view.

7. The method of claim 1 or claim 4, wherein the active parameter sets SEI message includes a first syntax element that indicates a first SPS of the plurality of SPSs, a second syntax element that specifies a number of additional SPSs indicated in the active parameter sets SEI message, and one or more additional syntax elements that respectively indicate the additional SPSs, wherein the first syntax element preferably comprises a `active_seq_param_set_id` syntax element, the second syntax element preferably comprises a `num_additional_sps_ids_minus1` syntax element, and the one or more additional syntax elements preferably comprise `additional_active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.
8. The method of claim 1 or claim 4, wherein the active parameter sets SEI message includes a first syntax element that specifies a number of the plurality of SPSs, and one or more additional syntax elements that respectively indicate the plurality of SPSs.
9. The method of claim 8, wherein the first syntax element comprises a `num_sps_ids_minus1` syntax element, and the one or more additional syntax elements comprise `active_sps_id[i]` syntax elements for $i = 0; i \leq \text{num_additional_sps_ids_minus1}; i++$.
10. The method of claim 1 or claim 4, wherein the syntax information further comprises a buffering period SEI message, the method further comprising coding the buffering period SEI message to exclude any indication of the one or more SPSs.
11. The method of claim 1 or claim 4, wherein the bitstream comprises a plurality of access units and a plurality of active parameter sets SEI messages, and coding the bitstream comprises coding the bitstream such that each of the access units that includes a buffering period SEI message also includes one of the active parameter sets SEI messages.
12. The method of claim 1 or claim 4, wherein coding the bitstream comprises encoding the bitstream such that the active parameter sets SEI message precedes, in coding order, a first portion of video data of an access unit comprising the video data and the active parameter sets SEI message.

13. A device comprising a video encoder configured to:

encode a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS), and
 encode the video data based on the one or more SPSs and the VPS indicated in the active parameter sets SEI message,

wherein the video encoder encodes the bitstream to include the active parameter sets SEI message such that a video decoder activates the one or more SPSs and the VPS for decoding the video data in response to the indication of the one or more SPSs and the VPS in the active parameter sets SEI message,

characterized in that the video encoder is configured to encode the bitstream such that the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message.

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

means for coding a bitstream that includes video data and syntax information for decoding the video data, wherein the syntax information comprises an active parameter sets supplemental enhancement information (SEI) message, wherein the active parameter sets SEI message indicates one or more sequence parameter sets (SPSs) and a video parameter set (VPS),
 and

means for activating the one or more SPSs and the VPS for coding the video data based on the indication of the one or more SPSs and the VPS in the active parameter sets SEI message;
 and

means for coding the video data based on the one or more activated SPSs and the activated VPS,

characterized in that the active parameter set SEI message is a first SEI message in a first SEI network abstraction layer unit of an access unit comprising the video data and the active parameter sets SEI message.

15. A computer-readable storage medium having instructions stored thereon that, when executed by one or more processors of a video coder, cause the video coder to perform the method according to any one of claims 1 to 12.