Amended Set of Claims

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

determining, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

when the one or more nested SEI messages are applicable to the default sub-bitstream, using the one or more nested SEI messages in an operation on the default sub-bitstream.

2. The method of claim 1, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

3. The method of claim 2, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

4. The method of claim 1, wherein the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters.

5. The method of claim 4, wherein using the nested SEI message comprises using the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

6. The method of claim 1, wherein using the nested SEI message comprises using the nested SEI message in a decoding operation on the default sub-bitstream.

7. The method of claim 1, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

determining whether the nested SEI message is applicable to the default sub-bitstream comprises determining, based at least in part on the syntax element, whether each of the nested SEI messages is applicable to the default sub-bitstream.

8. The method of claim 1, wherein:

the syntax element in the SEI message is a first syntax element, and

the method further comprises determining, based at least in part on a second syntax element in the SEI message indicating that the one or more nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream, that the SEI message includes the first syntax element.

9. The method of claim 1, wherein the method further comprises:

determining, based on one or more additional syntax elements in the SEI message, a temporal identifier of a second operation point and a maximum layer identifier of the second operation point; and

using the nested SEI message in an operation on an additional sub-bitstream, the additional sub-bitstream being an operation point representation of the second operation point.

10. A device comprising one or more processors configured to:

determine, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

when the one or more nested SEI messages are applicable to the default sub-bitstream, use the one or more nested SEI messages in an operation on the default sub-bitstream.

11. The device of claim 10, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

12. The device of claim 11, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

13. The device of claim 10, wherein the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters.

14. The device of claim 13, wherein the one or more processors are configured to use the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

15. The device of claim 10, wherein the one or more processors are configured to use the nested SEI message in a decoding operation on the default sub-bitstream.

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16. The device of claim 10, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

the one or more processors are configured to determine, based at least in part on the syntax element, whether each of the nested SEI messages is applicable to the default sub-bitstream.

17. The device of claim 10, wherein:

the syntax element in the SEI message is a first syntax element, and

the one or more processors are further configured to determine, based at least in part on a second syntax element in the SEI message indicating that the one or more nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream, that the SEI message includes the first syntax element.

18. The device of claim 10, wherein the one or more processors are further configured to:

determine, based on one or more additional syntax elements in the SEI message, a temporal identifier of a second operation point and a maximum layer identifier of the second operation point; and

use the nested SEI message in an operation on an additional sub-bitstream, the additional sub-bitstream being an operation point representation of the second operation point.

19. A device comprising:

means for determining, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and that encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header, wherein the SEI message contains one or more SEI messages; and

means for using, when the one or more nested SEI messages are applicable to the default sub-bitstream, the nested SEI messages in an operation on the default sub-bitstream.

20. The device of claim 19, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

21. The device of claim 19, wherein:

the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the device comprises means for using the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

22. A computer-readable storage medium that stores instructions that, when executed by one or more processors of a device, configure the device to:

determine, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

when the one or more nested SEI messages are applicable to the default sub-bitstream, use the one or more nested SEI messages in an operation on the default sub-bitstream.

23. The computer-readable storage medium of claim 22, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

24. The computer-readable storage medium of claim 22, wherein:

the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the instructions further configure the device to use the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

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

including, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and that encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

signaling the SEI message in the encoded video bitstream.

26. The method of claim 25, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

27. The method of claim 26, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

28. The method of claim 25, wherein the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters.

29. The method of claim 28, further comprising using the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

30. The method of claim 25, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

the syntax element indicates whether each of the nested SEI messages is applicable to the default sub-bitstream.

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31. The method of claim 25, wherein:

the syntax element in the SEI message is a first syntax element in the SEI message,

the method further comprises including a second syntax element in the SEI message, the second syntax element indicating whether nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream or whether the nested SEI messages apply to specific layers and sub-layers of the encoded video bitstream, and

the SEI message includes the first syntax element only when the second syntax element indicates that the nested SEI messages apply to the sub-bitstream extracted from the encoded video bitstream.

32. The method of claim 25, wherein:

the operation point identified by one or more syntax elements of a NAL unit header of the SEI NAL unit is a first operation point, and

the method further comprises including, in the SEI message, one or more additional syntax elements that identify a temporal identifier of a second operation point and a maximum layer identifier of the second operation point.

33. A video encoding device comprising one or more processors configured to:

include, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

signal the SEI message in the encoded video bitstream.

34. The video encoding device of claim 33, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

35. The video encoding device of claim 34, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

36. The video encoding device of claim 33, wherein the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters.

37. The video encoding device of claim 36, wherein the one or more processors are further configured to use the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

38. The video encoding device of claim 33, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

the syntax element indicates whether each of the nested SEI messages is applicable to the default sub-bitstream.

39. The video encoding device of claim 33, wherein:

the syntax element in the SEI message is a first syntax element in the SEI message,

the one or more processors are further configured to include a second syntax element in the SEI message, the second syntax element indicating whether nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream or whether the nested SEI messages apply to specific layers and sub-layers of the encoded video bitstream, and

the SEI message includes the first syntax element only when the second syntax element indicates that the nested SEI messages apply to the sub-bitstream extracted from the encoded video bitstream.

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40. The video encoding device of claim 33, wherein:

the operation point identified by one or more syntax elements of a NAL unit header of the SEI NAL unit is a first operation point, and

the one or more processors are further configured to include, in the SEI message, one or more additional syntax elements that identify a temporal identifier of a second operation point and a maximum layer identifier of the second operation point.

41. A video encoding device comprising:

means for including, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

means for signaling the SEI message in the encoded video bitstream.

42. The video encoding device of claim 41, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

43. The video encoding device of claim 41, wherein:

the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the video encoding device comprises means for using the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

44. A computer-readable storage medium that stores instructions that, when executed by a video encoding device, configure the video encoding device to:

include, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream, wherein the syntax element is not in any of the nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

signal the SEI message in the encoded video bitstream.

45. The computer-readable storage medium of claim 44, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

46. The computer-readable storage medium of claim 44, wherein:

the nested SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the instructions further configure the video encoding device to use the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

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CLAIMS

Claim 1: A method of processing video data, the method comprising:

determining, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of the video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header and

when the one or more nested SEI messages are applicable to the default sub-bitstream, using the one or more nested SEI messages in an operation on the default sub-bitstream.

Claim 2: The method of claim 1, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

Claim 3: The method of claim 2, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 4: The method of claim 1, wherein a particular nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters.

Claim 5: The method of claim 4, wherein using the one or more nested SEI messages comprises using the HRD parameters in the particular nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 6: The method of claim 1, wherein using the one or more nested SEI messages comprises using a nested SEI message encapsulated by the SEI message in a decoding operation on the default sub-bitstream.

Claim 7: The method of claim 1, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

determining whether the one or more nested SEI messages are applicable to the default sub-bitstream comprises determining, based at least in part on the syntax element, whether each of the nested SEI messages is applicable to the default sub-bitstream.

Claim 8: The method of claim 1, wherein:

the syntax element in the SEI message is a first syntax element, and

the method further comprises determining, based at least in part on a second syntax element in the SEI message indicating that the one or more nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream, that the SEI message includes the first syntax element.

Claim 9: The method of claim 1, wherein the method further comprises:

determining, based on one or more additional syntax elements in the SEI message, a temporal identifier of a second operation point and a maximum layer identifier of the second operation point; and

using the one or more nested SEI messages in an operation on an additional sub-bitstream, the additional sub-bitstream being an operation point representation of the second operation point.

Claim 10: A device comprising:

a storage medium configured to store video data; and

one or more processors configured to:

determine, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of the video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header and

when the one or more nested SEI messages are applicable to the default sub-bitstream, use the one or more nested SEI messages in an operation on the default sub-bitstream.

Claim 11: The device of claim 10, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

Claim 12: The device of claim 11, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 13: The device of claim 10, wherein a particular nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters.

Claim 14: The device of claim 13, wherein the one or more processors are configured to use the HRD parameters in the particular nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 15: The device of claim 10, wherein the one or more processors are configured to use a nested SEI message encapsulated by the SEI message in a decoding operation on the default sub-bitstream.

Claim 16: The device of claim 10, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

the one or more processors are configured to determine, based at least in part on the syntax element, whether each of the nested SEI messages is applicable to the default sub-bitstream.

Claim 17: The device of claim 10, wherein:

the syntax element in the SEI message is a first syntax element, and

the one or more processors are further configured to determine, based at least in part on a second syntax element in the SEI message indicating that the one or more nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream, that the SEI message includes the first syntax element.

Claim 18: The device of claim 10, wherein the one or more processors are further configured to:

determine, based on one or more additional syntax elements in the SEI message, a temporal identifier of a second operation point and a maximum layer identifier of the second operation point; and

use the one or more nested SEI messages in an operation on an additional sub-bitstream, the additional sub-bitstream being an operation point representation of the second operation point.

Claim 19: A device comprising:

means for determining, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and that encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header, wherein the SEI message contains one or more SEI messages; and

means for using, when the one or more nested SEI messages are applicable to the default sub-bitstream, the nested SEI messages in an operation on the default sub-bitstream.

Claim 20: The device of claim 19, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 21: The device of claim 19, wherein:

a nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the device comprises means for using the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 22: A non-transitory computer-readable storage medium that stores instructions that, when executed by one or more processors of a device, configure the device to:

determine, based at least in part on a syntax element in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

when the one or more nested SEI messages are applicable to the default sub-bitstream, use the one or more nested SEI messages in an operation on the default sub-bitstream.

Claim 23: The non-transitory computer-readable storage medium of claim 22, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 24: The non-transitory computer-readable storage medium of claim 22, wherein:

a nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the instructions further configure the device to use the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 25: A method of encoding video data, the method comprising:

including, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and that encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of the video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

signaling the SEI message in the encoded video bitstream.

Claim 26: The method of claim 25, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

Claim 27: The method of claim 26, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 28: The method of claim 25, wherein a particular nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters.

Claim 29: The method of claim 28, further comprising using the HRD parameters in the particular nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 30: The method of claim 25, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

the syntax element indicates whether each of the nested SEI messages is applicable to the default sub-bitstream.

Claim 31: The method of claim 25, wherein:

the syntax element in the SEI message is a first syntax element in the SEI message,

the method further comprises including a second syntax element in the SEI message, the second syntax element indicating whether nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream or whether the nested SEI messages apply to specific layers and sub-layers of the encoded video bitstream, and

the SEI message includes the first syntax element only when the second syntax element indicates that the nested SEI messages apply to the sub-bitstream extracted from the encoded video bitstream.

Claim 32: The method of claim 25, wherein:

the operation point identified by one or more syntax elements of a NAL unit header of the SEI NAL unit is a first operation point, and

the method further comprises including, in the SEI message, one or more additional syntax elements that identify a temporal identifier of a second operation point and a maximum layer identifier of the second operation point.

Claim 33: A video encoding device comprising:

a storage medium configured to store video data; and

one or more processors configured to:

include, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of the video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

signal the SEI message in the encoded video bitstream.

Claim 34: The video encoding device of claim 33, wherein a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier.

Claim 35: The video encoding device of claim 34, wherein the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 36: The video encoding device of claim 33, wherein a particular nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters.

Claim 37: The video encoding device of claim 36, wherein the one or more processors are further configured to use the HRD parameters in the particular nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 38: The video encoding device of claim 33, wherein:

the SEI message encapsulates a plurality of nested SEI messages, and

the syntax element indicates whether each of the nested SEI messages is applicable to the default sub-bitstream.

Claim 39: The video encoding device of claim 33, wherein:

the syntax element in the SEI message is a first syntax element in the SEI message,

the one or more processors are further configured to include a second syntax element in the SEI message, the second syntax element indicating whether nested SEI messages encapsulated by the SEI message apply to a sub-bitstream extracted from the encoded video bitstream or whether the nested SEI messages apply to specific layers and sub-layers of the encoded video bitstream, and

the SEI message includes the first syntax element only when the second syntax element indicates that the nested SEI messages apply to the sub-bitstream extracted from the encoded video bitstream.

Claim 40: The video encoding device of claim 33, wherein:

the operation point identified by one or more syntax elements of a NAL unit header of the SEI NAL unit is a first operation point, and

the one or more processors are further configured to include, in the SEI message, one or more additional syntax elements that identify a temporal identifier of a second operation point and a maximum layer identifier of the second operation point.

Claim 41: A video encoding device comprising:

means for including, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

means for signaling the SEI message in the encoded video bitstream.

Claim 42: The video encoding device of claim 41, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 43: The video encoding device of claim 41, wherein:

a nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the video encoding device comprises means for using the HRD parameters in the nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.

Claim 44: A non-transitory computer-readable storage medium that stores instructions that, when executed by a video encoding device, configure the video encoding device to:

include, in a supplemental enhancement information (SEI) message that is encapsulated by an SEI Network Abstraction Layer (NAL) unit and encapsulates one or more nested SEI messages, a syntax element that indicates whether the one or more nested SEI messages are applicable to a default sub-bitstream of an encoded video bitstream that comprises coded pictures of video data, wherein the syntax element is not in any of the one or more nested SEI messages and the default sub-bitstream is an operation point representation of an operation point defined by a layer identifier specified in a NAL unit header of the SEI NAL unit and a temporal identifier specified in the NAL unit header; and

signal the SEI message in the encoded video bitstream.

Claim 45: The non-transitory computer-readable storage medium of claim 44, wherein:

a first syntax element in the NAL unit header indicates the layer identifier and a second syntax element in the NAL unit header indicates the temporal identifier, and

the default sub-bitstream is a subset of the encoded video bitstream and the default sub-bitstream does not include video coding layer (VCL) NAL units of the encoded video bitstream that have layer identifiers greater than the layer identifier indicated by the first syntax element in the NAL unit header or have temporal identifiers greater than the temporal identifier indicated by the second syntax element in the NAL unit header.

Claim 46: The non-transitory computer-readable storage medium of claim 44, wherein:

a particular nested SEI message encapsulated by the SEI message includes a set of hypothetical reference decoder (HRD) parameters, and

the instructions further configure the video encoding device to use the HRD parameters in the particular nested SEI message in an operation that tests whether the default sub-bitstream conforms to a video coding standard.