WHAT IS CLAIMED IS:

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

determining, for a supplemental enhancement information (SEI) network abstraction layer (NAL) unit of a bitstream, whether a NAL unit type value for the SEI NAL unit indicates that the NAL unit comprises a prefix SEI NAL unit including a prefix SEI message or a suffix SEI NAL unit including a suffix SEI message; and

decoding video data of the bitstream following the SEI NAL unit based on whether the SEI NAL unit is the prefix SEI NAL unit or the suffix SEI NAL unit and data of the SEI NAL unit.

2. The method of claim 1, further comprising, when the SEI NAL unit comprises the suffix SEI NAL unit, extracting the suffix SEI NAL unit from an access unit (AU) that includes at least a first video coding layer (VCL) NAL unit in the AU prior to the suffix SEI NAL unit in decoding order.

3. The method of claim 2, wherein the suffix SEI NAL unit follows all VCL NAL units in the AU in decoding order.

4. A device for decoding video data, the device comprising a processor configured to determine, for a supplemental enhancement information (SEI) network abstraction layer (NAL) unit of a bitstream, whether a NAL unit type value for the SEI NAL unit indicates that the NAL unit comprises a prefix SEI NAL unit including a prefix SEI message or a suffix SEI NAL unit including a suffix SEI message, and decode video data of the bitstream following the SEI NAL unit based on whether the SEI NAL unit is the prefix SEI NAL unit or the suffix SEI NAL unit and data of the SEI NAL unit.

5. The device of claim 4, wherein the processor is configured to, when the SEI NAL unit comprises the suffix SEI NAL unit, extract the suffix SEI NAL unit from an access unit (AU) that includes at least a first video coding layer (VCL) NAL unit in the AU prior to the suffix SEI NAL unit in decoding order.

6. The device of claim 5, wherein the suffix SEI NAL unit follows all VCL NAL units in the AU in decoding order.

7. A device for decoding video data, the device comprising:

means for determining, for a supplemental enhancement information (SEI) network abstraction layer (NAL) unit of a bitstream, whether a NAL unit type value for the SEI NAL unit indicates that the NAL unit comprises a prefix SEI NAL unit including a prefix SEI message or a suffix SEI NAL unit including a suffix SEI message; and

means for decoding video data of the bitstream following the SEI NAL unit based on whether the SEI NAL unit is the prefix SEI NAL unit or the suffix SEI NAL unit and data of the SEI NAL unit.

8. The device of claim 7, further comprising means for extracting, when the SEI NAL unit comprises the suffix SEI NAL unit, the suffix SEI NAL unit from an access unit (AU) that includes at least a first video coding layer (VCL) NAL unit in the AU prior to the suffix SEI NAL unit in decoding order.

9. The device of claim 8, wherein the suffix SEI NAL unit follows all VCL NAL units in the AU in decoding order.

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

determine, for a supplemental enhancement information (SEI) network abstraction layer (NAL) unit of a bitstream, whether a NAL unit type value for the SEI NAL unit indicates that the NAL unit comprises a prefix SEI NAL unit including a prefix SEI message or a suffix SEI NAL unit including a suffix SEI message; and

decode video data of the bitstream following the SEI NAL unit based on whether the SEI NAL unit is the prefix SEI NAL unit or the suffix SEI NAL unit and data of the SEI NAL unit.

11. The computer-readable storage medium of claim 10, further comprising instructions that cause the processor to, when the SEI NAL unit comprises the suffix SEI NAL unit, extract the suffix SEI NAL unit from an access unit (AU) that includes at least a first video coding layer (VCL) NAL unit in the AU prior to the suffix SEI NAL unit in decoding order.

12. The computer-readable storage medium of claim 11, wherein the suffix SEI NAL unit follows all VCL NAL units in the AU in decoding order.

13. A method of generating a bitstream including video data, the method comprising:

determining whether a supplemental enhancement information (SEI) message is a prefix SEI message or a suffix SEI message, wherein the SEI message includes data related to encoded video data;

encapsulating the SEI message in an SEI NAL unit, wherein the SEI NAL unit includes a NAL unit type value that indicates whether the SEI NAL unit is a prefix SEI NAL unit or a suffix SEI NAL unit and whether the SEI message is a prefix SEI message or a suffix SEI message; and

generating a bitstream including at least the SEI NAL unit.

14. The method of claim 13, wherein generating the encoded bitstream comprises encapsulating the SEI NAL unit in an access unit (AU) such that the SEI NAL unit follows a first video coding layer (VCL) NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is a suffix SEI NAL unit.

15. The method of claim 14, wherein generating the bitstream further comprises encapsulating the SEI NAL unit in the AU such that the SEI NAL unit further succeeds a last VCL NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is the suffix SEI NAL unit.

16. A device for generating a bitstream including video data, the device comprising a processor configured to determine whether a supplemental enhancement information (SEI) message is a prefix SEI message or a suffix SEI message, wherein the SEI message includes data related to encoded video data, encapsulate the SEI message in an SEI NAL unit, wherein the SEI NAL unit includes a NAL unit type value that indicates whether the SEI NAL unit is a prefix SEI NAL unit or a suffix SEI NAL unit and whether the SEI message is a prefix SEI message or a suffix SEI message, and generate a bitstream including at least the SEI NAL unit.

17. The device of claim 16, wherein the processor is configured to encapsulate the SEI NAL unit in an access unit (AU) such that the SEI NAL unit follows a first video coding layer (VCL) NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is a suffix SEI NAL unit.

18. The device of claim 17, wherein the processor is configured to encapsulate the SEI NAL unit in the AU such that the SEI NAL unit further succeeds a last VCL NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is the suffix SEI NAL unit.

19. A device for generating a bitstream including video data, the device comprising:

means for determining whether a supplemental enhancement information (SEI) message is a prefix SEI message or a suffix SEI message, wherein the SEI message includes data related to encoded video data;

means for encapsulating the SEI message in an SEI NAL unit, wherein the SEI NAL unit includes a NAL unit type value that indicates whether the SEI NAL unit is a prefix SEI NAL unit or a suffix SEI NAL unit and whether the SEI message is a prefix SEI message or a suffix SEI message; and

means for generating a bitstream including at least the SEI NAL unit.

20. The device of claim 19, wherein the means for generating the bitstream comprises means for encapsulating the SEI NAL unit in an access unit (AU) such that the SEI NAL unit follows a first video coding layer (VCL) NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is a suffix SEI NAL unit.

21. The device of claim 20, wherein the means for generating the bitstream further comprises means for encapsulating the SEI NAL unit in the AU such that the SEI NAL unit further succeeds a last VCL NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is the suffix SEI NAL unit.

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

determine whether a supplemental enhancement information (SEI) message is a prefix SEI message or a suffix SEI message, wherein the SEI message includes data related to encoded video data;

encapsulate the SEI message in an SEI NAL unit, wherein the SEI NAL unit includes a NAL unit type value that indicates whether the SEI NAL unit is a prefix SEI NAL unit or a suffix SEI NAL unit and whether the SEI message is a prefix SEI message or a suffix SEI message; and

generate a bitstream including at least the SEI NAL unit.

23. The computer-readable storage medium of claim 22, wherein the instructions that cause the processor to generate the bitstream comprise instructions that cause the processor to encapsulate the SEI NAL unit in an access unit (AU) such that the SEI NAL unit follows a first video coding layer (VCL) NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is a suffix SEI NAL unit.

24. The computer-readable storage medium of claim 23, wherein the instructions that cause the processor to generate the bitstream further comprise instructions that cause the processor to encapsulate the SEI NAL unit in the AU such that the SEI NAL unit further succeeds a last VCL NAL unit in the AU in decoding order when the NAL unit type value indicates that the SEI NAL unit is the suffix SEI NAL unit.

CLAIMS

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

decoding a value of a network abstraction layer, NAL, unit type for a supplemental enhancement information, SEI, NAL unit of a bitstream,

wherein the NAL unit type value for the SEI NAL unit indicates whether the NAL unit comprises a prefix SEI NAL unit including a prefix SEI message or a suffix SEI NAL unit including a suffix SEI message; and

decoding video data of the bitstream based on whether the SEI NAL unit is a prefix SEI NAL unit, wherein prefix SEI NAL units may not succeed a last video coding layer, VCL, NAL unit in an access unit in decoding order, or whether the SEI NAL unit is a suffix SEI NAL unit, wherein suffix SEI NAL units may succeed the last VCL NAL unit in an access unit in decoding order and shall not precede a first VCL NAL unit in the access unit in decoding order, and based on data of the SEI NAL unit.

2. The method of claim 1, further comprising, when the SEI NAL unit comprises the suffix SEI NAL unit, extracting the suffix SEI NAL unit from an access unit, the access unit including at least a first VCL NAL unit in the access unit prior to the suffix SEI NAL unit in decoding order.

3. The method of claim 2, wherein the suffix SEI NAL unit follows all VCL NAL units in the access unit in decoding order.

4. A device for decoding (30) video data, the device comprising:

means for decoding a value of a network abstraction layer, NAL, unit type for a supplemental enhancement information, SEI, NAL unit of a bitstream,

wherein the NAL unit type value for the SEI NAL unit indicates whether the NAL unit comprises a prefix SEI NAL unit including a prefix SEI message or a suffix SEI NAL unit including a suffix SEI message; and

means for decoding video data of the bitstream based on whether the SEI NAL unit is a prefix SEI NAL unit, wherein prefix SEI NAL units may not succeed a last video coding layer, VCL, NAL unit in an access unit in decoding order, or whether the SEI NAL unit is a suffix SEI NAL unit, wherein suffix SEI NAL units succeed the last VCL NAL unit in an access unit in decoding order and shall not precede a first VCL NAL unit in the access unit in decoding order, and based on data of the SEI NAL unit.

5. The device of claim 4, further comprising means for extracting, when the SEI NAL unit comprises the suffix SEI NAL unit, the suffix SEI NAL unit from an access unit that includes at least a first video coding layer, VCL, NAL unit in the access unit prior to the suffix SEI NAL unit in decoding order.

6. The device of claim 5, wherein the suffix SEI NAL unit follows all VCL NAL units in the access unit in decoding order.

7. A method of generating a bit stream including video data, the method comprising:

for a supplemental enhancement information, SEI, message that includes data related to encoded video data, encapsulating the SEI message in an SEI network abstraction layer, NAL, unit, wherein the SEI NAL unit includes a NAL unit type value that indicates whether the SEI NAL unit is a prefix SEI NAL unit, wherein prefix SEI NAL units may not succeed a last video coding layer, VCL, NAL unit in an access unit in decoding order, or a suffix SEI NAL unit, wherein suffix SEI NAL units may succeed the last VCL NAL unit in an access unit in decoding order and shall not precede a first VCL NAL unit in the access unit in decoding order, and whether the SEI message is a prefix SEI message or a suffix SEI message; and

generating (612) a bitstream including at least the SEI NAL unit.

8. The method of claim 7, wherein generating the encoded bitstream comprises encapsulating the SEI NAL unit in an access unit, such that the SEI NAL unit follows a first video coding layer, VCL, NAL unit in the access unit in decoding order when the NAL unit type value indicates that the SEI NAL unit is a suffix SEI NAL unit.

9. The method of claim 8, wherein generating the bitstream further comprises encapsulating the SEI NAL unit in the access unit such that the SEI NAL unit further succeeds a last VCL NAL unit in the access unit in decoding order when the NAL unit type value indicates that the SEI NAL unit is the suffix SEI NAL unit.

10. A device for generating (20) a bitstream including video data, the device comprising:

means for encapsulating in a supplemental enhancement information, SEI, message network abstraction layer, NAL, unit an SEI message that includes data related to encoded video data , wherein the SEI NAL unit includes a NAL unit type value that indicates whether the SEI NAL unit is a prefix SEI NAL unit, wherein prefix SEI NAL units may not succeed a last video coding layer, VCL, NAL unit in an access unit in decoding order, or a suffix SEI NAL unit, wherein suffix SEI NAL units may succeed the last VCL NAL unit in an access unit in decoding order and shall not precede a first VCL NAL unit in the access unit in decoding order, and whether the SEI message is a prefix SEI message or a suffix SEI message; and

means for generating a bitstream including at least the SEI NAL unit.

11. The device of claim 10, wherein the means for generating the bitstream comprises means for encapsulating the SEI NAL unit in an access unit, such that the SEI NAL unit follows a first video coding layer, VCL, NAL unit in the access unit in decoding order when the NAL unit type value indicates that the SEI NAL unit is a suffix SEI NAL unit.

12. The device of claim 11, wherein the means for generating the bitstream further comprises means for encapsulating the SEI NAL unit in the access unit such that the SEI NAL unit further succeeds a last VCL NAL unit in the access unit in decoding order when the NAL unit type value indicates that the SEI NAL unit is the suffix SEI NAL unit.

13. A computer readable storage medium having stored therein instructions that, when executed, cause a processor to perform the method of any of claims 1-3 and 7-9.