CLAIMS

1. A method of processing video data, comprising:

performing a conversion between a video including one or more layers and a bitstream of the video according to a rule,

wherein the rule specifies, in a process of sub-bitstream extraction in which a first sub-bitstream is used to derive an output sub-bitstream, whether to generate non-scalable-nested supplementary enhancement information (SEI) messages by extracting scalable-nested SEI messages from a scalable nesting SEI message is based on a first flag denoted as sn_ols_flag and a second flag denoted as sn_subpic_flag, wherein the scalable nesting SEI message is contained in a first SEI network abstraction layer (NAL) unit contained in the first sub-bitstream, and

wherein in a case that the non-scalable-nested SEI messages are generated, a second SEI NAL unit is generated, and the scalable-nested SEI messages are extracted from the scalable nesting SEI message and are included in the second SEI NAL unit as the non-scalable-nested SEI messages.

2. The method of claim 1, wherein the second SEI NAL unit is included immediately after the first SEI NAL unit in a PU containing the first SEI NAL unit in the first sub-bitstream.

3. The method of claim 2, wherein the first SEI NAL unit is removed from the first sub-bitstream to generate the output sub-bitstream.

4. The method of claim 1, wherein the rule specifies to generate the non-scalable-nested SEI messages when a set of conditions are satisfied, wherein the set of conditions comprise that the first SEI NAL unit contain the scalable nesting SEI message with the sn_ols_flag equal to 1 and the sn_subpic_flag that applies to a target OLS is equal to 0.

5. The method of claim 4, wherein the set of conditions comprise that a list of network abstraction layer (NAL) unit header identifier values in an OLS with a target OLS index does not include all

values of NAL unit header identifiers in all video coding layer (VCL) NAL units in the first sub-bitstream.

6. The method of claim 5, wherein the rule further specifies that, in response to that the list of NAL unit header identifier values in the OLS does not include all values of NAL unit header identifiers in all VCL NAL units in the bitstream that is input to the process of sub-bitstream extraction, the following further applies:

1) all SEI NAL units that contain a non-scalable-nested SEI message with payload type equal to 0 or 130 are removed from the output sub-bitstream, and

2) when general_same_pic_timing_in_all_ols_flag is equal to 0, all SEI NAL units that contain a non-scalable-nested SEI message with payload type equal to 1 are removed from the output sub-bitstream.

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

8. The method of claim 1, wherein the conversion includes decoding the video from the bitstream.

9. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

perform a conversion between a video including one or more layers and a bitstream of the video according to a rule,

wherein the rule specifies, in a process of sub-bitstream extraction in which a first sub-bitstream is used to derive an output sub-bitstream, whether to generate non-scalable-nested supplementary enhancement information (SEI) messages by extracting scalable-nested SEI messages from a scalable nesting SEI message is based on a first flag denoted as sn_ols_flag and a second flag denoted as sn_subpic_flag,

wherein the scalable nesting SEI message is contained in a first SEI network abstraction layer (NAL) unit contained in the first sub-bitstream, and

wherein in a case that the non-scalable-nested SEI messages are generated, a second SEI NAL unit is generated, and the scalable-nested SEI messages are extracted from the scalable

nesting SEI message and are included in the second SEI NAL unit as the non-scalable-nested SEI messages.

10. The apparatus of claim 9,

wherein the second SEI NAL unit is included immediately after the first SEI NAL unit in a PU containing the first SEI NAL unit in the first sub-bitstream, and

wherein the first SEI NAL unit is removed from the first sub-bitstream to generate the output sub-bitstream.

11. The apparatus of claim 9, wherein the rule specifies to generate the non-scalable-nested SEI messages when a set of conditions are satisfied, wherein the set of conditions comprise that the first SEI NAL unit contain the scalable nesting SEI message with the sn_ols_flag equal to 1 and the sn_subpic_flag that applies to a target OLS is equal to 0.

12. The apparatus of claim 11, wherein the set of conditions comprise that a list of network abstraction layer (NAL) unit header identifier values in an OLS with a target OLS index does not include all values of NAL unit header identifiers in all video coding layer (VCL) NAL units in the first sub-bitstream.

13. The apparatus of claim 12, wherein the rule further specifies that, in response to that the list of NAL unit header identifier values in the OLS does not include all values of NAL unit header identifiers in all VCL NAL units in the bitstream that is input to the process of sub-bitstream extraction, the following further applies:

1) all SEI NAL units that contain a non-scalable-nested SEI message with payload type equal to 0 or 130 are removed from the output sub-bitstream, and

2) when general_same_pic_timing_in_all_ols_flag is equal to 0, all SEI NAL units that contain a non-scalable-nested SEI message with payload type equal to 1 are removed from the output sub-bitstream.

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

perform a conversion between a video including one or more layers and a bitstream of the video according to a rule,

wherein the rule specifies, in a process of sub-bitstream extraction in which a first sub-bitstream is used to derive an output sub-bitstream, whether to generate non-scalable-nested supplementary enhancement information (SEI) messages by extracting scalable-nested SEI messages from a scalable nesting SEI message is based on a first flag denoted as sn_ols_flag and a second flag denoted as sn_subpic_flag,

wherein the scalable nesting SEI message is contained in a first SEI network abstraction layer (NAL) unit contained in the first sub-bitstream, and

wherein in a case that the non-scalable-nested SEI messages are generated, a second SEI NAL unit is generated, and the scalable-nested SEI messages are extracted from the scalable nesting SEI message and are included in the second SEI NAL unit as the non-scalable-nested SEI messages.

15. The non-transitory computer-readable storage medium of claim 14,

wherein the second SEI NAL unit is included immediately after the first SEI NAL unit in a PU containing the first SEI NAL unit in the first sub-bitstream, and

wherein the first SEI NAL unit is removed from the first sub-bitstream to generate the output sub-bitstream.

16. A non-transitory computer-readable recording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

generating the bitstream of the video including one or more layers according to a rule,

wherein the rule specifies, in a process of sub-bitstream extraction in which a first sub-bitstream is used to derive an output sub-bitstream, whether to generate non-scalable-nested supplementary enhancement information (SEI) messages by extracting scalable-nested SEI messages from a scalable nesting SEI message is based on a first flag denoted as sn_ols_flag and a second flag denoted as sn_subpic_flag,

wherein the scalable nesting SEI message is contained in a first SEI network abstraction layer (NAL) unit contained in the first sub-bitstream, and

wherein in a case that the non-scalable-nested SEI messages are generated, a second SEI NAL unit is generated, and the scalable-nested SEI messages are extracted from the scalable nesting SEI message and are included in the second SEI NAL unit as the non-scalable-nested SEI messages.

17. The non-transitory computer-readable recording medium of claim 16,

wherein the second SEI NAL unit is included immediately after the first SEI NAL unit in a PU containing the first SEI NAL unit in the first sub-bitstream, and

wherein the first SEI NAL unit is removed from the first sub-bitstream to generate the output sub-bitstream.