Claims:

1. A method performed by at least one processor, the method comprising:

receiving a coded video stream including a video parameter set (VPS) and video data partitioned into a plurality of layers, wherein the VPS comprises an ols_mode_idc parameter specifying whether for each output layer set (OLS) all layers or only a highest layer in the OLS is an output layer,

identifying a first flag from the VPS that specifies whether layers specified by the VPS use inter-layer prediction or that the layers are independently coded without using inter-layer prediction,

identifying a second flag from the VPS that specifies whether each OLS contains only one layer or at least one OLS contains more than one layer,

in response to the first flag being equal to 1 and the second flag being equal to 0, inferring a value of the ols_mode_idc parameter being equal to 2, and

decoding, based on the ols_mode_idc parameter, a portion of the video data of the coded video stream.

2. The method of claim 1, wherein further comprising:

deriving, based on the VPS, (1) at least one first syntax element that specifies at least one first layer, from among the plurality of layers, to be outputted in an output layer set, and (2) at least one second syntax element that indicates profile-tier-level information of the output layer set;

wherein the VPS includes a third syntax element that indicates a number of the profile-tier-level information of the output layer set in a coded video sequence of the coded video stream referring to the VPS.

3. The method of claim 2, wherein the third syntax element is signalled within the VPS, based on a maximum allowed number of layers in each coded video sequence of the coded video stream referring to the VPS being greater than 1.

4. The method of claim 2, wherein the at least one second syntax element includes a set of syntax elements indicating the profile-tier-level information or includes an index indicating at least one entry in a profile-tier-level information set.

5. The method of claim 2, wherein the VPS includes a fourth syntax element that indicates a mode of output layer signaling for the output layer set.

6. The method of claim 5, wherein the at least one first syntax element is signalled within the VPS based on the mode indicated by the fourth syntax element.

7. The method of claim 6, wherein the at least one first syntax element includes a flag indicating whether one of the plurality of layers is to be output.

8. The method of claim 2, wherein

the VPS includes a fourth syntax element that indicates a mode of output layer set signaling for a plurality of output layer sets, including the output layer set, and

the decoding the coded video stream based on the VPS further comprises inferring whether to output a second layer, from the among the plurality of layers, based on a mode indicated by the fourth syntax element.

9. The method of claim 2, wherein the decoding the coded video stream further comprises inferring a mode of output layer set signaling for a plurality of output layer sets, including the output layer set, based on the VPS.

10. A system for decoding a coded video stream that includes a video parameter set (VPS) and video data partitioned into a plurality of layers, the system comprising:

memory configured to store computer program code; and

at least one processor configured to receive the coded video stream, access the computer program code, and operate as instructed by the computer program code, the computer program code comprising:

decoding code configured to cause the at least one processor to decode, based on the VPS, a portion of the video data of the coded video stream that corresponds to an output layer set,

wherein the VPS includes at least one first syntax element that specifies at least one first layer, from among the plurality of layers, to be outputted in the output layer set, and at least one second syntax element that indicates profile-tier-level information of the output layer set;

the VPS further includes a third syntax element that indicates a number of the profile-tier-level information of the output layer set in a coded video sequence of the coded video stream referring to the VPS, and

the third syntax element is signalled within the VPS, based on a maximum allowed number of layers in each coded video sequence of the coded video stream referring to the VPS being greater than 1.

11. The system of claim 10, wherein the at least one second syntax element includes a set of syntax elements indicating the profile-tier-level information or includes an index indicating at least one entry in a profile-tier-level information set.

12. The system of claim 10, wherein the VPS further includes a fourth syntax element that indicates a mode of output layer signaling for the output layer set.

13. The system of claim 12, wherein the at least one first syntax element is signalled within the VPS based on the mode indicated by the fourth syntax element.

14. The system of claim 13, wherein the at least one first syntax element includes a flag indicating whether one of the plurality of layers is to be output.

15. The system of claim 10, wherein

the VPS further includes a fourth syntax element that indicates a mode of output layer set signaling for a plurality of output layer sets, including the output layer set, and

the decoding code is further configured cause the at least one processor to infer whether to output a second layer, from the among the plurality of layers, based on a mode indicated by the fourth syntax element.

16. The system of claim 10, wherein the video parameter set (VPS) comprises an ols_mode_idc parameter specifying whether for each output layer set (OLS) all layers or only a highest layer in the OLS is an output layer, and

the decoding code is further configured to:

identify a first flag from the VPS that specifies whether layers specified by the VPS use inter-layer prediction or that the layers are independently coded without using inter-layer prediction;

identify a second flag from the VPS that specifies whether each OLS contains only one layer or at least one OLS contains more than one layer; and

infer a value of the ols_mode_idc parameter being equal to 2 in response to the first flag being equal to 1 and the second flag being equal to 0.

17. A non-transitory computer-readable medium storing computer instructions that, when executed by at least one processor, cause the at least one processor to:

decode, based on a video parameter set (VPS), a portion of video data of a coded video stream that corresponds to an output layer set, wherein

the coded video stream comprises the VPS and the video data, the video data partitioned into a plurality of layers,

the VPS including at least one first syntax element that specifies at least one first layer, from among the plurality of layers, to be outputted in the output layer set, and at least one second syntax element that indicates profile-tier-level information of the output layer set;

the VPS includes a third syntax element that indicates a number of the profile-tier-level information of the output layer set in a coded video sequence of the coded video stream referring to the VPS, and

the third syntax element is signalled within the VPS, based on a maximum allowed number of layers in each coded video sequence of the coded video stream referring to the VPS being greater than 1.

18. A method performed by at least one processor, the method comprising:

receiving a source video sequence from a video source;

encoding and compressing pictures of the source video sequence into a coded video stream, the coded video stream including a video parameter set (VPS) and video data partitioned into a plurality of layers,

wherein the VPS comprises an ols_mode_idc parameter specifying whether for each output layer set (OLS) all layers or only a highest layer in the OLS is an output layer, a first flag specifying whether layers specified by the VPS use inter-layer prediction or that the layers are independently coded without using inter-layer prediction, and a second flag specifying whether each OLS contains only one layer or at least one OLS contains more than one layer; and in response to the first flag being equal to 1 and the second flag being equal to 0, a value of the ols_mode_idc parameter is equal to 2.

19. A system for encoding a video stream, the system comprising:

memory configured to store computer program code; and

at least one processor configured to access the computer program code, and operate as instructed by the computer program code, the computer program code comprising:

receiving code configured to cause the at least one processor to receive a source video sequence from a video source;

encoding code configured to cause the at least one processor to encode and compress pictures of the source video sequence into a coded video stream, the coded video stream including a video parameter set (VPS) and video data partitioned into a plurality of layers,

wherein the VPS comprises an ols_mode_idc parameter specifying whether for each output layer set (OLS) all layers or only a highest layer in the OLS is an output layer, a first flag specifying whether layers specified by the VPS use inter-layer prediction or that the

layers are independently coded without using inter-layer prediction, and a second flag specifying whether each OLS contains only one layer or at least one OLS contains more than one layer; and in response to the first flag being equal to 1 and the second flag being equal to 0, a value of the ols_mode_idc parameter is equal to 2.