CLAIMS

1. A video decoding apparatus comprising a processor and a memory, the processor, working together with the memory, configured to:

read one or more video coding layer (VCL) network abstraction layer (NAL) units representing one or more slices in a video data stream, wherein a VCL NAL unit of the one or more VCL NAL units includes an alf_ctb_flag that specifies whether an adaptive loop filter (ALF) is applied to a coding tree block (CTB) of the VCL NAL unit;

generate a reconstructed version of a decoded picture from the one or more VCL NAL units; and

perform adaptive loop filtering on the reconstructed version of the decoded picture in a manner depending on one or more ALF coefficients of a non-VCL NAL unit corresponding to a previous picture, wherein the non-VCL NAL unit has a suffix adaptive parameter set (APS) NAL unit type indicating that the non-VCL NAL unit follows after all VCL NAL units of an AU.

2. The video decoding apparatus of claim 1, wherein the video decoding apparatus is one of a computer or a mobile device.

3. A method for decoding a video data stream comprising:

reading one or more video coding layer (VCL) network abstraction layer (NAL) units representing one or more slices in the video data stream, wherein a VCL NAL unit of the one or more VCL NAL units includes an alf_ctb_flag that specifies whether an adaptive loop filter (ALF) is applied to a coding tree block (CTB) of the VCL NAL unit;

generating a reconstructed version of a decoded picture from the one or more VCL NAL units; and

performing adaptive loop filtering on the reconstructed version of the decoded picture in a manner depending on one or more ALF coefficients of a non-VCL NAL unit corresponding to a previous picture, wherein the non-VCL NAL unit has a suffix adaptive parameter set (APS) NAL unit type indicating that the non-VCL NAL unit follows after all VCL NAL units of an AU.

4. A video encoding apparatus comprising a processor and a memory, the processor, working together with the memory, configured to:

encode, in a video data stream, one or more adaptive loop filter (ALF) coefficients of a non-video coding layer (VCL) network abstraction layer (NAL) unit corresponding to a first picture, wherein the non-VCL NAL unit has a suffix adaptive parameter set (APS) NAL unit type indicating that the non-VCL NAL unit follows after all VCL NAL units of an AU; and

encode one or more VCL NAL units representing one or more slices of a second picture that follows after the first picture in the video data stream, wherein a VCL NAL unit of the one or more VCL NAL units includes an alf_ctb_flag that specifies whether the one or more ALF coefficients is applied to a coding tree block (CTB) of the VCL NAL unit.

5. The video encoding apparatus of claim 4, wherein the video encoding apparatus comprises one of a computer or a mobile device.

6. A method for video encoding a video data stream comprising:

encoding, in the video data stream, one or more adaptive loop filter (ALF) coefficients of a non-video coding layer (VCL) network abstraction layer (NAL) unit corresponding to a first picture, wherein the non-VCL NAL unit has a suffix adaptive parameter set (APS) NAL unit type indicating that the non-VCL NAL unit follows after all VCL NAL units of an AU; and

encoding one or more VCL NAL units representing one or more slices of a second picture that follows after the first picture in the video data stream, wherein a VCL NAL unit of the one or more VCL NAL units includes an alf_ctb_flag that specifies whether the one or more ALF coefficients is applied to a coding tree block (CTB) of the VCL NAL unit.

7. A non-transitory computer readable medium storing instructions which, when executed, cause a computer to perform a method, the method comprising:

reading one or more video coding layer (VCL) network abstraction layer (NAL) units representing one or more slices in the in a video data stream;

generating a reconstructed version of a decoded picture from the one or more VCL NAL units; and

performing adaptive loop filtering on the reconstructed version of the decoded picture in a manner depending on one or more ALF coefficients of a non-VCL NAL unit corresponding to a previous picture, wherein the non-VCL NAL unit has a suffix adaptive parameter set (APS) NAL unit type indicating that the non-VCL NAL unit follows after all VCL NAL units of an AU.

8. A non-transitory computer readable medium storing instructions which, when executed, cause a computer to perform a method, the method comprising:

encode, in a video data stream, one or more adaptive loop filter (ALF) coefficients of a non-video coding layer (VCL) network abstraction layer (NAL) unit corresponding to a first picture, wherein the non-VCL NAL unit has a suffix adaptive parameter set (APS) NAL unit type indicating that the non-VCL NAL unit follows after all VCL NAL units of an AU; and

encoding one or more VCL NAL units representing one or more slices of a second picture that follows after the first picture in the video data stream, wherein a VCL NAL unit of the one or more VCL NAL units includes an alf_ctb_flag that specifies whether the one or more ALF coefficients is applied to a coding tree block (CTB) of the VCL NAL unit.