~~WHAT IS~~ CLAIM~~ED I~~S:

1. A method of decoding an encoded video bitstream using at least one processor, the method comprising:

obtaining a video coding layer (VCL) network abstraction layer (NAL) unit;

determining whether the VCL NAL unit is a first VCL NAL unit of a picture unit (PU) containing the VCL NAL unit;

based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, determining whether the VCL NAL unit is a first VCL NAL unit of an access unit (AU) containing the PU; and

based on determining that the VCL NAL unit is the first VCL NAL unit of the AU, decoding the AU based on the VCL NAL unit;

wherein based on a value of all_pic_coding_info_present_in_ph_flag indicating that all picture coding information is present in a picture header, a plurality of flags corresponding to the picture coding information are not signaled in a picture parameter set corresponding to the picture header.

2. The method of claim 1, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the PU based on determining that the VCL NAL unit is a first VCL NAL unit following a picture header NAL unit.

3. The method of claim 1, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the PU based on determining that a flag in the VCL NAL unit is set to indicate that a picture header is included in a slice header included in the VCL NAL unit.

4. The method of claim 1, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a layer identifier of the VCL NAL unit is less than a layer identifier of a previous picture.

5. The method of claim 1, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a picture order count of the VCL NAL unit is different from a picture order count of a previous picture.

6. The method of claim 1, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a least significant bit of a picture order count of the VCL NAL unit is different from a least significant bit of a picture order count of a previous picture.

~~7. The method of claim 1, wherein based on a flag indicating that all picture coding information is present in a picture header, a plurality of flags corresponding to the picture coding information are not signaled.~~

~~8~~7. A device for decoding an encoded video bitstream, the device comprising:

at least one memory configured to store program code; and

at least one processor configured to read the program code and operate as instructed by the program code, the program code including:

first obtaining code configured to cause the at least one processor to obtain a video coding layer (VCL) network abstraction layer (NAL) unit;

first determining code configured to cause the at least one processor to determine whether the VCL NAL unit is a first VCL NAL unit of a picture unit (PU) containing the VCL NAL unit;

second determining code configured to cause the at least one processor to, based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, determine whether the VCL NAL unit is a first VCL NAL unit of an access unit (AU) containing the PU; and

decoding code configured to cause the at least one processor to, based on determining that the VCL NAL unit is the first VCL NAL unit of the AU, decode the AU based on the VCL NAL unit;

wherein based on a value of all_pic_coding_info_present_in_ph_flag indicating that all picture coding information is present in a picture header, a plurality of flags corresponding to the picture coding information are not signaled in a picture parameter set corresponding to the picture header.

~~9~~8. The device of claim ~~8~~7, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the PU based on determining that the VCL NAL unit is a first VCL NAL unit following a picture header NAL unit.

~~10~~9. The device of claim ~~8~~7, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the PU based on determining that a flag in the VCL NAL unit is set to indicate that a picture header is included in a slice header included in the VCL NAL unit.

~~11~~10. The device of claim ~~8~~7, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a layer identifier of the VCL NAL unit is less than a layer identifier of a previous picture.

~~12~~11. The device of claim ~~8~~7, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a picture order count of the VCL NAL unit is different from a picture order count of a previous picture.

~~13~~12. The device of claim ~~8~~7, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a least significant bit of a picture order count of the VCL NAL unit is different from a least significant bit of a picture order count of a previous picture.

~~14. The device of claim 8, wherein based on a flag indicating that all picture coding information is present in a picture header, a plurality of flags corresponding to the picture coding information are not signaled.~~

~~15~~13. A non-transitory computer-readable medium storing instructions, the instructions comprising: one or more instructions that, when executed by one or more processors of a device for decoding an encoded video bitstream, cause the one or more processors to:

obtain a video coding layer (VCL) network abstraction layer (NAL) unit;

determine whether the VCL NAL unit is a first VCL NAL unit of a picture unit (PU) containing the VCL NAL unit;

based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, determine whether the VCL NAL unit is a first VCL NAL unit of an access unit (AU) containing the PU; and

based on determining that the VCL NAL unit is the first VCL NAL unit of the AU, decode the AU based on the VCL NAL unit;

wherein based on a value of all_pic_coding_info_present_in_ph_flag indicating that all picture coding information is present in a picture header, a plurality of flags corresponding to the picture coding information are not signaled in a picture parameter set corresponding to the picture header.

~~16~~14. The non-transitory computer-readable medium of claim ~~15~~13, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the PU based on determining that the VCL NAL unit is a first VCL NAL unit following a picture header NAL unit.

~~17~~15. The non-transitory computer-readable medium of claim ~~15~~13, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the PU based on determining that a flag

in the VCL NAL unit is set to indicate that a picture header is included in a slice header included in the VCL NAL unit.

~~18~~16. The non-transitory computer-readable medium of claim ~~15~~13, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a layer identifier of the VCL NAL unit is less than a layer identifier of a previous picture.

~~19~~17. The non-transitory computer-readable medium of claim ~~15~~13, wherein the VCL NAL unit is determined to be the first VCL NAL unit of the AU based on determining that the VCL NAL unit is the first VCL NAL unit of the PU, and determining that a picture order count of the VCL NAL unit is different from a picture order count of a previous picture.

~~20. The non-transitory computer-readable medium of claim 15, wherein based on a flag indicating that all picture coding information is present in a picture header, a plurality of flags corresponding to the picture coding information are not signaled.~~