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| *Title:* | **AHG12: Example 3D-HEVC NAL unit header design** | | |
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| *Purpose:* | Information | | |
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# Abstract

This document provides, for information, two aspects on the NAL unit header design for HEVC based 3DV: 1) to use the NAL unit header field reserved\_one\_5bits to identify views for the HEVC based 3DV standard; 2) to use different NA unit types for texture and depth within a view component.

# The 3DV NAL unit header design

reserved\_one\_5bits is renamed as layer\_id\_plus1 (or view\_idx\_plus1) and new NAL unit types are added for different types of depth view components.

## NAL Unit Syntax

|  |  |
| --- | --- |
| nal\_unit( NumBytesInNALunit ) { | Descriptor |
| **forbidden\_zero\_bit** | f(1) |
| **nal\_ref\_flag** | u(1) |
| **nal\_unit\_type** | u(6) |
| NumBytesInRBSP = 0 |  |
| **temporal\_id** | u(3) |
| **layer\_id\_plus1 ~~reserved\_one\_5bits~~** | u(5) |
| for( i = nalUnitHeaderBytes; i < NumBytesInNALunit; i++ ) { |  |
| if( i + 2 < NumBytesInNALunit && next\_bits( 24 ) = = 0x000003 ) { |  |
| **rbsp\_byte[** NumBytesInRBSP++ **]** | b(8) |
| **rbsp\_byte[** NumBytesInRBSP++ **]** | b(8) |
| i += 2 |  |
| **emulation\_prevention\_three\_byte** /\* equal to 0x03 \*/ | f(8) |
| } else |  |
| **rbsp\_byte[** NumBytesInRBSP++ **]** | b(8) |
| } |  |
| } |  |

## Semantics

**layer\_id\_plus1** minus 1 specifies a layer identifier for the NAL unit. The value of layer\_id\_plus1 shall be the same for all NAL units of the same view in an access unit. Each layer corresponds to a view and a layer identifier is equivalent to the view index of a view.

NAL unit type codes and NAL unit type classes

|  |  |  |
| --- | --- | --- |
| **nal\_unit\_type** | **Content of NAL unit and RBSP syntax structure** | **NAL unit type class** |
| 0 | Unspecified | non-VCL |
| 1 | Coded texture slice of a non-IDR, non-CRA and non-TLA picture slice\_layer\_rbsp( ) [note: change picture to view component] | VCL |
| 2 | Reserved | n/a |
| 3 | Coded texture slice of a TLA picture  slice\_layer\_rbsp( ) | VCL |
| 4 | Coded texture slice of a CRA picture  slice\_layer\_rbsp( ) | VCL |
| 5 | Coded texture slice of an IDR picture slice\_layer\_rbsp( ) | VCL |
| 6 | Supplemental enhancement information (SEI) sei\_rbsp( ) | non-VCL |
| 7 | Sequence parameter set seq\_parameter\_set\_rbsp( ) | non-VCL |
| 8 | Picture parameter set pic\_parameter\_set\_rbsp( ) | non-VCL |
| 9 | Access unit delimiter access\_unit\_delimiter\_rbsp( ) | non-VCL |
| 10-11 | Reserved | n/a |
| 12 | Filler data filler\_data\_rbsp( ) | non-VCL |
| 13 | Reserved | n/a |
| 14 | Adaptation parameter set aps\_rbsp( ) | non-VCL |
| 15 | Coded depth slice of a non-IDR, non-CRA and non-TLA picture slice\_layer\_rbsp( ) | VCL |
| 16 | Coded depth slice of a TLA picture  slice\_layer\_rbsp( ) | VCL |
| 17 | Coded depth slice of a CRA picture  slice\_layer\_rbsp( ) | VCL |
| 18 | Coded depth slice of an IDR picture  slice\_layer\_rbsp( ) | VCL |
| 19-23 | Reserved | n/a |
| 24..63 | Unspecified | non-VCL |

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