

SHVC SKIP PICTURES

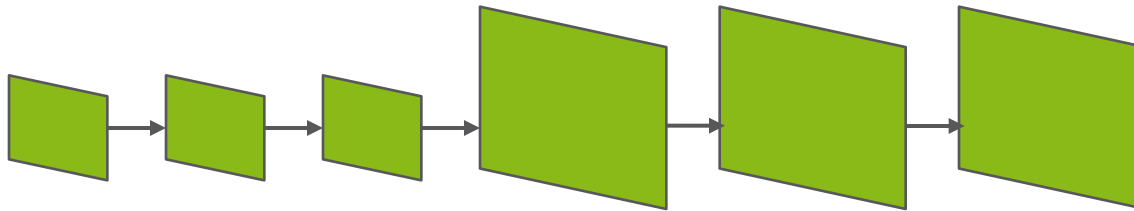
Jonatan Samuelsson, Jack Enhorn

OUTLINE

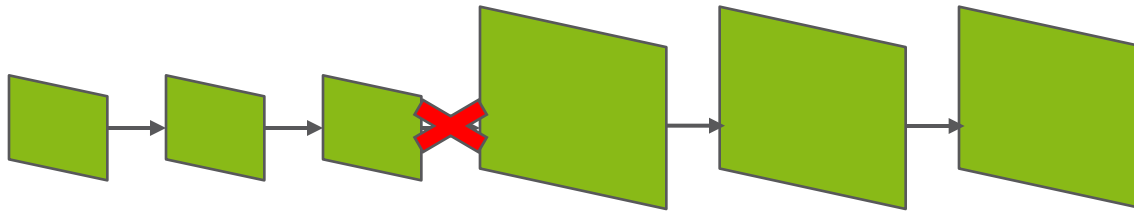


- › Adaptive resolution change
- › What we would like to do
- › Skip picture in JCTVC-N0209
- › Proposed additions to JCTVC-N0209

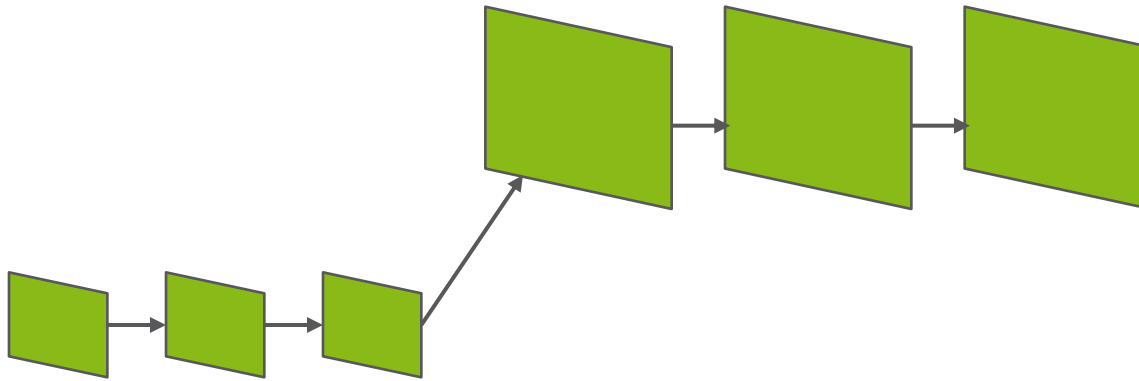
ADAPTIVE RESOLUTION CHANGE



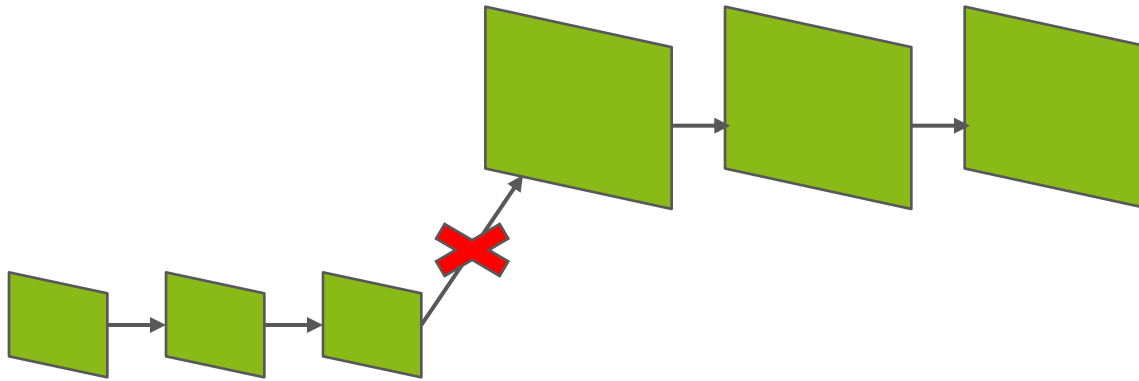
ADAPTIVE RESOLUTION CHANGE



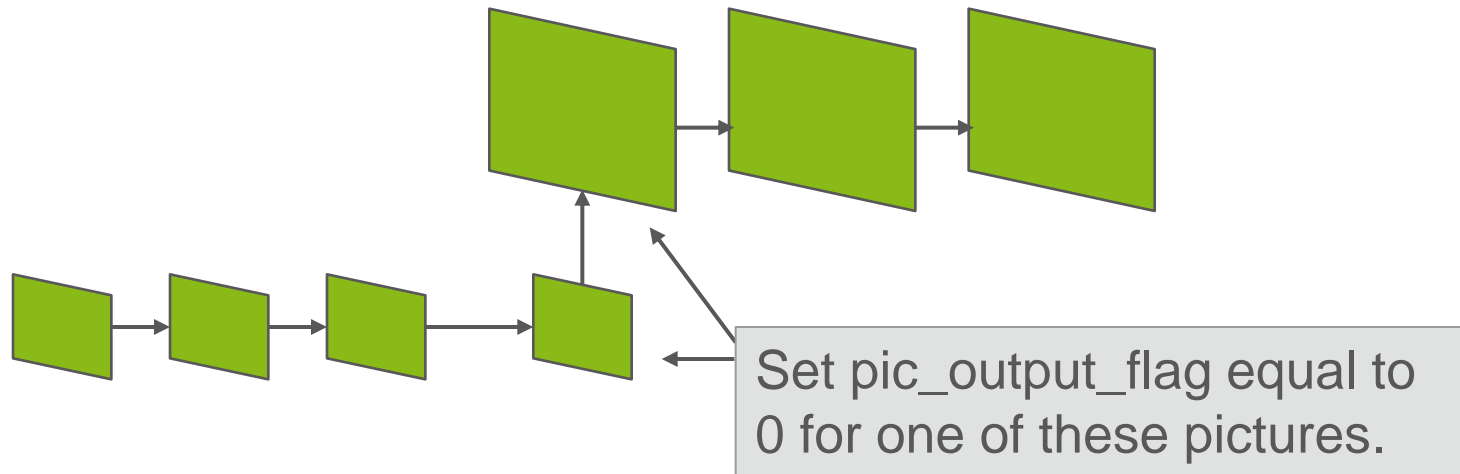
ADAPTIVE RESOLUTION CHANGE



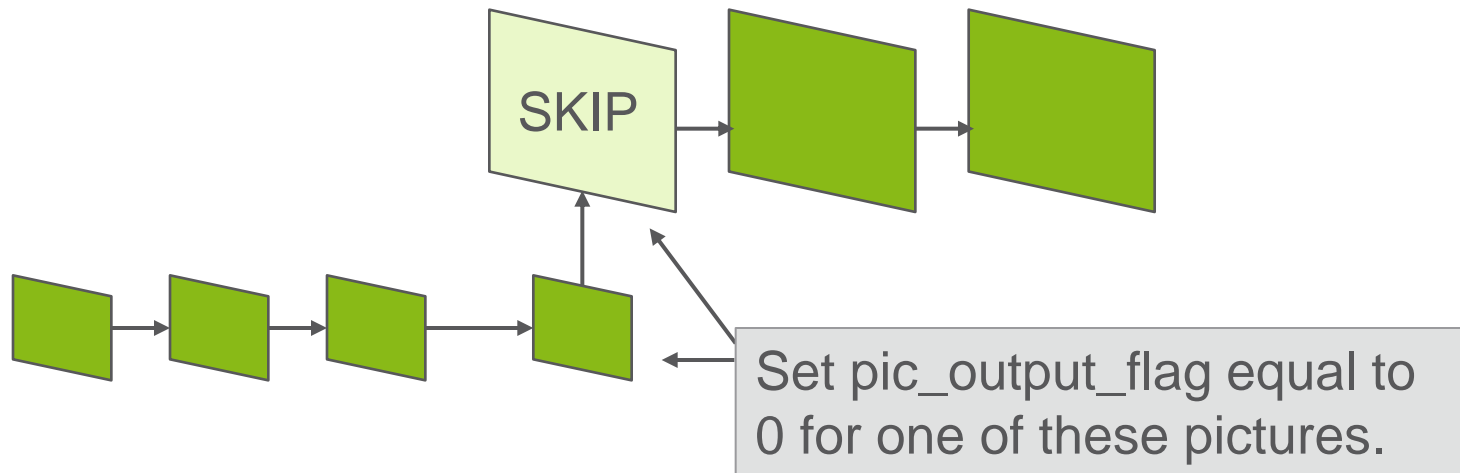
ADAPTIVE RESOLUTION CHANGE



ADAPTIVE RESOLUTION CHANGE



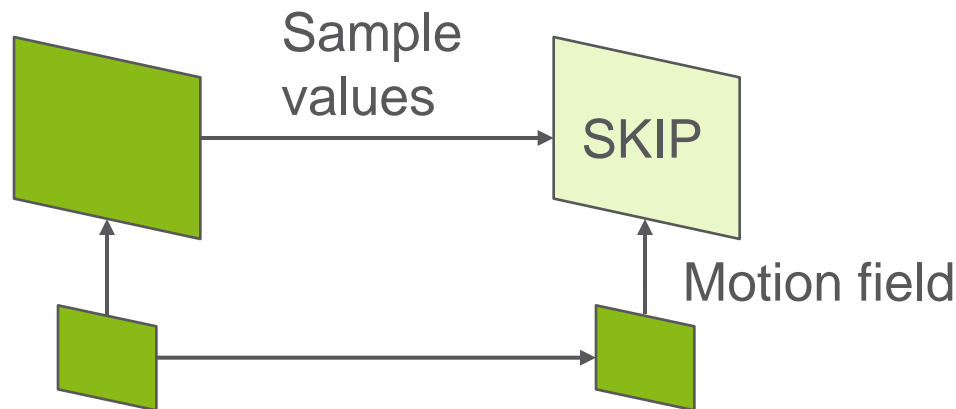
WHAT WE WANT TO DO



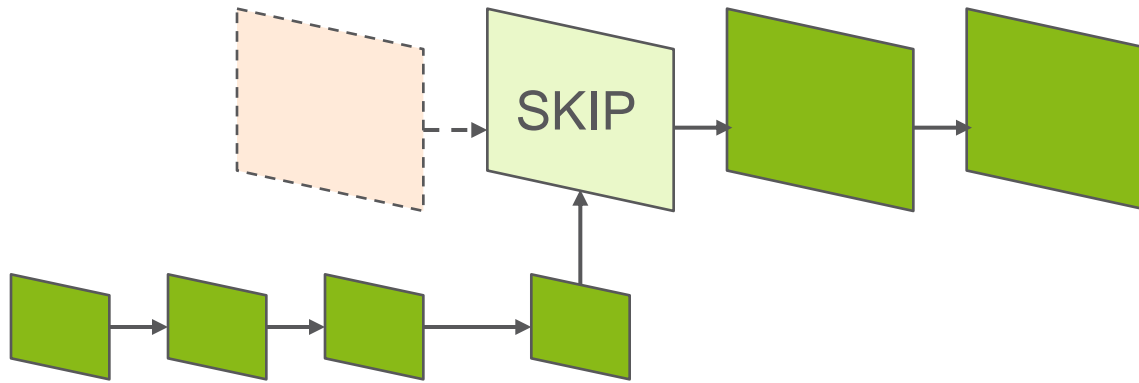
SKIP PICTURE IN N0209



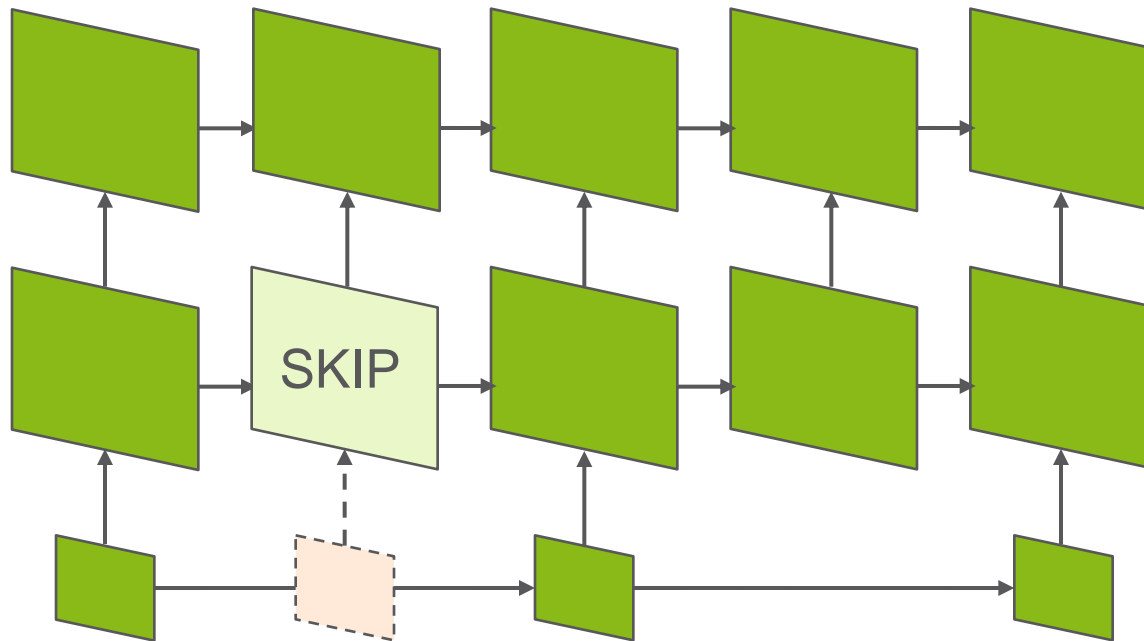
“To decode a skipped picture, motion compensation (uni-prediction or bi-prediction) is performed by applying the re-sampled motion field from the closest reference layer to the corresponding temporal reference pictures in the current layer’s DPB”



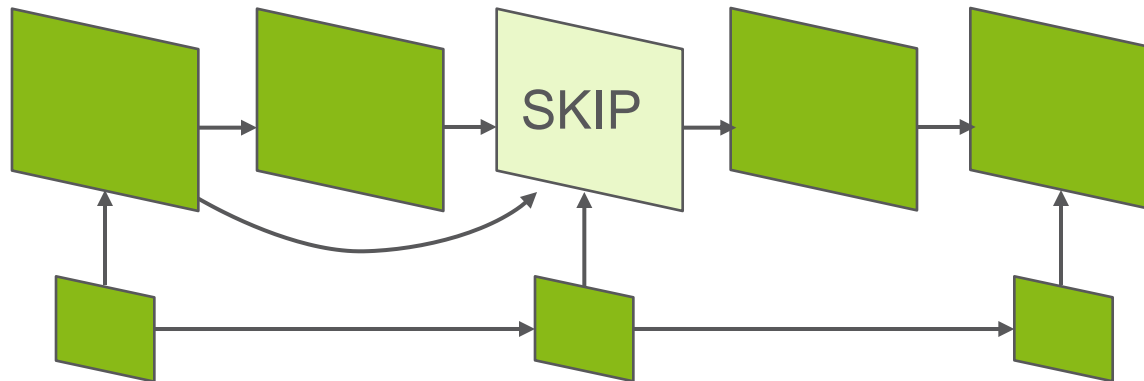
SKIP PICTURE IN N0209



SKIP PICTURE IN N0209



SKIP PICTURE IN N0209



PROPOSED ADDITIONS TO JCTVC-N0209



1. Use re-sampled sample values from the inter-layer reference picture when the picture used for inter prediction in the inter-layer reference picture has no corresponding picture in the enhancement layer or when motion vector prediction is not used from the inter-layer reference picture.
2. Use inter prediction with zero motion from the first picture in L0 (and L1 in case of a B slice) when no inter-layer reference picture is available.
3. Bitstream restriction to prohibit the use of skip picture when neither inter-layer reference pictures nor temporal reference pictures are available.
4. Allow deblocking filter to be applied to skip pictures.

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PROPOSAL



| | |
|---|-------------------|
| slice_segment_header() { | Descriptor |
| ... | u(v) |
| } | |
| if(!dependent_slice_segment_flag) { | |
| ... | |
| if(nuh_layer_id > 0 && ! all_ref_layers_active_flag && NumDirectRefLayers[nuh_layer_id] > 0) { | |
| inter_layer_pred_enabled_flag | u(1) |
| if(inter_layer_pred_enabled_flag && NumDirectRefLayers[nuh_layer_id] > 1) { | |
| if(!max_one_active_ref_layer_flag) | |
| num_inter_layer_ref_pics_minus1 | u(v) |
| if(NumActiveRefLayerPics != NumDirectRefLayers[nuh_layer_id]) | |
| for(i = 0; i < NumActiveRefLayerPics; i++) | |
| inter_layer_pred_layer_idc[i] | u(v) |
| } | |
| } | |
| if(nuh_layer_id > 0) | |
| skip_picture_flag | u(1) |
| ... | ! |
| } | |

PROPOSAL



| | Descriptor |
|-------------------------------------|------------|
| slice_segment_layer_rbsp() { | |
| slice_segment_header() | |
| if (!skip_picture_flag) | |
| slice_segment_data() | |
| rbsp_slice_segment_trailing_bits() | |
| } | |

Semantics

skip_picture_flag equal to 1 specifies that slice_segment_data() is not present for the current slice, and the decoding process for skipped picture is used for decoding the current picture. skip_picture_flag equal to 0 specifies that slice_segment_data() is present for the current slice. When skip_picture_flag is not present, it is inferred to be equal to 0.

It is a requirement of bitstream conformance that skip_picture_flag shall be the same for all slices of a coded picture. When skip_picture_flag is equal to 1 the value of all slice segment header syntax elements except first_slice_segment_in_pic_flag and slice_segment_address shall be the same in all slice segments of a coded picture. When slice_type is equal to I and NumActiveRefLayerPics is equal to 0, skip_picture_flag shall be equal to 0.



ERICSSON