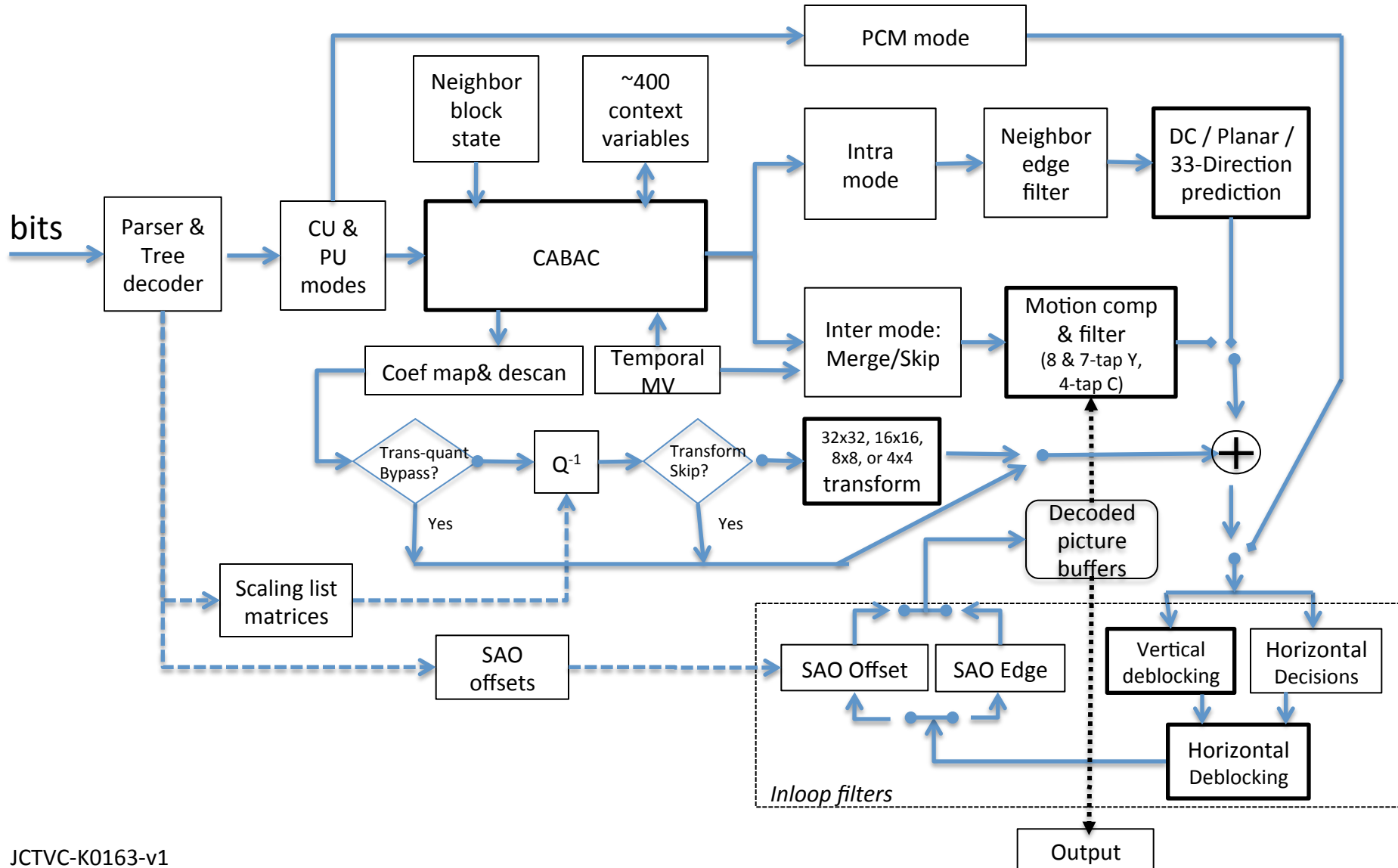


Updated suggested figures for HEVC

JCTVC-K0163-v1

HEVC HM 8.0 Decoder



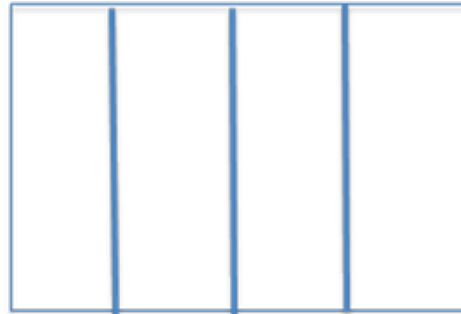
Layers

picture

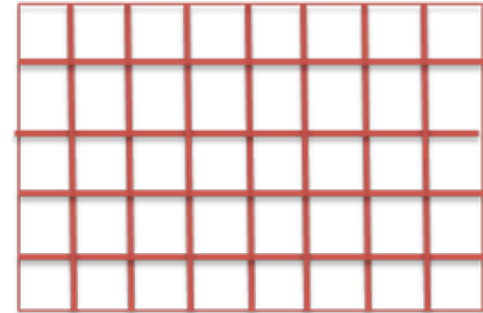


Tiles

(column-only case example for parallelism)

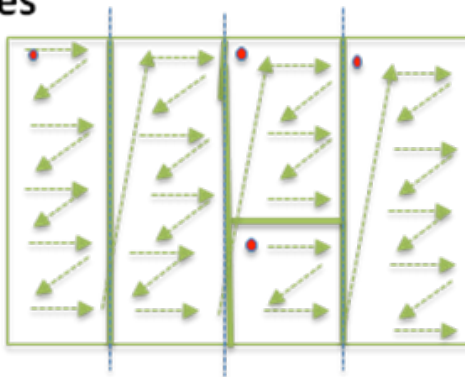


Treeblocks



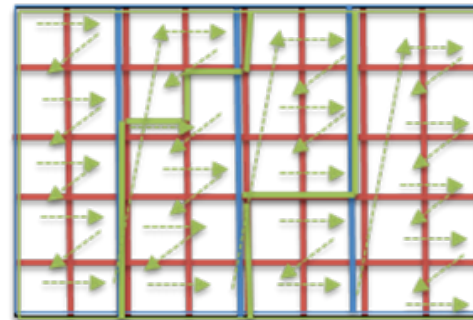
slices

— Tile boundaries from above



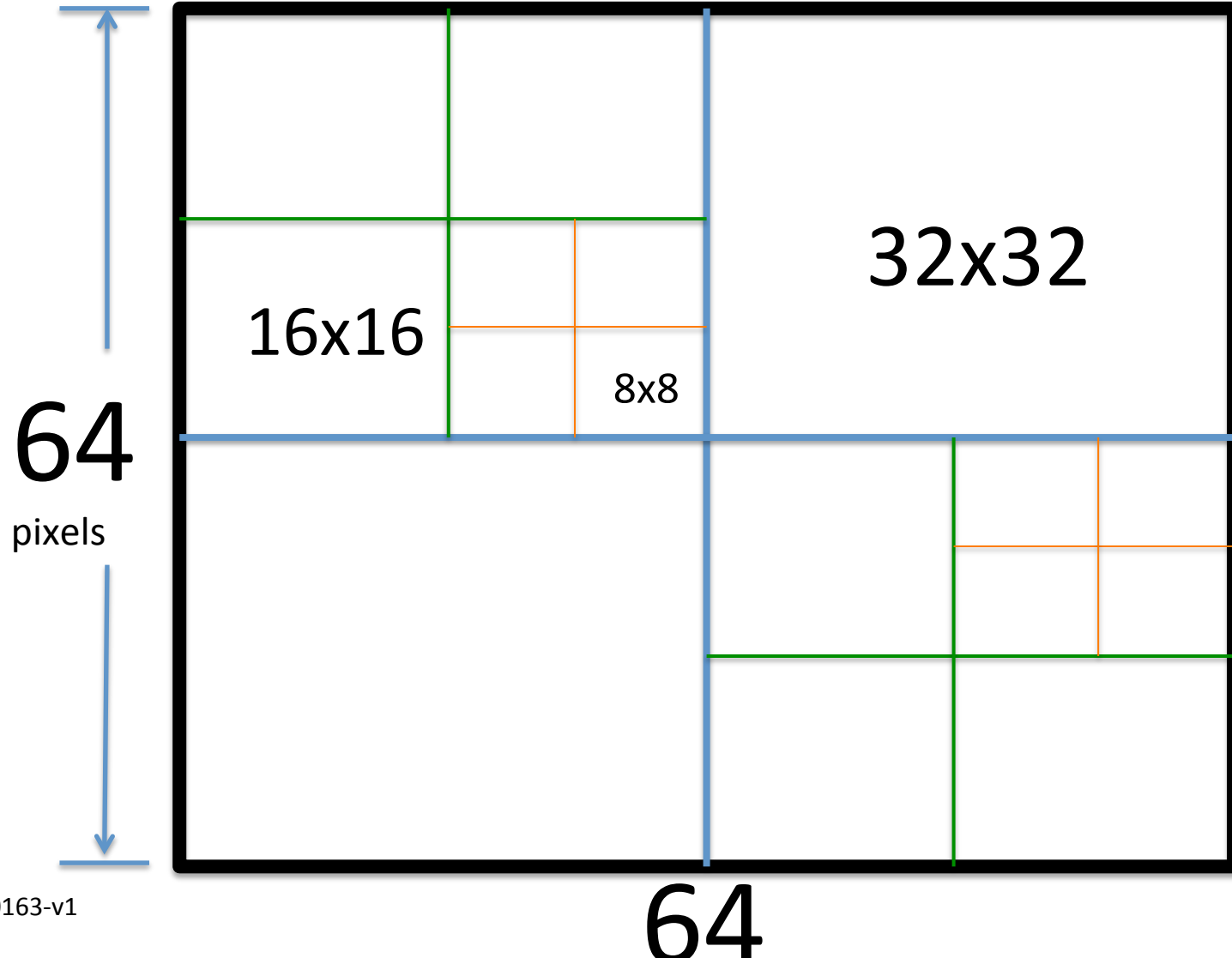
• Beginning of new slice

All layers superimposed



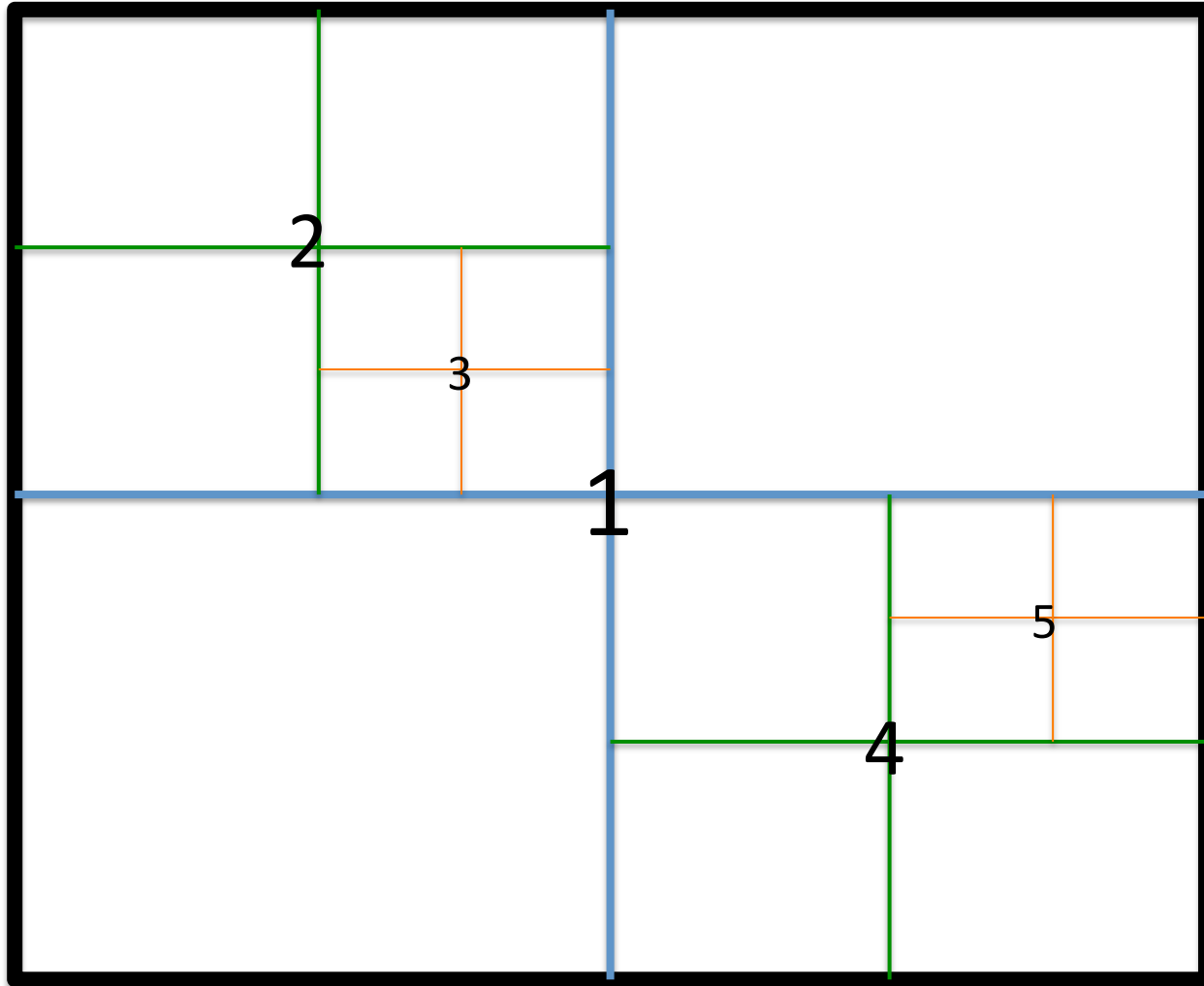
Example CTU split 3 levels deep

(CU splits are always into quads, hence: quadtree code)

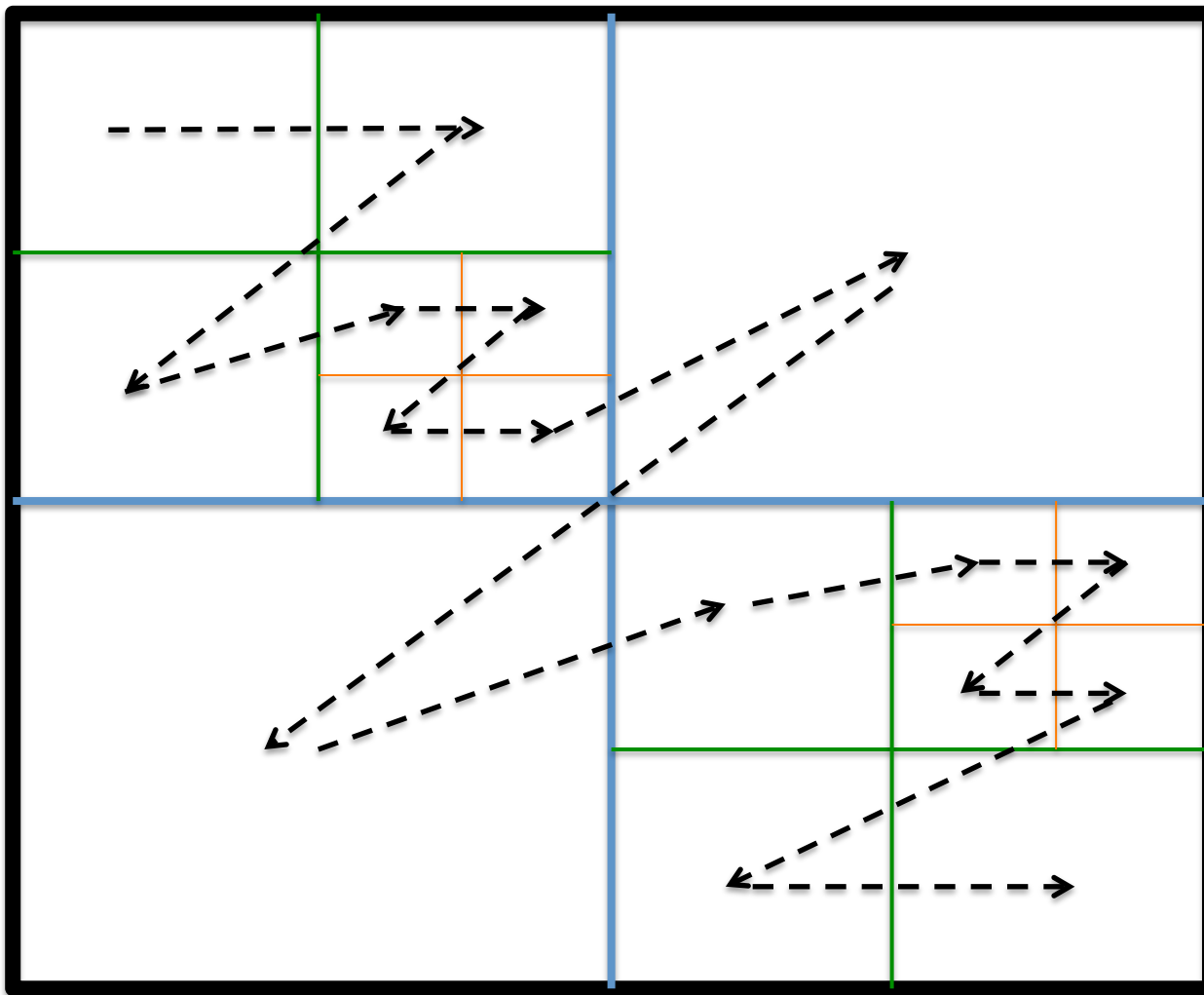


Signalled quadtree splits in bitstream order

where $cu_split_flag=1$ in each recursive level of $coding_quadtree()$

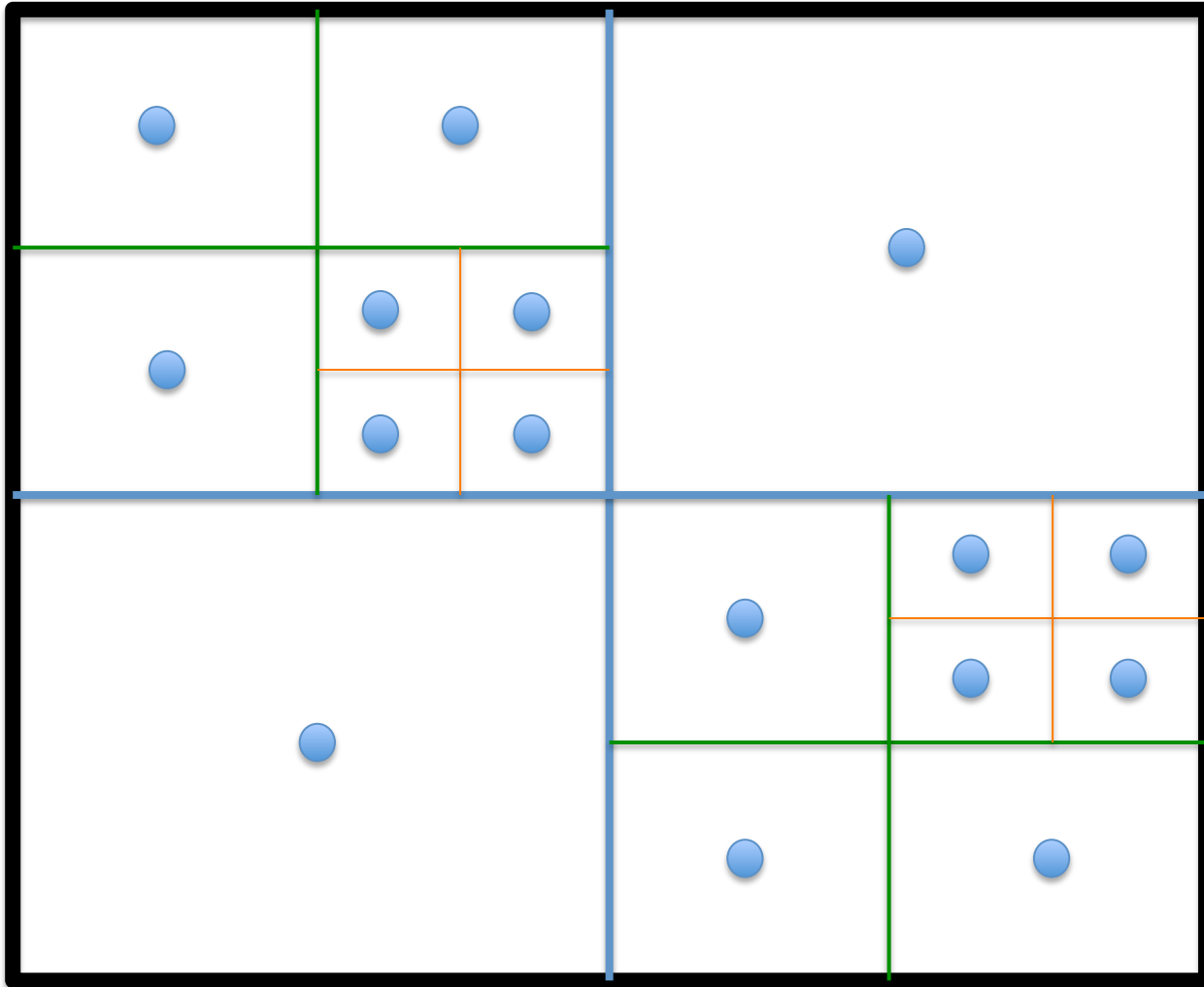


Bitstream CU block order

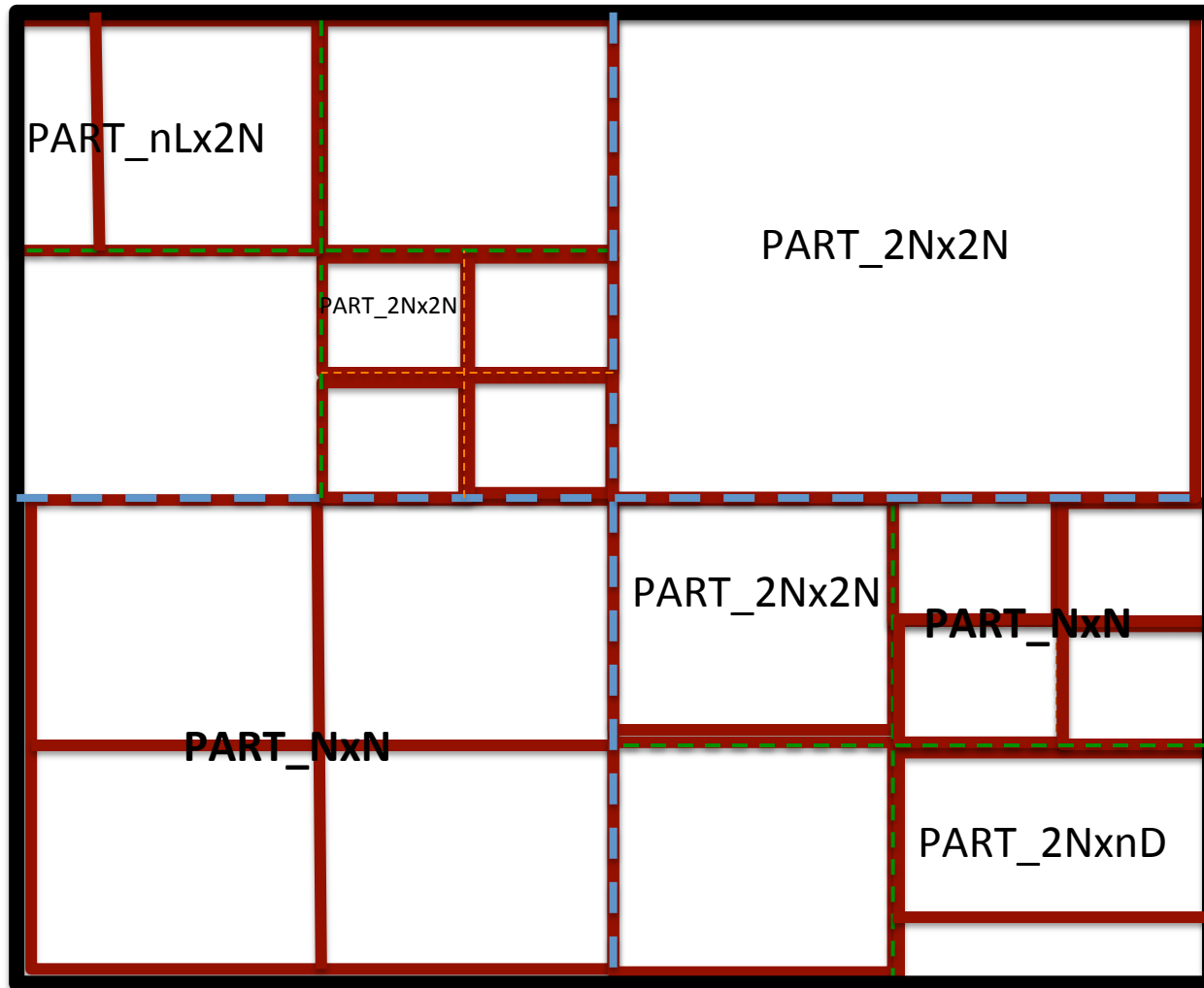


Root nodes

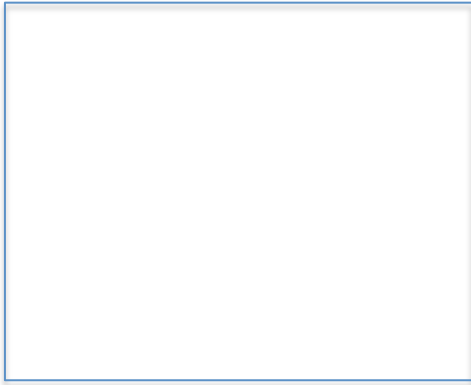
Every coding_tree() leaf is a CU and anchor point for the separate TU tree and PU partitions



Example of PU partitions within overall CTU example

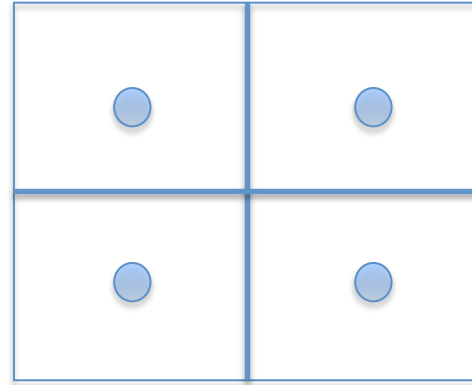


Each transform tree is recursively split into quads via `split_transform_flag`



`split_transform_flag = 0`

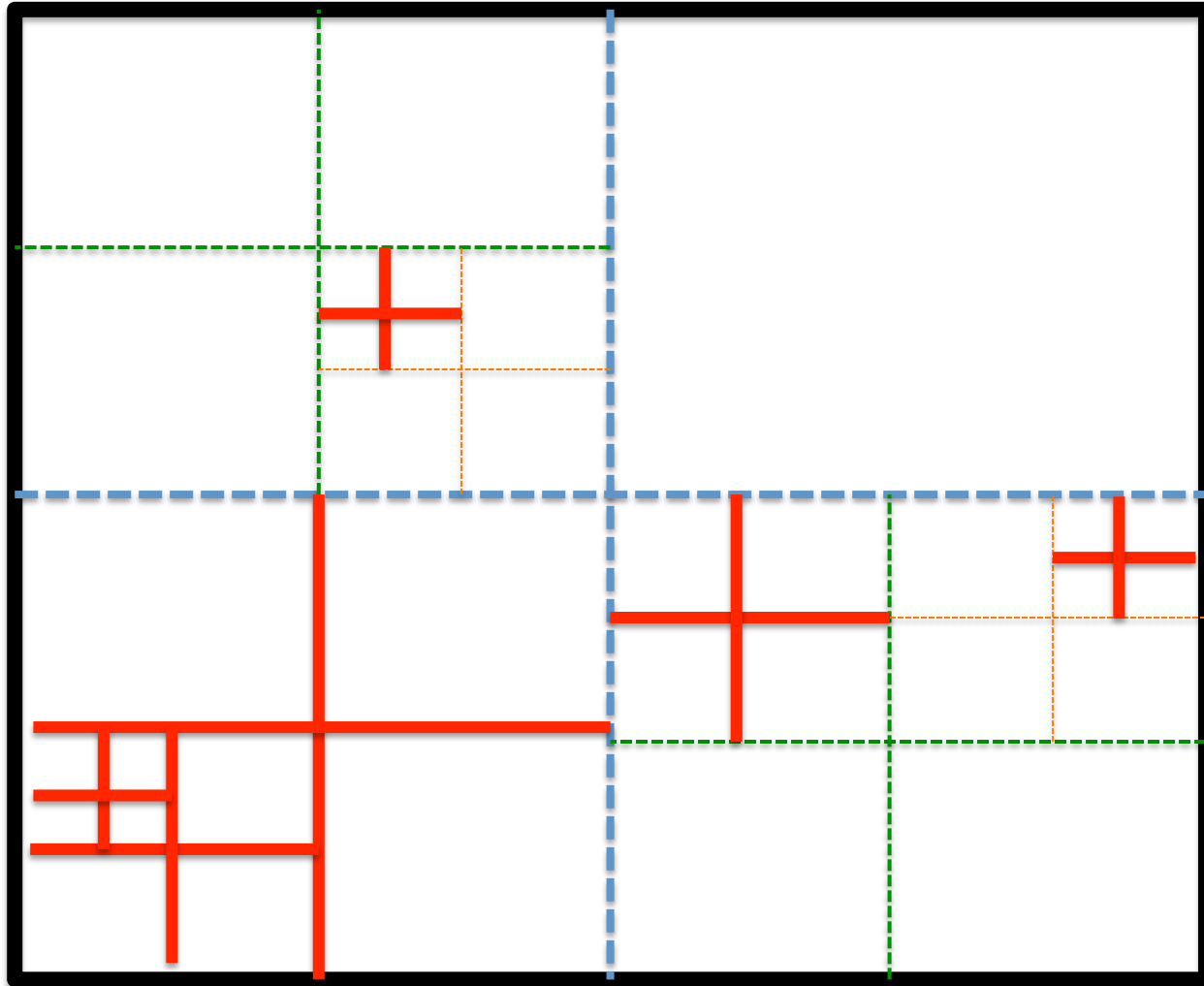
(terminal leaf: transform unit)



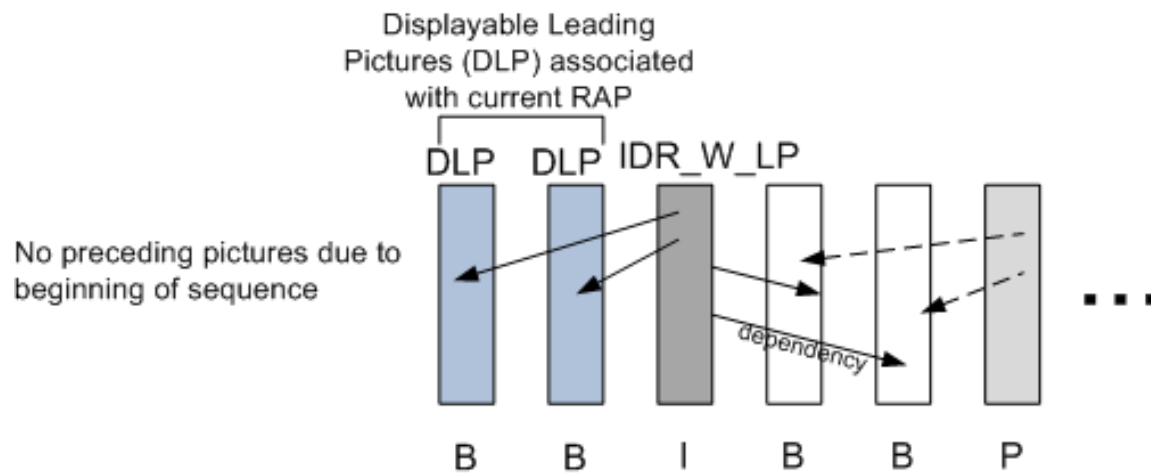
`split_transform_flag = 1`

(4 `transform_tree()`'s anchored at each partition)

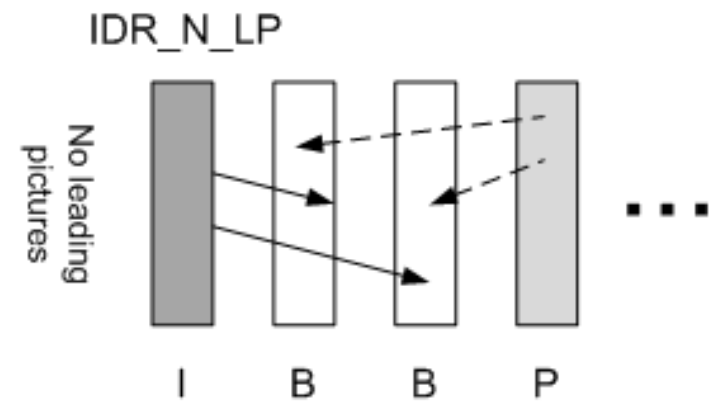
Transform_trees() have their own partitions bounded by the established CU's (dashed lines)



IDR with and without leading pics



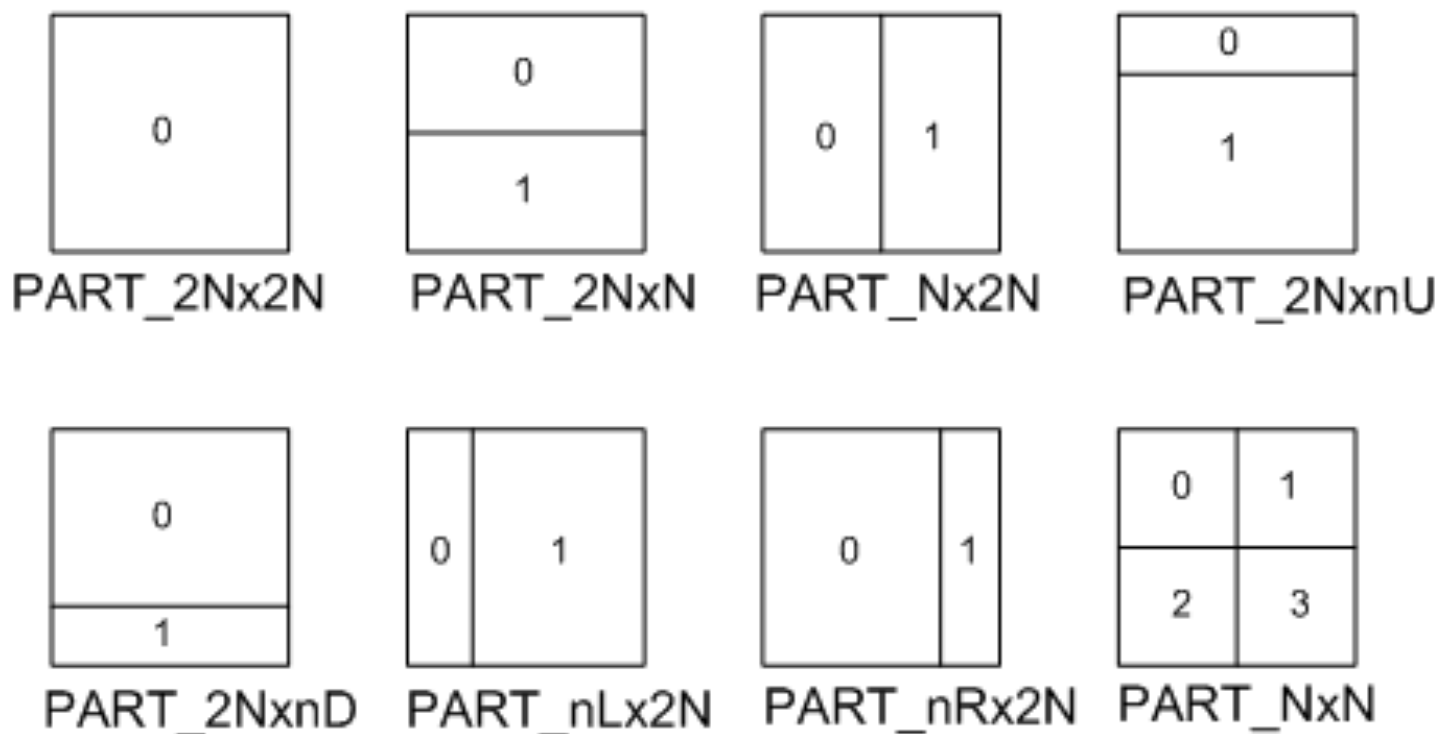
POC	0	1	0	1	2	3
FrameNum	1	2	0	4	5	3



POC	0	1	2	3
FrameNum	0	2	3	1

Below CU, the inter PU is only “split” once into 2 or 4 partitions, or not at all

PartMode



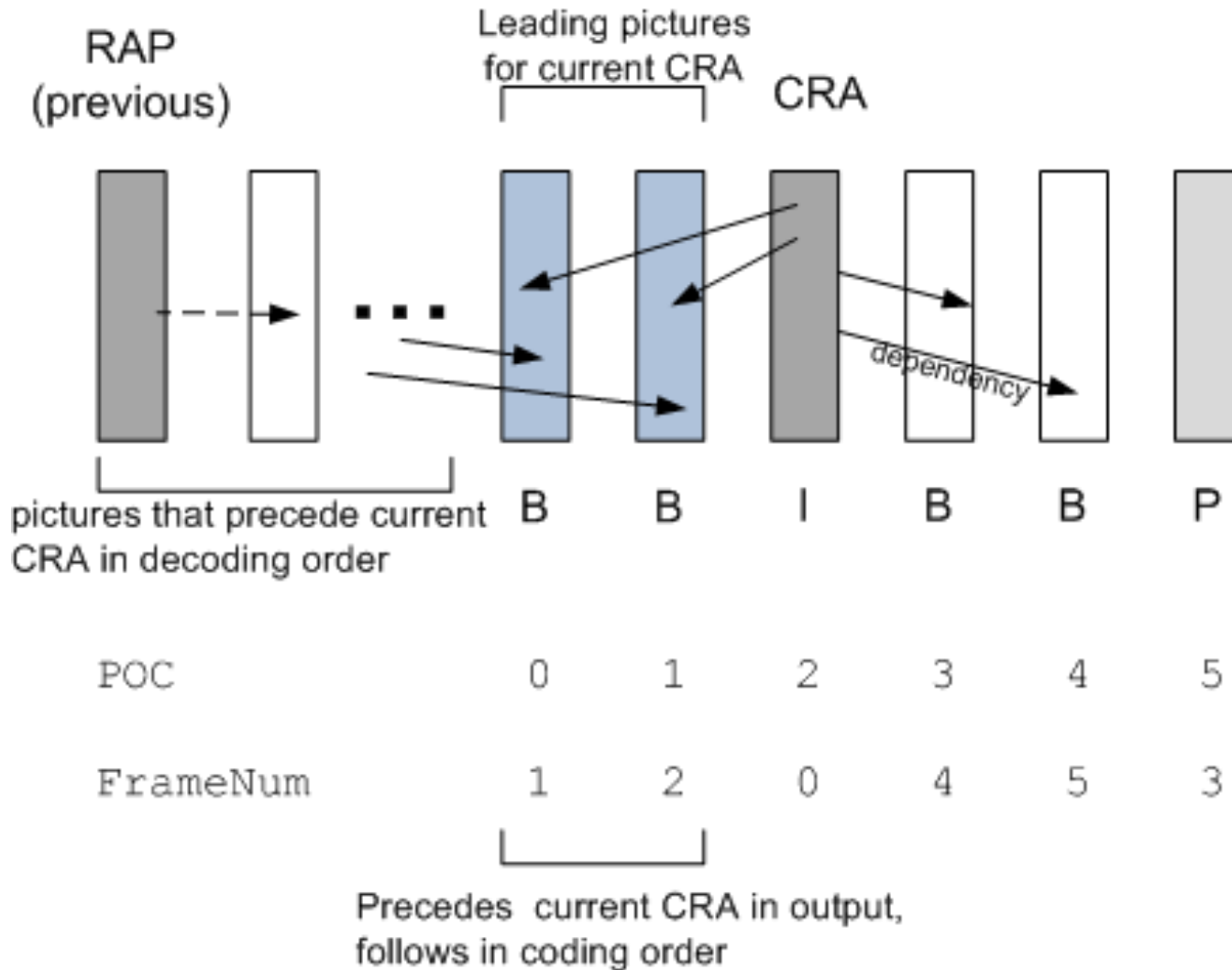
numbered partitions shown above.

[need to add INTRA partition size].

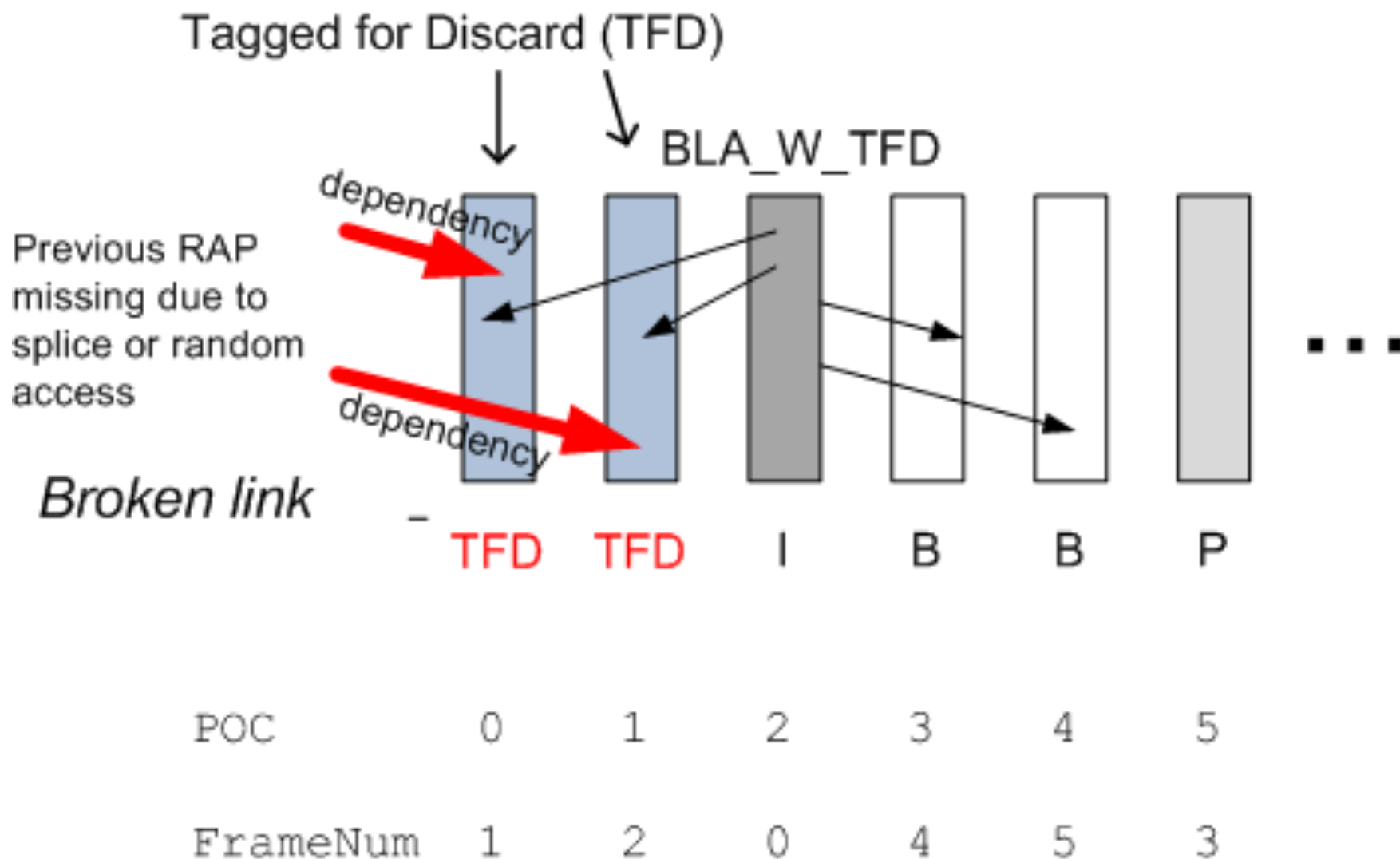
CU Size	PU options for given CU size. All TUs within a PU have the same prediction modes	
64x64 Y	64x64 Y	
	<div>64x32 Y</div> <div>64x32 Y</div> <div>ONLY FOR INTER</div>	<div>64x16 Y</div> <div>64x48 Y</div> <div>64x16 Y</div> <div>ONLY FOR INTER AND AMP ENABLED</div>
	<div>32x64 Y</div> <div>32x64 Y</div> <div>ONLY FOR INTER</div>	<div>16x64 Y</div> <div>48x64 Y</div> <div>48x64 Y</div> <div>10x64 Y</div> <div>ONLY FOR INTER AND AMP ENABLED</div>
32x32 Y	32x32 Y	
	<div>32x16 Y</div> <div>32x16 Y</div> <div>ONLY FOR INTER</div>	<div>32x8 Y</div> <div>32x24 Y</div> <div>32x8 Y</div> <div>ONLY FOR INTER AND AMP ENABLED</div>
	<div>16x32 Y</div> <div>16x32 Y</div> <div>ONLY FOR INTER</div>	<div>8x32 Y</div> <div>24x32 Y</div> <div>24x32 Y</div> <div>8x32 Y</div> <div>ONLY FOR INTER AND AMP ENABLED</div>
16x16 Y	16x16 Y	
	<div>16x8 Y</div> <div>16x8 Y</div> <div>ONLY FOR INTER</div>	<div>16x4 Y</div> <div>16x12 Y</div> <div>16x4 Y</div> <div>ONLY FOR INTER AND AMP ENABLED</div>
	<div>8x16 Y</div> <div>8x16 Y</div> <div>ONLY FOR INTER</div>	<div>4x16 Y</div> <div>12x16 Y</div> <div>12x16 Y</div> <div>4x16 Y</div> <div>ONLY FOR INTER AND AMP ENABLED</div>
8x8 Y	8x8 Y	
	<div>4x4 Y</div> <div>4x4 Y</div> <div>4x4 Y</div> <div>4x4 Y</div> <div>ONLY FOR INTER</div>	<div>8x4 Y</div> <div>8x4 Y</div> <div>ONLY FOR INTER</div>
	<div>4x4 Y</div> <div>4x4 Y</div> <div>4x4 Y</div> <div>4x4 Y</div> <div>4xN Cb</div> <div>4xN Cr</div>	<div>4x8 Y</div> <div>4x8 Y</div> <div>ONLY FOR INTER</div>

Legal sizes of inter PU given start from CU leaf size and profile limits on depth

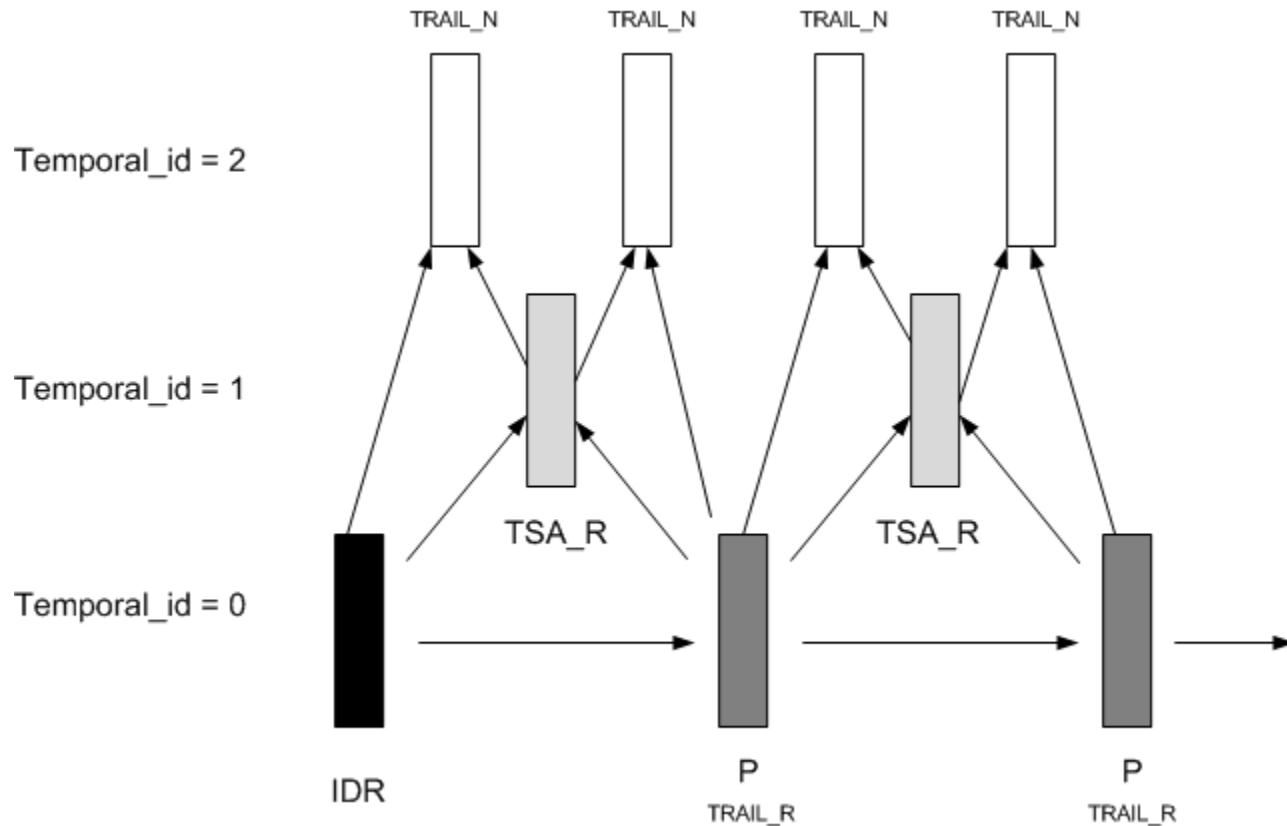
Clean Random Access



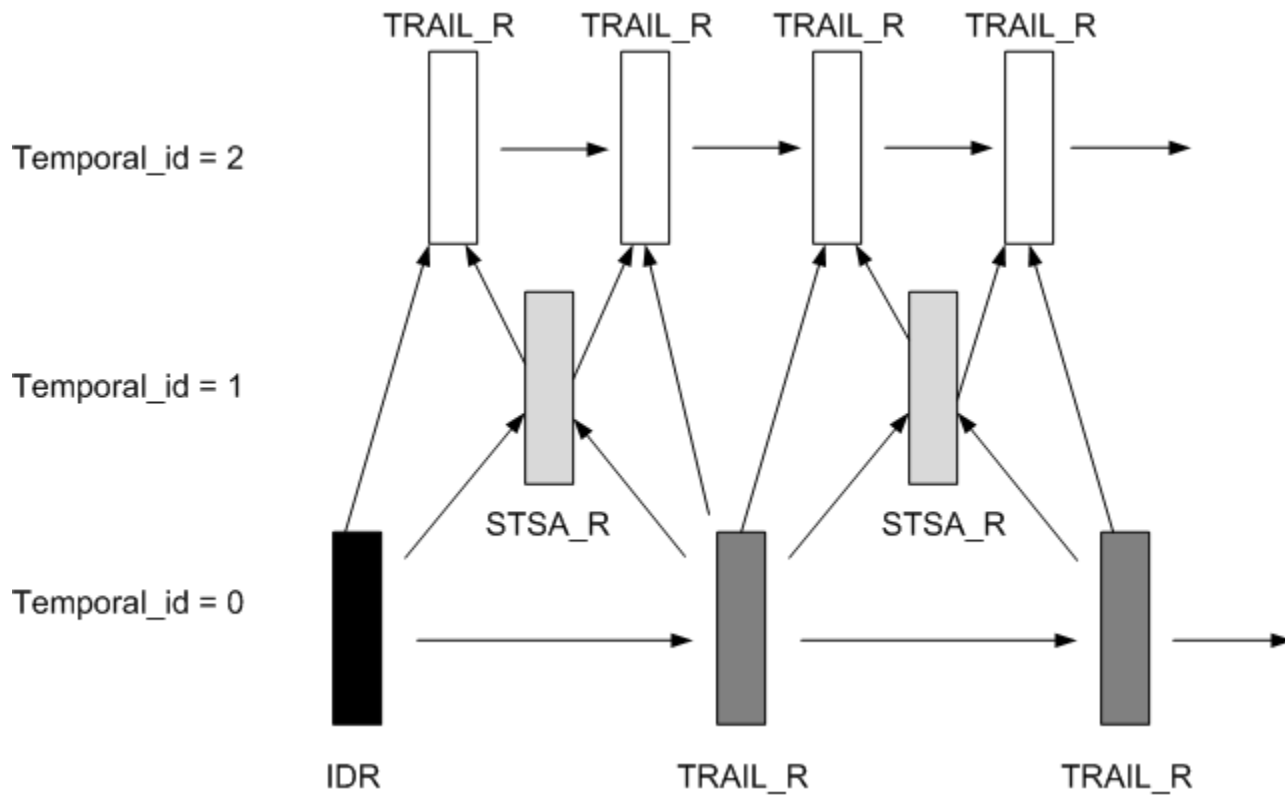
Broken Link Access (BLA)



TSA: Temporal Sublayer Access



Stepwise TSA



Non-referenced TSA

