Modified MVD coding for CABAC

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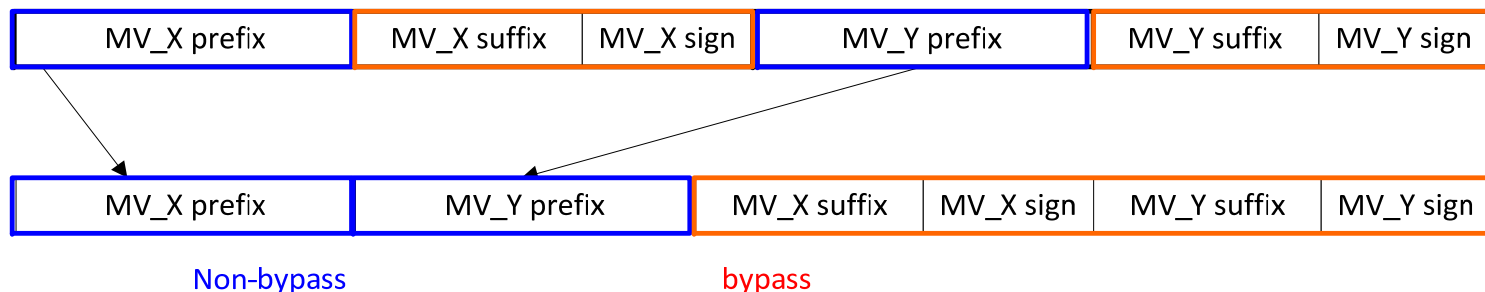
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Motivation

- ✓ **To reduce a line buffer for MVD context selection (same as F429)**

- ✓ **To increase parallel processing capability**
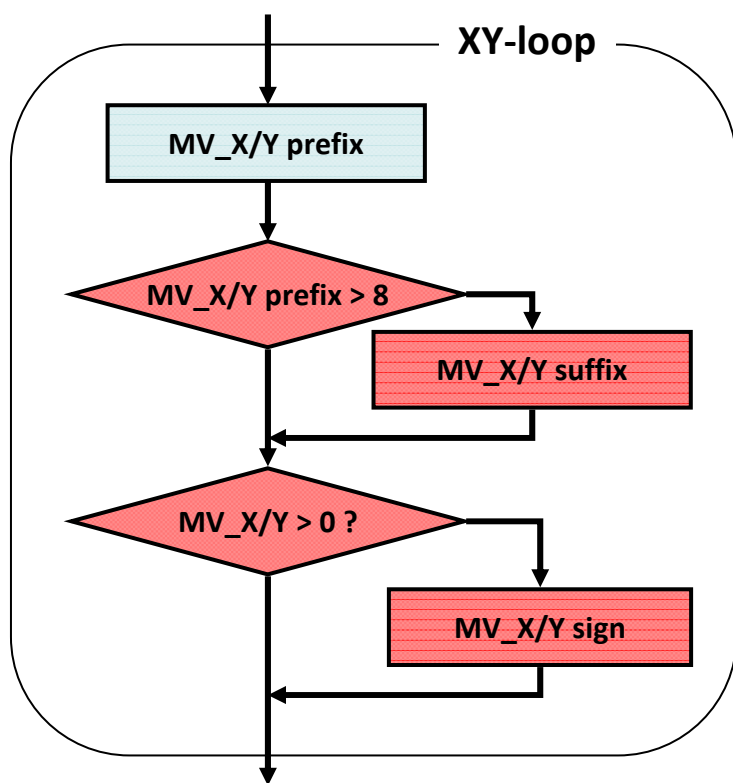
Current design of HEVC

- ✓ **1 bit per PU has to be stored for context selection for MVD**
  (All of parameters which use neighbouring data are considered in JCTVC-F429)

- ✓ **The bypass processing can be done by parallel within bypass coding part. (It is considered in JCTVC-F130 by TI)**

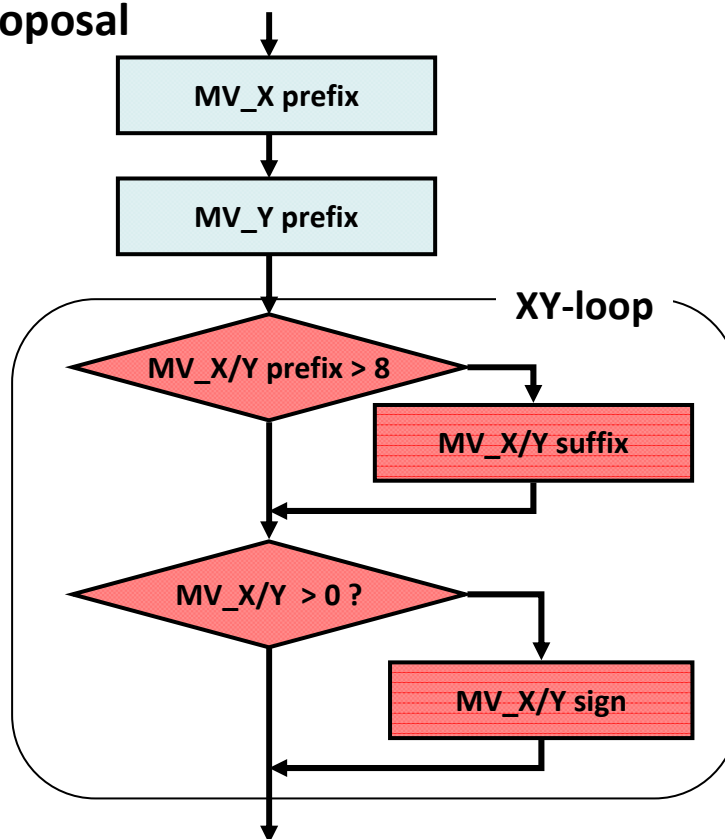- → **Those complexity reduction could be done by Simple modification of MVD coding**

Proposed Solution

Proposed solution

Single Context is used for bin0 (no depends on neighbours)

Simulation Results

Proposal vs HMv3.0 (cross-checked by TI)

	Random Access HE			Low delay B HE		
	Y	U	V	Y	U	V
Overall	**-0.02**	**-0.02**	**-0.08**	**-0.02**	**0.00**	**0.08**
Enc Time[%] Dec Time[%]	99% 100%			99% 100%		

(additional information)

Proposal vs HMv3.0+SingleMVD bin0 (JCTVC-F429)

	Random Access HE			Low delay B HE		
	Y	U	V	Y	U	V
Overall	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Enc Time[%] Dec Time[%]	100% 98%			99% 98%		

By our proposal,
   reduction of necessity of the line buffer of MVD
   increasing the possibility for parallel processing for MVDcoding
   are realized without any performance drop.
   Text and Code are available.

For single context for MVD bin0
same solution is proposed in
   JCTVC-F133,F429,F497,F606

For concatination of bypass coding
similar solution is proposed in
   JCTVC-F130 for transform coefficient coding

Recommendation
   To be adopted this proposal in HM/WD.

Motivation

- **To reduce a line buffer for MVD context selection**

- **To increase parallel processing capability**

Solution

- **single context is used for 1st bin of MVD
  (same solution is proposed in F133,F429,F497,F606)**

- **concatinate suffix part (bypass) of each components (x,y).**

Results

- **no loss (0.02% gain) all configuration**
  with reduction of nessesity of line buffer and increasing of possiblity for PCP

Cross-Checked by TI