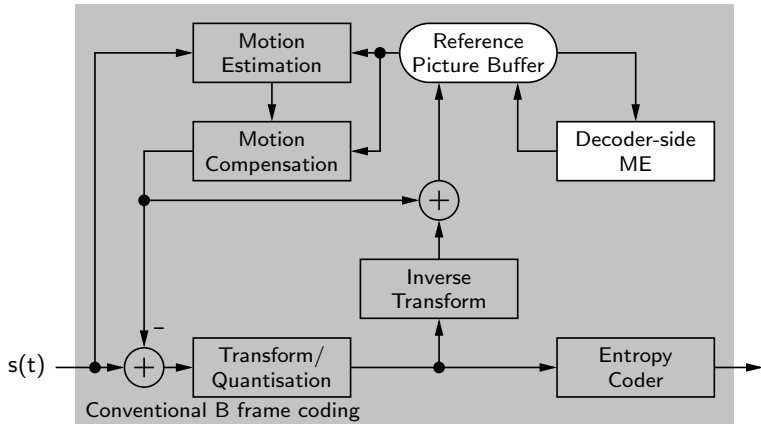


Evaluation of decoder-side motion estimation within HM 2.0

Sven Klomp, Jörn Ostermann

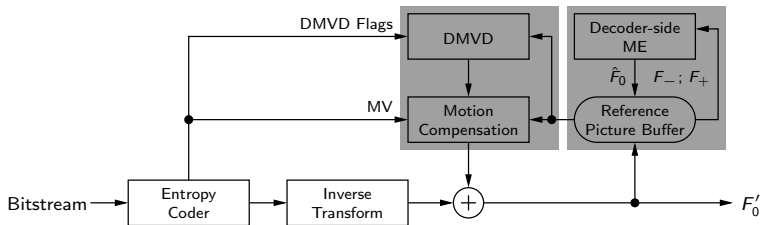
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March 2011



- ▶ Performance evaluation within HM
- ▶ Interaction of DSME and DMVD

Combined Approach

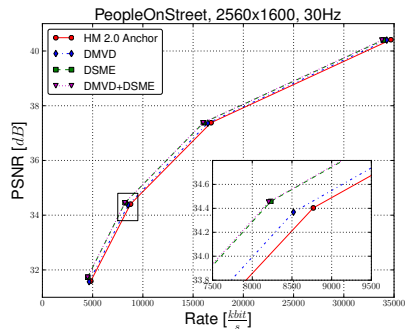
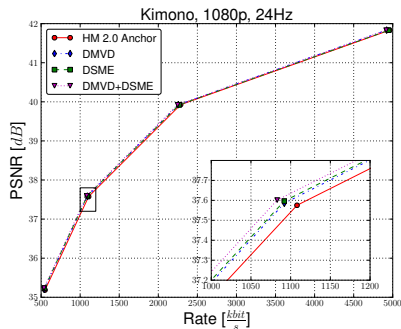


Implementation / Configuration

- ▶ Based on HM 2.0
- ▶ Identical configuration as anchors ¹
 - ▶ Hierarchical B frames
 - ▶ GOP size 8
 - ▶ Same QPs as anchors

¹Frank Bossen, “Common test conditions and software reference configurations”, 4th JCT-VC Meeting, Daegu, KR, January 2011, Doc. JCTVC-D600

RD Performance



BD-Rate Gain

Class A

Sequence	DSME	DMVD	Combined
NebutaFestival	-0.23 %	-0.12 %	-0.32 %
PeopleOnStreet	-5.69 %	-1.82 %	-5.93 %
SteamLocomotiveTrain	-0.19 %	-0.97 %	-0.91 %
Traffic	-2.98 %	-1.61 %	-3.24 %
Average	-2.27 %	-1.13 %	-2.60 %

BD-Rate Gain

Class B

Sequence	DSME	DMVD	Combined
BasketballDrive	-2.10 %	-1.06 %	-2.62 %
BQTerrace	0.60 %	-0.43 %	-0.78 %
Cactus	3.01 %	-1.54 %	-3.52 %
Kimono	1.49 %	-1.49 %	-2.41 %
ParkScene	1.59 %	-1.39 %	-2.36 %
Average	1.76 %	-1.18 %	-2.34 %

Summary

- ▶ Current frame is interpolated at the decoder
- ▶ Interpolated frame used as reference for prediction
- ▶ Works in conjunction with DMVD

Performance

- ▶ Rate reduction of 2.60% and 2.34% in average for Class A and B sequences
- ▶ Potential for tools using decoder-side processing

