

Background



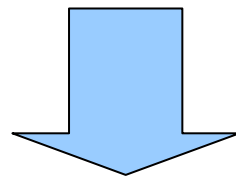
- ◆ High resolution video

- Digital Terrestrial Broadcasting
- Blu-ray Disc



- ◆ Large sized TV is gaining popularity

- LCD TV, Plasma TV



Data size increase

- ◆ Large frame memory is required

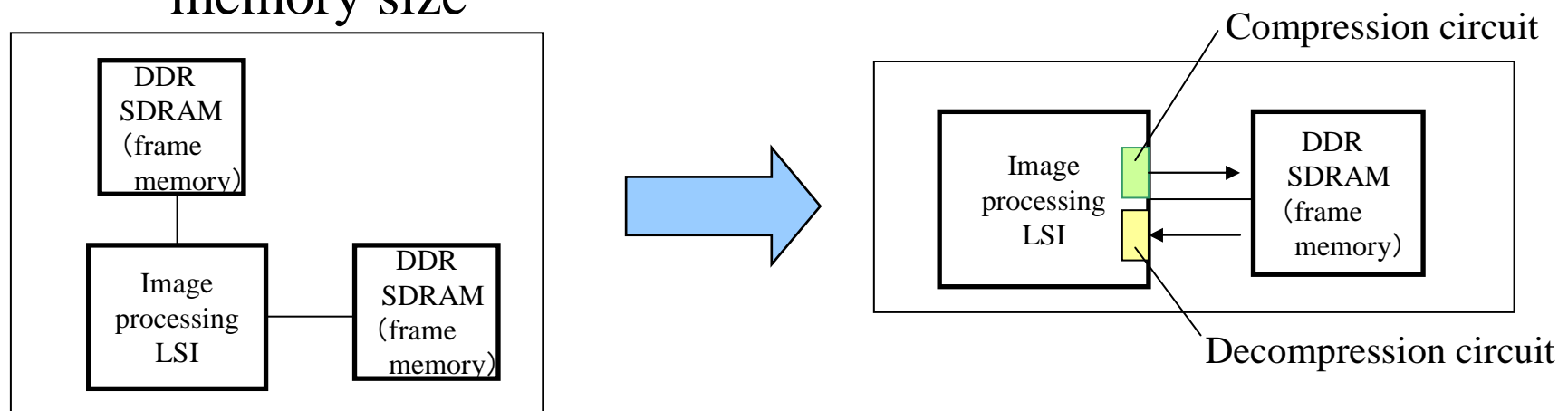
- Increase in cost by the increase of the external memory
- Higher consumption energy



Objectives

◆ Objectives

- Image compression technique for reduction of frame memory size



◆ Condition

- Guarantee Minimum Compression Ratio
- Low operation

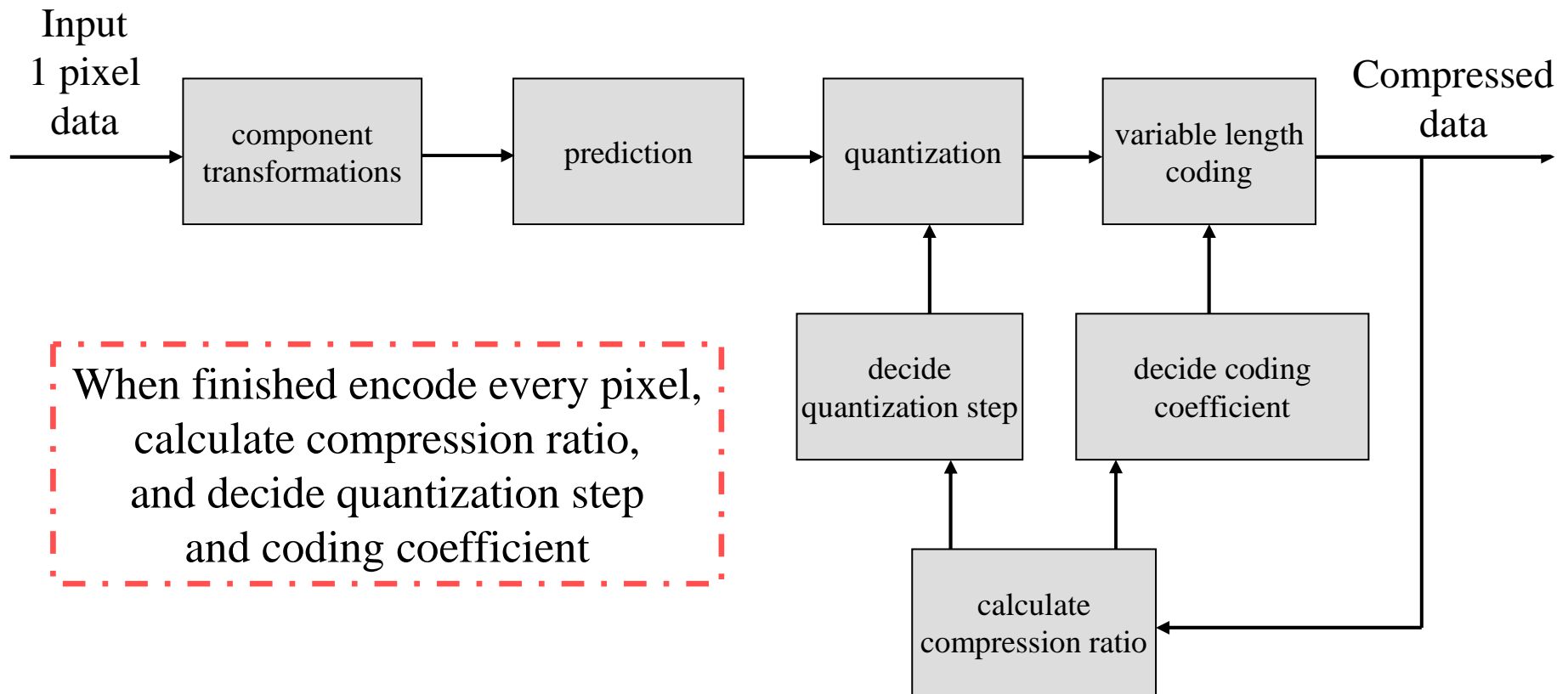


Proposed method



◆ Encoder

■ Encode every pixel



Experimental result



◆ Image quality is evaluated by using PSNR

- Compared with conventional method [1]
- “count” in the following table is difference of bit from that of compression ratio of 50%

	Proposed method		Conventional method
DATA	count	PSNR [dB]	PSNR [dB]
TV1	-25,096	55.527	41.288
TV2	-2,569,421	lossless	46.242
Pendulum	-15,611	42.343	34.840
CZP	-30,048	53.960	30.314
CZP (color)	-11,780	37.431	30.314

Quality improvement is confirmed in all data while compression ratio is guaranteed

[1] Hiroshi Kato, “Fixed rate image compression technique for reduction of frame memory size,” Master thesis, Graduate School of Information Science and Technology, Osaka University, Feb. 2008.

