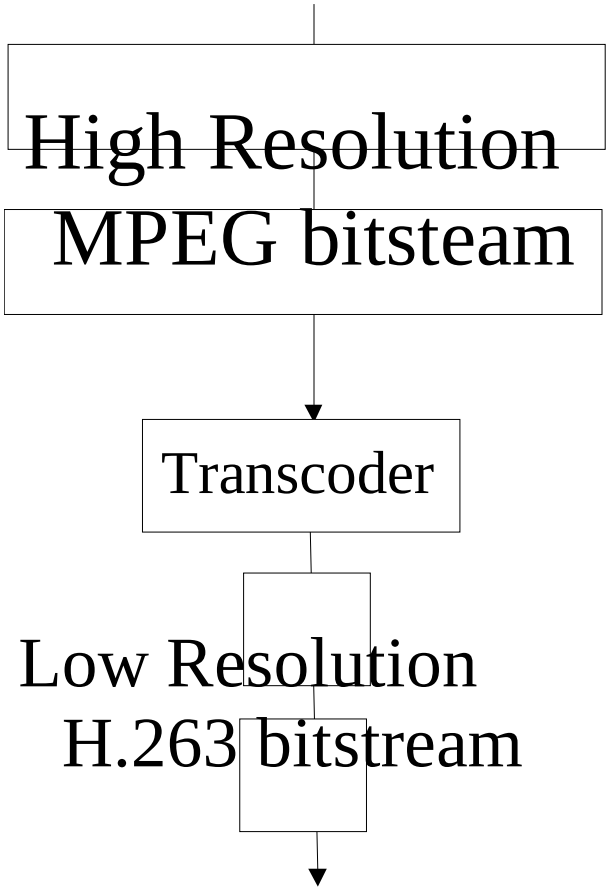
Real−Time MPEG2 to H.263 Transcoding

Kevin Baldor
Sue Baldor

Transcoding

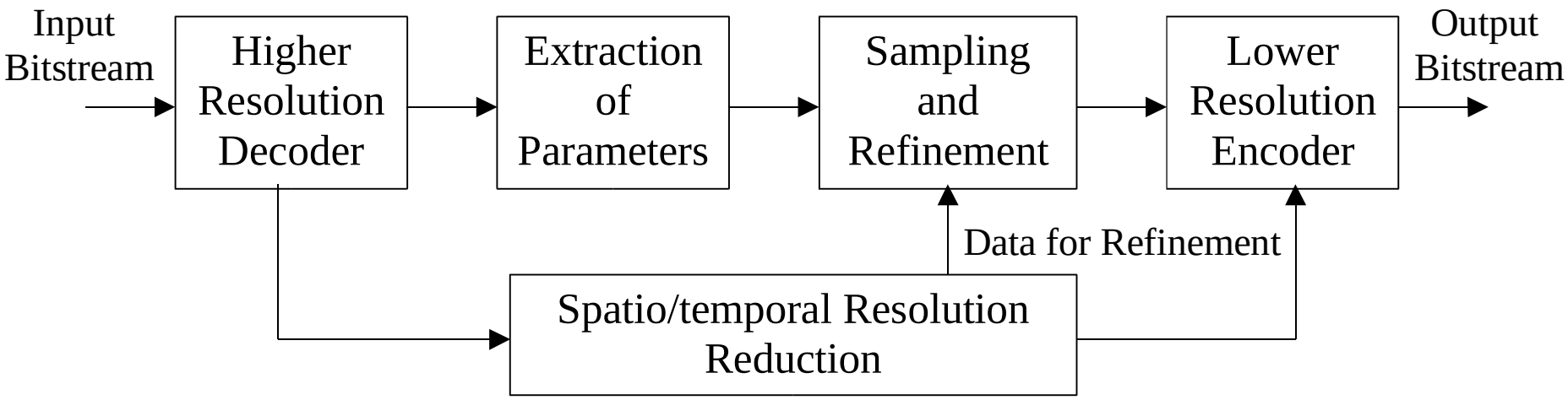
- Convert input stream from one compression standard to another
- The straightforward method is inefficient
- It is better to make use of similarities between standards



Similarities / Differences

- Both MPEG2 and H.263 use
  - I, P, and B frames
  - DCT based compression of image data
  - Motion Estimation
- Differences to be overcome
  - H.263 only supports IPPPP or IBPBPBP
  - H.263 uses a singe quantizing factor, MPEG2 uses a quantizing matrix
  - Different resolutions require adjustment of motion vectors

Current State of Transcoders



Basic Heterogeneous Video Transcoder

- Temporal and spatial resolution reduction
- Reuse of motion vectors
- Frame type conversion
- Avoiding total recomputation of DCT coefficients