Packetization of H.261 video streams

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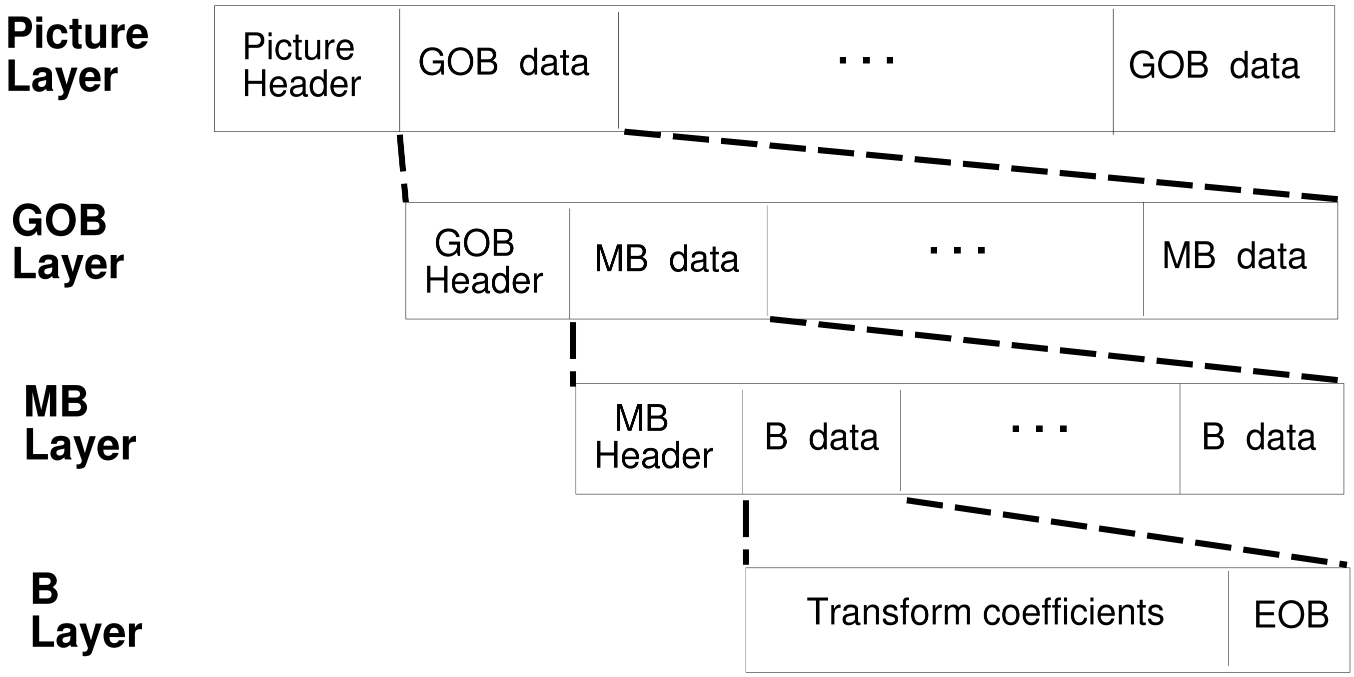
How to use H.261 ?

- Designed for fixed rate ISDN circuits :
  - Continuous bit stream
  - H.221 framing
  - CRC for bit error recovery
- New requirements for the Internet :
  - Packetization scheme
  - Packet loss recovery mechanism
  - Congestion control scheme

H.261 layers



Different levels of hierarchy :

- Picture level: delay, format, flags ...
- GOB level: GOB number, quantizer
- MB level: Blocks present, new quantizer

Packetization scheme

- Requirements :
  - Correlated to GOB synchronization
  - Minimal rendition delays
  - Easy to implement (for hw codecs)
  - Efficient resynchronization in case of losses
  - Padding for fixed bit rate hw decoding
- The H.261 RTP header :
  - Flags to handle GOB synchronization :
    - + E, EBIT, S, SBIT
  - Other flags : FMT, C, I, V, F, Q

The H.261 RTP header

S (1 bit)	Start of GOB
SBIT (3 bits)	Start bit position
E (1 bit)	End of GOB
EBIT (3 bits)	End bit position
C (1 bit)	Color flag
I (1 bit)	Full Intra Image flag
V (1 bit)	Movement Vector flag
F (1 bit)	Feedback flag
Q (1 bit)	QoS Feedback flag
SIZE (3 bits)	Image format