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1. Introduction

VQEG started investigating a hybrid perceptual model (ITU-T Recommendation J.bitvqm) for estimating the video quality using video signals and received packets. However, the model cannot take bitstream information as input when this information is encrypted. Therefore, we propose to add another hybrid perceptual model, which can be used for estimating video quality using packet headers and video signals, to the standardization target of the hybrid perceptual/bitstream project.

2. Proposal

A hybrid perceptual model, which is used for estimating video quality using video signals and bitstream information, has been investigated [1]. However, bitstream is encrypted, for example, to protect copyrighted information. Therefore, we propose to add another hybrid perceptual model, which can be used for estimating video quality using packet headers and video signals, to the standardization target of the hybrid perceptual/bitstream project.

We propose two hybrid perceptual models as possible candidates for J.bitvqm, as shown in Fig.1: Model A, which is used for estimating video quality using packet headers (e.g., IP, UDP, RTP, and TS headers) and video signals (e.g., Y-plane pixels) for encrypted packets and Model B, which is used for estimating video quality using packet headers, bitstreams (e.g., motion vectors, and quantization coefficients), and video signals for unencrypted packets.

3. Reference

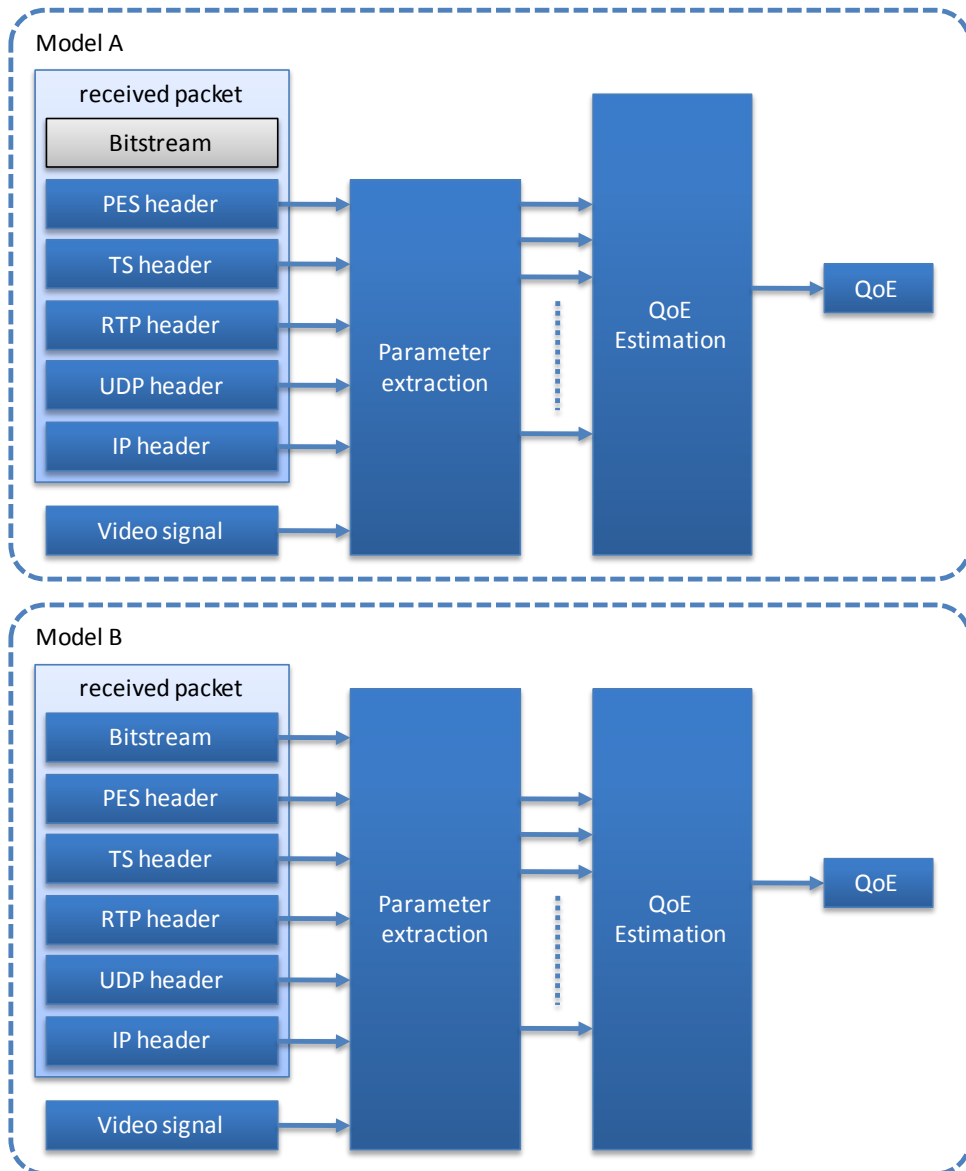[1] Rapporteur, "Presentation on "Evaluation of No-reference Perceptual Quality Models" by David Hands," ITU-T SG9, TD 105, Feb. 2009.

Figure 1 Two hybrid perceptual models