

Question(s):	VQEG	Meeting, date:	September. 25-29, 2006
Study Group:	Working Party:	Intended type of document (R-C-D-TD):	
Source:	NTT (Nippon Telegraph and Telephone Corporation), Japan		
Title:	Proposal to add the packet-loss condition in HDTV test plan.		
Contact:	Jun OKAMOTO	Tel:	+81-422-59-6526
	NTT	Fax:	+81-422-59-5671
	Japan	Email:	okamoto.jun@lab.ntt.co.jp
Contact:	Keishiro WATANABE	Tel:	+81-422-59-7204
	NTT	Fax:	+81-422-59-5671
	Japan	Email:	keishiro.watanabe@lab.ntt.co.jp
Contact:	Takaaki KURITA	Tel:	+81-422-59-6936
	NTT	Fax:	+81-422-59-5671
	Japan	Email:	kurita.takaaki@lab.ntt.co.jp

Please don't change the structure of this table, just insert the necessary information.

1. Introduction

The next generation communication network is expected to provide HDTV services such as IPTV. To design the quality of HDTV services, we must examine how large a transmission error we can accept when we use forward error correction (FEC) or error concealment on a telecommunication line on which packet loss and bit errors occur, in addition to examining how high a bit rate we need to encode HDTV information. And to manage and monitor the quality of HDTV service, we need an objective method of assessing video distorted by transmission errors in HDTV services.

2. Appropriateness of examining transmission error conditions

To examine whether VQEG should assess the quality of video distorted by packet loss in the HDTV domain, we examined the following two points.

Q1. Can we capture and store the degraded video sequence in uncompressed form and with no additional distortion?

Q2. Is the quality of video distorted by packet loss of a level that deserves our assessment?

For Q1, we could capture and store uncompressed video in two ways:

(a) We could capture the transmitted transport stream (TS) and save it. After that, we could decode it (e.g., with VLC player or mplayer) and capture it as an uncompressed

file (e.g., PIFREC).

(b) We could record the HDTV video signal (e.g., HDCAM) and convert it to an uncompressed file. If you use a compression-free HDD recorder, you can get the file with no conversion.

For Q2, the quality varies depending on the distorted place and the degree of variation if the distortion is caused by packet loss. When the packet loss rate is low, the quality is low, so we can only detect the distortion. Therefore, we think that the packet loss conditions deserve examination in VQEG.

3. Proposal

We propose that VQEG should include transmission error conditions such as packet loss and bit errors in the HDTV test plan.

4. Summary

In achieving HDTV services over IP networks, there is strong demand for objective assessment techniques corresponding to transmission errors such as packet loss and bit errors. We propose that VQEG should add the transmission error conditions to the HDTV test plan to examine HDTV objective evaluation methods which can estimate the quality of video distorted by transmission errors. y of distorted video by transmission error.