MPEG91/

CCITT SGXV
Working Party XV/1
Experts Group for ATM Video Coding

Document AVC-114
November 20, 1991

Source : NL, B, FRG, F, S, I, GR, UK

Title : ATM Compendium

Purpose : Information, DSM meeting

living document

In Europe ETSI NA5 VCM is involved in standardization of video coding for ATM networks. Cost 211ter is an European platform for video coding. Results of the work carried out in the area of ATM Video Coding is brought together in a compendium and is meant as a working document.
The information in the document is agreed upon in COST 211ter and is used by ETSI NA5 VCM.

Chapter 2 entitled "Terminology", contains the basic terminology used in this compendium and utilizes as much as possible the terminology used in the ETSI and the CCITT groups. Most important terms following from impacts of ATM on motion video coding and from new coding strategies will be explained. The chapter has been subdivided into two main sections describing the terminology of the network part and the video coding part.

Coding models; first candidates, chapter 3 deals with different coding models for ATM networks. First some restrictions and characteristics on ATM networks are given after which the basics of one-layered and two-layered coding is given. The section other methods contains at the moment coding techniques which are under development for other than only the conversational services (MPEG). This section will be extended with methods for the coding of CCIR 601 video signals. These methods are subject to standardization in CCITT SGXV AVC, ISO MPEG and TG CMTT/2.

H.261 modifications for ATM environment

Chapter 4, the H.261 capabilities for ATM, focusses on the implications of ATM on the H.261 recommendation. The mandate for ATM clarified that the ATM coding procedure should have at least the H.261 capabilities. This means that intercommunication is mandatory. The studies on this topic need to be carried out in the light that modifications to the H.261 are implemented in such a way that there exist a fallback mode to the H.261 standard. The codec should be able to decode and generate a H.261 bitstream.
Chapter 5, Impact of QOS and Preventive policing on coding performance, gives an overview of the parameters defining the quality of service among which parameters like information loss, delay and throughput. Also the influence of

policing is tackled.

Chapter 6, Bitrate versus quality, deals with the impact on the picture quality of different coding schemes and the choice whether VBR or CBR should be preferred.

In Chapter 7, Guidelines for simulations, the basic configuration and its parameters are defined in order to stimulate simulations which could be compared. From the previous chapters the basic parameters are taken. Some parameters are not stable but are used for comparison only. Five test sequences are agreed upon and listed in this chapter. For the presentation of the results a table is recommended in order to compare the results more properly.

Chapter 8, guidelines for hardware experiments, will be used in future to start trials on ATM networks.

At present also work is carried out in the field of multi resolution coding and network modeling.
In the beginning of 1992 an updated version of the compendium will come out. This new version will include the state of the art of this new work.

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