ISO/IEC JTC1/SC29/WG11
MPEG94/
Nov. 1994

ITU Telecommunication and Standardization Sector
Study Group 15
Expert Group for Video Coding and Systems
in ATM and Other Network Environments

Document AVC-693
Nov. 1994

Source: Japan
Title: Request for ITU-T Specific stream_id in MPEG2 System
Purpose: Proposal

1. Introduction

ITU-T SG15 Experts Group presented an intended proposal for support of ITU-T Video, Audio and C&I signals in the MPEG2 SYSTEM at the previous MPEG meeting (MPEG94/262). The proposal was agreed to have no technical problem at the SYSTEM group discussion but further study was requested to determine whether ITU-T C&I can be integrated in MPEG2 DSM-CC or not. The Japanese ITU-T members re-examined the necessity of the stream_id and confirmed that the allocation of the stream_id is necessary.

2. Necessity of video frame synchronous C&I signals

H.320 terminals can benefit from automatic synchronization between Video, Audio, Data and C&I signals owing to the framing specified in H.221 (and H.261 in part). When a packet-type multiplexing like the MPEG SYSTEM is introduced, a new mechanism using time stamps becomes necessary to support synchronization. Existing DSM-CC specified in the current SYSTEM DIS does not support this kind of synchronization mechanism. As for the emerging DSM-CC extension, this point is not clear now.

One example of video frame synchronous signals is found in H.230 etc. as follows:

VCF: Video Command Freeze-Picture
Freeze Picture Release

These signals are mainly used for picture switching in multi-point communication. ' Freeze Picture Release ' is transmitted in response to ' Video Command Fast Update ' and give timing information of decoding without mismatch to the receiver.

Another possible example of cases when the frame synchronous C&I signals are necessary is a coding mode switching. Receivers must be notified when the different coding mode starts, in order to avoid picture and sound corruption according to inconsistencies of the coding modes. The C&I signals must be synchronized to the coded signals to realize this.

The third example is closed caption which is related to the picture content.

3. Conclusion

ITU-T needs the specific stream_id in the MPEG2 SYSTEM at least for the video frame synchronous C&I signals. As for the frame asynchronous C&I, the answer is still open and we need further study.

END