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TITLE : PROPOSAL FOR AMENDMENTS TO THE TEXT OF ITU-T DRAFT RECOMMENDATION H.310
PURPOSE : Proposal

Introduction

SG15 is currently preparing a draft Recommendation (H.310) addressing all broadband terminals, particularly unidirectional terminals. Draft Rec. H.310 is now in its finalization phase.
On the other hand, SG 9 is in charge of the transport of television signals in broadband networks through its Question 37/9. In the scope of Q.37/9, SG 9 has prepared a Draft Recommendation (J.82) dealing with the transport of MPEG2 television constant bit rate television signals.
As both draft Rec. H.310 and draft Rec. J.82 address the same field, their text have to be aligned.
The goal of this contribution is to propose some editorial amendments to the text of draft Rec. H.310 in order to align it with the final text of draft Rec. J.82.

Discussion

Draft Rec. J.82 has been approved at the last SG 9 meeting (Nov. 30- Dec. 1st, 1995). It will be submitted to the Resolution Nr1 procedure at the next SG 9 meeting (March 25- 29, 1996).
Basically, Draft Rec. J.82 addresses the transport of television signals which means that it applies to unidirectional terminals.
Draft Rec. J.82 specifies the protocol to be used in order to transport MPEG2-coded television signals in ATM, i.e. it specifies the ATM Adaptation Layer (AAL). Two AALs are specified in J.82, the AAL 1 and the AAL 5, leaving the choice open to the user, depending both on network performances and the Quality of Service required by the application. In the final text of J.82, the two AAL protocols are completely described (see §.7 for the AAL 1 and §.8 for the AAL 5), with a similar level of detail.
The aim of this contribution is to complete the text of H.310 dealing with AAL aspects for unidirectional terminals, in accordance with J.82.

Proposal

It is proposed to amend section 5.2.2.2.1, subsection "unidirectional terminals" of the dec.21, 1995 edition of H.310 in such a way that the AAL protocols be clearly described.
Proposal for amendments to the "Unidirectional terminals" section of H.310 is as follows :

"Unidirectional Terminals

AAL-1 and AAL-5 based unidirectional H.310 terminal types[1] are defined in this recommendation[2]. Functions of both the AAL1 and the AAL5 for unidirectional terminals are described in draft Rec. J.82. They are outlined hereafter.

[1] An AAL-1 based unidirectional terminal is not required to support AAL-5 functions. Similarly, an AAL-5 based unidirectional terminal is not required to support AAL-1 functions.

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AAL1-based terminals

The AAL1 is described in Rec. I.363.1. AAL1-based terminals should use the SAR and the CS for the transport of video signals (see I.363.1, §.2.5.1.2.)

In order to meet real-time requirements of applications, the AAL1 provides both compensation of the CDV (Cell Delay Variation) and end to end synchronisation for which the use of the adaptive clock method is appropriate.

In case of cell loss or misinsertion, detection is provided by the SN (Sequence Number). In addition, cell loss correction is performed by a method described in I.363.1, §.2.5.2.4.2. This method is also able to correct bit errors.

AAL5-based terminals

For the AAL-5 unidirectional terminal type, only SAR and Common Part CS (CPCS) functions are supported as defined in Recommendation I.363.5. Therefore, Service Specific Convergence Sublayer (SSCS) functions are neither defined nor supported by H.310 AAL-5 unidirectional terminals.

The rules and protocols used for the mapping of H.222.1 Program Stream and Transport Stream packets into the AAL-5 Protocol Data Unit (PDU) is specified in Recommendation H.222.1.

When detecting an errored cell (using the CRC function of the AAL-5 CPCS sublayer), the AAL-5 PDU may be passed to the user according to the corrupted-data delivery option specified in ITU-T Recommendation I.363.5. In addition, the AAL-5 CPCS sublayer must use the length field to detect that the right number of bytes have been received. In this case, the AAL-5 CPCS must report the lost or gained data event, and pass the corrupted (shortened or lengthened) CPCS-PDU to the higher layer. These error event detection capabilities might be used by H.310 terminals for error concealment. This recommendation, however, does not specify a particular method for error concealment.

The usage of the AAL-5 CPCS User-to-User (CPCS-UU) indication field[3] is not specified in this recommendation. Moreover, in H.310 SOT terminals, the Common Part Indicator (CPI) field[4] must always be set to zero (i.e., only the 64-bit alignment function is used).

~~For the AAL-1 unidirectional terminal scenario, the support of AAL-1 functions is under study[5].~~"

(END)

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[2] Note that the current definition of unidirectional terminals implies that an AAL-1 based transmit-only terminal can not communicate with an AAL-5 based receive terminal, and vice versa. Some of this interworking issues are resolved by allowing for the support of the other AAL as an option for a given type of terminal.

[3] {Editor: Do we need to specify the usage of the CPCS-UU field in AAL-5? Can we use it for anything useful in H.310 terminals.}

[4] {Editor: After reading I.363, I am assuming that zero is the only value that should be used for the CPI field in the CPCS sublayer of AAL-5. Is this assumption correct?}

~~[5] The definition of AAL-1 functions for unidirectional (AAL-1 based) H.310 terminals shouldfollow the development of proposed Recommendation J.82 which is under study by ITU-T SG-9.~~