

Source: Japan
Title: Comments on draft H.310
Purpose: Discussion

1. Introduction

This document provides some technical and editorial comments on the Draft Recommendation H.310 (dated 21 Dec. 1995).

2. Technical comments

1) Figure 2, note 9)

H.221 is also required in RAST-C? Or it is in the gateway?

2) Section 5.2.1.2, Bidirectional Terminals, last sentence

Reword this sentence according to the discussion of AVC-874.

3) Section 5.2.2.2.1, Unidirectional Terminals, Note 14

This is to be answered.

4) Section 5.2.2.2.1, Unidirectional Terminals, Note 16

J.82 requires support of AAL1 long interleaver and H.222.0 multiple program TS. Can H.310 AAL1-based ROT/SOT be identical to the J.82 terminal? Or minimum H.310 ROT/SOT can be J.82 terminal if those optional enhancements are supported?

5) Section 5.2.2.2.3, Note 19

Maximum size of H.245 message is 2048 bytes as agreed in Yokosuka. AAL-5 CPCS-SDU size should accordingly be defined as 2048 bytes. See also Annex 3 to AVC-872.

6) Section 5.2.2.2.5, last sentence

The minimum number of VC's that the different types of H.310 terminals will support is under study. ==> The minimum number of VC's that the different types of H.310 terminals will support is two. {depending on the conclusion regarding AVC-872}

7) Section 5.2.2.3.1, Editor's note

Remove CBR from "under study" items and include it as part of this Recommendation.

8) Section 5.2.3.2.3, 1st paragraph, Note 22

Support of VFS C&I signals by unidirectional terminals is required since the signals listed are not coupled with bidirectional audiovisual channels.

9) Table 5, Number of ATM VCs, M, O

one ==> two if AVC-872 is accepted.

10) Table 5, Transfer Rate, M

Fill in according to AVC-876 if the proposal is agreed.

11) Section 5.5

~~Reword according to the agreements regarding AVC-872, AVC-873, AVC-877.~~

12) Section 6

The following text is provided as strawman:

"H.310 terminals may be used in multipoint configuration through MCUs which may be accommodated in B-ISDN, N-ISDN or other networks.

6.1 Native H.310 communication modes

When an H.310 terminal is involved in the multipoint communication, MCUs may force terminals into a particular common mode of transmission by sending to the terminal a receive capability set listing only the desired mode of transmission. The H.310 terminal shall obey the **multipointModeCommand** message of H.245. It shall also obey **videoFreezePicture** and **videoFastUpdatePicture** messages of H.245 and **videoFreezePictureRelease** message of this Recommendation for the video display control.

Since each link in a multipoint configuration may be operating at different bit rates, MCUs may choose to send H.245 **FlowControlCommand** messages to limit the transmitted bit rates to those which can be sent to receivers.

6.2 H.320/H.321 communication modes

The same requirements as H.320 terminals apply to H.310 terminals.

6.3 Other aspects

Cascaded MCU operation, encryption and other aspects of multipoint communication are under study."

13) Section 7

- Audio level setting for G.711, G.722, G.728: see H.320.
- Audio level setting for MPEG audios: under study

3. Editorial comments

1) Global changes

- must, have to ==> shall {according to the convention in Section 3}
- G.723 ==> G.723.1
- might be ==> may be {according to the convention in Section 3}
- Remove all editor's notes, or change necessary ones to footnotes.
- Change "US" to "under study" where necessary.
- MPEG Layer 1, 2 ==> MPEG Layer I, II {according to ISO/IEC 11172-3}

2) Section 1, 4th paragraph

... B-ISDN and a customer-premises ATM network might be needed to provide interoperability functions ...

==> ... B-ISDN and a customer-premises ATM network may be needed to provide interoperability functions ...

3) Section 1, 2nd last paragraph, 1st sentence

In addition to supporting VoD services, H.310 unidirectional (ROT and SOT) terminals also support simple audiovisual signal transmission, surveillance, and other services.

==> Since H.310 unidirectional (ROT and SOT) terminals are applied to simple audiovisual signal transmission, surveillance, and other services including VoD services, they should be interoperable with H.310 bidirectional (RAST) terminals as far as they have matching audiovisual and network adaptation capabilities.

4) Footnote 1

out-of-band ==> out-band {according to H.320}

5) Section 2 References

[3] G.723 (1995) ==> G.723.1 (1996)

[5] H.221 (1993) ==> H.221 (1995)

[6] ITU-T Recommendation H.222.0 (1995) - Coding of Moving Pictures and Associated Audio: Systems - ISO/IEC 13818-1

==> ITU-T Recommendation H.222.0 (1995) - Information technology - Generic coding of moving pictures and associated audio information: Systems - ISO/IEC 13818-1

[7] H.222.1 (1995) ==> H.222.1 (1996)

[8] H.224 (1995) ==> H.224 (1994)

[9] H.230 (1993) ==> H.230 (1995)

[10] H.233 (1993) ==> H.233 (1993)

[11] H.234 (1993) ==> H.234 (1994)

[12] H.242 (1993) ==> H.242 (1996)

[14] ITU-T Recommendation H.262 (1995) - Generic Coding of Moving Pictures and Associated Audio: Video - ISO/IEC 13818-2

==> ITU-T Recommendation H.262 (1995) - Information technology - Generic coding of moving pictures and associated audio information: Video - ISO/IEC 13818-2

[15] H.263 (1995) ==> H.263 (1996)

[16] H.281 (1995) ==> H.281 (1994)

[17] H.320 (1993) ==> H.320 (1996)

[18] H.321 (1995) ==> H.321 (1996)

In addition, the following references are necessary to be added;

- ITU-T Recommendation G.729(199x) - Coding of Speech at 8kbit/s Using Conjugate-Structure Algebraic-Code-Excited Linear-Prediction(CS-ACELP)

- ITU-T Recommendation G.729(199x) - Low-complexity 8kb/s CS-ACELP speech codec interoperable with Recommendation G.729 {G.729 Annex?}

- ITU-T Recommendation I.363.1(199x) - B-ISDN ATM Adaptation Layer (AAL) Specification, Type 1 and 2 {instead of I.363}

- ITU-T Recommendation I.363.5(199x) - B-ISDN ATM Adaptation Layer (AAL) Specification, Type 5 {instead of I.363}

6) Section 3

- Add definition of some terms as Section 3 (ex. bidirectional, audiovisual terminal, broadband audiovisual communication, communication mode, gateway, in-band, out-band, unidirectional audiovisual terminal, etc.)

- Add list of abbreviations as Section 4 (ex. AAL, ATM, B-HLI, B-ISDN, C&I, CBR, CPCS, CPI, CS, DSM-CC, MCU, N-ISDN, PDU, RAST, RAST-C, RAST-P, ROT, SAP, SAR, SOT, SSCOP, SSCS, UNI, VBR, VC, VFS, VoD, etc.)
- Move the current contents to Section 5 Conventions.

7) Section 5.1, 1st paragraph

The corresponding Recommendations/Draft Recommendations ...

==> The corresponding Recommendations ...

8) Figure 2

"I.363" should be properly changed to "I.363.1" or "I.363.5".

9) Figure 2 and note 2)

- Clause 1.3 of ISO/IEC 13818-6 states ...

==> Clause 1.5 of ISO/IEC DIS 13818-6 states that AAL5 is a suitable example for ...

- A white box in the DSMCC stack needs be filled, otherwise "under study" should be indicated.

10) Figure 2, note 3)

Reword according to the conclusion on the T.120 transport through a single VC.

11) Figure 2, note 6)

Delete this note because H.222.2 is no more intended. Consequently, renumber the subsequent notes.

12) Figure 2, note 10)

- ... DSS2 is composed of the suite of protocols shown in Table 1.

==> ... DSS2 is composed of the following suite of protocols:

- Delete "Table 1 Summary of DSS2 protocols" because Table 1 appears later in the main body.

13) Section 5.2, 2nd paragraph

... two classes of communication modes are outlined in Section 5.3

==> .. two classes of communication modes are specified in Section 5.3

14) Section 5.2, II

- ..., H.310 terminals will be able to ...

==> ..., H.310 terminals shall be able to ...

- Q.2931 high-level information messages

==> Q.2931 broadband high-layer information (B-HLI) messages

15) Section 5.2, III, last sentence

- If a capability (audiovisual or another) has to ...

==> If a capability (audiovisual or another) shall ...

- However, the support of H.261 video ...

==> However, the use of H.261 video ... {H.261 shall be supported by H.310 RAST but it is not used in the native mode.}

16) Section 5.2.1.1, Unidirectional Terminals, 2nd last paragraph and Section 5.2.1.1, Bidirectional Terminals, 3rd last paragraph

... the video parameters' constraints outlined in Section 8 of ...

==> ... the video parameters' constraints specified in Section 8 of ...

17) Section 5.2.2.1, Bidirectional Terminals, 1st paragraph

For RAST-C terminals, the support of H.221 can be achieved either in the terminal or in a gateway (at the customer premises side) between the (public) ISDN and (private) customer premises networks.

==> Need not be singled out? Or this can be left to the implementation of customer premises network systems as far as they are seen as RAST-P through the gateway?

18) Section 5.2.2.2, last word

outlined ==> specified

19) Section 5.2.2.2.1, Unidirectional Terminals, Note 13

Including optional support of the other type of AAL is acceptable. This is already implemented in Table 5.

20) Section 5.2.2.2.1, Bidirectional Terminals, 4th paragraph

The support of AAL type 5 for the adaptation of H.222.1 multiplexed bitstreams is optional for all H.310 RAST terminals (i.e., RAST-P and RAST-C). H.310 RAST-C terminals, however, must support either AAL type 1 or AAL type 5.

==> The support of AAL type 5 for the adaptation of H.222.1 multiplexed bitstreams is optional for H.310 RAST-P terminals. H.310 RAST-C terminals, however, must support either AAL type 1 or AAL type 5.

21) Section 5.2.2.2.3, the last sentence

The sentence looks incomplete. Some words are missing? (deleting the words "the complete definition" may be enough).

22) Section 5.2.2.2.4, 1st sentence

out-of-band ==> out-band

23) Section 5.2.2.2.5, 2nd sentence

Additional VC's might be required ... ==> Additional VC's are required ... {depending on the conclusion regarding AVC-872}

24) Section 5.2.2.3, 2nd sentence

The transfer rate capabilities of H.310 terminals are defined at the different service access points within the terminal protocol reference models as explained below. ==> The transfer rate capabilities of H.310 terminals are defined at the AAL-SAP (boundary between the AAL and H.222.1 layers in Figure 2).

25) Section 5.2.2.3.1, 3rd paragraph

Reword according to the conclusion of AVC-876.

26) Section 5.2.2.3.2

State

- The rate at the AAL-SAP is converted to the ATM cell rate by taking into account the AAL SAR and CS overheads.

- It should be noted that the ATM cell rate is represented by integer number of cells per sec in the ATM Traffic Parameter field of the Q.2931 message, thus rounding up is required.

27) Section 5.2.3.1, 2nd paragraph

The support of user-to-network DSM-CC messages ... ==> The optional support of user-to-network DSM-CC messages ...

28) Section 5.2.3.2.1, 1st paragraph

The exact set of H.245 messages and procedures to be supported by H.310 terminals is under study and will be outlined in the next version of this Recommendation. ==> The exact set of H.245 messages and procedures to be supported by H.310 terminals is specified in Section 5.6.

29) Section 5.2.3.2.1, 2nd paragraph

See the comment to Section 5.2.2.1, Bidirectional Terminals, 1st paragraph

30) Section 5.2.3.2.2

The support of user-to-user DSM-CC messages and ... ==> The optional support of user-to-user DSM-CC messages and

31) Section 5.2.3.2.3, 2nd paragraph, 1st sentence

The syntax for VFS C&I signals is shown Table 1. ==> The syntax for VFS C&I signals is shown in Table 1

32) Section 5.2.3.2.3, 2nd paragraph, 2nd sentence

Reword according to the conclusion of AVC-875.

33) Section 5.3, 2nd paragraph

It is important to note, however, that H.245 and DSM-CC messages might be carried in a totally separate ATM channel ... ==> It is important to note, however, that H.245 and DSM-CC messages may be carried in a totally separate ATM channel ...

34) Section 5.3, 4th paragraph

H.310 unidirectional (SOT and ROT) terminals only support the native H.310 communication modes. ==> H.310 unidirectional (SOT and ROT) terminals are required to support only the native H.310 communication modes.

35) Section 5.3, last paragraph

H.310 bidirectional terminals (RAST-P and RAST-C) support both ... ==> H.310 bidirectional terminals (RAST-P and RAST-C) shall support both ...

36) Section 5.4, H.310 Unidirectional Terminals

Remove the 1st sentence. {This is redundant}

37) Section 5.4, H.310 Bidirectional Terminals, 1st paragraph

For interworking with H.320/H.321 terminals, both H.310 RAST-P and RAST-C terminal types should support the H.320 audiovisual modes shown in Table 2. (See Section 9.)
==> For interworking with H.320/H.321 terminals, both H.310 RAST-P and RAST-C terminal types shall support the H.320 audiovisual modes shown in Table 2. (See Section 9.)

38) Table 2, Audio, O

Remove two "MPEG1 L2".

39) Table 2, Note 24

Remove this Editor's note. {If AVC-874 is agreed. }

40) Table 2, Data, M

Change two "US" ==> "-" {indicating nothing is mandated}

41) Table 2, Data, O

- All data protocols are optional. Indicate T.120 or make it completely open (leave it "US").
- Remove Note 25 if the above is concluded.

42) Table 3, Audio, M

Change two G.711 to MPEG1 L2 if AVC-874 is agreed.

43) Table 3, Audio, O

Add G.711, remove MPEG1 L1 and MPEG1 L2 from the two rows if AVC-874 is agreed.

44) Table 3, Data, M

Change two "US" ==> "-" {indicating nothing is mandated}

45) Table 3, Note 27

Remove this Editor's note.

46) Table 4, Data, M

Change two "US" ==> "-" {indicating nothing is mandated}

47) Tables 2,3 and 4

All the entries "G.DSDV" should be changed to "G.DSVD" {G.729 Annex?}

48) Tables 5 and 6

These tables may give the impression that the communication mode is a component to define the terminal type. For example, a RAST(-P or -C) terminal without H.320/H.321 communication mode seems conformant to this Recommendation. Therefore, the tables need to be rearranged to clarify the deference between terminal types and communication modes.

49) Table 5, RAST-C (Native H.310 Comm. mode)

Split this into two; RAST-C (AAL-1) and RAST-C (AAL-5) for more clarity? {See also the discussion in AVC-873}.

50) Table 5, RAST-C (H.320/H.321 Comm. mode), multimedia multiplex and AAL Table 5, Footnote 33

Clarify its configuration; see AVC-880.

51) Table 5, Transfer Rate, O

US ==> nx64 kbit/s {according to the agreement in Yokosuka, Section 2.8.3/AVC-854R}

52) Table 5, Footnote 31

Remove this note after the Ipswich meeting.

53) Table 6, RAST-C (H.320/H.321 Comm. mode)

Clarify its configuration; see AVC-880.

54) Section 8.1

Add the following sentence:

"Several methods of error resilience at the video layer are provided as information in Section D.13 of H.262."

55) Section 8.2

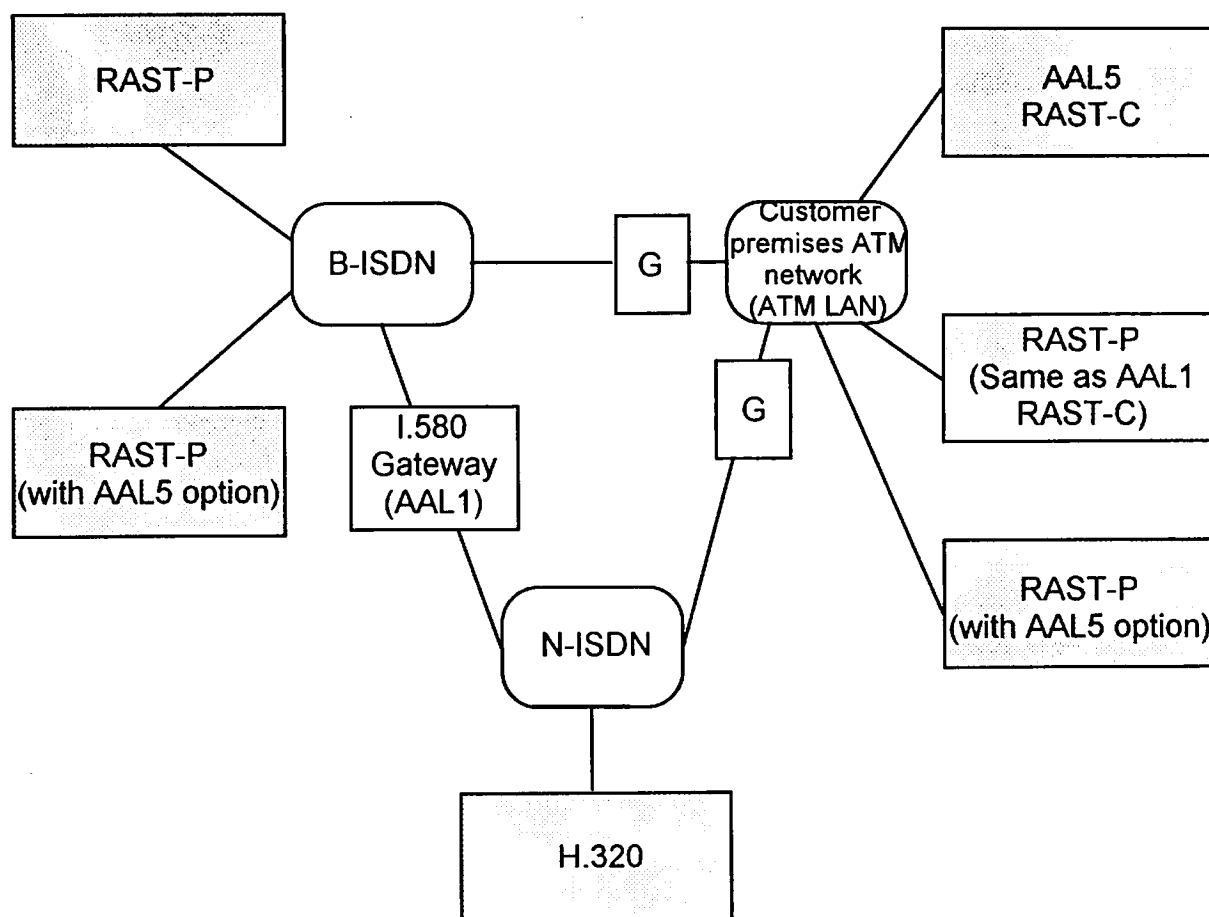
Add the following sentence:

"An optional method of error resilience is defined in H.222.1 which employs the use of two ATM virtual connections and the modified and restricted use of Data Partitioning specified in H.262."

56) Section 9, Figure 4

- Allocate three networks at the corners of an equilateral triangle.
- Distinguish between terminal and gateway by different boxes.

A revised diagram is as follows.



57) Section 9.2. (c)

Clarify its configuration; see AVC-880.

58) Others

Addition of an appendix as in H.324 which defines the general rule for bit and octet order will be helpful. A proposed text is attached as an annex to this document.

- END -

APPENDIX I - Bit and Octet Order

(This appendix does not form an integral part of this Recommendation)

This appendix is supplied as a summary of bit and octet order in H.310, including H.261, H.262, H.263, G.711, G.722, G.723.1, G.728, G.729, MPEG-2 Audio, H.245, H.222.0 and H.222.1. In case of any discrepancy the normative text of the various Recommendations shall take precedence over this appendix. H.261, H.262, H.263, G.711, G.722, G.723.1, G.728, G.729, MPEG-2 Audio, H.245, H.222.0 and H.222.1 each produce a sequence of bits. Within this sequence of bits there are fields of various lengths, in some cases aligned with octet boundaries. In the case of H.261, H.262, H.263, G.711, G.722, G.723.1, G.728, G.729, MPEG-2 Audio, H.245, H.222.0 and H.222.1 these fields are ordered most-significant-bit (MSB) first. Figure I.1/H.310 illustrates this, with "M" indicating the MSB of each field and "L" indicating the least-significant-bit (LSB) of each field.



FIGURE I.1/H.310

Output from H.261/H.262/G.711/G.722/G.723.1/G.728/G.729/
MPEG-2 Audio/H.245/H.222.0/H.222.1