ITU Telecommunication Standardization Sector   Document AVC-867
Study Group 15   30 December 1995
Experts Group for Video Coding and Systems   Version 1
in ATM and Other Network Environments

Source: Rapporteur for Q.2/15 (Sakae OKUBO)
Title : Open Issues towards the Ipswich Meeting
Purpose: for action

This is a list of items which require contributions before the
Ipswich meeting regarding finalization of H.225.0, H.310, H.323
and other matters.

1. H.310 text
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- See AVC-868 for the current text.
- Note that H.310 reference is with respect to TD46
  (PLE/15), November 1995 - h310_det.mw6 in the AVC ftp
  site.

1) Relationship between default PIDd and the use of acknowledged
   procedures; this is dependent on the definition of start up
   procedures

        see 2.5.4/AVC-854R

2) Relationship between H.310 ROT/SOT and other terminals

   - Relationship with DAVIC STU for VoD services
   - Relationship with J.82 terminal for distribution services
   - Use of multiprogram TS (H.222.1 specifies single program
     while J.82 covers multiprogram)
   - J.82 uses UNacknowledged procedures for logical channel
     signalling, and AAL1 mandates the use of the long
     interleaver.
   - Include the relevant description in the "Scope" of H.310

        see 2.8.5 3)/AVC-854R

   - Clarify support of DSM-CC

        see Footnote 34/H/310

3) Review/update of call setup and logical channel setup
   procedures in Figure 2/H.310 for complete pictures of the
   communication phases.

   - Start up VC: 1 VC vs 2 VCs
   - Signalling channel parameters for the initial and
     additional VCs
   - SOT/ROT call procedures are different from RAST ones?
   - Analyze all possible cases of interworking such as RAST
     to RAST, RAST to ROT/SOT, RAST to H.321, RAST to H.320,
     etc.

        see 2.8.5 1)/AVC-854R
        see Annex 7/AVC-854R

see Footnote 36/H.310

- Evaluate Mr. Radha's idea of dropping the initial channel

see Footnote 40/H.310

4) Definition of mandatory transfer rates: 6.abc and 9.xyz Mbit/s

see 2.8.3/AVC-854R

5) Syntax, semantics and procedures for video frame synchronous C&I signals

6) Communication protocol

- Clarify how to use toolkit Recommendations (H.222.0, H.222.1, H.245, Q.2931, etc.).
- Clarify what H.245 procedures shall/should be used.
- Specify how to handle error situations.

see H.324 specifications as an example
see 2.8.4/AVC-854R
see Footnote 39/H.310

7) Relationship between terminal type and its attributes

- Review/update Tables 2-6/H.310 which indicates mandatory and optional functions for each terminal type.
- Use of MPEG1 Layer2 audio coding should be mandatory for H.310 RAST native modes? A combination of G.711 and H.262 video at 6/9 Mbit/s does not lack balance?
- Functions to be supported by RAST-C terminals need clarification, particularly for H.320/H.321 mode. What should be in terminals and what should be in gateways? For example, if H.221 is allowed either in terminal or gateway, are not there interoperability issues?

see discussion in 5.2/AVC-854R
see Sections 1, 5.2.2.1, 5.2.3.1, 5.3, Table 5, Footnote 43 of H.310

- Clarify support of MPEG1/2 audio by ROT/SOT/RAST

see Footnote 23/H.310

- Clarify support of data protocols by ROT/SOT

see Footnote 24/H.310

8) Protocol stacks for T.120 data

- Clarify the single VC case

see Annex 6/AVC-854R
see AVC-862 by T. Lyons to be distributed

9) Support of bi-directional audio and uni-directional video

- RAST specifications cover this type of terminal?

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see 2.8.5 3)/AVC-854R

10) Number of VCs to be supported

- 1 or more for RAST-P H.310 native mode? This depends on
  the choice of start up VC

  see Footnote 20/H.310

11) Multipoint communication

- Text is required to set out necessary minimum support of
  multipoint related H.245 messages.

  see Section 10/H.324
  see Section 5.5/H.323

2. H.225.0 text
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See also Editor's notes in h225r1.ww2 dated December 20, 1995.

1) H.245 level knowledge of interworking unit/terminal
   differences

2) Changes related to moving RTP to the annex

3) Changes related to terminology

4) Handling of the section "Overall Call Management using
   RTP/RTCP"

5) Review of QOS section

6) With regard to Q.931 - there has never been an intent to
   bring all parts of Q.931 used into H.225.0 - this is probably
   impractical and unnecessary. However, we need to make every
   effort to be completely clear what (messages, fields, times,
   etc.) are required, optional, and forbidden.

7) Completion of Q.931 and the ASN.1 messages, the latter in
   particular.

3. H.323 text
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See also Editor's notes in h323-9a.ww2 dated 28 December 1995.

1) LAN Terminology, including "network" and "dynamic." Of
   particular concern is the use of "network" by both LAN and
   Telecom people. Other issues include reliable/unreliable vs.
   assured/non-assured vs guaranteed/non-guaranteed. Also
   should cover transport address vs network address vs E.164
   address.

2) In H.323 Sec. 5.2.5.1, consider the use of time tags by MCUs
   and Gateways, and also create a definition of "receive path
   delay." Also consider possible requirements on the decoder
   buffer size for video.

3) H.323 section 5.2.6 - provide a proper description of "Transparent User Data."

4) H.323 section 5.2.7 - create a table of H.245 commands and indications, indicating for each one mandatory, optional, or forbidden.

5) H.323 section 5.2.9.2 - H.245 vs RTP flow control.

6) H.323 Section 5.5 - review the definition of caps for centralized and decentralized operation, including all options, and also considering proposed H.245 changes. Consider whether the current set is complete and correct.

7) H.323 section 5.5 - a possible need for a cap in H.245 to inform that MC which endpoints are terminals and which endpoints are gateways has been expressed. Given that the Gatekeeper will know which is which, it is not clear what value is gained by having this knowledge at the H.245 level. The only difference perceived is that a gateway may take longer to respond to a cap exchange. However, this could be dealt with by setting appropriate timers in H.323.

8) H.323 section 5.6 - a more full description of how time tags are handled in each case (centralized, decentralized, etc.) is needed. This should be organized in to a separate section on each mode of operation for clarity.

9) H.323 encryption.

10) H.323 section 6.1 - the number of characters in the H.323 id needs to have some limit. It should be addressed what kinds of addresses the gatekeeper is required to translate, and when. It should also be covered how H.323 ids are generated and assigned to terminals.

11) Loopback configuration

4. H.222.1
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1) Security aspects; encryption, conditional access

5. Verification tests for H.222.1 and H.245
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1) Bitstream exchange and verification by simulation

2) Hardware verification

    - Logical channel signalling in particular
    - From call setup to teardown for SVC
    - Cooperation with the LBC group

These tests should be materialized.

6. H.321

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1) New H.221 BAS codes for 2B communications using a single VC?

2) Consideration for ATM LAN environments

7. Second phase work items
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1) Verification of the H.310 total system

   - H.245 procedures
   - H.222.1 acknowledged procedures for logical channel
     signalling

2) Interworking between different H-series terminals
   accommodated in different networks

   - Consistent policy of function allocation for interworking
   - Definition of gateways

         see 5.2/AVC-854R
         see Section 8.2/H.324
         see Section 5.3/H.323

3) Multipoint systems

   - Classical MCU configuration
   - Use of multicast capabilities of the ATM network
   - Signal processing for continuous presence

4) VBR communications

   - Implementation of low delay system

5) Questions for the next study period

8. Liaison with other groups
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1) Study Group 13 (AVC-861 to be distributed)

   - Network performance scenario

2) Study Group 11

   - Request of Correlation ID syntax in B-LLI

         see 2.7.1/AVC-854R

   - Request of re-defining terminal types in B-HLI

         see Footnote 35/H.310, Annex 7/AVC-854R

   - Universal availability of B-HLI

         see 2.8.5 1)/AVC-854R

4) Study Group 8 (AVC-862 to be distributed)

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- Protocol stacks for H.245 and T.120-series data

References
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[1] AVC-802 Open Issues toward the Yokosuka meeting
    (Rapporteur), Version 3, September 1995
[2] AVC-854R Report of the Yokosuka meeting (Rapporteur),
    October 1995

END