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Study Group 15 Version 2
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Title: List of Q.2/15 and Q.3/15 study items during the interregnum
Purpose: Discussion

NOTE - 4.5 2) has been added to Version 1 (28 July).

This document lists issues requiring technical and administrative solutions during the interregnum in the area of audiovisual communication systems in ATM, LAN and other network environments. These will be studied in the joint Q.2&3/15 Rapporteur group to form the basis for new/revised draft Recommendations and to make suggestions on the organization of the new study period.

References
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AVC-867: Open issues towards the Ipswich meeting (Rapporteur for Q.2/15), December 1995

AVC-906R: Report of the twenty-first experts group meeting in Ipswich (16-19 January 1996) (Rapporteur), February 1996

D.838 (WP1/15): Comments on draft Questions regarding audiovisual communications systems (Japan), May 1996

TD 20-E(WP1/15): Ninth progress report of the experts group for video coding and systems in ATM and other network environments (Rapporteur for Q.2/15), May 1996

TD 59-E(WP1/15): Proposed workplan for H.323 in the next study period (Rapporteur for Q.3/15)

TD 106-E(PLEN): Questions proposed by WP1/15 (WP1/15), June 1996

1. LAN systems

1.1 H.323 Version 1 implementors guide

1) Clarification, corrections to Version 1
2) Transferred to Version 2

1.2 H.323 and H.225.0 Version 2

1) Interoperability with "pure" T.120 terminals
2) Further development of H.323 premises gateway registration procedures
3) Further development of H.323 premises gateway procedures
4) Additional supplementary services and related procedures
5) Further development of gatekeeper directory services
6) Authentication of registration requests
7) Multiple SETUP messages and addition of channels on the SCN during a call

8) RAS retry/timeout method
9) Mixing audio/video in a single RTP frame (applicable to NB PPP connections)
10) Distributed control
11) Distributed data operations, especially in cooperation with SG8 to produce a distributed MCS (T.125) on the LAN
12) Possible use of RTP NACK
13) Possible use of the Call Identity IE
14) H.323 "Lite" for Internet applications, possible cooperation with the IETF in this area
15) Use of H.323 on ATM LANs
16) Interoperability with H.324m terminals (reference to H.24i)
17) MC procedures (e.g. cascading MCs, Transfer of Control, Terminal Numbering)
18) Relationship between MCUs and RTP mixers
19) Rationalization with T.130, especially one that started as a T.120 only conference and wishes to add audio/video, with H.323/H.245 control of that conference
20) Needed changes for H.24i, H.PacketEncryption, H.Loose-Multipoint, etc.
21) Bandwidth reservations; possible coordination or advice on the use of transport level bandwidth or QOS signaling

1.3 Packetization of new video streams - H.225.0 Annex E

1) H.263 etc.
2) Coordination with IETF

1.4 Packetization of new audio streams - H.225.0 Annex F

1) G.723.1, G.729 etc.
2) Coordination with IETF

1.5 H.323 security system - H.PacketEncryption

1) Security in shared media
2) Authentication
3) Key exchanges
4) Encryption
5) Relationship to IETF encryption
6) Relationship to H.233/H.234
7) Possible application to H.310

1.6 H.Loose-Multipoint

1) Procedures for LAN specific conferences - 1 to N, N to 1, "Panel"
2) Especially a procedure similar to that of H.331 with no capability exchanges

1.7 Management system - H.LANentity

1) GK to GK communications
2) MIB (ASN.1) structure for H.323 entities (Terminal, H.323 premises Gateway, MCU, Gatekeeper)
3) Other topics related to overall H.323 system management

Note: High priority is given to the MIB work, maybe leaving others to the second version.

2. ATM systems

2.1 H.310 Version 1

1) Hardware verification, logical channel signalling in particular, from call setup to teardown for SVC, feedback from the H.324 systems

2.2 H.310 Version 2

1) Interaction between the arrival of the initial call and the human user in the light of audio communication start up and charging aspects
2) Cascaded MCU operation, encryption and other aspects of multipoint communication
3) Audio level setting for other audio coding including 11172 audio, 13818 audio and other aspects of equipment requirements
4) H.310 intercommunication with telephony
5) Single-VC call procedure for broadband audiovisual communications
6) Interactions between an H.310 RAST-5 terminal or a RAST-1&5 terminal when working with AAL5, the gateway and an H.320 or H.321 terminal
7) Application of H.310 to non-ATM environments???

2.3 Consideration of H.321 equivalent for ATM LAN environments

1) Protocol stack on AAL5
2) Relationship with the possible use of H.323 on ATM LANs

2.4 Intercommunication with audiovisual terminals connected to other networks

1) H.310 to H.323
2) H.310 to H.324

2.5 Various type of multipoint systems - H.bmultipoint

1) Classical MCU configuration
2) Use of multicast capabilities of the ATM network - asymmetrical configurations such as distance learning, intra-company TV
3) Signal processing for continuous presence
4) Use of different TS packet - AAL SDU mappings on different legs to the MCU

References
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AVC-849: ATM Multi-point in H.310 Multi-conference units (IBM), October 1995

D.719 (WP1/15): Consideration on protocol conversion between different network adaptation protocol types (Korea), May 1996

2.6 H.310 security - H.222.1 Annex B(?)

1) Encryption
2) Key exchanges
3) Relevance to H.233/H.234
4) Conditional access for ROT/SOT terminals

2.7 Transport of VBR coded streams - H.222.1 Annex A

1) Merits and applications
2) Low delay system
3) AAL functions and capabilities for the adaptation of variable bit rate audiovisual signals
4) Transport of VBR coded and stored information, such as the one in DVD
5) Definition and specifications of VBR transfer rates

2.8 Requirements for Q.2931 signalling

1) Terminal protocol identification, particularly for composite terminals supporting multiple terminal protocols
2) Other requirements

2.9 J.82 terminals (?)

1) System model
2) Terminal specifications

3. Common control protocol H.245

3.1 Version 3 specifications

References
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H245NCM6.DOC (determined at the SG15 meeting in June 1996)

4. Interworking and harmonization

4.1 H-200 series communication control protocols and its harmonization with T.130-series specifications

1) Non-overlapping specifications
2) Migration plan if there is any overlapping

References
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T.130-series Draft Recommendations are found at the following ftp site.

ftp://ftp.csn.net/ConferTech

4.2 Intercommunication between different network systems

4.2.1 Guidelines - H.interworking?

1) Policy of function allocation
2) Definition of gateways
3) Flow control
4) Control protocol conversion

4.2.2 Further development of H.24i

1) H.323 to H.320
2) H.323 to H.324

3) H.320 to H.324 (?)

4) H.323 to H.324M
5) H.323 to H.310
6) H.323 to V.70

References
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TD 26-E(WP1/15): Interoperability procedures for H.245/H.242 gateways (Rapporteur for Q.3/15), May 1996

4.3 Security system in various packet based networks - guidelines

1) Encryption
2) Authentication
3) Key management
4) Conditional access
5) Relevance to H.233/H.234 for N-ISDN
6) Consistency among H.310, H.323, H.324 security systems

4.4 Clocking issue

1) Mechanism for maintaining clock synchronization in asynchronous environments
2) Clock synchronization in the multipoint system where different type of networks are involved
3) Additional specifications in H.300-series terminals

References
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D.846(WP1/15) "Proposal for amendment of H.310, H.32x Draft Recommendations - 2 (France Telecom) May 1996

4.5 Any other Q.2/15 and Q.3/15 related matters

1) G.723.1 packing into H.221 frame - choice out of the three alternatives
2) H.320 terminal type rearrangement

5. Planning and organization for the new study period

5.1 Suggestion of necessary experts group(s) to SG/WP
5.2 Suggestion of work methods

END