CCITT
WP XV/1
Geneva, 7-13 May 1992

Temporary Document 30(XV)

Questions: 1-4/XV

Source: WP XV/1
Title : Meeting Report (with Annexes 2, 5 attached)

1. Introduction

The sixth meeting of Working Party XV/1 (Audiovisual) was held on 7-13 May 1992 in Geneva under the chairmanship of MR.M.Yamashita (NTT, Japan), Vice-Chairman of Study Group XV. Drafting work for the Recommendations was carried out under the chairmanship of Dr.N.D.Kenyon, Special Rapporteur for Q4/XV.

The objectives of the meeting were as follows;

i) to prepare questions for the next study period;

ii) to finalize the draft recommendations to be submitted to the Plenary;
- multipoint Recs. (H.231, 243)
- privacy Rec. (H.233, KEY)
- complete H.221/230/242/261/320
- review H.200 and update future workplan
- other newly proposed Recommendations (AV.3XY)

iii) to continue ongoing discussions;

2. Documentation

2.0 New Questions

- D-401 Video performance in the digital network (USA)
- TD-2 Report on CMTT-C (CM of CMTT-C)
- TD-5 Network planning for Videophone and V.Conf.(SG XII)
- TD-11 Network planning for Videophone and V.Conf.(WP I/3)
- TD-12 Study project on Video perf. assessment (SG I, Q17/I)
- TD-13 Videotel. teleservices for PSTN (WP I/3)
- TD-23 Proposed changes to Q.A1,2 and 4/XV (CM)
- TD-28 Texts for QA.3 and A.4/XV (CM)

2.1 Q1/XV

- TD-2 Report on CMTT-C (CM of CMTT-C)
- TD-3 LS from TG10/2 (Low bitrate coding of HQ sound programmes)

2.2 Q2/XV

There were no contributions addressed to this Question.

2.3 Q3/XV

- COM-176 Draft Rec.AV.3XY (Broadcasting type multipoint sys.) [NTT]
- D-401 Video performance in the digital network (USA)
- TD-4 Collaborative interchange between ISO/IEC JTC 1/SC29 and SG XV
- TD-5 Network planning for Videophone and V.Conf.(SG XII)
- TD-6 Liaison to ATM Video Coding Experts Group (WP XVIII/5)
- TD-7 Response from WP XVIII/6
- TD-8 Response from WP XVIII/6
- TD-9 Liaison from WP XVIII/8
- TD-10 Liaison from WP XVIII/8

- TD-11 Network planning for Videophone and V.Conf.(WP I/3)
- TD-12 Study project on Video perf. assessment (SG I, Q17/I)
- TD-13 Videotel. teleservices for PSTN (WP I/3)
- TD-18 Liaison from MPEG
- TD-21 Rules for CCITT|ISO/IEC common texts
- TD-22 Information to editors of common text
- TD-26 Liaison statements produced by Experts Group (CM of Experts Group)
- TD-27 Progress Report of Experts Group on ATM coding (CM of Experts Group)

2.4 Q4/XV

- COM-176 Draft Rec.AV.3XY (Broadcasting type multipoint sys.) [NTT]
- COM-184 Videoconference gateway nodes and multipoint (France)
- COM-185 Clarification regarding videophone G.711 operational mode(France)
- COM-186 Information on G.725 terminal operation (France)
- COM-190 Revision of Table 1/H.230 (SpR)
- COM-191 Draft H.233 Confidentiality sys. (SpR)
- COM-192 Changes to Draft H.KEY (SpR)
- COM-193 Draft H.231 (SpR)
- COM-194 Draft H.243 + Changes to H.230 and 221 (SpR)
- COM-195 16 kbit/s audio in H.221 (Norway, BT, Netherlands)
- D-399 Authentication and encryption key management Rec. (USA)
- D-401 Video performance in the digital network (USA)
- D-404 Comments on H.233 and H.KEY (Japan)
- D-405 Comments on H.231, 243 and 230 (Japan)
- D-411 Proposed alternative authentication method (NTT)
- D-421 H.221 to include MPEG audio transmission (PKI)
- D-433 Recs. on AV services (France)
- D-434 Comments on H.231 and H.243 (France Telecom)
- D-435 C&I for basic terminals in multipoint operation (France Telecom)
- D-451 Videophone terminal behavior (BT)
- D-452 Synchronized channel aggregation (BT)
- D-453 Harmonization of H.243 and MLP methods (BT)
- TD-1 Call control for AV services (SpR)
- TD-14 HLC for AV services (WP I/3)
- TD-15 Revised AV Recs. framework (WP I/3)
- TD-16 Requirements for multipoint operation (WP I/3)
- TD-17 Multi-Use Bearer Service Category (WP I/3)
- TD-19 Audiographic conference call setup (Q23/VIII)
- TD-20 ISDN call setup for AV services (WP XI/6)
- TD-25 Revised H.200 (CM)

3. Discussions and results

3.0 New Questions

After examining the texts prepared at the previous meeting for questions for the next study period, together with the inputs from SGs I ,XII and CMTT, three Questions as continuation of Q1-4/XV were approved as contained in TD-xxx.

In conjunction with the proposal from the USA and SG I to set up a study project on video performance assessment, quality study points in QA.3/XV were reviewed; a liaison statement to SG I contained in Annex 1 was also prepared to draw their attention to these video quality study points and to make comments on the study project.

SG I had also asked to initiate studies on videotelephone teleservices for PSTN and videotelephone teleservice for mobile cellular and cordless telecommunications networks(TD-13). Although we had already included study points for very low bit rate video

codecs, it was recognized that these services be developed in harmonization within the family of audiovisual services. Some emphasized the urgency of standardizing a set of Recommendations including video coding algorithm before 1994. Chairman of the Experts Group on ATM coding was asked to make an initial consideration in his group. A liaison statement was prepared to WP I/3 for comments (Annex 2).

Annex 2 attached

3.1 Q1/XV

TDs-2 and 3 containing study programs for algorithms for, and digital transmission of sound-programme signals at low bit rates were reviewed. After discussing the role and the way how WP XV/1 should contribute to these studies, a liaison statement to CMTT-C and TG 10/2 was prepared (Annex 3).

3.2 Q2/XV

There were no contributions addressed to this question and no discussion was made.

3.3 Q3/XV

i) Reports from Experts Group on ATM video coding

The report of the experts group on their three meetings since the last Working Party meeting was presented. The WP thanked their hard work and the progress made. The report is contained in annex 4.

It was requested in the report that the WP consider the formalization of the collaborative work between the experts group and MPEG. It was also noted that SC29 had also sent a liaison to SG XV proposing a collaborative work between the two groups. The WP endorsed these requests and decided to seek formal approval at the Study Group Plenary. However, on matters other than video coding, such as multiplexing structures for transmission, it was pointed out that there are areas in the MPEG activities which are under the responsibility of SG XV and that we should take the lead. On this basis a liaison statement to SC29 was prepared. (Annex 5)

Annex 5 attached

The experts group also asked the WP's comment on the likely application of B-ISDN. Due to lack of time it was not able to have discussion on it but the Administrations were asked to provide inputs in the coming WP XV/1 meetings.

The request from the Korean Administration to nominate a coordinating member in the experts group was approved and it was decided that the WP seek its formal approval at the Study Group Plenary.

ii) H.261

The proposal to add high resolution graphics mode as Annex D of H.261, which had been put forward at the previous meeting and which had been awaiting final decision at this meeting, was accepted with an additional sentence to indicate that this is an optional procedure for regional use. The UK expressed its opposition to the adoption of the Annex, on the ground that provision had already been made in H.221 to accomodate the ISO "JPEG" still-picture system and that it would be highly undesirable to have two equivalent schemes. It was decided that a note would be included in H.221 that for still picture transmission priority is given to the JPEG mode.

It was also stressed that it was extremely urgent to decide the profile for applying the JPEG algorithm and that Special Rapporteur for Q3/XV coordinate the work of experts in defining the profile.

iii) H.320

Delayed 435 and TD-6 containing some requirements on the basic terminals were presented; however, it was unable to conduct technical discussions nor to translate these requirements to technical specifications in the relevant H.200 and 300 series Recommendations. It was agreed to keep the issue for further studies.

During the discussions on terminals, it was agreed to advise WP XV/2 responsible for G.725 to insert a note that the readers of G.725 should refer to H.242 for new products.

There was another delayed contribution from BT on terminal videophone behaviour for stimulating further discussions on the topic. It was agreed worthwhile to annex the document to the report to keep the information.(Annex 6)

iv) Transmission delay in AV communications

The WP took note of TDs-5 and 11 providing information on transmission delay in AV communications with interest and considered it relevant to the work for specifying the delay generated at video encoders and decoders.

3.4 Q4/XV

i) Recs.H.231 and 243

On the basis of the draft contained in COM XV-193 and 194, Recs.H.231 and 243 for multipoint audiovisual systems were finalized and proposed to be submitted to the PA for adoption;
they are contained in Part II.. .... of the Report.

A liaison statement was drafted to inform SGs I and VIII of these new multipoint Recommendations and also to point out some issues related to their service Recommendation F.730. (Annex 7)

ii) Rec.H.233

Draft Rec. H.233 for the confidentiality system for audiovisual systems contained in COM XV-191, was finalized and proposed to be submitted to the PA for adoption; it is contained in Part II.. .... of the Report.

During the discussions, the service requirements for privacy systems for audiovisual services were elucidated as follows:
a) Simple point-to-point encryption of user information; choice of algorithms/modes limited to as few as possible, but must be publicly available Methodology could be extended to non-disclosed algorithms on a national basis, but no demand so far
Degree of security: adequate for normal commercial use.

b) Take into account the need for future extension of the standards coverage to include multipoint working without decryption of some or all user information at the MCUs, so that solutions adopted for such circumstances should not conflict with the system of a) above.

iii) H.KEY

Several new inputs were made in delayed documents; however, due to limited number of experts in the meeting on this subject it was felt necessary to hold an experts meeting to progress the draft. The terms of reference of this meeting are contained in Annex 8;

The Special Rapporteur for Q4/XV has been authorized to hold a small meeting of experts in mid-June 1992.

During the discussions, the service requirements for key systems for audiovisual services were elucidated as follows:
a) Simple point-to-point key generation and exchange nor requiring an agency for issuing keys

b) Private Key System of adequate security for commercial use

c) Public Key System -- agency needed -- degree of formality and security of certification not very high (commercial use); consider expert's report.

d) Initially consider point-to-point and trusted MCU situations, but be aware of need to cover also untrusted MCU later.

It is hoped to have an improved draft of H.KEY available at the next meeting.

iv) H.221

a) The following improvements were made to H.221 and it was agreed to submit it to the Plenary Assembly.

- clarifications to the text which had already been agreed to in the previous meeting (R-72 Annex ⟷ 3)
- inclusion of bit allocation of G.728 speech in H.221 frame proposed in COM XV-195

b) The proposal to include additional codepoints for ISO/MPEG audio in H.221 was left for further study since it was felt necessary to seek clarifications on the system and applications requirements from the broadcasters who would be using the codes. A liaison was prepared to CMTT to address these points. (Annex 9)

c). In H.221, Appendix 1, the following codes have been proposed by Bellcore to generalize the (H0 - 6B) compatibility to (nx64 kbit/s - nB) compatibility :

- N x 64 compatible capability: This capability must be declared along with one or more single-channel transfer rate capabilities greater than 64 kbps (128,192, 256, etc.). It indicates the ability to operate at all of the declared single-channel transfer rates where the least significant bits of the first 16 octets of all time slots except TS1 are not used (TS1 contains FAS/BAS). At
384 kbps, this capability is equivalent to "6B-H0-comp".

- N x 64 compatible command: When this command is received by a terminal that has declared the "N x 64 compatible" capability, and the terminal is operating at one of the declared single-channel
transfer rates in both directions, the terminal shall ignore the unused bits defined in the "N x 64 compatible" capability in the receive direction, and set these bits to "1" in the transmit direction. For use by MCUs, gateways, and aggregators to provide compatible operation between terminals connected using multiple channels and terminals connected using a single higher rate channel.

- Not N x 64 compatible command: negates "N x 64 compatible" command.

The multiple channel interworking capability should work in conjunction with the restricted capability. For example, if a 128 kbps terminal is capable of both types of operation, then it can operate at 128, 126.4, 112, and 110.4 kbps.

The procedures needed to use these codes are for further study, as well as possible incompatible operation with the "6B-H0-comp" codes.

There was another BT proposal to expand the HSD in the multiple B channels to cater for non-audiovisual services (D-452) . Both proposals were left for further study on the grounds that, because of the hierarchical structure of nxB transfer rate capabilities, implication of these proposals on backward compatibility between the new and existing terminals should be examined. It was suggested that SBE might be a solution for expanding the compatibility function. It was agreed to reserve codepoints in H.230 for the former proposal.

v) H.242

It was agreed to revise H.242 by adding texts for clarifications. The revised text is contained in Part II Section... of this report.

In H.242, Section 8.1.2, the following additional procedure has been proposed by Bellcore to allow multiple B connections by dialing a single number even if separate numbers are used (and an additional code in H.230):

- After mode initialization has been completed on the initial connection, the called terminal, if it supports directory number transfer, shall send a TIDN (terminal indicate directory number) followed by the next directory number that should be dialed, most significant digit first, followed by an end marker (TIDN-NUM/.../TIDN-NUM/TIS). This step may be repeated to send all the numbers.

- The calling terminal, if it recognizes directory number transfer, may generate an additional dialable number by replacing the least significant digits of the originally dialed number with the digits of the received number. The calling terminal may ignore TIDN if the user has entered all the numbers, or if it does not recognize the TIDN sequence, which consists of all SBE codes.

The relationship of this procedure to other BAS transmission during initialization is for further study.

The Working Party considered necessary to study further the exact structure of the necessary BAS codes, and it was agreed not adopt the proposal but to reserve a codepoint in H.230 for a possible future use.

vi) Draft Recommendation for broadcasting type multipoint systems and terminal equipment

The proposal to establish a Recommendation for broadcasting type multipoint systems and terminal equipment (COM XV-176) was agreed as H.331 with minor changes. The text for H.331 is contained in Part II Section ... of this report.

vii) H.230

As a result of the adoption of Recs. for multipoint systems, H.230 was expanded to cover additional C&Is. The revised H.230 was agreed to be submitted to the PA for approval (Part II Section ...).

viii) Call control matters

a). There was no support for the proposed Rec. covering all audiovisual call control, as put forward in TD-1.

b). It was felt urgent that call control for visual telephony be spelled out, and action will be taken by correspondence to arrive at a conclusion as soon as possible.

c). The work must take into account the various types of switched network over which Rec. H.320 is to be applied (ISDN, restricted networks, etc.) including their evolution from the present situation.

d). Call transfer must also be taken into account, including boss-secretary working and calls between A-law and u-law regions, tones and announcements from exchanges.

e). The allocation of separate HLC for videophone and videoconference calls, as requested by SG I, can be accepted, with the strong proviso that the associated call-control procedures take interworking into account, not only between vidoephones and videoconference terminals but also with others, such as multimedia terminals whose functionality may be intermediate between these
two.

f) The communication from Q.23/VIII contained in TD-19 was noted as being relevant to this work.

A liaison statement to SGs was prepared. (Annex 10)

ix) H.200

On the basis of the framework for AV Recommendations contained in TD-23 (Enhanced H.200), it was agreed to annex the stable part of the framework to H.200. The revised H.200 is contained in Part II Section... of this report.

While discussing the framework, discussions took place on the present structure and partitioning into each Recommendation. Not that in disagreement with the present "tool kit" philosophy underlying the framework, it was pointed out that the list of Recommendations has become too large and that merger of certain Recommendations could eliminate some cross-referencing.

Another problem was raised relative to the request from MPEG (ISO/IEC JTC1/SC29 WG11) to include their "Systems" standard (CD11172 Part 1) into the Transmission Structures subsection of the framework. Some felt that it was not only a matter of entering this item in the list where it might seem to be an alternative to H.221, but it would be important to understand its relationships to
other parts of the telecommunications system.

. Another point was made that it may be able to include it in the framework if more work is done on the system modelling (AV.210), which may result in some improvements to the framework. It was agreed that we would keep the structure of the framework for further study at the next meeting.

The framework updated at this meeting is annexed to QA.4/XV.

The revised framework is also sent to SGs I and VIII for information. (Annex 11)

3.5 Patent issues

It was reported that the following patent statement was filed at the CCITT secretariat:

i) Patent statement concerning FEAL by NTT (relevant to H.233)

ii) Patent statement concerning still picture transmission by Hitachi (relevant to H.261)

4. Future work

WP XV/1 will meet next on 5-10 November 1992 mainly to discuss;

- confidentiality systems
- system modeling for audiovisual systems

Experts Group on ATM Video coding will meet on;

- 1-10 July 1992 (7th meeting)
- September 1992 (8th meeting)
- 28 October - 6 November 1992 (9th meeting)

Annex 1 : TD-37(XV/1)
Annex 2 : TD-38(XV/1)
Annex 3 : TD-39(XV/1) rev.
Annex 4 : TD-27(XV/1)
Annex 5 : TD-51(XV/1)
Annex 6 : D-451
Annex 7 : TD-50(XV/1)
Annex 8 : see below
Annex 9 : TD-41(XV/1)rev.
Annex 10:
Annex 11: TD-48(XV/1) + Annex of QA.4/XV (excluding appendix)

Annex 2 to the WPXV/1 meeting report

Source : SGXV
Title : Liaison statement to SG I (for information)
Subject: Study of "Videotelephone teleservice for PSTN" and "Videotelephone teleservice for Mobile Cellular and Cordless Telecommunications Networks

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Working Party XV/1 took note of the liaison statement from WP I/3 containing proposals to initiate the subject studies.

Working Party XV/1 would like to inform you that we have already included a study point for video codecs at bitrates lower than 64 kbit/s in the proposed text for the continuation of Q3/XV, and also relevant Recommendations in the framework for Audiovisual Recommendations which is annexed to Q4/XV. We would like to make progress in these studies in the coming meetings.

However, it is our opinion that, as mentioned in the liaison statement, it is important to study these services in the context of audiovisual services harmonization: what is important for us is not only the audio and video coding, but the frame structure for multiplexing the signals, communication procedures, interworking with other AV services and so forth, which are harmonized as much as possible with the existing and future systems. We suggest first to set out a ground rule for the development of these services, and then to proceed with the actual standardization on the basis of this rule.

Annex 5 to the WPXV/1 meeting report

Source : SGXV
Title : Liaison statement to ISO/IEC JTC1/SC29 (for information)
Subjcet: ATM video coding

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Working Party XV/1 appreciates the proposal made by ISO/IEC JTC/SC29 for collaborative interchange between SC29 WG11(MPEG) and SG XV.

It noted that the Experts Group on ATM Video Coding of WP XV/1 has successively been cooperating with the MPEG in the standardization of generic video coding algorithm in the bit rate of up to about 10 Mbit/s, applicable to communication, digital storage media and various other applications. We are in agreement with SC29 to bring this collaboration into a more formal way and we would like to inform you that the proposal for collaborative exchange has been agreed to at the SG XV Plenary.

As regards standardization work other than the above mentioned video coding, either planned or being conducted by WG11, we are of the opinion that there are subjects such as the following fall under the mandate of SG XV, and it was recognized that SG XV should take a lead in this area.

- multiplexing for transmission
- sdystem control other than aspects directly tied to audio and video streams

For your information a revised framework for Recommendations for audiovisual services with the names of responsible groups against each Recommendation/Standard is attached.

Attachment: Framework for AV services (Annex to QA.4/XV)

TD 49 (XV/1)

~~ANNEX 2~~: ~~Annex to QA. 4/XV~~

Enhanced draft H.200

FRAMEWORK FOR RECOMMENDATIONS FOR AUDIOVISUAL SERVICES: objectives and status (as of May 1992)

R = Rec. 1990 or earlier
N = Rec. or amend 1992
A = Rec. 1993-1994
L = Later than 1994

	Shortened Title				
AV.100	General AV Services	I		A	Draft available, F.700
AV.101	Teleconference services, general	I	R	N	New F.701 (F.710 in Blue Book)
AV.110	Gen. Principles of Audiographic Conference Services	I		R	F.710
AV.111	Audiographic Conf. Teleservices for ISDN	I		A	Draft available, F.711
AV.112	Audiographic Conf. Teleservices for B-ISDN	I		L	F.712
AV.113	Audiographic Conf. Teleservices for PSTN	I		L	
AV.114	(other AGCs, not yet defined)	I		L	
AV.120	Videotelephony Services, general	I		N	F.720(Res.2 in '92)
AV.121	Videotelephony Telesvs. for ISDN	I	R	N	F.721(Res.2 in '92)
AV.122	Videotelephony Telesvs. for Broadband ISDN	I		A	Draft available, F.722
AV.123	Videotelephony telesvs. for PSTN	I		A	
AV.124	Videotelephony telesvs. for Mobile cellular and cordless telecom. NWs	I		A	
AV.130	Videoconference Services, General	I		N	F.730(Res.2 in '92)
AV.131	Videoconference telesvs. for ISDN	I		A	
AV.132	Videoconference telesvs. for Broadband ISDN	I		A	Draft available, F.732
AV.140	Audiovisual Interactive (Storage/ Retrieval) Services, General	I		A	Draft available, F.740
AV.150	(other AV-services, e.g. multi-media, not yet defined)	I		L	
AV.160	Audiovisula Service Applications	I		L	
AV.161	Telewriting Applications	I		R	F.761 (F.730 in Blue Book)
AV.170	Distribution Services	I		L	
AV.200	General AV Infrastructure	XV		N	Outline drafted
AV.210	Reference networks	XV		A	
AV.220	Transmission Multiplex Structures	XV			Probably not needed
AV.221	64-2048 kbit/s frame structure	XV	R	N	H.221
AV.222	Conversational svs. on ATM NWs (B-ISDN)	XV		A	
AV.223	Distribution svs. on ATM NWs	XV		L	

	(B-ISDN)			
AV.224	Storage/Retrieval services	XV	L	
AV.230	Frame-synchronous C&I	XV	R N	H.230
AV.231	64-2048 kbit/s multipoint	XV	N	H.231
AV.232	Broadband multipoint control	XV	L	
AV.233	Privacy systems	XV	N	H.233
AV.23X	Authentication, key managmnt.	XV	A	H.KEY
AV.240	Communication, principles	XV	N	Drafted--subsume in AV.200?
AV.241	System aspects of wideband audio	XVIII	R	G.725
AV.242	Comm. Procedures, 64-2048 kbit/s	XV	R N	H.242
AV.243	Ditto, multipoint	XV	N	H.243
AV.244	Comm. Proc. for storage/retrieval	XV	L	
AV.245	Comm. Proc. for conversational svs. on B-ISDN	XV	L	
AV.250	(Audio coding)			
AV.251	Narrowband speech in 64 kbit/s	XVIII	R	G.711
AV.252	Wideband (7kHz)audio in 64 kbit/s	XVIII	R	G.722
AV.253	Audio coding at 24/32 kbit/s	XV	N	
AV.254	Speech coding at 16 kbit/s	XV	N	Frozen(G.728)
AV.255	Audio coding for storage/retrieval	ISO /IEC		MPEG audio (CD11172 Part3)
AV.25X	Audio coding for use on B-ISDN	XV	L	
AV.25Y	Audio coding for mobile/PSTN	XV	L	
AV.260	(Video coding)			
AV.261	Video codec up to 1920 kbit/s	XV	R N	H.261
AV.262	Video coding for use on B-ISDN	XV	~1994	
AV.263	Video coding for storage/retrieval up to about 1 Mbit/s	ISO /IEC	1992	MPEG-1 Video (CD11172 Part2)
AV.264	Video coding for storage/retrieval at <10Mbit/s	ISO /IEC	~1994	MPEG-2
AV.265	Video coding for storage/retrieval at <40Mbit/s	ISO /IEC	~1995	
AV.266	Video coding for distribution	CMTT	~1994	
AV.267	Video coding for distribution(HDTV)	CMTT	~1996	
AV.268	Video coding for narrow telecomm. channels at <64kbit/s	XV	L	
AV.270	Overview of AGC Recs.	VIII	N	T.120
AV.271	Audiographic Conferencing	VIII	N	T.121
AV.272	Generic Conference Control	VIII	N	T.124 (minimum
AV.273	Communication Application Profile	VIII	N	T.123 (MLP
AV.274	Multipoint Communication Service	VIII	N	T.122 (
AV.280	(for future purposes)			
AV.290	(Interworking with pre-existing systems)			
AV.291	Interworking with H.120/130 sys.	XV	A	
AV.300	(Gen. AV systems/terminals)			
AV.310	TC systems and equipment		N	
AV.311	Audiographic teleconference	VIII	N	Draft available
AV.312	Videoconference terminals	XV	A	needed?
AV.320	Visual telephone systems & equip.	XV	R N	H.320

AV.321	Broadband visual telephone	XV	N	
AV.330	Equipt. for AV retrieval, systems	VIII	N	
AV.331	Broadcasting type multipoint sys.	XV	A	H.331
AV.400	Other aspects			
AV.410	Reservation systems	SG and XV	L	
AV.420	Call control (including multipoint)	SG and XV	N	
AV.440	(Multipoint call set-up)			
AV.441	Procedures not requiring special network capabilities	XV	N	
AV.442	Procedures requiring special network capabilities	XI	N	

Note 1 - It is intended to merge the substance of existing Recommendations H.100, 110 into this framework.

Note 2 - Entries in parentheses are indicative of the purpose of the various positions in the framework.

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