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LINE TRANSMISSION OF NON-TELEPHONE SIGNALS

FRAMEWORK FOR RECOMMENDATIONS FOR AUDIOVISUAL SERVICES

ITU-T Recommendation H.200

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation H.200 was revised by the ITU-T Study Group XV (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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FRAMEWORK FOR RECOMMENDATIONS FOR AUDIOVISUAL SERVICES

(Melbourne, 1988; amended at Helsinki, 1993)

1 Audiovisual services

A number of services are, or will be, defined in CCITT having as their common characteristic the transmission of speech together with other information reaching the eventual user in visual form. This Recommendation concerns a set of such services which should be treated in a harmonized way; it is convenient to refer to the members of this set as "audiovisual services" (abbreviated to AV services).

2 Harmonization of audiovisual services

While the various audiovisual services may easily be distinguished in terms of their user-application, common methods are used for the transport of signals representing speech, moving or still pictures, and associated controls/indications, and also telematic auxiliary facilities. The standardization process seeks the greatest possible harmonization of these common features, confining the distinction to the application layers wherever possible, in order to:

a) Maximize the possibilities for intercommunication between terminals intended for different applications;

b) Maximize the commonality of hardware and software in the interests of economies of scale. The scope for commonality includes: audio and video input/output parameters, audio and video codecs, the control/indication set, frame structures and multiplexing, call control procedures (including multipoint).

The embodiment of this harmonization policy will be a consistent set of Recommendations, consistent in the sense that all members of the set take into account all other members.

3 Purpose of this Recommendation

The purpose of this Recommendation is to define the set that shall be consistent. In fulfilling this function it is important to distinguish, at a given time, between Recommendations and draft Recommendations.

Recommendations are members of the set by virtue of their consistency with other adopted members of the set: these are listed in Annex A. It is of course necessary to ensure continued consistency when amendments are introduced.

Draft Recommendations range from mere titles or outline contents through varying stages of maturity to a stable final draft. As many different intended members of the Recommendation H.200 set are developed in parallel to ensure consistency they should be treated as "provisional" members of the set. The list of set members including provisional items does not form part of this Recommendation, but this Recommendation should be updated in the future to include new members of the set formally adopted.

4 Framework

Recommendations in the H.200 set are arranged in three main sections:

a) *Service definitions* – These specify the service as seen by the user, including basic service, optional enhancements, quality, and intercommunication requirements, together with operational aspects; technical implementation methods are taken into account but not defined herein.

b) *Infrastructure* – This section includes all the Recommendations which are applicable to two or more distinct services: these encompass network configuration, frame structures, control/indications, communication/intercommunication, and audio/video coding. The "infrastructure" includes this generality of signals which flow on unrestricted digital bearers on established network connections – it does not include the methods of call establishment and control, orchestrated by signals outside these bearers.

c) *Systems and terminal equipment* – This section deals with the technical implementation of specific services: it therefore includes service-specific equipment for the application layer, and draws upon the infrastructure Recommendations to identify the detailed processes required for the particular service.

An "other aspects" section is included, covering such matters as call control, including aspects which are particular to AV services but, some involving out-of-band signals, do not come within the scope of the infrastructure section above.

5 List of audiovisual services covered

The following audiovisual services shall be included in the harmonized set:

– narrowband videophone ($p \times 64$ kbit/s);

– broadband videophone (a teleservice for broadband ISDN);

– narrowband videoconferencing ($p \times 64$ kbit/s);

– broadband videoconferencing (a teleservice for broadband ISDN);

– audiographic teleconferencing;

– telephony (a degenerate case of an AV service, included for intercommunication purposes);

– telesurveillance.

The following audiovisual services are in the process of being defined, and consideration should be given to their inclusion in the set for either of the reasons given in 2.

– video mail;

– videotex (including pictures and sound);

– video retrieval;

– high resolution image retrieval;

– distribution services.

6 List of networks covered

The possible use of the following networks is taken into account:

– ISDN (basic and primary access);

– B-ISDN (using ATM);

– analogue (PSTN);

– LANs (e.g. FDDI);

– mobile/radio;

– leased lines (digital).

Annex A

(to Recommendation H.200)

Framework for Recommendations for audiovisual services

(This annex forms an integral part of this Recommendation)

A.1 Service definition

		Recommendation No.
AV.100	General AV services	Draft available
AV.101	Teleconference service	F.701 (F.710 in *Blue Book)*
AV.110	General principles for audiographic conference service	F.710
AV.111	Audiographic conference service	F.711
AV.120	Videotelephony services – General	F.720
AV.121	Basic narrow band videophone service in the ISDN	F.721
AV.122	Broadband videotelephony services	F.722
AV.130	Videoconference service – General	F.730
AV.131	Videoconference services – General	
AV.132	Broadband videoconference services	F.732
AV.140	Audiovisual interactive services – General	F.740
AV.150	(Other AV services not yet defined)	
AV.160	(Audiovisual service applications)	
AV.161	Service oriented requirements for telewriting applications	F.761 (F.730 in *Blue Book)*

A.2 Infrastructure

AV.200	(General AV infrastructure)	
AV.210	(Reference networks)	
AV.220	(Transmission multiplex structure)	
AV.221	Frame structure for a 64 to 1920 kbit/s channel in audiovisual teleservices	H.221
AV.230	Frame-synchronous control and indication signals for audiovisual systems	H.230
AV.231	Multipoint control units for audiovisual systems using digital channels up to 2 Mbit/s	H.231
AV.232	(Broadband multipoint control)	
AV.233	Confidentiality system for audiovisual services	H.233
AV.240	(Communication – Principles)	
AV.241	System aspects for the use of the 7 kHz audio codec within 64 kbit/s	G.725
AV.242	System for establishing communication between audiovisual terminals using digital channels up to 2 Mbit/s	H.242
AV.243	Procedures for establishing communication between three or more audiovisual terminals using digital channels up to 2 Mbit/s	H.243
AV.250	(Audio coding)	
AV.251	Pulse code modulation (PCM) of voice frequencies	G.711

AV.252	7 kHz audio-coding within 64 kbit/s	G.722
AV.253	(Audio coding at 24/32 kbit/s)	
AV.254	Coding of speech at 16 kbit/s using low-delay code excited linear prediction	G.728
AV.255	Audio coding for storage/retrieval	MPEG audio (DIS 11172 Part 3)
AV.260	(Video coding)	
AV.261	Video codec for audiovisual services at $p \times 64$ kbit/s	H.261
AV.262	(Video coding for use on B-ISDN)	
AV.263	Video coding for storage/retrieval up to about 1 Mbit/s	MPEG-1 Video (DIS 11172 Part 2)
AV.264	(Video coding for storage/retrieval at less than 10 Mbit/s)	MPEG-2
AV.266	(Video coding for distribution)	
AV.270	Overview of AGC Recommendations	T.120
AV.271	Audiographic conferencing	T.121
AV.272	Generic conference control	T.124
AV.273	Protocol stacks for audiographic and audiovisual teleconference applications	T.123
AV.274	Multipoint communications service	T.122
AV.280	(For future purposes)	
AV.290	(Interworking with pre-existing systems)	
AV.291	(Interworking with H.120/H.130 systems)	

A.3 Systems and terminal equipment

AV.300	(General AV systems/terminals)	
AV.310	(TC systems and equipment)	
AV.311	Audiographic teleconference	Draft available
AV.320	Visual telephone systems and equipment	H.320
AV.321	(Broadband visual telephone)	
AV.330	(Equipment for AV retrieval, systems)	
AV.331	Broadcasting type multipoint systems	H.331

A.4 Other aspects

AV.400	(Other aspects)
AV.410	(Reservation systems)
AV.420	[Call control (including multipoint)]
AV.440	(Multipoint call set-up)

NOTE – Entries in parentheses are indicative of the purpose of the various positions in the framework.