APPENDIX: POSSIBLE BROADBAND SERVICES IN ISDN

ANNEX A to Recommendation I.121 (CCITT, 1988a)

Service classes	Type of information	Examples of broadband services	Applications	Some possible attribute values [g), h)]
Conversational services	Moving pictures (video) and sound	Broadband [b), c)] video-telephony	Communication for the transfer of voice (sound), moving pictures, and video scanned still images and documents between two locations (person-to-person) [c)] — Tele-education — Tele-shopping — Tele-advertising	— Demand/reserved/permanent — Point-to-point/multipoint — Bidirectional symmetric/bidirectional asymmetric — (Value for information transfer rate is under study)
		Broadband [b), c)] videoconference	Multipoint communication for the transfer of voice (sound), moving pictures, and video scanned still images and documents between two or more locations (personne-to-group, group-to-group [c)] — Tele-education — Tele-shopping — Tele-advertising	— Demand/reserved/permanent — Point-to-point/multipoint — Bidirectional symmetric/bidirectional asymmetric
		Video-surveillance	— Building security — Traffic monitoring	— Demand/reserved/permanent — Point-to-point/multipoint — Bidirectional symmetric/unidirectional
		Video/audio information transmission service	— TV signal transfer — Video/audio dialogue — Contribution of information	— Demand/reserved/permanent — Point-to-point/multipoint — Bidirectional symmetric/bidirectional asymmetric
	Sound	Multiple sound-programme signals	— Multilingual commentary channels — Multiple programme transfers	— Demand/reserved/permanent — Point-to-point/multipoint — Bidirectional symmetric/bidirectional asymmetric
	Data	High speed unrestricted digital information transmission service	— High speed data transfer — LAN (local area network) interconnection — Computer-computer interconnection — Transfer of video and other information types — Still image transfer — Multi-site interactive CAD/CAM	— Demand/reserved/permanent — Point-to-point/multipoint — Bidirectional symmetric/bidirectional asymmetric
		High volume file transfer service	— Data file transfer	— Demand — Point-to-point/multipoint — Bidirectional symmetric/bidirectional asymmetric

Service classes	Type of information	Examples of broadband services	Applications	Some possible attribute values [g), h)]
Conversational services *(continued)*	Data *(continued)*	High speed teleaction	− Realtime control − Telemetry − Alarms	
	Document	High speed Telefax	User-to-user transfer of text, images, drawings, etc.	− Demand − Point-to-point/multipoint − Bidirectional symmetric/bi-directional asymmetric
		High resolution image communication service	− Professional images − Medical images − Remote games and game networks	
		Document communication service	User-to-user transfer of mixed documents [d)]	− Demand − Point-to-point/multipoint − Bidirectional symmetric/bi-directional asymmetric
Messaging services	Moving pictures (video) and sound	Video mail service	Electronic mailbox service for the transfer of moving pictures and accompanying sound	− Demand − Point-to-point/multipoint − Bidirectional symmetric/uni directional (for further study)
	Document	Document mail service	Electronic mailbox service for mixed documents [d)]	− Demand − Point-to-point/multipoint − Bidirectional symmetric/uni directional (for further study)
Retrieval services	Text, data, graphics, sound, still images, moving pictures	Broadband videotex	− Videotex including moving pictures − Remote education and train-ing − Telesoftware − Tele-shopping − Tele-advertising − News retrieval	− Demand − Point-to-point − Bidirectional asymmetric
		Video retrieval service	− Entertainment purposes − Remote education and train-ing	− Demand/reserved − Point-to-point/multipoint [f)] − Bidirectional asymmetric
		High resolution image retrieval service	− Entertainment purposes − Remote education and train-ing − Professional image commu-nications − Medical image communica-tions	− Demand/reserved − Point-to-point/multipoint [f)] − Bidirectional asymmetric
		Document retrieval service	"Mixed documents" retrieval from information centres, archives, etc. [d), e)]	− Demand − Point-to-point/multipoint [f)] − Bidirectional asymmetric
		Data retrieval service	Telesoftware	

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Service classes	Type of information	Examples of broadband services	Applications	Some possible attribute values [g], [h]
Distribution services without user individual presentation control	Video	Existing quality TV distribution service (PAL, SECAM, NTSC)	TV programme distribution	− Demand (selection)/permanent − Broadcast − Bidirectional asymmetric/unidirectional
		Extended quality TV distribution service − Enchanced definition TV distribution service − High quality TV	TV programme distribution	− Demand (selection)/permanent − Broadcast − Bidirectional asymmetric/unidirectional
		High definition TV distribution service	TV programme distribution	− Demand (selection)/permanent − Broadcast − Bidirectional asymmetric/unidirectional
		Pay-TV (pay-per-view, pay-per-channel)	TV programme distribution	− Demand (selection)/permanent − Broadcast/multipoint − Bidirectional asymmetric/unidirectional
	Text, graphics, still images	Document distribution service	− Electronic newspaper − Electronic publishing	− Demand (selection/permanent − Broadcast/multipoint [f] − Bidirectional asymmetric/unidirectional
	Data	High speed unrestricted digital information distribution service	− Distribution of unrestricted data	− Permanent − Broadcast − Unidirectional
	Moving pictures and sound	Video information distribution service	− Distribution of video/audio signals	− Permanent − Broadcast − Unidirectional
Distribution services with user individual presentation control	Text, graphics, sound, still images	Full channel broadcast videography	− Remote education and training − Tele-advertising − News retrieval − Telesoftware	− Permanent − Broadcast − Unidirectional

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Notes to Table

a) In this table only those broadband services are considered which may require higher transfer capacity than that of the H_1 capacity. Services for sound retrieval, main sound applications and visual services with reduced or highly reduced resolutions are not listed.

b) This terminology indicates that a re-definition regarding existing terms has taken place. The new terms may or may not exist for a transition period.

c) The realization of the different applications may require the definition of different quality classes.

d) "Mixed document" means that a document may contain text, graphic, still and moving picture information as well as voice annotation.

e) Special high layer functions are necessary if post-processing after retrieval is required.

f) Further study is required to indicate whether the point-to-multipoint connection represents in this case a main application.

g) At present, the packet mode is dedicated to non-realtime applications. Depending on the final definition of the packet transfer mode, further applications may appear. The application of this attribute value requires further study.

h) For the moment this column merely highlights some possible attribute values to give a general indication of the characteristics of these services. The full specification of these services will require a listing of all values which will be defined for broadband services in Recommendations of the I.200-Series.

REFERENCE

CCITT (1988a), Recommendations of the IXth Plenary Assembly, Integrated Services Digital Network ISDN, Vol. III, Fascicle III.7, Melbourne, Australia, November, pp. 47-51.

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15. ABSTRACT *(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.)*

The purpose here is to define the present and examine the future of telecommunications over the next ten years. Emerging and anticipated products and services are viewed from both a technical and a social impact perspective. Systems including those providing voice, data, images, video, and integrated services are investigated in terms of technical feasibility, standardization, and global applications. Networks and concepts discussed include; LANs, MANs, WANs, wireless networks, switched multimegabit data service (SMDS), ISDN, B-ISDN, asynchronous transfer mode (ATM), and synchronous optical networks (SONETs). The information gleaned from this study is summarized in a series of tables and charts that characterize the critical parameters of various switching and transmission systems and concepts as well as the network architectures. The major architectural concepts and systems expected to have critical impact on the future telecommunications infrastructure are presented along with important issues expected to affect their evolution.

16. Key Words *(Alphabetical order, separated by semicolons)*

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