ITU-TS SG15
Experts Group for ATM Video Coding
(Rapporteur's Group on Part of Q. 2/15)

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International Telecommunications Union
Telecommunication Standardisation Sector
TSS

Period 1993-96

Original: English

Date: July. 1993
Geneva

SOURCE: **Mr D. Dorman, Chairman of JCG on B-ISDN**

TITLE: **Report of Drafting Meeting on the Terms of Reference for JCG on B-ISDN**

A drafting meeting on Friday 9 July 1993, under the Chairmanship of Mr Dennis Dorman (Chairman of JCG on B-ISDN), considered and amended the proposed terms of reference for the JCG on B-ISDN based on the text of TD 28 (13). The revised terms of reference, details on proposed working methods, scope of work, membership of the JCG and an initial list of issues for immediate attention are contained in the attached draft report (in the form of a liaison to the other involved Study Groups).

A further drafting meeting has been scheduled for Wednesday 14 July, commencing at 2:30pm. The purpose is to review the attached draft liaison and to amend the list of issues for immediate attention to include any items identified by the Working Parties at this meeting of SG 13. It is also intended that the release timetable, last updated in January 1993, be further updated to be used as a first step to developing an integrated overall work plan on B-ISDN across all involved TS Study Groups.

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Original: English

Date: July. 1993
Geneva

SOURCE: **Chairman TS Study Group 13**

TITLE: **Liaison to other ITU-TS Study Groups, TSAG and Director of the Radio Communication Sector**

SUBJECT: **Joint Co-ordination Group on B-ISDN**

1. Introduction

The June 1993 meeting of the Telecommunications Standards Advisory Group (TSAG), a high level advisory group to the TSB, endorsed the need for and formation of a Joint Co-ordination Group (JCG) on B-ISDN and that it should be led by TS Study Group 13.

The mandate and terms of reference for the JCG on B-ISDN have been discussed and the proposed terms of reference drafted at the July 1993 meeting of TS Study Group 13. The nominated representatives for this JCG from TS Study Groups 2 and 11 also participated.

This liaison describes the proposed scope of the JCG activities, working methods, JCG membership and provides the proposed terms of reference for the JCG with an initial list of activities for immediate attention, for the consideration and comment by the participating Study Groups.

2. Contact

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3. Mandate and Scope of the JCG on B-ISDN

The concept of Joint Co-ordination Groups was created by the WTSC Resolution 1, Section 3 (Helsinki, 1993) and further detailed in Resolution 16 (Helsinki, 1993) as a new management tool of the TSB to ensure more co-ordinated, harmonised and timely standards. The June 1993 meeting of the Telecommunications Standards Advisory Group (TSAG), a high level advisory group to the TSB, endorsed the need for and formation of a Joint Co-ordination Group (JCG) on B-ISDN and that it should be led by TS Study Group 13.

In general, the role of the JCG on B-ISDN is primarily one of co-ordination across all TS Study Groups working on B-ISDN to ensure harmonised and timely development of Recommendations. The work itself will continue to be conducted in the relevant Study Groups and the results subject to the normal approval procedures within each Study Group.

It is proposed that the JCG on B-ISDN cover all aspects of B-ISDN standardisation within the scope of its activities, but that priority areas be identified to focus immediate attention on particular activities requiring co-ordination and harmonisation.

4. Working Methods of the JCG on B-ISDN

A Baseline Document approach as a tool for co-ordination and harmonisation has proved successful in the case of the IVS studies initiated by SGXVIII in the previous Study Period. It is proposed that a similar Baseline Document approach to collating the elements of common agreement, open issues and an integrated overall timetable for capabilities and Recommendations would be a useful tool for use by the JCG on B-ISDN. The release timetable produced by Study Group 13 and updated at its July '93 meeting also provides a useful start to preparation of a common, agreed, overall B-ISDN work plan (see Annex 1 attached *(currently the Jan.'93 version)*).

The members of the JCG on B-ISDN shall operate under the agreed terms of reference. To the extent possible, the work of the JCG will proceed by correspondence, with formal meetings scheduled as deemed necessary by the members. Meetings of the JCG will normally coincide with a meeting of a TS Study Group.

5. Proposed Terms of Reference

The Joint Co-ordination Group (JCG) on B-ISDN is formed, as a permanent body during the Study Period, to promote the co-ordinated development of Recommendations across the Telecommunication Sector Study Groups working on different aspects of B-ISDN, to guide the inputs and co-ordinate the outputs of such groups, and to harmonise the interactions of the groups. This activity includes the following aspects:

1) Identify Questions relating to B-ISDN for each of the involved Study Groups (TS SGs 1, 2, 3, 4, 7, 9, 11, 12, 13 and 15)

2) Establish appropriate working methods and tools for the co-ordination activities and identify appropriate contact points/representatives within each Study Group for dissemination of documents and for participation in JCG meetings as required.

3) Review study Questions and work plans of the various Study Groups working on B-ISDN related issues and recommend action to Study Groups as appropriate in order to:
   - 3.1 cause harmonisation of B-ISDN work plans prepared by all groups working on B-ISDN;
   - 3.2 ensure appropriate prioritisation of the work to be performed;

3.3 ensure that Study Group mandates, as established by the WTSC (in Resolution 2), are taken into account;
3.4 eliminate duplication of B-ISDN work efforts;
3.5 propose additions or modification of work items to Questions, as appropriate (in exceptional circumstances), to ensure a cohesive overall work plan for B-ISDN;
3.6 as necessary, propose realignment of Questions for improved interactions among Study Groups;
3.7 develop an agreed overall schedule of activities on B-ISDN, particularly where dependence on the completion of work by one group inhibits work by others to begin.

4) Monitor and facilitate the progress of the work in order to:
4.1 ensure that the work items identified in the Questions are addressed in appropriate Recommendations or by other means;
4.2 ensure that work dependencies can be met;
4.3 facilitate liaison between groups working on related aspects of B-ISDN and promote the information exchange between work groups.

5) Monitor the progress of the work and, if necessary, make proposals for additional or joint meetings in order to adjust progress. Liaise as required with other JCGs and ICGs as appropriate.

6) Review the structure of Recommendations dealing with B-ISDN to determine whether they are sufficiently harmonised, and recommend appropriate action if they are not.

7) Establish task oriented sub-groups of the JCG as required to improve efficiency of the co-ordination effort.

8) The JCG on B-ISDN shall inform and invite participation from relevant groups of the Radiocommunication Sector on topics of relevance to their work plans.

9) The JCG on B-ISDN shall also co-ordinate with bodies outside the TSS and in particular take note of commercial drives for B-ISDN work. In this respect, the market needs for services should be reflected in the prioritisation of work plans.

10) Periodically review the appropriateness of the JCG organisation and composition and make recommendations to TSAG on any changes necessary. Terminate JCG activities when all parties are in agreement that this level of co-ordination is no longer necessary to ensure the successful development of B-ISDN Recommendations.

6. Issues for Immediate Attention

Some of the issues requiring immediate attention include:

- Alignment of the release approach of SG 13 and the stepwise capability set approach of SG 11.
- A common prioritisation of the work objectives, particularly of SGs 1, 11 and 13.
- Refinements to existing service descriptions should proceed in parallel with work on network capabilities and protocol definitions to support emerging telecommunications services. However, initial multimedia service descriptions are required now to allow switching, signalling and network capabilities studies to proceed.
- Allocation of work between SGs 4, 11 and 15 on information modelling and management control of ATM cross-connects and the relationship to ATM switching (also requires co-ordination with the JCG on TMN).
- Allocation of work between Study Groups 2 and 13 on B-ISDN traffic control, congestion control and resource management issues.

- Allocation of work between Study Groups 2 and 13 on ATM layer performance parameters, objectives and measurement issues.
- Allocation of work between Study Groups 13 and 15 on AAL for video.
- Relationship to IVS activities

7. Membership of the JCG on B-ISDN

The core team of the JCG on B-ISDN should comprise the JCG Chairman and designated representatives (Co-ordinating Rapporteurs) from ITU-TS Study Groups 1, 2, 3, 4, 7, 9, 11, 12, 13 and 15. Additionally, technical experts with a particular interest in the issues being considered may participate as requested by the JCG. Participation by representatives of the Radiocommunication Sector will also be invited and encouraged on issues relevant to the studies on B-ISDN in that Sector.

Participating Study Groups should advise the JCG on B-ISDN Chairman of the name(s), addresses, telephone and fax numbers of their Co-ordinating Rapporteurs when they are appointed.

The current designated representatives and their contact details are as follows:

Chairman of the JCG:	Mr Dennis Dorman Telecom Australia (Telstra Corporation Ltd) 25/242 Exhibition Street Melbourne 3000 AUSTRALIA	Tel: +61 3 634 6566 Fax: +61 3 670 2562
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Study Group 11:	Mr R David	Tel: + Fax: +
Study Group 13	Mr ?????????????	Tel: + Fax: +

8. JCG on B-ISDN Meeting Schedule

It is proposed that the first meeting of the JCG on B-ISDN be held in Geneva during the week beginning 6 December 1993 in parallel with the next scheduled meeting of SG 11 in Geneva, 29 November - 17 December 1993.

The second meeting of the JCG is scheduled to coincide with the next scheduled meeting of SG 13 (the lead Study Group of the JCG) in March 1994.

Annex 1

9.4 Living list

Remaining Release 1 issues (Peak Emission Interval specification and coding, OAM flows enforcement), enhancements to I.371 for consistency reasons (Origins of Cell Delay Variation, precise definition of QOS classes, definition of a conforming connection) as well as the impact of agreements listed above, and items for further enhancements of I.371 (clarification on Cell Loss Priority, Network Performance, UPC/NPC, procedures and parameters for statistical multiplexing, etc.) are listed in the Living list reproduced in Annex 6.

Note that the objective is to solve all remaining Release 1 issues at the next SG XVIII meeting.

9.5 Future workplan

The following workplan is proposed for the next study period :

- Finalize Release 1 issues as above.
- Clarify the relationships between Quality of Service, Network Performance, Usage Parameter Control, Network Parameter Control, Compliance and Cell Loss Priority.
- Provide for Statistical Multiplexing Schemes and standardize the relevant procedures and/or parameters.

10. Report on vocabulary issues

A small Editorial Group in charge of the revision of I.113 met for a couple of hours on January 25 under the chairmanship of Mrs. R. Guarnieri (Italy), with the objective of revising the proposal made during last SG XVIII meeting in Juno.
After discussion the group came to the agreement that Rec. I.113 be proposed for aprroval according to resolution n. 2 at the next CCITT SG XVIII meeting. It was also agreed that the new version of I.113 should be published integrally (i.e. not only the additional terms as contained in COM XVIII-R 95) in a restructured version, according to the decision taken by the vocabulary group (COM XVIII-R 94) that terms should appear in a logical order rather then in alphabetical order.

~~The revised Rec. I.113 is reproduced in COM XVIII-6.~~

11. Release Time Table for B-ISDN standardization

11.1 The Tables are an up-date of the Release Table produced for the first time in November 1990 at the Matsuyama meeting of SG XVIII, revised in June 1991 at the Geneva meeting of Study Group XVIII. It was lastly reproduced as Annex 5 in the report of WP XVIII/8 of the Final Meeting of SG XVIII (COM XVIII-R102).

11.2 Many items of Release 1 have been completed and corresponding Recommendations have been approved, as identified in the "status" column of Table 1. However, some items with the "I" symbol require completion. Completed and incompleted items are identified in Table 2. In some instances, Recommendations have been approved but require further enhancements to provide the full capabilities of Release 1.

11.3 Study Group XVIII intends to review the Release Table at each meeting. The intention of Study Group XVIII being that the Release Table could serve as a managerial tool for its work, as well as giving guidance to the work of other Study Groups involved in B-ISDN studies (eg SGs I, XI, XV) for the preparation of corresponding Recommendations in their field of competence.

The Release Table should also serve outside bodies and organisations as an indication of intended progress in providing standards for B-ISDN in the framework of CCITT studies.

11.4 Comments and contributions are requested for the first meeting of Study Group XVIII in the next study period in order to assess the following:

a) A review of Release 1 capability requirements and the way to complete items relating to Release 1 shown in the Table with the symbol "i";

b) A review of items necessary and the timescale for Releases 2 and 3;

c) The usefulness of the present structure of this Table as a managerial tool as described above.

TABLE I

Timetable of service features and network capabilities for B-ISDN

(release 1)[1]	status c:completed i:incomplete (relevant Rec.s)	by 94 (release 2)[2,10]	status	by 96 (release 3)[10]	status
1.B-ISDN Bearer services[3]		as for release 1 with additions:		as for release 1 and release 2 with additions:	
BCOB-A(CBR,CO,with end-to-end timing) peak traffic parameter, emulation (speech, 3.1kHz audio & 64kbit/s unrestricted and higher rates)	i, (I.432,I.361, I.363,I.371)	BCOB-B(VBR,CO,with end-to-end timing)		Multi-media	
BCLB(VBR,CLS,no end-to-end timing) peak traffic parameter	i, (I.432,I.361, I.363I.364, I.371,)	BCOB-C(VBR,CO,no end-to-end timing)		Distributive services	
BCOB-X(unrestricted,proprietary AAL) peak traffic parameter	c, (I.432,I.361, I.371)	Resources allocated according to statistical multiplexing scheme (CBR and VBR)			
Information transfer capability: unrestricted	c, (I.432,I.361, I.371)	Relationship of CLP to QoS, NP & Indication of QoS by user		Negotiation of QoS class by user from QoS classes	
2.Network Architecture (refer I.311 §2)		as for release 1 with additions:		as for release 1 and release 2 with additions:	
For both UNI and NNI	c, (I.311,413)	Connectionless servers (switched access)			
VPC cross connect only	c, (I.311)	VP Resource management systems			
VCC Switching (ATM switching)	c, I.311	Service Control Point (IN) access			
non-intelligent multiplexing	i (No Rec.s)	Intelligent Multiplexing[11]			
Connectionless servers interconnected with semi-permanent VCC/VPC. Access to connectionless services with semi-permanent VCC/VPC (at UNI)[4]	c, (I.327) i, (I.364)	Switched access to connectionless servers			
3.Network Capabilities		as for release 1 with additions:		as for release 1 and release 2 with additions:	
VC switching (point-point)	c, (I.311) i, SOXI	Simple Multi-point VC & VP connections		Broadcast connections	
VP cross connect (point-point)	c, (I.311)				
VP establishment with proprietary OAM system[5,6] VCC, with a User-user VPC, establishment on demand	c, (I.311) i, SOXI	VP configuration with standard OAM CLP use		VP configuration with integrated OAM and switching	
Indication of VPC and VCC peak bit-rate during establishment[7]	c, (I.311) i, SOXI	Negotiation of VPC and VCC traffic descriptor during establishment			
		Re-negotiation of VPC/VCC traffic descriptor during active phase			
		Indication of QoS			

Uncontrolled GFC	c, (I.150,I.361)	GFC to support p-p star configuration			
		Grouping of bearer services keeping timing relation			
3.1 Traffic characteristics:		as for release 1 with additions:		as for release 1 and release 2 with additions:	
Peak cell rate descriptor[7]	c, (I.371)	Source traffic parameters and network procedures for statistical multiplexing schemes			
Traffic descriptor for circuit emulation, including 64kbit/s	i, (I.371)	N-ISDN interworking			
3.2 Connection Configurations (User bearer services)		as for release 1 with additions:		as for release 1 and release 2 with additions:	
unidirectional, point to point	c, (I.150,I.311, I.361)	simple point to multipoint ATM bearers with limited topologies, capability for add/drop parties		full range of multipoint bearers	
bi-directional,point to point symmetrical asymmetrical	c, (I.150,I.311, I.361)				
single connection, simultaneous establishment of calls and connections	c, (I.150,I.311, I.361)	multi-connection, delayed establishment of connections			
3.3 Connection Configurations (Signalling)	c.(I.311)	as for release 1 with additions:		as for release 1 with additions:	
uni-directional, point to multipoint, broadcast	c, (I.311)				
bi-directional, point to point symmetrical	c, (I.311)				
3.4 Interworking[9]		as for release 1 with additions:		as for release 1 with additions:	
to narrowband ISDN using BCOB-A	i, (I.580)	for further study in Release 2 & 3		for further study in Release 2 & 3	
to other connectionless networks using BCLB[6]	i, (I.364)				
to Frame Relay network using BCOB-X	i, (I.555)				
4, Other attributes		as for release 1 with additions:		as for release 1 and release 2 with additions:	
Common channel signalling transfer mode	c, (I.311) I, SQXI	for further study in Release 2 & 3		for further study in Release 2 & 3	
Meta-signalling channel	c, (I.311) i, Q.142X				
Initial guidance on charging	i	Broadband aspects of charging and relationship to resource allocation			
Limited supplementary services as per Q.767[8]	i	Supplementary Services			

Notes:
BCOB: Broadband Connection Oriented Bearer Service, BLCB: Broadband Connectionless Bearer Service.
1. Mandatory for release 1 Signalling Recommendations.
2. As an objective for release 1 Signalling Recommendations, to be included in release 1 Recommendations where possible.
3. This includes the support of narrowband ISDN services as defined in Q.767.
4. No signalling impact is expected, as the ATM bearer connections will be semi-permanent
5. The OAM system may be non-standard
6. Customer to VP service provider signalling relation to be considered in release 2.
7. A peak rate traffic parameter will be specified as a data request rate at the ATM layer SAP. Whether an additional peak rate traffic parameter has to be specified as a bit rate at the AAL SAP is for further study.
8. Subject to minimal impact on connection configurations. Further study is required on the applicability of these supplementary services B-ISDN services defined by SGI.
9. Further study is required on the bearer services for interworking.
10. Unique signalling protocol for release 2 and release 3 should be achieved.
11. Standardization may not be required.

[Refer to "Detailed Status of Release 1" in case of "incomplete"]

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TABLE II

Detailed status of Release 1

RELEASE 1 SERVICE FEATURES AND NETWORK CAPABILITIES	COMPLETED WORK	INCOMPLETE WORK
1. B-ISDN Bearer services	Broadband bearer services described in (F.811, F.812) are based on physical layer (I.432), ATM layer (I.150, I.361), Adaptation layer (I.362, I.363) and Traffic control (I.371)	
BCOB-A (CBR, CO, with end-to-end timing) peak traffic parameter. emulation (speech, 3.1 kHz audio & 64 kbit/s unrestricted and higher rates)	- BCOB-A (CBR,CO,with end-to-end timing,unstructured data transfer) peak traffic parameter. - emulation (64 kbit/s and higher rates).	- BCOB-A (CBR,CO,with end-to-end timing,structured data transfer) peak traffic parameter - emulation (speech, 3.1 kHz audio)
BCLB (VBR, CLS, no end-to-end timing) peak traffic parameter	BCLB(VBR,no end-to-end timing) peak traffic parameter	BCLB(VBR,CLS,no end-to-end timing) peak traffic parameter
BCOB-X (unrestricted, proprietary AAL) peak traffic parameter	All	
Information transfer capability: unrestricted	All	
2. Network Architecture		
For both UNI and NNI	UNI reference configurations in I.413. Architecture aspects relevant to UNI and NNI in I.311.	
VPC cross connect only	Included in I.311	
VCC Switching (ATM switching)	Included in I.311	
Non-intelligent multiplexing		Network operators free to use multiplexing scheme of their choice. No recommendation text required.
Connectionless servers interconnected with semi-permanent VCC/VPC. Access to connectionless services with semi-permanent VCC/VPC (at UNI)	Architectures described in I.327.	Support of connectionless data services described in I.364.
3. Network Capabilities		
VC switching (point–point)	Signalling network capabilities and VC switch network element functions described in I.311.	SG XI to complete Release 1 signalling protocols recommendations in 1993.
VP cross connect (point–point)	VP cross-connect network element functions described in I.311.	

VP establishment with OAM system VCC, within a User–user VPC, establishment on demand	Described in I.311. Network capability defined in I.311.	Study Group XI to provide signalling protocol.
Indication of VPC and VCC peak bit-rate during establishment	Traffic parameters defined in I.371.	Indication of parameters requires SG XI to complete signalling protocols.
3.1 Traffic characteristics:		
Traffic descriptors based on VCC/VPC peak cell rate.	Peak cell rate traffic parameter defined in I.371.	- Peak cell rate granularity specification - Traffic control on OAM flows
Circuit emulation, including 64 kbit/s	Traffic characterized by the peak cell rate descriptor.	Selection of traffic parameter values for circuit emulation including 64 kbit/s.
3.2 Connection Configurations (User bearer services)		
Unidirectional, point to point. Bi-directional, point to point, symmetrical & asymmetrical. Single connection, simultaneous establishment.	ATM connections to support these configurations are described in I.150, I.311, I.361.	Release 1 protocols for establishing connections for these configurations will be developed by SG XI in 1993.
3.3 Connection Configurations (Signalling)		
Uni-directional, point to multipoint, broadcast. Bi-directional, point to point, symmetrical.	Signalling configurations are described in I.311.	
3.4 Interworking		
To narrowband ISDN using BCOB-A	Interworking between Broadband ISDN and 64 kbit/s based ISDN is described in I.580.	
To other connectionless networks using BCLB		Voice and structured data transfer for interworking with non-BISDN connectionless data protocols to be developed in I.364.
4. Other attributes		
Common channel signalling transfer mode	Signalling modes and architectures described in I.311.	B-ISUP to be completed by Study Group XI in 1993.
Meta-signalling channel	Meta signalling requirements and capabilities described in I.311	Meta-signalling protocol to be finalized in Q.142x (Study Group XI).
Initial guidance on charging		Not yet addressed.
Limited supplementary services as per Q.767		Under discussion in SG XI.

12.