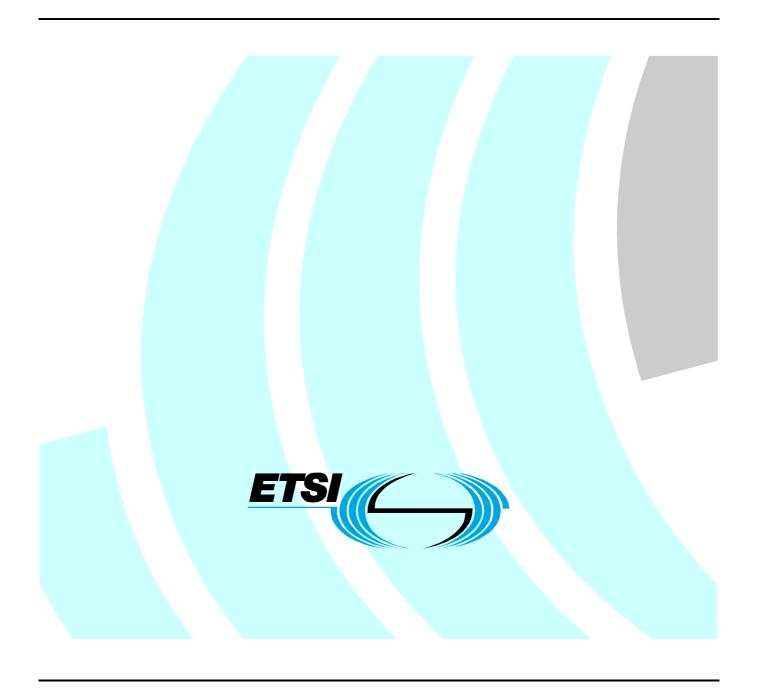# ETSI EN 301 068-1 V1.3.1 (2002-04)

European Standard (Telecommunications series)

Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; ATM transfer capability and traffic parameter indication; Part 1: Protocol specification

[ITU-T Recommendations Q.2961.1 (1995), Q.2961.2 (1997), Q.2961.3 (1997), Q.2961.4 (1997), Q.2961.6 (1997), modified]

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 1 of a multi-part deliverable covering the Digital Subscriber Signalling System No. two (DSS2) protocol specification for the Broadband Integrated Services Digital Network (B-ISDN) ATM transfer capability and traffic parameter indication, as identified below:

Part 1: **"Protocol specification [ITU-T Recommendations Q.2961.1 (1995), Q.2961.2 (1997), Q.2961.3 (1997), Q.2961.4 (1997) and Q.2961.6 (1997), modified]";**

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for the user";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";

Part 5: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";

Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

The present document details the access signalling system protocol aspects and switching functions required to support the ATM transfer capability and the related traffic parameter indication at call and/or connection establishment time.

National transposition dates	
Date of adoption of this EN:	26 April 2002
Date of latest announcement of this EN (doa):	31 July 2002
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 2003
Date of withdrawal of any conflicting National Standard (dow):	31 January 2003

Endorsement notice

The elements of ITU-T Recommendations Q.2961.1 (1995), Q.2961.2 (1997), Q.2961.3 (1997), Q.2961.4 (1997) and Q.2961.6 (1998) apply, with the following modifications.

Global modifications to ITU-T Recommendations Q.2961.1 to Q.2961.6

Insert the following clause (Scope).

Scope

The present document covers the support of additional traffic parameters for the Broadband Integrated Services Digital Network (B-ISDN) at the T_B reference point or coincident S_B and T_B reference point as defined in ITU-T Recommendation I.413 by means of the Digital Subscriber Signalling System No. two (DSS2) protocol for the pan-European Broadband Integrated Services Digital Network (B-ISDN) as provided by European public telecommunication operators.

It defines the DSS2 protocol procedures, formats and functions needed to support the identified ATM transfer capabilities and the ATM traffic related additional capabilities.

The specifications provided by the present document allow for the signalling of the ATM transfer capabilities and of the additional traffic parameters beyond the ones already specified by EN 300 443-1 for B-ISDN basic call/connection control at the UNI. The additional traffic parameters support a Broadband Connection-Oriented Bearer Service (BCOB) as specified in ITU-T Recommendation F.811.

The present document forms part of the DSS2 family of standards; it specifies extensions to EN 300 443-1 which specifies the control protocol for point-to-point call/bearer connection, and does not repeat states, information elements, messages and procedures contained therein, but only specifies extensions related to additional traffic parameter indications.

The present document does not cover procedures for the negotiation and modification/re-negotiation of the ATM traffic parameters.

Throughout the text of ITU-T Recommendations Q.2961.1 to Q.2961.6

Replace references as shown in the following table.

Reference in ITU-T Recommendations Q.2961.1 to Q.2961.4	Modified reference
ITU-T Recommendation Q.2931	ITU-T Recommendation Q.2931 as modified by EN 300 443-1
ITU-T Recommendation Q.2933	ITU-T Recommendation Q.2933 as modified by EN 301 174-1
ITU-T Recommendation I.371	ITU-T Recommendation I.371 as modified by ETS 300 301 edition 2
ITU-T Recommendation I.356	ITU-T Recommendation I.356 as modified by ETS 300 464
ITU-T Recommendation Q.2951, clause 1	ITU-T Recommendation Q.2951 as modified by ETS 300 661-1
ITU-T Recommendation Q.2951, clause 2	ITU-T Recommendation Q.2951 as modified by ETS 300 662-1
ITU-T Recommendation Q.2951, clause 3	ITU-T Recommendation Q.2951 as modified by ETS 300 663-1
ITU-T Recommendation Q.2951, clause 4	ITU-T Recommendation Q.2951 as modified by ETS 300 664-1
ITU-T Recommendation Q.2951, clause 5	ITU-T Recommendation Q.2951 as modified by ETS 300 665-1
ITU-T Recommendation Q.2951, clause 6	ITU-T Recommendation Q.2951 as modified by ETS 300 666-1
ITU-T Recommendation Q.2951, clause 8	ITU-T Recommendation Q.2951 as modified by ETS 300 667-1
ITU-T Recommendation Q.2955.1	ITU-T Recommendation Q.2955 as modified by ETS 300 770-1
ITU-T Recommendation Q.2957	ITU-T Recommendation Q.2957 as modified by ETS 300 668-1
ITU-T Recommendation Q.2962	ITU-T Recommendation Q.2962 as modified by EN 301 067-1
ITU-T Recommendation Q.2963.1	ITU-T Recommendation Q.2963.1 as modified by EN 301 003-1
ITU-T Recommendation F.811 (1992)	ITU-T Recommendation F.811 (1996)

Modifications to ITU-T Recommendation Q.2961.1

Replace VBR (Variable Bit Rate) by SBR (Statistical Bit rate) ATM Transfer Capability.

Appendix I

Appendix I is informative.

Appendix II

Appendix II is informative.

Appendix III

Appendix III is informative.

Appendix IV

Appendix IV is not applicable.

Modifications to ITU-T Recommendation Q.2961.2

Reference [6] (ITU-T Recommendation Q.2933) is not applicable.

> NOTE: The use of the Frame Relay Bearer Class codepoint in octet 5 (bits 1 to 5) of the Broadband bearer capability information element (figure 1/Q.2961.2) will be the subject of a separate standard defining the application of ITU-T Recommendation Q.2933.

Annex A

Annex A is normative.

Replace table A-1/Q.2961.2 with the following new one:

Table A-1 (Part 1/3)/Q.2961.2

Valid combinations of Traffic related parameters in the SETUP message

Broadband bearer capability											
Bearer class	A	A	A	C	C	C	C		C	C	
BTC (value) (see note 1)	absent	absent	7	absent	absent	absent	absent		11	19	
Traffic descriptor for a given direction											
PCR (CLP=0)		S			S						
PCR (CLP=0+1)	S	S	S	S	S	S	S		S	S	
{SCR, MBS} (CLP=0)							S				
{SCR, MBS} (CLP=0+1)						S			S	S	
Tagging (see note 13)	N	Y/N	N	N	Y/N	N	Y/N		N	N	
End-to-end timing required	Y	Y	Y	N	N	N	N		N	Y	
For the given direction:											
Requested I.371 ATC	see note 2	see note 2	DBR	see note 2	see note 6, 14	see note 7	see note 14		SBR1	SBR1	
Implicitly requested QoS when the QoS class is 0	see note 3	see note 3	Class 1	see note 5	Class 3	see note 5	Class 3		Class 2	see note 10	
For the given direction:											
I.371 ATC that supports the requested ATC	DBR	DBR see note 4	DBR	DBR	see note 6, 14	SBR1	see note 14		SBR1	SBR1	
I.356 QoS class that supports the implicitly requested QoS	Class 1	Class 1	Class 1	Class 2	Class 3	Class 2	Class 3		Class 2	Class 1	
	see note 11	see note 11	see note 12	see note 11	see note 11	see note 11	see note 11		see note 12	see note 12	

Table A-1 (Part 2/3)/Q.2961.2

Valid combinations of Traffic related parameters in the SETUP message

Broadband bearer capability												
Bearer class	C	C	X or FR	X or FR	X or FR	X or FR	X or FR	X or FR	X or FR	X or FR	X or FR	X or FR
BTC (value) (see note 1)	9	9	absent, 0, 2, 8 or 10	absent, 0, 2, 8 or 10	absent, 0, 2, 8 or 10	absent, 0, 2, 8 or 10	7	11	19	4, 5 or 6	4, 5 or 6	1 or 9
Traffic descriptor for a given direction												
PCR (CLP=0)				S							S	
PCR (CLP=0+1)	S	S	S	S	S	S	S	S	S	S	S	S
SCR, MBS (CLP=0)	S					S						
SCR, MBS (CLP=0+1)		S			S				S	S		
Tagging (see note 13)	Y/N	N	N	Y/N	N	Y/N	N	N	N	N	Y/N	N
End-to-end timing required	Y	Y	N	N	N	N	Y	N	Y	Y	Y	Y
For the given direction:												
Requested I.371 ATC	see note 14	see note 7	see note 2	see note 6, 14	see note 7	see note 14	DBR	SBR1	SBR1	see note 2	see note 2	see note 2
Implicitly requested QoS when the QoS class is 0	see note 8	see note 8	see note 5	Class 3	see note 5	Class 3	Class 1	Class 2	see note 10	see note 3	see note 3	see note 8
For the given direction:												
I.371 ATC that supports the requested ATC	see note 9	SBR1	DBR	see note 6, 14	SBR1	see note 14	DBR	SBR1	SBR1	DBR	DBR see note 4	DBR
I.356 QoS class that supports the implicitly requested QoS		Class 1	Class 2	Class 3	Class 2	Class3	Class 1	Class 2	Class 1	Class 1	Class 1	Class 1
			see note 11	see note 11	see note 11	see note 11	see note 12	see note 12	see note 12	see note 11	see note 11	see note 11

Table A-1 (Part 3/3)/Q.2961.2

Valid combinations of Traffic related parameters in the SETUP message

Broadband bearer capability			
Bearer class	X or FR	X or FR	X or FR
BTC (value) (see note 1)	1 or 9	1 or 9	1 or 9
Traffic descriptor for a given direction			
PCR (CLP=0)	S		
PCR (CLP=0+1)	S	S	S
SCR, MBS (CLP=0)			S
SCR, MBS (CLP=0+1)		S	
Tagging (see note 13)	Y/N	N	Y/N
End-to-end timing required	Y	Y	Y
For the given direction:			
Requested I.371 ATC	see note 6, 14	see note 7	see note 14
Implicitly requested QoS when the QoS class is 0	see note 8	see note 8	see note 8
For the given direction:			
I.371 ATC that supports the requested ATC	see note 9	SBR1	see note 9
I.356 QoS class that supports the implicitly requested QoS		Class 1	
	see note 11	see note 11	see note 11

NOTE 1: BTC values 0, 1, 2, 4, 6, 8 are not used on transmission but shall be understood on reception.
NOTE 2: The requested capability in this case is not defined in ITU-T Recommendation I.371 and differs from the DBR ATM transfer capability (see ITU-T Recommendation I.371) only in that selective discardability of CLP=1 cells may apply.
NOTE 3: The implicitly requested QoS class in this case is not defined in ITU-T Recommendation I.356 and differs from QoS class 1
(see ITU-T Recommendation I.356) in that the CLR commitment is only for CLP=0 cells.
NOTE 4: PCR(CLP=0) is ignored and tagging is not performed.
NOTE 5: The implicitly requested QoS class corresponds to QoS class 3 (see ITU-T Recommendation I.356).
NOTE 6: This is provided by setting SCR(CLP=0) equal to specified PCR(CLP=0) and MBS(CLP=0) equal to 1.
NOTE 7: The requested capability in this case is not defined in ITU-T Recommendation I.371 and differs from the SBR1 ATM transfer capability (see ITU-T Recommendation I.371) only in that selective discardability of CLP=1 cells may apply.
NOTE 8: The implicitly requested QoS class in this case is not defined in ITU-T Recommendation I.356 and differs from QoS class 3
(see ITU-T Recommendation I.356) in that end-to-end timing is required.
NOTE 9: There is no combination recommended in ITU-T Recommendation I.356.
NOTE 10: The implicitly requested QoS class in this case is not defined in ITU-T Recommendation I.356.
NOTE 11: This combination is supported in order to promote backward compatibility with the first edition of ITU-T Recommendation Q.2931 (1995), with ITU-T Recommendation Q.2961.1.
NOTE 12: For this combination, the ATC and the QoS class is the same in both directions.
NOTE 13: If tagging is not specified but requested by a user, or if tagging is specified for a combination but not supported by a network, the call shall proceed without tagging being applied.
NOTE 14: The requested or provided capability in this case is not defined in ITU-T Recommendation I.371 and differs from the SBR2 ATM transfer capability as defined in ITU-T Recommendation I.371 in that tagging may be applied at the Usage Parameter Control function (UPC, as defined in ITU-T Recommendation I.371) according to the procedures described in ITU-T Recommendation Q.2961.1. This combination of parameters does not support the SBR3 ATM transfer capability as defined in ITU-T Recommendation I.371.
A blank in the table means that the traffic parameter is not applicable for this combination.
PCR = Peak Cell Rate, SCR = Sustainable Cell Rate, MBS = Maximum Burst Size, S = Specified;
For the Tagging row, Y = Yes, N = No or No indication, Y/N = either "Yes" or "No or "No Indication".

Appendix I

Appendix I is informative.

Modifications to ITU-T Recommendation Q.2961.3

Appendix I

Appendix I is informative.

Modifications to ITU-T Recommendation Q.2961.4

No modifications identified.

Modifications to ITU-T Recommendation Q.2961.6

No modifications identified.

History

Document history		
V1.2.4	November 1998	Publication
V1.3.1	December 2001	One-step Approval Procedure OAP 20020426: 2001-12-26 to 2002-04-26
V1.3.1	April 2002	Publication