



**SLOVENSKI STANDARD**  
**SIST EN 301 217-1:2001**  
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Ja Ygb]\_J`X][ ]HbY[ Ugfcf]hj YbY[ Uj cn`ý UfGBŁ!`Ja Ygb]\_]bUfYZfYb b]`hc \_]  
J6) "&nUdcXdcfc`ý]fc\_cdUgcj b]`U]`\_ca V]b]fUb]`cn\_cdUgcj b]`]b  
ý]fc\_cdUgcj b]`Xcglcfcj b]`ca fYj]`f5 BŁ!`%`XY.`GdYWZ]\_UW]Uj a Ygb]\_U

V interfaces at the digital Service Node (SN); Interfaces at the VB5.2 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs); Part 1: Interface specification

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# Contents

Intellectual Property Rights.....	10
Foreword .....	10
Introduction .....	10
1 Scope.....	12
2 References.....	13
3 Definitions and abbreviations .....	16
3.1 Definitions .....	16
3.2 Abbreviations.....	17
4 Field of application .....	18
5 Introduction to the VB5.2 reference point.....	19
5.1 General VB5.2 design principles .....	19
5.2 General reference model for the VB5.2 reference point .....	20
5.3 General characteristics of individual functional groups .....	20
5.3.1 User port function characteristics.....	20
5.3.2 ATM connection function characteristics.....	20
5.3.3 Service port function characteristics .....	20
5.4 Functional modelling .....	21
5.4.1 Modelling of user port function.....	21
5.4.2 Modelling of service port function.....	21
5.4.3 Modelling of ATM connection function .....	21
5.5 AN view and SN view of physical and logical ports.....	21
6 Procedural interface requirements .....	22
6.1 Introduction.....	22
6.2 Physical layer requirements .....	23
6.3 ATM layer requirements.....	23
6.3.1 Cell header format and encoding and pre-assigned cell headers for use by the ATM layer .....	23
6.3.2 Cell Loss Priority (CLP) .....	23
6.3.3 VPC carrying RTMC and B-BCC protocol VCCs.....	23
6.3.4 OAM .....	23
6.4 Higher layer interface requirements .....	23
6.4.1 User plane .....	23
6.4.2 Control plane.....	23
6.4.3 Management plane .....	24
6.4.4 Establishment of VP and VC links/connections .....	24
6.4.4.1 Establishment of VP links and connections .....	24
6.4.4.2 Establishment of VC links and VC connections .....	24
6.4.5 ATM adaptation layer for the RTMC protocol .....	25
6.4.6 ATM adaptation layer for the B-BCC protocol.....	25
6.4.6.1 General AAL requirements.....	25
6.4.6.2 AAL5 requirements .....	25
6.4.6.3 SSCOP requirements .....	25
6.4.6.4 SSCF requirements .....	26
6.5 Meta-signalling .....	26
6.6 Interface Management Application .....	26
6.7 Usage information transfer.....	26
7 Broadband access network connection types.....	26
7.1 Introduction to connections/connection elements .....	26
7.2 Multipoint requirements.....	27
7.3 Broadband access network connection element identifiers.....	27
7.3.1 Connection element identifiers in user-to-network signalling messages .....	27
7.3.2 Connection element identifiers in RTMC messages.....	27

7.3.3	Connection element identifiers in B-BCC messages .....	27
7.4	Overview of broadband access network connection types .....	28
7.5	B-ISDN type broadband access network connections .....	28
7.5.1	Type A broadband access network connections .....	28
7.5.2	Type B broadband access network connections .....	28
7.5.3	Type C broadband access network connections .....	28
7.5.3.1	Type C-VC broadband access network connections .....	28
7.5.3.1.1	Application of type C-VC PP broadband AN connection .....	29
7.6	Non-B-ISDN type broadband access network connections .....	31
7.6.1	Type D broadband access network connections .....	31
7.6.2	Type E broadband access network connections .....	31
7.6.2.1	Type E-VC broadband access network connection .....	31
8	Handling of non-B-ISDN access types .....	31
8.1	General considerations .....	31
8.2	ATM based accesses .....	32
8.2.1	General approach .....	32
8.2.2	User plane .....	32
8.2.3	Control plane .....	33
8.2.4	Management plane .....	33
8.3	Non-ATM based accesses .....	33
8.3.1	General approach .....	33
8.3.1.1	User plane .....	34
8.3.1.2	Control plane .....	35
8.3.1.3	Management plane .....	35
8.3.2	Analogue and 64 kbit/s based narrowband accesses as supported by V5 interfaces .....	35
8.3.3	Other non-ATM based non-B-ISDN accesses .....	35
9	Transfer and layer management functions .....	35
9.1	General functional architecture .....	36
9.2	Functional architecture of transfer and layer management functions .....	38
9.3	Transfer functions required for individual broadband AN connection types .....	39
9.4	Functions associated with logical and physical ports .....	39
10	Provisioning principles and requirements .....	40
10.1	General .....	40
10.2	Provisioning principles common for the VB5.1 and VB5.2 reference point concept .....	40
10.3	Provisioning principles specific for the VB5.2 reference point concept .....	40
11	Requirements for real-time co-ordination between AN and SN .....	42
11.1	Principles and requirements for real-time management co-ordination (RTMC) .....	42
11.2	Principles and requirements for broadband bearer connection control (B-BCC) .....	42
11.2.1	General principles for B-BCC .....	42
11.2.2	Establishment of bearer connections .....	43
11.2.2.1	Selection of VPCI and VCI at the service port .....	43
11.2.2.2	Selection of VPCI and VCI at the user port .....	44
11.2.2.3	Bearer connection parameters .....	45
11.2.2.4	Negotiation of connection characteristics .....	45
11.2.2.5	Branches of point-to-multipoint connections .....	45
11.2.3	Release of bearer connections .....	45
11.2.4	Modification of traffic parameters of established bearer connections .....	46
11.2.5	B-BCC reset .....	46
11.2.6	Automatic congestion control .....	46
11.2.7	B-BCC start-up and B-BCC restart requirements .....	47
11.2.7.1	B-BCC start-up .....	47
11.2.7.2	B-BCC restart .....	47
11.2.7.3	Indirect initiation of a B-BCC start-up or restart at the AN .....	48
11.2.8	Procedural requirements .....	48
12	Performance design objectives .....	49
12.1	Performance design objectives for transfer functions .....	49
12.2	Performance design objectives for RTMC and B-BCC functions .....	49

13	VB5.2 system architecture, structure and procedures.....	50
13.1	Introduction and overview .....	50
13.2	RTMC system architecture .....	51
13.3	RTMC procedures .....	51
13.4	B-BCC system architecture.....	51
13.4.1	System diagrams.....	51
13.4.1.1	Overview of B-BCC system .....	51
13.4.1.2	Classification of B-BCC primitives .....	53
13.4.1.3	B-BCC system (AN side) .....	53
13.4.1.4	B-BCC system (SN side) .....	55
13.4.1.5	Primitive interface between B-BCC system and the VB5.2 application functions .....	58
13.4.1.5.1	Primitives common for the AN and SN .....	58
13.4.1.5.2	Primitives specific for the SN .....	58
13.4.1.5.3	Primitives specific for the AN.....	60
13.4.1.6	Primitive interface between B-BCC protocol system and ATM adaptation layer .....	62
13.4.1.7	Description of VB5 B-BCC messages and parameters.....	62
13.4.2	Block diagrams.....	63
13.4.2.1	B-BCC management entities.....	63
13.4.2.2	B-BCC connection management entities .....	64
13.4.2.3	B-BCC protocol entities .....	66
13.5	VB5.2 connection control functions .....	67
13.5.1	General.....	67
13.5.2	Interworking with user signalling.....	68
13.5.2.1	Interworking with DSS2 based signalling systems .....	68
13.5.2.2	Support of user-to-network signalling systems other than DSS2.....	69
13.5.3	Selection of VPCI and VCI for service port and user port.....	69
13.5.3.1	VPCI/VCI selection procedure for the service port.....	69
13.5.3.1.1	VPCI/VCI selection procedure start at the SN.....	69
13.5.3.1.2	VPCI/VCI selection procedure at the AN.....	70
13.5.3.1.3	Selection procedure termination at the SN.....	71
13.5.3.2	VPCI/VCI selection procedure for the user port.....	71
13.5.4	Connection establishment and connection characteristics negotiation.....	72
13.5.4.1	Connection establishment start in the SN.....	72
13.5.4.2	Connection establishment start in the AN.....	73
13.5.4.3	Connection characteristics negotiation in the AN.....	74
13.5.4.4	Connection establishment continuation in the SN .....	75
13.5.4.5	Connection establishment termination in the AN .....	75
13.5.4.6	Connection establishment termination in the SN.....	76
13.5.5	Release of connections .....	76
13.5.5.1	Connection release start in the SN.....	76
13.5.5.2	Connection release in the AN.....	77
13.5.5.3	Connection release termination in the SN.....	77
13.5.5.4	Use of en bloc de-allocation .....	77
13.5.6	Modification of traffic parameters.....	78
13.5.6.1	Modification start in the SN .....	78
13.5.6.2	Modification start in the AN.....	78
13.5.6.3	Progressing modification in the SN .....	78
13.5.6.4	Modify completion in the AN.....	79
13.5.6.5	Modify terminated at the SN .....	80
13.5.7	Establishment of branches of point-to-multipoint connections.....	80
13.5.7.1	Branch establishment start in the SN .....	80
13.5.7.2	Branch establishment start in the AN .....	81
13.5.7.3	Branch establishment continuation/completion in the SN .....	81
13.5.7.4	Branch establishment termination in the AN .....	82
13.5.7.5	Branch establishment termination in the SN.....	83
13.5.8	Release of branches.....	83
13.5.8.1	Branch release start in the SN.....	83
13.5.8.2	Branch release in the AN.....	84
13.5.8.3	Branch release termination in the SN .....	84
13.5.8.4	Use of en bloc drop branch.....	84

13.5.9	Interworking with ANs not supporting point to multipoint connections .....	85
13.5.10	AN fault procedure.....	85
13.5.11	B-BCC Reset.....	85
13.5.11.1	B-BCC reset start at the SN .....	86
13.5.11.2	B-BCC reset at the AN .....	86
13.5.11.3	B-BCC reset termination in the SN .....	86
13.5.11.4	Functionality in the AN to report abnormal conditions .....	87
13.5.12	B-BCC automatic congestion control functions .....	87
13.5.12.1	Actions taken during overload in the AN .....	87
13.5.12.2	Receipt of primitives by the SN connection control function containing an automatic congestion level parameter .....	88
13.5.13	Establishment of (semi-)permanent VCCs via the B-BCC protocol.....	88
13.6	B-BCC communication procedures .....	88
13.6.1	General principles for the B-BCC procedures.....	88
13.6.1.1	Overview of B-BCC communication mechanism .....	88
13.6.1.2	Acknowledgements.....	89
13.6.1.3	Use of transaction identifiers .....	89
13.6.1.4	Use of connection reference numbers and branch identifiers .....	89
13.6.1.5	General error handling .....	90
13.6.1.5.1	Handling of protocol syntax error conditions.....	90
13.6.1.5.2	Error procedures with explicit action indication .....	90
13.6.1.5.3	Transmission error in communication with peer network element.....	90
13.6.1.5.4	Procedural B-BCC errors.....	90
13.6.1.5.5	Requested operation rejected by peer network element .....	90
13.6.1.6	Timers used in B-BCC procedures .....	90
13.6.1.7	Segmentation of requests into individual transactions .....	91
13.6.2	Procedures for establishment and release of bearer connections.....	91
13.6.2.1	Bearer connection establishment procedure .....	91
13.6.2.1.1	General.....	91
13.6.2.1.2	Procedure .....	91
13.6.2.1.3	Exceptional procedures.....	92
13.6.2.2	Bearer connection release procedure.....	93
13.6.2.2.1	General.....	93
13.6.2.2.2	Procedure .....	94
13.6.2.2.3	Exceptional procedures .....	94
13.6.2.3	Bearer connection modification procedure.....	94
13.6.2.3.1	General.....	94
13.6.2.3.2	Procedure .....	94
13.6.2.3.3	Exceptional procedures .....	95
13.6.3	Procedures specific for point-to-multipoint connections.....	97
13.6.3.1	Branch establishment procedure .....	97
13.6.3.1.1	General.....	97
13.6.3.1.2	Procedure .....	97
13.6.3.1.3	Exceptional procedures .....	97
13.6.3.2	Branch release procedure.....	98
13.6.3.2.1	General.....	98
13.6.3.2.2	Procedure .....	98
13.6.3.2.3	Exceptional procedures .....	99
13.6.4	B-BCC housekeeping procedures.....	99
13.6.4.1	B-BCC reset procedure.....	99
13.6.4.1.1	General.....	99
13.6.4.1.2	Procedure .....	99
13.6.4.1.3	Exceptional procedures .....	100
13.6.4.2	AN fault procedure .....	100
13.6.4.2.1	General.....	100
13.6.4.2.2	Procedure .....	100
13.6.4.2.3	Exceptional procedures .....	100
13.6.4.3	B-BCC pre-synchronization procedure.....	101
13.6.4.3.1	General.....	101
13.6.4.3.2	Procedure .....	101



13.6.4.3.3	Exceptional procedures .....	101
13.6.4.4	SAAL establishment procedure .....	101
13.6.4.4.1	General .....	101
13.6.4.4.2	Procedure .....	101
13.6.4.4.3	Exceptional procedure .....	102
13.6.4.5	B-BCC start-up procedure .....	102
13.6.4.5.1	General .....	102
13.6.4.5.2	Procedure .....	102
13.6.4.5.3	Exceptional procedures .....	102
13.6.4.6	B-BCC restart procedure .....	103
13.6.4.6.1	General .....	103
13.6.4.6.2	Procedure .....	103
13.6.4.6.3	Exceptional procedures .....	104
14	Message format and codes .....	104
14.1	Message and information element encoding principles .....	105
14.2	RTMC protocol messages and information elements .....	105
14.3	B-BCC protocol messages and information elements .....	105
14.3.1	Overview of B-BCC protocol messages .....	105
14.3.2	B-BCC messages for the support of basic B-BCC procedures .....	108
14.3.2.1	ALLOC message .....	108
14.3.2.2	ALLOC_ACC message .....	108
14.3.2.3	ALLOC_REJ message .....	109
14.3.2.4	ALLOC_COMP message .....	109
14.3.2.5	ALLOC_COMP_ACC message .....	109
14.3.2.6	ALLOC_COMP_REJ message .....	110
14.3.2.7	DEALLOC message .....	110
14.3.2.8	DEALLOC_ACC .....	110
14.3.3	B-BCC messages for the support of B-BCC housekeeping procedures .....	110
14.3.3.1	BBCC_RESET message .....	110
14.3.3.2	BBCC_RESET_ACC message .....	111
14.3.3.3	BBCC_RESET_REJ message .....	111
14.3.3.4	BBCC_PRESYNC message .....	111
14.3.3.5	BBCC_PRESYNC_ACC message .....	111
14.3.3.6	BBCC_PRESYNC_REJ message .....	111
14.3.3.7	AN_FAULT message .....	112
14.3.3.8	AN_FAULT_ACC message .....	112
14.3.3.9	PROTOCOL_ERROR message .....	112
14.3.4	Additional B-BCC messages for the support of traffic parameter modification .....	112
14.3.4.1	MODIFY message .....	113
14.3.4.2	MODIFY_ACC message .....	113
14.3.4.3	MODIFY_REJ message .....	113
14.3.4.4	MODIFY_COMP message .....	113
14.3.4.5	MODIFY_COMP_ACC message .....	113
14.3.4.6	MODIFY_COMP_REJ message .....	114
14.3.4.7	MODIFY_ABORT message .....	114
14.3.4.8	MODIFY_ABORT_ACC message .....	114
14.3.4.9	MODIFY_ABORT_REJ message .....	114
14.3.5	Additional B-BCC messages for the support of point-to-multipoint connections .....	114
14.3.5.1	ADD_BRANCH message .....	114
14.3.5.2	ADD_BRANCH_ACC message .....	115
14.3.5.3	ADD_BRANCH_REJ message .....	115
14.3.5.4	UPDATE_BRANCH message .....	115
14.3.5.5	UPDATE_BRANCH_ACC message .....	115
14.3.5.6	UPDATE_BRANCH_REJ message .....	115
14.3.5.7	DROP_BRANCH message .....	116
14.3.5.8	DROP_BRANCH_ACC message .....	116
14.3.5.9	DROP_BRANCH_REJ message .....	116
14.3.6	B-BCC function specific information elements .....	117
14.3.6.1	Overview .....	117
14.3.6.2	Connection reference number .....	118

14.3.6.3	Connection reference number list .....	118
14.3.6.4	User port connection identifier .....	118
14.3.6.5	Service port connection identifier .....	120
14.3.6.6	Alternative user port VPCI .....	121
14.3.6.7	Alternative service port VPCI .....	121
14.3.6.8	Automatic congestion level .....	121
14.3.6.9	Reject cause .....	121
14.3.6.10	Branch identifier .....	122
14.3.6.11	Branch identifier list .....	123
14.3.7	B-BCC function information elements based on other Recommendations .....	123
14.3.7.1	ATM traffic descriptor .....	123
14.3.7.2	Broadband bearer capability .....	123
14.3.7.3	OAM traffic descriptor .....	123
14.3.7.4	QoS parameter .....	124
14.3.7.5	ABR set-up parameters .....	124
14.3.7.6	End-to-End transit delay .....	124
14.3.7.7	Cell delay variation tolerance (CDVT) descriptor .....	124
14.3.7.8	Alternative ATM traffic descriptor .....	124
14.3.7.9	Minimum acceptable ATM traffic descriptor .....	124
14.3.7.10	Protocol error cause .....	124
<b>Annex A (normative):</b>	<b>SDL process diagrams .....</b>	<b>125</b>
<b>Annex B (normative):</b>	<b>Support of terminal equipment using the ATM Forum ATM UNI signalling version 4.0 .....</b>	<b>126</b>
B.1	Introduction .....	126
B.2	Principle differences .....	126
B.3	Protocol differences .....	126
B.4	Connection control procedures .....	127
B.5	Extensions to B-BCC message format and codes .....	127
B.5.1	ALLOC message .....	127
B.5.2	ALLOC_ACC message .....	128
B.5.3	ALLOC_COMP message .....	128
B.5.4	Additional B-BCC information elements .....	128
B.5.4.1	Information element type coding .....	128
B.5.4.2	Extended QoS Parameters .....	128
B.5.4.3	ABR Additional Parameters .....	128
<b>Annex C (informative):</b>	<b>Interworking between B-BCC and DSS2 .....</b>	<b>129</b>
C.1	Message interworking .....	129
C.1.1	Establishment of point-to-point connections .....	130
C.1.1.1	Connection establishment at the originating AN .....	130
C.1.1.2	Connection establishment at the terminating AN .....	131
C.1.1.3	Unsuccessful connection establishment .....	132
C.1.2	Transfer Phase .....	132
C.1.2.1	Successful connection modification at the originating AN .....	132
C.1.2.2	Successful connection modification at the terminating AN .....	133
C.1.2.3	Unsuccessful connection modification (Example 1: Rejected by network or user) .....	133
C.1.2.4	Unsuccessful connection modification (Example 2: Rejected by AN) .....	134
C.1.3	Release of point-to-point connections .....	134
C.1.4	Successful establishment of point-to-multipoint connections at the terminating AN .....	135
C.1.5	Release branches of point-to-multipoint connections .....	136
C.1.6	DSS2 Restart .....	137
C.2	Common use of information elements in DSS2 and VB5.2 .....	137
C.2.1	Point-to-point connections .....	138
C.2.1.1	DSS2 SETUP message and B-BCC ALLOC message .....	138

C.2.1.2	DSS2 CONNECT message and B-BCC ALLOC_COMP message .....	138
C.2.1.3	DSS2 SETUP message and B-BCC ALLOC_ACC message .....	138
C.2.1.4	DSS2 RELEASE message and B-BCC DEALLOC message .....	139
C.2.1.5	DSS2 MODIFY REQUEST message and B-BCC MODIFY message .....	139
C.2.1.6	DSS2 MODIFY ACKNOWLEDGEMENT message and B-BCC Modify_COMP message .....	139
C.2.1.7	DSS2 MODIFY REQUEST message and B-BCC MODIFY_ACC message .....	139
C.2.1.8	Handling of B-BCC messages of type REJ .....	140
C.2.2	Point-to-multipoint connections .....	140
C.2.2.1	DSS2 SETUP message and B-BCC ADD_BRANCH_ACC message .....	140
C.2.2.2	DSS2 CONNECT message and B-BCC UPDATE_BRANCH message .....	140
C.2.2.3	Dropping a branch .....	140
<b>Annex D (informative): Support of services with susceptibility to clipping .....</b>		<b>141</b>
D.1	Case of direct access arrangements .....	141
D.2	Case of remote access arrangements with VB5.2 reference point .....	141
<b>Annex E (informative): RTMC and B-BCC system relationship .....</b>		<b>144</b>
<b>Annex F (informative): Potential optimization of the B-BCC protocol to support switched broadcast services .....</b>		<b>145</b>
F.1	General .....	145
F.1.1	Architecture .....	145
F.1.2	Additional requirements for VB5.2 reference point .....	146
F.2	Additional B-BCC procedures .....	146
F.2.1	Link establishment procedure .....	146
F.2.1.1	General .....	146
F.2.1.2	Procedure .....	147
F.2.1.3	Exceptional procedures .....	147
F.2.2	Change branch procedure .....	147
F.2.2.1	General .....	147
F.2.2.2	Procedure .....	147
F.2.2.3	Exceptional procedures .....	148
F.3	Extended B-BCC message format and codes .....	148
F.3.1	Additional B-BCC messages .....	148
F.3.1.1	Message type coding .....	148
F.3.1.2	LINK_ALLOC message .....	149
F.3.1.3	LINK_ALLOC_ACC message .....	149
F.3.1.4	LINK_ALLOC_REJ message .....	149
F.3.1.5	CHANGE_BRANCH message .....	149
F.3.1.6	CHANGE_BRANCH_ACC message .....	150
F.3.1.7	CHANGE_BRANCH_REJ message .....	150
F.3.2	Additional B-BCC information element .....	150
F.3.2.1	Information element type coding .....	150
F.3.2.2	Old/new branch identifier .....	150
Bibliography .....		151
History .....		152

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS).

The present document is part 1 of a multi-part standard covering the interface at the VB5.2 reference point specification as identified below:

**Part 1: "Interface specification";**

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

Part 3: "Test Suite Structure and Test Purposes (TSS&TP)";

Part 4: "Abstract Test Suites (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT)".

### National transposition dates

Date of adoption of this EN:	3 September 1999
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Date of withdrawal of any conflicting National Standard (dow):	30 June 2000

## Introduction

### General

The work on a new broadband VB reference point concept was initiated by ETSI Technical Committee Signalling Protocols and Switching (SPS) to consider, in co-operation with other groups involved, possible new structures and reference points for the connection of new broadband and combined narrowband/broadband access arrangements to Service Nodes (SN).

The work was taken over by a special experts group on VB5, working under the auspices of Working Group SPS3, and later transferred to working group SPS 9.

The VB5 reference point concept, based on ITU-T Recommendation G.902 [19], and I.414 [32] was split into two variants. The first based on an ATM cross connect with provisioned connectivity, called the VB5.1 reference point, is contained in EN 301 005-1 [14]. The other, which further enables on-demand connectivity within the AN, is called the VB5.2 reference point and is described in the present document.

**Relationship between the VB5.1 and VB5.2 reference point concept**

The VB5.2 reference point extends the capabilities at the VB5.1 reference point to include on-demand connectivity in the AN under the control of SN.

In addition to the major difference given above, the major correspondence between the VB5.1 and VB5.2 reference point can be described as:

- both VB5 interfaces support B-ISDN as well as narrowband and other non-ISDN customer access types;
- both VB5 interfaces support ATM multiplexing/cross-connecting in the AN at the virtual path and/or virtual channel level.

**Associated standards and technical reports**

The following set of standards relates to the VB5.2 reference point:

- DEN/TMN-00003 (draft not yet available);
- EN 301 005-1 [14];
- EN 301 005-2[15];
- EN 301 271 [16].

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 301 217-1:2001](https://standards.iteh.ai/catalog/standards/sist/828347af-36fe-4eca-9a14-972013be7f59/sist-en-301-217-1-2001)

<https://standards.iteh.ai/catalog/standards/sist/828347af-36fe-4eca-9a14-972013be7f59/sist-en-301-217-1-2001>

# 1 Scope

The present document specifies the physical, procedural and protocol requirements for interfaces at the VB5.2 reference point between an Access Network (AN) and a Service Node (SN). The VB5.2 reference point provides flexible (provisioned) virtual path (VP) link allocation and flexible (provisioned) virtual channel (VC) link allocation (controlled by the Q3 interfaces) as well as on-demand VC link allocation controlled by the SN via the broadband bearer connection control (B-BCC) protocol. That is, the VB5.2 reference point is a superset of the VB5.1 reference point, enabling on-demand VC link allocation in the AN and across the VB5 reference point via the additional B-BCC function.

The following B-ISDN customer access types with the general user network interface (UNI) characteristics defined in ITU-T Recommendation I.432.1 [33] are supported:

- a) B-ISDN accesses with a UNI at 155 520 kbit/s and 622 080 kbit/s according to ITU-T Recommendation I.432.2 [34], i.e.:
  - 1) SDH based according to ETS 300 300 [4];
  - 2) Cell based according to ETS 300 299 [3].
- b) B-ISDN access with a PDH based UNI at 1 544 kbit/s and 2 048 kbit/s according to ITU-T Recommendation I.432.3 [35].
- c) B-ISDN accesses with a UNI at 51 840 kbit/s or 25 600 kbit/s according to ITU-T Recommendations I.432.4 [36] and I.432.5 [37].

B-ISDN accesses with a UNI according to future ENs and/or ITU-T Recommendations may require additional functionality at the VB5.2 reference point.

In order to provide for a migration from narrowband to broadband access network and service node arrangements, also narrowband access types as specified for:

- V5.1 interface according to ETS 300 324-1 [6]/ITU-T Recommendation G.964 [20]; and/or
- V5.2 interface according to ETS 300 347-1 [7]/ITU-T Recommendation G.965 [21],

are also supported according to the integration scenario given in Appendix III.2.2 of ITU-T Recommendation G.902 [19], using a circuit emulation function for the transfer of circuit mode into ATM.

In addition to these B-ISDN and narrow-band customer access types, other non-B-ISDN access types are also supported.

Examples for such non-B-ISDN access types are given below:

- a) access types supporting asymmetric/multimedia services, e.g. Video on Demand (if not part of B-ISDN access types);
- b) access types supporting broadcast services (if not part of B-ISDN access types);
- c) access types supporting LAN interconnect functionality (if not part of B-ISDN access types);
- d) access types that can be supported via an ATM VP cross-connect.

The concept of Virtual User Ports (VUP), as described EN 301 005-1 [14], may be applied to enable any specific implementation.

In accordance with the principles of B-ISDN (as specified in ITU-T Recommendation I.121 [22]), remote access arrangements across interfaces at the VB5.2 reference point shall support switched, and (semi-) permanent point-to-point and point-to-multipoint connections. They provide on demand, reserved and permanent services of a mono- and/or multi-media type and of a connectionless or connection-oriented nature in a bi-directional or unidirectional configuration, as supported for direct access arrangements to service nodes.

Functions to support security management (refer to ITU-T Recommendation X.800 [62]) related to the customer access are beyond the scope of the present document. Such security management functions have no impact on the VB5.2 reference point.

The present document does not specify the implementation of the requirements within the AN and does not constrain any implementation alternative as long as the functionality at the interfaces at the VB5.2 reference point as specified in the present document is met. Furthermore, the present document does not require that an AN shall support all the customer access types listed above.

The present document is not intended to define any systems or equipment in, or connected to, an SN via interfaces at the VB5.2 reference point. Therefore only the characteristics of the interfaces at the VB5.2 reference point are described.

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ETS 300 298-1 (1996): "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM); Part 1: B-ISDN ATM functional characteristics [ITU-T Recommendation I.150 (1995)]".
- [2] ETS 300 298-2 (1996): "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM); Part 2: B-ISDN ATM layer specification [ITU-T Recommendation I.361 (1995)]".
- [3] EN 300 299 (V1.3): "Broadband Integrated Services Digital Network (B-ISDN); Cell based user network access for 155 520 kbit/s and 622 080 kbit/s; Physical layer interfaces for B-ISDN applications".

NOTE 1: This EN is based on parts of ITU-T Recommendation I.432.1.

- [4] ETS 300 300 (1995): "Broadband Integrated Services Digital Network (B-ISDN); Synchronous Digital Hierarchy (SDH) based user network access; Physical layer interfaces for B-ISDN applications".

NOTE 2: This ETS is based on parts of ITU-T Recommendation I.432.1.

- [5] EN 300 301 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Traffic control and congestion control in B-ISDN; Conformance definitions for Available Bit Rate (ABR) and ATM Blocked Transfer (ABT) [ITU-T Recommendation I.371.1 (1997)]".

NOTE 3: The main body of this EN is based on ITU-T Recommendation I.371.

- [6] ETS 300 324-1 (1994): "V interfaces at the digital Local Exchange (LE); V5.1 interface for the support of Access Network (AN); Part 1: V5.1 interface specification".
- [7] ETS 300 347-1 (1994): "V interfaces at the digital Local Exchange (LE); V5.2 interface for the support of Access Network (AN); Part 1: V5.2 interface specification".
- [8] ETS 300 404 (1997): "Broadband Integrated Services Digital Network (B-ISDN); B-ISDN Operation And Maintenance (OAM) principles and functions".
- [9] ETS 300 428 (1995): "Broadband Integrated Services Digital Network (B-ISDN); Asynchronous Transfer Mode (ATM); Adaptation Layer (AAL) specification - type 5".