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**Broadband Integrated Services Digital Network (B-ISDN);  
Digital Subscriber Signalling System No. two (DSS2) protocol;  
Generic functional protocol;  
Core aspects;  
Part 1: Protocol specification**

**[ITU-T Recommendation Q.2932.1 (1996), modified]**

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 1 of a multi-part standard covering the Integrated Services Digital Network (ISDN) Digital Subscriber Signalling System No. two (DSS2) core aspects of the generic functional protocol as described below:

- Part 1:** "Protocol specification [ITU-T Recommendation Q.2932.1 (1996), 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: "TSS&TP specification for the network";
- Part 6: "ATS and partial PIXIT proforma specification for the network".

NOTE: The final structure of the parts containing the test specifications is currently under study.

Transposition dates	
Date of adoption:	5 September 1997
Date of latest announcement of this ETS (doa):	31 December 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1998
Date of withdrawal of any conflicting National Standard (dow):	30 June 1998

## Endorsement notice

The text of ITU-T Recommendation Q.2932.1 (1996) was approved by ETSI as an ETS with agreed modifications as given below.

NOTE: New or modified text is indicated using sidebars. In addition, underlining and/or strike-out are used to highlight detailed modifications where necessary.

## clause 1

Replace subclause 1.1 by:

### **1.1 Scope**

This first part of ETS 300 796 specifies the functional protocol for the pan-European Broadband Integrated Services Digital Network (B-ISDN), using local information exchange, for the application to a range of additional basic call capabilities and supplementary services at the  $T_B$  reference point or coincident  $S_B$  and  $T_B$  reference point (as defined in ITU-T Recommendation I.413 [1]) by means of the Digital Subscriber Signalling System No. two (DSS2) protocol.

The functional protocol is based on the use of the Facility information element.

To be functional this protocol requires knowledge of the additional basic call capabilities and supplementary services supported by the user equipment. This facilitates user equipment operation without human intervention by defining the semantics for the protocol elements which user equipment can process on its own.

The procedures specified in this ETS can be used for:

- activation and deactivation;
- invocation and operation;
- interrogation;
- status request; and
- status notification.

of additional basic call capabilities and supplementary services in association with existing calls or outside any existing call.

The application of this ETS to individual additional basic call capabilities and supplementary services is outside the scope of this ETS and is defined in those ETSs which specify the individual capabilities.

Further ETSs cover the capabilities for non-local addressing within the generic functional protocol.

All conformance to this ETS is based on the external behaviour at the interface at the  $T_B$  or coincident  $S_B$  and  $T_B$  reference point, i.e. on the generation of the correct message structure and in the proper sequence as specified in this recommendation.

Further part(s) of this ETS specify the method of testing required to identify conformance to this ETS.

This ETS is applicable to equipment, supporting additional basic call capabilities and supplementary services using the functional protocol, to be attached at either side of a  $T_B$  reference point or coincident  $S_B$  and  $T_B$  reference point when used as an access to the public ISDN.

### **subclause 1.2, first paragraph**

Replace the first paragraph of subclause 1.2 by:

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

subclause 1.2

Insert the following references at the end of subclause 1.2:

- [18] ETS 300 437-1: "Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Co-ordination Function (SSCF) for support of signalling at the User-Network Interface (UNI); Part 1: Specification of SSCF at UNI [ITU-T Recommendation Q.2130 (1995), modified]".
- [19] ETS 300 443-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for basic call/bearer control; Part 1: Protocol specification [ITU-T Recommendation Q.2931 (1995), modified]".
- [20] ETS 300 662-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Multiple Subscriber Number (MSN) supplementary service; Part 1: Protocol specification [ITU-T Recommendation Q.2951, clause 2 (1995), modified]".
- [21] ETS 300 667-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Subaddressing (SUB) supplementary service; Part 1: Protocol specification [ITU-T Recommendation Q.2951, clause 8 (1995), modified]".
- [22] ETS 300 771-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for point-to-multipoint call/bearer control; Part 1: Protocol specification [ITU-T Recommendation Q.2971 (1995), modified]".

**Throughout the text of ITU-T Recommendation Q.2931.1**

Replace references as shown in the following table.

Reference in ITU-T Recommendation Q.2932.1	Modified reference
ITU-T Recommendation Q.2130 [15]	ITU-T Recommendation Q.2130 as modified by ETS 300 437-1 [18]
ITU-T Recommendation Q.2931 [13]	ITU-T Recommendation Q.2931 as modified by ETS 300 443-1 [19]
ITU-T Recommendation Q.2951.2 [11]	ITU-T Recommendation Q.2951.2 as modified by ETS 300 662-1 [20]
ITU-T Recommendation Q.2951.8 [12]	ITU-T Recommendation Q.2951.8 as modified by ETS 300 667-1 [21]
ITU-T Recommendation Q.2971 [14]	ITU-T Recommendation Q.2971 as modified by ETS 300 771-1 [22]

**figure 2/Q.2932.1**

Correct the title of the figure as follows

**Application of the protocol model to local information exchange**

**table 2/Q.2932.1, note 3**

Add the following text to note 3:

The maximum length of this information element is 25 octets.

**table 2/Q.2932.1, note 6**

Add the following text to note 6:

The maximum length of this information element is 26 octets

**table 4/Q.2932.1, note 3**

Add the following text to note 3:

The maximum length of this information element is 25 octets.

**table 4/Q.2932.1, note 5**

Add the following text to note 5:

The maximum length of this information element is 26 octets.

**table 10/Q.2932.1, note**

Change "octet 4" to "octet 6".

**subclause 9.2.2.2**

Replace all references to "1.9.x.x/Q.2951.2" by "2.9.x.x/Q.2951.2".

**subclause 9.2.2.2, fourth paragraph**

Replace "the network shall apply" by "the user shall apply".

**subclause 9.2.2.3**

Replace all references to "1.9.x.x/Q.2951.2" by "2.9.x.x/Q.2951.2".

**subclause 9.2.2.3, second paragraph**

Replace "by the incoming network" by "by the outgoing network".

**subclause 9.2.3.2**

Replace all references to "1.9.x.x/Q.2951.8" by "8.9.x.x/Q.2951.8".

**subclause 9.2.3.3**

Replace all references to "1.9.x.x/Q.2951.8" by "8.9.x.x/Q.2951.8".

**subclause 9.4.2.5**

Insert at the end:

Where an abstract syntax according to Recommendation X.680 [8] is being used, the formal definition of the data types shall be as given in annex A of ITU-T Recommendation X.880 [17] and is described in ASN.1. These data types shall be used in the Recommendations of the individual supplementary services to define the required operations and errors.

NOTE 2: These definitions are reproduced in appendix IV.

**table 14/Q.2932.1**

Modify the mapping of the DSS2 RELEASE message as follows:

<u>RELEASE (note 2)</u>	→	<u>RELEASE COMPLETE</u>
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**table 15/Q.2932.1**

Modify the table as follows:

<u>DSS 1 message</u>		<u>DSS 2 message</u>
<u>REGISTER</u>	→	<u>CO-BI SETUP</u>
<u>FACILITY</u>	→	<u>FACILITY</u>
<u>RELEASE (note 1)</u>	→	<u>RELEASE</u>
<u>RELEASE COMPLETE</u>	→	<u>RELEASE (note 2)</u>
<u>NOTE 1: A RELEASE COMPLETE message is also returned to the DSS1 entity by the interworking function.</u>		
<u>NOTE 2: This mapping only occurs if the DSS2 RELEASE message is the first clearing message.</u>		

**table 18/Q.2932.1, T303**

Replace the reference to "9.1.3.8" by "9.1.3.3".

**table 19/Q.2932.1, T310**

Replace the reference to "9.1.3.8" by "9.3.1".

**figure 9/Q.2932.1, sheet 3**

Replace "Q.2931-N" by "Q.2931-U" in the second process creation symbol.

Replace "CN3" by "CU3" in the rightmost nextstate symbol.

**figure 11/Q.2932.1**

Replace the contents of the initial state symbol by "\*" (except U0, U1, U6, U11, U12)".

**figure 12/Q.2932.1, sheet 2**

Replace the contents of the comment against the initial state by "9.1.3.3".

**figure 12/Q.2932.1, sheet 3**

Replace "CS = U3" by "CS = 3" in the right output symbol.

**figure 12/Q.2932.1, sheet 4**

Replace the contents of the comment against the initial state by "9.1.3.2".

**figure 12/Q.2932.1, sheet 5**

Replace the contents of the comment against the initial state by "9.1.3.4".

**figure 12/Q.2932.1, sheet 6**

Replace the contents of the comment against the initial state by "9.1.3.6, 9.1.3.9".

**figure 12/Q.2932.1, sheet 7**

Replace "Release.conf" by "CO\_BI\_Release.confirm" in the second output symbol.

**figure 12/Q.2932.1, sheet 8**

Replace the contents of the left initial state symbol by "Any state excluding 0, 11".

Replace the task symbol following the left initial state symbol by an input symbol.

Replace "timeout := 9" by "timeout := 0" in the lower right task symbol.

Replace "Release.ind" by "CO\_BI\_Release.indication" in the rightmost output symbol.

**figure 12/Q.2932.1, sheet 9**

Replace result "CAI" by "RAI".

**figure 12/Q.2932.1, sheet 10**

Insert the label "S" into the unlabelled connector symbol.

**figure 12/Q.2932.1, sheet 11**

Insert the label "S" into the unlabelled commencing connector symbol.

Replace "Release.confirm" by "CO\_BI\_Release.confirm" in the centre right output symbol.

**figure 12/Q.2932.1, sheet 13**

Replace the contents of the output symbol by "CO\_BI\_Release.indication (Cause)".

**figure 14/Q.2932.1, sheet 1**

Replace "CL-BI-data.req" by "CL\_BI\_Unit\_Data.request" in the lower right output symbol.

**figure 14/Q.2932.1, sheet 2**

Add "(Note 3)" to the comment already containing "(Note 2)".

Replace "CL-BI-DATA.ind" by "CL\_BI\_Unit\_Data.indication" in the upper right input symbol and delete the associated comment referring to note 3.

**figure 14/Q.2932.1, sheet 2, note 3**

Replace "SS-Control" by "AS-control".

**annex A**

Annex A has the status of a normative annex.

**annex B**

Annex B has the status of a normative annex.

**table B.1/Q.2932.1**

Correct the module identifier as follows:

| {ccitt\_recommendation q 2932 revised-facility-information-element-components(13)}

**table B.2/Q.2932.1**

Correct the module identifier as follows:

| {ccitt\_recommendation q 2932 embedded-dSS2types(7)}

**appendix I**

Appendix I has the status of an informative annex.

**appendix II**

Appendix II has the status of an informative annex.

**appendix III**

Appendix III has the status of an informative annex.

**appendix IV**

Appendix IV has the status of an informative annex.

**appendix V**

Appendix V has the status of an informative annex.



## History

Document history			
October 1996	Public Enquiry	PE 116:	1996-10-21 to 1997-02-14
June 1997	Vote	V 9735:	1997-06-17 to 1997-08-29
September 1997	First Edition		