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**Broadband Integrated Services Digital Network (B-ISDN);
Digital Subscriber Signalling System No. two (DSS2) protocol;
Closed User Group (CUG) supplementary service;
Part 1: Protocol specification**

[ITU-T Recommendation Q.2955.1 (1996), modified]

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

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Foreword

This final draft European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI), and is now submitted for the Voting phase of the ETSI standards approval procedure.

This ETS is part 1 of a multi-part standard covering the Digital Subscriber Signalling System No. two (DSS2) protocol specification for the Broadband Integrated Services Digital Network (B-ISDN) Closed User Group (CUG) supplementary service, as described below:

- Part 1:** "Protocol specification";
- 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.

In accordance with CCITT Recommendation I.130, the following three level structure is used to describe the supplementary telecommunication services as provided by European public telecommunications operators under the pan-European B-ISDN:

- Stage 1: is an overall service description, from the user's standpoint;
- Stage 2: identifies the functional capabilities and information flows needed to support the service described in stage 1; and
- Stage 3: defines the signalling system protocols and switching functions needed to implement the service described in stage 1.

This ETS details the stage 3 aspects (signalling system protocols and switching functions) needed to support the CUG supplementary service. The stage 1 and stage 2 aspects of the equivalent N-ISDN supplementary service are detailed in ETS 300 136 and ETS 300 137, respectively, and these have been assumed as appropriate to be the foundation of the equivalent B-ISDN supplementary service specifications.

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

Endorsement notice

The text of ITU-T Recommendation Q.2955.1 (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.

subclause 1.1

Replace subclause 1.1 by:

1.1 Scope

This first part of ETS 300 770 specifies the stage three of the Closed User Group (CUG) supplementary service for the pan-European Broadband Integrated Services Digital Network (B-ISDN) as provided by European public telecommunications operators 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. Stage three identifies the protocol and procedures and switching functions needed to support a telecommunication service (see ITU-T Recommendation I.130 [2]).

In addition, this ETS specifies the protocol requirements at the T_B reference point where the service is provided to the user via a private B-ISDN.

This ETS does not specify the additional protocol requirements where the service is provided to the user via a telecommunications network that is not a B-ISDN.

The CUG supplementary service enables users to form groups, to and from which access is restricted. A specific user may be a member of one or more closed user groups. Members of a specific closed user group can communicate among themselves but not, in general, with users outside the group. Specific CUG members can have additional capabilities that allow them to originate calls to destinations outside the group, and/or to receive calls from outside the group. Specific CUG members can have additional restrictions that prevent them from originating calls to other members of the CUG, or from receiving calls from other members of the CUG.

The CUG supplementary service is applicable to all telecommunication services.

Further parts of this ETS specify the method of testing required to identify conformance to this ETS.

This ETS is applicable to equipment, supporting the CUG supplementary service, 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 B-ISDN.

The main part of this ETS specifies the protocol to support the CUG supplementary service in association with point-to-point connections using the procedures described in ITU-T Recommendation Q.2931 as modified by ETS 300 443-1 [19]. To support CUG also in other connection configurations, the required modifications are specified in annex B of this ETS (i.e., this annex specifies the CUG protocol for point-to-multipoint connections using the procedures of ITU-T Recommendation Q.2971 as modified by ETS 300 771-1 [21]).

The protocol specified in this ETS distinguishes two different types of CUG calls:

- Type 1: considers CUG calls with emulated N-ISDN services. These services can be identified by the presence of the N-BC information element in the SETUP message.

NOTE 1: The exact basic telecommunication service is specified by the content of the N-BC and, if present, of the N-HLC information elements (see ETS 300 443-1 [19]).

For these services, the control of the CUG supplementary service depends on the ISDN numbers (calling and called party) **and** on the basic telecommunication service involved in the call. This service dependency is required in order to guarantee CUG integrity in the same manner as in N-ISDN.

- Type 2: considers CUG calls with B-ISDN applications for which CUG is provided without basic service dependence. No emulated N-ISDN services are involved, and no B-ISDN service type has been specified for these applications. These calls can be identified by the absence of the N-BC information element (see ETS 300 443-1 [19]) and by the absence of a coding specifying a B-ISDN service type in the SETUP message (see the paragraph below). For these applications, the control of the CUG supplementary service depends only on the ISDN numbers (calling and called party) involved in the call.

NOTE 2: In the future, there may be a necessity to distinguish a third type of CUG call. This type covers connections with B-ISDN basic services for which a service type is defined (see ITU-T Recommendation I.371 [12]). This type of CUG call is not supported by the current version of this ETS.

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:

- | | |
|------|--|
| [16] | ETS 300 137: "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Functional capabilities and information flows". |
| [17] | ETS 300 138-1: "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification". |
| [18] | ETS 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification". |
| [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 300 685: "Broadband Integrated Services Digital Network (B-ISDN); Usage of cause and location in Digital Subscriber Signalling System No. two (DSS2) and Signalling System No.7 B-ISDN User Part (B-ISUP) [ITU-T Recommendation Q.2610 (1995), modified]". |
| [21] | 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]". |

Delete the following reference in subclause 1.2:

- [9] ITU-T Recommendation Q.2932.1 (1996): "Digital subscriber Signalling System No. 2 – Generic functional protocol: Core functions".

Throughout the text of ITU-T Recommendation Q.2955.1

Replace references as shown in the following table.

Reference in ITU-T Recommendation Q.2955.1	Modified reference
ITU-T Recommendation Q.85.1 [10]	ETS 300 137 [16]
ITU-T Recommendation Q.932 [15]	ETS 300 196-1 [18]
ITU-T Recommendation Q.955.1 [6]	ETS 300 138-1 [17]
ITU-T Recommendation Q.2610 [11]	ITU-T Recommendation Q.2610 as modified by ETS 300 685 [20]
ITU-T Recommendation Q.2931 [7]	ITU-T Recommendation Q.2931 as modified by ETS 300 443-1 [19]
ITU-T Recommendation Q.2971 [13]	ITU-T Recommendation Q.2971 as modified by ETS 300 771-1 [21]

History

Document history			
October 1996	Public Enquiry	PE 116:	1996-10-21 to 1997-02-14
March 1998	Vote	V 9820:	1998-03-17 to 1998-05-15