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**Broadband Integrated Services Digital Network (B-ISDN);  
Digital Subscriber Signalling System No. two (DSS2) protocol;  
Direct Dialling In (DDI) supplementary service;  
Part 1: Protocol specification**

**[ITU-T Recommendation Q.2951, clause 1 (1995), 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 Digital Subscriber Signalling System No. two (DSS2) protocol specification for the Broadband Integrated Services Digital Network (B-ISDN) Direct Dialling In (DDI) 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".

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 DDI supplementary service. The stage 1 and stage 2 aspects of the equivalent N-ISDN supplementary services are detailed in ETS 300 062 and ETS 300 063, respectively, and have been assumed as appropriate to be the foundation for the equivalent B-ISDN supplementary service specifications.

Transposition dates	
Date of adoption of this ETS:	2 May 1997
Date of latest announcement of this ETS (doa):	31 October 1998
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 April 1999
Date of withdrawal of any conflicting National Standard (dow):	30 April 1999

## Endorsement notice

The text of ITU-T Recommendation Q.2951, clause 1 (1995) 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.

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Whilst every care has been taken in the preparation and publication of this document, errors in content, typographical or otherwise, may occur. If you have comments concerning its accuracy, please write to "ETSI Standards Making Support Dept." at the address shown on the title page.

**subclause 1.1**

Replace subclause 1.1 by:

**1.1 Scope**

This first part of ETS 300 661 specifies the stage three of the Direct Dialling In (DDI) 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 DDI supplementary service enables a user to call directly via a public B-ISDN a user on a private B-ISDN by using the public ISDN numbering plan.

The DDI 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 DDI 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.

**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:

- |      |   |
|------|---|
| [7]  | <u>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]".</u> |
| [8]  | <u>ETS 300 669-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Supplementary service interactions; Part 1: Protocol specification".</u>   |
| [9]  | <u>ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".</u>  |
| [10] | <u>ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and network capabilities of an ISDN".</u>  |

### Throughout the text of ITU-T Recommendation Q.2951.1

Replace references as shown in the following table.

Reference in ITU-T Recommendation Q.2951.1	Modified reference
ITU-T Recommendation Q.2931 [3]	ITU-T Recommendation Q.2931 as modified by ETS 300 443-1 [7]

#### subclause 1.3.1

Replace the definition of "DDI number" by:

**1.3.1 DDI number:** The DDI number is that ISDN number or part of an ISDN number which is delivered to the private B-ISDN. It can be the subscriber, national or international number, or a partial number. The DDI number is defined to be at least that part of the ISDN number which is significant to the private B-ISDN.

NOTE: National or international prefixes cannot form part of the DDI number.

#### subclause 1.3

Add the following definitions:

**Broadband Integrated Services Digital Network (B-ISDN):** Broadband aspects of ISDN.

**Integrated Services Digital Network (ISDN):** See ITU-T Recommendation I.112 [9], definition 308.

**Partial number:** A number that contains only the latter part of an ISDN number, but still fulfils the other requirements of a DDI number, i.e. is at least that part of the ISDN number which is significant to the private B-ISDN.

**Private network:** The DSS2 protocol entity at the user side of an interface at the T<sub>B</sub> reference point.

**Public network:** The DSS2 protocol entity at the network side of an interface at the T<sub>B</sub> reference point.

**service; telecommunication service:** See ITU-T Recommendation I.112 [9], definition 201.

**supplementary service:** See ITU-T Recommendation I.210 [10], subclause 2.4.

#### subclause 1.5, first paragraph

Replace the first paragraph by:

The DDI supplementary service shall be based on the use of the ISDN number and shall not include subaddressing.

#### subclause 1.5, second paragraph

Change the second paragraph to a note.

#### subclause 1.5, last paragraph

Replace the last paragraph by:

The DDI number shall be transferred en-bloc or by overlap receiving from the public network to the private network, which shall finally and automatically establish a call to the destination without assistance of an operator.

**subclause 1.6.1**

Replace the existing text by:

The DDI supplementary service shall be provided after prior arrangement with the administration and shall be withdrawn on the subscriber's request or for administrative reasons.

NOTE: Subscription to the multiple subscriber number and DDI supplementary services is mutually exclusive. However, in some networks both supplementary services could co-exist on the same access (e.g. for future extension of service provision).

Use of partial numbers to transfer the DDI numbers is a public network option and may require a bilateral agreement between the public network and the private network.

If this option is used, the proper operation of the DDI supplementary service may require a bilateral agreement between the public network and the private network on the starting point of partial numbers in relation to the full ISDN number and configuration within the private network.

If a public network makes use of the partial number but always sends exactly that part of the ISDN number which is significant to the private network, then no bilateral agreement between the public network and the private network is required, and this rule forms the basis of the configuration within the private network.

**subclause 1.6.4, last paragraph**

Replace the last paragraph by:

The public network may send numbers using either en-bloc receiving or overlap receiving procedures. It is therefore mandatory for the private network (that supports emulated N-ISDN services) to support the overlap receiving procedure for calls/connections of emulated N-ISDN services, in addition to the en-bloc receiving procedure which is mandatory according to basic call (see ETS 300 443-1 [7]).

**subclause 1.10.1.1**

Replace the existing text by:

The DDI number shall be delivered from the public network to the private network in the number digits field of the Called party number information element, according to the procedures of ETS 300 443-1 [7] subclause 5.2 and 6.5.

In the case where only the partial number is sent to the private network, the public network shall code the numbering plan identification field as "ISDN numbering plan (Recommendation E.164)" and the type of number field as "unknown". The private network shall recognize this format, however, for implementations destined only for public B-ISDNs that never use this form, this requirement is not mandatory.

In the case where the full ISDN number is sent to the private network, the public network shall code the numbering plan identification field as "ISDN numbering plan (Recommendation E.164)" and the type of number field as "national number", "international number" or "subscriber number". The private network shall recognize numbers sent in all three formats.

NOTE: This coding is independent of the use of the en-bloc procedures (where the called party number is sent in a single message) or overlap receiving procedures (where the called party number is sent in digit by digit or by multiple digits in several messages as it becomes available).

**subclause 1.10.1.2**

Insert the following note after the first paragraph:

NOTE: As an alternative to clearing the call when incomplete or invalid digits are received, the user may accept the call. This has no impact on the protocol at the user-network access. The procedures at the private network where correct ISDN numbers received within the Called party number information element do not match a destination in a private B-ISDN are outside the scope of this ETS.

**subclause 1.12**

Replace subclause 1.12 and all of its subclauses by:

The interaction of the DDI supplementary service with other supplementary services shall be as specified in ETS 300 669-1 [8].

**appendix I**

Appendix I has the status of an informative annex.

## History

Document history			
September 1995	Public Enquiry	PE 92:	1995-09-25 to 1996-01-19
February 1997	Vote	V 9717:	1997-02-25 to 1997-04-25
July 1998	First Edition		