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**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]**

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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) Multiple Subscriber Number (MSN) supplementary service, as described below:

**Part 1:** "Protocol specification [ITU-T Recommendation Q.2951, clause 2 (1995), 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".

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 MSN supplementary service. The stage 1 and stage 2 aspects of the equivalent N-ISDN supplementary service are detailed in ETS 300 050 and ETS 300 051, respectively, and these have been assumed as appropriate to be the foundation of the equivalent B-ISDN supplementary service specifications.

<b>Transposition dates</b>	
Date of adoption of this ETS:	6 September 1996
Date of latest announcement of this ETS (doa):	31 December 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1997
Date of withdrawal of any conflicting National Standard (dow):	30 June 1997

## Endorsement notice

The text of ITU-T Recommendation Q.2951, clause 2 (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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## subclause 2.1

Replace subclause 2.1 by:

### 2.1 Scope

This first part of ETS 300 662 specifies the stage three of the Multiple Subscriber Number (MSN) 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 MSN supplementary service provides the possibility for assigning multiple numbers to a single public or private access.

NOTE: This allows e.g.:

- 1) a calling user to select, via the public network, one or multiple distinct terminal applications out of a multiple choice;
- 2) to identify the terminal application to the network for the application of other supplementary services.

It is considered:

- that some service providers may not have knowledge or control over what is connected, e.g. a private B-ISDN or a terminal configuration;
- that service providers have differing numbering methods.

The MSN 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 MSN 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 2.2, first paragraph

Replace the first paragraph of subclause 2.2 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 2.2**

Insert the following references at the end of subclause 2.2:

- [7] 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]".
- [8] 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".

**Throughout the text of ITU-T Recommendation Q.2951, clause 2**

Replace references as shown in the following table.

Reference in ITU-T Recommendation Q.2951, clause 2	Modified reference
ITU-T Recommendation Q.2931 [3]	ITU-T Recommendation Q.2931 as modified by ETS 300 443-1 [7]

**subclause 2.3**

Insert the following definition immediately following the definition of "subscriber number":

**multiple subscriber number:** An ISDN number as part of a set of ISDN numbers assigned to a user which shall be either:

- the whole ISDN number; or
- a part of the ISDN number (the least significant "n" digit(s) where "n" may be a number up to the full length of the ISDN number, and shall be a number large enough to allow all terminals on an access to be assigned an individual number).

**subclause 2.5, first paragraph**

Delete the first paragraph "The stage 1 ... Recommendation I.251.2."

**subclause 2.5, second paragraph**

Delete the second paragraph "The stage 2 ... subclause 2".

**subclause 2.5, fourth paragraph**

Replace the fourth paragraph by:

The MSN supplementary service enables each terminal application within one terminal to have one or more identities, by which one individual terminal application can be discriminated from the others.

**subclause 2.5, last paragraph**

Delete the last paragraph "National or international ... number".

**subclause 2.6.2, second paragraph**

Replace the second paragraph by:

If the access has the MSN supplementary service, the network may use (as a network option) the information in the Calling party number information element to identify the calling terminal application, and if necessary, assign the appropriate basic or supplementary service profile.

**subclause 2.6.2, last paragraph**

Delete the last paragraph "At the option ... for the interface".

**subclause 2.6.4**

Replace "the available part" by "at least the significant part".

**subclause 2.9.1.1, first paragraph**

Replace the first paragraph by:

The multiple subscriber number, if provided by the calling user, shall be delivered from the user to the network according to the procedures of ETS 300 443-1 [7], subclause 5.1. The type of number indicated in the Calling party number information element sent to the network shall be coded as:

- "unknown", where the number sent is not a full ISDN number (including at least the multiple subscriber number). National and international prefixes shall not be included;
- "subscriber number", "national number" or "international number", where the full appropriate ISDN number is sent.

**subclause 2.9.1.1, bullet items**

Insert after the two bullet items of the second paragraph:

The user's selection from the choices in this subclause shall be a user option. If no special arrangement according to the CLIP supplementary service has been made with the calling subscriber, then the network shall check the user provided calling party number for validity on the corresponding access.

**subclause 2.9.2.1, first paragraph**

Replace the first paragraph by:

The multiple subscriber number shall be delivered from the network to the user according to the procedures of ETS 300 443-1 [7], subclause 5.2. The type of number indicated in the Called party number information element sent to the user shall be coded as:

- "unknown", where the number sent is not a full ISDN number (including at least the multiple subscriber number). National and international prefixes shall not be included;
- "subscriber number", "national number" or "international number", where the full appropriate ISDN number is sent.

**subclause 2.9.2.1, bullet items**

Insert after the two bullet items of the second paragraph:

The network's selection from the choices in this subclause shall be a network option. The network shall supply sufficient digits uniquely to identify one ISDN number from the set of ISDN numbers at that access. Users with the MSN supplementary service shall use the least significant "n" digits up to the total number of digits supplied as part of the terminal selection process. If a user receives more digits than it is programmed to require for terminal selection, then the most significant surplus digits shall be discarded for the purposes of the MSN supplementary service.

**subclause 2.9.2.2, first paragraph**

Replace the first paragraph by:

If a user with the MSN supplementary service receives fewer digits in the Called party number information element than it is programmed to require for terminal application selection, then that user shall use the available information in that information element for its terminal application selection procedure.

**subclause 2.9.2.2, third paragraph**

Change the third paragraph to a note.

**subclause 2.11.1**

Replace the complete text of subclause 2.11.1 by:

This subclause specifies the particular features to support access signalling interworking between B-ISDN and N-ISDN. The description of interworking assumes the communication scenario B as defined in annex A of ITU-T Recommendation I.580 [5].

**Interworking N-ISDN -> B-ISDN**

The DSS1 Calling party number information element is mapped to the DSS2 Calling party number information element by the interworking function or terminal adaptor by inserting the second octet and changing the length indication from one to two octets.

NOTE: It is recommended that the flag bit in octet 2 is set to "instruction field not significant", i.e. the normal error handling procedures as defined in ETS 300 443-1 [7], subclause 5.6 apply.

**Interworking B-ISDN -> N-ISDN**

The DSS2 Called party number information element is mapped to the DSS1 Called party number information element by the terminal adaptor or interworking function by removing its second octet and adjusting the length indication without causing other changes to the contents and by respecting the order of this information element in the DSS1 message.

**subclause 2.12**

Replace subclause 2.12 and all of its subclauses by:

The interaction of the MSN 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
June 1996	Vote	V 106:	1996-06-24 to 1996-08-30
September 1996	First Edition		