



# SLOVENSKI STANDARD

DSIST EN 301 061-1:2003

01-XYW a VYf!% - -

8 [[ ]HJbc`ca fYy`Y`n`]bhY[ f]fUb]a ]ghcf]hj Ua ]fIG8 Bk!`Dfchc\_c`X][ ]HJbY`bUfc b]y\_Y  
g][ bU]nUWY`Y`yH`r`%fB GG%k!`; YbYf] b]Z b\_WY`g\_]dfchc\_c`nUdcXdcfc`Xcdc`b]b]  
ghcf]Hj] j`j`ghcdb]hc\_]`V`ghcf]hj Y`nU`Ud`]\_UWY`bUj ]XynbY[ UnUgYVbY[ Uca fYy`U  
fU DBk!`%`XY.`GdYWZ\_ UWY`Udfchc\_c`U

Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services at the b service entry point for Virtual Private Network (VPN) applications; Part 1: Protocol specification

Ta slovenski standard je istoveten z: EN 301 061-1 V1.2.2.% - , !\$(

**ICS:**

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
--------	-----------------------------------------------------	--------------------------------------------

DSIST EN 301 061-1:2003 en



# EN 301 061-1 V1.2.2 (1998-04)

---

*European Standard (Telecommunications series)*

**Integrated Services Digital Network (ISDN);  
Digital Subscriber Signalling System No. one (DSS1) protocol;  
Generic functional protocol for the support of  
supplementary services at the "b" service entry point for  
Virtual Private Network (VPN) applications;  
Part 1: Protocol specification**

---



---

**Reference**

DEN/SPS-05110-1 (9to90ipc.PDF)

---

**Keywords**

DSS1, generic, ISDN, supplementary service,  
VPN

**ETSI**

---

**Postal address**

F-06921 Sophia Antipolis Cedex - FRANCE

---

**Office address**

650 Route des Lucioles - Sophia Antipolis  
Valbonne - FRANCE  
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16  
Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Internet**

secretariat@etsi.fr  
<http://www.etsi.fr>  
<http://www.etsi.org>

---

**Copyright Notification**

---

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1998.  
All rights reserved.

# Contents

Intellectual Property Rights.....	5
Foreword .....	5
1 Scope.....	6
2 Normative references .....	6
3 Definitions and abbreviations .....	7
3.1 Definitions .....	7
3.2 Abbreviations.....	7
4 Coexistence of generic protocols for the control of supplementary services .....	8
4.1 Support of various generic protocols .....	8
4.2 Coexistence of generic protocols .....	8
4.3 Arrangements by which coexistence of protocols may be supported by a network .....	8
5 General principles applied for the functional control of supplementary services .....	8
5.1 Introduction.....	8
5.2 Scope of the procedures .....	8
5.3 Categories of procedures .....	8
5.4 VPN services in the context of CN .....	9
6 Control of supplementary services using the separate message approach.....	9
7 Control of supplementary services using the common information element approach.....	9
7.1 General.....	9
7.1.1 Introduction .....	9
7.1.2 Scope of the procedures .....	9
7.1.3 Distinction between public network and VPN context.....	9
7.2 Procedures applicable for signalling in a VPN context.....	10
7.2.1 Transport of components.....	10
7.2.1.1 Bearer-related transport mechanism .....	10
7.2.1.1.1 Protocol control requirements.....	10
7.2.1.1.2 Generic Functional Transport (GFT)-Control requirements .....	10
7.2.1.2 Connection-oriented bearer-independent transport mechanism.....	11
7.2.1.2.1 Protocol control requirements.....	11
7.2.1.2.1.1 Connection establishment at the originating interface .....	11
7.2.1.2.1.1.1 Connection request .....	11
7.2.1.2.1.1.2 Invalid connection information.....	11
7.2.1.2.1.1.3 Call proceeding .....	12
7.2.1.2.1.1.4 Connection connected .....	12
7.2.1.2.1.1.5 Connection rejected.....	12
7.2.1.2.1.2 Connection establishment at the destination interface .....	12
7.2.1.2.1.2.1 Incoming connection .....	13
7.2.1.2.1.2.2 Connection confirmation .....	13
7.2.1.2.1.2.3 Called user clearing during incoming connection establishment.....	13
7.2.1.2.1.2.4 Connection failure .....	13
7.2.1.2.1.2.5 Connection accept .....	13
7.2.1.2.1.2.6 Active indication .....	13
7.2.1.2.1.3 Connection clearing.....	14
7.2.1.2.1.3.1 Exception conditions .....	14
7.2.1.2.1.3.2 Clearing initiated by the user.....	14
7.2.1.2.1.3.3 Clearing initiated by the network.....	15
7.2.1.2.1.3.4 Clear collision .....	15
7.2.1.2.1.4 Interaction with restart procedure.....	15
7.2.1.2.1.5 Interaction with call rearrangements.....	15
7.2.1.2.1.6 Handling of error conditions .....	15
7.2.1.2.1.7 Protocol timer values.....	16
7.2.1.2.2 GFT-Control requirements.....	16

7.2.1.3	Connectionless bearer-independent transport mechanism .....	16
8	Generic notification procedures applicable in a VPN context.....	16
8.1	Categories of notifications .....	16
8.2	Non-standardized notifications .....	16
8.3	Protocol control requirements.....	17
8.4	GFT-Control requirements.....	17
9	Application layer requirements.....	17
9.1	Coordination Function requirements.....	17
9.2	ROSE requirements .....	17
9.3	ACSE requirements .....	17
9.4	DSE requirements .....	17
9.5	Non-standardized operations and non-standardized additions to standardised operations.....	17
10	Other generic procedures .....	18
11	Coding requirements .....	18
11.1	Message functional definitions and content .....	18
11.1.1	Messages for bearer-related signalling .....	18
11.1.1.1	FACILITY .....	18
11.1.1.2	NOTIFY .....	19
11.1.2	Messages for bearer-independent, connection-oriented signalling .....	19
11.1.2.1	CALL PROCEEDING.....	19
11.1.2.2	CONNECT .....	20
11.1.2.3	CONNECT ACKNOWLEDGE .....	20
11.1.2.4	FACILITY .....	20
11.1.2.5	RELEASE.....	21
11.1.2.6	RELEASE COMPLETE.....	22
11.1.2.7	SETUP.....	23
11.1.2.8	STATUS .....	23
11.1.2.9	STATUS ENQUIRY .....	24
11.2	General message format and information element coding .....	24
11.2.1	Facility .....	24
11.2.2	Notification indicator .....	25
11.2.3	Bearer capability .....	26
11.2.4	Channel identification .....	26
<b>Annex A (normative):</b>	<b>Dynamic descriptions .....</b>	<b>28</b>
A.1	Dynamic description of the Hold and Retrieve functions.....	28
A.2	Dynamic description of the status request procedure .....	28
A.3	Dynamic description of the supplementary service management function .....	28
A.4	Dynamic description of the connection oriented bearer independent transport mechanism .....	28
<b>Annex B (normative):</b>	<b>Formal definition of data types .....</b>	<b>29</b>
<b>Annex C (normative):</b>	<b>Flow control .....</b>	<b>30</b>
History .....		31

---

## Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETR 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available **free of charge** from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://www.etsi.fr/ipr> or <http://www.etsi.org/ipr>).

Pursuant to the ETSI Interim IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETR 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

---

## 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 European Standard (Telecommunications series) covering the Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services for Virtual Private Network (VPN) applications, as identified below:

- Part 1: "Protocol specification";**
- Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP), user";
- Part 4: "Abstract Test Suite (ATS), user";
- Part 5: "Test Suite Structure and Test Purposes (TSS&TP), network";
- Part 6: "Abstract Test Suite (ATS), network".

<b>National transposition dates</b>	
Date of adoption of this EN:	3 April 1998
Date of latest announcement of this EN (doa):	31 July 1998
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 1999
Date of withdrawal of any conflicting National Standard (dow):	31 January 1999

---

# 1 Scope

The present document specifies the generic functional protocol for the pan-European Integrated Services Digital Network (ISDN) applicable at the "b" service entry point (as defined in EN 301 060-1 [3]). It is part of the Digital Subscriber Signalling System No. one (DSS1) protocol.

The generic functional protocol is based on the Facility information element and the FACILITY message, as well as on other specific functional messages. The protocol is symmetrical, and it is applicable to both basic and primary rate interfaces.

The generic functional protocol defined in the present document provides the means to exchange signalling information for the control of supplementary services over a Virtual Private Network (VPN). It does not by itself control any supplementary service but rather provides generic services to specific supplementary service control entities.

The application of the present document to individual supplementary services is outside the scope of the present document and is defined in those standards which specify the individual supplementary services.

Further part(s) of the present document specify the method of testing required to identify conformance to the present document.

The present document is applicable only to point-to-point access configurations.

NOTE 1: The exchange of signalling information relating to the "b" service entry point is distinguished from the exchange of signalling information that is used to access public network services at the T reference point. The generic functional protocol applicable in a public network context is supported in accordance with the requirements of EN 300 196-1 [1]. The generic functional protocol specifically applicable in a VPN context is supported in accordance with the present document. The requirements have been defined such that both contexts can coexist on the same access, and this is expected to be a typical implementation. There is no requirement that when the provisions of the present document are implemented, the exchange of signalling information relating to the T reference point also need to be implemented on the same access. Where both contexts are implemented, the access resources are common to both contexts.

NOTE 2: A service provider may support supplementary services applicable for public network calls in a VPN context. In this case the applicability of the individual public network supplementary services to a call in a VPN context is beyond the scope of the present document.

---

# 2 Normative references

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case 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] EN 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [2] EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.911 (1993), modified]".