



SLOVENSKI STANDARD
SIST ES 202 060-4 V1.1.1:2005
01-januar-2005

Glčf]hYj`_fUh_l`gdcfc`J`fGA GLnUz_gbUca fYy`UË`Ca fYybUfYy]hYj`fB6 GLË`("XY.
A YXgYVc`bc`XY`cj`Ub`Y`g][`bU]nUWY`yH`r`+`fGG+L`b`dfcfc`_c`UX][`]HUbY`bUfc`b]y`_Y
g][`bU]nUWY`yH`r`%fB`GG`%L

Short Message Service (SMS) for fixed networks; Network Based Solution (NBS); Part 4:
Interworking between Signalling System No.7 (SS7) and Digital Subscriber Signalling
System No. one (DSS1)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ES 202 060-4 V1.1.1:2005](https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0adf/sist-es-202-060-4-v1-1-1-2005)
[https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-
c35711a0adf/sist-es-202-060-4-v1-1-1-2005](https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0adf/sist-es-202-060-4-v1-1-1-2005)

Ta slovenski standard je istoveten z: ES 202 060-4 Version 1.1.1

ICS:

33.040.35	Telefonska omrežja	Telephone networks
33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)

SIST ES 202 060-4 V1.1.1:2005 **en**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ES 202 060-4 V1.1.1:2005](https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0adf/sist-es-202-060-4-v1-1-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0adf/sist-es-202-060-4-v1-1-1-2005>

ETSI ES 202 060-4 V1.1.1 (2003-05)

ETSI Standard

**Short Message Service (SMS) for fixed networks;
Network Based Solution (NBS);
Part 4: Interworking between Signalling System No.7 and
Digital Subscriber Signalling System No. one (DSS1)**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ES 202 060-4 V1.1.1:2005](https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0adfe/sist-es-202-060-4-v1-1-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0adfe/sist-es-202-060-4-v1-1-1-2005>



Reference

DES/SPAN-130311-4

Keywords

ISDN, DSS1, SMS, interworking, protocol, SS7

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - 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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ES 202 060-4 V1.1.1:2005

<https://standards.iteh.ai/catalog/standards/sist/5ebed4da-85de-40bd-8312-c35711a0ad1c/sist-es-202-060-4-v1-1-1-2005>

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, send your comment to:

editor@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 2003.
All rights reserved.

DECT™, **PLUGTESTS™** and **UMTS™** are Trade Marks of ETSI registered for the benefit of its Members.
TIPHON™ and the **TIPHON logo** are Trade Marks currently being registered by ETSI for the benefit of its Members.
3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

Contents

Intellectual Property Rights	4
Foreword.....	4
Introduction	4
1 Scope	5
2 References	5
3 Definitions and abbreviations.....	5
3.1 Definitions	5
3.2 Abbreviations	6
4 Description	7
4.1 Sending a Short Message (SM-TE -> SMSC).....	7
4.1.1 Interworking from DSS1 to #7 at the Originating Local Exchange.....	7
4.1.2 Reception of a SM from the Originating Local Exchange and sending of SM by the Short Message Service Centre to the Destination Local Exchange.....	8
4.1.2.1 Mapping	8
4.1.2.2 Interaction with SMSUIR	8
4.1.2.3 Interaction with SM Forwarding	8
4.1.2.4 Interaction with ASMR	9
4.1.2.5 Interaction with MSMID	9
4.1.2.6 Interaction with SM Whitelist or SM Blacklist.....	9
4.1.3 Interworking from #7 to DSS1 at the Destination Local Exchange.....	10
4.2 Confirmation of SM reception.....	10
4.2.1 Interworking from DSS1 to #7 at the Destination Local Exchange.....	10
4.2.2 Actions by the Short Message Service Centre.....	10
4.2.3 Interworking from #7 to DSS1 at the Originating Local Exchange.....	11
4.3 Sending a Short message (PABX -> SMSC).....	11
4.3.1 Interworking from DSS1 to #7	11
4.3.2 Reception of a SM from the Originating Local Exchange and sending of SM by the Short Message Service Centre to the Destination Local Exchange.....	11
4.3.3 Interworking from #7 to DSS1	11
4.4 Confirmation of SM reception (PABX)	11
Annex A (informative): Bibliography.....	12
History	13

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 ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

All published ETSI deliverables shall include information which directs the reader to the above source of information.

Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 4 of a multi-part standard covering the Short Message Services (SMS) for fixed networks; Networks Based Solution (NBS), as described below:

- Part 1: "Overview";
- Part 2: "Architecture and functional entities";
- Part 3: "Integrated Services Digital Network (ISDN) access protocol";
- Part 4: "Interworking between Signalling System No.7 (SS7) and Digital Subscriber Signalling System No. one (DSS1)";**
- Part 5: "Network access protocol".

NOTE: The choice of a multi-part format for this deliverable is to facilitate maintenance and future enhancements.

In accordance with ITU-T Recommendation I.130 [6], the following three level structure is used to describe the supplementary telecommunication services as provided by European public telecommunications operators under the pan-European 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.

Introduction

The present document specifies the interworking between Signalling System No.7 (SS7) and the Digital Subscriber Signalling System No. one (DSS1) for the Short Message Service.

The interworking between the above signalling protocols occurs in an exchange with ISDN local exchange functionality and is specified in the context of a bearer unrelated connectionless or connection-oriented transaction in a pure ISDN.

1 Scope

Within the present document, only those functions are described, which are relevant for the specific interworking for SMS. The standard UNI and NNI interworking procedures are not repeated here.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".
 - [2] ETSI ES 202 060-3: "Short Message Service (SMS) for fixed networks; Network Based Solution (NBS); Part 3: Integrated Services Digital Network (ISDN) access protocol".
 - [3] ETSI ES 202 060-5: "Short Message Service (SMS) for fixed networks; Network Based Solution (NBS); Part 5: Network access protocol".
 - [4] ETSI 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".
 - [5] ITU-T Recommendation I.112: "Vocabulary of terms for ISDNs".
 - [6] ITU-T Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
-

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [5].

invoke component: where reference is made to a "xxxx" invoke component, an invoke component is meant with its operation value set to the value of the operation "xxxx"

NOTE: See EN 300 196-1 [4], clause 8.2.2.1.

ISDN number: number conforming to the numbering plan and structure specified in ITU-T Recommendation E.164

originating SMS user: user that originates and sends the SM

receiving SMS user: user that receives the Short Message and who may also deactivate the reception of SMs and reactivate the reception later on

receiving user number: ISDN number of the user, that receives the Short Message

return error component: where reference is made to a "xxxx" return error component, a return error component is meant which is related to a "xxxx" invoke component

NOTE: See EN 300 196-1 [4], clause 8.2.2.3.

return result component: where reference is made to a "xxxx" return result component, a return result component is meant which is related to a "xxxx" invoke component

NOTE: See EN 300 196-1 [4], clause 8.2.2.2.

served user number: ISDN number of the user who subscribes to, activates, deactivates or interrogates the Short Message services

Short Message (SM): information, that may be conveyed by means of the SMS described in the present document

Short Message Service Centre (SM-SC): function unit, which is responsible for the relaying and store-and-forwarding of a short message (SM) between two SM-TE

NOTE: The SM-SC can functionally be separated from or integrated in the network.

Short Message Service Centre Number (SM-SCNr): ISDN number of the Short Message Service Centre

Short Message Terminal (SM-TE): terminal which may send or receive short messages

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ASMR	Anonymous SM Rejection
DSS1	Digital Subscriber Signalling System No. one
ISDN	Integrated Services Digital Network
MSMID	Malicious SM Identification
SM	Short Message
SMS	Short Message Service
SM-SC	Short Message Service Centre
SMSUIR	Short Message Sending User Identification Restriction
SM-TE	Short Message Terminal

4 Description

4.1 Sending a Short Message (SM-TE -> SMSC)

4.1.1 Interworking from DSS1 to #7 at the Originating Local Exchange

Table 1: Mapping DSS1-SS7 messages of originating

DSS1 messages → FACILITY [DCR]	#7 messages → SCCP: called party address: SMSC_Nr TC-BEGIN
Facility information element SMSSubmit invoke servedUserNr receivingUserNr sMSC_Nr SMSData additions	SMSFacility invoke SMSAdditionalOriginatingAddress SMSAdditionalDestinationAddress SMSDestinationAddress SMSProtocolData SMSOriginatingAddress (optional) additions

The sMSC_Nr within the Submit invoke component shall be taken as called party address for the SCCP. If the sMSC_Nr is absent, the default SMSC_Nr stored in the local exchange shall be taken.

When sending a SMS, the sending user shall always provide the servedUserNr. If the sending user does not provide this identification, the SMS shall be rejected by the network (see ES 202 060-3 [2]).

The SMSAdditionalOriginatingAddress contains the indication "*user provided, verified and passed*".

The sending user may request to restrict the presentation of the identification to the receiving user on a per SMS basis (Short Message Sending User Identification Restriction – SMSUIR). In this case, the SMSAdditionalOriginatingAddress contains the indication "*presentation restricted*".

If the sMSC_Nr is absent, the SMSDestinationAddress shall contain the default SMSC_Nr stored in the originating local exchange.

As an option, the originating local exchange may provide in addition SMSOriginatingAddress containing a network provided number of the served user with the indication "*presentation restricted*".