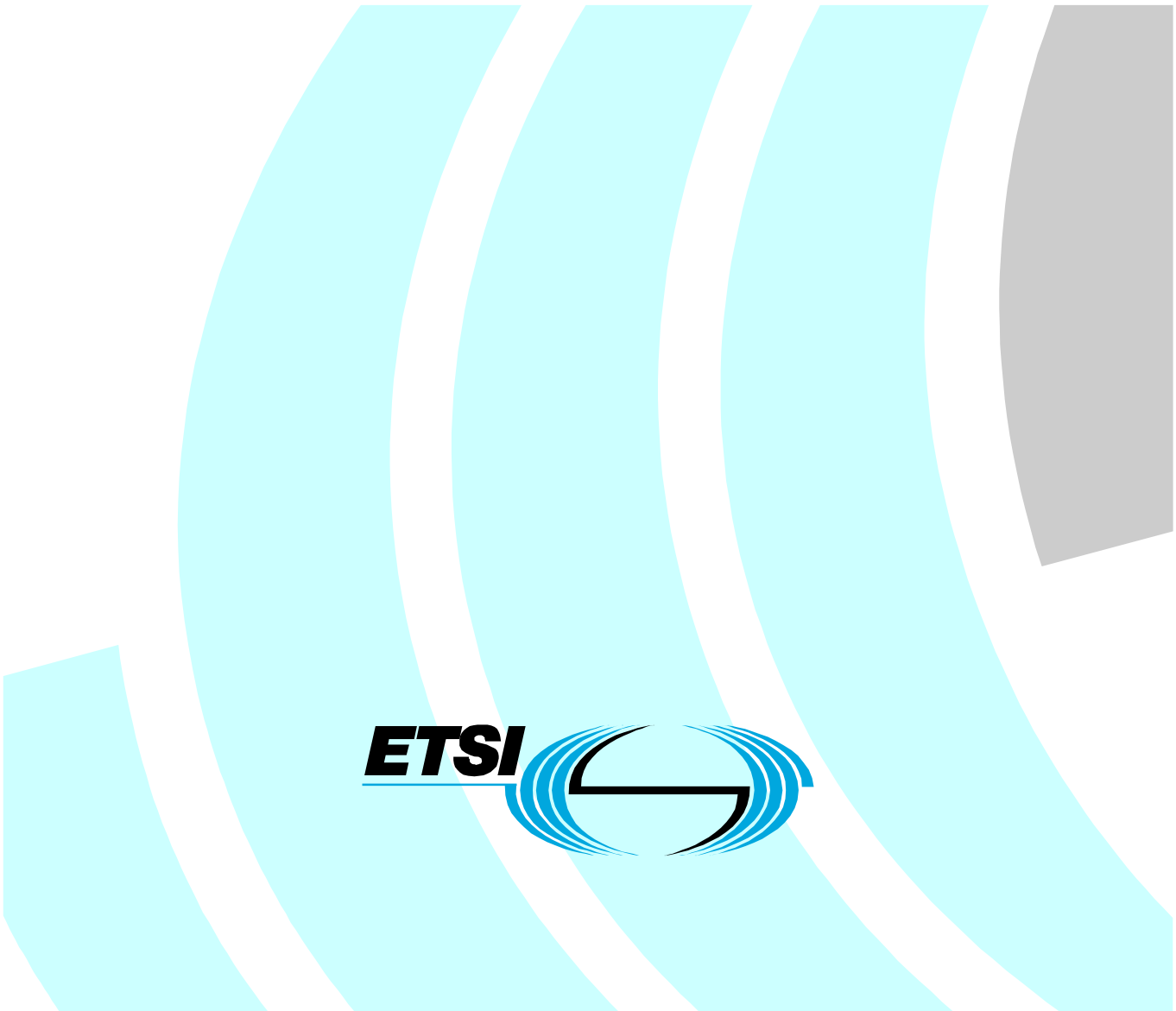
Final draft ETSI ES 202 060-1 V1.1.1 (2003-05)

ETSI Standard

Short Message Service (SMS) for fixed networks; Network Based Solution (NBS); Part 1: Overview



Reference
DES/SPAN-130311-1

Keywords
SMS, generic

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

Contents

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), and is now submitted for the ETSI standards Membership Approval Procedure.

The present document is part 1 of a multi-part deliverable covering the Short Message Service (SMS) for fixed networks; Network Based Solution (NBS), as identified below:

Part 1: "Overview";

Part 2: "Architecture and functional entities";

Part 3: "Integrated Services Digital Network (ISDN) access protocol";

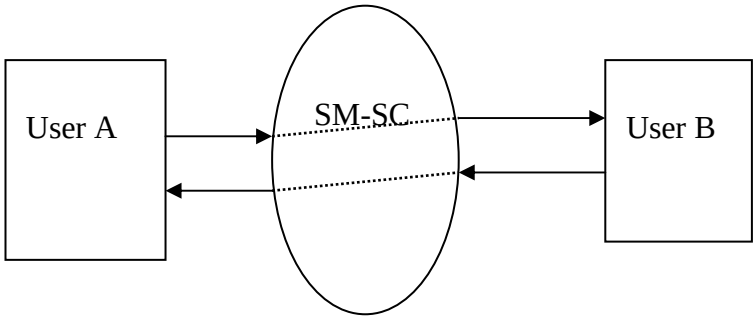
Part 4: "Interworking between Signalling System No.7 (SS7) and Digital Subscriber Signalling System No. one (DSS1)";

Part 5: "Network access protocol".

NOTE: The choice of a multi-part format for the present document is to facilitate maintenance and future enhancements.

Introduction

The Short Message Service (SMS) is a service applicable at the coincident S and T reference point and T reference point, to provide the served user the ability to send and receive Short Messages. The Short Messages are exchanged between the sending and receiving user via a Short Message Service Centre (SM-SC) as shown in figure 1.



NOTE: Doted lines are indicated to reflect the Short Message transfer from User A to User B

Figure 1: Short Message Service principle

The Short Message Service (SMS) provides a means for sending a message of a limited size to and from a Short Message Terminal Equipment (SM-TE).

The SMS can be realized in two ways, either as a User Based Solution (UBS) or as a Network Based Solution (NBS).

NOTE 1: The User Based Solution (UBS) is provided as part of a function within the end-user equipment, which does not require any specific short message transfer function inside the public network. Only the basic call procedures within the public network and the Calling Line Identity (CLI) supplementary service are used.

Two UBS protocols (UBS1 and UBS2) are available and described in ES 201 912 [4].

Protocol 1 (UBS1): this protocol is fully compliant with the GSM SMS service and the DSS1 SM payload.

Protocol 2 (UBS2): this protocol is specifically focused on the residential fixed network environment.

NOTE 2: The Network Based Solution (NBS) is provided as part of a function within the public network and does not require a voice-band communication path between the SM-TE and SM-SC.

For compatibility with UBS and the NBS protocol solution, UBS1 or UBS2 transfer layer is encapsulated within the NBS network protocol messages.

1 Scope

The present document specifies a set of protocols and associated element functional requirements needed for supporting SMS NBS. The SMS UBS is specified in ES 201 912 [4] and not implicitly part of the present document.

The present document is part 1 of the above mentioned series of ETSI deliverables and specifies general aspects of SMS based on ES 201 986 [3].

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 I.411: "ISDN user-network interfaces - Reference configurations".

[2] ITU-T Recommendation I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[3] ETSI ES 201 986: "Services and Protocols for Advanced Networks (SPAN); Short Message Service (SMS) for PSTN/ISDN; Service description".

[4] ETSI ES 201 912: "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Short Message Communication between a fixed network Short Message Terminal Equipment and a Short Message Service Centre".

3 Abbreviations

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

CLI	Calling Line Identity
DSS1	Digital Signalling System No. One
FA	Functional Architecture
GSM	Global System for Mobile communication
ISDN	Integrated Services Digital Network
NBS	Network Based Solution
NE-SC	Network Element Service Centre
NNI	Network Network Interface
SMS	Short Message Service
SM-SC	Short Message Service Centre
SM-TE	Short Message Terminal Equipment
SS7	Signalling System No. Seven
TC	Transaction Capabilities
UBS	User Based Solution
UBS1	User Based Solution, protocol 1
UBS2	User Based Solution, protocol 2
UNI	User Network Interface

4 Overview of the multi-part Technical Specification ES 202 060

4.1 Part 1: Overview

The present document lists the scope of other parts of ES 202 060 which describe Short Message Service. The present document shall be used as a kind of directory document.

NOTE: Whenever a new part will be created, the present document shall be updated accordingly to reflect permanently the status of the set of deliverables.

4.2 Part 2: Architecture and functional entities

Part 2 specifies the Functional Architecture (FA) of the Short Message Service (SMS) for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunication operators at the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [1]) by means of the Digital Subscriber Signalling System No. One (DSS1) protocol. The Functional Architecture (FA)as defined in stage two is needed to support a telecommunication service (see ITU-T Recommendation I.130 [2]).

Part 2 does not specify the additional functional entities or architecture where the service is provided to the user via a telecommunication network that is not an ISDN but it does include interworking requirements of other networks with the public ISDN.

Charging principles are outside the scope of part 2.

Further clauses of part 2 specify the method of testing required to identify conformance to part 2.

Part 2 is applicable to equipment supporting the Short Message Service, to be attached at either side of a T reference point or coincident S and T reference point when used as an access to the public ISDN.

4.3 Part 3: Integrated Services Digital Network (ISDN) access Protocol

Part 3 specifies the stage three of the Short Message Service (SMS) for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators at the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [1]) by means of the Digital Subscriber Signalling System No. One (DSS1) protocol. Stage three identifies the protocol procedures and switching functions needed to support a telecommunication service (see ITU-T Recommendation I.130 [2]).

In addition, part 3 specifies the protocol requirements at the T reference point where the service is provided to the user via an intermediate private ISDN.

Part 3 does not specify the additional protocol requirements where the service is provided to the user via a telecommunication network that is not an ISDN but it does include interworking requirements of other networks with the public ISDN.

The SMS is provided independently of a call.

Charging principles are outside the scope of part 3.

The SM service enables the originating SMS user to send Short Messages (SMs) to the receiving SMS user via a Short Message Service Centre, belonging to the network of the SMS originating user (served user) or separated from the network of the SM originating user.

NOTE: The SM service is typically used between a Short Message service provider and a user (receiving user) of the Short Message service provided.

Further clauses of part 3 specify the method of testing required to identify conformance to part 3.

Part 3 is applicable to equipment supporting the SMS, to be attached at either side of a T reference point or coincident S and T reference point when used as an access to the public ISDN.

4.4 Part 4: Interworking between Signalling System No.7 (SS7) and Digital Subscriber Signalling System No. one (DSS1)

Within this interworking specification, 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.

4.5 Part 5: Network Access Protocol

Part 5 specifies the stage three of the Short Message Service (SMS) for the pan-European Integrated Services Digital Network (ISDN) as provided by the European public telecommunication operators by means of the Signalling System No.7 Transaction Capabilities (TC) application protocol. The stage three identifies the protocol procedures and switching functions needed to support a telecommunication service (see ITU-T Recommendation I.130 [2]).

The SMS is provided independently of a call.

Charging principles are outside the scope of part 5.

Testing and maintenance requirements are outside the scope of part 5.

The SMS enables the originating SMS user to send Short Messages (SMs) to the receiving SMS user via a Short Message Service Centre (SM-SC), belonging to the network of the SMS originating user or separated from the network of the SMS originating user.

NOTE: The SMS is typically used between a Short Message service provider and a user of the Short Message service provided.

The SM-SC can be connected to the network by SS7 or behind a NE-SC with DSS1 or other protocols.

History

Document history		
V1.1.1	May 2003	Membership Approval Procedure MV 20030718: 2003-05-20 to 2003-07-18