



ITS 27

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Interface Technical Specifications
for the France Telecom network

Directive 1999/5/EC

SMS Service (Short Message Service) on analogue line access

Summary: This document presents the SMS service and describes the technical characteristics of the access interface to this service.

Warning :

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France Telecom further points out users' attention on the following points:

1. timer values are indicative and can be subject to modification,
2. due to various technical constraints, some services or service options may not be available on some interfaces,
3. the fact that a service not yet commercially open is described in this document can in no case be considered as a binding commitment on France Telecom part to actually open this service.

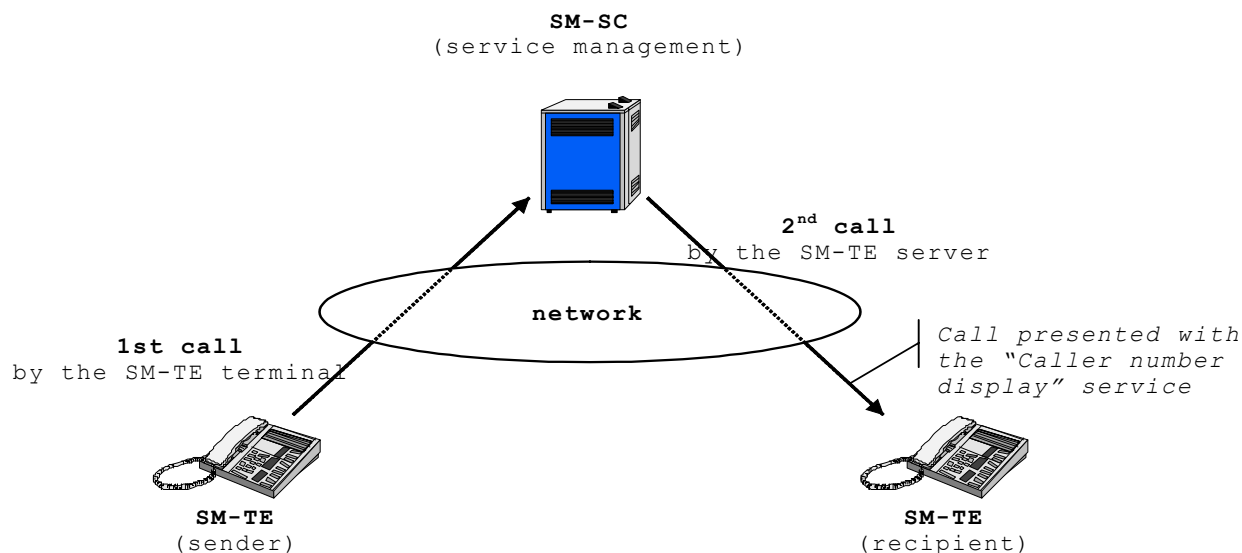
Contents

1. DESCRIPTION	1
2. LIST OF SMS-C SERVER KEY WORDS AND STATUS REPORTS	3
2.1 REFERENCE COMMANDS TO THE SERVER (SMS-SUBMIT)	3
2.2 SYNONYMOUS COMMANDS TO THE SERVER (SMS-SUBMIT)	5
2.3 STATUS-REPORTS	6
2.3.1 Positive status report	6
2.3.2 Negative status report	6
3. PROTOCOL	8
3.1 PDU TYPES	8
3.1.1 SMS-DELIVER	8
3.1.2 SMS-DELIVER-REPORT	9
a) Case of NACK	9
b) Case of ACK	9
3.1.3 SMS-SUBMIT	10
3.1.4 SMS-SUBMIT_REPORT	11
a) Case of NACK	11
b) Case of ACK	11
3.1.5 SMS-STATUS-REPORT	12
3.1.6 SMS-COMMAND	13
3.2 PARAMETERS	13
3.2.1 Message-Type-Indicator (MTI)	13
3.2.2 More-Messages-To-Send (MMS)	13
3.2.3 Reply-Path (RP)	13
3.2.4 User-Data-Header-Indicator (UDHI)	13
3.2.5 Status-Report-Indication (SRI)	14
3.2.6 Originating-Address (OA)	14
3.2.7 Protocol-Identifier (PID)	14
3.2.8 Data-Coding-Scheme (DCS)	15
3.2.9 Service-Center-Time-Stamp (SCTS)	15
3.2.10 User Data-Length (UDL)	16
3.2.11 User-Data (UD)	16
3.2.12 Failure-Cause (FCS)	16
3.2.13 Parameter-Indicator (PI)	17
3.2.14 Reject-Duplicates (RD)	17
3.2.15 Validity-Period-Format (VPF) and Validity Period (VP)	17
3.2.16 Status-Report-Request (SRR)	18
3.2.17 Message-Reference (MR)	18
3.2.18 Destination-Address (DA)	18
3.2.19 Status-Report-Qualifier (SRQ)	18
3.2.20 Recipient-Address (RA)	18
3.2.21 Discharge-Time (DT)	19
3.2.22 Status (ST)	19
4. GENERAL REFERENCES	20
5. GLOSSARY	21
6. HISTORY	21

1. DESCRIPTION

The SMS service allows a text to be transmitted via the telephone network.

To send and receive SMSs, a call must be set up between the SM-TE terminal and the SM-SC server.



SMS transmission is divided into two parts:

- on the one hand, sending of the SMS from the SM-TE Sender terminal to the SM-SC Server that then stores the SMS message.

The SM-TE sets up a call to the server. Once the connection is made, data is exchanged.

- on the other hand, sending of the SMS from the SM-SC server to the SM-TE Recipient terminal.

The SM-SC calls the SM-TE Recipient terminal. The call is displayed with the "Number Display" service. The SM-TE uses this Caller ID information to identify and automatically connect an incoming call from the SM-SC. Once the connection is made, data is exchanged.

Data is exchanged as per ETSI document [1] using Protocol 1.

The V1 version of the SM-SC server allows:

- SMS transmission from a Fixed SMS terminal to
 - Another Fixed SMS terminal,
 - A Mobile terminal,
 - A fax,
 - An e-mail address
- SMS transmission from a mobile to a Fixed SMS terminal.
- SMS transmission to a specific terminal or personal inbox on a fixed line.
- SMS transfer management (to another SMS terminal, mobile, fax or e-mail)
- Mailing list management (multi-media with the possibility of having a large number of correspondents)

- Line suspension and resumption management
- SMS advertising reception or blocking management
- Systematic caller number display even if the latter (fixed or mobile network) has requested secrecy
- Receipt of vocalised messages if the recipient is not a Fixed SMS subscriber
- Sending of SMS in text format for non-CLIP subscribers but the short message receptions is only possible via vocalisation and the management of service options is not authorised.
- The replacement of inefficient text receipt by vocalised receipt.

SMS text-to-voice will be offered but can be globally turned off at the server level. Recipients who do not want Text-to-voice can also deactivate it. In this case, recipients should inform France Telecom so that the server integrates the consultation of "protected" numbers into its processes.

Values of the protocol constants used by the UBS layer when a message is left or transmitted:

UBS protocol T10 timeout	1500 (ms)
UBS protocol T11 timeout	100 (ms)
UBS protocol T12 timeout	4,000 (ms)
DLL_SMS_EST wait timeout	4,000 (ms)
DLL_SMS_DATA wait timeout	4000 (ms)
Maximum number of DLL_SMS_ERROR transmitted	2
Timeout between DLL_SMS_REL (UBS) and REL transmission	0 (ms)

Parameters for incoming calls (from the SM-TE to the SM-SC):

Maximum duration of a UBS incoming call	50 seconds
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Parameters for outgoing calls (from the SM-SC to the SM-TE):

Maximum duration of call presentation:

Call sending an SMS to a suitable terminal	3 seconds
Call sending a vocalised SMS and notification of registration failure	30 seconds

Call sending a fax SMS	40 seconds
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Maximum duration of an outgoing call:

Call sending an SMS to a suitable terminal	20 seconds
Call sending a vocalised SMS and notification of registration failure	5 minutes
Call sending a fax SMS	20 minutes

2. LIST OF KEYWORDS AND SMS-C SERVER STATUS REPORTS

We can define two sets of commands that can be processed by the SM-SC :

- reference commands for the customer that does not have a terminal integrating command functions in his MMI and commands for exceptional functions (registration, hide ID request, etc.)
- “synonymous” commands programmed in the SM-TEs with a simplified customer interface.

Commands can be written in upper case, lower case or with accented characters.

Explicit separation characters: the star sign marks the separation between commands; the hash sign marks the separation between the commands and the SM text of the customer.

Description of the customer's operating mode via his or her SM-TE to send a command SM:

Caller (SMS-SUBMIT)
Recipient field: 8888
Message field: <ul style="list-style-type: none"> - Command word (example: sms status) - E-mail address + text (example: <i>Juste.leblanc@wanadoo.fr# I can't come tonight</i>) - Mailing list + text (example: <i>liste*friend# We're going to the cinema this evening.</i>)

2.1 REFERENCE COMMANDS TO THE SERVER (SMS-SUBMIT)

Requested Action	Keywords	Example of syntax
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Consult status of the SMS service (transfer in progress, temporary shutdown) on the sending line.	Etat SMS	etat SMS
Temporary suspension of the SMS service for all line accounts.	Stop	stop
Resume SMS service for all line accounts.	Reprise	reprise
Transfer SMS received to a compatible terminal (fixed, fax, mobile or e-mail inbox)	transfert	transfert*0296053536 (n°tel UBS) transfert*fax*0296053536 (n° télécopieur) transfert*Jo.truc@wanadoo.fr (e-mail)
Stop transfer of SMS in progress.	stop-transfert	Stop-transfert
Send SM to a mailing list (or to several simultaneously)	liste	liste*friend# <i>We're going to the cinema tonight.</i>
Create mailing list specifying the list name (12 characters maximum) and contacts (Fax, Fixed or mobile phone, or an e-mail address).	Créer	créer*friend*fax*0296051010* Juste.leblanc@yahoo.fr *0296965656* 0674424242
Rename an existing list	nom	nom*friend*friend1
Add contact (e-mail, fax or telephone) to an existing mailing list	ajout	ajout*friend1*fax*0296566563
Change contact (e-mail, fax or telephone) in an existing mailing list (the address and/or media can be changed)	modif	modif*friend1*0296566563* jo.truc@wanadoo.fr
Delete contact (e-mail, fax or telephone) from an existing mailing list	suppr	suppr*ami1*jo.truc@wanadoo.fr
Send requested list details to customer	Voir	voir*friend
Send customer a summary of the mailing lists created.	Meslistes	meslistes
Delete mailing list	suppr liste	suppr liste*friend
Delete all mailing lists created by the customer.	Suppr meslistes	suppr meslistes Synonyme (suppr mes listes)
Send an SM to a personal inbox (from a mobile)	perso	perso*1# <i>Still on for the cinema tonight?</i>
Send an SM to an e-mail inbox .	Mail	Mail* Juste.leblanc@yahoo.fr # <i>I can't come tonight.</i>
Send an SM to a fax	Fax	Fax*0296051010# <i>I can't come tonight.</i>
Send a status report (note that this command can be associated with Email, Fax and List)	AR	Ar*0296566563# <i>I can't come tonight..</i> AR*FAX*0296051010# <i>I can't come tonight.</i> FAX*AR*0296051010# <i>I can't come tonight.</i> AR*Mail* Juste.leblanc@yahoo.fr # <i>I can't come tonight.</i> Mail*AR* Juste.leblanc@yahoo.fr # <i>I can't come tonight.</i> AR*liste*friend# <i>We're going to the</i>

		<i>cinema tonight.</i> <i>liste*ar*friend# We're going to the cinema tonight.</i>
Accept all ads	Pub	<i>pub</i>
Accept France Telecom ads only	Pub-FT	<i>Pub ft</i>
Refuse all ads	Sans-Pub	<i>Sans pub</i>

2.2 SYNONYMOUS COMMANDS TO THE SERVER (SMS-SUBMIT)

<u>Associated action</u>	<u>Example of hidden syntax</u>
Send an SM to an e-mail inbox.	Juste.leblanc@yahoo.fr # I can't come tonight.
Consult status of the SMS service (transfer in progress, temporary shutdown) on the sending line.	Esms
<u>Temporary</u> suspension of the SMS service for all line accounts.	Off
Resume SMS service for all accounts.	On
Transfer SMS received to a compatible terminal (fixed or mobile phone, fax or e-mail inbox)	t*0296053536 (UBS tel. no) tf*0296052323 (fax n°) t*Jo.truc@wanadoo.fr (email address)
Stop transfer of SMS in progress.	Toff
Create a mailing list specifying the list name (12 characters maximum) and contacts (Fax, Fixed or mobile phone, or an e-mail address).	Cl*copain* f*0296051010* Juste.leblanc@yahoo.fr *0296965656* 0674424242
Rename an existing list	nl*friend*friend1
Add contact (e-mail, fax or telephone) to an existing mailing list	al*friend1* F*0296566563
Change contact (e-mail, fax or telephone) in an existing mailing list (the address and/or media can be changed)	ml*friend1*0296566563* jo.truc@wanadoo.fr
Delete contact (e-mail, fax or telephone) from an existing mailing list	s*ami1* jo.truc@wanadoo.fr
Send requested list details to customer	Vl*friend
Send customer a summary of the mailing lists created.	Vtl
Delete entire mailing list	sl*friend1
Delete all mailing lists created by the customer.	Stl

2.3 STATUS-REPORTS

This type of message from the server is only sent to customers requesting a status report when sending their messages.

The dates and times transmitted in messages correspond to the date and time:

- of success or failure to send the message to the recipient (TP-DT);
- when the message is received by the server (Tp-SCTS).

2.3.1 POSITIVE STATUS REPORT

Return from the server (SMS-STATUS-REPORT)
Message R-1: <i>AR /recipient/ /customer receipt date/. Your short message dated dd/mm at hh:mm was received by the recipient at /time of delivery/</i>
Status Report TP-ST Code: 0x00

2.3.2 NEGATIVE STATUS REPORT

Return from the server: the number does not exist (SMS-STATUS-REPORT)
Message R-2: Failure of message dated dd/mm athh:mm. The <i>/incorrect recipient/</i> does not exist or is written incorrectly. Please check the recipient's information before trying again.
Status Report TP-ST Code: 0x50

Return from the server: transmission problem interfered with message delivery (SMS-STATUS REPORT)
Message R-3: Message failure to <i>/recipient/</i> . Due to a technical error, your short message dated <i>dd/mm at hh:mm</i> could not be transmitted. Please try again.
Status Report TP-ST Code: 0x70

Return from the server: the recipient's line is busy (SMS-STATUS REPORT)
Message R-4: Message failure to <i>/recipient/</i> . This correspondent's line is busy. Your short message dated dd/mm at hh:mm was not transmitted.
Status Report TP-ST Code: 0x61

<u>Return from the server: recipient's SM-TE memory is full (SMS-STATUS-REPORT)</u>
Message R-5: Message failure to <i>/recipient/</i> . The short message inbox of this correspondent is full. Your short message dated dd/mm at hh:mm was not delivered.
Status Report TP-ST Code: 0x60

<u>Return from the server: The recipient is not in the base. If vocalisation = off (SMS-STATUS-REPORT)</u>
Message R-6: Message failure to <i>/recipient/</i> . This correspondent cannot receive short messages. Your message dated dd/mm at hh:mm was not transmitted.
Status Report TP-ST Code: 0x50

<u>Return from the server: no answer / not available / non-UBS answer from recipient (SMS-STATUS-REPORT)</u>
Message R-7: Message failure to <i>/recipient/</i> . This correspondent cannot receive short messages for the moment. Your message dated dd/mm at hh:mm was not delivered.
Status Report TP-ST Code: <ul style="list-style-type: none">⇒ No answer: 0x62⇒ Not available: 0x43⇒ Non-USB answer from recipient: 0x76

<u>Return from the server: Service providers and mobiles dialling a short number not suitable for a UBS flow (SMS-STATUS-REPORT)</u>
Message R-8: Message failure to <i>/recipient/</i> . Your short message dated dd/mm at hh:mm cannot be delivered to this correspondent.
Status Report TP-ST Code: <ul style="list-style-type: none">⇒ service providers and mobiles dialling a short number: 0x78

<u>Return from the server: technical error in the format sent to the recipient or SM syntax (SMS-STATUS REPORT)</u>
Message R-9: Message failure. Your short message dated dd/mm at hh:mm could not be transmitted. Please check the recipient or message syntax before trying again.
Status Report TP-ST Code: 0x75

3. PROTOCOL

The protocol complies with **Protocole 1 (UBS)** described in the ETSI **[1]** standard.

3.1 PDU TYPES

There are six PDUs on the Transfer Layer.

- SMS-DELIVER, transporting an SM from the SM-SC to the SM-TE
- SMS-DELIVER-REPORT, transporting the cause of failure or the positive or negative acknowledgement in response to an SMS-DELIVER or SMS-STATUS-REPORT.
- SMS-SUBMIT, transporting an SM from the SM-TE to the SM-SC.
- SMS-SUBMIT-REPORT, transporting the cause of failure or the positive or negative acknowledgement in response to an SMS-SUBMIT or SMS-COMMAND.
- SMS-STATUS-REPORT, transporting a status report from the SM-SC to the SM-TE
- SMS-COMMAND, transporting a command from the SM-TE to the SM-SC (this type of PDU is not implemented).

3.1.1 SMS-DELIVER

Abbr.	Reference	ETSI	Description
MTI	Message-Type-Indicator	M	Parameter describing the type of message.
MMS	More-Messages-to-Send	M	Parameter indicating whether other messages are to be sent to the SM-SC
RP	Reply-Path	M	Parameter indicating the presence of a Reply-Path.
UDHI	User-Data-Header-Indicator	O	Parameter indicating that the UD field contains a header.
SRI	Status-Report-Indication	O	Parameter indicating the sender SM-TE requested a Status-Report.
OA	Originating-Address	M	Parameter indicating the sender SM-TE address.
PID	Protocol-Identifier	M	Parameter identifying the upper protocol layer, if any.
DCS	Data-Coding-Scheme	M	Parameter identifying the alphabet encoding in the UD field.
SCTS	Service-Centre-Time-Stamp	M	Parameter identifying the SM delivery time to the SM-SC.
UDL	User-Data-Length	M	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

3.1.2 SMS-DELIVER-REPORT

a) CASE OF NACK

Abbr.	Reference	ETSI	Description
MTI	Message-Type-Indicator	M	Parameter describing the type of message.
UDHI	User-Data-Header-Indication	O	Parameter indicating that the UD field contains a header.
FCS	Failure-Cause	M	Parameter indicating the cause of failure of the SM delivery.
PI	Parameter-Indicator	M	Parameter indicating optional parameters that follow
PID	Protocol-Identifier	O	Parameter identifying the upper protocol layer, if any.
DCS	Data-Coding-Scheme	O	Parameter identifying the alphabet encoding in the UD field.
UDL	User-Data-Length	O	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

b) CASE OF ACK

Abbr	Reference	ETSI	Description
MTI	Message Type Indicator	M	Parameter describing the type of message.
UDHI	User-Data-Header-Indication	O	Parameter indicating that the UD field contains a header.
PI	Parameter-Indicator	M	Parameter indicating optional parameters that follow
PID	Protocol-Identifier	O	Parameter identifying the upper protocol layer, if any.
DCS	Data-Coding-Scheme	O	Parameter identifying the alphabet encoding in the UD field.
UDL	User-Data-Length	O	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

3.1.3 SMS-SUBMIT

Abbr.	Reference	ETSI	Description
MTI	Message-Type-Indicator	M	Parameter describing the type of message.
RD	Reject-Duplicates	M	Parameter indicating whether the SM-SC must accept or not accept an SMS-SUBMIT PDU for an SM still contained in the SM-SC with the same MR and DA as a message previously sent from the same OA.
VPF	Validity-Period-Format	M	Parameter indicating that the VP field is present.
RP	Reply-Path	M	Parameter indicating a request for a Reply Path.
UDHI	User-Data-Header-Indicator	O	Parameter indicating that the UD field contains a header.
SRR	Status-Report-Request	O	Parameter indicating whether the SM-TE is requesting a Status-Report.
MR	Message-Reference	M	Parameter identifying the SMS-SUBMIT.
DA	Destination-Address	M	Parameter indicating the recipient's SM-TE address.
PID	Protocol-Identifier	M	Parameter identifying the upper protocol layer, if any.
DCS	Data-Coding-Scheme	M	Parameter identifying the alphabet encoding in the UD field.
VP	Validity-Period	O	Parameter identifying the validity period of the SM.
UDL	User-Data-Length	M	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

3.1.4 SMS-SUBMIT_REPORT

a) CASE OF NACK

Abbr.	Reference	ETSI	Description
MTI	Message-Type-Indicator	M	Parameter describing the type of message.
UDHI	User-Data-Header-Indication	O	Parameter indicating that the UD field contains a header.
FCS	Failure-Cause	M	Parameter indicating the cause of failure of the SM delivery.
PI	Parameter-Indicator	M	Parameter indicating optional parameters that follow
SCTS	Service-Centre-Time-Stamp	M	Parameter identifying the SM delivery time to the SM-SC.
PID	Protocol-Identifier	O	Parameter identifying the upper protocol layer, if any.
DCS	Data-Coding-Scheme	O	Parameter identifying the alphabet encoding in the UD field.
UDL	User-Data-Length	O	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

b) CASE OF ACK

Abbr.	Reference	ETSI	Description
MTI	Message Type-Indicator	M	Parameter describing the type of message.
UDHI	User-Data-Header-Indication	O	Parameter indicating that the UD field contains a header.
PI	Parameter-Indicator	M	Parameter indicating optional parameters that follow
SCTS	Service-Centre-Time-Stamp	M	Parameter identifying the SM delivery time to the SM-SC.
PID	Protocol-Identifier	O	Parameter identifying the upper protocol layer, if any.
DCS	Data-Coding-Scheme	O	Parameter identifying the alphabet encoding in the UD field.
UDL	User-Data-Length	O	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

3.1.5 SMS-STATUS-REPORT

Abbr.	Reference	ETSI	Description
MTI	Message-Type-Indicator	M	Parameter describing the type of message.
UDHI	User-Data-Header-Indication	O	Parameter indicating that the UD field contains a header.
MMS	More-Messages-to-Send	M	Parameter indicating whether other messages are to be sent to the SM-SC
SRQ	Status-Report-Qualifier	M	Parameter indicating whether the TP-DU previously sent was an SMS-SUBMIT PDU or a SMS-COMMAND PDU
MR	Message-Reference	M	Parameter identifying the SMS-SUBMIT PDU or SMS-COMMAND PDU.
RA	Recipient-Address	M	Address of the SM-TE that received the SM previously sent.
SCTS	Service-Centre-Time-Stamp	M	Parameter identifying the SM delivery time to the SM-SC.
DT	Discharge-Time	M	Parameter identifying the SM delivery time to the recipient SM-SC.
ST	Status	M	Parameter identifying the status of the SM previously sent
PI	Parameter-Indicator	O	Parameter indicating optional parameters that follow
PID	Protocol-Identifier	O	Parameter identifying the upper protocol layer, if any
DCS	Data-Coding-Scheme	O	Parameter identifying the alphabet encoding in the UD field.
UDL	User-Data-Length	O	Parameter indicating the length of the next UD field.
UD	User-Data	O	Data

3.1.6 SMS-COMMAND

France Telecom will not be implementing this PDU.

Commands to the SM-SC will be sent in an SMS-SUBMIT PDU.

3.2 PARAMETERS

3.2.1 MESSAGE-TYPE-INDICATOR (MTI)

This parameter is encoded on 2 bits and is used in SMS-DELIVER, SMS-SUBMIT-REPORT, SMS-DELIVER-REPORT, SMS-SUBMIT and SMS-STATUS-REPORT PDUs.

France Telecom choices:

This parameter must be implemented in compliance with the ETSI 3GPP-TS 23.040 standard.

The SMS-COMMAND PDU will not be implemented since commands to the SM-SC will be sent in an SMS-SUBMIT PDU.

3.2.2 MORE-MESSAGES-TO-SEND (MMS)

This parameter is encoded on one bit and used in SMS-DELIVER and SMS-STATUS-REPORT PDUs (always from SM-SC to SM-TE).

0: other messages are pending for the SM-TE in the SM-SC.

1: no other messages are pending for the SM-TE in the SM-SC.

France Telecom choice:

MMS will be ignored by the terminal which must hang up only after receiving a DLL_SMS_REL message in compliance with the ES 201 912 document.

3.2.3 REPLY-PATH (RP)

This parameter is encoded on one bit and is used in SMS-DELIVER and SMS-SUBMIT PDUs.

0: the return path does not exist

1: the return path exists.

France Telecom choice:

RP must be reset to 0 by the terminal in an SMS-SUBMIT PDU and ignored by the terminal when an SMS-DELIVER PDU is being received.

3.2.4 USER-DATA-HEADER-INDICATOR (UDHI)

This parameter is encoded on one bit and is used in SMS-DELIVER, SMS-SUBMIT-REPORT, SMS-DELIVER-REPORT, SMS-SUBMIT and SMS-STATUS-REPORT PDUs.

0: the User Data (UD) field only contains the SM.

1: the beginning of the UD field contains a header in addition to an SM.

France Telecom choices:

- UDHI must be processed in SMS-SUBMIT and SMS-DELIVER PDUs in order to send and receive a long SM (>160 characters) or an EMS. The concatenation process will be performed in compliance with the 3GPP TS 23.040 document.
- UDHI must not be processed in SMS-DELIVER-REPORT, SMS-SUBMIT-REPORT and SMS-STATUS-REPORT PDUs.

3.2.5 STATUS-REPORT-INDICATION (SRI)

This parameter is encoded on one bit and used in an SMS-DELIVER PDU.

0: a status report must not be sent back to the SM-TE

1: a status report must be sent back to the SM-TE

France Telecom choice:

The SRI will be ignored by the terminal.

3.2.6 ORIGINATING-ADDRESS (OA)

This parameter is encoded between 2 and 12 bytes and used in an SMS-DELIVER PDU.

Byte 1: length of address

Byte 2: type of address

Byte 3 and following: value of address

Byte 2 is composed as follows:

- Bit 7: always set to 1
- Bits 6,5,4: type of number
- Bits 3,2,1,0: Identification of the dial plan. The "ISDN/telephone numbering plan (E.164)" will be used (cf. 3GPP 23.040 standard).

France Telecom choices:

TP-OA will be used to indicate the source address of the SM-TE.

For a national call (call sender) Byte 2 of the TP-OA field will be set by the server to value 0x81.

3.2.7 PROTOCOL-IDENTIFIER (PID)

This parameter is encoded on one byte and is used in SMS-DELIVER, SMS-SUBMIT-REPORT, SMS-DELIVER-REPORT, SMS-SUBMIT and SMS-STATUS-REPORT PDUs.

France Telecom choices:

In the case of SMS-SUBMIT or SMS-SUBMIT-REPORT PDUs:

- 00000000: direct sending of an SM to an SM-TE.
- 00100010: sending to a Group 3 fax.
- 00110010: E-mail address.

In the case of SMS-DELIVER-REPORT, SMS-DELIVER and SMS-STATUS-REPORT PDUs:

- 00000000: direct sending of an SM to an SM-TE.
- 01000001 to 01000111: replaces the SM types 1 to 7.

Replace Short Message function: If a message is received with the Replace Short Message function activated (TP-PID = 0x41 to 0x47), the SM-TE will check the source address (TP-OA) and replace any message memorised with the same TP-PID code and same source address with the new message. If there is not a message to be replaced, the SM-TE will manage the message in the normal way.

3.2.8 DATA-CODING-SCHEME (DCS)

This parameter is encoded on one byte and is used in SMS-DELIVER, SMS-SUBMIT-REPORT, SMS-DELIVER-REPORT, SMS-SUBMIT and SMS-STATUS-REPORT PDUs.

France Telecom choices:

Non-compressed 7-bit GSM Alphabet.

In SMS-DELIVER, SMS-SUBMIT-REPORT, SMS-DELIVER-REPORT, SMS-SUBMIT and SMS-STATUS-REPORT PDUs, the following values will be supported by SM-TEs:

- 0x00, 0x10, 0x11, 0x12, 0x13, 0xF0, 0xF1, 0xF2, 0xF3

The GSM extension table must be supported since the € (euro) character is necessary.

The SM-SC is transparent for all TP-DCS values.

3.2.9 SERVICE-CENTER-TIME-STAMP (SCTS)

This parameter is encoded on 7 bits and is used in SMS-DELIVER, SMS-SUBMIT-REPORT, and SMS-STATUS-REPORT PDUs.

France Telecom choices:

The Time Zone parameter will not be managed by the terminal but by the server.

- For an SMS-DELIVER PDU, the SCTS parameter (except Time Zone) will be managed by the SM-TE. The SM-SC will change the TP-SCTS field of the SM received to the recipient's SM-TE local time. For example, a terminal transmits an SM at 2.00 p.m. local time in Guadeloupe (GMT-6) to an SM-TE situated in Lannion (GMT+1). The SM-SC situated in Paris (GMT+1) will then change the SCTS to Lannion local time (9.00 p.m.) and then send it to the recipient SM-TE.
- For a SMS-STATUS-REPORT PDU, the SCTS will be ignored, providing the SM-TE processes the TP-UD field correctly (cf. § 2.3 of this document). If the TP-UD field is ignored by the SM-TE,

the SCTS parameter (except Time Zone) will be processed. The SM-SC will change the SCTS field to local time (GMT-6). For the above example, SM remitted to the server at 2.10pm.

- For an SMS-SUBMIT-REPORT PDU, the SCTS parameter will be managed by the SM-TE.

3.2.10 USER DATA-LENGTH (UDL)

This parameter is encoded on one byte and is used in SMS-SUBMIT-REPORT and SMS-DELIVER-REPORT PDUs and on an integer for SMS-STATUS-REPORT and SMS-SUBMIT PDUs.

France Telecom choice:

UDL will be implemented in SMS-DELIVER and SMS-SUBMIT PDUs. For an SMS-STATUS-REPORT PDU, UDL will also be implemented to transmit messages to be displayed concerning causes of failure or success of SM delivery (cf. UD field).

3.2.11 USER-DATA (UD)

This parameter is encoded in compliance with the DCS and is potentially used in SMS-SUBMIT-REPORT, SMS-DELIVER-REPORT, SMS-STATUS-REPORT, SMS-DELIVER and SMS-SUBMIT PDUs.

France Telecom choice:

UD will be implemented in SMS-SUBMIT and SMS-DELIVER PDUs. UD will also be used in SMS-STATUS-REPORT and SMS-SUBMIT REPORT PDUs to transmit messages to be displayed concerning causes of failure or success of SM delivery, for example.

3.2.12 FAILURE-CAUSE (FCS)

This parameter is encoded on one byte and is used in SMS-SUBMIT-REPORT and SMS-DELIVER-REPORT PDUs.

France Telecom choices:

For an SMS-SUBMIT-REPORT PDU:

The following values will be used for the TP-FCS field to fill in a SUBMIT_REPORT:

- incorrect TP-DU: 0xB0
- SM sender not registered for the service: 0xC1
- System error: 0xC2.
- Invalid recipient address: 0xC3
- Unspecified error: 0xFF.

For an SMS-DELIVER-REPORT PDU:

- Memory full (SIM SMS storage full): 0xD0
- Other errors: 0xFF (Unspecified error cause)

3.2.13 PARAMETER-INDICATOR (PI)

This parameter is encoded on one byte and is used in SMS-DELIVER REPORT, SMS-SUBMIT-REPORT and SMS-STATUS-REPORT PDUs.

France Telecom choice:

PI must be processed by the SM-TE in an SMS-STATUS-REPORT PDU and in a NACK SMS-SUBMIT-REPORT PDU in order to transmit text.

3.2.14 REJECT-DUPLICATES (RD)

This parameter is encoded on one bit and used in an SMS-SUBMIT PDU.

0: informs the SM-SC to accept an SMS-SUBMIT PDU even if it is already present in the SM-SC (same MR and DA for one identical OA).

1: informs the SM-SC to reject an SMS-SUBMIT PDU even if it is already present in the SM-SC (same MR and DA for one identical OA).

France Telecom choices:

The sender SM-TE will position the RD to 0 when sending the first SM.

If the delivery to the SM-SC fails, the SM-TE will try to resend its message and will then set the RD to 1 to prevent the SM-SC accepting an SM already received. If this occurs, an FCS with the appropriate value will be returned in the SMS-SUBMIT-REPORT

The SM-SC will accept (RD=0) or reject (RD=1) the SM.

3.2.15 VALIDITY-PERIOD-FORMAT (VPF) AND VALIDITY PERIOD (VP)

This parameter is encoded on 2 bits and used in an SMS-SUBMIT PDU.

00:VP field absent

10:VP field present – relative format

01:VP field present – extended format

11:VP field present – absolute format

France Telecom choices:

Terminal management of the validity period is optional.

The TP-VPF field filled in by the terminal can have 2 values:

00 (TP-VP field absent) or 10 (TP-VP field present – relative format).

If the terminal manages the validity period, the following validity periods will be predefined in the terminal:

6 hours (0x47), 12 hours (0x8F), 24 hours (0xA7), 2 days (0xA8), 1 week (0xAD) or "maximum period" (0xFF).

The default value in the terminal will be set to "maximum period" (63 weeks). However, the server will take into account its own default value if the value requested by the terminal exceeds the default value defined in the server.

3.2.16 STATUS-REPORT-REQUEST (SRR)

This parameter is encoded on one bit and used in an SMS-SUBMIT PDU.

0: Status-Report is not requested

1: Status-Report is requested

France Telecom choice:

SRR must be implemented by the SM-TE to indicate to the SM-SC whether or not the sender entity requests a status report.

3.2.17 MESSAGE-REFERENCE (MR)

This parameter is encoded on an integer and is used in SMS-SUBMIT and SMS-STATUS-REPORT PDUs.

France Telecom choice:

MR must be implemented by the SM-TE in an SMS-SUBMIT PDU and by the SM-SC in an SMS-STATUS-REPORT PDU. MR will be used to differentiate between SMs sent and also to associate the message sent with the status report corresponding to this message if present in the terminal.

3.2.18 DESTINATION-ADDRESS (DA)

This parameter is encoded between 2 and 12 bytes and used in an SMS-SUBMIT PDU. The format of this parameter is identical to the format of the TP-OA parameter.

France Telecom choices:

DA must be used to indicate the recipient address of the SM-TE.

For a call, the terminal will set byte 2 of the TD-DA field to the value 0x81.

3.2.19 STATUS-REPORT-QUALIFIER (SRQ)

This parameter is encoded on one bit and used in an SMS-STATUS-REPORT PDU.

France Telecom choice:

SRQ will be ignored by the terminal.

3.2.20 RECIPIENT-ADDRESS (RA)

The format of this parameter is identical to the format of the TP-OA and TP-DA parameters.

France Telecom choices:

RA will be used in an SMS-STATUS-REPORT PDU to indicate the recipient address of the SM previously sent.

For a national call (call sender) Byte 2 of the TP-RA field will be set by the server to value 0x81.

3.2.21 DISCHARGE-TIME (DT)

This field is encoded on 7 bytes and used in an SMS-STATUS-REPORT PDU.

DT indicates the time at which the SMS-SUBMIT PDU previously submitted to the SM-SC was successfully delivered to the recipient SM-TE or the time at which an unsuccessful delivery attempt was made.

France Telecom choice:

The DT parameter will be ignored provided that the SM-TE correctly processes the TP-UD field (cf. § 2.3 of this document). If the TP-UD field is ignored by the SM-TE, the DT parameter (except Time Zone) will be processed.

3.2.22 STATUS (ST)

The TP-ST field indicates the status of the SMS-SUBMIT PDU previously delivered. This field is encoded on one byte and used in an SMS-STATUS-REPORT PDU.

France Telecom choices:

No transmission error:

- SM successfully transmitted: 0x00

Permanent error, the SM-SC is no longer trying to delivery the SM:

- Incompatible destination: 0x41
- Not available: 0x43
- The recipient SM-TE has not been registered in the database (if vocalisation off) or wrong recipient SM-TE telephone number. 0x50

Temporary error, the SM-SC is no longer trying to delivery the SM:

- Recipient's SM-TE is full: 0x60 (correlation between the TP-FCS 0xD0 parameter must be performed)
- Recipient's line is busy: 0x61
- SM-TE is not answering: 0x62
- Network failure (transmission problem):
- Recipient line does not accept anonymous SMS:
- Recipient line is suspended: 0x72

- Receiving line of transfer does not accept anonymous SMS: 0x73
- Receiving line of transfer is suspended: 0x74
- Recipient send or SM format problem: 0x75
- Non-USB answer from recipient: 0x76
- Service providers and mobiles dialling a short number: 0x78

4. GENERAL REFERENCES

- [1] 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
- [2] ETSI 3GPP TS 23.040: Technical Specification Group Terminals. Technical realisation of the Short Message Service (SMS)

5. GLOSSARY

SM-TE	Short Message Terminal Equipment
SM-SC	Short Message Service Center
PDU	Protocol Data Unit
SMS	Short Message Service
SM	Short Message
CLIP	Calling Line Identification Presentation
UBS	User Based Solution

6. HISTORY

Edition	Date	Comments
1.00	April 2002	Beta version
1.01	June 2002	Beta 1.01 version
1.02	June 2002	Version 1.02
1.03	July 2002	Editorial corrections New TP-ST codes New values for an SMS validity period Modification of certain France Telecom choices relating to terminals French translation of paragraph 3.2
2	November 2002	Paragraph 2.1: Text corrections on action requested for commands to the server: length of the secret code for registration and list name length. Paragraph 2.3: Wording changes Paragraphs 3.2.6 / 3.2.18 / 3.2.20: specification on Byte 2 of TP-OA / TP-DA / TP-RA fields. Paragraph 3.2.8: TP-DCS: change linked to 7-bit uncompressed encoding. Paragraph 3.2.1.2: TP-FCS: new codes for SUBMIT-REPORT. Paragraph 3.2.15: (TP-VPF ; TP-VP) field.
3	October 2004	Paragraph 1: addition and deletion of features linked to transition to V1 of the SM-SC server Indication of time and protocol constants used by the UBS layer. Paragraph 2: addition and deletion of new reference commands to the server (SMS-SUBMIT) Paragraph 3: update to TP-DCS and TP-ST parameters Editorial corrections