
Digitalni celilni telekomunikacijski sistem (faza 2+) i Tretja plast vmesnika za mobilni radio i Specifikacija dopolnilnih storitev i Formati in kodiranje (GSM 04.80, različica 5.3.1, izdaja 1996)

Digital cellular telecommunications system (Phase 2+) (GSM); Mobile radio interface layer 3 supplementary services specification; Formats and coding (GSM 04.80 version 5.3.1 Release 1996)

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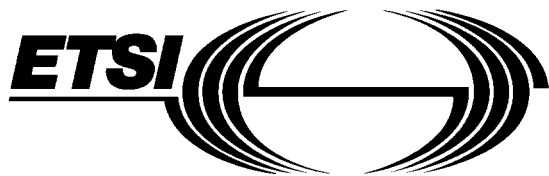
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Contents

Intellectual Property Rights	7
Foreword	7
1 Scope	9
1.1 Normative references	9
1.2 Abbreviations	10
2 Message functional definitions and contents	11
2.1 General	11
2.2 Messages for supplementary services control	12
2.3 Facility	12
2.4 Register	13
2.4.1 Register (network to MS direction)	13
2.4.2 Register (MS to network direction)	13
2.4.2.1 SS version	14
2.5 Release complete	14
2.5.1 Cause	14
2.5.2 Facility	14
3 General message format and information elements coding	15
3.1 Overview	15
3.2 Protocol discriminator	15
3.3 Transaction identifier	15
3.4 Message type	15
3.5 Other information elements	16
3.6 Facility information element	16
3.6.1 Component (octet 3 etc.)	17
3.6.2 Component type tag	19
3.6.3 Component ID tag	19
3.6.4 Operation Code	20
3.6.5 Sequence and Set tags	20
3.6.6 Error Code	20
3.6.7 Problem Code	20
3.7 Version handling for supplementary services	22
3.7.1 Supplementary service screening indicator	22
3.7.2 Supplementary service version indicator	22
4 Supplementary services operation specifications	23
4.1 General	23
4.2 Operation types	24
4.2.1 [spare]	26
4.2.2 Operation types description	26
4.2.2.1 RegisterSS (MS --> network)	26
4.2.2.2 EraseSS (MS --> network)	26
4.2.2.3 ActivateSS (MS --> network)	26
4.2.2.4 DeactivateSS (MS --> network)	26
4.2.2.5 InterrogateSS (MS --> network)	26
4.2.2.6 NotifySS (network --> MS)	26
4.2.2.7 RegisterPassword (MS --> network)	26
4.2.2.8 GetPassword (network --> MS)	26
4.2.2.9 ProcessUnstructuredSS-Data (MS --> network)	26
4.2.2.10 ProcessUnstructuredSS-Request (MS --> network)	27
4.2.2.11 UnstructuredSS-Request (network --> MS)	27
4.2.2.12 UnstructuredSS-Notify (network --> MS)	27
4.2.2.13 ForwardCheckSSIndication (network --> MS)	27
4.2.2.14 ForwardChargeAdvice (network --> MS)	27
4.2.2.15 BuildMPTY (MS --> network)	27
4.2.2.16 HoldMPTY (MS --> network)	27

	4.2.2.17	RetrieveMPPTY (MS --> network).....	27
	4.2.2.18	SplitMPPTY (MS --> network)	27
	4.2.2.19	ForwardCUG-Info (MS --> network).....	27
	4.2.2.20	ExplicitCT (MS --> Network)	27
4.3	Error types.....		28
4.3.1	Error types ASN.1 specification		28
4.3.2	Error types description		28
	4.3.2.1	UnknownSubscriber	28
	4.3.2.2	BearerServiceNotProvisioned	28
	4.3.2.3	TeleServiceNotProvisioned	28
	4.3.2.4	IllegalSS-Operation	29
	4.3.2.5	SS-ErrorStatus	29
	4.3.2.6	SS-NotAvailable	29
	4.3.2.7	SS-SubscriptionViolation	29
	4.3.2.8	SS-Incompatibility	29
	4.3.2.9	SystemFailure	29
	4.3.2.10	DataMissing	29
	4.3.2.11	UnexpectedDataValue	29
	4.3.2.12	PasswordRegistrationFailure	29
	4.3.2.13	NegativePasswordCheck	30
	4.3.2.14	FacilityNotSupported	30
	4.3.2.15	ResourcesNotAvailable	30
	4.3.2.16	MaxNumberOfMPPTY-ParticipantsExceeded	30
	4.3.2.17	CallBarred	30
	4.3.2.18	NumberOfPW-AttemptsViolation	30
	4.3.2.19	AbsentSubscriber	30
	4.3.2.20	IllegalSubscriber	30
	4.3.2.21	IllegalEquipment	30
	4.3.2.22	USSD-Busy	30
	4.3.2.23	UnknownAlphabet	30
4.4	Data types and identifiers.....		31
4.4.1	General		31
4.4.2	ASN.1 data types.....		31
4.4.3	Identifiers definition.....		33
	4.4.3.1	charging information	33
	4.4.3.2	e1	33
	4.4.3.3	e2	33
	4.4.3.4	e3	33
	4.4.3.5	e4	33
	4.4.3.6	e5	33
	4.4.3.7	e6	33
	4.4.3.8	e7	33
	4.4.3.9	ss-Code	33
	4.4.3.10	ss-Notification	33
	4.4.3.11	ss-Status	33
	4.4.3.12	callsWaiting-Indicator	34
	4.4.3.13	callOnhold-Indicator	34
	4.4.3.14	mpty-Indicator	34
	4.4.3.15	forwardCUG-InfoArg	34
	4.4.3.16	cug-Index	34
	4.4.3.17	suppressPrefCUG	34
	4.4.3.18	suppressOA	34
	4.4.3.19	clirSuppressionRejected	34
	4.4.3.20	ect-Indicator	34
	4.4.3.21	ect-CallState	34
	4.4.3.22	rdn	34
	4.4.3.23	presentationAllowedAddress.....	34
	4.4.3.24	presentationRestricted	34
	4.4.3.25	numberNotAvailableDueToInterworking	35
	4.4.3.26	presentationRestrictedAddress	35
	4.4.3.27	partyNumber	35
	4.4.3.28	partyNumberSubaddress	35
4.5	Operations and errors implementation.....		36

ETS 300 950 (GSM 04.80 version 5.3.1 Release 1996): July 1999

Annex A (informative):	Expanded ASN.1 Module "SS-Protocol"	38
Annex B (informative):	Change Request History	48
History.....		50

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee of the European Telecommunications Standards Institute (ETSI).

The present document defines the coding of information necessary for support of supplementary service operation on the mobile radio interface layer 3 within the digital cellular telecommunications system.

The specification from which the present document has been derived was originally based on CEPT documentation, hence the presentation of the present document may not be entirely in accordance with the ETSI/PNE rules.

The contents of the present document is subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of the present document it will be re-released with an identifying change of release date and an increase in version number as follows:

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where:

- 5 indicates Release 1997 of GSM Phase 2+;
- x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.;
- y the third digit is incremented when editorial only changes have been incorporated in the specification.

Transposition dates	
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1 Scope

This ETS contains the coding of information necessary for support of supplementary service operation on the mobile radio interface layer 3.

Clause 2 gives the functional definitions and contents of messages for call independent supplementary service operations. Messages necessary for support of call related supplementary service operations are defined in GSM 04.08.

Clause 3 gives the general format and coding for messages used for call independent supplementary service and the format and coding of information elements used for both call related and call independent supplementary service operations.

Clause 4 gives the specification of the call related and call independent supplementary service operations.

1.1 Normative references

This ETS incorporates by dated and undated references, 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.

- [1] GSM 01.04 (ETR 350): "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 02.24 (ETS 300 923): "Digital cellular telecommunications system (Phase 2+); Description of Charge Advice Information (CAI)".
- [3] GSM 04.06 (ETS 300 938): "Digital cellular telecommunications system (Phase 2+); Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".
- [4] GSM 04.07 (ETS 300 939): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface signalling layer 3; General aspects".
- [5] GSM 04.08 (ETS 300 940): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".
- [6] GSM 04.10 (ETS 300 941): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3; Supplementary services specification; General aspects".
- [7] GSM 04.80 (ETS 300 950): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 supplementary services specification; Formats and coding".
- [8] GSM 04.81 (ETS 300 951): "Digital cellular telecommunications system (Phase 2+); Line identification supplementary services - Stage 3".
- [9] GSM 04.82 (ETS 300 952): "Digital cellular telecommunications system (Phase 2+); Call Forwarding (CF) supplementary services - Stage 3".
- [10] GSM 04.83 (ETS 300 953): "Digital cellular telecommunications system (Phase 2+); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 3".
- [11] GSM 04.84 (ETS 300 954): "Digital cellular telecommunications system (Phase 2+); MultiParty (MPTY) supplementary services - Stage 3".
- [12] GSM 04.85: "Digital cellular telecommunications system (Phase 2+); Closed User Group (CUG) supplementary services - Stage 3".

- [13] GSM 04.86 (ETS 300 955): "Digital cellular telecommunications system (Phase 2+); Advice of Charge (AoC) supplementary services - Stage 3".
- [14] GSM 04.88 (ETS 300 956): "Digital cellular telecommunications system (Phase 2+); Call Barring (CB) supplementary services - Stage 3".
- [15] GSM 04.90 (ETS 300 957): "Digital cellular telecommunications system (Phase 2+); Unstructured supplementary services operation - Stage 3".
- [16] GSM 09.02 (ETS 300 974): "Digital cellular telecommunications system (Phase 2+); Mobile Application Part (MAP) specification".
- [17] GSM 09.11: "Digital cellular telecommunications system (Phase 2+); Signalling interworking for supplementary services".
- [18] CCITT Recommendation X.208: "Specification of basic encoding rules for Abstract Syntax Notation One (ASN.1)".
- [19] CCITT Recommendation X.209: "Specification of Abstract Syntax Notation One (ASN.1)".
- [20] CCITT Recommendation Q.773: "Transaction capabilities formats and encoding".

1.2 Abbreviations

Abbreviations used in this specification are listed in GSM 01.04.

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2 Message functional definitions and contents

2.1 General

This clause defines the structure of the messages of the layer 3 protocol defined in GSM 04.80. These messages are standard L3 messages as defined in GSM 04.07.

Each definition includes:

- a) a brief description of the message;
- b) a table listing the information elements in the order of their appearance in the message. In a sequence of consecutive IEs with half octet length, the first IE occupies bits 1 to 4 of octet N, the second bits 5 to 8 of octet N, the third bits 1 to 4 of octet N+1 etc.;

For each IE the table indicates:

- 1) the information element identifier, in hexadecimal notation, if the IE has format T, TV or TLV. If the IEI has half octet length, it is specified by a notation representing the IEI as a hexadecimal digit followed by a "-" (example: B-);
 - 2) the name of the IE (which gives an idea of the semantics of the element), which is used in this and other specifications as a reference to the IE within the message;
 - 3) the name of the type of the IE (which indicates the coding of the value part of the IE), and a reference to a description of the value part of the IE;
 - 4) the presence requirement indication (M, C or O) for the IE, as defined in GSM 04.07;
 - 5) the format of the IE (T, V, TV, LV, TLV) as defined in GSM 04.07;
 - 6) the length of the IE (or permissible range of lengths), in octets, in the message, where "?" means that the maximum length of the IE is only constrained by the link layer protocol, and in the case of the facility IE by possible further considerations specified in GSM 04.10. This indication is non-normative.
- c) subclauses specifying conditions for IEs with presence requirement C or O in the relevant message. Together with other conditions specified in GSM 04.80, GSM 04.10 or GSM 04.8x and 04.9x-series this defines when the IE shall be included or not, what non-presence of such IEs means, and (for IEs with presence requirement C) the static conditions for presence and/or non-presence of the IEs (see GSM 04.07).

2.2 Messages for supplementary services control

Table 2.1 summarizes the messages for call independent supplementary services control (see GSM 04.10 for a detailed description of call independent supplementary service messages).

Table 2.1: Messages for call independent supplementary service control

Messages for supplementary service control	Reference
FACILITY	2.3
REGISTER	2.4
RELEASE COMPLETE	2.5

2.3 Facility

This message is sent by the mobile station or the network to request or acknowledge a supplementary service. It is used when information is to be conveyed and the transaction already exists, but is not to be released. The supplementary service to be invoked, and its associated parameters, are specified in the Facility information element (see table 2.2).

Table 2.2: FACILITY message content

IEI	Information element	Type / Reference	Presence	Format	Length
	Supplementary service protocol discriminator	Protocol discriminator 3.2	M	V	1/2
	Transaction identifier	Transaction identifier 3.3	M	V	1/2
	Facility message type	Message type 3.4	M	V	1
	Facility	Facility 3.5	M	LV	2-?

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2.4 Register

2.4.1 Register (network to MS direction)

This message is sent by the network to the mobile station to assign a new transaction identifier for call independent supplementary service control and to request or acknowledge a supplementary service (see table 2.3).

Table 2.3: REGISTER message content (network to MS direction)

IEI	Information element	Type / Reference	Presence	Format	Length
	Supplementary service protocol discriminator	Protocol discriminator 3.2	M	V	1/2
	Transaction identifier	Transaction identifier 3.3	M	V	1/2
	Register message type	Message type 3.4	M	V	1
1C	Facility	Facility 3.5	M	TLV	2-?

2.4.2 Register (MS to network direction)

This message is sent by the mobile station to the network to assign a new transaction identifier for call independent supplementary service control and to request or acknowledge a supplementary service (see table 2.4).

Table 2.4: REGISTER message content (MS to network direction)

IEI	Information element	Type / Reference	Presence	Format	Length
	Supplementary service protocol discriminator	Protocol discriminator 3.2	M	V	1/2
	Transaction identifier	Transaction identifier 3.3	M	V	1/2
	Register message type	Message type 3.4	M	V	1
1C	Facility	Facility 3.5	M	TLV	2-?
7F	SS version	SS version indicator 3.8.2	O	TLV	3