

Network Systems Division 5200 Paramount Parkway Morrisville, NC 27560

2425 North Central Expwy, Fifth Floor Richardson, TX 75080

Voice: 919-460-5500 FAX: 919-460-0877

972-301-1300

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Title:	Content	of SS7 MAP Tdr Users Guide			
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xDR Builders

Users Guide

Content of SS7 MAP Tdr

C. Laboue

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CHANGE HISTORY

Date	Revision	Author	Revision Description	Approved (Yes/No)
07/31/09	1.0	C. Laboue	Creation	Yes

In accordance with its policy of constant product improvement, TEKELEC France reserves the right to change the information in this manual without notice.

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If you have difficulty with SS7MapTdr xDR Builder, we recommend that you:

- 1. Check the help function,
- Consult this manual,
 Contact Tekelec Technical Support: refer to xDR Builder Package User's Manual.

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This manual is in accordance with **SS7MapTdr xDR Builder**, release 3.7.0.x. and above.

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1.0 SCOPE OF THE DOCUMENT

This document describes the contents of the different dictionaries of xDR Builders on the SS7MapTdr interface:

- Transaction,
- Frame Capture.

The fields commons to all the builders, marked in blue, are decribed in the 909-1571-01 document.

The field information: Name of the field, Data Type, size, etc are given in the document 909-1571-01

The Norm used in this documents for ENUM values are:

- MAP- 3GPP TS 29.002 V6.8.0 (2004-12)
- 3GPP TS 29.002 V5.10.0 (2004-06)
 3rd Generation Partnership Project;
 Technical Specification Group Core Network;
 Mobile Application Part (MAP) specification (Release 5)
- ETSI TS 100 974 V7.5.0 (2000-07)
 Digital cellular telecommunications system (Phase 2+)
 Mobile Application Part (MAP) specification
 (GSM 09.02 version 7.5.0 Release 1998)
- ETSI TS 100 974 V5.3.0 (1996-08)
 Digital cellular telecommunications system (Phase 2+)
 Mobile Application Part (MAP) specification
 (GSM 09.02 version 5.3.0). ETSI EN 301 344 V7.4.1 (2000-09)
 Digital cellular telecommunications system (Phase 2+)
 General Packet Radio Service (GPRS)
 Service description
 Stage 2 (3GPP TS 03.60 version 7.5.0 Release 1998)
- ETSI TS 100 901 V7.4.0 (1999-12)
 Digital cellular telecommunications system (Phase 2+)
 Technical realization of the Short Message Service (SMS)
 (GSM 03.40 version 7.4.0 Release 1998)

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2.0 EVOLUTION SINCE LAST VERSION

Considered upgrade pasths to IAS 6.0 (XB 6.6.0), from:

• 6.6.0-1.2.0

	Fields	Reference version
Fields removed	TP-OA nature, TP-OA plan, USSD-DCS, USSD String length, USSD String length	6.6.0-1.2.0
ENUM values removed		
Field type modified		
Fields added	ITC, USSD-MMI-SC	6.6.0-1.2.0
ENUM values added		
Field length modified		
Minor changes		

Note: the modification are identified in red in the table here below.

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3.0 TRANSACTION DETAILLED RECORDS (TDR)

For SS7MapTdr, Transaction Detailed Records (TDR) is the specialized name for xDR.

The SS7MapTdr xDR provision is based on reconstitution key which identifies unambiguously a Transaction. The key is based on the following fields:

Size of Key	Reconstitution mode	Correlation Key (Size in bytes)		
(in Bytes)				
20	Transaction Id	Transaction ID (OTID/DTID) (4) + 12 unused bytes + Matching ID (4)		
20	Transaction Id and Global Title	Transaction ID (OTID/DTID) (4) + GT Addresses (4 or 8 or 12 (please refer to note 1)) + Matching ID (4)		
20	Transaction Id and Point Codes	Transaction ID (OTID/DTID) (4) + Point Code (OPC/DPC) (4) + 8 unused bytes + Matching ID (4)		
20	Transaction Id and Routing Indicator	Transaction ID (OTID/DTID) (4) + GT Addresses (4 or 8 or 12 (please refer to note 1)) + Matching ID (4)		
		or		
		Transaction ID (OTID/DTID) (4) + Point Code (please refer to note 2) (OPC/DPC) (4) + 8 unused bytes + Matching ID (4)		
		depending of the routing indicator.		
20	Transaction Id and Global Title Indicator	Transaction ID (OTID/DTID) (4) + GT Addresses (4 or 8 or 12 (please refer to note 1)) + Matching ID (4)		
		or		
		Transaction ID (OTID/DTID) (4) + Point Code (extracted from MTP3 layer) (OPC/DPC) (4) + 8 unused bytes + Matching ID (4)		
		depending of the global title indicator.		
Note 1	One third, two thirds or the full "GT adress" could be used for constitution of the key depending of the configuration of parameter "Length of SCCP address in GT mode".			
Note 2	In case of routing on PC, PC are MTP3 layer.	e extracted from the SCCP layer if present, else they are extracted from the		

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3.1 « TRANSACTION DETAILLED » RECORD FORMAT

Following table shows the content of the records provided by the SS7MapTdr xDR Builder in the "Reconstitution mode"

Column Title	Long Title	Description	Size	Type
FSUnitLink	Fs unit link.	Internal use.	64 bits	FILE_PTR
See document 909-1571	-01			
End time	End time, End date-time.	Date and time in seconds of the last event in the transaction	32 bits	UNIX_TIME
See document 909-1571	-01	,		
Begin time	Begin date-time.	Date and time of the first message in the transaction, accurate to one second. In a Cell Update DR, this field represents the incoming date time in the current Cell.	32 bits	UNIX_TIME
Got from frame header g	given by capture system (MSW / xMF).			
MS	Begin date-time (Ms).	Milliseconds part of begin time of the first message in the transaction (TCAP-Query). It appears in the form of a decimal number of milliseconds.	16 bits	UNSIGNED
Got from frame header g	given by capture system (MSW / xMF).		•	'
User1	User Defined 1.	Spare.	16 bits	INTEGER
Accept(ms)	Accept (ms), Accept time (First TCAP-continue Receipt time).	Duration between Begin time and first TCAP-continue message unit reception, from the Called Party, as the procedure is accepted. This can show whether Called Party is overloaded or not. (First TCAP-continue Receipt time).	32 bits	MS
Transaction(ms)	Transaction time (ms).	xDR Builders system duration between begin time and end time, in milliseconds. It appears in the form of a decimal number of milliseconds.	32 bits	MS
DPC	DPC, Destination Point Code.	Signaling point destination of the begin message. Appears in decimal, hexadecimal on 14 bits (or 24 bits) or in international 3-8-3 (or 8-8-8) bit notation depending on program configuration. Value from 1 to 16383 (or 16777215).	32 bits	POINT_CODE
MAX: 0 NULL: -1		,		
OPC	OPC, Originating Point Code.	Signaling point originating the begin message. Appears in decimal, hexadecimal on 14 bits (or 24 bits) or in international 3-8-3 (or 8-8-8) bit notation depending on program configuration. Value from 1 to 16383 (or 16777215).	32 bits	POINT_CODE
MAX: 0 NULL:-1		,	•	
Link	Link, Signalling link	User label assigned to the configuration of the link on which the message signal unit was observed.	64 bits	STRING
(8 Chars).	1	The message signal and may observed.	1	1
Matching Id	Matching Identifier.	Value set in the configuration of the Linksets to identify a group of Linksets, this value is used for the correlation.	16 bits	INTEGER
Link type	Link type.	Type of the signaling link assigned to the configuration of the link on which the TCAP-begin message was observed. Numeric values are specific to xDR Builder.	8 bits	ENUM
0: Intermediate LSL. 1: End LSL.				
		Title: Degument Names (Degument Types		

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2: Unknown position. 3: Intermediate HSL Clear C 4: End HSL Clear Channel. 5: Intermediate HSL ATM. 6: End HSL ATM. 7: SIGTRAN. 255: Not available:-	Phannel.			
SIO	SIO, Service Information Octet.	Complete service information octet, includes network	8 bits	HEXADECIMAL
Hexadecimal value.		indicator, two spare bits and service indicator.		
Protocol	Protocol.	Indicates the supervised protocol for which the xDR has been created.	8 bits	ENUM
See document 909-1571-01			I	
DR Status	Detailed Record Status.	Value set by the xDR Builder to indicate the status of the xDR	8 bits	ENUM
See document 909-1571-01			I	
Units size	Units Total size.	This field indicates the total number of bytes of all Signalling Units (SU) correlated together to build the xDR	16 bits	UNSIGNED
See document 909-1571-01			l	•
Nb units	Number of signaling units.	Number of message signal units (MSU) observed in relation to the transaction.	8 bits	UNSIGNED
Decimal Value.		relation to the transaction.	I	
Nb missing units	Number of missing signalling units (bad stored).	Number of Signaling Units (SU) relating to the xDR and which could not be stored (on PDU Storage	8 bits	UNSIGNED
See document 909-1571-01				•
User3	User Defined 3.	Spare.	8 bits	UNSIGNED
Way	Way.	Direction of a call / transaction relative to the point of observation represented by the probe and according to the first message	8 bits	ENUM
See document 909-1571-01				
Successful	Successful.	Indicates whether the connection has been successful or not. Not means (TCAP abort received or TCAP return error received or TCAP reject received or timer expired).	8 bits	ENUM
0: No 1: Yes				
SLS count	SLS count, Signalling link selections count.	Number of different signaling link selections used within a transaction. Used to check whether messages of one transaction towards the same direction use the same SLS or not.	8 bits	UNSIGNED
User0	User Defined 0.	Spare.	8 bits	UNSIGNED
User error	User error.	This service enables the service-user to request the MAP dialogue to be aborted. This parameter can take values like resource limitation, resource unavailable, application procedure cancellation and procedure error.	8 bits	ENUM
01: Unknown subscriber. 02: Unknown base station. 03: Unknown MSC. 05: Unidentified subscribe. 06: Absent Subscriber SM. 07: Unknown equipment. 08: Roaming not allowed. 09: Illegal subscriber. 10: Bearer service not provis	sioned.			

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Cug-Reject ERROR: 0x30: Incoming Calls Barred Within CUG.

11: Teleservice not provision	ed.			
12: Illegal equipment.				
13: Call barred.				
14: Forwarding violation.15: Cug reject.				
16: Illegal SS operation.				
17: SS Error status.				
18: SS Not available.				
19: SS subscription violation.				
20: SS incompatibility.				
21: Facility not supported.				
23: Invalid target base station				
24: No radio resource availab				
25: No handover number avail	lable.			
26: Subsequent handover fail	ure.			
27: Absent subscriber.				
28: Incompatible Terminal.				
29: Short Term Denial.				
30: Long Term Denial.				
31: Subscriber busy for MT-S	SMS.			
32: SM delivery failure.				
33: Message waiting list full.				
34: System failure.				
35: Data missing.				
36: Unexpected data value.				
37: PW registration failure.				
38: Negative PW check:39: No Roaming number Ava	ilabla			
40: Tracing Buffer Full.	madic.			
43: Number of PW attempts V	Violation			
44: Number changed.	Violation.			
45: Busy Subscriber.				
46: No Subscriber Reply.				
4/: Forwarding Falled.				
47: Forwarding Failed.48: Or Not Allowed.				
48: Or Not Allowed.	.vailable.			
48: Or Not Allowed. 49: ATI Not Allowed.	vailable.			
48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A				
48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation.	Network.			
48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting	Network.			
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48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available	Network. e LCS Client. abscriber. mber. Participants Exceeded.			
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48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available 0xFF: Not available:-	Network. LCS Client. bscriber. mber. Participants Exceeded. Provider cause value.	This parameter is used to indicate a protocol related type of error from the peer.	8 bits	<u>ENUM</u>
48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available 0xFF: Not available:-	Network. LCS Client. bscriber. mber. Participants Exceeded. Provider cause value.		8 bits	ENUM
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48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available 0xFF: Not available:- Provider cause #Unknown Subscriber ERR 0x00: Imsi Unknown. 0x01: Gprs Subscriber Unknown.	Network. LCS Client. abscriber. mber. Participants Exceeded. Provider cause value. OR:		8 bits	ENUM
48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available 0xFF: Not available:- Provider cause #Unknown Subscriber ERR 0x00: Imsi Unknown. 0x01: Gprs Subscriber Unknown. 0x10: Plmn Roaming Not Allowed: 0x10: Plmn Roaming Not Allowed:	Network. LCS Client. bscriber. mber. Participants Exceeded. Cor. own.		8 bits	ENUM
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48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available 0xFF: Not available:- Provider cause #Unknown Subscriber ERR 0x00: Imsi Unknown. 0x01: Gprs Subscriber Unknown. 0x10: Plmn Roaming Not All 0x13: Operator Determined E. #Call Barred ERROR:	Network. LCS Client. Abscriber. Mber. Participants Exceeded. Provider cause value. COR: Own. Owed. Barring.		8 bits	ENUM
48: Or Not Allowed. 49: ATI Not Allowed. 50: No Group Call Number A 51: Resource Limitation. 52: Unauthorized Requesting 53: Unauthorized LCS Client 54: Position Method Failure. 58: Unknown Or Unreachable 71: Unknown alphabet. 72: USSD busy. 121: Rejected By User: 122: Rejected By Network:. 123: Deflection To Served Su 124: Special Service Code. 125: Invalid Deflected To Nu 126: Max Number Of MPTY 127: Resources Not Available 0xFF: Not available:- Provider cause #Unknown Subscriber ERR 0x00: Imsi Unknown. 0x01: Gprs Subscriber Unknown. 0x10: Plmn Roaming Not All 0x13: Operator Determined E	Network. LCS Client. Abscriber. Mber. Participants Exceeded. Provider cause value. COR: Own. Owed. Barring.		8 bits	ENUM

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0x31: Subscriber Not Member Of CUG.

0x35: Requested Basic Service Violates CUG-Constraints.

0x37: CalledPartySS-Interaction Violation.

Absent Subscriber ERROR:

0x40: Imsi Detach.

0x41: Restricted Area

0x42: No Page Response.

Sm-DeliveryFailure ERROR:

0x50: Memory Capacity Exceeded.

0x51: Equipment Protocol Error.

0x52: Equipment Not SM-Equipped.

0x53: Unknown Service Centre.

0x54: Sc-Congestion.

0x55: InvalidSME-Address.

0x56: Subscriber Not SC-Subscriber.

System Failure ERROR:

0x60: Plmn.

0x61: Hlr.

0x62: Vlr.

0x63: Pvlr.

0x64: Controlling Msc.

0x65: Vmsc.

0x66: Eir.

0x67: Rss.

Pw-RegistrationFailure ERROR:

0x70: Undetermined.

0x71: Invalid Format.

0x72: New Passwords Mismatch.

UnauthorizedLCSClient:

0x80: No Additional Information.

0x81: Client Not In MS Privacy Exception List.

0x82: Call To Client Not Setup.

0x83: Privacy Override Not Applicable.

0x84: Disallowed By Local Regulatory Requirements.

Position Method Failure:

0x90: Congestion.

0x91: Insufficient Resources.

0x92: Insufficient Measurement Data.

0x93: Inconsistent Measurement Data.

0x94: Location Procedure Not Completed.

0x95: Location Procedure Not Supported By Target MS.

0x96: QoS Not Attainable.

0x97: Position Method Not Available In Network.

0x98: Position Method Not Available In Location Area.

0xFF:Not available:-

TCAP Error	TCAP Error, TCAP Error Cause Value.	TCAP abort or reject causes.	8 bits	<u>ENUM</u>

0x00: Reject general problem unrecognized component.

0x01: Reject general problem mistyped component.

0x02: Reject general problem badly structured component. 0x10: Reject general problem duplicate invoke ID.

0x10: Reject invoke problem unrecognized Operation.

0x12: Reject invoke problem mistyped Parameter.

0x13: Reject invoke problem resource Limitation.

0x14: Reject invoke problem Initiating release.

0x15: Reject invoke problem Unrecognized Linked ID.

0x16: Reject invoke problem Linked response Unexpected.

0x17: Reject invoke problem Unexpected Linked Operations.

0x20: Reject invoke problem Unrecognized invoke ID.

0x21: Reject invoke problem return result Expected.
0x22: Reject return result problem Mistyped Parameter.

0x30: Reject result error problem Unrecognized invokes ID.

0x31: Reject result error problem return Error Expected.

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0x42: P-abort cause badly formatted transaction portion.	0x44: P-abort cause ressource	e limitations.				
0x40: P-abort cause unrecognized message type.	0x41: P-abort cause unrecogn	nized transaction ID.				
0x34: Reject result error problem Mistyped parameter. 0x40: P-abort cause unrecognized message type.						
0x32: Reject result error problem Unrecognized Error. 0x33: Reject result error problem Unexpected error.	0x33: Reject result error prob	lem Unexpected error.				

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0x08: Mobile switching cente 0x09: Equipment identifier ce 0x0A: Authentication centre: 0x0B: ISDN supplementary s 0x0C: Reserved for internatio 0x0D: Broadband ISDN edge 0x0E: TC test responder. 0x8E: RANAP. 0x8F: RNSAP. 0x91: GMLC (MAP). 0x92: CAMEL. 0x93: GSM-SCF (MAP) or IN 0x94: SIWF (MAP). 0x95: SGSN (MAP). 0x96: GGSN (MAP). 0xFF: Reserved for expansion	enter: EIC. AUC. ervices. enal useto-edge applications. M-SSF (MAP).			
Cg-nature	Cg-nature, Calling nature of SCCP address from global title.	Taken from the Calling nature of address indicator field of the SCCP address from global title parameter. Decoded in accordance with Q.713, numeric values are specific to xDR Builders.	8 bits	ENUM
O: Unknown. I: International number. 2: National significant numbe 3: Network specific number. 4: Subscriber number. 5: Reserved. 6: Abbreviated number. 7: Reserved for extension. 15: Reserved for national use. 255: Not available:-				
Cd-SSN	Cd-SSN, Called-SSN of SCCP global title.	Sub system number from SCCP called party number of global, identifies an SCCP function.	8 bits	ENUM
	min Part: OMAP. :: MAP. :: HLR. :: VLR. :: WSC. :: MSC. :: enter: EIC. AUC. :: ervices. :: onal useto-edge applications. M-SSF (MAP).		01:1-	T T T T T T T T T T T T T T T T T T T
Cd-nature	Cd-nature, Called nature of SCCP address from global title.	Taken from the Called nature of address indicator field of the SCCP address from global title parameter. Decoded in accordance with Q.713, numeric values are specific to xDR Builders.	8 bits	ENUM
Unknown. International number. National significant number. Network specific number. Subscriber number. Reserved.	r.	Title: <document name=""> <document type=""></document></document>		

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5: Abbreviated number. 7: Reserved for extension.				
5: Reserved for national u	se			
55: Not available:-				
A-nature	A-nature, A-nature of address.	Taken from the nature of address indicator field of the MSISDN. Decoded in accordance with ETS 300 940,	8 bits	ENUM
		numeric values are specific to xDR Builders.		
): Unknown.				
: International number.	1			
 National significant num Network specific number 				
: Subscriber number.	1.			
: Reserved.				
: Abbreviated number.				
: Reserved for extension.				
55: Not available:-				
A-num plan	A-num plan, A-Number numbering plan.	Taken from the Numbering plan identification field of the MSISDN number. Decoded in accordance with ETS 300 940.	8 bits	ENUM
x00: Unknown.		300 710.		
	nbering plan (Recommendations E.163 and E.16	4).		
x02: Generic numbering p	olan.			
x03: Data numbering plan	(Recommendation X.121).			
x04: Telex numbering pla	n (Recommendation F.69).			
	mbering plan (Recommendations E.210, E.211).			
	ring plan (Recommendation E.212).			
x08: National numbering	ering plan (Recommendation E.214).			
x09. Private numbering n				
	lan.			
0x0A: ERMES numbering	lan.			
0x0A: ERMES numbering	lan.			
0x0A: ERMES numbering 0xFF: Not available:-	lan.	Taken from the nature of address indicator in the B-	8 bits	ENUM
0x0A: ERMES numbering 0xFF: Not available:-	lan. plan (Rec. ETSI 3 01-3).	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
0x09: Private numbering p 0x0A: ERMES numbering 0xFF: Not available:-	lan. plan (Rec. ETSI 3 01-3).		8 bits	ENUM
0x0A: ERMES numbering 0xFF: Not available:- 3-nature 0: unknown.	lan. plan (Rec. ETSI 3 01-3).	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
bxOA: ERMES numbering bxFF: Not available:- B-nature U: unknown. : international number.	lan. plan (Rec. ETSI 3 01-3). B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
x0A: ERMES numbering xFF: Not available:- B-nature : unknown. : international number. : national significant num	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
x0A: ERMES numbering txFF: Not available:- 8-nature 1: unknown. 1: international number. 1: national significant num 1: network specific number.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
2x0A: ERMES numbering EXFF: Not available:- 3-nature E: unknown. : international number. E: national significant num E: network specific number. E: subscriber number.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
axOA: ERMES numbering bxFF: Not available:- B-nature b: unknown. : international number. :: national significant num :: network specific number. :: subscriber number. :: reserved.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
2x0A: ERMES numbering 2xFF: Not available:- 3-nature 2: unknown. : international number. 2: national significant num 3: network specific number. 4: subscriber number. 5: reserved. 6: abbreviated number.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
200A: ERMES numbering 200xFF: Not available:- 3-nature 20: unknown. 21: international number. 22: national significant num 23: network specific number. 24: subscriber number. 25: reserved. 26: abbreviated number. 27: reserved for extension.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
axOA: ERMES numbering txFF: Not available:- B-nature C: unknown. : international number. :: national significant num :: network specific number. :: subscriber number. :: reserved. :: abbreviated number. :: reserved for extension.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
200A: ERMES numbering 200xFF: Not available:- 3-nature 20: unknown. 21: international number. 22: national significant num 23: network specific number. 24: subscriber number. 25: reserved. 26: abbreviated number. 27: reserved for extension.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM
2x0A: ERMES numbering 2xFF: Not available:- 3-nature 2: unknown. : international number. 2: national significant num 3: network specific number. 4: subscriber number. 5: reserved. 6: abbreviated number. 7: reserved for extension. 1555: Not available:-	B-nature, B-Nature of address. ber.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders.		
2x0A: ERMES numbering 1xFF: Not available:- 2. unknown. 2. international number. 3. nature 3. international significant num international significant number. 3. international significant number. 4. international number. 5. international number. 6. international number.	B-nature, B-Nature of address.	MSISDN number. Decoded in accordance with ETS 300	8 bits	ENUM ENUM
20x0A: ERMES numbering 20xFF: Not available:- 3-nature 2: unknown. 1: international number. 2: national significant num 3: network specific number. 4: subscriber number. 5: reserved. 6: abbreviated number. 7: reserved for extension. 15: Not available:- 3-num plan	B-nature, B-Nature of address. ber.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the		
cxOA: ERMES numbering exFF: Not available:- B-nature C: unknown. : international number. :: national significant number. :: national significant number. :: reserved. :: abbreviated number. :: reserved for extension. ::55: Not available:- B-num plan	B-nature, B-Nature of address. B-nature B-Nature of address. ber. f.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
x0A: ERMES numbering xFF: Not available:-	B-nature, B-Nature of address. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
x0A: ERMES numbering xFF: Not available:-	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. r. B-num plan, B-Number numbering plan. abering plan (Recommendations E.163 and E.16 plan.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
x0A: ERMES numbering xFF: Not available:-	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. r. B-num plan, B-Number numbering plan. abbering plan (Recommendations E.163 and E.16 plan. a (Recommendation X.121).	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
x0A: ERMES numbering xFF: Not available:- 3-nature : unknown. : international number. : national significant num: network specific number. : reserved. : abbreviated number. : reserved for extension. 55: Not available:- 3-num plan x00: Unknown. x01: ISDN/telephony num x02: Generic numbering plar x03: Data numbering plar x04: Telex numbering plar	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. r. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. n (Recommendation X.121). n (Recommendation F.69).	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
x0A: ERMES numbering xFF: Not available:- 3-nature : unknown. : international number. : national significant num: network specific number. : reserved. : abbreviated number. : reserved for extension. 55: Not available:- 3-num plan x00: Unknown. x01: ISDN/telephony num x02: Generic numbering plat x04: Telex numbering plat x04: Telex numbering plat x05: Maritime mobile num	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. n (Recommendation X.121). n (Recommendation F.69). mbering plan (Recommendations E.210, E.211).	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
x0A: ERMES numbering xFF: Not available:- 3-nature : unknown. : international number. : national significant num: network specific number. : reserved. : abbreviated number. : reserved for extension. 55: Not available:- 3-num plan x00: Unknown. x01: ISDN/telephony num x02: Generic numbering plat x03: Data numbering plat x04: Telex numbering plat x05: Maritime mobile num x06: Land mobile number.	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. n (Recommendation X.121). n (Recommendation F.69). mbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212).	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
axOA: ERMES numbering bxFF: Not available:- 3-nature 2: unknown. : international number. :: national significant num :: network specific number. :: subscriber number. :: reserved. :: abbreviated number. :: reserved for extension. ::55: Not available:- 3-num plan axOO: Unknown. axOO: Unknown. axOO: Generic numbering plane by Cooperation of the plane b	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. (Recommendation X.121). m (Recommendation F.69). mbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212). ring plan (Recommendation E.214).	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
200A: ERMES numbering 12FF: Not available:- 2. unknown. 3. international number. 3. international significant number in the subscriber number. 3. international significant number in the subscriber number. 3. international significant number in the subscriber number. 3. international number. 3. international number. 4. reserved. 5. abbreviated number. 5. reserved for extension. 5. Not available:- 3. num plan 5. international numbering plate in the subscriber numbering plate in the subscriber numbering plate in the subscriber number nu	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. f. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. a (Recommendation X.121). an (Recommendation F.69). mbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212). rring plan (Recommendation E.214). plan.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
200A: ERMES numbering 12 xFF: Not available:- 2. unknown. 3. international number. 3. international significant number: 4. inational significant number: 5. international significant number: 6. subscriber number. 6. subscriber number. 6. reserved. 6. subbreviated number. 6. reserved for extension. 6. solverved for extension	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. n (Recommendation X.121). n (Recommendation F.69). nbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212). rring plan (Recommendation E.214). plan. lan.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
20x0A: ERMES numbering 20xFF: Not available:- 20: unknown. 21: international number. 22: national significant num 23: network specific number. 24: subscriber number. 25: reserved. 26: abbreviated number. 27: reserved for extension. 25: Not available:- 26: above in the subscriber number in plan 20x00: Unknown. 20x00: Unknown. 20x00: Generic numbering plan 20x00: Telex numbering plan 20x00: Maritime mobile num 20x06: Land mobile number.	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. n (Recommendation X.121). n (Recommendation F.69). nbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212). rring plan (Recommendation E.214). plan. lan.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940.		
kxOA: ERMES numbering kxFF: Not available:- 8-nature 1: unknown. 1: international number. 1: inational significant number: 1: national significant number: 1: reserved. 1: reserved. 1: reserved for extension. 1: 55: Not available:- 8-num plan 1xxO0: Unknown. 1xxO1: ISDN/telephony num 1xxO2: Generic numbering plat 1xxO4: Telex numbering plat 1xxO4: Telex numbering plat 1xxO5: Maritime mobile number 1xxO7: ISDN/mobile number 1xxO7: ISDN/mobile number 1xxO7: ISDN/mobile number 1xxO7: ISDN/mobile number 1xxO6: Autional numbering plat 1xxO4: ERMES numbering 1xxO5: Not available:-	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. a (Recommendation X.121). m (Recommendation F.69). mbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212). ring plan (Recommendation E.214). plan. plan. plan. plan (Rec. ETSI 3 01-3).	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940. 4).	8 bits	ENUM
200A: ERMES numbering 12 xFF: Not available:- 2. unknown. 2. international number. 3. international significant number in entwork specific number. 3. is abstraight in the subscriber number. 4. is abbreviated number. 5. reserved. 6. abbreviated number. 6. reserved for extension. 6. in the subscriber number. 6. in the subscriber numbering plants. 6. in the subscrib	B-nature, B-Nature of address. B-nature, B-Nature of address. ber. c. B-num plan, B-Number numbering plan. bering plan (Recommendations E.163 and E.16 plan. n (Recommendation X.121). n (Recommendation F.69). nbering plan (Recommendations E.210, E.211). ring plan (Recommendation E.212). rring plan (Recommendation E.214). plan. lan.	MSISDN number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders. Taken from the numbering plan identification field of the B-MSISDN number. Decoded in accordance with ETS 300 940. 4).		

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Cd Sccp Add	Cd Sccp Add, Called Sccp Address from Global Title.	Sccp address of the called party from Global Title.	24 digits	BCD_ADDRESS
MSISDN	MSISDN, MS international PSTN / ISDN Number.	Number of the subscriber, can be A or B (e.g.: for 'Location Update' procedure, it can not be known). Fits to A-number or B-number of other protocols in case of multi protocol queries.	24 digits	BCD_ADDRESS
B MSISDN	B MSISDN, B MS international PSTN / ISDN Number.	Called number of the destination. (e.g.: destination number of a 'Mobile Originated Forward Short Message' procedure). Fits to B-number of other protocols in case of multi protocol queries.	24 digits	BCD_ADDRESS
C MSISDN	C MSISDN, C MS international PSTN / ISDN Number.	Contains MSRN number, from 'Provide roaming Number', 'Send Identification Info' Can fit to C-number of INAP, or B-number of ISUP when used in multi protocol queries.	24 digits	BCD_ADDRESS
OTID	OTID, Originating Transaction ID.	Origination Transaction ID of either frame of the transaction in the destination direction.	32 bits	HEXADECIMAL
DTID	DTID, Destination transaction ID.	Destination transaction ID of either frame of the transaction in the destination direction.	32 bits	HEXADECIMAL
C-nature	C-nature, C-Nature of address.	C-number nature of address (its type is in the C-number type field).	8 bits	ENUM
6: Abbreviated number. 7: Reserved for extension. 255: Not available:- C-type	C-type, C-number type.	When MSRN is filled in C-number. Mobile Subscriber Roaming Number, number allocated by MSC/VLR, transmitted to HLR, and contains all useful information for routing of incoming calls.	8 bits	ENUM
4: Redirection number. 6: Mobile Subscriber Road 255: Not available:-	ming Number.	1	<u> </u>	
User2	User Defined 2.	Spare.	16 bits	INTEGER
BackCallingAddress	Back Calling Address.	Back Calling Address.	24 digits	BCD_ADDRESS
Operation code	Operation code.	Operation code of the main procedure.	8 bits	<u>ENUM</u>
12: Activate SS. 50: Activate trace mode. 64: Alert service center. 49: Alerting service center 71: Any time interrogation 65: Any time modification 62: Any time subscription 15: Authentication failure 54: Begin subscriber activ 3: Cancel location. 43: Check IMEI. 13: Deactivate SS. 51: Deactivate Tace mode 8: Delete subscriber data. 77: Erase CC-entry. 11: Erase SS. 25: Failure report.	n. n. interrogation. report. ity.			
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255: Not available:-

0x00: SMS Deliver report.

SMS TP-MTI

SMS TP-MTI, SMS transfer protocol

message type indicator.

34: Forward access signaling. 38: Forward check SS indication. 42: Forward group call signaling. 254: Forward short message. 18: Get password. 63: Inform service center. 7: Insert subscriber data. 14: Interrogate SS. 87: Ist alert. 88: Ist command. 46: Mobile originated forward short message. 44: Mobile terminated forward short message. 35: Note internal handover. 89: Note MM event. 5: Note subscriber data modified. 26: Note subscriber present for GPRS. 48: Note subscriber present. 28: Perform handover. 30: Perform subsequent handover. 39: Prepare group call. 68: Prepare handover. 69: Prepare subsequent handover. 33: Process access signaling. 41: Process group call signaling. 19: Process unstructured SS data. 59: Process unstructured SS request. 31: Provide SIWFS number. 4: Provide roaming number. 70: Provide subscriber info. 83: Provide subscriber location. 67: Purge MS. 66: Ready for SM. 76: Register CC-entry. 10: Register SS. 17: Register password. 75: Remote user free. 47: Report SM delivery status. 37: Reset. 57: Restore data. 6: Resume calls handling. 32: SIWFS signaling modify. 72: SS invocation notification. 78: Secure transport class 1. 79: Secure transport class 2. 80: Secure transport class 3. 81: Secure transport class 4. 58: Send IMSI. 56: Send authentication info. 29: Send end signal. 40: Send group call end signal. 55: Send identification. 9: Send parameters. 24: Send routing info for GPRS. 85: Send routing info for LCS. 45: Send routing info for short message. 22: Send routing info. 73: Set reporting state. 74: Status report. 86: Subscriber location report. 52: Trace subscriber activity. 61: Unstructured SS notify. 60: Unstructured SS request. 23: Update location GPRS. 2: Update location.

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8 bits

ENUM

Type of the short message. In case of SMS message

deliver, deliver-report, submit, submit-report, command.

0x01: SMS Deliver. 0x02: SMS Submit. 0x03: SMS Submit Report. 0x04: SMS Command. 0x05: SMS Status Report. 0x06: Reserved. 0xFF: Not available:-Teleserv SM Teleserv SM, Teleservice Short Message. A list of Short Message Extensible Teleservice 8 bits **ENUM** parameters 0x01: All Short Message Services. 0x02: Short Message MT-PP. 0x03: Short Message MT-PP, All Short Message Services. 0x04: Short Message M0-PP. 0x05: Short Message M0-PP, All Short Message Services. 0x06: Short Message M0-PP, Short Message MT-PP. 0x07: Short Message M0-PP, Short Message MT-PP, All Short Message Services. 0x00: Not available:-Teleserv Fac Teleserv Fac, Teleservice Facsimile. 8 bits **ENUM** A list of Facsimile Extensible Teleservice parameters. 0x01: All Facsimile Transmission Services. 0x02: Facsimile Group3 And Alter Speech. 0x03: All Facsimile Transmission Services, Facsimile Group3 And Alter Speech. 0x04: Automatic Facsimile Group3. 0x05: All Facsimile Transmission Services, Automatic Facsimile Group3. 0x06: Facsimile Group3 And Alter Speech, Automatic Facsimile Group3. 0x07: All Facsimile Transmission Services, Facsimile Group3 And Alter Speech, Automatic Facsimile Group3. 0x08: Facsimile Group4. 0x09: Facsimile Group4, All Facsimile Transmission Services. 0x0A: Facsimile Group4, Facsimile Group3 And Alter Speech. 0x0B: Facsimile Group4, All Facsimile Transmission Services, Facsimile Group3 And Alter Speech. 0x0C: Facsimile Group4. Automatic Facsimile Group3 And Alter Speech. 0x0D: Facsimile Group4, All Facsimile Transmission Services, Automatic Facsimile Group3. 0x0E: Facsimile Group4, Facsimile Group3 And Alter Speech, Automatic Facsimile Group3. 0x0F: Facsimile Group4, All Facsimile Transmission Services, Facsimile Group3 And Alter Speech, Automatic Facsimile Group3. 0x00: Not available:-Length SM Length SM, Length of short message. 32 bits **ENUM** Length of the data in a SMS transaction. MIN:-1 MAX:160 0xFFFFFFFF:Not available:-IMSI IMSI, International Mobile Subscriber International SIM card number of a subscriber. 16 digits BCD ADDRESS Identity number MSC nb, Mobile Switching Center number. BCD_ADDRESS Current switch center, which interworking with current MSC nb 24 digits VLR hereafter, in order to manage Calls, Handover.. Radio Resources VLR nb VLR nb, Visitor Location Register number. This is the current register of a subscriber. It belongs to 24 digits BCD ADDRESS either network in which the subscriber is roaming. It manages locally Calls; Roaming...It has currently a representation of data concerning the subscriber, by continually getting them from subscriber's unique HLR. HLR nb HLR nb, Home Location Register number. Nominal register of a subscriber, which contains his 24 digits BCD_ADDRESS subscription profile information. This HLR belongs to subscriber's operator. It remains the same, during roaming subscriber. The HLR tries to keep knowledge of location of the roamer, and is also aware of addition/cancellation/barring of services of the subscriber 32 bits DUMP LMSI LMSI, Local Mobile Subscriber Identifier. Local Identifier of a Subscriber allocated by his current MSC/VLR, and transmitted to his HLR, for signalisation acceleration reasons. Title: <Document Name> <Document Type> Doc No. 090-1615-01 Revision

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TMSI	TMSI, Temporary Mobile Subscriber Identifier.	Temporarily allocated and regularly reallocated identifier, in order to avoid transmission of IMSI (replacing it) in the network net work as often as possible, for anti-intrusion security reasons.	32 bits	DUMP
MCC	MCC, Mobile Country Code.	Current country of mobile subscriber.	4 digits	BCD_ADDRESS
MNC	MNC, Mobile Network Code.	Current network of mobile subscriber, for given country code.	4 digits	BCD_ADDRESS
LAC	LAC, Location Area Code.	Current location area of mobile subscriber, for a given (MCC, MNC) location code. Fits to group of one or more cells.	16 bits	DUMP
Cell ident	Cell ident, Cell identity.	Current cell of mobile subscriber, for a given (MCC, MNC). Mainly fits to base station antenna (BTS).	16 bits	DUMP
Serv cent add	Serv Cent Add, Service Center Address.	In case of short message forwarding. Fits to origin service center in case of short message delivery (mobile terminated short message) / destination service center in case of short message submit (mobile originated short message).	24 digits	BCD_ADDRESS
IMEI	IMEI, International Mobile Equipment Identity.	International identity of a mobile equipment.	16 digits	BCD_ADDRESS
CAMEL phases	CAMEL phases.	CAMEL phases supported by the visited VLR.	8 bits	ENUM
0x06: Phase 2, Phase 3. 0x07: Phase 1, Phase 2, Phase 0x08: Phase 4. 0x09: Phase 1, Phase 4. 0x0A: Phase 2, Phase 4. 0x0B: Phase 1, Phase 2, Phase 0x0C: Phase 3, Phase 4. 0x0D: Phase 1, Phase 3, Phase 0x0E: Phase 2, Phase 3, Phase 0x0F: Phase 1, Phase 2, Phase 0x0F: Phase 1, Phase 2, Phase 0x0F: Phase 1, Phase 2, Phase	e 4. e 4. e 4.			
CAMEL cpct hand	CAMEL cpct hand, CAMEL capacity handling.	CAMEL capacity handling represents the CAMEL phase asked by the SCP of the subscriber, for the service keys.	8 bits	ENUM
0x01: Phase 1. 0x02: Phase 2. 0x03: Phase 3. 0x04: Phase 4. 0xFF: Not available:-				
Nb SK	Nb SK, Number of Service Key.	Number of service key observed within a transaction.	8 bits	ENUM
0x00: Not available:-				
BOIC	BOIC, Barring of outgoing international calls.	Indicating the presence or not of the 'international outgoing calls barred' categories of barring.	8 bits	ENUM
0x93: Present. 0xFF: Not available:-				
Service key 1st	Service key 1st, Service Key interrogated (First).	Information that allows the SCF to choose the appropriate service logic.	32 bits	UNSIGNED
MIN: -1 MAX: 0 0xFFFFFFFF: Not available:- From 6.4.1 package				

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Service key 2nd	Service key 2nd, Service Key interrogated (Second).		tion that		the	SCF	to	choose	the	32 bits	UNSIGNED
MIN: -1 MAX: 0 0xFFFFFFF: Not availa From 6.4.1 package	ble:-										
Service key 3rd	Service key 3rd, Service Key interrogated (Third).		tion that		the	SCF	to	choose	the	32 bits	UNSIGNED
MIN: -1 MAX: 0 0xFFFFFFFF: Not availa From 6.4.1 package		<u>гарргорг</u>	iate service	logic.							
Service key 4th	Service key 4th, Service Key interrogated (Fourth).		tion that		the	SCF	to	choose	the	32 bits	UNSIGNED
MIN: -1 MAX: 0 0xFFFFFFFF: Not availa From 6.4.1 package	,	1									
GSM SCF Add 1st	GSM SCF Add 1st, GSM service control function Address (First).	logique	tional entity to implemant the HLR.							24 digits	BCD_ADDRESS
GSM SCF Add 2nd	GSM SCF Add 2nd, GSM service control function Address (Second).	logique	tional entity to implement the HLR.							24 digits	BCD_ADDRESS
SGSN IP Address	SGSN IP Address.	the sam	rving GPRS to hierarchic tividual Miss and acces	cal level Ss' locat	as th	e MS	C, ke	eps trac	k of	32 bits	IP_V4
If no IP Address: 0.0.0.0		Tunetion	is and acces	is control							
SGSN Number	SGSN Number.	the sam	rving GPRS e hierarchic ividual MS as and acces	cal level Ss' locat	as th	e MS	C, ke	eps trac	k of	24 digits	BCD_ADDRESS
GGSN IP Address	GGSN IP Address.	provide network	teway GPR s interwork s, network ed PDP Co	king wit screens	th ex and r	ternal outing	pac	ket-swit	ched	32 bits	IP_V4
If no IP Address: 0.0.0.0		1 1								I.	1
GGSN Number	GGSN Number.	provide network	teway GPR s interwork s, network red PDP Co	king wit screens	th ex and r	ternal outing	pac	ket-swit	ched		BCD_ADDRESS
PDP-Add	PDP-Add, Packet Data Protocol – Address.	as defin	rameter ind led in GSM This field ed.	1 03.60.	PDP	addres	ss, e.g	g., an X	.121	32 digits	BCD_ADDRESS
DDD Tues Nb 1	DDD Type Mk 1 Eight Dealest Data Burn 1	This	rameter ind	iaataa 1	hial '	hrmen -	f n=- '	ooc1 :-	ne a 1	0 hita	ENUM
PDP-Type Nb 1	PDP-Type Nb 1, First Packet Data Protocol - Type Number.	by the	rameter ind MS as def PP, or IP.							8 bits	ENUM
0x00: X25/X121. 0x01: PDP-Type PPP. 0x21: IPv4 address. 0x57: IPv6 address. 0xEF: Undefined Type N 0xFF: Not available:-	lumber.	,	,								
PDP-Type Nb 2	PDP-Type Nb 2, Second Packet Data	This pa	rameter ind	icates w	hich t	type o	f prot	ocol is	used	8 bits	<u>ENUM</u>
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	Protocol - Type Number.	by the MS as defined in GSM 03.60. PDP type, e.g., X.25, PPP, or IP.		
0x00: X25/X121. 0x01: PDP-Type PPP. 0x21: IPv4 address. 0x57: IPv6 address. 0xEF: Undefined Type Nt 0xFF: Not available:-	umber.	[X.23, 111, 0111.		
PDP-Type Nb 3	PDP-Type Nb 3, Third Packet Data Protocol - Type Number.	This parameter indicates which type of protocol is used by the MS as defined in GSM 03.60. PDP type, e.g., X.25, PPP, or IP.	8 bits	<u>ENUM</u>
0x00: X25/X121. 0x01: PDP-Type PPP. 0x21: IPv4 address. 0x57: IPv6 address. 0xEF: Undefined Type No 0xFF: Not available:-	umber.		I	
PDP-Type Nb 4	PDP-Type Nb 4, Fourth Packet Data Protocol - Type Number.	This parameter indicates which type of protocol is used by the MS as defined in GSM 03.60. PDP type, e.g., X.25, PPP, or IP.	8 bits	ENUM
0x00: X25/X121. 0x01: PDP-Type PPP. 0x21: IPv4 address. 0x57: IPv6 address. 0xEF: Undefined Type Nu 0xFF: Not available:-	umber.			
PDP-Type Nb 5	PDP-Type Nb 5, Fifth Packet Data Protocol - Type Number.	This parameter indicates which type of protocol is used by the MS as defined in GSM 03.60. PDP type, e.g., X.25, PPP, or IP.	8 bits	ENUM
0x00: X25/X121. 0x01: PDP-Type PPP. 0x21: IPv4 address.				
xEF: Undefined Type Nu	umber.			
0xEF: Undefined Type Nu 0xFF: Not available:-	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1.	The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP Address format.	8 bits	ENUM
DXEF: Undefined Type No DXFF: Not available:- PDP-Type Org 1 #0000: ETSI allocated add #0001: IETF allocated add #1111: Empty PDP type.	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1.		8 bits	ENUM
DXEF: Undefined Type No DXFF: Not available:- PDP-Type Org 1 #0000: ETSI allocated add #0001: IETF allocated add #1111: Empty PDP type. DXFF: Not available:-	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1.	responsible for the PDP Type Number field and the PDP		ENUM ENUM
DXEF: Undefined Type No DXFF: Not available:- PDP-Type Org 1 #0000: ETSI allocated add #1001: IETF allocated add #1111: Empty PDP type. DXFF: Not available:- PDP-Type Org 2 #0000: ETSI allocated add #0001: IETF allocated add #1111: Empty PDP type.	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1. dress (e.g. X.121). PDP-Type Org 2, Packet Data Protocol - Type Organisation 2. dress (e.g. X.121).	responsible for the PDP Type Number field and the PDP Address format. The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP		
PDP-Type Org 1 20000: ETSI allocated address: Not available:- 20000: ETSI allocated address: Not available:- 20001: IETF allocated address: Not available:- 20000: ETSI allocated address: Not available:- 20000: ETSI allocated address: Not available:- 20001: IETF allocated address: Not available:- 20001: ETSI allocated address: Not available:-	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1. dress (e.g. X.121). PDP-Type Org 2, Packet Data Protocol - Type Organisation 2. dress (e.g. X.121).	responsible for the PDP Type Number field and the PDP Address format. The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP		
pxEF: Undefined Type No pxFF: Not available:- ppP-Type Org 1 p0000: ETSI allocated add p0001: IETF allocated add p1111: Empty PDP type. pxFF: Not available:- ppP-Type Org 2 p0000: ETSI allocated add p1111: Empty PDP type. pxFF:Not available:- ppP-Type Org 3 p0000: ETSI allocated add p1111: Empty PDP type. pxFF:Not available:-	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1. dress (e.g. X.121). PDP-Type Org 2, Packet Data Protocol - Type Organisation 2. dress (e.g. X.121). dress. PDP-Type Org 3, Packet Data Protocol - Type Organisation 3.	responsible for the PDP Type Number field and the PDP Address format. The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP Address format. The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP	8 bits	ENUM
DX57: IPv6 address. DXEF: Undefined Type No DXFF: Not available:- PDP-Type Org 1 #0000: ETSI allocated add #1111: Empty PDP type. DXFF: Not available:- PDP-Type Org 2 #0000: ETSI allocated add #1111: Empty PDP type. DXFF: Not available:- PDP-Type Org 3 #0000: ETSI allocated add #1111: Empty PDP type. DXFF: Not available:- PDP-Type Org 3 #0000: ETSI allocated add #1111: Empty PDP type. DXFF: Not available:- PDP-Type Org 4	PDP-Type Org 1, Packet Data Protocol - Type Organisation 1. dress (e.g. X.121). dress. PDP-Type Org 2, Packet Data Protocol - Type Organisation 2. dress (e.g. X.121). dress. PDP-Type Org 3, Packet Data Protocol - Type Organisation 3. dress (e.g. X.121). dress.	responsible for the PDP Type Number field and the PDP Address format. The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP Address format. The PDP Type Organization is organization that is responsible for the PDP Type Number field and the PDP	8 bits	ENUM

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#0001: IETF allocated address. #1111: Empty PDP type. 0xFF: Not available:-PDP-Type Org 5 PDP-Type Org 5, Packet Data Protocol -The PDP Type Organization is organization that is 8 bits **ENUM** responsible for the PDP Type Number field and the PDP Type Organisation 5. Address format #0000: ETSI allocated address (e.g. X.121). #0001: IETF allocated address #1111: Empty PDP type. 0xFF: Not available:-Reliability Class 1 Reliability Class 1. It indicates the transmission characteristics that are 8 bits **ENUM** required by a GPRS application. #000: Subscribe reliability class (reserved if Netw to MS). #001: Acknowledged GTP, LLC, and RLC; Protected data. #010: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data. #011: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data. #100: Unacknowledged GTP, LLC, and RLC, Protected data. #101: Unacknowledged GTP, LLC, and RLC, Unprotected data. #110: Unacknowledged GTP and LLC; Acknowledged RLC, Unprotected data. #111: Reserved. 0xFF: Not available:-Reliability Class 2. Reliability Class 2 It indicates the transmission characteristics that are 8 bits **ENUM** required by a GPRS application. #000: Subscribe reliability class (reserved if Netw to MS). #001: Acknowledged GTP, LLC, and RLC; Protected data. #010: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data. #011: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data. #100: Unacknowledged GTP, LLC, and RLC, Protected data. #101: Unacknowledged GTP, LLC, and RLC, Unprotected data. #110: Unacknowledged GTP and LLC; Acknowledged RLC, Unprotected data. #111: Reserved. 0xFF: Not available:-Reliability Class 3 Reliability Class 3 It indicates the transmission characteristics that are 8 hits **ENUM** required by a GPRS application. #000: Subscribe reliability class (reserved if Netw to MS). #001: Acknowledged GTP, LLC, and RLC; Protected data. #010: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data. #011: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data. #100: Unacknowledged GTP, LLC, and RLC, Protected data. #101: Unacknowledged GTP, LLC, and RLC, Unprotected data. #110: Unacknowledged GTP and LLC; Acknowledged RLC, Unprotected data. #111: Reserved 0xFF: Not available:-Reliability Class 4 Reliability Class 4. It indicates the transmission characteristics that are 8 bits **ENUM** required by a GPRS application. #000: Subscribe reliability class (reserved if Netw to MS). #001: Acknowledged GTP, LLC, and RLC; Protected data. #010: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data. #011: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data. #100: Unacknowledged GTP, LLC, and RLC, Protected data. #101: Unacknowledged GTP, LLC, and RLC, Unprotected data. #110: Unacknowledged GTP and LLC; Acknowledged RLC, Unprotected data. #111: Reserved 0xFF: Not available:-**Reliability Class 5** Reliability Class 5. It indicates the transmission characteristics that are 8 bits **ENUM** required by a GPRS application. #000: Subscribe reliability class (reserved if Netw to MS). #001: Acknowledged GTP, LLC, and RLC; Protected data. #010: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data. #011: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data

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#101: Unacknowledged GTP,	LLC, and RLC, Protected data. LLC, and RLC, Unprotected data. and LLC; Acknowledged RLC, Unprotect	ted data.		
Delay Class 1	Delay Class 1.	The delay parameter defines the end-to-end transfer delay incurred in the transmission of PDUs through the GPRS network(s).	8 bits	ENUM
#000: Subscribed delay class (#001: Delay class 1, #010: Delay class 2, #011: Delay class 3, #100: Delay class 4 (best effor #101: Delay class 4 (best effor #110: Delay class 4 (best effor #111: Reserved. 0xFF: Not available:-	rt, 4). rt, 5).	GI KS HELWOLK(S).		
Delay Class 2	Delay Class 2.	The delay parameter defines the end-to-end transfer delay incurred in the transmission of PDUs through the GPRS network(s).	8 bits	ENUM
#000: Subscribed delay class (#001: Delay class 1. #010: Delay class 2. #011: Delay class 3. #100: Delay class 4 (best effor #101: Delay class 4 (best effor #110: Delay class 4 (best effor #111: Reserved. 0xFF: Not available:-	rt, 4). rt, 5).			
Delay Class 3	Delay Class 3.	The delay parameter defines the end-to-end transfer delay incurred in the transmission of PDUs through the GPRS network(s).	8 bits	ENUM
#000: Subscribed delay class (#001: Delay class 1. #010: Delay class 2. #011: Delay class 3. #100: Delay class 4 (best effor #101: Delay class 4 (best effor #110: Delay class 4 (best effor #111: Reserved. 0xFF: Not available:-	rt, 4). rt, 5).			
Delay Class 4	Delay Class 4.	The delay parameter defines the end-to-end transfer delay incurred in the transmission of PDUs through the GPRS network(s).	8 bits	ENUM
#000: Subscribed delay class (#001: Delay class 1. #010: Delay class 2. #011: Delay class 3. #100: Delay class 4 (best effor #101: Delay class 4 (best effor #110: Delay class 4 (best effor #111: Reserved. 0xFF: Not available:-	rt, 4). rt, 5).			
Delay Class 5	Delay Class 5.	The delay parameter defines the end-to-end transfer delay incurred in the transmission of PDUs through the GPRS network(s).	8 bits	ENUM
#000: Subscribed delay class (#001: Delay class 1. #010: Delay class 2. #011: Delay class 3. #100: Delay class 4 (best effor #101: Delay class 4 (best effor #110: Delay class 4 (best effor	rt, 4). rt, 5).			

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recedence Class 1				
	Precedence Class 1.	Also called as Service Precedence, and it is a synonym for the priority. Under normal operating conditions, the GPRS network shall attempt to meet the service commitments of all QoS profiles.	bits <u>EN</u>	NUM NUM
#000: Subscribed precedence #001: High priority. #010: Normal priority. #011: Low priority. #100: Normal priority (4). #101: Normal priority (5). #110: Normal priority (6). #111: Reserved. 0xFF: Not available:-	e (reserved if Netw to MS).			
Precedence Class 2	Precedence Class 2.	Also called as Service Precedence, and it is a synonym for the priority. Under normal operating conditions, the GPRS network shall attempt to meet the service commitments of all OoS profiles.	bits <u>EN</u>	NUM
#000: Subscribed precedence #001: High priority. #010: Normal priority. #010: Normal priority (4). #100: Normal priority (5). #101: Normal priority (6). #111: Reserved. DxFF: Not available:-	e (reserved if Netw to MS).			
Precedence Class 3	Precedence Class 3.	Also called as Service Precedence, and it is a synonym for the priority. Under normal operating conditions, the GPRS network shall attempt to meet the service commitments of all QoS profiles.	bits <u>EN</u>	<u>NUM</u>
#000: Subscribed precedence #001: High priority. #010: Normal priority. #011: Low priority. #100: Normal priority (4). #101: Normal priority (5). #110: Normal priority (6). #111: Reserved. 0xFF: Not available:-	e (reserved if Netw to MS).			
Precedence Class 4	Precedence Class 4.	Also called as Service Precedence, and it is a synonym for the priority. Under normal operating conditions, the GPRS network shall attempt to meet the service commitments of all QoS profiles.	bits <u>EN</u>	NUM
#001: High priority. #010: Normal priority. #011: Low priority. #100: Normal priority (4). #101: Normal priority (5). #110: Normal priority (6). #111: Reserved.	e (reserved if Netw to MS).			
0xFF: Not available:-	Precedence Class 5.	Also called as Service Precedence, and it is a synonym for the priority. Under normal operating conditions, the	bits <u>EN</u>	NUM
Precedence Class 5		GPRS network shall attempt to meet the service commitments of all QoS profiles.		

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#101: Normal priority (5).				
#110: Normal priority (6). #111: Reserved.				
0xFF: Not available:-				
Peak Throughput 1	Peak Throughput 1.	It is specified in terms of a set of throughput classes that characterise the expected bandwidth required for a PDP context. The throughput is defined by both peak and mean classes.	8 bits	ENUM
#0000: Subscribed peak th	roughput (reserved if Netw to MS).	mean classes.		
#0001: Up to 1 000 octet/s				
#0010: Up to 2 000 octet/s.				
#0011: Up to 4 000 octet/s. #0100: Up to 8 000 octet/s.				
#0101: Up to 16 000 octet/				
#0110: Up to 32 000 octet/				
#0111: Up to 64 000 octet/ #1000: Up to 128 000 octe				
#1001: Up to 256 000 octe				
#1010: Up to 1 000 octet/s	` /			
#1011: Up to 1 000 octet/s #1100: Up to 1 000 octet/s				
#1100. Up to 1 000 octet/s				
#1110: Up to 1 000 octet/s				
#1111: Reserved.				
0xFF: Not available:-				
Peak Throughput 2	Peak Throughput 2.	It is specified in terms of a set of throughput classes that characterise the expected bandwidth required for a PDP context. The throughput is defined by both peak and mean classes.	8 bits	ENUM
	roughput (reserved if Netw to MS).			1
#0001: Up to 1 000 octet/s. #0010: Up to 2 000 octet/s.				
#0010. Up to 2 000 octet/s.				
#0100: Up to 8 000 octet/s				
#0101: Up to 16 000 octet/				
#0110: Up to 32 000 octet/ #0111: Up to 64 000 octet/				
#1000: Up to 128 000 octe	t/s.			
#1001: Up to 256 000 octe				
#1010: Up to 1 000 octet/s #1011: Up to 1 000 octet/s				
#1100: Up to 1 000 octet/s				
#1101: Up to 1 000 octet/s				
#1110: Up to 1 000 octet/s #1111: Reserved.	(14).			
0xFF: Not available:-				
				1
Peak Throughput 3	Peak Throughput 3.	It is specified in terms of a set of throughput classes that characterise the expected bandwidth required for a PDP context. The throughput is defined by both peak and mean classes.	8 bits	ENUM
	roughput (reserved if Netw to MS).			1
#0001: Up to 1 000 octet/s				
#0010: Up to 2 000 octet/s. #0011: Up to 4 000 octet/s.				
#0100: Up to 8 000 octet/s				
#0101: Up to 16 000 octet/				
#0110: Up to 32 000 octet/ #0111: Up to 64 000 octet/				
#1000: Up to 128 000 octe				
#1001: Up to 256 000 octe	t/s.			
#1010: Up to 1 000 octet/s				
#1011: Up to 1 000 octet/s #1100: Up to 1 000 octet/s				
#1101: Up to 1 000 octet/s	(13).			
#1110: Up to 1 000 octet/s	(14).			
#1111: Reserved.				
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0xFF: Not available:-				
Peak Throughput 4	Peak Throughput 4.	It is specified in terms of a set of throughput classes that characterise the expected bandwidth required for a PDP context. The throughput is defined by both peak and	8 bits	ENUM
		mean classes.		
#0000: Subscribed peak throu #0001: Up to 1 000 octet/s. #0010: Up to 2 000 octet/s. #0011: Up to 4 000 octet/s. #0100: Up to 8 000 octet/s. #0100: Up to 8 000 octet/s. #0110: Up to 16 000 octet/s. #0111: Up to 32 000 octet/s. #0111: Up to 64 000 octet/s. #0111: Up to 64 000 octet/s. #1000: Up to 128 000 octet/s. #1001: Up to 128 000 octet/s. #1010: Up to 1 000 octet/s (1 #1011: Up to 1 000 octet/s (1 #1110: Up to 1 000 octet/s (1 #1110: Up to 1 000 octet/s (1 #1110: Up to 1 000 octet/s (1 #1111: Reserved. 0xFF: Not available:-	0). 1). 2). 3).			
Peak Throughput 5	Peak Throughput 5.	It is specified in terms of a set of throughput classes that characterise the expected bandwidth required for a PDP context. The throughput is defined by both peak and mean classes.	8 bits	<u>ENUM</u>
#0001: Up to 1 000 octet/s. #0010: Up to 2 000 octet/s. #0010: Up to 2 000 octet/s. #0010: Up to 8 000 octet/s. #0110: Up to 8 000 octet/s. #0110: Up to 16 000 octet/s. #0110: Up to 32 000 octet/s. #0111: Up to 64 000 octet/s. #1000: Up to 128 000 octet/s. #1001: Up to 128 000 octet/s. #1001: Up to 1 000 octet/s (1 #1011: Up to 1 000 octet/s (1 #1110: Up to 1 000 octet/s (1 #1110: Up to 1 000 octet/s (1 #1111: Reserved. 0xFF: Not available:-	0). 1). 2). 3). 4).			
Mean Throughput 1	Mean Throughput 1.	It specifies the average rate at which data is expected to be transferred across the GPRS network during the remaining lifetime of an activated PDP context.	8 bits	<u>ENUM</u>
#00000: Subscribed mean thre #00001: 100 octet/h. #00010: 200 octet/h. #00010: 100 octet/h. #00101: 500 octet/h. #00100: 1 000 octet/h. #00101: 5 000 octet/h. #00101: 5 000 octet/h. #01100: 20 000 octet/h. #01001: 50 000 octet/h. #01101: 50 000 octet/h. #01101: 200 000 octet/h. #01101: 200 000 octet/h. #01101: 200 000 octet/h. #01101: 1 000 000 octet/h. #01101: 2 000 000 octet/h. #01111: 5 000 000 octet/h. #101000: 50 000 000 octet/h. #10001: 20 000 000 octet/h. #10001: 50 000 000 octet/h. #11110: Reserved. #11111: Best effort.	oughput (reserved if Netw to MS).			
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xFF: Not available:-	_			
Mean Throughput 2	Mean Throughput 2.	It specifies the average rate at which data is expected to be transferred across the GPRS network during the remaining lifetime of an activated PDP context.	8 bits	ENUM
00000: Subscribed mean the	oughput (reserved if Netw to MS).	remaining metime of an activated FDF context.		
400001: 100 octet/h.	oughput (reserved if riverw to 1915).			
400010: 200 octet/h.				
00011: 500 octet/h.				
00100: 1 000 octet/h.				
00101: 2 000 octet/h.				
00110: 5 000 octet/h.				
00111: 10 000 octet/h.				
01000: 20 000 octet/h.				
01001: 50 000 octet/h.				
01010: 100 000 octet/h. 01011: 200 000 octet/h.				
01100: 500 000 octet/h.				
01101: 1 000 000 octet/h.				
01110: 2 000 000 octet/h.				
01111: 5 000 000 octet/h.				
10000: 10 000 000 octet/h.				
10001: 20 000 000 octet/h.				
10010: 50 000 000 octet/h.				
11110: Reserved.				
11111: Best effort.				
xFF: Not available:-				
	The second of		0.1.1	I man a
Mean Throughput 3	Mean Throughput 3.	It specifies the average rate at which data is expected to	8 bits	<u>ENUM</u>
		be transferred across the GPRS network during the		
00000:Subscribed mass thr	oughput (reserved if Netw to MS)	remaining lifetime of an activated PDP context.		
00000.5ubscribed mean till	ougnput (reserved if Netw to MS)			
40001.100 octet/h				
00010.200 octet/h				
400100:1 000 octet/h				
400101:2 000 octet/h				
400110:5 000 octet/h				
00111:10 000 octet/h				
01000:20 000 octet/h				
01001:50 000 octet/h				
01010:100 000 octet/h				
01011:200 000 octet/h				
01100:500 000 octet/h				
01101:1 000 000 octet/h				
01110:2 000 000 octet/h				
01111:5 000 000 octet/h				
10000:10 000 000 octet/h 10001:20 000 000 octet/h				
TOOUT ZO OUG OUG ACIEDA				
10010:50 000 000 octet/h				
10010:50 000 000 octet/h 11110:Reserved				
10010:50 000 000 octet/h				
:10010:50 000 000 octet/h :11110:Reserved :11111:Best effort :xFF:Not available:-				_
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:-	Mean Throughput 4.	It specifies the average rate at which data is expected to	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:-	Mean Throughput 4.	be transferred across the GPRS network during the	8 bits	<u>ENUM</u>
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort exFF:Not available:-			8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 1ean Throughput 4 00000:Subscribed mean thr	Mean Throughput 4. oughput (reserved if Netw to MS)	be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 1ean Throughput 4 00000:Subscribed mean throughput:100 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 1ean Throughput 4 00000:Subscribed mean thr 00001:100 octet/h 00010:200 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 1ean Throughput 4 00000:Subscribed mean thr 00001:100 octet/h 00010:200 octet/h 00011:500 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 100000:Subscribed mean thr 100001:100 octet/h 10010:200 octet/h 10010:100 octet/h 10010:100 octet/h 10010:100 octet/h 10010:100 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 100000:Subscribed mean thr 100001:100 octet/h 10010:200 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 1ean Throughput 4 100000:Subscribed mean throughput 2 100000:Subscribed mean throughput 3 100000:Subscribed mean throughput 4 100001:100 octet/h 100010:200 octet/h 10010:1 000 octet/h 10010:2 000 octet/h 10010:5 000 octet/h 10010:5 000 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 1ean Throughput 4 100000:Subscribed mean throughput:100 octet/h 00010:200 octet/h 00010:200 octet/h 00101:2 000 octet/h 00101:2 000 octet/h 00110:5 000 octet/h 00111:10 000 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- Tean Throughput 4 00000:Subscribed mean thr 00001:100 octet/h 00010:200 octet/h 00011:500 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- 100000:Subscribed mean thr 100010:200 octet/h 10010:200 octet/h 10010:200 octet/h 10010:200 octet/h 10010:200 octet/h 10010:5000 octet/h 100110:5000 octet/h 10011:10 000 octet/h 10010:2000 octet/h 10010:2000 octet/h 10010:2000 octet/h 1000:20 000 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort xFF:Not available:- Iean Throughput 4 00000:Subscribed mean thr 00001:100 octet/h 00010:200 octet/h 0010:20 octet/h 00110:5000 octet/h 00110:5000 octet/h 0110:5000 octet/h 0110:50 000 octet/h 0110:50 000 octet/h 0110:1000:000 octet/h 01101:200 000 octet/h 01101:200 000 octet/h 01101:200 000 octet/h		be transferred across the GPRS network during the	8 bits	ENUM
10010:50 000 000 octet/h 11110:Reserved 11111:Best effort KFF:Not available:- Iean Throughput 4 00000:Subscribed mean thr 00001:100 octet/h 00010:200 octet/h 00101:500 octet/h 00110:5 000 octet/h 00110:5 000 octet/h 0110:50 000 octet/h 011000:20 000 octet/h 011001:50 000 octet/h 011001:50 000 octet/h 011001:50 000 octet/h 011001:50 000 octet/h 01101:100 000 octet/h		be transferred across the GPRS network during the	8 bits	ENUM

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#01101:1 000 000 octet/h #01110:2 000 000 octet/h #01111:5 000 000 octet/h #10000:10 000 000 octet/h #10001:20 000 000 octet/h #10010:50 000 000 octet/h #11110:Reserved #11111:Best effort 0xFF:Not available:-				
Mean Throughput 5	Mean Throughput 5.	It specifies the average rate at which data is expected to be transferred across the GPRS network during the remaining lifetime of an activated PDP context.	8 bits	ENUM
#00000:Subscribed mean th: #00001:100 octet/h #00010:200 octet/h #00010:200 octet/h #0010:1 000 octet/h #00101:2 000 octet/h #00110:5 000 octet/h #00111:10 000 octet/h #001011:10 000 octet/h #01010:50 000 octet/h #01001:50 000 octet/h #01011:200 000 octet/h #01011:200 000 octet/h #01101:50 000 octet/h #01110:500 000 octet/h #01111:5 000 000 octet/h #01111:5 000 000 octet/h #10111:5 000 000 octet/h #11110:Reserved #11111:Best effort 0xFF:Not available:-	roughput (reserved if Netw to MS)			
Equip Status	Equipment Status.	This parameter is sent by the responder in case of successful outcome of the service	8 bits	ENUM
0:White Listed:White 1:Black Listed:Black 2:Grey Listed:Grey 255:Not available:-		,		
APN 1	APN 1, First access point name.	Used by the GGSN to differentiate between accesses to different external packet data networks using the same PDP context.	64 bits	VARSTRING
APN 2	APN 2, Second access point name.	Used by the GGSN to differentiate between accesses to different external packet data networks using the same PDP context.	64 bits	VARSTRING
APN 3	APN 3, Third access point name.	Used by the GGSN to differentiate between accesses to different external packet data networks using the same PDP context.	64 bits	VARSTRING
APN 4	APN 4, Fourth access point name.	Used by the GGSN to differentiate between accesses to different external packet data networks using the same PDP context.	64 bits	VARSTRING
APN 5	APN 5, Fifth access point name.	Used by the GGSN to differentiate between accesses to different external packet data networks using the same PDP context.	64 bits	VARSTRING
Transaction identifier	Transaction identifier.	Value that identifies uniquely all frames belonging to a same call / connection / transaction / procedure. It can also be used to associate the SUDR to the relevant xDR. This value should be unique on a machine and is either a combination of correlation keys or a value fixed by the builder. Title: <pre></pre>	64 bits	DUMP

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ITC	ITC, Information Transfer Capability	ITC, Information Transfer Capability. Taken from the Bearer Capability field	8 bits	<u>ENUM</u>
0: Speech 1: Unrestricted Digital 2: 3.1 khz audio, ex PL 3: Facsimile group 3 5: Restricted Digital In 7: reserved, meaning al 255: Not available:-	MN	peech		
HO-nature	HO-nature, HO-Nature of address	Taken from the nature of address indicator in the HandOver number. Decoded in accordance with ETS 300 940, the numeric values are specific to xDR Builders	8 bits	ENUM
: international number : national significant n : network specific nun : subscriber number. : reserved : abbreviated number. : reserved for extensio 55: Not available:-	number. nber.			
IO-num plan	HO-num plan, HO-Number numbering pl	an Taken from the numbering plan identification field of the HandOver number. Decoded in accordance with ETS 300 940	8 bits	ENUM
0x02: generic numbering px03: data numbering px04: telex numbering px05: maritime mobile 0x06: land mobile num 0x07: ISDN/mobile num 0x08: national numberin 0x09: private numberin 0x09: private numberin	olan (Recommendation X.121) plan (Recommendation F.69) numbering plan (Recommendations E.210, E.211) bering plan (Recommendation E.212) mbering plan (Recommendation E.214) ng plan			
ГР-ОА	TP Originating address	It contains the TP originating address	64 bits	VARSTRING
HO-number	HO-number	Taken from the HandOver number address indicator	24 digits	BCD_ADDRESS

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4.0 FRAME CAPTURE RECORDS

4.1 « FRAME CAPTURE » RECORD FORMAT

Following table shows the content of the records provided by the SS7MapTdr xDR Builder in th "Frame capture mode".

Column Title	Long Title	Description	Size	Туре
FSUnitLink	Fs unit link.	Internal use.	64 bits	FILE_PTR
See document 909-157	1-01			
End time	End date-time.	Date and time in seconds of the last event in the transaction	32 bits	UNIX_TIME
See document 909-157	1-01		•	•
Ms	Begin date-time (Ms).	Milliseconds part of begin time of the first message in the transaction (TCAP-Query). It appears in the form of a decimal number of milliseconds.	16 bits	UNSIGNED
Got from frame header	given by capture system (MSW / xMF)).		
Length	Length.	Number of Bytes of the Message Signal Unit.	16 bits	UNSIGNED
Decimal value.				·
SCCP Mess Type	Sccp message type code	Message type use to provide connected (BSSAP), or connectionless services (INAP, MAP).	8 bits	<u>ENUM</u>
#00010001: Extended a #00010010: Extended a #00010011: Long unit #00010100: Long unit 255: Not available:-	unit data service: XUDTS. data: LUDT.			
TCAP mess type	Tc message type.	Primitive used by sub-layer between two successive requests.	8 bits	ENUM
0x01: SSA subsystem-0x02: SSP subsystem-p 0x03: SST subsystem-p 0x04: SOR subsystem-0x05: SOG subsystem-0x06: SSC SCCP/subsy0x61: TC uni. 0x62: TC begin. 0x64: TC end. 0x65: TC continue. 0x67: TC abort. 0xFF: Unknown:-	orohibited. status-test. out-of-service-request. out-of-service-grant. ystem-congested.			
Cg-SSN	Cg-SSN of SCCP global title.	Sub system number from SCCP calling party number of global title, identifies an SCCP address of a node.	8 bits	ENUM
0x00: SSN not known of 0x01: SCCP manageme 0x02: reserved for ITU 0x03: ISDN user part. 0x04: Operat., Maint. a 0x05: Mobile application ox06: Home location ox07: Visitor location ox08: Mobile switching 0x09: Equipment identiox0A: Authentication ox08: ISDN supplemen 0x0C: reserved for inte	ent. T. and Admin Part: OMAP. on part: MAP. egister: HLR. eregister: VLR. g center: MSC. effer center: EIC. entery services.			

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x0E: TC test responder. x8E: RANAP. x8F: RNSAP. x91: GMLC (MAP). x92: CAMEL. x93: GSM-SCF (MAP) or x94: SIWF (MAP). x95: SGSN (MAP). x96: GGSN (MAP). xFF: reserved for expansion	on of national and international SSN. Cd-SSN of SCCP global title.	Sub system number from SCCP called party number	8 bits	ENUM
0-55N	Cd-SSN of SCCP global title.	of global title, identifies an SCCP address of a node.	8 DILS	ENUM
(01: SCCP management. (02: reserved for ITU T. (03: ISDN user part. (04: Operat, Maint. and A (05: Mobile application p. (06: Home location regist (07: Visitor location regist (08: Mobile switching cer (09: Equipment identifier (0A: Authentication centr. (0B: ISDN supplementary. (0C: reserved for internat. (0D: broadband ISDN ed. (0E: TC test responder. (0E: RANAP. (0E: RANAP. (0E): GMLC (MAP). (0F): GMLC (MAP). (0F): SGSN (MAP). (0F): GGSN (MAP). (0F): GGSN (MAP). (0F): GGSN (MAP).	art: MAP. er: HLR. tter: VLR. hter: VLR. center: EIC. e: AUC. y services. ional use. ge-to-edge applications.			
TID	Originating transaction ID.	Origination transaction ID of the frame.	32 bits	HEXADECIMAL
TID	Destination transaction ID.	Destination transaction ID of the frame.	32 bits	HEXADECIMAL
b missing units	Number of missing signalling units (bad stored).	Number of Signaling Units (SU) relating to the xDR and which could not be stored (on PDU Storage	8 bits	UNSIGNED
ee document 909-1571-01		, j		
rotocol	Protocol.	Indicates the supervised protocol for which the xDR has been created	8 bits	ENUM
ee document 909-1571-01				
PC	Destination point code.	Signalling point destination of the message. Appears in decimal, hexadecimal on 14 bits (or 24 bits) or in international 3-8-3 (or 8-8-8) bit notation depending on program configuration. Value from 1 to 16383 (or 16777215).	32 bits	POINT_CODE
IAX:0 ULL:-1				
PC	Originating point code.	Signalling point originating the message. Appears in decimal, hexadecimal on 14 bits (or 24 bits) or in international 3-8-3 (or 8-8-8) bit notation depending on program configuration. Value from 1 to 16383 (or 16777215).	32 bits	POINT_CODE
MAX:0 IULL:-1				

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Link		User label assigned to the configuration of the link on which the message signal unit was observed.	64 bits	STRING
(8 Chars).	l	on which the message signal and was observed.		

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