3GPP TSG CT Plenary Meeting #28 **CP-050096**
1st – 3rd June 2005 Quebec, Canada.

Source: TSG CT WG4

Title: Corrections on Work Item small Technical Enhancements and Improvements on GPRS

Agenda item: 9.24

Document for: APPROVAL

Doc-2nd-Level	Spec	CR #	Rev	Rel	Tdoc Title	CAT	C_Version
C4-050638	23.008	148		Rel-6	The type of some MSISDN related parameters is wrong for GPRS data	F	6.5.0
C4-050860	29.060	555	1	Rel-6	Reference Update	F	6.8.0

3GPP TSG-CT WG4 Meeting #27 **C4-050638**
Cancun, MEXICO. 25th to 29th April 2005.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.008** **CR** **148** ⌘ **rev** **-** ⌘ Current version: **6.5.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Change the temporary flag of the MSISDN for GPRS
Source:	⌘	Ericsson
Work item code:	⌘	TEI6
Date:	⌘	31/03/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The type of some MSISDN related parameters is wrong for GPRS data.
Summary of change:	⌘	The parameters "International MS ISDN number", "multinumbering MSISDNs", "Basic MSISDN indicator" and "MSISDN-Alert indicator" are defined as permanent subscriber data in the corresponding description of sections 2.1.2 and 2.1.3 of TS 23.008, but in table 5.2 they have type "T". To correct this misalignment the type of these parameters is changed to "P" in table 5.2.
Consequences if not approved:	⌘	An implementation could allow for the MSISDN to be missing at some point, and the identifier for functions such as charging will then not be available.

Clauses affected:	⌘	5.2

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

>>>>>>>>>>> First modified section <<<<<<<<<<<

5.2 GPRS Network Access Mode Storage

Table 5.2: Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
IMSI	2.1.1.1	M	M	M	M	P
Network Access Mode	2.1.1.2	M	-	C note1	-	P
International MS ISDN number	2.1.2	M	M	M	M	~~T~~ P
multinumbering MSISDNs	2.1.3	C	-	-	-	~~T~~ P
Basic MSISDN indicator	2.1.3.1	C	-	-	-	~~T~~ P
MSISDN-Alert indicator	2.1.3.2	C	-	-	-	~~T~~ P
P-TMSI	2.1.5	-	-	C	-	T
TLLI	2.1.6	-	-	C	-	T
Random TLLI	2.1.7	-	-	C	-	T
IMEI	2.1.9	-	-	C	-	T
IMEISV	2.2.3	C	-	C	-	T
RAND/SRES and Kc	2.3.1		-	C	-	T
RAND, XRES, CK, IK, AUTN	2.3.2	M	-	C	-	T
Ciphering Key Sequence Number	2.3.3	-	-	M	-	T
Key Set Identifier (KSI)	2.3.4	-	-	M	-	T
Selected Ciphering Algorithm	2.3.5	-	-	M	-	T
Current Kc	2.3.6	-	-	M	-	T
P-TMSI Signature	2.3.7	-	-	C	-	T
Routing Area Identity	2.4.3	-	-	M	-	T
VLR Number	2.4.5	M	-	C note2	-	T
SGSN Number	2.4.8.1	M	C note2	-	-	T
GGSN Number	2.4.8.2	M	-	-	-	P
RSZI Lists	2.4.11.1	C	-	-	-	P
Zone Code List	2.4.11.2	-	-	C	-	P
RA not allowed flag	2.4.14a	-	-	M	-	T
SGSN area restricted flag	2.4.14	M	-	-	-	T
Roaming Restricted in the SGSN due to unsupported feature	2.4.15.3	M	-	M	-	T
Cell Global ID or Service Area ID	2.4.16	-	-	C	-	T
LSA Identity	2.4.17.1	C	C	C	-	P
LSA Priority	2.4.17.2	C	C	C	-	P
LSA Preferential Access Indicator	2.4.17.2A	C	C	C		P
LSA Active Mode Support Indicator	2.4.17.2B	C	C	C		P
LSA Only Access Indicator	2.4.17.3	C	C	C	-	P
LSA Active Mode Indicator	2.4.17.4	C	C	C	-	P
VPLMN Identifier	2.4.17.5	C	-	-	-	P
Access Restriction Data	2.4.18	C	-	C	-	P
Selected CN operator ID	2.4.19	-	C note2	C	-	T
Provision of teleservice	2.5.2	C	-	C	-	P
Transfer of SM option	2.5.4	M	-	-	-	P
MNRG	2.7.2	M	-	M	M	T
MM State	2.7.3	-	-	M	-	T
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	M	-	T
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	M	-	T
MS purged for GPRS flag	2.7.6	M	-	-	-	T
MNRR	2.7.7	C	-	-	-	T
Subscriber Status	2.8.1	C	-	C	-	P
Barring of outgoing calls	2.8.2.1	C	-		-	P
Barring of roaming	2.8.2.3	C	-	C	-	P
Barring of Packet Oriented Services	2.8.2.8	C	-	C	-	P
ODB PLMN-specific data	2.8.3	C	-	C	-	P
Notification to CSE flag for ODB	2.8.4	C	-	-	-	T
gsmSCF address list for ODB	2.8.5	C	-	-	-	P
Trace Activated in SGSN	2.11.7	C	-	C	-	P
Trace Reference 2	2.11.9	C	-	C	C	P
Trace depth	2.11.10	C	-	C	C	P
List of NE types to trace	2.11.11	C	-	C	C	P
Triggering events	2.11.12	C	-	C	C	P

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
List of interfaces to trace	2.11.13	C	-	C	C	P
PDP Type	2.13.1	C	-	C	M	P
PDP Address	2.13.2	C	-	C	M	P
NSAPI	2.13.3	-	-	C	C	T
PDP State	2.13.4	-	-	C	-	T
New SGSN Address	2.13.5	-	-	C	-	T
Access Point Name	2.13.6	C	-	C	C	P/T
GGSN Address in Use	2.13.7	-	-	C	-	T
VPLMN Address Allowed	2.13.8	C	-	C	-	P
Dynamic Address	2.13.9	-	-	-	C	T
SGSN Address	2.13.10	-	-	-	M	T
GGSN-list	2.13.11	M	-	-	-	T
Quality of Service Subscribed	2.13.12	C	-	C	-	P
Quality of Service Requested	2.13.13	-	-	C	-	T
Quality of Service Negotiated	2.13.14	-	-	C	M	T
SND	2.13.15	-	-	C	C	T
SNU	2.13.16	-	-	C	C	T
DRX Parameters	2.13.17	-	-	M	-	T
Compression	2.13.18	-	-	C	-	T
NGAF	2.13.19	-	-	C note2	-	T
Classmark	2.13.20	-	-	M	-	T
TEID	2.13.21	-	-	C	C	T
Radio Priority	2.13.22	-	-	C	-	T
Radio Priority SMS	2.13.23	-	-	C	-	T
PDP Context Identifier	2.13.24	C	-	C	-	T
PDP Context Charging Characteristics	2.13.25	C	-	C	C	P
GPRS CAMEL Subscription Information (GPRS-CSI)	2.14.1.10/2.14.4.4	C	-	C	-	C
MO Short Message Service CAMEL Subscription Information(MO-SMS-CSI)	2.14.1.8/2.14.4.1	C	-	C	-	C
MT Short Message Service CAMEL Subscription Information(MT-SMS-CSI)	2.14.1.9/2.14.4.2.	C	-	C	-	C
MO-SMS-CSI SGSN Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	P
MT-SMS-CSI SGSN Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	P
Mobility Management for GPRS event notification (MG-CSI)	2.14.1.12/2.14.4.4	C	-	C	-	C
MG-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	P
GPRS-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	T
SGSN Supported CAMEL Phases	2.14.2.3	C	-	-	-	T
SGSN Offered CAMEL4 CSIs	2.14.2.2A	C	-	-	-	T
GsmSCF address for CSI	2.14.2.4	C	-	-	-	P
Age Indicator	2.16.1	C	-	C	-	T
Subscribed Charging Characteristics	2.19.1	C	-	C	C	P
Privacy Exception List	2.16.1.1	C	-	C	-	P
GMLC Numbers	2.16.1.2	C	-	C	-	P
MO-LR List	2.16.1.3	C	-	C	-	P
Service Types	2.16.1.4	C	-	C	-	P

The HLR column indicates only GPRS related use, i.e. if the HLR uses a parameter in non-GPRS Network Access Mode but not in GPRS Network Access Mode, it is not mentioned in this table 2.

NOTE 1: This parameter is relevant in the SGSN only when the Gs interface is installed.

NOTE 2: The VLR column is applicable if Gs interface is installed. It only indicates GPRS related data to be stored and is only relevant to GPRS subscribers registered in VLR.

For special condition of storage see in clause 2. See clause 4 for explanation of M, C, T and P in table 5.2.

>>>>>>>>>>> End of first modified section <<<<<<<<<<<

3GPP TSG-CT WG4 Meeting #27 **C4-050860**
Cancun, MEXICO. 25th to 29th April 2005.

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.060** **CR** **555** ⌘ **rev** **1** ⌘ Current version: **6.8.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Reference update following incorrectly implemented CR537
Source:	⌘	HUAWEI, Vodafone
Work item code:	⌘	TEI6
Date:	⌘	04/14/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	TS 32.215 of Release 5 and onward has been replaced by TS 32.251 and TS 32.295 in Release 6. CT4 updated these references in CR 537 but the changes were not fully implemented. This CR completes the implementation. **Essential Correction**
Summary of change:	⌘	TS 32.251 and TS 32.295 is referenced for GPRS Charging in correct places.
Consequences if not approved:	⌘	Rel-6 29.060 refers to an obsoleted specification

Clauses affected:	⌘	4, 7.1			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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*** First Modification ***

4 General

The present document defines the GPRS Tunnelling Protocol (GTP), i.e. the protocol between GPRS Support Nodes (GSNs) in the UMTS/GPRS backbone network. It includes both the GTP control plane (GTP-C) and data transfer (GTP-U) procedures. GTP also lists the messages and information elements used by the GTP based charging protocol GTP', which is described in 3GPP TS 32.~~215~~ 295 [~~18~~33].

GTP (GTP-C and GTP-U) is defined for the Gn interface, i.e. the interface between GSNs within a PLMN, and for the Gp interface between GSNs in different PLMNs. Only GTP-U is defined for the Iu interface between Serving GPRS Support Node (SGSN) and the UMTS Terrestrial Radio Access Network (UTRAN).

On the Iu interface, the Radio Access Network Application Part (RANAP) protocol and signalling part of GTP-U are performing the control function for user plane (GTP-U).

GTP' is defined for the interface between CDR generating functional network elements and Charging Gateway(s) within a PLMN. Charging Gateway(s) and GTP' protocol are optional, as the Charging Gateway Functionality may either be located in separate network elements (Charging Gateways), or alternatively be embedded into the CDR generating network elements (GSNs) when the GSN-CGF interface is not necessarily visible outside the network element. These interfaces relevant to GTP are between the grey boxes shown in figure 1.

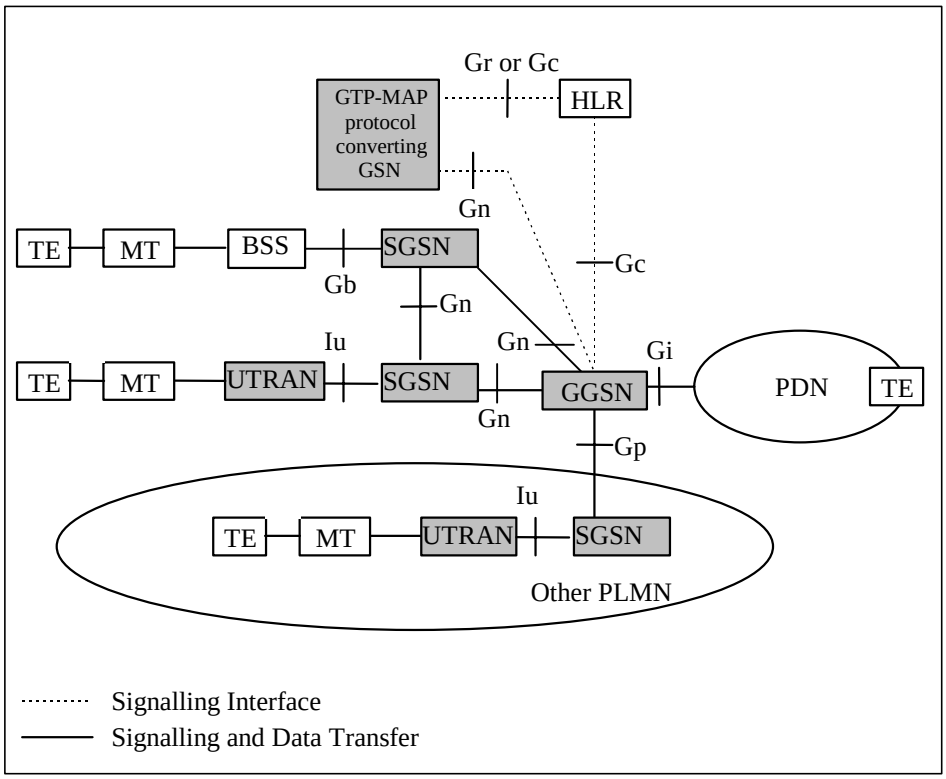

Figure 1: GPRS Logical Architecture with interface name denotations

GTP allows multi-protocol packets to be tunnelled through the UMTS/GPRS Backbone between GSNs and between SGSN and UTRAN.

In the control plane, GTP specifies a tunnel control and management protocol (GTP-C) which allows the SGSN to provide packet data network access for an MS. Control Plane signalling is used to create, modify and delete tunnels. GTP also allows creation, and deletion of a single multicast service tunnel, that can be used for delivering packets to all the users who have joined a particular multicast service.

In the user plane, GTP uses a tunnelling mechanism (GTP-U) to provide a service for carrying user data packets.

The GTP-U protocol is implemented by SGSNs and GGSNs in the UMTS/GPRS Backbone and by Radio Network Controllers (RNCs) in the UTRAN. SGSNs and GGSNs in the UMTS/GPRS Backbone implement the GTP-C protocol. No other systems need to be aware of GTP. UMTS/GPRS MSs are connected to an SGSN without being aware of GTP.

It is assumed that there will be a many-to-many relationship between SGSNs and GGSNs. A SGSN may provide service to many GGSNs. A single GGSN may associate with many SGSNs to deliver traffic to a large number of geographically diverse mobile stations.

SGSN and GGSN implementing GTP protocol version 1 should be able to fallback to GTP protocol version 0. All GSNs should be able to support all earlier GTP versions.

*** 2nd Modification ***

7.1 Message Formats

GTP defines a set of messages between two associated GSNs or an SGSN and an RNC. The messages to be used are defined in the table below. The three columns to the right define which parts (GTP-C, GTP-U or GTP') that send or receive the specific message type.

Table 1: Messages in GTP

Message Type value (Decimal)	Message	Reference	GTP-C	GTP-U	GTP'
0	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
1	Echo Request	7.2.1	X	X	x
2	Echo Response	7.2.2	X	X	x
3	Version Not Supported	7.2.3	X		x
4	Node Alive Request	3GPP TS 32.295 [33]			X
5	Node Alive Response	3GPP TS 32.295 [33]			X
6	Redirection Request	3GPP TS 32.295 [33]			X
7	Redirection Response	3GPP TS 32.29~~1~~5 [33~~18~~]			X
8-15	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
16	Create PDP Context Request	7.3.1	X		
17	Create PDP Context Response	7.3.2	X		
18	Update PDP Context Request	7.3.3	X		
19	Update PDP Context Response	7.3.4	X		
20	Delete PDP Context Request	7.3.5	X		
21	Delete PDP Context Response	7.3.6	X		
22-25	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
26	Error Indication	7.3.7		X	
27	PDU Notification Request	7.3.8	X		
28	PDU Notification Response	7.3.9	X		
29	PDU Notification Reject Request	7.3.10	X		
30	PDU Notification Reject Response	7.3.11	X		
31	Supported Extension Headers Notification	7.2.4	X	X	
32	Send Routeing Information for GPRS Request	7.4.1	X		
33	Send Routeing Information for GPRS Response	7.4.2	X		
34	Failure Report Request	7.4.3	X		
35	Failure Report Response	7.4.4	X		
36	Note MS GPRS Present Request	7.4.5	X		
37	Note MS GPRS Present Response	7.4.6	X		
38-47	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
48	Identification Request	7.5.1	X		
49	Identification Response	7.5.2	X		

Message Type value (Decimal)	Message	Reference	GTP-C	GTP-U	GTP'
50	SGSN Context Request	7.5.3	X		
51	SGSN Context Response	7.5.4	X		
52	SGSN Context Acknowledge	7.5.5	X		
53	Forward Relocation Request	7.5.6	X		
54	Forward Relocation Response	7.5.7	X		
55	Forward Relocation Complete	7.5.8	X		
56	Relocation Cancel Request	7.5.9	X		
57	Relocation Cancel Response	7.5.10	X		
58	Forward SRNS Context	7.5.13	X		
59	Forward Relocation Complete Acknowledge	7.5.11	X		
60	Forward SRNS Context Acknowledge	7.5.12	X		
61-69	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
70	RAN Information Relay	7.5.14.1	X		
71-95	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
96	MBMS Notification Request		X		
97	MBMS Notification Response		X		
98	MBMS Notification Reject Request		X		
99	MBMS Notification Reject Response		X		
100	Create MBMS Context Request		X		
101	Create MBMS Context Response		X		
102	Update MBMS Context Request		X		
103	Update MBMS Context Response		X		
104	Delete MBMS Context Request		X		
105	Delete MBMS Context Response		X		
106 - 111	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
112	MBMS Registration Request		X		
113	MBMS Registration Response		X		
114	MBMS De-Registration Request		X		
115	MBMS De-Registration Response		X		
116	MBMS Session Start Request		X		
117	MBMS Session Start Response		X		
118	MBMS Session Stop Request		X		
119	MBMS Session Stop Response		X		
120 -239	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
240	Data Record Transfer Request	3GPP TS 32.295 [33]			X
241	Data Record Transfer Response	3GPP TS 32.295 [33]			X
242-254	For future use. Shall not be sent. If received, shall be treated as an Unknown message.				
255	G-PDU	9.3.1		X	