3GPP TSG CN Plenary Meeting #18 **NP-020595**
4th – 6th December 2002 New Orleans, USA.

Source: TSG CN WG4

Title: Corrections on Location Service Enhancement for Release 5

Agenda item: 8.4

Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
24.080	026	2	N4-021310	Rel-5	Exception handling for positioning methods MS Assisted E-OTD and MS Assisted OTDOA	F	5.1.0
29.002	512		N4-021383	Rel-5	Correcion of Codeword Handling	F	5.3.0
23.008	060		N4-021384	Rel-5	Deleting codeword related information	F	5.2.0

3GPP TSG CN WG4 Meeting #17 **N4-021384**
Bangkok, THAILAND, 11th – 15th November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **23.008** **CR** **060** ⌘ **rev** **-** ⌘ Current version: **5.2.0** ⌘

*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:	⌘	Deleting codeword related information
Source:	⌘	CN4
Work item code:	⌘	LCS in the PS domain
Date:	⌘	11/11/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

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:

2	*(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)*

Reason for change:	⌘	In the current specification, the codeword handling information is stored and checked at HLR/HSS. If the GMLC does not indicate "codeword is not applicable" and the codeword handling information indicates "the codeword shall be checked in network" the HLR/HSS rejects the location request. However, if the location request is come from an emergency service provider HLR/HSS shall not reject the location request. Therefore HLR/HSS is not good place to check the codeword handling information. During SA2#27 meeting, codeword handling mechanism was corrected. SA2 decided that all codeword related information is stored in GMLC and HLR/HSS does not check the codeword handling information, and does not reject the location request.
Summary of change:	⌘	Codeword Handling Information is deleted from HLR/HSS.
Consequences if not approved:	⌘	TS23.008 is not aligned with TS23.271.

Clauses affected:	⌘	2.16.1.5., 5.1, 5.2

Other specs affected:	⌘	Y	N		⌘	
		X		Other core specifications		23.271-CR121, 29.002-CR512
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

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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>>

2.16.1 Subscriber Data stored in HLR

2.16.1.1 Privacy Exception List

This data contains the privacy classes for any target MS that identify the LCS clients permitted to locate the MS. For a detailed definition of this data, refer to 3GPP TS 23.271.

2.16.1.2 GMLC Numbers

This data contains the GMLC addresses for an MS subscriber. These addresses may be used to verify that a location request from specific LCS clients is authorized for the target MS.

2.16.1.3 MO-LR List

This data contains the classes of MO-LR that are permitted for the MS subscriber. For a detailed definition of this data, refer to 3GPP TS 23.271.

2.16.1.4 Service Types

This data contains the privacy settings for any target MS that identify the permitted service types for LCS clients requesting positioning of the MS. For a detailed definition of this data, refer to 3GPP TS 23.271.

~~2.16.1.5 Codeword Handling Information~~

~~This data contains the privacy setting for any target MS that identifies the handling of Codeword in HLR when the GMLC has indicated the applicability of Codeword Checks in MAP Send Routing Info for LCS. For a detailed definition of this data, refer to 3GPP TS 23.271.~~

<<Next modified section>>

5.1 Non-GPRS Network Access Mode Data Storage

Table 1: Overview of data stored for non-GPRS Network Access Mode (CS)

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE
IMSI	2.1.1.1	M	M	P
Network Access Mode	2.1.1.2	M	-	P
International MS ISDN number	2.1.2	M	M	P
multinumbering MSISDNs	2.1.3	C	-	P
Basic MSISDN indicator	2.1.3.1	C	-	P
MSISDN-Alert indicator	2.1.3.2	C	-	P
TMSI	2.1.4	-	C	T
LMSI	2.1.8	C	C	T
Mobile Station Category	2.2.1	M	M	P
LMU Identifier	2.2.2	C	C	P
RAND, SRES and Kc	2.3.1		C	T
RAND, XRES, CK, IK and 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
MSRN	2.4.1	-	C	T
Location Area Identity	2.4.2	-	M	T
VLR number	2.4.5	M	-	T
MSC number	2.4.6	M	C	T
HLR number	2.4.7	-	C	T
Subscription restriction	2.4.10	C	-	P
RSZI lists	2.4.11.1	C	-	P
Zone Code List	2.4.11.2	-	C	P
MSC area restricted flag	2.4.12	M	-	T
LA not allowed flag	2.4.13	-	M	T
ODB-induced barring data	2.4.15.1	C	-	T
Roaming restriction due to unsupported feature	2.4.15.2	M	M	T
Cell Global ID or Service Area ID	2.4.16	-	C	T
LSA Identity	2.4.17.1	C	C	P
LSA Priority	2.4.17.2	C	C	P
LSA Preferential Access Indicator	2.4.17.2A	C	C	P
LSA Active Mode Support Indicator	2.4.17.2B	C	C	P
LSA Only Access Indicator	2.4.17.3	C	C	P
LSA Active Mode Indicator	2.4.17.4	C	C	P
VPLMN Identifier	2.4.17.5	C	-	P
Provision of bearer service	2.5.1	M	M	P
Provision of teleservice	2.5.2	M	M	P
BC allocation	2.5.3	C	C	P
IMSI detached flag	2.7.1	-	C	T
Confirmed by Radio Contact indicator	2.7.4.1	-	M	T
Subscriber Data Confirmed by HLR indicator	2.7.4.2	-	M	T
Location Information Confirmed in HLR indicator	2.7.4.3	-	M	T
Check SS indicator	2.7.4.4	M	-	T
MS purged for non-GPRS flag	2.7.5	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	C	P
Barring of incoming calls	2.8.2.2	C	-	P
Barring of roaming	2.8.2.3	C	-	P
Barring of premium rate calls	2.8.2.4	C	C	P
Barring of supplementary service management	2.8.2.5	C	C	P
Barring of registration of call forwarding	2.8.2.6	C	-	P
Barring of invocation of call transfer	2.8.2.7	C	C	P
Operator determined barring 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
Handover Number	2.9.1	-	C	T
Messages Waiting Data	2.10.1	C	-	T
Mobile Station Not Reachable Flag	2.10.2	C	M	T
Memory Capacity Exceeded Flag	2.10.3	C	-	T
Trace Reference	2.11.1	C	C	P
Trace Type	2.11.2	C	C	P
Operations Systems Identity	2.11.3	C	C	P

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE
HLR Trace Type	2.11.4	C	-	P
MAP Error On Trace	2.11.5	C	-	T
Trace Activated in VLR	2.11.6	C	C	T
Foreign Subscriber Registered in VLR	2.11.7	-	C	P
VGCS Group Membership List	2.12.1	C	C	P
VBS Group Membership List	2.12.2	C	C	P
Broadcast Call Initiation Allowed List	2.12.2.1	C	C	P
Originating CAMEL Subscription Information (O-CSI)	2.14.1.1/3.1	C	C	P
Terminating CAMEL Subscription Information (T-CSI)	2.14.1.2	C	-	P
VMSC Terminating CAMEL Subscription Information (VT-CSI)	2.14.1.2/3.2	C	C	P
Location Information/Subscriber state Information	2.14.1.3	C	-	P
USSD CAMEL subscription information(U-CSI)	2.14.1.4	C	-	P
SS invocation notification (SS-CSI)	2.14.1.5/3.2	C	C	P
Translation information flag(TIF-CSI)	2.14.1.6/3.6	C	C	P
Dialled service CAMEL Subscription Information (D-CSI)	2.14.1.11/3.7	C	C	P
USSD General CAMEL service information (UG-CSI)	2.14.2.4	C	-	P
O-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
SS-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
VT-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
Short Message Service CAMEL Subscription Information(MO-SMS-CSI)	2.14.1.8/2.14.3.5	C	C	P
Short Message Service CAMEL Subscription Information(MT-SMS-CSI)	2.14.1.9/2.14.3.6	C	C	P
MO-SMS-CSI VLR Negotiated CAMEL Capability Handling	2.14.2.1	C		T
MT-SMS-CSI VLR Negotiated CAMEL Capability Handling	2.14.2.1	C		P
M-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
VLR Supported CAMEL Phases	2.14.2.3	C		T
GsmSCF address for CSI	2.14.2.4	C		P
VLR Offered CAMEL4 CSIs	2.14.2.2A	C		T
IST Alert Timer	2.15.1	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
~~Codeword Handling Information~~	~~2.16.1.5~~	~~C~~		~~P~~
Age Indicator	2.17.1	C	C	T
CS Allocation/Retention priority	2.18.1	C	C	P

5.2 GPRS Network Access Mode Storage

Table 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
multinumbering MSISDNs	2.1.3	C	-	-	-	T
Basic MSISDN indicator	2.1.3.1	C	-	-	-	T .
MSISDN-Alert indicator	2.1.3.2	C	-	-	-	T
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
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
LA not allowed flag	2.4.13	-	-	M	-	T
SGSN area restricted flag	2.4.14	M	-	-	-	T
Roaming Restriction in the SGSN ..	2.4.15.2	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
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
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

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
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
~~Codeword Handling Information~~	~~2.16.1.5~~	~~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 3 for explanation of M, C, T and P in table 2.

3GPP TSG CN WG4 Meeting #16 ***N4-021310***
Miami, USA, 23rd – 27th September 2002

CR-Form-v7

CHANGE REQUEST

⌘ **24.080** **CR** **026** ⌘ **rev** **2** ⌘ Current version: **5.1.0** ⌘

*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 **X**

Title:	⌘	Exception handling for positioning methods MS Assisted E-OTD and MS Assisted OTDOA
Source:	⌘	CN4
Work item code:	⌘	LCS1 ***Date:*** ⌘ 26/09/2002
Category:	⌘	**F** ***Release:*** ⌘ Rel-5

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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In MO-LR procedures for assistance data or de-ciphering keys there is possibility to indicate MS Assisted OTDOA as a positioning method. However, currently there is no purpose to use MO-LR procedure to obtain assistance data for this positioning method. In location request procedures RAN provides the target UE with assistance data for these methods by means of RRC/RR protocol procedures.
Summary of change:	⌘	It is proposed to remove the method that should not be used in MO-LR request.
Consequences if not approved:	⌘	UE may request MO-LR procedure for which there is no meaningful purpose. For example in UMTS service area the network is not able to forward the request to the UTRAN, because there is no IE value for MS Assisted OTDOA method in RANAP LOCATION RELATED DATA REQUEST message.

Clauses affected:	⌘	4.4.2

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘

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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.

4.4.2 ASN.1 data types

This subclause provides an ASN.1 module defining the abstract data types in operations and errors specification. Only data types which are specific for this specification are defined. All other data types are imported from MAP together with the import of operations and errors.

```
SS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Access (2) modules (3)
   ss-DataTypes (2) version8 (8)}

DEFINITIONS

IMPLICIT TAGS ::=

BEGIN

-- exports all data types defined in this module

IMPORTS

SS-Code
FROM MAP-SS-Code {
   itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-SS-Code (15) version8 (8)}

-- imports MAP-SS-DataTypes
SS-Status, USSD-DataCodingScheme, USSD-String, CCBS-Feature
-- USSD-DataCodingScheme, USSD-String were introduced because of CNAP.
FROM MAP-SS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-SS-DataTypes (14) version8 (8)}

CUG-Index,
NotificationToMSUser
FROM MAP-MS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-MS-DataTypes (11) version8 (8)}

maxSignalInfoLength,
ISDN-AddressString,
ISDN-SubaddressString,
AlertingPattern,
LCSClientExternalID,
AddressString,
LCSServiceTypeID
FROM MAP-CommonDataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-CommonDataTypes (18) version8 (8)}

LocationType,
LCSClientName,
LCS-QoS,
Horizontal-Accuracy,
ResponseTime,
Ext-GeographicalInformation,
SupportedGADShapes,
Add-GeographicalInformation,
LCSRequestorID,
LCSCodeword
FROM MAP-LCS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-LCS-DataTypes (25) version8 (8)}

;

-- data types definition
```

***** unaffected ASN.1 definitions *****

```
LCS-MOLRArg ::= SEQUENCE {
    molr-Type           [0] MOLR-Type,
```

```
    locationMethod      [1] LocationMethod          OPTIONAL,
    lcs-QoS             [2] LCS-QoS                 OPTIONAL,
    lcsClientExternalID [3] LCSClientExternalID     OPTIONAL,
    mlc-Number          [4] ISDN-AddressString      OPTIONAL,
    gpsAssistanceData   [5] GPSAssistanceData       OPTIONAL,
    ...,
    supportedGADShapes  [6] SupportedGADShapes      OPTIONAL}
-- The parameter locationMethod shall be included if and only if the molr-Type is set to value
-- deCipheringKeys or assistanceData.
-- The parameter gpsAssistanceData shall be included if and only if the molr-Type is set to value
-- assistanceData and locationMethod is set to value assistedGPS.

MOLR-Type::= ENUMERATED {
    locationEstimate            (0),
    assistanceData              (1),
    deCipheringKeys             (2),
    ... }
-- exception handling:
-- an unrecognized value shall be rejected by the receiver with a return error cause of
-- unexpected data value.

LocationMethod::= ENUMERATED {
    msBasedEOTD         (0),
    msAssistedEOTD      (1),
    assistedGPS         (2),
    ...,
    msBasedOTDOA        (3),
    msAssistedOTDOA     (4)
    }
-- exception handling:
-- When this parameter is received with value msBasedEOTD or msAssistedEOTD and the MS
-- is camped on an UMTS Service Area then the receiver shall reject it
-- with a return error cause of unexpected data value.
-- When this parameter is received with value msBasedOTDOA or msAssistedOTDOA and the MS
-- is camped on a GSM Cell then the receiver shall reject it with a return error cause of
-- unexpected data value.
-- an unrecognized value shall be rejected by the receiver with a return error cause of
-- unexpected data value.

GPSAssistanceData::= OCTET STRING (SIZE (1..38))
-- Octets 1 to 38 are coded in the same way as the octets 3 to 7+2n of Requested GPS Data IE
-- in GSM 09.31.

LCS-MOLRRes::= SEQUENCE {
    locationEstimate        [0] Ext-GeographicalInformation     OPTIONAL,
    decipheringKeys         [1] DecipheringKeys                 OPTIONAL,
    ...,
    add-LocationEstimate    [2] Add-GeographicalInformation         OPTIONAL}
-- Parameters locationEstimate or add-LocationEstimate (one but not both)
-- shall be included if and only if the
-- molr-Type in LocationRequestArg was set to value locationEstimate.
-- Parameter add-LocationEstimate shall not be included if the supportedGADShapes
-- parameter was not received in the LCS-MOLRArg.
-- The locationEstimate and the add-locationEstimate parameters shall not be sent if
-- the supportedGADShapes parameter has been received in LCS-MOLRArg
-- and the shape encoded in locationEstimate or add-LocationEstimate is not marked
-- as supported in supportedGADShapes. In such a case LCS-MOLRArg
-- shall be rejected with error FacilityNotSupported with additional indication
-- shapeOfLocationEstimateNotSupported.
-- Parameter decipheringKeys shall be included if and only if the molr-Type
-- in LocationRequestArg was set to value deCipheringKeys.


DecipheringKeys::= OCTET STRING (SIZE (15))
-- Octets in DecipheringKeys are coded in the same way as the octets 3 to 17 of Deciphering Key IE
-- in GSM 09.31. I.e. these octets contain Current Deciphering Key, Next Deciphering Key and
-- Ciphering Key Flag.

END
```

3GPP TSG CN WG4 Meeting #17 **N4-021383**
Bangkok, THAILAND, 11th – 15th November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **29.002** **CR** **512** ⌘ **rev** **-** ⌘ Current version: **5.3.0** ⌘

*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:	⌘	Correcion of Codeword Handling
Source:	⌘	CN4
Work item code:	⌘	LCS1-PS
Date:	⌘	11/11/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

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:

2	*(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)*

Reason for change:	⌘	In the current specification, the codeword handling information is stored and checked at HLR/HSS. If the GMLC does not indicate "codeword is not applicable" and the codeword handling information indicates "the codeword shall be checked in network" the HLR/HSS rejects the location request. However, if the location request is come from an emergency service provider HLR/HSS shall not reject the location request. Therefore HLR/HSS is not good place to check the codeword handling information. During SA2#27 meeting, codeword handling mechanism was corrected. SA2 decided that all codeword related information is stored in GMLC and HLR/HSS does not check the codeword handling information, and does not reject the location request.
Summary of change:	⌘	LCS Codeword Applicability parameter and LCS Codeword Notificaion Parameter are deleted from SRI.
Consequences if not approved:	⌘	TS29.002 is not aligned with TS23.271

Clauses affected:	⌘	7.6, 7.6.11.19, 7.6.11.22, 13A.1, 17.7.13

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	23.271-CR121, 23.008-CR060
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

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>>

7.6 Definition of parameters

Following is an alphabetic list of parameters used in the common MAP-services in clause 7.3:

Application context name	7.3.1	Refuse reason	7.3.1
Destination address	7.3.1	Release method	7.3.2
Destination reference	7.3.1	Responding address	7.3.1
Diagnostic information	7.3.4	Result	7.3.1
Originating address	7.3.1	Source	7.3.5
Originating reference	7.3.1	Specific information	7.3.1/7.3.2/7.3.4
Problem diagnostic	7.3.6	User reason	7.3.4
Provider reason	7.3.5		

Following is an alphabetic list of parameters contained in this clause:

Absent Subscriber Diagnostic SM	7.6.8.9	Invoke Id	7.6.1.1
Access connection status	7.6.9.3	ISDN Bearer Capability	7.6.3.41
		IST Alert Timer	7.6.3.66
		IST Information Withdrawn	7.6.3.68
		IST Support Indicator	7.6.3.69
		LCS Codeword	7.6.11.18
		~~LCS Codeword Applicability~~	~~7.6.11.19~~
		LCS Information	7.6.3.60
		LCS Service Type Id	7.6.11.15
		~~LCS Codeword Notification~~	~~7.6.11.22~~
Access signalling information	7.6.9.5	Kc	7.6.7.4
Additional Absent Subscriber Diagnostic SM	7.6.8.12	Linked Id	7.6.1.2
Additional Location Estimate	7.6.11.21	LMSI	7.6.2.16
Additional number	7.6.2.46	Location Information	7.6.2.30
		Location Information for GPRS	7.6.2.30a
Additional signal info	7.6.9.10	Location update type	7.6.9.6
Additional SM Delivery Outcome	7.6.8.11	Long Forwarded-to Number	7.6.2.22A
		Long FTN Supported	7.6.2.22B
Age Indicator	7.6.3.72	Lower Layer Compatibility	7.6.3.42
		LSA Information	7.6.3.56
		LSA Information Withdraw	7.6.3.58
Alert Reason	7.6.8.8	MC Information	7.6.4.48
Alert Reason Indicator	7.6.8.10	MC Subscription Data	7.6.4.47
Alerting Pattern	7.6.3.44	Mobile Not Reachable Reason	7.6.3.51
All GPRS Data	7.6.3.53	Modification request for CSI	7.6.3.81
All Information Sent	7.6.1.5	Modification request for SS Information	7.6.3.82
AN-apdu	7.6.9.1	More Messages To Send	7.6.8.7
APN	7.6.2.42	MS ISDN	7.6.2.17
Authentication set list	7.6.7.1	MSC number	7.6.2.11
B-subscriber Address	7.6.2.36	MSIsdn-Alert	7.6.2.29

B subscriber Number	7.6.2.48
B subscriber subaddress	7.6.2.49
Basic Service Group	7.6.4.40
Bearer service	7.6.4.38
BSSMAP Service Handover	7.6.6.5
Call Barring Data	7.6.3.83
Call barring feature	7.6.4.19
Call barring information	7.6.4.18
Call Direction	7.6.5.8
Call Forwarding Data	7.6.3.84
Call Info	7.6.9.9
Call reference	7.6.5.1
Call Termination Indicator	7.6.3.67
Called number	7.6.2.24
Calling number	7.6.2.25
CAMEL Subscription Info	7.6.3.78
CAMEL Subscription Info Withdraw	7.6.3.38
Cancellation Type	7.6.3.52
Category	7.6.3.1
CCBS Feature	7.6.5.8
CCBS Request State	7.6.4.49
Channel Type	7.6.5.9
Chosen Channel	7.6.5.10
Chosen Radio Resource Information	7.6.6.10B
Ciphering mode	7.6.7.7
Cksn	7.6.7.5
CLI Restriction	7.6.4.5
CM service type	7.6.9.2
Complete Data List Included	7.6.3.54
CS Allocation Retention priority	7.6.3.87
CS LCS Not Supported by UE	7.6.11.9
CUG feature	7.6.3.26
CUG index	7.6.3.25
CUG info	7.6.3.22
CUG interlock	7.6.3.24
CUG Outgoing Access indicator	7.6.3.8
CUG subscription	7.6.3.23
CUG Subscription Flag	7.6.3.37
Current location area Id	7.6.2.6
Current password	7.6.4.21
Deferred MT-LR Data	7.6.11.3
Deferred MT-LR Response Indicator	7.6.11.2
eMLPP Information	7.6.4.41
Encryption Information	7.6.6.9
Equipment status	7.6.3.2
Extensible Basic Service Group	7.6.3.5
Extensible Bearer service	7.6.3.3
Extensible Call barring feature	7.6.3.21
Extensible Call barring information	7.6.3.20
Extensible Call barring information for CSE	7.6.3.79
Extensible Forwarding feature	7.6.3.16
Extensible Forwarding info	7.6.3.15
Extensible Forwarding information for CSE	7.6.3.80
Extensible Forwarding Options	7.6.3.18
Extensible No reply condition timer	7.6.3.19
Extensible QoS-Subscribed	7.6.3.74
Extensible SS-Data	7.6.3.29
Extensible SS-Info	7.6.3.14
Extensible SS-Status	7.6.3.17
Extensible Teleservice	7.6.3.4

Multicall Bearer Information	7.6.2.52
Multiple Bearer Requested	7.6.2.53
Multiple Bearer Not Supported	7.6.2.54
MWD status	7.6.8.3
NbrUser	7.6.4.45
Network Access Mode	7.6.3.50
Network node number	7.6.2.43
Network resources	7.6.10.1
Network signal information	7.6.9.8
New password	7.6.4.20
No reply condition timer	7.6.4.7
North American Equal Access preferred Carrier Id	7.6.2.34
Number Portability Status	7.6.5.14
ODB Data	7.6.3.85
ODB General Data	7.6.3.9
ODB HPLMN Specific Data	7.6.3.10
OMC Id	7.6.2.18
Originally dialled number	7.6.2.26
Originating entity number	7.6.2.10
Override Category	7.6.4.4
P-TMSI	7.6.2.47
PDP-Address	7.6.2.45
PDP-Context identifier	7.6.3.55
PDP-Type	7.6.2.44
Pre-paging supported	7.6.5.15
Previous location area Id	7.6.2.4
Protocol Id	7.6.9.7
Provider error	7.6.1.3
PS LCS Not Supported by UE	7.6.11.10
QoS-Subscribed	7.6.3.47
Radio Resource Information	7.6.6.10
Radio Resource List	7.6.6.10A
RANAP Service Handover	7.6.6.6
Rand	7.6.7.2
Regional Subscription Data	7.6.3.11
Regional Subscription Response	7.6.3.12
Relocation Number List	7.6.2.19A
Requested Info	7.6.3.31
Requested Subscription Info	7.6.3.86
Roaming number	7.6.2.19
Roaming Restricted In SGSN Due To Unsupported Feature	7.6.3.49
Roaming Restriction Due To Unsupported Feature	7.6.3.13
Current Security Context	7.6.7.8
Selected RAB ID	7.6.2.56
Service centre address	7.6.2.27
Serving Cell Id	7.6.2.37
SGSN address	7.6.2.39
SGSN CAMEL Subscription Info	7.6.3.75
SGSN number	7.6.2.38
SIWF Number	7.6.2.35
SoLSA Support Indicator	7.6.3.57
SM Delivery Outcome	7.6.8.6
SM-RP-DA	7.6.8.1
SM-RP-MTI	7.6.8.16
SM-RP-OA	7.6.8.2
SM-RP-PRI	7.6.8.5
SM-RP-SMEA	7.6.8.17
SM-RP-UI	7.6.8.4
Sres	7.6.7.3
SS-Code	7.6.4.1
SS-Data	7.6.4.3
SS-Event	7.6.4.42

External Signal Information	7.6.9.4
Failure Cause	7.6.7.9
Forwarded-to number	7.6.2.22
Forwarded-to subaddress	7.6.2.23
Forwarding feature	7.6.4.16
Forwarding information	7.6.4.15
Forwarding Options	7.6.4.6
GERAN Classmark	7.6.6.4
GGSN address	7.6.2.40
GGSN number	7.6.2.41
GMSC CAMEL Subscription Info	7.6.3.34
GPRS enhancements support indicator	7.6.3.73
GPRS Node Indicator	7.6.8.14
GPRS Subscription Data	7.6.3.46
GPRS Subscription Data Withdraw	7.6.3.45
GPRS Support Indicator	7.6.8.15
Group Id	7.6.2.33
GSM bearer capability	7.6.3.6
gsmSCF Address	7.6.2.58
gsmSCF Initiated Call	7.6.3.c
Guidance information	7.6.4.22
Handover number	7.6.2.21
High Layer Compatibility	7.6.3.43
HLR Id	7.6.2.15
HLR number	7.6.2.13
HO-Number Not Required	7.6.6.7
IMEI	7.6.2.3
IMSI	7.6.2.1
Integrity Protection Information	7.6.6.8
Inter CUG options	7.6.3.27
Intra CUG restrictions	7.6.3.28
SS-Event-Data	7.6.4.43
SS-Info	7.6.4.24
SS-Status	7.6.4.2
Stored location area Id	7.6.2.5
Subscriber State	7.6.3.30
Subscriber Status	7.6.3.7
Super-Charger Supported in HLR	7.6.3.70
Super-Charger Supported in Serving Network Entity	7.6.3.71
Offered Camel4 CSIs	7.6.3.36D
Offered Camel4 CSIs in GMSC	
Offered Camel4 CSIs in VMSC	7.6.3.36E
Offered Camel4 CSIs in VLR	
Offered Camel4 CSIs in SGSN	7.6.3.36F
Offered Camel4 Functionalities	7.6.3.36B
	7.6.3.36C
	7.6.3.36G
Supported CAMEL Phases in VLR	7.6.3.36
Supported CAMEL Phases in SGSN	7.6.3.36A
Supported GAD Shapes	7.6.11.20
Supported LCS Capability Sets	7.6.11.17
Suppress Incoming Call Barring	7.6.3.b
Suppress T-CSI	7.6.3.33
Suppress VT-CSI	7.6.3.a
Suppression of Announcement	7.6.3.32
Target cell Id	7.6.2.8
Target location area Id	7.6.2.7
Target RNC Id	7.6.2.8A
Target MSC number	7.6.2.12
Teleservice	7.6.4.39
TMSI	7.6.2.2
Trace reference	7.6.10.2
Trace type	7.6.10.3
User error	7.6.1.4
USSD Data Coding Scheme	7.6.4.36
USSD String	7.6.4.37
UU Data	7.6.5.12
UUS CF Interaction	7.6.5.13
VBS Data	7.6.3.40
VGCS Data	7.6.3.39
VLR CAMEL Subscription Info	7.6.3.35
VLR number	7.6.2.14
VPLMN address allowed	7.6.3.48
Zone Code	7.6.2.28

<<Next modified section>>

7.6.11.19 Void~~LCS Codeword Applicability~~

~~This parameter indicates if codeword checks are applicable as described in 3GPP TS 23.271 [26a].~~

7.6.11.20 Supported GAD Shapes

This parameter indicates which of the shapes defined in 3GPP TS 23.032 are supported. If the parameter is not provided then the receiving node shall assume that the sending entity supports the following shapes:

- Ellipsoid point with uncertainty circle
- Ellipsoid point with uncertainty ellipse
- Ellipsoid point with altitude and uncertainty ellipsoid
- Ellipsoid arc
- Ellipsoid point

7.6.11.21 Additional Location Estimate

This parameter gives an estimate of the location of an MS/UE in universal coordinates and the accuracy of the estimate. This parameter allows the location estimate to be expressed in any of the geographical shapes defined in 3GPP TS 23.032

~~7.6.11.22 LCS Codeword Notification~~

~~This parameter indicates if codeword shall be sent to the subscriber as described in 3GPP TS23.271 [26a]~~

<<Next modified section>>

13A Location Service Management Services

13A.1 MAP-SEND-ROUTING-INFO-FOR-LCS Service

13A.1.1 Definition

This service is used between the GMLC and the HLR to retrieve the routing information needed for routing a location service request to the servicing VMSC or SGSN. The MAP-SEND-ROUTING-INFO-FOR-LCS is a confirmed service using the primitives from table 13A.1/1.

13A.1.2 Service Primitives

Table 13A.1/1: MAP-SEND-ROUTING-INFO-FOR-LCS

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
MLC Number	M	M(=)		
MSISDN	C	C(=)	C	C(=)
IMSI	C	C(=)	C	C(=)
~~LCS Codeword Applicability~~	~~C~~	~~C(=)~~		
LMSI			C	C(=)
Network Node Number			C	C(=)
GPRS Node Indicator			C	C(=)
Additional Number			C	C(=)
~~LCS Codeword Notification~~			~~C~~	~~C(=)~~
User error			C	C(=)
Provider error				O

13A.1.3 Parameter Use

Invoke id

See definition in clause 7.6.1.

MLC Number

See definition in clause 7.6.2.

MSISDN

See definition in clause 7.6.2. The request shall carry either the IMSI or MSISDN. The response shall carry whichever of these was not included in the request (see 3GPP TS 23.271 for details).

IMSI

See definition in clause 7.6.2.

~~LCS Codeword Applicability~~

~~See definition in clause 7.6.11.19.~~

LMSI

See definition in clause 7.6.2. It is an operator option to provide this parameter from the VLR; it is mandatory for the HLR to include the LMSI in a successful response, if the VLR has used the LMSI.

Network Node Number

See definition in clause 7.6.2. This parameter is provided in a successful response. If the “Network Node Number” and “Additional Number” are received in the GMLC, the "Network Node Number" is used in preference to the "Additional Number".

GPRS Node Indicator

See definition in clause 7.6.8. The presence of this parameter is mandatory only if the SGSN number is sent in the Network Node Number.

Additional Number

See definition in clause 7.6.2. This parameter is provided in a successful response. If the “Network Node Number” and “Additional Number” are received in the GMLC, the "Network Node Number" is used in preference to the "Additional Number".

~~LCS Codeword Notification~~

~~See definition in clause 7.6.11.22. The presence of this parameter indicates that codeword shall be sent to the subscriber. HLR may include this parameter in the response only if codeword checks had been indicated as applicable in the request.~~

User error

The following errors defined in clause 7.6.1 may be used, depending on the nature of the fault:

- Unknown subscriber;
- Absent Subscriber;
- Facility Not Supported;
- System failure;
- Unexpected Data Value;
- Data missing;
- Unauthorised requesting network.

Provider error

For definition of provider errors see clause 7.6.1.

<<Next modified section>>

17.7.13 Location service data types

```
MAP-LCS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-LCS-DataTypes (25) version8 (8)}

DEFINITIONS
IMPLICIT TAGS
::=
BEGIN

EXPORTS
   RoutingInfoForLCS-Arg,
   RoutingInfoForLCS-Res,
   ProvideSubscriberLocation-Arg,
   ProvideSubscriberLocation-Res,
   SubscriberLocationReport-Arg,
   SubscriberLocationReport-Res,
   LocationType,
   LCSClientName,
   LCS-QoS,
   Horizontal-Accuracy,
   ResponseTime,
   Ext-GeographicalInformation,
   SupportedGADShapes,
   Add-GeographicalInformation,
   LCSRequestorID,
   LCSCodeword
;

IMPORTS
   AddressString,
   ISDN-AddressString,
   IMEI,
   IMSI,
   LMSI,
   SubscriberIdentity,
   AgeOfLocationInformation,
   LCSClientExternalID,
   LCSClientInternalID,
   LCSServiceTypeID
FROM MAP-CommonDataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-CommonDataTypes (18) version8 (8)}

   ExtensionContainer
FROM MAP-ExtensionDataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version8 (8)}

   USSD-DataCodingScheme,
   USSD-String
FROM MAP-SS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0) gsm-Network (1) modules (3)
   map-SS-DataTypes (14) version8 (8)}

   APN
FROM MAP-MS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-MS-DataTypes (11) version8 (8)}

   Additional-Number
FROM MAP-SM-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SM-DataTypes (16) version8 (8)}
;
```

```
RoutingInfoForLCS-Arg ::= SEQUENCE {
     mlcNumber                          [0] ISDN-AddressString,
     targetMS                           [1] SubscriberIdentity,
     extensionContainer                 [2] ExtensionContainer            OPTIONAL,
     ...,
     lcsCodewordApplicability           [3] LCSCodewordApplicability      OPTIONAL }
```

```
LCSCodewordApplicability ::= ENUMERATED {
    codewordCheckApplicable          (0),
    codewordCheckNotApplicable       (1),
    ...}
--  exception handling:
--  unrecognized values shall be ignored by the receiver.
```

```
RoutingInfoForLCS-Res ::= SEQUENCE {
    targetMS                         [0] SubscriberIdentity,
    lcsLocationInfo                  [1] LCSLocationInfo,
    extensionContainer               [2] ExtensionContainer          OPTIONAL,
    ...,
    lcsCodewordNotification          [3] NULL                        OPTIONAL}
    -- lcsCodewordNotification may be present only if
    -- lcsCodewordApplicability was present in RoutingInfoForLCS-Arg.
    -- If received when lcsCodewordApplicability was not present in
    -- RoutingInfoForLCS-Arg then lcsCodewordNotification shall be ignored.
}
```