

CHANGE REQUEST

⌘ 25.413 CR 515 ⌘ rev - ⌘ 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

Title:	⌘ Signalling enhancements for GERAN Iu Mode LCS		
Source:	⌘ Nokia		
Work item code:	⌘ LCS-GERAN	Date:	⌘ 3 September 2002
Category:	⌘ B	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ According to the LS from GERAN WG2 [R3-013183], GERAN Iu Mode LCS uses Iu RANAP Procedures. Some enhancements to RANAP are required in order to support GERAN Iu Mode LCS.
Summary of change:	⌘ In review of 25.413 v4.2.0, TSG GERAN WG2 has identified 3 places where enhancements to the existing RANAP signaling are required so that RANAP will support GERAN Iu mode LCS: <ol style="list-style-type: none"> 1. The Location Related Data Request message should allow the CN to request Dedicated Mobile-Assisted E-OTD Assistance Data and Dedicated Mobile-Based E-OTD Assistance Data be delivered to the mobile station, and also allow the CN to request that Deciphering Keys for E-OTD be delivered to the CN. 2. The Client Type IE in the Request Type Element of the Location Reporting Control message should allow additional Client Types to be specified (PLMN Operator - broadcast services, PLMN Operator - O&M, PLMN Operator - anonymous statistics, PLMN Operator - Target MS service support). These Client Types are supported in GERAN A/Gb mode LCS, and are needed in GERAN Iu mode LCS. 3. The Cause IE in the Location Report message should allow the RAN to return an indication of Congestion. <p>According to the proposal approved in R3-013331 "Handling of GERAN specific modifications needed in UTRAN", a restriction to GERAN Iu mode case is also added for GERAN request of the bullet 1 (9.2.3.19).</p> <p>Furthermore taken ARIB/TTC concerns into account, the new values specific to GERAN Iu mode are introduced in a separate IE group at the top of message in order to respect the following principle:</p> <p>"When GERAN elements are incorporated into Iur/Iu specifications, the IEs specific to GERAN should be clearly identified and in ENUMERATED type case, the same IE should not be used for both GERAN and UTRAN."</p>

However no restriction was foreseen to be added for GERAN request of bullet 2 and 3, as those new LCS client types and that indication of Congestion can also apply in UTRAN case according to actual LCS stage 1 and 2 specifications [TS 22.071]/[TS 23.271].
Therefore this CR is aiming to address only the GERAN Iu mode Specific changes i.e. the bullet 1.

Impact Analysis:

Impact assessment towards the previous version of the specification (previous release):
 This CR has no impact with the previous version of the specification (previous release) because this an optional new feature and the ASN.1 changes are made based on ASN.1 backward compatibility mechanisms (e.g. extension containers, ellipsis notation).

Consequences if not approved: ☹ If this CR is not approved GERAN Iu mode LCS is not completed and will not work.

Clauses affected: ☹ 2, 8.31, 9.1.47, 9.2.3.26 (new), 9.3.3, 9.3.4 and 9.3.6

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:

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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

For a specific reference, subsequent revisions do not apply".

For a non-specific reference, the latest version applies".

- [1] 3GPP TR 23.930: "Iu Principles".
- [2] 3GPP TS 25.410: "UTRAN Iu Interface: General Aspects and Principles".
- [3] 3GPP TS 25.401: "UTRAN Overall Description".
- [4] 3GPP TR 25.931: "UTRAN Functions, Examples on Signalling Procedures".
- [5] 3GPP TS 25.412: "UTRAN Iu interface signalling transport".
- [6] 3GPP TS 25.415: "UTRAN Iu interface user plane protocols".
- [7] 3GPP TS 23.107: "Quality of Service (QoS) concept and architecture".
- [8] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core network protocols; Stage 3".
- [9] 3GPP TS 25.414: "UTRAN Iu interface data transport and transport signalling".
- [10] 3GPP TS 25.331: Radio Resource Control (RRC) protocol specification".
- [11] 3GPP TS 08.08: "Mobile services Switching Centre - Base Station System (MSC-BSS) interface; Layer 3 specification".
- [12] 3GPP TS 12.08: "Subscriber and equipment trace".
- [13] ITU-T Recommendation X.691 (1997): "Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".
- [14] ITU-T Recommendation X.680 (1997): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".
- [15] ITU-T Recommendation X.681 (1997): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification".
- [16] 3GPP TS 23.110: "UMTS Access Stratum, Services and Functions".
- [17] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) specification".
- [18] 3GPP TR 25.921: "Guidelines and principles for protocol description and error handling".
- [19] 3GPP TS 23.003: "Numbering, addressing and identification".
- [20] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".
- [21] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [22] 3GPP TS 24.080: "Mobile radio Layer 3 supplementary services specification; Formats and coding".
- [23] 3GPP TS 29.108: "Application of the Radio Access Network Application Part (RANAP) on the E-interface".
- [24] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

- [25] 3GPP TS 12.20: "Base Station System (BSS) management information".
- [26] 3GPP TS 23.236: "Intra-domain connection of Radio Access Network (RAN) nodes to multiple Core Network (CN) nodes".
- [28] 3GPP TS 25.305: "Stage 2 Functional Specification of Location Services (LCS) in UTRAN".
- [29] 3GPP TS 43.059: "Functional stage 2 description of Location Services (LCS) in GERAN".

8.31 Location Related Data

8.31.1 General

The purpose of the Location Related Data procedure is to provide the means to handle additional Location related requests over the Iu interface: it allows the CN to either retrieve from the RNC deciphering keys (to be forwarded to the UE) for the broadcasted assistance data, or request the RNC to deliver dedicated assistance data to the UE.

8.31.2 Successful Operation

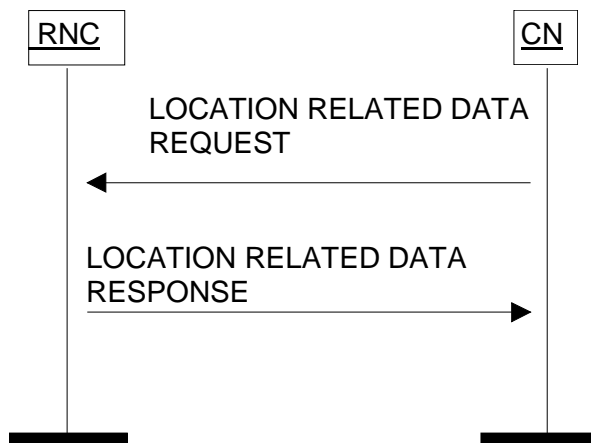


Figure 36A: Location Related Data procedure. Successful operation.

The CN initiates the procedure by generating an LOCATION RELATED DATA REQUEST message to the RNC.

Upon the reception of the LOCATION RELATED DATA REQUEST message, the RNC shall initiate requested function as indicated in the *Location Related Data Request Type IE*.

The *Location Related Data Request Type IE* shall indicate to the RNC whether:

- to start dedicated assistance data delivery to the UE, or
- to send deciphering keys for broadcast assistance data to the CN.

If the LOCATION RELATED DATA REQUEST message included a request for dedicated assistance data delivery to the UE, and if the dedicated assistance data was successfully delivered to the UE, the RNC shall respond to CN with LOCATION RELATED DATA RESPONSE message containing no data.

If the LOCATION RELATED DATA REQUEST message included a request for broadcast assistance data deciphering keys, the RNC shall respond to CN with LOCATION RELATED DATA RESPONSE message containing the *Broadcast Assistance Data Deciphering Keys IE*.

8.31.2.1 Successful Operation for GERAN Iu mode

Upon the reception of the LOCATION RELATED DATA REQUEST message, the BSS shall initiate requested function as indicated in the *Location Related Data Request Type IE* or the *Location Related Data Request Type Specific To GERAN Iu Mode IE*.

In the sole case of a request for GERAN Iu mode specific positioning method, E-OTD, defined in [29], the LOCATION RELATED DATA REQUEST message shall include the *Location Related Data Request Type Specific To GERAN Iu Mode IE* and not the *Location Related Data Request Type IE*.

The *Location Related Data Request Type IE* or the *Location Related Data Request Type Specific To GERAN Iu Mode IE* shall indicate to the BSS whether:

- to start dedicated assistance data delivery to the UE, or
- to send deciphering keys for broadcast assistance data to the CN.

8.31.3 Unsuccessful Operation

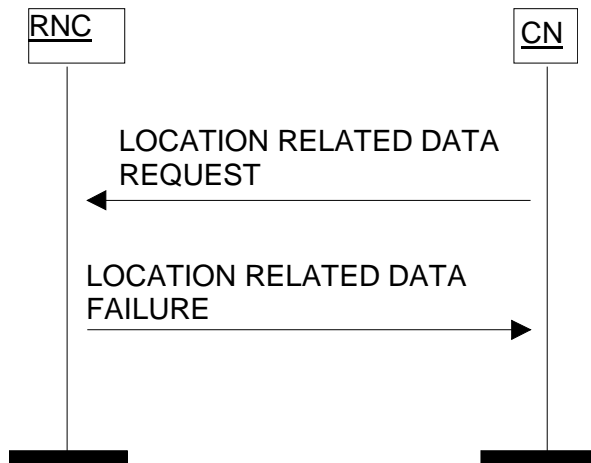


Figure 37: Location Related Data procedure. Unsuccessful operation.

If the RNC was not able to successfully deliver the requested dedicated assistance data to the UE, or if the RNC is not able to provide the requested deciphering keys, the RNC shall send LOCATION RELATED DATA FAILURE message including *Cause* IE to the CN. The *Cause* IE shall indicate the appropriate cause value to CN, e.g. "Dedicated Assistance data Not Available" or "Deciphering Keys Not Available".

8.31.4 Abnormal Conditions

Not applicable.

8.31.4.1 Abnormal Conditions for GERAN Iu mode

If the *Location Related Data Request Type* IE and *Location Related Data Request Type Specific To GERAN Iu Mode* IE are included in the LOCATION RELATED DATA REQUEST message, the BSS shall reject the procedure by sending the LOCATION RELATED DATA FAILURE message.

If the *Location Related Data Request Type* IE is set to the value "Deciphering Keys for UE Based OTDOA" or "Dedicated Assistance Data for UE Based OTDOA", the BSS shall reject the procedure by sending the LOCATION RELATED DATA FAILURE message.

9.1.47 LOCATION RELATED DATA REQUEST

This message is sent by the CN either to initiate delivery of dedicated assistance data from the RNC to the UE, or to retrieve deciphering keys for the broadcasted assistance data.

Direction: CN → RNC.

Signalling bearer mode: Connection oriented.

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.1		YES	reject
Location Related Data Request Type	M <u>O</u>		9.2.3.19	<u>Mandatory for UTRAN. Optional for GERAN Iu Mode.</u>	YES	reject
<u>Location Related Data Request Type Specific To GERAN Iu Mode</u>	<u>O</u>		<u>9.2.3.x3</u>	<u>Optional for GERAN Iu Mode only. Not applicable for UTRAN.</u>	<u>YES</u>	<u>reject</u>

9.2.3.26 Location Related Data Request Type Specific To GERAN Iu Mode

This element indicates the type of the requested location related data for the indicated specific positioning method supported only within GERAN Iu mode.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
<u>Location Related Data Request Type Specific To GERAN Iu mode</u>			<u>ENUMERATED(</u> <u>Deciphering</u> <u>Keys for E-OTD.</u> <u>Dedicated</u> <u>Mobile-Assisted</u> <u>E-OTD</u> <u>Assistance</u> <u>Data.</u> <u>Dedicated</u> <u>Mobile-Based</u> <u>E-OTD</u> <u>Assistance</u> <u>Data, ...)</u>	

9.3.3 PDU Definitions

```

-- *****
-- PDU definitions for RANAP.
-- *****
RANAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-PDU-Contents (1) }
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
-- IE parameter types from other modules.
-- *****
IMPORTS
BroadcastAssistanceDataDecipheringKeys,
LocationRelatedDataRequestType,
LocationRelatedDataRequestTypeSpecificToGERANIUMode,
DataVolumeReference,
CellLoadInformation,
AreaIdentity,
CN-DomainIndicator,
Cause,
CriticalityDiagnostics,
ChosenEncryptionAlgorithm,
ChosenIntegrityProtectionAlgorithm,
ClassmarkInformation2,
ClassmarkInformation3,
DL-GTP-PDU-SequenceNumber,
DL-N-PDU-SequenceNumber,
DataVolumeReportingIndication,
DRX-CycleLengthCoefficient,
EncryptionInformation,
GlobalCN-ID,
GlobalRNC-ID,
IntegrityProtectionInformation,
InterSystemInformation-TransparentContainer,
IuSignallingConnectionIdentifier,
IuTransportAssociation,
KeyStatus,
L3-Information,
LAI,
LastKnownServiceArea,

```

```

NAS-PDU,
NAS-SynchronisationIndicator,
NewBSS-To-OldBSS-Information,
NonSearchingIndication,
NumberOfSteps,
OMC-ID,
OldBSS-ToNewBSS-Information,
PagingAreaID,
PagingCause,
PDP-TypeInformation,
PermanentNAS-UE-ID,
RAB-ID,
RAB-Parameters,
RAC,
RelocationType,
RequestType,
Requested-RAB-Parameter-Values,
SAP,
SAPI,
Service-Handover,
SourceID,
SourceRNC-ToTargetRNC-TransparentContainer,
SourceRNC-PDCP-context-info,
TargetID,
TargetRNC-ToSourceRNC-TransparentContainer,
TemporaryUE-ID,
TraceReference,
TraceType,
UnsuccessfullyTransmittedDataVolume,
TransportLayerAddress,
TriggerID,
UE-ID,
UL-GTP-PDU-SequenceNumber,
UL-N-PDU-SequenceNumber,
UP-ModeVersions,
UserPlaneMode,
Alt-RAB-Parameters,
Ass-RAB-Parameters
FROM RANAP-IEs

PrivateIE-Container {},
ProtocolExtensionContainer {},
ProtocolIE-ContainerList {},
ProtocolIE-ContainerPair {},
ProtocolIE-ContainerPairList {},
ProtocolIE-Container {},
RANAP-PRIVATE-IEs,
RANAP-PROTOCOL-EXTENSION,
RANAP-PROTOCOL-IEs,
RANAP-PROTOCOL-IEs-PAIR
FROM RANAP-Containers

```

maxNrOfDTs,
 maxNrOfErrors,
 maxNrOfIuSigConIds,
 maxNrOfRABs,
 maxNrOfVol,
 id-AreaIdentity,
 id-Alt-RAB-Parameters,
 id-Ass-RAB-Parameters,
 id-BroadcastAssistanceDataDecipheringKeys,
 id-LocationRelatedDataRequestType,
 id-CN-DomainIndicator,
 id-Cause,
 id-ChosenEncryptionAlgorithm,
 id-ChosenIntegrityProtectionAlgorithm,
 id-ClassmarkInformation2,
 id-ClassmarkInformation3,
 id-CriticalityDiagnostics,
 id-DRX-CycleLengthCoefficient,
 id-DirectTransferInformationItem-RANAP-RelocInf,
 id-DirectTransferInformationList-RANAP-RelocInf,
 id-DL-GTP-PDU-SequenceNumber,
 id-EncryptionInformation,
 id-GlobalCN-ID,
 id-GlobalRNC-ID,
 id-IntegrityProtectionInformation,
 id-InterSystemInformation-TransparentContainer,
 id-IuSigConId,
 id-IuSigConIdItem,
 id-IuSigConIdList,
 id-IuTransportAssociation,
 id-KeyStatus,
 id-L3-Information,
 id-LAI,
 id-LastKnownServiceArea,
 id-LocationRelatedDataRequestTypeSpecificToGERANIUMode,
 id-NAS-PDU,
 id-NewBSS-To-OldBSS-Information,
 id-NonSearchingIndication,
 id-NumberOfSteps,
 id-OMC-ID,
 id-OldBSS-ToNewBSS-Information,
 id-PagingAreaID,
 id-PagingCause,
 id-PermanentNAS-UE-ID,
 id-RAB-ContextItem,
 id-RAB-ContextList,
 id-RAB-ContextFailedToTransferItem,
 id-RAB-ContextFailedToTransferList,
 id-RAB-ContextItem-RANAP-RelocInf,
 id-RAB-ContextList-RANAP-RelocInf,
 id-RAB-DataForwardingItem,
 id-RAB-DataForwardingItem-SRNS-CtxReq,

id-RAB-DataForwardingList,
 id-RAB-DataForwardingList-SRNS-CtxReq,
 id-RAB-DataVolumeReportItem,
 id-RAB-DataVolumeReportList,
 id-RAB-DataVolumeReportRequestItem,
 id-RAB-DataVolumeReportRequestList,
 id-RAB-FailedItem,
 id-RAB-FailedList,
 id-RAB-FailedtoReportItem,
 id-RAB-FailedtoReportList,
 id-RAB-ID,
 id-RAB-ModifyList,
 id-RAB-ModifyItem,
 id-RAB-QueuedItem,
 id-RAB-QueuedList,
 id-RAB-ReleaseFailedList,
 id-RAB-ReleaseItem,
 id-RAB-ReleaseItem-IuRelComp,
 id-RAB-ReleaseList,
 id-RAB-ReleasedItem,
 id-RAB-ReleasedList,
 id-RAB-ReleasedList-IuRelComp,
 id-RAB-RelocationReleaseItem,
 id-RAB-RelocationReleaseList,
 id-RAB-SetupItem-RelocReq,
 id-RAB-SetupItem-RelocReqAck,
 id-RAB-SetupList-RelocReq,
 id-RAB-SetupList-RelocReqAck,
 id-RAB-SetupOrModifiedItem,
 id-RAB-SetupOrModifiedList,
 id-RAB-SetupOrModifyItem,
 id-RAB-SetupOrModifyList,
 id-RAC,
 id-RelocationType,
 id-RequestType,
 id-SAI,
 id-SAPI,
 id-SourceID,
 id-SourceRNC-ToTargetRNC-TransparentContainer,
 id-SourceRNC-PDCP-context-info,
 id-TargetID,
 id-TargetRNC-ToSourceRNC-TransparentContainer,
 id-TemporaryUE-ID,
 id-TraceReference,
 id-TraceType,
 id-TransportLayerAddress,
 id-TriggerID,
 id-UE-ID,
 id-UL-GTP-PDU-SequenceNumber
 FROM RANAP-Constants;

Lots of unaffected ASN1 in 9.3.3 not shown

```

-- *****
-- LOCATION RELATED DATA ELEMENTARY PROCEDURE
-- *****
-- *****
-- *****
-- Location Related Data Request
-- *****
-- *****
LocationRelatedDataRequest ::= SEQUENCE {
    protocols      ProtocolIE-Container      { {LocationRelatedDataRequestIEs} },
    protocolExtensions ProtocolExtensionContainer { {LocationRelatedDataRequestExtensions} }
    ...
}

LocationRelatedDataRequestIEs RANAP-PROTOCOL-IES ::= {
    { ID id-LocationRelatedDataRequestType      CRITICALITY reject TYPE LocationRelatedDataRequestType PRESENCE mandatoryoptional },
    -- This IE is mandatory for UTRAN, optional for GERAN Iu Mode. --
    ...
}

LocationRelatedDataRequestExtensions RANAP-PROTOCOL-EXTENSION ::= {
    -- Extension for Release 5 to enable LCS support for GERAN Iu mode --
    { ID id-LocationRelatedDataRequestTypeSpecificToGERANIuMode CRITICALITY reject TYPE LocationRelatedDataRequestTypeSpecificToGERANIuMode
    PRESENCE optional },
    -- This extension is optional for GERAN Iu Mode only, not applicable for UTRAN. --
    ...
}

-- *****
-- Location Related Data Response
-- *****
-- *****
LocationRelatedDataResponse ::= SEQUENCE {
    protocols      ProtocolIE-Container      { { LocationRelatedDataResponseIEs } },
    protocolExtensions ProtocolExtensionContainer { { LocationRelatedDataResponseExtensions } }
    ...
}

LocationRelatedDataResponseIEs RANAP-PROTOCOL-IES ::= {
    { ID id-BroadcastAssistanceDataDecipheringKeys CRITICALITY ignore TYPE BroadcastAssistanceDataDecipheringKeys PRESENCE optional },
    ...
}

LocationRelatedDataResponseExtensions RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

-- *****
-- Location Related Data Failure
-- *****
LocationRelatedDataFailure ::= SEQUENCE {
  protocols      ProtocolIE-Container { { LocationRelatedDataFailureIEs} },
  protocolExtensions  ProtocolExtensionContainer { { LocationRelatedDataFailureExtensions} }
  OPTIONAL,
  ...
}
LocationRelatedDataFailureIEs RANAP-PROTOCOL-IES ::= {
  { ID id-Cause          CRITICALITY ignore TYPE Cause          PRESENCE mandatory },
  ...
}
LocationRelatedDataFailureExtensions RANAP-PROTOCOL-EXTENSION ::= {
  ...
}
END

```

9.3.4 Information Element Definitions

```

-- *****
-- Information Element Definitions
-- *****
RANAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-IEs (2) }
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxNrOfPPDirections,
    maxNrOfPoints,
    maxNrOfRABS,
    maxNrOfSeparateTrafficDirections,
    maxRAB-Subflows,
    maxRAB-SubflowCombination,
    maxNrOfLevels,
    maxNrOfAltValues,

    id-MessageStructure,
    id-TypeOfError_

id-DownlinkCellLoadInformation,
id-UplinkCellLoadInformation
FROM RANAP-Constants

Criticality,
ProcedureCode,
ProtocolIE-ID,
TriggeringMessage
FROM RANAP-CommonDataTypes

ProtocolExtensionContainer {},
RANAP-PROTOCOL-EXTENSION
FROM RANAP-Containers;

-- L
LAC ::= OCTET STRING (SIZE (2))
LAI ::= SEQUENCE {

```

Lots of unaffected ASN1 in 9.3.4 not shown

```

    PLMNidentity          PLMNidentity,
    LAC                   LAC,
    iE-Extensions         ProtocolExtensionContainer { {LAI-ExtIEs} } OPTIONAL
}

LAI-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

LastKnownServiceArea ::= SEQUENCE {
    SAI          SAI,
    ageOfSAI    INTEGER (0..32767),
    iE-Extensions ProtocolExtensionContainer { {LastKnownServiceArea-ExtIEs} } OPTIONAL,
    ...
}

LastKnownServiceArea-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

LocationRelatedDataRequestType ::= SEQUENCE {
    requestedLocationRelatedDataType          RequestedLocationRelatedDataType,
    requestedGPSAssistanceData               RequestedGPSAssistanceData OPTIONAL,
    -- This IE shall be present if the Requested Location Related Data Type IE is set to 'Dedicated Assistance Data for Assisted GPS' --
    ...
}

LocationRelatedDataRequestTypeSpecificToGERANmode ::= ENUMERATED {
    _____decipheringKeysEOTD,
    _____dedicatedMobileAssistedEOTDAssistanceData,
    _____dedicatedMobileBasedEOTDAssistanceData,
    _____
}

L3-Information ::= OCTET STRING

-- M

```

Lots of unaffected ASN1 in 9.3.4 not shown

9.3.6 Constant Definitions

```

-- *****
-- Constant definitions
-- *****
RANAP-Constants {
itv-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-Constants (4) }
DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

-- *****
-- Elementary Procedures
-- *****
id-RAB-Assignment          INTEGER ::= 0
id-Iu-Release             INTEGER ::= 1
id-RelocationPreparation  INTEGER ::= 2
id-RelocationResourceAllocation  INTEGER ::= 3
id-RelocationCancel       INTEGER ::= 4
id-SRNS-ContextTransfer   INTEGER ::= 5
id-SecurityModeControl    INTEGER ::= 6
id-DataVolumeReport       INTEGER ::= 7
id-Reset                  INTEGER ::= 9
id-RAB-ReleaseRequest     INTEGER ::= 10
id-Iu-ReleaseRequest      INTEGER ::= 11
id-RelocationDetect       INTEGER ::= 12
id-RelocationComplete     INTEGER ::= 13
id-Paging                 INTEGER ::= 14
id-CommonID               INTEGER ::= 15
id-CN-InvokeTrace         INTEGER ::= 16
id-LocationReportingControl  INTEGER ::= 17
id-LocationReport         INTEGER ::= 18
id-InitialUF-Message      INTEGER ::= 19
id-DirectTransfer         INTEGER ::= 20
id-OverloadControl        INTEGER ::= 21
id-ErrorIndication        INTEGER ::= 22
id-SRNS-DataForward       INTEGER ::= 23
id-ForwardSRNS-Context    INTEGER ::= 24
id-privateMessage         INTEGER ::= 25
id-CN-DeactivateTrace    INTEGER ::= 26
id-ResetResource          INTEGER ::= 27
id-RANAP-Relocation      INTEGER ::= 28
id-RAB-ModifyRequest      INTEGER ::= 29

```

```

id-LocationRelatedData          INTEGER ::= 30
-- *****
-- Extension constants
-- *****
maxPrivateIEs                   INTEGER ::= 65535
maxProtocolExtensions           INTEGER ::= 65535
maxProtocolIEs                  INTEGER ::= 65535
-- *****
-- Lists
-- *****
maxNrOfDTs                      INTEGER ::= 15
maxNrOfErrors                   INTEGER ::= 256
maxNrOfIuSigConds              INTEGER ::= 250
maxNrOfPPDirections            INTEGER ::= 2
maxNrOfPoints                   INTEGER ::= 15
maxNrOfRABs                    INTEGER ::= 256
maxNrOfSeparateTrafficDirections INTEGER ::= 2
maxNrOfVol                      INTEGER ::= 2
maxNrOfLevels                  INTEGER ::= 256
maxNrOfAltValues               INTEGER ::= 16

maxRAB-SubFlows                 INTEGER ::= 7
maxRAB-SubFlowCombination      INTEGER ::= 64
-- *****
-- IEs
-- *****
id-AreaIdentity                 INTEGER ::= 0
id-CN-DomainIndicator          INTEGER ::= 3
id-Cause                        INTEGER ::= 4
id-ChosenEncryptionAlgorithm   INTEGER ::= 5
id-ChosenIntegrityProtectionAlgorithm INTEGER ::= 6
id-ClassmarkInformation2       INTEGER ::= 7
id-ClassmarkInformation3       INTEGER ::= 8
id-CriticalityDiagnostics      INTEGER ::= 9
id-DL-GTP-PDU-SequenceNumber  INTEGER ::= 10
id-EncryptionInformation       INTEGER ::= 11
id-IntegrityProtectionInformation INTEGER ::= 12
id-IuTransportAssociation      INTEGER ::= 13
id-I3-Information              INTEGER ::= 14
id-LAI                          INTEGER ::= 15

```

id-NAS-PDU INTEGER ::= 16
id-NonSearchingIndication INTEGER ::= 17
id-NumberOfSteps INTEGER ::= 18
id-OMC-ID INTEGER ::= 19
id-OldBSS-ToNewBSS-Information INTEGER ::= 20
id-PagingAreaID INTEGER ::= 21
id-PagingCause INTEGER ::= 22
id-PermanentNAS-UE-ID INTEGER ::= 23
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