NP-040050

3GPP TSG CN Plenary Meeting #23 10th – 12th March 2004 Phoenix, USA.

Source:	TSG CN WG4
Title:	Corrections on Location Service
Agenda item:	8.3
Document for:	APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.002	710	2	N4-040326	Rel-5	Inclusion of UTRAN Positioning Data parameter	F	5.8.0
29.002	711	2	N4-040327	Rel-6	Inclusion of UTRAN Positioning Data parameter	A	6.4.0

3GPP TSG CN WG4 Meeting #22 Atlanta, USA, 16th – 20st February 2003

N4-040326

	CHANGE REQUEST		CR-Form-v7
ж	29.002 CR 710 # rev 2 ^{# C}	Current version: 5.8.	0 ^ж
For <u>HELP</u> on Proposed change	e affects: UICC apps% ME Radio Acc		symbols. Network X
	第 Inclusion of UTRAN Positioning Data parameter		
Source:	策 CN4		
Work item code:	H LCS2	Date:)4
Category:	 F F Use <u>one</u> 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. 	Release: # Rel-5 Use <u>one</u> of the following 2 (GSM Phase R96 (Release 19 R97 (Release 19 R98 (Release 19 R99 (Release 19 Rel-4 (Release 4) Rel-5 (Release 5)	96) 96) 97) 98)

 Reason for change: #
 In CR's 500r5 (ReI-5) and 568r4 (ReI-6), changes were approved to introduce the Positioning Data parameter into MAP messaging so that the parameter can be passed on to the GMLC and ultimately to provide that information to the PSAP in North America to meet FCC requirments. However, at that time only the GERAN case was addressed, following an agreement that only GERAN access would be addressed in R5, and that the equivalent changes for UTRAN access required more work and so could not be addressed in any release earlier than R6.

 Since that decision was made, RAN2 and RAN3 have approved changes to allow the transport of UTRAN Positioning Data to the Core Network in R5. CN4

allow the transport of UTRAN Positioning Data to the Core Network in R5. CN4 approved CR 674 at CN4 #20 but now has a requirement to mirror that change into R5 version of 29.002, as communicated to CN4 in meeting #21 (N4-031291). Also, since CN4 #20, problems have been identified with the approach taken in CR674 which was to reuse the existing 'Positioning Data' parameter, because whilst the GERAN and UTRAN parameters have the same structure, they are encoded differently and so the GMLC is unable to determine whether to decode the parameter according to GERAN encoding rules or UTRAN encoding rules.

Rel-6

(Release 6)

This change now addresses the required changes to R5 to support the transport of the matching information from the UTRAN network. Since the encoding of GERAN and UTRAN protocols are different, for MAP to pass the parameters for each RAT transparently to the GMLC, it is necessary for MAP to identify the source of the information. This is done by adding a new parameter to relevant MAP messages to contain the UTRAN Positiong Data.

This is an essential correction.

Summary of change: ₩	
	Subscriber Location Report messaging.
	Notes on revisioney. The DAN2 perometer is only included in LITRAN measures
	Notes on revisions: The RAN3 parameter is only included in UTRAN messages if the positioning attempt was successful. Therefore, for the UTRAN positioning
	method, unsuccessful attempts and related information are not included.
Consequences if %	FCC regulatory requirements for networks with UTRAN access are not met.
not approved:	CN4 specifications are not aligned with those of RAN3.
Clauses affected: ೫	7.6.11.11B (New), 13A.2, 13A.3, 17.7.13
	Y N
Other specs #	
affected:	X Test specifications
	X O&M Specifications
O (b or b o	
Other comments: ೫	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

7.6.11.11A GERAN Positioning Data

This parameter provides positioning data associated with a successful or unsuccessful location attempt for a target MS as described in 3GPP TS 49.031 [59a].

7.6.11.11B UTRAN Positioning Data

This parameter provides positioning data associated with a successful or unsuccessful location attempt for a target MS as described in 3GPP TS 25.413 [120]. It contains the positioningDataDiscriminator and positioningDataSet parts of the RANAP PositionData element only.

***** Next Changed Section *****

13A.2 MAP-PROVIDE-SUBSCRIBER-LOCATION Service

13A.2.1 Definition

This service is used by a GMLC to request the location of a target MS from the visited MSC or SGSN at any time. This is a confirmed service using the primitives from table 13A.2/1.

13A.2.2 Service Primitives

Parameter name	Request	Indication	Response	Confirm
Invoke id	M	M(=)	M(=)	M(=)
Location Type	М	M(=)		
MLC Number	М	M(=)		
LCS Client ID	М	M(=)		
Privacy Override	U	C(=)		
IMSI	С	C(=)		
MSISDN	С	C(=)		
LMSI	С	C(=)		
LCS Priority	С	C(=)		
LCS QoS	С	C(=)		
IMEI	U	C(=)		
Supported GAD Shapes	С	C(=)		
LCS-Referecne Number	С	C(=)		
LCS Codeword	С	C(=)		
LCS Service Type Id	С	C(=)		
Location Estimate			М	M(=)
GERAN Positioning Data			С	C(=)
UTRAN Positioning Data			C C	<u>C(=)</u>
Age of Location Estimate				C(=)
Additional Location			С	C(=)
Estimate				
Deferred MT-LR			С	C(=)
Response Indicator				
User error			С	C(=)
Provider error				0

Table 13A.2/1: Provide_Subscriber_Location

13A.2.3 Parameter Definition and Use

All parameters are defined in clause 7.6. The use of these parameters and the requirements for their presence are specified in. 3GPP TS 23.271 [26a].

Location Type

This parameter identifies the type of location information requested.

MLC Number

This is the E.164 number of the requesting GMLC.

LCS Client ID

This parameter provides information related to the identity of an LCS client.

Privacy Override

This parameter indicates if MS privacy is overridden by the LCS client when the GMLC and VMSC or SGSN for an MT-LR are in the same country.

IMSI

The IMSI is provided to identify the target MS. At least one of the IMSI or MSISDN is mandatory.

MSISDN

The MSISDN is provided to identify the target MS. At least one of the IMSI or MSISDN is mandatory.

LMSI

The LMSI shall be provided if previously supplied by the HLR. This parameter is only used in the case of the MT-LR for CS domain.

LCS Priority

This parameter indicates the priority of the location request.

LCS QoS

This parameter indicates the required quality of service in terms of response time and accuracy.

<u>IMEI</u>

Inclusion of the IMEI is optional.

Supported GAD Shapes

This parameter indicates which of the shapes defined in 3GPP TS 23.032 [122] are supported.

LCS-Reference Number

This parameter shall be included if a deferred mt-lr procedure is performed.

LCS Codeword

See definition in clause 7.6.11.18. The requirements for its presence are specified in 3GPP TS 23.271 [26a].

LCS Service Type Id

See definition in clause 7.6.11.15. The requirements for its presence are specified in 3GPP TS 23.271 [26a].

Location Estimate

This parameter provides the location estimate if this is encoded in one of the supported geographical shapes. Otherwise this parameter shall consist of one octet, which shall be discarded by the receiving node.

GERAN Positioning Data

This parameter indicates the usage of each positioning method that was attempted to determine the location estimate either successfully or unsuccessfully. If Positioning Data received from the RAN contains no Positioning Methods,

<u>GERAN Positioning Data is excluded from the MAP message.</u> It may be included in the message only if the access network is GERAN, see 3GPP TS 23.271 [26a].

UTRAN Positioning Data

This parameter indicates the usage of each positioning method that was successfully attempted to determine the location estimate-either successfully or unsuccessfully. If Position Data received from the RAN contains no Positioning Methods, UTRAN Positioning Data is excluded from the MAP message. It may be included in the message only if the access network is UTRAN, see 3GPP TS 23.271 [26a].

Age of Location Estimate

This parameter indicates how long ago the location estimate was obtained.

Additional Location Estimate

This parameter provides the location estimate when not provided by the Location Estimate parameter. It may be sent only if the parameter Supported GAD Shapes has been received in the Provide Subscriber Location indication and the shape to be included is supported by the GMLC.

Deferred MT-LR Response Indicator

See definition in clause 7.6.11.2.

User error

This parameter is sent by the responder when the location request has failed or cannot proceed and if present, takes one of the following values defined in clause 7.6.1.

- System Failure;
- Data Missing;
- Unexpected Data Value;
- Facility Not Supported;
- Unidentified Subscriber;
- Illegal Subscriber;
- Illegal Equipment;
- Absent Subscriber (diagnostic information may also be provided);
- Unauthorised requesting network;
- Unauthorised LCS Client with detailed reason;
- Position method failure with detailed reason.

Provider error

These are defined in clause 7.6.1.

13A.3 MAP-SUBSCRIBER-LOCATION-REPORT Service

13A.3.1 Definition

This service is used by a VMSC or SGSN to provide the location of a target MS to a GMLC when a request for location is either implicitly administered or made at some earlier time. This is a confirmed service using the primitives from table 13A.3/1.

13A.3.2 Service Primitives

Parameter name	Request	Indication	Response	Confirm
Invoke id	М	M(=)	M(=)	M(=)
LCS Event	М	M(=)		
LCS Client ID	М	M(=)		
Network Node Number	М	M(=)		
IMSI	С	C(=)		
MSISDN	С	C(=)		
NA-ESRD	С	C(=)		
NA-ESRK	С	C(=)		
IMEI	U	C(=)		
Location Estimate	С	C(=)		
Positioning Data	С	C(=)		
UTRAN Positioning Data	<u>C</u>	<u>C(=)</u>		
Age of Location Estimate	С	C(=)		
LMSI	U	C(=)		
GPRS Node Indicator	С	C(=)		
Additional Location Estimate	С	C(=)		
Deferred MT-LR Data	С	C(=)		
LCS-Reference Number	С	C(=)		
User error			С	C(=)
Provider error				0

Table 13A.3/1: Subscriber_Location_Report

13A.3.3 Parameter Definition and Use

All parameters are defined in clause 7.6. The use of these parameters and the requirements for their presence are specified in. 3GPP TS 23.271 [26a].

LCS Event

1

This parameter indicates the event that triggered the Subscriber Location Report.

LCS Client ID

This parameter provides information related to the identity of the recipient LCS client.

Network Node Number

See definition in clause 7.6.2. This parameter provides the address of the sending node.

<u>IMSI</u>

The IMSI shall be provided if available to the VMSC or SGSN.

MSISDN

The MSISDN shall be provided if available to the VMSC or SGSN.

NA-ESRD

If the target MS has originated an emergency service call in North America, the NA-ESRD shall be provided by the VMSC if available.

NA-ESRK

If the target MS has originated an emergency service call in North America, the NA-ESRK shall be provided by the VMSC if assigned.

IMEI

Inclusion of the IMEI is optional.

Location Estimate

This parameter provides the location estimate. The absence of this parameter implies that a location estimate was not available or could not be successfully obtained. If the obtained location estimate is not encoded in one of the supported geographical shapes then this parameter shall consist of one octet, which shall be discarded by the receiving node.

GERAN Positioning Data

This parameter indicates the usage of each positioning method that was attempted to determine the location estimate either successfully or unsuccessfully. <u>If Positioning Data received from the RAN contains no Positioning Methods</u>, <u>GERAN Positioning Data is excluded from the MAP message</u>. It may be included in the message only if the access network is GERAN, see 3GPP TS 23.271 [26a].

UTRAN Positioning Data

This parameter indicates the usage of each positioning method that was successfully attempted to determine the location estimate either successfully or unsuccessfully. If Position Data received from the RAN contains no Positioning Methods, UTRAN Positioning Data is excluded from the MAP message. It may be included in the message only if the access network is UTRAN, see 3GPP TS 23.271 [26a].

Age of Location Estimate

This parameter indicates how long ago the location estimate was obtained.

LMSI

The LMSI may be provided if assigned by the VLR.

GPRS Node Indicator

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

Additional Location Estimate

This parameter provides the location estimate when not provided by the Location Estimate parameter..

Deferred MT-LR Data

See definition in clause 7.6.11.3.

LCS-Reference Number

This parameter shall be included if the Subscriber Location Report is the reponse to a deferred MT location request.

User error

This parameter is sent by the responder when the received message contains an error, cannot be forwarded or stored for an LCS client or cannot be accepted for some other reason and if present, takes one of the following values defined in clause 7.6.1.

- System Failure;
- Data Missing;
- Unexpected Data Value;
- Resource Limitation;
- Unknown Subscriber;
- Unauthorised requesting network;
- Unknown or unreachable LCS Client.

Provider error

These are defined in clause 7.6.1.

***** Next Changed 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.
```

...}
RoutingInfoForLCS-Res ::= SEQUENCE {
 targetMS [0] SubscriberIdentity,
 lcsLocationInfo [1] LCSLocationInfo,
 extensionContainer [2] ExtensionContainer OPTIONAL,
 ...
}

LCSLocationInfo ::= SEQUENCE {		
networkNode-Number	ISDN-AddressString,	
NetworkNode-number can be either	2	
lmsi	[0] LMSI	OPTIONAL,
extensionContainer	<pre>[1] ExtensionContainer</pre>	OPTIONAL,
•••• /		
gprsNodeIndicator	[2] NULL	OPTIONAL,
gprsNodeIndicator is set only if		
additional-Number	[3] Additional-Number	OPTIONAL
}		
ProvideSubscriberLocation-Arg ::= SE	-	
locationType	LocationType,	
mlc-Number	ISDN-AddressString,	
lcs-ClientID	[0] LCS-ClientID	OPTIONAL,
privacyOverride	[1] NULL	OPTIONAL,
imsi	[2] IMSI	OPTIONAL,
msisdn	[3] ISDN-AddressString	OPTIONAL,
lmsi	[4] LMSI	OPTIONAL,
imei	[5] IMEI	OPTIONAL,
lcs-Priority	[6] LCS-Priority	OPTIONAL,
lcs-QoS	[7] LCS-QoS	OPTIONAL,
extensionContainer	[8] ExtensionContainer	OPTIONAL,
•••• ,		
supportedGADShapes	[9] SupportedGADShapes	OPTIONAL,
lcs-ReferenceNumber	[10] LCS-ReferenceNumber	OPTIONAL,
lcsServiceTypeID	[11] LCSServiceTypeID	OPTIONAL,
lcsCodeword	[12] LCSCodeword	OPTIONAL }
one of imsi or msisdn is mandato		
If a location estimate type indi		or cancel deferred
location, a lcs-Reference number	shall be included.	
ocationType ::= SEQUENCE {		
locationEstimateType	<pre>[0] LocationEstimateType,</pre>	
••••		
deferredLocationEventType	[1] DeferredLocationEventType	OPTIONAL }
LocationEstimateType ::= ENUMERATED {		
currentLocation	(0),	
currentOrLastKnownLocation	(1),	
initialLocation	(2),	
• • • /		
	(3),	
activateDeferredLocation		
cancelDeferredLocation	(4) }	
<pre>cancelDeferredLocation - exception handling:</pre>		
 cancelDeferredLocation exception handling: a ProvideSubscriberLocation-Arg content 	ntaining an unrecognized LocationE	
cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con	ntaining an unrecognized LocationE	
cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w	ntaining an unrecognized LocationE with a return error cause of unexp	
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w peferredLocationEventType ::= BIT STRING</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G {	
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w DeferredLocationEventType ::= BIT STRING msAvailable</pre>	ntaining an unrecognized LocationE with a return error cause of unexp	
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w PeferredLocationEventType ::= BIT STRING msAvailable - exception handling</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116))	ected data value
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta </pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak	ected data value
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be referredLocationEventType shall be referredLocationEventEventEventEventEventEventEventEven</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak	ected data value
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be referredLocationEventType shall be referredLocationEventEventEventEventEventEventEventEven</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak	ected data value
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value.</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak	ected data value
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con- shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE {</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ab ejected by the receiver with a ret	ected data value
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con- shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re- unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType } </pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType,	ected data value pove in curn error cause of
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID</pre>	ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID	ected data value pove in curn error cause of OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientDialedByMS</pre>	<pre>htaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString</pre>	ected data value nove in curn error cause of OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientDialedByMS lcsClientInternalID</pre>	<pre>htaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ab ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientType, [2] AddressString [3] LCSClientInternalID</pre>	ected data value pove in curn error cause of OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientDialedByMS</pre>	<pre>htaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString</pre>	ected data value nove in curn error cause of OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName ,</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientType, [2] AddressString [3] LCSClientInternalID [4] LCSClientName</pre>	ected data value nove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientInternalID lcsClientName , lcsAPN</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientDialedByMS lcsClientInternalID lcsClientName ,</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientType, [2] AddressString [3] LCSClientInternalID [4] LCSClientName</pre>	ected data value nove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID CSClientType ::= ENUMERATED {</pre>	<pre>htaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed at ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID CSClientType ::= ENUMERATED { emergencyServices</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID CSClientType ::= ENUMERATED {</pre>	<pre>htaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed at ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID CSClientType ::= ENUMERATED { emergencyServices</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed at ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID (0),</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID CSClientType ::= ENUMERATED { emergencyServices valueAddedServices</pre>	<pre>htaining an unrecognized LocationE yith a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID (0), (1),</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientDialedByMS lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientType ::= ENUMERATED { emergencyServices valueAddedServices plmnOperatorServices</pre>	<pre>htaining an unrecognized LocationE yith a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID (0), (1), (2),</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg con - shall be rejected by the receiver w DeferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientExternalID lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientType ::= ENUMERATED { emergencyServices valueAddedServices plmnOperatorServices lawfulInterceptServices</pre>	<pre>htaining an unrecognized LocationE yith a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID (0), (1), (2),</pre>	ected data value pove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg cont - shall be rejected by the receiver w msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientName , lcsAPN lcsRequestorID CSCClientType ::= ENUMERATED { emergencyServices valueAddedServices plmnOperatorServices lawfulInterceptServices } exception handling:</pre>	<pre>htaining an unrecognized LocationE yith a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID (0), (1), (2),</pre>	ove in curn error cause of OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL }
<pre>cancelDeferredLocation - exception handling: - a ProvideSubscriberLocation-Arg cont - shall be rejected by the receiver w eferredLocationEventType ::= BIT STRING msAvailable - exception handling - a ProvideSubscriberLocation-Arg conta - DeferredLocationEventType shall be re - unexpected data value. CS-ClientID ::= SEQUENCE { lcsClientType lcsClientType lcsClientExternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientInternalID lcsClientType ::= ENUMERATED { emergencyServices valueAddedServices plmnOperatorServices lawfulInterceptServices } exception handling: unrecognized values may be ign</pre>	<pre>ntaining an unrecognized LocationE with a return error cause of unexp G { (0) } (SIZE (116)) aining other values than listed ak ejected by the receiver with a ret [0] LCSClientType, [1] LCSClientExternalID [2] AddressString [3] LCSClientInternalID [4] LCSClientInternalID [4] LCSClientName [5] APN [6] LCSRequestorID (0), (1), (2), (3),</pre>	ected data value

LCSClientName ::= SEQUENCE {	
dataCodingScheme	[0] USSD-DataCodingScheme,
nameString	[2] NameString,
	[2] NameString,
}	
The USSD-DataCodingScheme shall indi	icate use of the default alphabet through the
following encoding	
bit 76543210	
00001111	
NameString ::= USSD-String (SIZE (1ma	axNameStringLength))
maxNameStringLength INTEGER ::= 63	
LCSRequestorID ::= SEQUENCE {	
dataCodingScheme	[0] USSD-DataCodingScheme,
requestorIDString	[1] RequestorIDString,
}	
RequestorIDString ::= USSD-String (SIZE	<pre>S (1maxRequestorIDStringLength))</pre>
maxRequestorIDStringLength INTEGER ::=	= 63
	••
LCS-Priority ::= OCTET STRING (SIZE (1)	
0 = highest priority	
1 = normal priority	
all other values treated as 1	
LCS-QoS ::= SEQUENCE {	
horizontal-accuracy	[0] Horizontal-Accuracy OPTIONAL,
verticalCoordinateRequest	[1] NULL OPTIONAL,
vertical-accuracy	[2] Vertical-Accuracy OPTIONAL,
-	-
responseTime	[3] ResponseTime OPTIONAL,
extensionContainer	[4] ExtensionContainer OPTIONAL,
}	
Horizontal-Accuracy ::= OCTET STRING (S	SIZE (1))
bit 8 = 0	
	de defined in 2000 mg 22 022 mbs benimental location
bits 7-1 = 7 bit Uncertainty Co	de defined in 3GPP TS 23.032. The horizontal location
bits 7-1 = 7 bit Uncertainty Co	nde defined in 3GPP TS 23.032. The horizontal location error indicated by the uncertainty code with 67%
bits 7-1 = 7 bit Uncertainty Co error should be less than the e	
bits 7-1 = 7 bit Uncertainty Co	
bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence.	error indicated by the uncertainty code with 67%
bits 7-1 = 7 bit Uncertainty Co error should be less than the e	error indicated by the uncertainty code with 67%
bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence.	error indicated by the uncertainty code with 67%
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0</pre>	error indicated by the uncertainty code with 67% ZE (1))
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncertainty </pre>	error indicated by the uncertainty code with 67% RE (1)) rtainty Code defined in 3GPP TS 23.032.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho</pre>	error indicated by the uncertainty code with 67% RE (1)) rtainty Code defined in 3GPP TS 23.032. build be less than the error indicated
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncertainty </pre>	error indicated by the uncertainty code with 67% RE (1)) rtainty Code defined in 3GPP TS 23.032. build be less than the error indicated
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho</pre>	error indicated by the uncertainty code with 67% RE (1)) rtainty Code defined in 3GPP TS 23.032. build be less than the error indicated
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67</pre>	error indicated by the uncertainty code with 67% RE (1)) rtainty Code defined in 3GPP TS 23.032. build be less than the error indicated
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE {</pre>	error indicated by the uncertainty code with 67% RE (1)) Ctainty Code defined in 3GPP TS 23.032. Fould be less than the error indicated % confidence.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory</pre>	error indicated by the uncertainty code with 67% RE (1)) rtainty Code defined in 3GPP TS 23.032. build be less than the error indicated
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} </pre>	Error indicated by the uncertainty code with 67% The code defined in 3GPP TS 23.032. The provide the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} </pre>	error indicated by the uncertainty code with 67% RE (1)) Ctainty Code defined in 3GPP TS 23.032. Fould be less than the error indicated % confidence.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} </pre>	Error indicated by the uncertainty code with 67% The code defined in 3GPP TS 23.032. The provide the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl</pre>	Error indicated by the uncertainty code with 67% The code defined in 3GPP TS 23.032. The provide the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED {</pre>	Error indicated by the uncertainty code with 67% The code defined in 3GPP TS 23.032. The provide the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0),</pre>	Error indicated by the uncertainty code with 67% The code defined in 3GPP TS 23.032. The provide the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED {</pre>	Error indicated by the uncertainty code with 67% The code defined in 3GPP TS 23.032. The provide the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), </pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Pould be less than the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } </pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Pould be less than the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling:</pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Duld be less than the error indicated % confidence. ResponseTimeCategory, Tifies later addition of a numeric response time.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling:</pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Pould be less than the error indicated % confidence. ResponseTimeCategory,
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling:</pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Duld be less than the error indicated % confidence. ResponseTimeCategory, Tifies later addition of a numeric response time.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory} note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } an unrecognized value shall be tre</pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Duld be less than the error indicated % confidence. ResponseTimeCategory, Tifies later addition of a numeric response time.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } an unrecognized value shall be tree SupportedGADShapes ::= BIT STRING {</pre>	Error indicated by the uncertainty code with 67% TE (1)) Tetainty Code defined in 3GPP TS 23.032. Duld be less than the error indicated % confidence. ResponseTimeCategory, Tifies later addition of a numeric response time.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0),</pre>	error indicated by the uncertainty code with 67% The first code defined in 3GPP TS 23.032. The first confidence. ResponseTimeCategory, Cifies later addition of a numeric response time. Exact the same as value 1 (delaytolerant)
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } an unrecognized value shall be tree SupportedGADShapes ::= BIT STRING {</pre>	error indicated by the uncertainty code with 67% The first code defined in 3GPP TS 23.032. The first confidence. ResponseTimeCategory, Cifies later addition of a numeric response time. Exact the same as value 1 (delaytolerant)
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl</pre>	error indicated by the uncertainty code with 67% The (1)) The tainty Code defined in 3GPP TS 23.032. Found be less than the error indicated "% confidence. ResponseTimeCategory, Tifies later addition of a numeric response time. Exact the same as value 1 (delaytolerant) e (1),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tree SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyCircl</pre>	error indicated by the uncertainty code with 67% The (1)) The tainty Code defined in 3GPP TS 23.032. Found be less than the error indicated "% confidence. ResponseTimeCategory, Tifies later addition of a numeric response time. Exact the same as value 1 (delaytolerant) e (1),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyEllip polygon (3), </pre>	error indicated by the uncertainty code with 67% The (1)) The tainty Code defined in 3GPP TS 23.032. Found be less than the error indicated "% confidence. ResponseTimeCategory, Tifies later addition of a numeric response time. Exact the same as value 1 (delaytolerant) e (1),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyEllip polygon (3), ellipsoidPointWithAltitude (4), </pre>	error indicated by the uncertainty code with 67% EE (1)) Ttainty Code defined in 3GPP TS 23.032. build be less than the error indicated % confidence. ResponseTimeCategory, Eifies later addition of a numeric response time. eated the same as value 1 (delaytolerant) e (1), see (2),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyEllip polygon (3), </pre>	error indicated by the uncertainty code with 67% EE (1)) Ctainty Code defined in 3GPP TS 23.032. build be less than the error indicated % confidence. ResponseTimeCategory, Eifies later addition of a numeric response time. eated the same as value 1 (delaytolerant) e (1), see (2),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl ellipsoidPointWithAltitude (4), ellipsoidPointWithAltitudeAndUncer</pre>	error indicated by the uncertainty code with 67% TE (1)) Ttainty Code defined in 3GPP TS 23.032. Duld be less than the error indicated % confidence. ResponseTimeCategory, fifies later addition of a numeric response time. Pated the same as value 1 (delaytolerant) e (1), pse (2), TtaintyElipsoid (5),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyEllip polygon (3), ellipsoidPointWithAltitude (4), ellipsoidPointWithAltitudeAndUncer ellipsoidArc (6) } (SIZE (716)) </pre>	error indicated by the uncertainty code with 67% Tainty Code defined in 3GPP TS 23.032. build be less than the error indicated % confidence. ResponseTimeCategory, difies later addition of a numeric response time. eated the same as value 1 (delaytolerant) e (1), bse (2), taintyElipsoid (5),
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyCircl ellipsoidPointWithAltitude (4), ellipsoidPointWithAltitude (4), ellipsoidPointWithAltitudeAndUncer ellipsoidArc (6) } (SIZE (716)) A node shall mark in the BIT STRING</pre>	error indicated by the uncertainty code with 67% The first code defined in 3GPP TS 23.032. The base start the error indicated % confidence. ResponseTimeCategory, difies later addition of a numeric response time. Heated the same as value 1 (delaytolerant) e (1), se (1), se (2), taintyElipsoid (5), all Shapes defined in 3GPP TS 23.032 it supports.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPointWithUncertaintyCircl ellipsoidPointWithUncertaintyEllip polygon (3), ellipsoidPointWithAltitude (4), ellipsoidPointWithAltitudeAndUncer ellipsoidArc (6) } (SIZE (716)) </pre>	error indicated by the uncertainty code with 67% The first code defined in 3GPP TS 23.032. The base start the error indicated % confidence. ResponseTimeCategory, difies later addition of a numeric response time. Heated the same as value 1 (delaytolerant) e (1), se (1), se (2), taintyElipsoid (5), all Shapes defined in 3GPP TS 23.032 it supports.
<pre> bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZ bit 8 = 0 bits 7-1 = 7 bit Vertical Uncer The vertical location error sho by the uncertainty code with 67 ResponseTime ::= SEQUENCE { responseTimeCategory } note: an expandable SEQUENCE simpl ResponseTimeCategory ::= ENUMERATED { lowdelay (0), delaytolerant (1), } exception handling: an unrecognized value shall be tre SupportedGADShapes ::= BIT STRING { ellipsoidPoint (0), ellipsoidPointWithUncertaintyCircl ellipsoidPointWithAltitude (4), ellipsoidPointWithAltitudeAndUncer ellipsoidArc (6) } (SIZE (716)) A node shall mark in the BIT STRING</pre>	error indicated by the uncertainty code with 67% The first code defined in 3GPP TS 23.032. Found be less than the error indicated % confidence. ResponseTimeCategory, fifies later addition of a numeric response time. Heated the same as value 1 (delaytolerant) e (1), se (1), se (2), taintyElipsoid (5), all Shapes defined in 3GPP TS 23.032 it supports.

LCS-ReferenceNumber::= OCTET STRING (SIZE(1))

LCSCodeword ::= SEQUENCE {		
dataCodingScheme	[0] USSD-DataCodingScheme,	
lcsCodewordString	 LCSCodewordString, 	
}		
LCSCodewordString ::= USSD-String (S	<pre>IZE (1maxLCSCodewordStringLength))</pre>	
maxLCSCodewordStringLength INTEGER	20	
MaxLCSCOdewordStringLength INTEGER	··= 20	
ProvideSubscriberLocation-Res :::	= SEQUENCE {	
locationEstimate	Ext-GeographicalInformation,	
ageOfLocationEstimate	[0] AgeOfLocationInformation	OPTIONAL,
extensionContainer	[1] ExtensionContainer	OPTIONAL,
,		
add-LocationEstimate	[2] Add-GeographicalInformation	OPTIONAL,
deferredmt-lrResponseIndicator	[3] NULL	OPTIONAL,
<u>geran</u> PpositioningData	[4] PositioningDataInformation	OPTIONAL,
utranPositioningData	<pre>[x] UtranPositioningDataInfo</pre>	OPTIONAL }
if deferredmt-irResponseIndicat	or is set, locationEstimate is ignored	•
the add-LocationEstimate paramete	r shall not be sent to a node that did	not indicate the
geographic shapes supported in th		nee marcade ene
	locationEstimate parameters shall not	be sent if
	has been received in ProvideSubscriber	
	Estimate or add-LocationEstimate is no	
1	s. In such a case ProvideSubscriberLoc	
	lityNotSupported with additional indic	
shapeOfLocationEstimateNotSupport		

	graphicalInformation ::= OCTET STRING (SIZE (1.	.maxExt-GeographicalInformation))
k	Refers to geographical Information defined in 3GPF	
I	This is composed of 1 or more octets with an inter	rnal structure according to
	3GPP TS 23.032	-
C	Octet 1: Type of shape, only the following shapes	in 3GPP TS 23.032 are allowed:
	(a) Ellipsoid point with uncertainty circle	
	(b) Ellipsoid point with uncertainty ellips	
	(c) Ellipsoid point with altitude and uncer	
	(d) Ellipsoid Arc	
	(e) Ellipsoid Point	
	Any other value in octet 1 shall be treated as inv	alid
	-	
	Octets 2 to 8 for case (a) - Ellipsoid point with	-
	Degrees of Latitude	3 octets
	Degrees of Longitude	3 octets
	Uncertainty code	1 octet
C	Octets 2 to 11 for case (b) - Ellipsoid point with	
	Degrees of Latitude	3 octets
	Degrees of Longitude	3 octets
	Uncertainty semi-major axis	1 octet
	Uncertainty semi-minor axis	1 octet
	Angle of major axis	1 octet
	Confidence	1 octet
C	Octets 2 to 14 for case (c) - Ellipsoid point with	
0	Degrees of Latitude	3 octets
	Degrees of Longitude	3 octets
	Altitude	2 octets
	Uncertainty semi-major axis	1 octet
	Uncertainty semi-minor axis	1 octet
	Angle of major axis	1 octet
	Uncertainty altitude	1 octet
	Confidence	1 octet
C	Octets 2 to 13 for case (d) – Ellipsoid Arc	
	Degrees of Latitude	3 octets
	Degrees of Longitude	3 octets
	Inner radius	2 octets
	Uncertainty radius	1 octet
	Offset angle	1 octet
	Included angle	1 octet
	Confidence	1 octet
	Octets 2 to 7 for case (e) - Ellipsoid Point	
0	Degrees of Latitude	3 octets
	-	
	Degrees of Longitude	3 octets
	The Back Community of the State	
	An Ext-GeographicalInformation parameter comprisin	-
	containing any other shape or an incorrect number	
	to 3GPP TS 23.032 shall be treated as invalid data	a by a receiver.
	An Ext-GeographicalInformation parameter comprisir	
k	by the receiver if an Add-GeographicalInformation	
i	in the same message.	
	-	
Z	An Ext-GeographicalInformation parameter comprisin	ng one octet shall be treated as
	invalid data by the receiver if an Add-Geographica	-
	received in the same message.	of matter parameter is not
L	.eccived in the balle llebbaye.	
	eographicalInformation INTEGER ::= 20	
t	the maximum length allows for further shapes in 30	GPP TS 23.032 to be included in lat
V	versions of 3GPP TS 29.002	
	ingDataInformation ::= OCTET STRING (SIZE (2max)	PositioningDataInformation))
	Refers to the Positioning Data defined in 3GPP TS	
itioni		
itioni R		
ition: R T	This is composed of 2 or more octets with an inter	
ition: R T		
ition: K J	This is composed of 2 or more octets with an inter 3GPP TS 49.031.	
ition: K J	This is composed of 2 or more octets with an inter	
ition: K J	This is composed of 2 or more octets with an inter 3GPP TS 49.031.	
itioni K T 3 Positi	This is composed of 2 or more octets with an inter 3GPP TS 49.031. ioningDataInformation INTEGER ::= 10	
itioni R T 3 Positi anPosi	This is composed of 2 or more octets with an inter 3GPP TS 49.031. ioningDataInformation INTEGER ::= 10 itioningDataInfo ::= OCTET STRING (SIZE (3maxUtr	ranPositioningDataInfo))
ition: K T 3 Posit: anPosit: K	This is composed of 2 or more octets with an inter 3GPP TS 49.031. ioningDataInformation INTEGER ::= 10	ranPositioningDataInfo)) 413.

maxUtranPositioningDataInfo INTEGER ::= 11

Add-GeographicalInformation ::= OCTET STRING (SIZE (1..maxAdd-GeographicalInformation)) -- Refers to geographical Information defined in 3GPP TS 23.032. -- This is composed of 1 or more octets with an internal structure according to -- 3GPP TS 23.032 -- Octet 1: Type of shape, all the shapes defined in 3GPP TS 23.032 are allowed: -- Octets 2 to n (where n is the total number of octets necessary to encode the shape -- according to 3GPP TS 23.032) are used to encode the shape itself in accordance with the -- encoding defined in 3GPP TS 23.032 -- An Add-GeographicalInformation parameter, whether valid or invalid, received -- together with a valid Ext-GeographicalInformation parameter in the same message -- shall be discarded. -- An Add-GeographicalInformation parameter containing any shape not defined in -- 3GPP TS 23.032 or an incorrect number of octets or coding according to -- 3GPP TS 23.032 shall be treated as invalid data by a receiver if not received -- together with a valid Ext-GeographicalInformation parameter in the same message maxAdd-GeographicalInformation INTEGER ::= 91 - the maximum length allows support for all the shapes currently defined in 3GPP TS 23.032 SubscriberLocationReport-Arg ::= SEQUENCE { lcs-Event LCS-Event. lcs-ClientID LCS-ClientID. lcsLocationInfo LCSLocationInfo, [0] ISDN-AddressString msisdn OPTIONAL, imsi [1] IMSI OPTIONAL, [2] IMEI imei OPTIONAL. OPTIONAL, na-ESRD [3] ISDN-AddressString

[4] ISDN-AddressString

[7] ExtensionContainer

[9] Deferredmt-lrData

[10] LCS-ReferenceNumber

[6] AgeOfLocationInformation

[11] PositioningDataInformation

[x] UtranPositioningDataInfo

[5] Ext-GeographicalInformation OPTIONAL,

[8] Add-GeographicalInformation OPTIONAL,

OPTIONAL.

OPTIONAL,

OPTIONAL,

OPTIONAL,

OPTIONAL,

OPTIONAL .

OPTIONAL

-- the deferredmt-lrData parameter shall be included if and only if the lcs-Event

-- one of msisdn or imsi is mandatory

-- indicates a deferredmt-lrResponse.

-- if the lcs-Event indicates a deferredmt-lrResponse then the locationEstimate

-- a location estimate that is valid for the locationEstimate parameter should -- be transferred in this parameter in preference to the add-LocationEstimate.

-- and the add-location $\ensuremath{\mathsf{Estimate}}$ parameters shall not be sent if the

-- supportedGADShapes parameter had been received in ProvideSubscriberLocation-Arg

-- and the shape encoded in locationEstimate or add-LocationEstimate was not marked

- -- as supported in supportedGADShapes. In such a case terminationCause
- -- in deferredmt-lrData shall be present with value

-- shapeOfLocationEstimateNotSupported.

-- If a lcs event indicates deferred mt-lr response, the lcs-Reference number shall be -- included.

Deferredmt-lrData ::= SEQUENCE {

na-ESRK

locationEstimate ageOfLocationEstimate

extensionContainer

deferredmt-lrData

lcs-ReferenceNumber

add-LocationEstimate

geranPpositioningData

utranPositioningData

	deferredLocationEventType	DeferredLocationEventType,	
	terminationCause	[0] TerminationCause	OPTIONAL,
	lcsLocationInfo	[1] LCSLocationInfo	OPTIONAL,
	}		
	lcsLocationInfo may be included of	only if a terminationCause is pre	esent
	indicating mt-lrRestart.		
LCS	-Event ::= ENUMERATED {		
	emergencyCallOrigination (0),		
	<pre>emergencyCallRelease (1),</pre>		
	mo-lr (2),		
	••••		
	deferredmt-lrResponse (3) }		
1			

-- exception handling:

-- a SubscriberLocationReport-Arg containing an unrecognized LCS-Event

-- shall be rejected by a receiver with a return error cause of unexpected data value

TerminationCause ::= ENUMERATED {
normal (0),
errorundefined (1),
internalTimeout (2),
congestion (3),
<pre>mt-lrRestart (4),</pre>
privacyViolation (5),
,
shapeOfLocationEstimateNotSupported (6) }
mt-lrRestart shall be used to trigger the GMLC to restart the location procedure,
either because the sending node knows that the terminal has moved under coverage
of another MSC or SGSN (e.g. Send Identification received), or because the subscriber
has been deregistered due to a Cancel Location received from HLR.
exception handling
an unrecognized value shall be treated the same as value 1 (errorundefined)

SubscriberLocationReport-Res	:= SEQUENCE {	
extensionContainer	ExtensionContainer	OPTIONAL,
}		

END

3GPP TSG CN WG4 Meeting #22 Atlanta, USA, 16th – 20st February 2003

N4-040327

	CHANGE REQUEST		CR-Form-v7
ж	29.002 CR 711 #rev 2 [#]	Current version: 6.4.0	H
For <u>HELP</u> or	using this form, see bottom of this page or look at the	e pop-up text over the X sy	mbols.
Proposed chang	e affects: UICC apps೫ ME Radio Ac	ccess Network Core N	letwork
Title:	# Inclusion of UTRAN Positioning Data parameter		
Source:	ቼ CN4		
Work item code:	業 <mark>LCS2</mark>	Date:	
Category:	 F Use <u>one</u> 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 <u>TR 21.900</u>. 	Release: # Rel-6 Use one of the following regime 2 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: अ	In CR's 500r5 (ReI-5) and 568r4 (ReI-6), changes were approved to introduce the Positioning Data parameter into MAP messaging so that the parameter can be passed on to the GMLC and ultimately to provide that information to the PSAP in North America to meet FCC requirments. However, at that time only the GERAN case was addressed, following an agreement that only GERAN access would be addressed in R5, and that the equivalent changes for UTRAN access required more work and so could not be addressed in any release earlier than R6.
	CN4 approved CR 674 at CN4 #20, but since then problems have been identified with the approach taken in CR674 which was to reuse the existing 'Positioning Data' parameter - whilst the GERAN and UTRAN parameters have the same structure, they are encoded differently and so the GMLC is unable to determine whether to decode the parameter according to GERAN encoding rules or UTRAN encoding rules.
	This change implements an alternative approach using separate parameters for the GERAN data and the UTRAN data, thus allowing the GMLC to determine which RAT is providing the data and enabling it to decode the parm accordingly. This is done by adding a new parameter to relevant MAP messages to contain the UTRAN Positiong Data.
	This is an essential correction.
Summary of change: ೫	UTRAN Positioning Data parameter is added to Provide Subscriber Location and Subscriber Location Report messaging.
	Notes on revisions: The RAN3 parameter is only included in UTRAN messages

	if the positioning attempt was successful. Therefore, for the UTRAN positioning method, unsuccessful attempts and related information are not included.
Consequences if not approved:	# FCC regulatory requirements for networks with UTRAN access are not met. Existing broken method for passing UTRAN data to GMLC remains in place.
Clauses affected:	# 7.6.11.11A, 7.6.11.11B (New), 13A.2, 13A.3, 17.7.13
Other specs affected:	YN%XXOther core specificationsXTest specificationsXO&M Specifications
Other comments:	ж

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <u>http://www.3gpp.org/specs/CR.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> 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.

7.6.11.11A GERAN Positioning Data

This parameter provides positioning data associated with a successful or unsuccessful location attempt for a target MS. For GERAN this parameter contains positioning data as described in 3GPP TS 49.031 [59a]. For UTRAN this parameter contains positioning data as described in 3GPP TS 25.413 [120].

7.6.11.11B UTRAN Positioning Data

This parameter provides positioning data associated with a successful or unsuccessful location attempt for a target MS as described in 3GPP TS 25.413 [120]. It contains the positioningDataDiscriminator and positioningDataSet parts of the RANAP PositionData element only.

***** Next Changed Section *****

13A.2 MAP-PROVIDE-SUBSCRIBER-LOCATION Service

13A.2.1 Definition

This service is used by a GMLC to request the location of a target MS from the visited MSC or SGSN at any time. This is a confirmed service using the primitives from table 13A.2/1.

13A.2.2 Service Primitives

Parameter name	Request	Indication	Response	Confirm
Invoke id	М	M(=)	M(=)	M(=)
Location Type	М	M(=)		
MLC Number	М	M(=)		
LCS Client ID	М	M(=)		
Privacy Override	U	C(=)		
IMSI	С	C(=)		
MSISDN	С	C(=)		
LMSI	С	C(=)		
LCS Priority	С	C(=)		
LCS QoS	С	C(=)		
IMEI	U	C(=)		
Supported GAD Shapes	С	C(=)		
LCS-Reference Number	С	C(=)		
LCS Codeword	С	C(=)		
LCS Service Type Id	С	C(=)		
LCS Privacy Check	С	C(=)		
Area Event Info	С	C(=)		
H-GMLC Address	С	C(=)		
R-GMLC Address	С	C(=)		
Location Estimate			М	M(=)
GERAN Positioning Data			С	C(=)
UTRAN Positioning Data			<u>C</u>	<u>C(=)</u>
Age of Location Estimate			C C	C(=)
Additional Location			С	C(=)
Estimate				
Deferred MT-LR			С	C(=)
Response Indicator				
Cell Id Or SAI			С	C(=)
User error			С	C(=)
Provider error				0

Table 13A.2/1: Provide_Subscriber_Location

13A.2.3 Parameter Definition and Use

All parameters are defined in clause 7.6. The use of these parameters and the requirements for their presence are specified in. 3GPP TS 23.271 [26a].

Location Type

This parameter identifies the type of location information requested.

MLC Number

This is the E.164 number of the requesting GMLC.

LCS Client ID

This parameter provides information related to the identity of an LCS client.

Privacy Override

This parameter indicates if MS privacy is overridden by the LCS client when the GMLC and VMSC or SGSN for an MT-LR are in the same country.

IMSI

The IMSI is provided to identify the target MS. At least one of the IMSI or MSISDN is mandatory.

MSISDN

The MSISDN is provided to identify the target MS. At least one of the IMSI or MSISDN is mandatory.

LMSI

The LMSI shall be provided if previously supplied by the HLR. This parameter is only used in the case of the MT-LR for CS domain.

LCS Priority

This parameter indicates the priority of the location request.

LCS QoS

This parameter indicates the required quality of service in terms of response time and accuracy.

IMEI

Inclusion of the IMEI is optional.

Supported GAD Shapes

This parameter indicates which of the shapes defined in 3GPP TS 23.032 [122] are supported.

LCS-Reference Number

This parameter shall be included if a deferred MT-LR procedure is performed for a UE available event or an area event.

LCS Codeword

See definition in clause 7.6.11.18. The requirements for its presence are specified in 3GPP TS 23.271 [26a].

LCS Service Type Id

See definition in clause 7.6.11.15. The requirements for its presence are specified in 3GPP TS 23.271 [26a].

LCS Privacy Check

See definition in clause 7.6.11. The requirements for its and its components presence are specified in 3GPP TS 23.271 [26a].

Area Event Info

See definition in clause 7.6.11. The parameter shall be included if a deferred MT-LR procedure is performed for an area event.

H-GMLC address

See definition in clause 7.6.2. The parameter shall be included if a deferred MT-LR procedure is performed for an area event.

R-GMLC address

See definition in clause 7.6.2. The parameter shall be included if a deferred MT-LR procedure is performed for an area event and the R-GMLC is not the H-GMLC.

Location Estimate

This parameter provides the location estimate if this is encoded in one of the supported geographical shapes. Otherwise this parameter shall consist of one octet, which shall be discarded by the receiving node.

GERAN Positioning Data

This parameter indicates the usage of each positioning method that was attempted to determine the location estimate either successfully or unsuccessfully. If Positioning Data received from the RAN contains no Positioning Methods, Positioning Data is excluded from the MAP message. It may be included in the message only if the access network is GERAN, see 3GPP TS 23.271 [26a].

UTRAN Positioning Data

This parameter indicates the usage of each positioning method that was successfully attempted to determine the location estimate either successfully or unsuccessfully. If Position Data received from the RAN contains no Positioning Methods, UTRAN Positioning Data is excluded from the MAP message. It may be included in the message only if the access network is UTRAN, see 3GPP TS 23.271 [26a].

Age of Location Estimate

This parameter indicates how long ago the location estimate was obtained.

Additional Location Estimate

This parameter provides the location estimate when not provided by the Location Estimate parameter. It may be sent only if the parameter Supported GAD Shapes has been received in the Provide Subscriber Location indication and the shape to be included is supported by the GMLC.

Deferred MT-LR Response Indicator

See definition in clause 7.6.11.2.

Cell Id Or SAI

For GERAN access, this parameter indicates Global Cell Identifier of the cell that the served subscriber is currently attached to. For UTRAN access, this parameter contains the Service Area Identifier for the cell that the subscriber is currently attached to. This parameter is included only for North American Emergency Calls as described in 3GPP TS 23.271 [26a].

User error

This parameter is sent by the responder when the location request has failed or cannot proceed and if present, takes one of the following values defined in clause 7.6.1.

- System Failure;
- Data Missing;
- Unexpected Data Value;
- Facility Not Supported;

- Unidentified Subscriber;
- Illegal Subscriber;
- Illegal Equipment;
- Absent Subscriber (diagnostic information may also be provided);
- Unauthorised requesting network;
- Unauthorised LCS Client with detailed reason;
- Position method failure with detailed reason.

Provider error

These are defined in clause 7.6.1.

13A.3 MAP-SUBSCRIBER-LOCATION-REPORT Service

13A.3.1 Definition

This service is used by a VMSC or SGSN to provide the location of a target MS to a GMLC when a request for location is either implicitly administered or made at some earlier time. This is a confirmed service using the primitives from table 13A.3/1.

13A.3.2 Service Primitives

Parameter name	Request	Indication	Response	Confirm
Invoke id	M	M(=)	M(=)	M(=)
LCS Event	М	M(=)		
LCS Client ID	М	M(=)		
Network Node Number	М	M(=)		
IMSI	С	C(=)		
MSISDN	С	C(=)		
NA-ESRD	С	C(=)		
NA-ESRK	С	C(=)	C	C(=)
IMEI	U	C(=)		
Location Estimate	С	C(=)		
GERAN Positioning Data	С	C(=)		
UTRAN Positioning Data	<u>C</u>	<u>C(=)</u>		
Age of Location Estimate	С	C(=)		
LMSI	U	C(=)		
GPRS Node Indicator	С	C(=)		
Additional Location Estimate	С	C(=)		
Deferred MT-LR Data	С	C(=)		
LCS-Reference Number	С	C(=)		
NA-ESRK Request	С	C(=)		
Cell Id Or SAI	С	C(=)		
H-GMLC Address	С	C(=)		
R-GMLC Address	С	C(=)		
User error			C	C(=)
Provider error				0

Table 13A.3/1: Subscriber_Location_Report

13A.3.3 Parameter Definition and Use

All parameters are defined in clause 7.6. The use of these parameters and the requirements for their presence are specified in. 3GPP TS 23.271 [26a].

LCS Event

This parameter indicates the event that triggered the Subscriber Location Report.

LCS Client ID

This parameter provides information related to the identity of the recipient LCS client.

Network Node Number

See definition in clause 7.6.2. This parameter provides the address of the sending node.

IMSI

The IMSI shall be provided if available to the VMSC or SGSN.

<u>MSISDN</u>

The MSISDN shall be provided if available to the VMSC or SGSN.

NA-ESRD

If the target MS has originated an emergency service call in North America, the NA-ESRD shall be provided by the VMSC if available.

NA-ESRK

If the target MS has originated an emergency service call in North America, the NA-ESRK shall be provided by the VMSC if assigned.

If the target MS has originated an emergency service call in North America and NA-ESRK Request is included in Subscriber_Location_Report-Arg, NA-ESRK may also be included in the response to the MSC, see 3GPP TS 23.271 [26a].

IMEI

Inclusion of the IMEI is optional.

Location Estimate

This parameter provides the location estimate. The absence of this parameter implies that a location estimate was not available or could not be successfully obtained. If the obtained location estimate is not encoded in one of the supported geographical shapes then this parameter shall consist of one octet, which shall be discarded by the receiving node.

GERAN Positioning Data

This parameter indicates the usage of each positioning method that was attempted to determine the location estimate either successfully or unsuccessfully. If Positioning Data received from the RAN contains no Positioning Methods, Positioning Data is excluded from the MAP message. It may be included in the message only if the access network is GERAN, see 3GPP TS 23.271 [26a].

UTRAN Positioning Data

This parameter indicates the usage of each positioning method that was successfullyattempted to determine the location estimate-either successfully or unsuccessfully. If Position Data received from the RAN contains no Positioning Methods, UTRAN Positioning Data is excluded from the MAP message. It may be included in the message only if the access network is UTRAN, see 3GPP TS 23.271 [26a].

Age of Location Estimate

This parameter indicates how long ago the location estimate was obtained.

<u>LMSI</u>

The LMSI may be provided if assigned by the VLR.

GPRS Node Indicator

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

Additional Location Estimate

This parameter provides the location estimate when not provided by the Location Estimate parameter..

Deferred MT-LR Data

See definition in clause 7.6.11.3.

LCS-Reference Number

This parameter shall be included if the Subscriber Location Report is the response to a deferred MT location request.

NA-ESRK Request

If the target MS has originated an emergency service call in North America, NA-ESRK Request may be included to indicate that the MSC is able to accept NA-ESRK in the Response message, see section 7.6.11.19.

Cell Id Or SAI

For GERAN access, this parameter indicates Global Cell Identifier of the cell that the served subscriber is currently attached to. For UTRAN access, this parameter contains the Service Area Identifier for the cell that the subscriber is currently attached to. This parameter is included only for North American Emergency Calls as described in 3GPP TS 23.271 [26a].

H-GMLC address

See definition in clause 7.6.2. The parameter shall be included if the Subscriber Location Report is the response to a deferred MT location request for an area event.

R-GMLC address

See definition in clause 7.6.2. The parameter shall be included if the parameter was received from the UE and if the Subscriber Location Report is the response to a deferred MT location request for an area event.

User error

This parameter is sent by the responder when the received message contains an error, cannot be forwarded or stored for an LCS client or cannot be accepted for some other reason and if present, takes one of the following values defined in clause 7.6.1.

- System Failure;
- Data Missing;
- Unexpected Data Value;
- Resource Limitation;
- Unknown Subscriber;
- Unauthorised requesting network;
- Unknown or unreachable LCS Client.

Provider error

These are defined in clause 7.6.1.

***** Next Changed 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) version9 (9)}
DEFINITIONS
IMPLICIT TAGS
::=
BEGIN
EXPORTS
   RoutingInfoForLCS-Arg,
   RoutingInfoForLCS-Res,
   ProvideSubscriberLocation-Arg,
   ProvideSubscriberLocation-Res,
   SubscriberLocationReport-Arg,
   SubscriberLocationReport-Res,
   LocationType,
   DeferredLocationEventType,
   LCSClientName,
   LCS-QoS,
   Horizontal-Accuracy,
   ResponseTime,
   Ext-GeographicalInformation,
   SupportedGADShapes,
   Add-GeographicalInformation,
   LCSRequestorID,
   LCS-ReferenceNumber,
   LCSCodeword,
   AreaEventInfo
;
IMPORTS
   AddressString,
   ISDN-AddressString,
   IMEI,
   IMSI,
   LMSI,
   SubscriberIdentity,
   AgeOfLocationInformation,
   LCSClientExternalID,
   LCSClientInternalID.
   LCSServiceTypeID,
   CellGlobalIdOrServiceAreaIdOrLAI
FROM MAP-CommonDataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-CommonDataTypes (18) version9 (9)}
   ExtensionContainer
FROM MAP-ExtensionDataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version9 (9)}
   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) version9 (9)}
   APN,
   GSN-Address,
   SupportedLCS-CapabilitySets
FROM MAP-MS-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-MS-DataTypes (11) version9 (9)}
  Additional-Number
FROM MAP-SM-DataTypes {
   itu-t identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SM-DataTypes (16) version9 (9)}
;
RoutingInfoForLCS-Arg ::= SEQUENCE {
```

Concerning and of the producer (
mlcNumber	<pre>[0] ISDN-AddressString,</pre>	
targetMS	 SubscriberIdentity, 	
extensionContainer	[2] ExtensionContainer	OPTIONAL,
1		

RoutingInfoForLCS-Res ::= SEQUENCE {		
targetMS	[0] SubscriberIdentity,	
lcsLocationInfo	<pre>[1] LCSLocationInfo,</pre>	
extensionContainer	[2] ExtensionContainer	OPTIONAL,
• • • 1		
v-gmlc-Address	[3] GSN-Address	OPTIONAL,
h-gmlc-Address	[4] GSN-Address	OPTIONAL,
ppr-Address	[5] GSN-Address	OPTIONAL }
LCSLocationInfo ::= SEQUENCE {		
networkNode-Number	ISDN-AddressString,	
NetworkNode-number can be eithe	r msc-number or sqsn-number	
lmsi	[0] LMSI	OPTIONAL,
extensionContainer	[1] ExtensionContainer	OPTIONAL,
gprsNodeIndicator	[2] NULL	OPTIONAL,
gprsNodeIndicator is set only i	f the SGSN number is sent as the Ne	twork Node Number
additional-Number	[3] Additional-Number	OPTIONAL,
supportedLCS-CapabilitySets	[4] SupportedLCS-CapabilitySets	OPTIONAL,
additional-LCS-CapabilitySets	[5] SupportedLCS-CapabilitySets	OPTIONAL
}		
ProvideSubscriberLocation-Arg ::= S	EQUENCE {	
locationType	LocationType,	
mlc-Number	ISDN-AddressString,	
lcs-ClientID	[0] LCS-ClientID	OPTIONAL,
privacyOverride	[1] NULL	OPTIONAL,
imsi	[2] IMSI	OPTIONAL,
msisdn	[3] ISDN-AddressString	OPTIONAL,
lmsi	[4] LMSI	OPTIONAL,
imei	[5] IMEI	OPTIONAL,
lcs-Priority	[6] LCS-Priority	OPTIONAL,
lcs-OoS	[7] LCS-OoS	OPTIONAL,
extensionContainer	[8] ExtensionContainer	OPTIONAL,
··· /	[0] Excensionconcarner	OT I TOWAL,
supportedGADShapes	[9] SupportedGADShapes	OPTIONAL,
lcs-ReferenceNumber	[10] LCS-ReferenceNumber	OPTIONAL,
lcsServiceTypeID	[11] LCSServiceTypeID	OPTIONAL,
lcsCodeword	[11] LCSCodeword	OPTIONAL,
lcs-PrivacyCheck	[13] LCS-PrivacyCheck	OPTIONAL,
areaEventInfo	[14] AreaEventInfo	OPTIONAL,
h-gmlc-Address	[15] GSN-Address	OPTIONAL,
r-gmlc-Address	[16] GSN-Address	OPTIONAL }
one of imsi or msisdn is mandat	0774	
	ory licates activate deferred location o	n annal deferred
11 a location estimate type ind location, a lcs-Reference numbe		r cancel delerred
iocation, a ics-kererence numbe	i shall be included.	
LocationType ::= SEQUENCE {		
locationEstimateType	[0] LocationEstimateType,	
····/	[0] hocaetombermaterype,	
deferredLocationEventType	[1] DeferredLocationEventType	OPTIONAL }
LocationEstimateType ::= ENUMERATED {		
currentLocation	(0),	
currentOrLastKnownLocation	(1),	
initialLocation	(1), (2),	
,		
, activateDeferredLocation	(3),	
cancelDeferredLocation	(4) }	
exception handling:	(∸ / J	
	ntaining an unrecognized LocationEs	timateType
	with a return error cause of unexpe	
SHALL DE LEJECLEU DY LHE LECEIVEL	with a return error cause or unexpe	cicu unca value
DeferredLocationEventType ::= BIT STRIN	IG {	
msAvailable	(0),	
enteringIntoArea	(0) , (1) ,	
leavingFromArea	(1), (2),	
beingInsideArea	(2), (3) } (SIZE (116))	
beingInsideArea is always treated as		sible value
of occurrenceInfo inside areaEventIn		SIDIE VALUE
exception handling:		in in
a ProvideSubscriberLocation-Arg cont	÷	
DeferredLocationEventType shall be a	ejected by the receiver with a retu	un error cause of
unexpected data value.		
LCS-ClientID ::= SEQUENCE {		
lcsClientType	<pre>[0] LCSClientType,</pre>	

	[1] LCSClientExternalID	OPTIONAL,
lcsClientDialedByMS	[2] AddressString	OPTIONAL,
lcsClientInternalID lcsClientName	<pre>[3] LCSClientInternalID [4] LCSClientName</pre>	OPTIONAL, OPTIONAL,
··· ,		or round,
lcsAPN	[5] APN	OPTIONAL,
lcsRequestorID	[6] LCSRequestorID	OPTIONAL }
LCSClientType ::= ENUMERATED {		
emergencyServices	(0),	
valueAddedServices	(1),	
plmnOperatorServices	(2),	
lawfulInterceptServices	(3),	
} exception handling:		
	mored if the LCS client uses the	privacy override
otherwise, an unrecognized va	lue shall be treated as unexpect	ed data by a receiver
a return error shall then be	returned if received in a MAP in	nvoke
LCSClientName ::= SEQUENCE { dataCodingScheme	[0] USSD-DataCodingScheme,	
nameString	[2] NameString,	
••••	<u> </u>	
lcs-FormatIndicator	[3] LCS-FormatIndicator	OPTIONAL }
The USSD-DataCodingScheme shall ind.	icate use of the default alphabe	t through the
following encoding		
bit 7 6 5 4 3 2 1 0		
00001111		
NameString ::= USSD-String (SIZE (1ma	avNameStringLength))	
maxNameStringLength INTEGER ::= 63		
LCSRequestorID ::= SEQUENCE {		
dataCodingScheme requestorIDString	<pre>[0] USSD-DataCodingScheme, [1] RequestorIDString,</pre>	
····	[1] Requestorrestring,	
lcs-FormatIndicator	[2] LCS-FormatIndicator	OPTIONAL }
		\ \
RequestorIDString ::= USSD-String (SIZ)	E (1maxRequestorIDStringLength))
	= 63	
maxRequestorIDStringLength INTEGER :::		
maxRequestorIDStringLength INTEGER :::		
LCS-FormatIndicator ::= ENUMERATED {		
LCS-FormatIndicator ::= ENUMERATED { logicalName	(0),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress	(0), (1),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn	(0), (1), (2),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress	(0), (1),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url	(0), (1), (2), (3),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl }	(0), (1), (2), (3), (4),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1)	(0), (1), (2), (3), (4),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority	(0), (1), (2), (3), (4),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1)	(0), (1), (2), (3), (4),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1	(0), (1), (2), (3), (4),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE {	(0), (1), (2), (3), (4),	
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy	<pre>(0), (1), (2), (3), (4),))</pre> [0] Horizontal-Accuracy	OPTIONAL,
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL</pre>	OPTIONAL,
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy	<pre>(0), (1), (2), (3), (4),))</pre> [0] Horizontal-Accuracy	-
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy	<pre>(0), (1), (2), (3), (4),)))) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy</pre>	OPTIONAL, OPTIONAL,
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime	<pre>(0), (1), (2), (3), (4),)))) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime</pre>	OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer }</pre>	<pre>(0), (1), (2), (3), (4),)))) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL,
LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer	<pre>(0), (1), (2), (3), (4),)))) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE (1 bit 8 = 0 bits 7-1 = 7 bit Uncertainty Compared to the compared to the</pre>	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer SIZE (1)) pde defined in 3GPP TS 23.032. The second s</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE (2) bit 8 = 0 bits 7-1 = 7 bit Uncertainty Co error should be less than the extension container state container bit be container</pre>	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer SIZE (1)) pde defined in 3GPP TS 23.032. The second s</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE (1 bit 8 = 0 bits 7-1 = 7 bit Uncertainty Compared to the compared to the</pre>	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer SIZE (1)) pde defined in 3GPP TS 23.032. The second s</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE (2) bit 8 = 0 bit 7 -1 = 7 bit Uncertainty Co error should be less than the e confidence.</pre>	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer SIZE (1)) pde defined in 3GPP TS 23.032. Therror indicated by the uncertaint </pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE (2) bit 8 = 0 bits 7-1 = 7 bit Uncertainty Co error should be less than the extension container state container bit be container</pre>	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer SIZE (1)) pde defined in 3GPP TS 23.032. Therror indicated by the uncertaint </pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy vertical-accuracy vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE bit 8 = 0 bits 7-1 = 7 bit Uncertainty Co error should be less than the e confidence. Vertical-Accuracy ::= OCTET STRING (SIZE bit 8 = 0 bits 7-1 = 7 bit Vertical Uncertainty Substantial for the second se</pre>	<pre>(0), (1), (2), (3), (4),)) [0] Horizontal-Accuracy [1] NULL [2] Vertical-Accuracy [3] ResponseTime [4] ExtensionContainer SIZE (1)) pde defined in 3GPP TS 23.032. Therror indicated by the uncertaint ZE (1)) rtainty Code defined in 3GPP TS 23.032.</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, ne horizontal location ty code with 67%
<pre>LCS-FormatIndicator ::= ENUMERATED { logicalName e-mailAddress msisdn url sipUrl } LCS-Priority ::= OCTET STRING (SIZE (1 0 = highest priority 1 = normal priority all other values treated as 1 LCS-QoS ::= SEQUENCE { horizontal-accuracy verticalCoordinateRequest vertical-accuracy responseTime extensionContainer } Horizontal-Accuracy ::= OCTET STRING (SIZE bit 8 = 0 bits 7-1 = 7 bit Uncertainty Co confidence. Vertical-Accuracy ::= OCTET STRING (SIZE bit 8 = 0 </pre>	<pre>(0), (1), (2), (3), (4), (4), (4), (4), (5), (4), (4), (4), (5), (4), (4), (5), (4), (5), (6), (6), (6), (6), (7), (7), (7), (7), (7), (7), (7), (7</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, ne horizontal location ty code with 67%

BognongoTimo ··- GROURNOR (
ResponseTime ::= SEQUENCE {		
responseTimeCategory	ResponseTimeCategory,	
}	milifica labor addition of a l	t i ma
note: an expandable SEQUENCE sim	mplifies later addition of a numeric response	time.
ResponseTimeCategory ::= ENUMERATED	{	
lowdelay (0),	`	
delaytolerant (1),		
}		
exception handling:		
	treated the same as value 1 (delaytolerant)	
SupportedGADShapes ::= BIT STRING {		
ellipsoidPoint (0),		
ellipsoidPointWithUncertaintyCir		
ellipsoidPointWithUncertaintyEll	Lipse (2),	
polygon (3),		
ellipsoidPointWithAltitude (4),		
ellipsoidPointWithAltitudeAndUnc		
ellipsoidArc (6) } (SIZE (716		
	NG all Shapes defined in 3GPP TS 23.032 it su	pports.
exception handling: bits 7 to 15 s	shall be ignored if received.	
LCS-ReferenceNumber::= OCTET STRIN	JG (SIZE(1))	
LCSCodeword ::= SEQUENCE {		
dataCodingScheme	<pre>[0] USSD-DataCodingScheme,</pre>	
lcsCodewordString	[1] LCSCodewordString,	
}		
LCSCodewordString ::= USSD-String (SI	IZE (1maxLCSCodewordStringLength))	
maxLCSCodewordStringLength INTEGER	••- 20	
	20	
LCS-PrivacyCheck ::= SEQUENCE {		
	[0] Drive grade gladed at ion	
callSessionUnrelated	[0] PrivacyCheckRelatedAction,	TA T
callSessionUnrelated callSessionRelated	<pre>[0] PrivacyCheckRelatedAction, [1] PrivacyCheckRelatedAction OPTION</pre>	IAL,
callSessionUnrelated	-	IAL,
callSessionUnrelated callSessionRelated }	[1] PrivacyCheckRelatedAction OPTION	IAL,
<pre>callSessionUnrelated callSessionRelated} PrivacyCheckRelatedAction ::= ENUMERA</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL,
<pre>callSessionUnrelated callSessionRelated} PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0),</pre>	[1] PrivacyCheckRelatedAction OPTION	JAL ,
<pre>callSessionUnrelated callSessionRelated} PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1),</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL,
<pre>callSessionUnrelated callSessionRelated} PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedIfNoResponse (2),</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL,
<pre>callSessionUnrelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3),</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL,
<pre>callSessionUnrelated callSessionRelated} PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedIfNoResponse (2),</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL ,
<pre>callSessionUnrelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3),</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL ,
<pre>callSessionUnrelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (3), notAllowed (4),</pre>	[1] PrivacyCheckRelatedAction OPTION	IAL ,
<pre>callSessionUnrelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling:</pre>	[1] PrivacyCheckRelatedAction OPTION	
<pre>callSessionUnrelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithOutNotification (0), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg</pre>	[1] PrivacyCheckRelatedAction OPTION ATED {	edAction
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithOutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithWithWithWithWithWithWithWithWithWith</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate</pre>	edAction
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } - exception handling: - a ProvideSubscriberLocation-Arg - shall be rejected by the receivee AreaEventInfo ::= SEQUENCE {</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate</pre>	edAction
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithOutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithWithWithWithWithWithWithWithWithWith</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate</pre>	edAction
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } - exception handling: - a ProvideSubscriberLocation-Arg - shall be rejected by the receivee AreaEventInfo ::= SEQUENCE {</pre>	[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat	edAction ca value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } - exception handling: - a ProvideSubscriberLocation-Arg - shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition,</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } exception handling: a ProvideSUbscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime }</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE {</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } exception handling: a ProvideSUbscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime }</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE {</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receives AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receives AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList,</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the received AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList }</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList,</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedWithNoResponse (2), restrictedIfNoResponse (2), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the received AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList }</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList,</pre>	edAction ta value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList } AreaList ::= SEQUENCE SIZE (1maxNum maxNumOfAreas INTEGER ::= 10</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList,</pre>	edAction ta value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList } AreaList ::= SEQUENCE SIZE (1maxNum maxNumOfAreas INTEGER ::= 10 Area ::= SEQUENCE {</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList,</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSUbscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList } AreaList ::= SEQUENCE SIZE (1maxNum maxNumOfAreas INTEGER ::= 10 Area ::= SEQUENCE { areaType</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList, [0] AreaType,</pre>	edAction a value
<pre>callSessionUnrelated callSessionRelated callSessionRelated } PrivacyCheckRelatedAction ::= ENUMERA allowedWithoutNotification (0), allowedWithNotification (1), allowedWithNotification (1), allowedIfNoResponse (2), restrictedIfNoResponse (3), notAllowed (4), } exception handling: a ProvideSubscriberLocation-Arg shall be rejected by the receive AreaEventInfo ::= SEQUENCE { areaDefinition occurrenceInfo intervalTime } AreaDefinition ::= SEQUENCE { areaList } AreaList ::= SEQUENCE SIZE (1maxNum maxNumOfAreas INTEGER ::= 10 Area ::= SEQUENCE {</pre>	<pre>[1] PrivacyCheckRelatedAction OPTION ATED { containing an unrecognized PrivacyCheckRelate er with a return error cause of unexpected dat [0] AreaDefinition, [1] OccurrenceInfo OPTION [2] IntervalTime OPTION [2] IntervalTime OPTION [0] AreaList, [0] AreaList,</pre>	edAction a value

AreaType ::= ENUMERATED {		
countryCode	(0),	
plmnId	(1),	
locationAreaId	(2),	
routingAreaId	(3),	
cellGlobalId		
	(4),	
}		
AreaIdentification ::= OCTET STRING (S.	TZF (27))	
The internal structure is defin		
octet 1 bits 4321	Mobile Country Code 1 st digit	
	Mobile Country Code 1 digit Mobile Country Code 2 nd digit	
bits 8765		
octet 2 bits 4321	Mobile Country Code 3 rd digit	
bits 8765	Mobile Network Code 3 rd digit if .	3 digit MNC included
	or filler (1111)	
octet 3 bits 4321	Mobile Network Code 1 st digit	
bits 8765	Mobile Network Code 2 nd digit	
octets 4 and 5	Location Area Code (LAC)	
octet 6	Routing Area Code (RAC) for Rout:	ing Area Id
octets 6 and 7	Cell Identity (CI) for Cell Globa	-
OccurrenceInfo ::= ENUMERATED {		
oneTimeEvent	(0),	
multipleTimeEvent	(1),	
}	(1),	
•••		
IntervalTime ::= INTEGER (132767)		
minimum interval time between a	area reports in seconds	
ProvideSubscriberLocation-Res ::= S		
locationEstimate	Ext-GeographicalInformation,	
ageOfLocationEstimate	[0] AgeOfLocationInformation	OPTIONAL,
extensionContainer	<pre>[1] ExtensionContainer</pre>	OPTIONAL,
•••• /		
add-LocationEstimate	[2] Add-GeographicalInformation	OPTIONAL,
deferredmt-lrResponseIndicator	[3] NULL	OPTIONAL,
geranP p ositioningData	[4] PositioningDataInformation	OPTIONAL,
utranPositioningData	[x] UtranPositioningDataInfo	OPTIONAL,
cellIdOrSai	[5] CellGlobalIdOrServiceAreaIdO	
		,
if deferredmt-lrResponseIndicator	is set, locationEstimate is ignored	
_		
the add-LocationEstimate parameter ;	shall not be sent to a node that did	not indicate the
geographic shapes supported in the		
The locationEstimate and the add-log	-	be sent if
the supportedGADShapes parameter ha		
and the shape encoded in locationEs		
as supported in supportedGADShapes.		
• • • • • • • • • • • • • • • • • • •		
shall be rejected with error Facili shapeOfLocationEstimateNotSupported	tyNotSupported with additional indic	ation

-- shapeOfLocationEstimateNotSupported

<pre>xt-GeographicalInformation ::= OCTET STRING (SIZE (1maxExt</pre>	-GeographicalInformation))
This is composed of 1 or more octets with an internal str	
3GPP TS 23.032	-
Octet 1: Type of shape, only the following shapes in 3GPP	P TS 23.032 are allowed:
(a) Ellipsoid point with uncertainty circle	
(b) Ellipsoid point with uncertainty ellipse	
(c) Ellipsoid point with altitude and uncertainty e	ellipsoid
(d) Ellipsoid Arc	
(e) Ellipsoid Point Any other value in octet 1 shall be treated as invalid	
Octets 2 to 8 for case (a) - Ellipsoid point with uncerta	ainty circle
Degrees of Latitude	3 octets
Degrees of Longitude	3 octets
Uncertainty code	1 octet
Octets 2 to 11 for case (b) - Ellipsoid point with uncert	ainty ellipse:
Degrees of Latitude	3 octets
Degrees of Longitude	3 octets
Uncertainty semi-major axis	1 octet
Uncertainty semi-minor axis	1 octet
Angle of major axis	1 octet
Confidence	1 octet
Octets 2 to 14 for case (c) - Ellipsoid point with altitu	
Degrees of Latitude Degrees of Longitude	3 octets 3 octets
Altitude	2 octets
Uncertainty semi-major axis	1 octet
Uncertainty semi-minor axis	1 octet
Angle of major axis	1 octet
Uncertainty altitude	1 octet
Confidence	1 octet
Octets 2 to 13 for case (d) - Ellipsoid Arc	
Degrees of Latitude	3 octets
Degrees of Longitude	3 octets
Inner radius	2 octets
Uncertainty radius	1 octet
Offset angle	1 octet
Included angle Confidence	1 octet 1 octet
Octets 2 to 7 for case (e) - Ellipsoid Point	1 Octet
Degrees of Latitude	3 octets
Degrees of Longitude	3 octets
An Ext-GeographicalInformation parameter comprising more	than one octet and
containing any other shape or an incorrect number of octe	
to 3GPP TS 23.032 shall be treated as invalid data by a r	receiver.
An Ext-GeographicalInformation parameter comprising one o	octet shall be discarded
by the receiver if an Add-GeographicalInformation paramet	
in the same message.	
An Ext-GeographicalInformation parameter comprising one o	octet shall be treated as
invalid data by the receiver if an Add-GeographicalInform	nation parameter is not
received in the same message.	
Ext-GeographicalInformation INTEGER ::= 20	
	22 022 to be included in late
the maximum length allows for further shapes in 3GPP TS 2	5.032 to be included in late
	5.052 to be included in late
the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002	
the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002	ningDataInformation))
the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 sitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031-	ningDataInformation))
the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 sitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN.	ningDataInformation)) for GERAN or 3GPP TS 25.413
the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 psitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 sitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str 3GPP TS 49.031-for GERAN and 25.413 for UTRAN. Note that 	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 versions of a structure versions of the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal structure a structure GPP TS 49.031- for UTRAN. Note that of the parameter is identical for GERAN and UTRAN, but the 	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure the defined code points differ
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 psitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition - Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str - 3GPP TS 49.031-for GERAN and 25.413 for UTRAN. Note that 	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure the defined code points differ
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 versioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str 3GPP TS 49.031-for GERAN and 25.413 for UTRAN. Note that of the parameter is identical for GERAN and UTRAN, but th for GERAN and UTRAN to allow for Radio Technology specifi 	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure the defined code points differ
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 psitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031-for UTRAN. This is composed of 2 or more octets with an internal str	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure the defined code points differ
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 sitioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str 3GPP TS 49.031-for GERAN and 25.413 for UTRAN. Note that of the parameter is identical for GERAN and UTRAN, but th for GERAN and UTRAN to allow for Radio Technology specifi 	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure a defined code points differ to location methods.
 the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 versions of the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str 3GPP TS 49.031-for GERAN and 25.413 for UTRAN. Note that of the parameter is identical for GERAN and UTRAN, but th for GERAN and UTRAN to allow for Radio Technology specifi axPositioningDataInformation INTEGER ::= 10 	ningDataInformation)) for GERAN or 3GPP TS 25.413 ructure according to the internal structure a defined code points differ to location methods.
<pre> the maximum length allows for further shapes in 3GPP TS 2 versions of 3GPP TS 29.002 ositioningDataInformation ::= OCTET STRING (SIZE (2maxPosition Refers to the Positioning Data defined in 3GPP TS 49.031- for UTRAN. This is composed of 2 or more octets with an internal str 3GPP TS 49.031 for GERAN and 25.413 for UTRAN. Note that of the parameter is identical for GERAN and UTRAN, but th for GERAN and UTRAN to allow for Radio Technology specifi mxPositioningDataInformation INTEGER ::= 10 </pre>	hingDataInformation)) for GERAN or 3GPP TS 25.413 fucture according to the internal structure the defined code points differ the location methods.

maxUtranPositioningDataInfo INTEGER ::= 11

Add-GeographicalInformation ::= OCTET STRING (SIZE (1..maxAdd-GeographicalInformation)) -- Refers to geographical Information defined in 3GPP TS 23.032. -- This is composed of 1 or more octets with an internal structure according to -- 3GPP TS 23.032 -- Octet 1: Type of shape, all the shapes defined in 3GPP TS 23.032 are allowed: -- Octets 2 to n (where n is the total number of octets necessary to encode the shape -- according to 3GPP TS 23.032) are used to encode the shape itself in accordance with the -- encoding defined in 3GPP TS 23.032 -- An Add-GeographicalInformation parameter, whether valid or invalid, received -- together with a valid Ext-GeographicalInformation parameter in the same message -- shall be discarded. -- An Add-GeographicalInformation parameter containing any shape not defined in -- 3GPP TS 23.032 or an incorrect number of octets or coding according to -- 3GPP TS 23.032 shall be treated as invalid data by a receiver if not received -- together with a valid Ext-GeographicalInformation parameter in the same message. maxAdd-GeographicalInformation INTEGER := 91 - the maximum length allows support for all the shapes currently defined in 3GPP TS 23.032 SubscriberLocationReport-Arg ::= SEQUENCE LCS-Event lcs-Event lcs-ClientID LCS-ClientID,

lcsLocationInfo LCSLocationInfo, msisdn [0] ISDN-AddressString OPTIONAL, [1] IMSI imsi OPTIONAL. [2] IMEI imei OPTIONAL. na-ESRD [3] ISDN-AddressString OPTIONAL, na-ESRK [4] ISDN-AddressString OPTIONAL, locationEstimate [5] Ext-GeographicalInformation OPTIONAL, [6] AgeOfLocationInformation ageOfLocationEstimate OPTIONAL. extensionContainer [7] ExtensionContainer OPTIONAL, add-LocationEstimate [8] Add-GeographicalInformation OPTIONAL, deferredmt-lrData [9] Deferredmt-lrData OPTIONAL, [10] LCS-ReferenceNumber OPTIONAL. lcs-ReferenceNumber OPTIONAL, geranPpositioningData [11] PositioningDataInformation utranPositioningData [x] UtranPositioningDataInfo OPTIONAL, [12] NULL na-ESRK-Request OPTIONAL, [13] CellGlobalIdOrServiceAreaIdOrLAI OPTIONAL, cellIdOrSai OPTIONAL, h-gmlc-Address [14] GSN-Address r-qmlc-Address [15] GSN-Address OPTIONAL } -- one of msisdn or imsi is mandatory -- a location estimate that is valid for the locationEstimate parameter should -- be transferred in this parameter in preference to the add-LocationEstimate. -- the deferredmt-lrData parameter shall be included if and only if the lcs-Event -- indicates a deferredmt-lrResponse. -- if the lcs-Event indicates a deferredmt-lrResponse then the locationEstimate -- and the add-locationEstimate parameters shall not be sent if the -- supportedGADShapes parameter had been received in ProvideSubscriberLocation-Arg -- and the shape encoded in locationEstimate or add-LocationEstimate was not marked -- as supported in supportedGADShapes. In such a case terminationCause -- in deferredmt-lrData shall be present with value -- shapeOfLocationEstimateNotSupported. -- If a lcs event indicates deferred mt-lr response, the lcs-Reference number shall be -- included. **Deferredmt-lrData** ::= SEQUENCE { deferredLocationEventType DeferredLocationEventType, terminationCause [0] TerminationCause OPTIONAL, lcsLocationInfo [1] LCSLocationInfo OPTIONAL, ...} -- lcsLocationInfo may be included only if a terminationCause is present -- indicating mt-lrRestart.

LCS-Event ::= ENUMERATED {		
emergencyCallOrigination (0),		
emergencyCallRelease (1),		
mo-lr (2),		
deferredmt-lrResponse (3) }		
exception handling:		
a SubscriberLocationReport-Arg	containing an unregognized ICC	Errowt
1 3	5	
shall be rejected by a receive.	r with a return error cause of u	nexpected data value
TerminationCause ::= ENUMERATED {		
normal (0),		
errorundefined (1),		
internalTimeout (2),		
congestion (3),		
mt-lrRestart (4),		
privacyViolation (5),		
privacyviolación (5),		
shapeOfLocationEstimateNotSupported	$(\boldsymbol{\epsilon})$	
mt-lrRestart shall be used to trigger the GMLC to restart the location procedure,		
either because the sending node knows that the terminal has moved under coverage		
of another MSC or SGSN (e.g. Send Identification received), or because the subscriber		
has been deregistered due to a Cancel	Location received from HLR.	
exception handling		
an unrecognized value shall be treated the same as value 1 (errorundefined)		
SubscriberLocationReport-Res ::= SEQUENC	CE {	
extensionContainer	ExtensionContainer	OPTIONAL,

[0] ISDN-AddressString

OPTIONAL }

END

..., na-ESRK