3GPP TSG\_CN#7 ETSI SMG3 Plenary Meeting #7, Madrid, Spain 13<sup>th</sup> – 15<sup>th</sup> March 2000

Agenda item:5.2.3Source:TSG\_N WG2Title:CRs to 3G Work Item SoLSA

## Introduction:

This document contains "6" CRs on **Work Item SoLSA**, that have been agreed by **TSG\_N WG2**, and are forwarded to **TSG\_N Plenary** meeting #7 for approval.

TDoc	SPEC	CR	REV	CAT	Rel	Old vers	New vers	SUBJECT
N2B000086	03.08	A030		F	R98	7.2.0		Correction of LSA Information
N2B000087	03.16	A040		F	R98	7.2.0		Correction of LSA Information
N2B000088	09.02	A281		F	R98	7.2.0		Correction of LSA Information
N2B000065	23.008	013		A	R99	3.3.0		Correction of LSA Information
N2B000066	23.016	010		A	R99	3.2.0		Correction of LSA Information
N2B000100	29.002	087		А	R99	3.3.0		Correction of LSA Information

## 3GPP TSG-N WG2 #8 Kyoto, Japan, 17-21 Jan 2000

## Document N2B000086

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Source:		N2					Date:	12 Jan 2000	
Subject:		Correction of	of LSA Information	n.					
Work item:		SoLSA							
Category: (only one category shall be marked with an X)	F A B C D	Correction Correspond Addition of Functional Editorial mo	ds to a correction feature modification of fea odification	in an ea ature	rlier relea	ase	K <u>Release:</u>	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	X
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## 2.4.17 Localised Service Area Information

If a mobile subscriber has a localised service area subscription, the HLR shall store a list of up to 20 Localised Service Area Identities (LSA IDs) per PLMN. The structure of LSA ID is defined in GSM 03.03.

On updating the VLR or the SGSN, the HLR identifies the VPLMN given by the VLR or SGSN number and transfers the applicable LSA ID List to the VLR or SGSN. The VLR or SGSN derives from the LSA ID List the allowed LSA(s), priority of each LSA, the preferential access indicator, the active mode support indicator and active mode indication and the "LSA only access" indicator.

## 2.4.17.1 LSA Identity

LSA Identity (LSA ID) is defined in GSM 03.03. The element uniquely identifies a LSA.

## 2.4.17.2 LSA Priority

Localised Service Area Priority (LSA Priority) is defined in GSM 08.08. The LSA Priority is permanent subscriber data stored conditionally in the HLR.

## 2.4.17.3 LSA Preferential Access Indicator

The Localised Service Area Preferential Access Indicator defines if the subscriber shall be favoured in cells belonging to the LSA at resource allocation compared to other subscribers. The LSA Preferential Access Indicator is permanent subscriber data stored conditionally in the HLR.

## 2.4.17.4 LSA Active Mode Support Indicator

The Localised Service Area Active Mode Support Indicator defines if cells belonging to the LSA shall be favoured for the subscriber compared to other cells at resource allocation. The LSA Active Mode Indicator is permanent subscriber data stored conditionally in the HLR.

## 2.4.17.35 LSA Only Access Indicator

The LSA Only Access Indicator defines if the subscriber is only allowed within its subscribed LSAs. The LSA Only Access Indicator is permanent subscriber data stored conditionally in the HLR.

## 2.4.17.4<u>6</u> LSA Active Mode Indicator

The Localised Service Area Active Mode Indicator defines if the LSA Identity of the cell in which the MS is currently in radio contact with shall be indicated to the subscriber in active mode. The LSA Active Mode Indicator is permanent subscriber data stored conditionally in the HLR.

## 2.4.17.57 VPLMN Identifier

The VPLMN Identifier identifies the VPLMN in which an LSA Identity is applicable. This identifier is not applicable to Universal LSA IDs as defined in GSM 03.03. The VPLMN identifier is permanent subscriber data stored conditionally in the HLR.

# 4 Accessing subscriber data

It shall be possible to retrieve or store subscriber data concerning a specific MS from the HLR by use of each of the following references:

- International Mobile Subscriber Identity (IMSI);
- Mobile Station ISDN Number (MSISDN)

It shall be possible to retrieve or store subscriber data concerning a specific MS from the VLR by use of each of the following references:

- International Mobile Subscriber Identity (IMSI);
- Temporary Mobile Subscriber Identity (TMSI).

It shall be possible to retrieve or store subscriber data concerning a specific MS from the SGSN by use of each of the following references:

- International Mobile Subscriber Identity (IMSI);

Table a Packet Temporary Mobile Subscriber identity (P-TMSI).

It shall be possible to retrieve or store subscriber data concerning a specific MS from the GGSN by use of each of the following references:

Table a International Mobile Subscriber Identity (IMSI);

See clause 3 for explanation of M, C, T and P in table 1 and table 2.

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE	
IMSI	2.1.1.1	М	М	Р	Note
Network Access Mode	2.1.1.2	Μ	-	Р	Note
International MS ISDN number	2.1.2	Μ	Μ	Р	
Multinumbering MSISDNs	2.1.3	С	-	Р	Note
Basic MSISDN indicator	2.1.3.1	С	-	Р	
MSISDN-Alert indicator	2.1.3.2	Č	-	P	
TMSI	2.1.4	-	С	T	
LMSI	2.1.8	С	Č	Ť	Note
Mobile Station Category	2.2.1	M	M	Р	
I MU Identifier	2.2.1	C	C	P	
RAND_SRES and Kc	231	M	M	T	
Ciphering Key Sequence Number	232	-	M	Ť	
MSRN	241	-	C	Ť	Note
Location Area Identity	242	-	M	Ť	
VI R number	245	М	-	Ť	Note
MSC number	246	M	С	Ť	Noto
HIR number	2.1.0	-	č	Ť	
Subscription restriction	249	С	-	P	
RS7L lists	2.4.0	Ċ	-	P	
Zone Code List	2.4.10.1	-	C	P	
MSC area restricted flag	2.4.10.2	- M	0	T	
I A not allowed flag	2.4.11	111	- M	Ť	
ODB-induced barring data	2.4.12	- C	111	Ť	
Poaming restriction due to unsupported feature	2.4.15.1	M	- M	Ť	
	2.4.10.2	IVI		і Т	
	2.4.10	-	Č		
LSA Identity	2.4.+ 1/2.1		Č	P D	
LSA Priority	2.4. <del>A<u>17</u>.2</del>		Č	P	
LSA Preferential Access Indicator	$\frac{2.4.17.3}{2.4.17.4}$	E	Ĕ	Ë	
LSA Active Mode Support Indicator	$\frac{2.4.17.4}{0.4}$	Ê	Ë	Ĕ	
LSA Only Access Indicator	2.4. <u>×17</u> . <u>35</u>	C	C	Р	
LSA Active Mode Indicator	2.4. <del>X<u>17</u>.4<u>6</u></del>	C	C	Р	
	2.4. <u>×17</u> .ə <u>7</u>	C	-	Р	
Provision of bearer service	2.5.1	M	M	Р	
Provision of teleservice	2.5.2	IVI	M	Р	
BC allocation	2.5.3	С	C	P	
IMSI detached flag	2.7.1	-	C	<u> </u>	
Confirmed by Radio Contact indicator	2.7.4.1	-	M	<u> </u>	
Subscriber Data Confirmed by HLR indicator	2.7.4.2	-	М	T	
Location Information Confirmed in HLR indicator	2.7.4.3	-	М	Т	
Check SS indicator	2.7.4.4	M	-	Т	
MS purged for non-GPRS flag	2.7.5	M	-	Т	
MNRR	2.7.7	С	-	Т	
Subscriber status	2.8.1	С	С	Р	
Barring of outgoing calls	2.8.2.1	С	С	Р	
Barring of incoming calls	2.8.2.2	С	-	Р	
Barring of roaming	2.8.2.3	С	-	Р	
Barring of premium rate calls	2.8.2.4	С	С	Р	
Barring of supplementary service management	2.8.2.5	С	С	Р	
Barring of registration of call forwarding	2.8.2.6	С	-	Р	
Barring of invocation of call transfer	2.8.2.7	С	С	Р	
Operator determined barring PLMN-specific data	2.8.3	С	С	Р	
Handover Number	2.9.1	-	С	Т	
Messages Waiting Data	2.10.1	С	-	Т	
Mobile Station Not Reachable Flag	2.10.2	С	М	Т	
Memory Capacity Exceeded Flag	2.10.3	С	-	Т	
(continued	)			•	·

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE	
Trace Reference	2.11.1	С	С	Р	
Trace Type	2.11.2	С	С	Р	
Operations Systems Identity	2.11.3	С	С	Р	
HLR Trace Type	2.11.4	С	-	Р	
MAP Error On Trace	2.11.5	С	-	Т	
Trace Activated in VLR	2.11.6	С	С	Т	
Foreign Subscriber Registered in VLR	2.11.7	-	С	Р	Note
VGCS Group Membership List	2.12.1	С	С	Р	
VBS Group Membership List	2.12.2	С	С	Р	
Broadcast Call Initiation Allowed List	2.12.2.1	С	С	Р	
Originating CAMEL Subscription Information	2.14.1.1	С	С	Р	
Terminating CAMEL Subscription Information	2.14.1.2	С	-	Р	
Location Information/Subscriber state Information	2.14.1.3	С	-	Р	
USSD CAMEL subscription information(U-CSI)	2.14.1.4	С	-	Р	
SS invocation notification (SS-CSI)	2.14.1.5/3.2	С	С	Р	
FTN translation information flag(TIF-CSI)	2.14.1.6	С	-	Р	
USSD General CAMEL service information (UG-CSI)	2.14.2	С	-	Р	
Negotiated CAMEL Capability Handling	2.14.2	С	-	Т	
Privacy Exception List	2.15.1.1	С	С	Р	
Home GMLC Numbers	2.15.1.2	С	С	Р	

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

PARAMETER	Subclause	HIR	VIR	SGSN	GGSN TYPE	
	2111	M	M	M	M	P Note
Network Access Mode	2.1.1.1	M	-	C (a)	-	P Note
International MS ISDN number	2.1.1.2	M	M	M	_	T
multinumbering MSISDNs	2.1.2	C	-	-	-	T Note
Basic MSISDN indicator	2131	C	_	_	-	T
MSISDN-Alert indicator	2132	C	_	_	-	т. т
P-TMSI	2.1.5.2	-	_	Ċ	_	T Note
	216	_	_	C C	-	T
Random TI I I	217	-	-	C C	_	T Note
IMEI	219	-	-	č	-	T
RAND/SRES and Kc	2.3.1	М	-	M	-	Ť
Ciphering Key Sequence Number	2.3.2	-	-	M	-	Ť
Selected Ciphering Algorithm	233	-	-	M	-	Ť
Current Kc	2.3.4	-	-	M	-	Ť
P-TMSI Signature	2.3.5	-	-	C	-	Ť
Routing Area Identity	2.4.3	-	-	M	-	Ť
Cell Global Identification	2.4.4	-	-	C	-	Ť
SGSN Number	2.4.8.1	М	C (Gs)	-	-	T Note
GGSN Number	2.4.8.2	©	-	-	-	P Note
VLR Number	2.4.5	M	-	C (Gs)	-	Т
RSZI Lists	2.4.10.1	C	-	- ()	-	P
Zone Code List	2.4.10.2	-	-	С	-	Р
LA not allowed flag	2.4.12	-	-	M	-	T
SGSN area restricted flag	2.4.13	М	-	-	-	т
Roaming Restriction in the SGSN	2.4.15.2	М	-	Μ	-	Т
Cell ID	2.4.16	-	-	С	-	Т
LSA Identity	2.4. <del>X</del> 17.1	С	С	С	-	Р
LSA Priority	2.4. <del>X</del> 17.2	Ċ	Ċ	Ċ	-	Р
LSA Preferential Access Indicator	2.4.17.3	<u>C</u>	<u>C</u>	C	=	P
LSA Active Mode Support Indicator	2.4.17.4	C	C	C	=	Р
LSA Only Access Indicator	2.4.X17.35	С	С	C	-	P
LSA Active Mode Indicator	2.4. <del>X</del> 17.46	С	С	С	-	Р
VPLMN Identifier	2.4. <del>X</del> 17. <del>5</del> 7	С	-	-	-	Р
Provision of teleservice	2.5.2	С	-	С	-	Р
Transfer of SM option	2.5.4	Μ	-	-	-	Р
Subscriber Status	2.8.1	С	-	С	-	Р
Barring of outgoing calls	2.8.2.1	С	-	С	-	Р
Barring of roaming	2.8.2.3	С	-	С	-	Р
ODB PLMN-specific data	2.8.3	С	-	С	-	Р
MM State	2.7.3	-	-	Μ	-	Т
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	Μ	-	Т
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	Μ	-	Т
MS purged for GPRS flag	2.7.6	М	-	-	-	Т
MNRG	2.7.2	М	-	Μ	М	Т
MNRR	2.7.7	С	-	-	-	Т
Trace Activated in SGSN	2.11.7	С	-	С	-	Р
PDP Type	2.13.1	С	-	С	М	Р
PDP Address	2.13.2	С	-	С	М	Р
NSAPI	2.13.3	-	-	С	С	Т
PDP State	2.13.4	-	-	С	-	Т
New SGSN Address	2.13.5	-	-	С	-	Т
Access Point Name	2.13.6	С	-	С	С	P/T Note
GGSN Address in Use	2.13.7	-	-	С	-	Т
VPLMN Address Allowed	2.13.8	С	-	С	-	P
Dynamic Address	2.13.9	-	-	-	С	Ţ
SGSN Address	2.13.10	-	-	-	M	Т
GGSN-list	2.13.11	Μ	-	-	-	Т
	(continued)					

## Table 2: Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN TYPE	
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Т
Quality of Service Negotiated	2.13.14	-	-	С	М	Т
SND	2.13.15	-	-	С	С	Т
SNU	2.13.16	-	-	С	С	Т
DRX Parameters	2.13.17	-	-	М	-	Т
Compression	2.13.18	-	-	С	-	Т
NGAF	2.13.19	-	-	C (Gs)	-	Т
Classmark	2.13.20	-	-	M	-	Т
TID	2.13.21	-	-	С	С	Т
Radio Priority	2.13.22	-	-	С	-	Т
Radio Priority SMS	2.13.23	-	-	С	-	Т

## Table 2 (concluded): Overview of data used for GPRS Network Access Mode

- NOTE 1: The HLR column indicates only GPRS related use, i.e. if the HLR uses a parameter in non-GPRS Network Access Mode but not in GPRS Network Access Mode, it is not mentioned in this table 2.
   (Gs): The VLR column is applicable if Gs interface is installed. It only indicates GPRS related data to be stored and is only relevant to GPRS subscribers registered in VLR.
  - a): This parameter is relevant in the SGSN only when the Gs interface is installed.
- NOTE 2: For special condition of storage see in the clauses 2.x.y referred-to. See clause 3 for explanation of M,C,T and P in table 2.

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## 4.5.4 Consistency of supplementary service data

In some cases, the protocol used between the HLR and VLR encodes some data that is not EBSG-related SS data with an EBSG qualifier. In this case, the HLR shall ensure that when this data is sent it is always the same for all EBSGs. If this data is modified, the HLR must send the supplementary service data to the VLR for all EBSGs which meet all the following criteria:

- at least one basic service in the EBSG is supported; and
- the supplementary service is applicable to at least one (possibly different) basic service in the EBSG; and
- the subscriber has a subscription to at least one (possibly different) basic service in the EBSG.

IMSI

```
••Basic MSISDN

    Category

•••Basic Service List•
. . . . . . . . . . . . . . . . .
•••Forwarding Info•
 . . . . . . . . . . . . . . . . .
 . . . . . . . . . . . . . . . . . . .
•••Call Barring Info•
. . . . . . . . . . . . . . . . . . .
.....
•••CUG Info•
. . . . . . . . . . .
 .....
•••SS Data•
 .....
 •••ODB Data for non-GPRS services•
•••Roaming Restriction Data in the VLR•
 •••Regional Subscription Data•
 •••VBS, VGCS Data
•••CAMEL Subscription Info
 •••NAEA, Preferred Carrier Id
 •••LSA Data
••LMU Indicator
 •••LCS Information
```

Figure 1: Abstract data structure of non-GPRS Subscriber Data (Data sent to the VLR)

```
IMSI
••Access Mode
••Basic MSISDN
•••Basic Service List•
•••ODB Data for GPRS services•
•••Roaming Restriction Data in the SGSN•
•••Regional Subscription Data•
•••GPRS subscription Data
•••LSA Data
```

Figure 1a: Abstract data structure of GPRS Subscriber Data (Data sent to the SGSN)

```
•Teleservices
•TS(1)
•....
•TS(n)
•Bearer Services
•BS(1)
•...
•BS(n)
```

NOTE: For detailed information see GSM 02.01, GSM 02.02, GSM 02.03 and GSM 09.02.

Figure 2: Basic Service List

```
••Call Forwarding Unconditional (CFU)
    • Provisioning State
.
    ••BSG(1)
        • Activation State
    •
٠
    ٠
        • Registration State
   ••....
٠
    .
    \bullet \bullet BSG(n)
        • Activation State
        • Registration State
٠
••Call Forwarding on mobile subscriber Busy (CFB)
    ••Subscription Options
    • Provisioning State
.
    \bullet \bullet BSG(1)
    •
        ••Activation State
.
        • Registration State
    •
        • Forwarded-to Number
    ٠
             ••Subaddress
.
    •
    ••....
٠
.
    \bullet \bullet BSG(n)
        ••Activation State
        ••Registration State
•
        ••Forwarded-to Number
             ••Subaddress
••Call Forwarding on mobile subscriber Not Reachable (CFNRc)
    ••Subscription Options
    • Provisioning State
    ••BSG(1)
.
    • • Activation State
        ••Registration State
٠
    ٠
    •
        • Forwarded-to Number
٠
             ••Subaddress
    •
    ••....
.
    •
    ••BSG(n)
٠
       • Activation State
        ••Registration State
•
•
        ••Forwarded-to Number
             ••Subaddress
••Call Forwarding on No Reply (CFNRy)
    ••Subscription Options
    • Provisioning State
    ••BSG(1)
        ••Activation State
        • Registration State
        ••No Reply Condition Timer
••Forwarded-to Number
    ٠
    •
             ••Subaddress
    ••....
    \bullet \bullet BSG(n)
        • Activation State
        ••Registration State
        ••No Reply Condition Timer
        • Forwarded-to Number
             ••Subaddress
```

NOTE: For detailed information see GSM 03.82 and GSM 09.02.

#### Figure 3: Forwarding Info

```
à ••Barring of All Outgoing Calls (BAOC)
         • Provisioning State
         \bullet \bullet BSG(1)
    .
        • ••Activation State
        ••....
    .
    ٠
         ••BSG(n)
    .
              ••Activation State
    •
    ••Barring of Outgoing International Calls (BOIC)
         • Provisioning State
         \bullet \bullet BSG(1)
        • ••Activation State
        ••....
         .
         \bullet \bullet BSG(n)
    ٠
              • Activation State
    ••Barring of Outgoing International Calls except
those directed to the Home PLMN Country (BOIC-exHC)
         • Provisioning State
         \bullet \bullet BSG(1)
         •
              • Activation State
         ••....
         •
         \bullet \bullet BSG(n)
              • Activation State
```

NOTE: For detailed information see GSM 03.88 and GSM 09.02.

### Figure 4: Call Barring Info

```
••Closed User Group (CUG)
    ••Interlock(1)
        ••CUG Index
    •
        ••Intra CUG Restrictions
    .
        ••BSG(1)
    ٠
        ••..
    •
        ••BSG(n)
    ٠
    ••....
    ••Interlock(m)
    •
        ••CUG Index
        ••Intra CUG Restrictions
        ••BSG(1)
    ٠
        ••...
        ••BSG(n)
    ٠
    \bullet \bullet BSG(1)
        • Preferential CUG
    •
        ••Inter CUG Accessibility
    ٠
    ••....
    ••BSG(n)
        • Preferential CUG
        • Inter CUG Accessibility
```

NOTE: For detailed information see GSM 03.85 and GSM 09.02.

Figure 5: CUG Info

```
••Calling Line Identification Presentation (CLIP)
     • Provisioning State
     • Activation State
     ••Override Category
••Calling Line Identification Restriction (CLIR)
     • Provisioning State
     • Activation State
     • Presentation Mode
••Connected Line identification Presentation (COLP)
    • Provisioning State
     • Activation State
     ••Override Category
••Connected Line identification Restriction (COLR)
    • Provisioning State
     • Activation State
••Call Waiting (CW)
     • Provisioning State
     \bullet \bullet BSG(1)

    • •Activation State

     ••....
     \bullet \bullet BSG(n)
         • Activation State
 ••Call Hold (HOLD)
     • Provisioning State
     • Activation State
••Multi Party (MPTY)
     • Provisioning State
     • Activation State

    Advice of Charge Information (AoCI)
    • Provisioning State

     • Activation State

Advice of Charge Charging (AoCC)
• Provisioning State

     • Activation State
••Explicit Call Transfer (ECT)
    • Provisioning State
     • Activation State
 ••Calling Name Presentation (CNAP)
     • Provisioning State
     • Activation State
     ••Override Category
• enhanced Multi-Level Precedence Pre-Emption (eMLPP)
     • Provisioning State
     • Activation State
     ••Maximum Entitled Priority
```

```
Maximum Entitled Priority
•Default
•Completion of Calls to Busy Subscriber (CCBS)- originating NW
•Provisioning State
•Activation State
•Completion of Calls to Busy Subscriber (CCBS)- destination NW
•Provisioning State
•Activation State
```

NOTE: For detailed information see GSM 03.67, GSM 03.81, GSM 03.83, GSM 03.84, GSM 03.86, GSM 03.91, GSM 03.93, GSM 03.96 and GSM 09.02.

#### Figure 6: SS Data

```
••Subscriber Status
••all OG-Calls Barred
```

Ã

international OG-Calls Barred
international OG-Calls Not To HPLMN Country Barred
inter-zonal OG-Calls Not To HPLMN Country Barred
inter-zonal OG-Calls Not To HPLMN Country AND

inter-zonal OG-Calls Barred

Premium Rate Information OG-Calls Barred
Premium Rate Entertainment OG-Calls Barred
SS Access Barred
all call transfers Barred
chargeable call transfers Barred
inter-zonal call transfers Barred
inter-zonal call transfers Barred
multiple call transfers Barred
PLMN-Specific Barring Type 1
PLMN-Specific Barring Type 3
PLMN-Specific Barring Type 4

NOTE: For detailed information see GSM 03.15 and GSM 09.02.

#### Figure 7: ODB Data for non-GPRS services

Subscriber Status

all OG-Calls Barred
international OG-Calls Barred
international OG-Calls Not To HPLMN Country Barred
inter-zonal OG-Calls Not To HPLMN Country Barred
inter-zonal OG-Calls Not To HPLMN Country AND
inter-zonal OG-Calls Barred
PLMN-Specific Barring Type 1
PLMN-Specific Barring Type 3
PLMN-Specific Barring Type 4

NOTE: For detailed information see GSM 03.15 and GSM 09.02.

#### Figure 7a: ODB Data for GPRS services

• Roaming Restriction Due To Unsupported Feature

NOTE: For detailed information see GSM 09.02.

#### Figure 8: Roaming Restriction Data in the VLR

• Roaming Restricted in the SGSN Due To Unsupported Feature

NOTE: For detailed information see GSM 09.02.

#### Figure 8a: Roaming Restriction Data in the SGSN

```
••ZoneCode(1)
```

```
••....
```

•

••ZoneCode(k)

NOTE: For detailed information see GSM 09.02.

#### **Figure 9: Regional Subscription Data**

```
••VGCS membership List
••Group-Id(1)
••.....
```

22

••Group-Id (n)

NOTE: For detailed information see GSM 03.68 and GSM 09.02.

#### Figure 10: Voice Group Call Data

•VBS membership List
•Group-Id(1)
•Broadcast Call Initiation Entitlement
•....
•Group-Id (n)
•Broadcast Call Initiation Entitlement

NOTE: For detailed information see GSM 03.69 and GSM 09.02.

#### Figure 11: Voice Broadcast Call Data

```
••CAMEL Subscription Information
   ••CAMEL Capability Handling

    originating CAMEL Subscription Info
    •O-Bcsm CAMEL TDP Data (1)

            •• O-Bcsm TDP
       .
           •• DP Criteria
       •
           •• Service Key
       •
           •• gsmSCF Address
           •• Default Call Handling
   •
       •
       ••....
       •
       ••O-Bcsm CAMEL TDP Data (n)
           •• O-Bcsm TDP
            •• DP Criteria
           •• Service Key
           •• gsmSCF Address
            •• Default Call Handling
   ••SS Invocation Notification CAMEL Subscription Info
         •• Notification Criteria
          •• gsmSCF address
   ••Translation Information Flag
```

NOTE: For detailed information see GSM 03.72, GSM 03.78 and GSM 09.02.

### Figure 12: CAMEL subscription info

```
••LCS Information
   ••HPLMN GMLC List
     ••GMLC Address (1)
••GMLC Address (n)
   •
   ٠
   ••LCS Privacy Exception List
      ••Universal Privacy Class
••Provisioning State
••Activation State
           • Registration State
       •
       •
      ••Call Related Privacy Class
          • Provisioning State
       ٠
           ••Activation State
           ••Registration State
       ٠
       ••Call Unrelated Privacy Class
           • Provisioning State
       ٠
           • Activation State
       •
           ••Registration State
           ••External Client List
       .
               ••External Client (1)
       •
               • ••Address
       •
               •
                    ••GMLC restriction
       •
               •
       •
       ٠
               ••....
       •
               ٠
               ••External Client (n)
       •
                    ••Address
       •
                    ••GMLC restriction
       •
       ••PLMN Operator Privacy Class
           • Provisioning State
           • Activation State
           ••Registration State
           ••PLMN Client List
               ••PLMN client ID (1)
               ••....
               ••PLMN client ID (n)
```

NOTE: For detailed information see GSM 03.71 and GSM 09.02.

Figure 13: LCS Information

```
••PDP Context List
•
• PDP Context (1)
• • PDP Context Identifier
• • PDP Type
• • PDP Address
• • VPLMN Address Allowed
• • Quality of Service Subscribed
• • Access Point Name
•
•
• • •
• PDP Context (n)
```

NOTE: The figure shows the information in the SGSN. For detailed information see GSM 03.60. For information about the GGSN information, see GSM 03.08.

### Figure 14: GPRS subscription data

```
••LSA Only Access Indicator
••LSA Data List
••LSA Data (1)
••LSA Identity
••LSA PriorityAttributes
••LSA Active Mode Indicator
•••LSA Active Mode Support Indicator
•••LSA Data (n)
```

NOTE: For detailed information see GSM 03.73 and GSM 09.02.

Figure 15: LSA data in the VLR

NOTE: For detailed information see GSM 03.73 and GSM 09.02.

#### Figure 15a: LSA data in the SGSN

## 3GPP TSG-N WG2 #8 Kyoto, Japan, 17-21 Jan 2000

## Document N2B000088

e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

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## 7.6.3.56 LSA Information

This parameter refers to one or more localised service areas a subscriber may be a member of, together with the priority<sub> $\pm$ </sub> the preferential access indicator, the active mode support indicator and active mode indication of each localised service area. The access right outside these localised service areas is also indicated.

## 8.8.1.3 Parameter use

### Network access mode

This parameter defines if the subscriber has access to MSC/VLR and/or to SGSN. This parameter is used by SGSN and MSC/VLR. In VLR, the parameter is used only as part of Restore Data Procedure and the parameter is not stored in the VLR.

All parameters are described in subclause 7.6. The following clarifications are applicable:

## IMSI

It is only included if the service is not used in an ongoing transaction (e.g. location updating). This parameter is used by the VLR and the SGSN.

## <u>MSISDN</u>

It is included either at location updating or when it is changed. The MSISDN sent shall be the basic MSISDN. This parameter is used by the VLR and the SGSN.

### Category

It is included either at location updating or when it is changed. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Subscriber Status

It is included either at location updating or when it is changed.

To apply, remove or update Operator Determined Barring Categories the Subscriber Status is set to Operator Determined Barring. In this case ODB General Data shall also be present. If the Operator Determined Barring applies and the subscriber is registered in the HPLMN and HPLMN specific Operator Determined Barring applies then ODB HPLMN Specific Data shall also be present.

To remove all Operator Determined Barring Categories the Subscriber Status shall be set to "Service Granted". This parameter is used by the VLR and the SGSN.

### Bearer service List

A list of Extensible Bearer service parameters (Extensible Bearer service is defined in subclause 7.6). An Extensible Bearer service parameter must be the code for an individual Bearer service, except in the cases described below.

The codes for the Bearer service groups "allAlternateSpeech-DataCDA" and "allAlternateSpeech-DataCDS" shall, if applicable, be sent from the HLR to the VLR as a pair. The codes for the Bearer service groups "allSpeechFollowedByDataCDA" and "allSpeechFollowedByDataCDS" shall, if applicable, be sent from the HLR to the VLR as a pair.

If it is included in the Request/Indication, it includes either all Extensible Bearer services subscribed (at location updating or at restoration) or only the ones added (at subscriber data modification).

If the VLR receives an Indication containing any Extensible Bearer service parameters which it does not support/allocate it returns them in the response to the HLR and discards the unsupported Extensible Bearer services (no error is sent back), except in the cases described below.

If the VLR receives the codes for the Bearer service groups "allSpeechFollowedByDataCDA" and "allSpeechFollowedByDataCDS" and supports one or more of the circuit-switched synchronous or asynchronous data rates specified for simple data bearer services, it shall accept the bearer service codes, and not return them in the response to the HLR. If the VLR does not support any of the circuit-switched synchronous or asynchronous data rates

specified for simple data bearer services, and receives the pair of codes for "allAlternateSpeech-DataCDA" and "allAlternateSpeech-DataCDS" or the pair of codes for "allSpeechFollowedByDataCDA" and "allSpeechFollowedByDataCDS", it shall reject the pair of codes by returning them in the response to the HLR. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### **Teleservice** List

A list of Extensible Teleservice parameters (Extensible Teleservice is defined in subclause 7.6). An Extensible Teleservice parameter must be the code for an individual Teleservice.

If it is included in the Request/Indication, it contains either all Extensible Teleservices subscribed (at location updating or at restoration) or the ones added (at subscriber data modification). Only the Extensible Teleservices that are relevant to the node at which the message is received should be included in the Teleservice List.

If the VLR or the SGSN receives an Indication containing any Extensible Teleservice parameters which it does not support/allocate it returns them in the response to the HLR and discards the unsupported Extensible Teleservices (no error is sent back). This parameter is used by the VLR and the SGSN.

#### Forwarding information List

A list of Extensible Forwarding information parameters (Extensible Forwarding information is defined in subclause 7.6). It includes Call Forwarding services either at location updating or at restoration or when they are changed. Each Extensible Forwarding information parameter shall be treated independently of all other parameters in the primitive.

The Extensible Forwarding information shall include the SS-Code for an individual call forwarding supplementary service. The Extensible Forwarding information shall contain one or more Extensible Forwarding Features (Extensible Forwarding Features is defined in subclause 7.6).

The Extensible Forwarding Feature may include an Extensible Basic Service Group. This shall be interpreted according to the rules in subclause 8.8.1.4.

The Extensible Forwarding Feature shall contain an Extensible SS-Status parameter.

If the Extensible SS-Status indicates that call forwarding is registered then (except for call forwarding unconditional) the Extensible Forwarding Feature shall contain a forwarded-to number and, if available, the forwarded-to subaddress. In other states the forwarded-to number and, if applicable, the forwarded-to subaddress shall not be included. For call forwarding unconditional the forwarded-to number and, if applicable, the forwarded-to subaddress shall not be included. For call forwarding unconditional the forwarded-to number and, if applicable, the forwarded-to subaddress shall not be included. If the VLR does not receive a forwarded-to subaddress then it shall assume that a forwarded-to subaddress has not been registered.

The Extensible Forwarding Feature shall contain the extensible forwarding options (except for call forwarding unconditional where the extensible forwarding options shall not be included). Bits 3 and 4 of the extensible forwarding options shall be ignored by the VLR, and may be set to any value by the HLR.

For call forwarding on no reply: If the extensible SS-Status indicates that call forwarding is registered then the Extensible Forwarding Feature shall contain an extensible no reply condition timer. In other states the no reply condition timer shall not be included.

For call forwarding services other than call forwarding on no reply: The Extensible Forwarding Feature shall not contain a no reply condition timer.

If the VLR receives an Indication containing any Call Forwarding service codes which it does not support/allocate it returns them to the HLR in the parameter SS-Code List and discards the unsupported Call Forwarding service codes (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Call barring information List

A list of Extensible Call barring information parameters (Extensible Call barring information is defined in subclause 7.6). It includes Call Barring services either at location updating or at restoration or when they are changed. Each Extensible Call barring information parameter shall be treated independently of all other parameters in the primitive.

The Extensible Call barring information shall include the SS-Code for an individual call barring supplementary service. The Extensible Call barring information shall contain one or more Extensible Call Barring Features (Extensible Call Barring Feature is defined in subclause 7.6).

The Extensible Call Barring Feature may include an Extensible Basic Service Group. This shall be interpreted according to the rules in subclause 8.8.1.4.

The Extensible Call Barring Feature shall contain an extensible SS-Status parameter.

If the VLR receives an Indication containing any Extensible Call Barring service codes which it does not support/allocate it returns them to the HLR in the parameter SS-Code List and discards the unsupported Extensible Call Barring service codes (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### CUG information List

A list of CUG information list parameters (CUG information is defined in subclause 7.6). It includes CUG information either at location updating or at restoration or when it is changed.

At location updating, restoration or when there is a change in CUG data, the HLR shall include the complete CUG-SubscriptionList and, if there are options per basic group, it shall also include the complete CUG-FeatureList. If there are not options per extensible basic service group the CUG-FeatureList shall not be included.

In any dialogue, the first insertSubscriberData message which contains CUG information shall include a non-empty CUG-SubscriptionList.

When the VLR receives CUG data it shall replace the stored CUG data with the received data set.

If CUG-FeatureList is omitted in the Insert Subscriber Data operation VLR shall interpret that no options per extensible basic service group exist, and then it shall apply the default values i.e. no outgoing access, no incoming access, no preferential CUG exists.

If CUG-Feature is received without preferential CUG, the VLR shall interpret that no preferential CUG applies.

If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value.

Note that data consistency between CUG subscription data and CUG feature data is the responsibility of the HLR.

If the VLR does not support the CUG service it returns its code to the HLR in the parameter SS-Code List and discards the received information (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### SS-Data List

A list of Extensible SS-Data parameters (Extensible SS-Data is defined in subclause 7.6). It is sent for any other supplementary service than Call Forwarding, Call Barring, CUG and eMLPP either at location updating or at restoration or when they are changed. Each SS-Data parameter shall be treated independently of all other parameters in the primitive.

The Extensible SS-Data shall include the SS-Code for an individual supplementary service.

The Extensible SS-Data shall contain an Extensible SS-Status parameter and any subscription options that are applicable to the service defined by the SS-Code.

The SS-Data may include a Basic Service Group List. This shall be interpreted according to the rules in subclause 8.8.1.4.

If the VLR receives an Indication containing any supplementary service codes which it does not support/allocate it returns them to the HLR in the parameter SS-Code List and therefore discards the unsupported service codes received (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### Operator Determined Barring General data

If it is included in a Request/Indication, it includes all the Operator Determined Barring categories that may be applied to a subscriber registered in any PLMN. This parameter is only included in a Request/Indication when the parameter Subscriber Status is set to the value Operator Determined Barring. Note that all General Operator Determined Barring Categories shall be set to their actual status.

If the VLR or the SGSN receives an Indication containing Operator Determined Barring General Data which shows that the subscriber is subject to barring not supported / not allocated by the VLR or by the SGSN, it returns Operator Determined Barring General Data in the response to the HLR to show the barring categories which are not supported / not allocated by the VLR and the SGSN.

### Operator Determined Barring HPLMN data

It includes all the Operator Determined Barring categories that may be applied only to a subscriber registered in the HPLMN. Therefore, it shall only be transferred to the VLR or to the SGSN when the subscriber is roaming into the HPLMN and when the parameter Subscriber Status is set to the value Operator Determined Barring. Note that all HPLMN Operator Determined Barring Categories shall be set to their actual status.

If Subscriber Status is set to the value Operator Determined Barring and no Operator Determined Barring HPLMN data is present then the VLR or the SGSN shall not apply any HPLMN specific ODB services to the subscriber. This parameter is used by the VLR and the SGSN.

### eMLPP Subscription Data

If included in the Insert Subscriber Data request this parameter defines the priorities the subscriber might apply for a call (as defined in subclause 7.6). It contains both subparameters of eMLPP.

If the VLR does not support the eMLPP service it returns its code to the HLR in the parameter SS-Code List and therefore discards the received information (no error is sent back).

eMLPP subscription data that have been stored previously in a subscriber data record in the VLR are completely replaced by the new eMLPP subscription data received in a MAP\_INSERT\_SUBSCRIBER\_DATA during either an Update Location or Restore Data procedure or a stand alone Insert Subscriber data procedure. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### Roaming Restriction Due To Unsupported Feature

The HLR may decide to include this parameter in the request if certain services or features are indicated as not supported by the MSC/VLR (e.g. Advice of Charge Charging Level).

If this parameter is sent to the VLR the MSC area is restricted by the HLR and the VLR. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### Regional Subscription Data

If included in the Insert Subscriber Data request this parameter defines the subscriber's subscription area for the addressed VLR or for the addressed SGSN (as defined in subclause 7.6). It contains the complete list of up to 10 Zone Codes that apply to a subscriber in the currently visited PLMN. The HLR shall send only those Zone Codes which are stored against the CC and NDC of the VLR or the CC and NDC of the SGSN to be updated.

NOTE: Support of this parameter is a network operator option and it will not be sent to networks which do not support Regional Subscription.

Regional subscription data that have been stored previously in a subscriber data record in the VLR or in the SGSN are completely replaced by the regional subscription data received in an Insert Subscriber Data indication during either an Update Location or Restore Data procedure or a stand alone Insert Subscriber data procedure.

After the regional subscription data are inserted the VLR or the SGSN shall derive whether its location areas are allowed or not. If the whole MSC or SGSN area is restricted it will be reported to HLR by returning the Regional Subscription Response.

The VLR or the SGSN returns a Regional Subscription Response indicating that a problem with the Zone Code has been detected in one of the following cases:

- Too Many Zone Codes: more than 10 Zone Codes are to be stored in the VLR or in the SGSN;
- Regional Subscription Not Supported by the VLR or the SGSN;
- Zone Codes Conflict: the VLR or the SGSN detects that the zone codes indicate conflicting service permission for a location area.

Zone codes which have no mapping to location areas shall be ignored.

If a sequence of MAP\_INSERT\_SUBSCRIBER\_DATA services is used during a dialogue, Regional Subscription Data shall be accepted only in one service. Regional Subscription Data received in a subsequent service shall be rejected with the error Unexpected Data Value.

If Regional Subscription Data are not included in any MAP\_INSERT\_SUBSCRIBER\_DATA service, there is no restriction of roaming due to Regional Subscription. This parameter is used by the VLR and the SGSN.

#### Voice Broadcast Data

This parameter contains a list of group id's a user might have subscribed to; (VBS-Data is defined in subclause 7.6). It includes VBS information either at location updating or at restoration or when it is changed.

At location updating, restoration or when there is a change in VBS data, the HLR shall include the complete VBS-Data.

When the VLR receives VBS-Data within a dialogue it shall replace the stored VBS-data with the received data set. All subsequent VBS-dta received within this dialogue shall be interpreted as add-on data.

If VBS-data is omitted in the Insert Subscriber Data operation the VLR shall keep the previously stored VBS data.

If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Voice Group Call Data

This parameter contains a list of group id's a user might have subscribed to; see subclause 7.6.

At location updating, restoration or when there is a change in VGCS data, the HLR shall include the complete VGCS-Data.

When the VLR receives VGCS-Data within a dialogue it shall replace the stored VGCS-Data with the received data set. All VGCS-Data received within this dialogue shall be interpreted as add-on data.

If VBCS-Data is omitted in the Insert Subsciber Data operation the VLR shall keep the previously stored VGCS-Data.

If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### North American Equal Access preferred Carrier Id List

A list of the preferred carrier identity codes that are subscribed to.

When the VLR receives this parameter from the HLR, it shall replace the previously stored preferred carrier identity codes with the received ones. It is not possible to delete all the preferred carrier identity codes from the VLR using this service. To delete all the preferred carrier identity codes from the VLR, the HLR shall use the MAP\_CANCEL\_LOCATION service.

#### LSA Information

If included in the ISD request, this parameter contains a list of localised service area identities a user might have subscribed to together with the priority, the preferential access indicator, the active mode support indicator and active mode indication of each localised service area; see subclause 7.6. The access right outside these localised service areas is also indicated. In all cases mentioned below, the LSA information shall only include LSA Data applicable to the VPLMN where the Subscriber is located. The VLR number, received in the MAP-UPDATE\_LOCATION primitive, or

the SGSN number, received in the MAP\_UPDATE\_GPRS\_LOCATION primitive, can be used, alongside data stored in the HLR, to determine the LSA Data applicable to the VPLMN.

At restoration, location updating or GPRS location updating the HLR shall include the complete set of applicable LSA Information.

When there is a change in LSA data the HLR shall include at least the new and/or modified LSA data.

When there is a change in the access right outside the localised service areas the HLR shall include the LSA only access indicator.

When the SGSN or the VLR receives LSA information within a dialogue it shall check if the received data has to be considered as the entire LSA information. If so, it shall replace the stored LSA information with the received data set, otherwise it shall replace the data only for the modified LSA data (if any) and/or access right, and add the new LSA data (if any) to the stored LSA Information.

If the entire LSA information is received, it shall always include the LSA only access indicator value together with the LSA data applicable for the PLMN (if any).

If LSA Information is omitted in the Insert Subscriber Data operation the SGSN or the VLR shall keep the previously stored LSA Information.

If the SGSN or the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used by the VLR and the SGSN.

#### LMU Identifier

This parameter indicates the presence of an LMU.

#### LCS Information

This parameter provides the following LCS related information for an MS subscriber:

- list of GMLCs in the HPLMN
- privacy exception list

### SS-Code List

The list of SS-Code parameters that are provided to a subscriber but are not supported/allocated by the VLR (SS-Code is defined in subclause 7.6). The list can only include individual SS-Codes that were sent in the service request. This parameter is used only by the VLR.

#### Regional Subscription Response

If included in the response this parameter indicates one of:

- MSC Area Restricted entirely because of regional subscription;
- SGSN Area Restricted entirely because of regional subscription;
- Too Many Zone Codes to be inserted;
- Zone Codes Conflict;
- Regional Subscription not Supported by the VLR or by the SGSN.

If the VLR determines after insertion of Regional Subscription Data that the entire MSC area is restricted, the VLR shall respond with a Regional Subscription Response indicating MSC Area Restricted. Otherwise MSC Area Restricted is not sent. The HLR shall check whether the current MSC area is no longer restricted.

If the SGSN determines after insertion of Regional Subscription Data that the entire SGSN area is restricted, the SGSN shall respond with a Regional Subscription Response indicating SGSN Area Restricted. Otherwise SGSN Area Restricted is not sent. The HLR shall check whether the current SGSN area is no longer restricted. This parameter is used by the VLR and by the SGSN.

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## VLR CAMEL Subscription Info

This parameter is sent for subscribers who have CAMEL services which are invoked in the MSC. In CAMEL phase 1 this parameter contains only the O-CSI. If an O-CSI is contained, TDP-Criteria may also be present in CAMEL Phase 2. In CAMEL Phase 2 this parameter contains the SS-CSI and/or the O-CSI. The VLR CAMEL Subscription Info is sent at location updating or when any information in the applicable CAMEL Subscription Info in the HLR has been changed. The entire set of CAMEL Subscription Info is sent within one dialogue. If a set of CAMEL Subscription Info is already stored in the VLR, i.e received within a previous dialogue, it is replaced by the received data. If the VLR CAMEL Subscription Info is ommitted in the Insert Subscriber Data operation the VLR shall keep the previously stored VLR CAMEL Subscription Info. Within one dialogue subsequent received data are interpreted as add-on data. If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

The VLR CAMEL Subscription Info may contain the TIF-CSI (Translation Information Flag). See GSM 03.72 for the use of this parameter and the conditions for its presence.

### Supported CAMEL Phases

The use of this parameter and the requirements for its presence are specified in GSM 03.78. This parameter is used only by the VLR.

A VLR not supporting any CAMEL-Phase may omit this parameter.

### GPRS Subscription Data

This parameter contains a list of PDP-contexts a user has subscribed to; see subclause 7.6.

At GPRS location updating the HLR shall include the complete GPRS Subscription Data.

When there is a change in GPRS subscriber data the HLR shall include only the new and/or modified PDP contexts.

When the SGSN receives GPRS Subscription Data within a dialogue it shall check if the received data has to be considered as the entire GPRS subscription data. If so, it shall replace the stored GPRS Subscription Data with the received data set, otherwise it shall replace the data only for the modified PDP contexts (if any) and add the new PDP contexts (if any) to the stored GPRS Subscription Data.

If GPRS Subscription Data is omitted in the Insert Subscriber Data operation the SGSN shall keep the previously stored GPRS Subscription Data.

If the SGSN detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the SGSN and if the VLR receives this parameter it shall ignore it.

#### Roaming Restricted In SGSN Due To Unsupported Feature

The HLR may decide to include this parameter in the request if certain services or features are indicated as not supported by the SGSN. This parameter is used only by the SGSN and if the VLR receives this parameter it shall ignore it.

### User error

Only one of the following values is applicable:

- Unidentified subscriber;
- Data missing;
- Unexpected data value.

## 17.7.1 Mobile Service data types

MAP-MS-DataTypes {
 ccitt identified-organization (4) etsi (0) mobileDomain (0)
 gsm-Network (1) modules (3) map-MS-DataTypes (11) version5 (5)}

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```
-- location registration types
UpdateLocationArg,
UpdateLocationRes,
CancelLocationArg,
CancelLocationRes,
PurgeMS-Arg,
PurgeMS-Res,
SendIdentificationRes,
UpdateGprsLocationArg,
UpdateGprsLocationRes,
-- handover types
PrepareHO-Arg,
PrepareHO-Res,
PrepareSubsequentHO-Arg,
-- authentication management types
SendAuthenticationInfoArg,
SendAuthenticationInfoRes,
-- security management types
EquipmentStatus,
Kc.
-- subscriber management types
InsertSubscriberDataArg,
InsertSubscriberDataRes,
DeleteSubscriberDataArg,
DeleteSubscriberDataRes,
SubscriberData,
ODB-Data,
SubscriberStatus,
ZoneCodeList,
maxNumOfZoneCodes,
O-CSI,
O-BcsmCamelTDPCriteriaList,
SS-CSI,
ServiceKey,
DefaultCallHandling,
CamelCapabilityHandling,
BasicServiceCriteria,
SupportedCamelPhases,
maxNumOfCamelTDPData,
CUG-Index,
CUG-Interlock,
InterCUG-Restrictions,
IntraCUG-Options,
-- fault recovery types
```

ResetArg, RestoreDataArg, RestoreDataRes,

-- subscriber information enquiry types ProvideSubscriberInfoArg, ProvideSubscriberInfoRes, SubscriberInfo, LocationInformation, SubscriberState,

-- any time information enquiry types AnyTimeInterrogationArg,

AnyTimeInterrogationRes,

```
-- gprs location information retrieval types
      SendRoutingInfoForGprsArg,
      SendRoutingInfoForGprsRes,
      -- failure reporting types
      FailureReportArg,
     FailureReportRes,
      -- gprs notification types
     NoteMsPresentForGprsArg,
     NoteMsPresentForGprsRes
;
IMPORTS
     maxNumOfSS,
     SS-SubscriptionOption,
     SS-List
FROM MAP-SS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-SS-DataTypes (14) version5 (5)}
     SS-Code
FROM MAP-SS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SS-Code (15) version5 (5)}
     Ext-BearerServiceCode
FROM MAP-BS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-BS-Code (20) version5 (5)}
     Ext-TeleserviceCode
FROM MAP-TS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-TS-Code (19) version5 (5)}
     ISDN-AddressString,
     maxISDN-AddressLength,
      ISDN-SubaddressString,
      ExternalSignalInfo,
     IMSI,
     HLR-List,
     LMSI,
      Identity,
      GlobalCellId,
      CellIdOrLAT.
      Ext-BasicServiceCode,
     NAEA-PreferredCI,
     EMLPP-Info,
      SubscriberIdentity,
     AgeOfLocationInformation,
     LCSClientExternalID,
     LCSClientInternalID
FROM MAP-CommonDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-CommonDataTypes (18) version5 (5)}
     ExtensionContainer
FROM MAP-ExtensionDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version5 (5)}
     AbsentSubscriberDiagnosticSM
FROM MAP-ER-DataTypes {
  ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ER-DataTypes (17) version5 (5)}
```

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-- location registration types

;

<b>UpdateLocationArg</b> ::= SEQUENCE {		
imsi	IMSI,	
msc-Number	[1] ISDN-AddressString	
	[1] IDDA Maarebbbering,	
lmai	[10] INGLODITONN	
Insi	[IU] LMSI OPIIONAL,	
extensionContainer	ExtensionContainer	OPTIONAL,
,		
vlr-Capability	[6] VLR-Capability	OPTIONAL }
VLR-Capability ::= SEQUENCE {		
supportedCamelPhases	[0] SupportedCamelPhases	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL.
enteribioneoneutilei		or reorate,
···· /		
solsasupportindicator		OPTIONAL }
UpdateLocationRes ::= SEQUENCE {		
hlr-Number	ISDN-AddressString	
IIII - Nulliber	ISDN AddressString,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		
CancelLocationArg ::= [3] SEQUENCE {		
identity	Identity,	
cancellationType	CancellationType	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
		,
••••		
CancellationType ::= ENUMERATED \$		
undateDrogodura	( <b>0</b> )	
upualeriocedure	(U),	
subscriptionwithdraw	(1),	
}		
The HLR shall not send values	other than listed above	
CancelLocationRes ::= SEQUENCE {		
CancelLocationRes ::= SEQUENCE {     extensionContainer	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    }	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    }	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     ulr-Number	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     oner Number	ExtensionContainer IMSI, [0] ISDN-AddressString	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString	OPTIONAL, OPTIONAL, OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer     } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE { </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE { </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     uthertisetting of the security } </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, http://www.actional.com/	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList     c }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE { </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSet ::= SEQUENCE {     rand     sres </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSet ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16)) SRES ::= OCTET STRING (SIZE (4))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16)) SRES ::= OCTET STRING (SIZE (4))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16)) Kc ::= OCTET STRING (SIZE (4))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,

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-- gprs location registration types

<b>UpdateGprsLocationArg</b> ::= SEQUENCE {		
imsi	IMSI,	
sgsn-Number	ISDN-AddressString,	
sgsn-Address	GSN-Address,	
extensionContainer	ExtensionContainer	OPTIONAL,
···· /		
sgsn-Capability	[0] SGSN-Capability	OPTIONAL }
aday genetility of groupygr		
SGSN-Capability ::= SEQUENCE{		00000
solsaSupportIndicator		OPTIONAL,
extensionContainer	[1] ExtensionContainer	OPTIONAL,
}		
GSN-Address ::= OCTET STRING (SIZE (5	17))	
Octets are coded according to TS	GSM 03.03	
<pre>UpdateGprsLocationRes ::= SEQUENCE {</pre>		
hlr-Number	ISDN-AddressString.	
extensionContainer	ExtensionContainer	OPTIONAL.
}		0111010112)
handover types		
PrepareHO-Arg ::= SEQUENCE {		
targetCellId	GlobalCellId	OPTIONAL,
ho-NumberNotRequired	NULL	OPTIONAL,
bss-APDU	ExternalSignalInfo	OPTIONAL,
}		,
PrepareHO-Res ::= SEQUENCE {		
handoverNumber	ISDN-AddressString	OPTIONAL,
bss-APDU	ExternalSignalInfo	OPTIONAL,
}		,
PrepareSubsequentHO-Arg ::= SEQUENCE {		
targetCellId	GlobalCellId,	
targetMSC-Number	ISDN-AddressString,	
bss-APDU	ExternalSignalInfo,	
}	· · · · · · · · · · · · · · · · · · ·	

-- authentication management types

#### SendAuthenticationInfoArg ::= IMSI

SendAuthenticationInfoRes ::= AuthenticationSetList

-- security management types

EquipmentStatus	::= ENUMERATED	{
whiteListed	(0),	
blackListed	(1),	
greyListed	(2)}	

-- subscriber management types

ertSubscriberDataArg ::= SEQU	ENCE {	
imsi	[0] IMSI	OPTIONAL,
COMPONENTS OF	SubscriberData,	
extensionContainer	[14] ExtensionContainer	OPTIONAL,
,		0000000
naea-PreferredCl	[15] NAEA-PreferredCl	OPTIONAL,
naea-PreferredCI is inclu	ded at the discretion of the HLR opera	tor.
gprsSubscriptionData	[16] GPRSSubscriptionData	OPTIONAL,
roamingRestrictedInSgsnDueTo	DUnsupportedFeature [23]	NULL
		OPTIONAL,
networkAccessMode	[24] NetworkAccessMode	OPTIONAL,
lsaInformation	[25] LSAInformation	OPTIONAL,
lmu-Indicator	[21] NULL	OPTIONAL,
lcsInformation	[22] LCSInformation	OPTIONAL
}		
If the Network Access Mod	le parameter is sent, it shall be prese	nt only in
the first sequence if the	e segmentation is used	

LCSInformation ::= SEQUENCE { hplmn-GMLC-List [0] HPLMN-GMLC-List OPTIONAL, lcs-PrivacyExceptionList [1] LCS-PrivacyExceptionList OPTIONAL, ...}

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HPLMN-GMLC-List ::= SEQUENCE SIZE (1..maxNumOfGMLC) OF ISDN-AddressString

maxNumOfGMLC INTEGER ::= 5

NetworkAccessMode ::= ENUMERATED {
 bothMSCAndSGSN (0),
 onlyMSC (1),
 onlySGSN (2),
 ...}
 -- if unknown values are received in NetworkAccessMode
 -- they shall be discarded.

**GPRSDataList** ::= SEQUENCE SIZE (1..maxNumOfPDP-Contexts) OF PDP-Context

maxNumOfPDP-Contexts INTEGER ::= 50

<b>PDP-Context</b> ::= SEQUENCE {			
pdp-ContextId	ContextId,		
pdp-Type	[16] PDP-Type,		
pdp-Address	[17] PDP-Address	OPTIONAL,	
qos-Subscribed	[18] QoS-Subscribed,		
vplmnAddressAllowed	[19] NULL OPTIONAL,		
apn	[20] APN ,		
extensionContainer	[21] ExtensionContainer	OPTIONAL,	
}			
ž			_

**ContextId** ::= INTEGER (1..maxNumOfPDP-Contexts)

GPRSSubscriptionData ::= SEQUENCE {		
completeDataListIncluded	NULL	OPTIONAL,
If segmentation is used,	completeDataListIncluded	may only be present in the
first segment.		
gprsDataList	[1] GPRSDataList,	
extensionContainer	[2] ExtensionContaine	er OPTIONAL,

APN ::= OCTET STRING (SIZE (2..63)) -- Octets are coded according to TS GSM 03.03

**PDP-Type** ::= OCTET STRING (SIZE (2)) -- Octets are coded according to TS GSM 09.60

PDI	P-Add	iress ::	= OCTE	T STRING	G (SIZ	E (116))	
	Octe	ets are	coded	accordi	ng to	TS GSM 09.60	
	The	possibl	e size	e values	are:		
	1-7	octets	X.25	address	type		
	4	octets	IPv4	address	type		
	16	octets	Іруб	address	tvpe		

**QoS-Subscribed** ::= OCTET STRING (SIZE (3)) -- Octets are coded according to TS GSM 04.08.

LSAOnlyAccessIndicator ::= ENUMERATED { accessOutsideLSAsAllowed (0), accessOutsideLSAsRestricted (1)}

LSADataList ::= SEQUENCE SIZE (1..maxNumOfLSAs) OF LSAData

maxNumOfLSAs INTEGER ::= 20

LSAData ::= SEQUENCE {		
lsaIdentity	[0] LSAIdentity,	
lsa <del>Priority<u>Attributes</u></del>	<li>[1] LSA<del>Priority<u>Attributes</u>,</del></li>	
lsaActiveModeIndicator	[2] NULL	OPTIONAL,
lsaActiveModeSupportIndicator	[3] NULL	OPTIONAL,
extensionContainer	[4 <u>3</u> ] ExtensionContainer	OPTIONAL,
}	-	

SAInformation ::= SEQUENCE {			
completeDataListIncluded	NULI	L	OPTIONAL,
If segmentation is used first segment.	l, complet	eDataListIncluded may only	be present in the
lsaOnlyAccessIndicator	[1]	LSAOnlyAccessIndicator	OPTIONAL,
lsaDataList	[2]	LSADataList	OPTIONAL,
extensionContainer	[3]	ExtensionContainer	OPTIONAL,

LSAIdentity ::= OCTET STRING (SIZE (3)) -- Octets are coded according to TS GSM 03.03

LSAPriorityAttributes ::= OCTET STRING (SIZE (1)) -- Octets are coded according to TS GSM 08.08

Subscr	iberData ::= SEQUENCE {			
m	sisdn	[1]	ISDN-AddressString	OPTIONAL,
C	ategory	[2]	Category	OPTIONAL,
S	ubscriberStatus	[3]	SubscriberStatus	OPTIONAL,
b	earerServiceList	[4]	BearerServiceList	OPTIONAL,
-	- The exception handling for recept	ion	of unsupported / not allocated	
-	<ul> <li>bearerServiceCodes is defined in</li> </ul>	sect	ion 6.8.1	
t	eleserviceList	[6]	TeleserviceList	OPTIONAL,
-	- The exception handling for recept	ion	of unsupported / not allocated	
-	- teleserviceCodes is defined in se	ctio	n 6.8.1	
p	rovisionedSS	[7]	Ext-SS-InfoList	OPTIONAL,
00	db-Data	[8]	ODB-Data	OPTIONAL,
r	oamingRestrictionDueToUnsupportedFe	atur	e [9] NULL	OPTIONAL,
r	egionalSubscriptionData	[10]	ZoneCodeList	OPTIONAL,
v	bsSubscriptionData	[11]	] VBSDataList	OPTIONAL,
V	gcsSubscriptionData	[12]	] VGCSDataList	OPTIONAL,
v.	lrCamelSubscriptionInfo	[13]	] VlrCamelSubscriptionInfo	OPTIONAL

**Category** ::= OCTET STRING (SIZE (1)) -- The internal structure is defined in CCITT Rec Q.763.

SubscriberStatus ::= ENUMERATED {
 serviceGranted (0),
 operatorDeterminedBarring (1)}

BearerServiceList ::= SEQUENCE SIZE (1..maxNumOfBearerServiceS) OF Ext-BearerServiceCode

maxNumOfBearerServices INTEGER := 50

**TeleserviceList** ::= SEQUENCE SIZE (1..maxNumOfTeleservices) OF Ext-TeleserviceCode

maxNumOfTeleservices INTEGER := 20

<b>ODB-Data</b> ::= SEQUENCE {	
odb-GeneralData	
odb-HPLMN-Data	
extensionContainer	
}	

ODB-GeneralData, ODB-HPLMN-Data ExtensionContainer

OPTIONAL, OPTIONAL,

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**ODB-GeneralData** ::= BIT STRING { allOG-CallsBarred (0), internationalOGCallsBarred (1), internationalOGCallsNotToHPLMN-CountryBarred (2), interzonalOGCallsBarred (6), interzonalOGCallsNotToHPLMN-CountryBarred (7), interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8), premiumRateInformationOGCallsBarred (3), premiumRateEntertainementOGCallsBarred (4), ss-AccessBarred (5), allECT-Barred (9), chargeableECT-Barred (10), internationalECT-Barred (11), interzonalECT-Barred (12), doublyChargeableECT-Barred (13), multipleECT-Barred (14) { (SIZE (15..32)) -- exception handling: reception of unknown bit assignments in the -- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData

ODB-HPLMN-Data ::= BIT STRING {
 plmn-SpecificBarringType1 (0),
 plmn-SpecificBarringType2 (1),
 plmn-SpecificBarringType3 (2),
 plmn-SpecificBarringType4 (3)} (SIZE (4..32))
 -- exception handling: reception of unknown bit assignments in the
 -- ODB-HPLMN-Data type shall be treated like unsupported ODB-HPLMN-Data

**Ext-SS-InfoList** ::= SEQUENCE SIZE (1..maxNumOfSS) OF Ext-SS-Info

Ext-SS-Info ::= CHOICE {
 forwardingInfo
 callBarringInfo
 cug-Info
 ss-Data
 emlpp-Info

[0] Ext-ForwInfo, [1] Ext-CallBarInfo, [2] CUG-Info, [3] Ext-SS-Data, [4] EMLPP-Info}

Ext-ForwInfo ::= SEQUENCE {
 ss-Code
 forwardingFeatureList
 extensionContainer
 ...}

SS-Code, Ext-ForwFeatureList, [0] ExtensionContainer

OPTIONAL,

**Ext-ForwFeatureList ::=** SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF Ext-ForwFeature

**Ext-ForwFeature** ::= SEQUENCE { basicService Ext-BasicServiceCode OPTIONAL, ss-Status [4] Ext-SS-Status, [5] ISDN-AddressString forwardedToNumber OPTIONAL, -- When this data type is sent from an HLR which supports CAMEL Phase 2 -- to a VLR that supports CAMEL Phase 2 the VLR shall not check the -- format of the number [8] ISDN-SubaddressString forwardedToSubaddress OPTIONAL, [6] Ext-ForwOptions forwardingOptions OPTIONAL, noReplyConditionTime [7] Ext-NoRepCondTime OPTIONAL, extensionContainer [9] ExtensionContainer OPTIONAL, . . . }

Ext-SS-Status ::= OCTET STRING (SIZE (1..5))
-- OCTET 1:
--- bits 8765: 0000 (unused)
-- bits 4321: Used to convey the "P bit", "R bit", "A bit" and "Q bit",
-- representing supplementary service state information
-- as defined in TS GSM 03.11
-- bit 4: "Q bit"
-- bit 3: "P bit"
-- bit 2: "R bit"
-- bit 1: "A bit"
-- OCTETS 2-5: reserved for future use. They shall be discarded if
-- received and not understood.

**Ext-ForwOptions** ::= OCTET STRING (SIZE (1..5)) -- OCTET 1: -- bit 8: notification to forwarding party -- 0 no notification 1 notification -- bit 7: redirecting presentation -- 0 no presentation -- 1 presentation -- bit 6: notification to calling party \_\_\_ 0 no notification -- 1 notification -- bit 5: 0 (unused) -- bits 43: forwarding reason -- 00 ms not reachable -- 01 ms busy \_ \_ 10 no reply 11 unconditional \_\_\_ -- bits 21: 00 (unused) -- OCTETS 2-5: reserved for future use. They shall be discarded if -- received and not understood. Ext-NoRepCondTime ::= INTEGER (1..100) -- Only values 5-30 are used. -- Values in the ranges 1-4 and 31-100 are reserved for future use -- If received: \_\_\_ values 1-4 shall be mapped on to value 5 values 31-100 shall be mapped on to value 30 **Ext-CallBarInfo** ::= SEQUENCE { ss-Code SS-Code, callBarringFeatureList Ext-CallBarFeatureList, extensionContainer ExtensionContainer OPTIONAL, . . . } Ext-CallBarFeatureList ::= SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF Ext-CallBarringFeature **Ext-CallBarringFeature** ::= SEQUENCE { basicService Ext-BasicServiceCode OPTIONAL, ss-Status [4] Ext-SS-Status, extensionContainer ExtensionContainer OPTIONAL, . . . } CUG-Info ::= SEQUENCE { cug-SubscriptionList CUG-SubscriptionList, cug-FeatureList CUG-FeatureList OPTIONAL, extensionContainer [0] ExtensionContainer OPTIONAL, CUG-SubscriptionList ::= SEQUENCE SIZE (0..maxNumOfCUG) OF CUG-Subscription **CUG-Subscription** ::= SEQUENCE { cug-Index CUG-Index, cug-Interlock CUG-Interlock, IntraCUG-Options, intraCUG-Options basicServiceGroupList Ext-BasicServiceGroupList OPTIONAL, extensionContainer [0] ExtensionContainer OPTIONAL, . . . } CUG-Index ::= INTEGER (0..32767) -- The internal structure is defined in ETS 300 138. CUG-Interlock ::= OCTET STRING (SIZE (4)) IntraCUG-Options ::= ENUMERATED { noCUG-Restrictions (0), cugIC-CallBarred (1),

cugOG-CallBarred (2)}

maxNumOfCUG INTEGER ::= 10

**CUG-FeatureList** ::= SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF CUG-Feature

**Ext-BasicServiceGroupList** ::= SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF

Ext-BasicServiceCode

#### maxNumOfExt-BasicServiceGroups INTEGER ::= 32

CUG-Feature ::= SEQUENCE {		
basicService	Ext-BasicServiceCode	OPTIONAL,
preferentialCUG-Indicator	CUG-Index OPTIONAL,	
interCUG-Restrictions	InterCUG-Restrictions,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		

**InterCUG-Restrictions** ::= OCTET STRING (SIZE (1))

-- bits 876543: 000000 (unused) -- Exception handling: -- bits 876543 shall be ignored if received and not understood -- bits 21 -- 00 CUG only facilities -- 01 CUG with outgoing access -- 10 CUG with incoming access -- 11 CUG with both outgoing and incoming access Ext-SS-Data ::= SEQUENCE {

ss-Code
ss-Status[4] Ext-SS-Status,
ss-SubscriptionOption
basicServiceGroupList
extensionContainer
....}

SS-Code,

SS-SubscriptionOption Ext-BasicServiceGroupList [5] ExtensionContainer OPTIONAL, OPTIONAL, OPTIONAL,

LCS-PrivacyExceptionList ::= SEQUENCE SIZE (1..maxNumOfPrivacyClass) OF LCS-PrivacyClass

maxNumOfPrivacyClass INTEGER := 4

LCS-PrivacyClass ::= SEQUENCE {		
ss-Code	SS-Code,	
ss-Status	Ext-SS-Status,	
externalClientList	[0] ExternalClientList	OPTIONAL,
externalClientList is exp	ected only for SS-code = callunrelate	d
plmnClientList	[1] PLMNClientList	OPTIONAL,
plmnClientList is expecte	d only for SS-code - plmn	
extensionContainer	[2] ExtensionContainer	OPTIONAL,
}		

**ExternalClientList** ::= SEQUENCE SIZE (1..maxNumOfExternalClient) OF ExternalClient

maxNumOfExternalClient INTEGER ::= 5

**PLMNClientList** ::= SEQUENCE SIZE (1..maxNumOfPLMNClient) OF LCSClientInternalID

maxNumOfPLMNClient INTEGER ::= 5

ExternalClient ::= SEQUENCE {		
clientIdentity	LCSClientExternalID,	
gmlc-Restriction	[0] GMLC-Restriction	OPTIONAL,
extensionContainer	<pre>[1] ExtensionContainer</pre>	OPTIONAL,
}		
GMLC-Restriction ::= ENUMERATED {		
hplmn	(0),	
home-Country	(1)}	

ZoneCodeList ::= SEQUENCE SIZE (1..maxNumOfZoneCodes) OF ZoneCode

maxNumOfZoneCodes INTEGER ::= 10

InsertSubscriberDataRes ::= SEQUENCE {		
tologorrigoligt	[1] Tologorrigoligt	ODUTONAL
teleservicelist		OPTIONAL,
bearerServiceList	[2] BearerServiceList	OPTIONAL,
ss-List	[3] SS-List	OPTIONAL,
odb-GeneralData	[4] ODB-GeneralData	OPTIONAL,
regionalSubscriptionResponse	[5]	<i>.</i>
Pogional Cubernintion Deserve		
	SE OFIIONAL,	00000
supportedCamelPhases	[6] SupportedCamelPhases	OPTIONAL,
extensionContainer	[7] ExtensionContainer	OPTIONAL,
}		
Regional Subscription Response ::= ENUMERA	רידיד ∫	
networkhode-AreaRestricted	(0),	
tooManyZoneCodes	(1),	
zoneCodesConflict	(2),	
regionalSubscNotSupported	(3)}	
DeleteSubscriberDataArg ::= SEQUENCE {		
ingi	[0] TMCT	
	[U] IMSI,	
basicServiceList	[1] BasicServiceList	OPTIONAL,
The exception handling for reception	tion of unsupported/not allocated	
basicServiceCodes is defined in	section 6.8.2	
ag-List	[2] SS_Ligt	OPTIONAL
		OPTIONAL,
roamingRestrictionDueToUnsupportedF	eature [4] NULL	OPTIONAL,
regionalSubscriptionIdentifier	[5] ZoneCode	OPTIONAL,
vbsGroupIndication	[7] NULL	OPTIONAL,
vacsGroupIndication		- ,
	[0] NULL OFIIONAL,	
cameiSubscriptionInfoWithdraw	[9] NULL OPIIONAL,	
extensionContainer	<pre>[6] ExtensionContainer OPTIONAL,</pre>	
• • • • /		
gprsSubscriptionDataWithdraw	[10] GPRSSubscriptionDataWithdraw	OPTIONAL,
roamingPectrictodIngganDuoTollingunn	ortedEesture [11] NUUT	OPTIONAL
	[10] I GDITE [II] NULL	
IsaInformationWithdraw	[12] LSAInformationWithdraw	OPTIONAL }
	,	
GPRSSubscriptionDataWithdraw ::= CHOICE	{	
allCDDCData	NITIT.T.	
allGPRSData	NOLL,	
contextIdList	ContextIdList }	
contextIdList	ContextIdList}	
contextIdList	ContextIdList}	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextIdList}	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextIdList} umOfPDP-Contexts) OF ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextIdList} umOfPDP-Contexts) OF ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextIdList} umOfPDP-Contexts) OF ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextIdList} umOfPDP-Contexts) OF ContextId	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData	ContextIdList} umOfPDP-Contexts) OF ContextId NULL,	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList }	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList }	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1 max)	NULL, LSAIdentityList }	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	NULL, LSAIdentityList }	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	NULL, LSAIdentity XNumOfLSAs) OF LSAIdentity	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	NULL, LSAIdentity XNUMOFLSAS) OF LSAIdentity	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	NULL, NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70	NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70	<pre>NULL, ContextIdList } umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode	
ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode	
ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse	Initial ContextIdList }         umOfPDP-Contexts) OF         ContextId         NULL,         LSAIdentityList }         xNumOfLSAs) OF         LSAIdentity         axNumOfBasicServices) OF         Ext-BasicServiceCode         [0]         Regional SubscriptionPersonse	
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse autorsizeCubicipum</pre>	Initial ContextIdList }         umOfPDP-Contexts) OF         ContextId         NULL,         LSAIdentityList }         xNumOfLSAs) OF         LSAIdentity         axNumOfBasicServices) OF         Ext-BasicServiceCode         [0]         RegionalSubscriptionResponse         Part and on Containing	OPTIONAL,
ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer }	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer }	<pre>Incle, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer {</pre>	OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE</pre>	ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer {	OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI</pre>	<pre>NoLL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] 0-CSI [0] 0-CSI</pre>	OPTIONAL, OPTIONAL,
<pre>allGPRSData contextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer</pre>	<pre>NoLL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer ;</pre>	Initial ContextIdList }         umOfPDP-Contexts) OF         ContextId         NULL,         LSAIdentityList }         xNumOfLSAs) OF         LSAIdentity         axNumOfBasicServices) OF         Ext-BasicServiceCode         [0]         RegionalSubscriptionResponse         ExtensionContainer         {         [0] O-CSI         [1] ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer , ss-CSI</pre>	<pre>NoLL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList contextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer , ss-CSI o-RegenCamplTED CritericList</pre>	<pre>Nobl, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BagmCamplTDDCriteriaList</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList contextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer , ss-CSI o-BcsmCamelTDP-CriteriaList if gat</pre>	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [2] NULL, [2] NULL, [4] O-BcsmCamelTDPCriteriaList [2] NULL, [4] O-BcsmCamelTDPCriteriaList [4] O-BcsmCamelTDPCriteriaList</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VIrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer , ss-CSI o-BcsmCamelTDP-CriteriaList tif-CSI	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList contextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE { restensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE { o-CSI extensionContainer , ss-CSI o-BcsmCamelTDP-CriteriaList tif-CSI } </pre>	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList contextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer , ss-CSI o-BcsmCamelTDP-CriteriaList tif-CSI }</pre>	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList contextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE { resionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE { o-CSI extensionContainer } SS-CSI o-BcsmCamelTDP-CriteriaList tif-CSI } SS-CSI ::= SEQUENCE { SS-CSI := SEQUENC</pre>	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer , ss-CSI o-BcsmCamelTDP-CriteriaList tif-CSI } SS-CSI ::= SEQUENCE {</pre>	Initial State         ContextIdList}         umOfPDP-Contexts) OF         ContextId         NULL,         LSAIdentityList }         xNumOfLSAs) OF         LSAIdentity         axNumOfBasicServices) OF         Ext-BasicServiceCode         [0]         RegionalSubscriptionResponse         ExtensionContainer         [0] O-CSI         [1] ExtensionContainer         [2] SS-CSI         [4] O-BcsmCamelTDPCriteriaList         [3] NULL	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE { restensionContainer , ss-CSI o-BcsmCamelTDP-CriteriaList tif-CSI } SS-CSI ::= SEQUENCE { ss-CamelData</pre>	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL SS-CamelData,</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ContextIdList ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE { restensionContainer } SS-CSI o-BcsmCamelTDP-CriteriaList tif-CSI } SS-CSI ::= SEQUENCE { ss-CamelData extensionContainer</pre>	<pre>NULL, ContextIdList} umOfPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL SS-CamelData, ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
**SS-CamelData** ::= SEQUENCE { ss-EventList gsmSCF-Address extensionContainer ...

SS-EventList,
ISDN-AddressString,
[0] ExtensionContainer

OPTIONAL,

SS-EventList ::= SEQUENCE SIZE (1..maxNumOfCamelSSEvents) OF SS-Code -- Actions for the following SS-Code values are defined in CAMEL Phase 2: -- ect SS-Code ::= '00110001'B -- multiPTY SS-Code ::= '01010001'B -- cd SS-Code ::= '00100100'B -- all other SS codes shall be ignored

maxNumOfCamelSSEvents INTEGER ::= 10

**O-CSI** ::= SEQUENCE { o-BcsmCamelTDPDataList extensionContainer ..., camelCapabilityHandling

O-BcsmCamelTDPDataList, ExtensionContainer [0] CamelCapabilityHandling

OPTIONAL,

O-BcsmCamelTDPDataList ::= SEQUENCE SIZE (1..maxNumOfCamelTDPData) OF

O-BcsmCamelTDPData

--- O-BcsmCamelTDPDataList shall not contain more than one instance of

--- O-BcsmCamelTDPData containing the same value for o-BcsmTriggerDetectionPoint.

--- For CAMEL Phase 2, this means that only one instance of O-BcsmCamelTDPData is allowed

--- with o-BcsmTriggerDetectionPoint being equal to DP2.

maxNumOfCamelTDPData INTEGER ::= 10

O-BcsmCamelTDPData ::= SEQUENCE {		
o-BcsmTriggerDetectionPoint	O-BcsmTriggerDetectionPoint,	
serviceKey	ServiceKey,	
gsmSCF-Address	<pre>[0] ISDN-AddressString,</pre>	
defaultCallHandling	<ol> <li>DefaultCallHandling,</li> </ol>	
extensionContainer	[2] ExtensionContainer	OPTIONAL,
•••		

**ServiceKey** ::= INTEGER (0..2147483647)

O-BcsmTriggerDetectionPoint ::= ENUMERATED {
 collectedInfo (2),
 ... }
-- exception handling:
-- For O-BcsmCamelTDPData sequences containing this parameter with any
-- other value than the ones listed the receiver shall ignore the whole
-- O-BcsmCamelTDPDatasequence.
-- For O-BcsmCamelTDP-Criteria sequences containing this parameter with any
-- other value than the ones listed the receiver shall ignore the whole
-- O-BcsmCamelTDP-Criteria sequence.

**O-BcsmCamelTDPCriteriaList** ::= SEQUENCE SIZE (1..maxNumOfCamelTDPData) OF O-BcsmCamelTDP-Criteria

O-RagmCamolTDD-Critoria ··- GEOUENCE		
O-BCSIICAIIEIIDF-CIICEIIA ···= SEQUENCE {		
o-BcsmTriggerDetectionPoint 0-3	BcsmTriggerDetectionPoint,	
destinationNumberCriteria [0	] DestinationNumberCriteria	OPTIONAL,
basicServiceCriteria [1	] BasicServiceCriteria	OPTIONAL,
callTypeCriteria [2	] CallTypeCriteria	OPTIONAL,
}		
DestinationNumberCriteria ::= SEQUENCE	{	
matchType [0	] MatchType,	
destinationNumberList [1	] DestinationNumberList	OPTIONAL,
destinationNumberLengthList [2	] DestinationNumberLengthList	OPTIONAL,
one or both of destinationNumberList	and destinationNumberLengthList	-
shall be present		
}		
DestinationNumberList ::= SEQUENCE SIZE	(1maxNumOfCamelDestinationN	umbers) OF
IS	DN-AddressString	

-- The receiving entity shall not check the format of a number in

-- the dialled number list

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DestinationNumberLengthList ::= SEQUENCE	SIZE	C (1maxNumOfCamelDestinat	ionNumberLengths)
OF			
	INT	EGER(1maxNumOfISDN-Addre	ssDigits)
Pagi geomi codni tonia		Numof Como 1 Do o i o Couri o o Cui h	and a long
Ext-BasicServiceCode	.max	inumorcamerBasicServiceCrit	eria) OF
maxNumOfISDN-AddressDigits INTEGER ::= 15			
maxNumOfCamelDestinationNumbers INTEGER ::= 1	10		
maxNumOfCamelDestinationNumberLengths INTEGE	R ::	= 3	
maxNumOfCamelBasicServiceCriteria INTEGER :::	= 5		
Call Turne Criteria ENTIMEDATED			
forwarded (0)			
notForwarded (1)}			
MatchType ::= ENUMERATED {			
inhibiting (0),			
enabling (1)}			
DefaultCallHandling ::= ENUMERATED {			
continueCall (0) ,			
releaseCall (1) ,			
}			
exception handling:			
reception of values in range 2-31 shall be	tre	ated as "continueCall"	
reception of values greater than 31 shall h	be L.	reated as "releasecall"	
CamelCapabilityHandling ::= INTEGER(1 16)			
value 1 = CAMEL phase 1,			
value 2 = CAMEL phase 2:			
reception of values greater than 2 shall be	e tr	eated as CAMEL phase 2	
SupportedCamelPhases ::= BIT STRING {			
phase1 (0), phase2 (1) $\frac{1}{2}$ (SIZE (1 16))			
gprs location information retrieval types			
SendRoutingInfoForGprsArg ::= SEQUENCE {	101	TMOT	
Imsi ggan-Address	[0]	IMSI, GSN-Iddress	ΟΡΤΤΟΝΑΙ.
extensionContainer	[2]	ExtensionContainer	OPTIONAL,
}			,
SendRoutingInfoForGprsRes ::= SEQUENCE {			
sgsn-Address	[0]	GSN-Address,	
ggsn-Address	[1]	GSN-Address	OPTIONAL,
	[2]	AbsentSubscriberDiagnost.	LCSM
extensionContainer	[3]	ExtensionContainer	OPTIONAL,
}			<b>,</b>
failure report types			
FailureReportArg ::= SEQUENCE {	101	TMOT	
aasn-Number	[1]	ISDN-AddressString	
ggsn-Address	[2]	GSN-Address	, OPTIONAL,
extensionContainer	[3]	ExtensionContainer	OPTIONAL,
}			
FailureReportRes ::= SEQUENCE {			05770111-
ggsn-Address	[0]	GSN-Address	OPTIONAL,
excension concarner	ι⊥J	evcension concarnet.	OFIIONAL,

-- gprs notification types

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NoteMsPresentForGprsArg ::= SEQUENCE {		
imsi	[0] IMSI,	
sgsn-Address	<pre>[1] GSN-Address,</pre>	
ggsn-Address	[2] GSN-Address	OPTIONAL,
extensionContainer	[3] ExtensionContainer	OPTIONAL,
}		

NoteMsPresentForGprsRes ::= SEQUENCE {
 extensionContainer [0] ExtensionContainer OPTIONAL,
 ...}

-- fault recovery types

ResetArg ::= SEQUENCE {		
hlr-Number	ISDN-AddressString,	
hlr-List	HLR-List	OPTIONAL,
}		
<b>RestoreDataArg</b> ::= SEQUENCE {		
imsi	IMSI,	
lmsi	LMSI	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
,		
vlr-Capability	[6] VLR-Capability	OPTIONAL }
PostoroDataPos ::- SEQUENCE		
hlr-Number	ISDN-AddrogaString	
	NIII I	
autongionContainer	FutongionContainor	OPTIONAL,
l extensioncontainer	Excensioncontainer	OPTIONAL,
••••}		
VBS/VGCS types		
<b>VBSDataList</b> ::= SEQUENCE SIZE (1max	NumOfVBSGroupIds) OF	
	VoiceBroadcastData	
VGCSDataList ::= SEQUENCE SIZE (1. ma	xNumOfVGCSGroupIds) OF	
Coppedalipe and bigolines bill (1	VoiceGroupCallData	
	Voideoidapoaribada	
maxNumOfVBSGroupIds INTEGER ::= 50		
maxNumOfVGCSGroupIds INTEGER := 50		
VoiceGroupCallData ::= SEQUENCE {		
groupId	GroupId,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		
VoiceBroadcastData ::= SEQUENCE {		
groupid	GroupId,	
broadcastInitEntitlement	NULL	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
}		

GroupId ::= OCTET STRING (SIZE (3))
 -- Refers to the Group Identification as specified in GSM TS 03.03
 -- and 03.68/ 03.69

-- provide subscriber info types

<b>ProvideSubscriberInfoArg</b> ::= SEQUENCE	{	
imsi [0] IMSI,		
lmsi [1] LMSI	OPTIONAL,	
requestedInfo	[2] RequestedInfo,	
extensionContainer	[3] ExtensionContainer	OPTIONAL,
}		
<b>ProvideSubscriberInfoRes</b> ::= SEQUENCE	{	
subscriberInfo	SubscriberInfo,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		
SubscriberInfo ::= SEQUENCE {		
locationInformation	[0] LocationInformation	OPTIONAL,
subscriberState	[1] SubscriberState	OPTIONAL,
extensionContainer	[2] ExtensionContainer	OPTIONAL,
}		

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	323	<b>)9.02 Version 7.2.0 (1999-11)</b>
RequestedInfo ::= SEQUENCE {		
locationInformation	[0] NULL	OPTIONAL,
subscriberState	[1] NULL	OPTIONAL,
extensionContainer	[2] ExtensionContainer	OPTIONAL,
}		<b>,</b>
ocationInformation ::= SEQUENCE {		ODET ON A L
ageOILocationInformation	Ageoilocationinformation	OPTIONAL,
geographicalInformation	[U] GeographicalInformati	on OPTIONAL,
vlr-number	[1] ISDN-AddressString	OPTIONAL,
locationNumber	[2] LocationNumber	OPTIONAL,
cellIdOrLAI	[3] CellIdOrLAI	OPTIONAL,
extensionContainer	[4] ExtensionContainer	OPTIONAL,
}		
eographicalInformation ::= OCTET :	STRING (SIZE (8))	
- Refers to geographical Information	defined in GSM 03.32.	
Only the description of an ellipso	id point with uncertainty cir	cle
as specified in GSM 03.32 is allowed	d to be used	
- The internal structure according to	o GSM 03.32 is as follows:	
- Type of shape (ellipsoid poi	nt with uncertainty circle)	1 octet
- Degrees of Latitude		3 octets
- Degrees of Longitude		3 octets
- Uncertainty code		1 octet
ocationNumber ::= OCTET STRING (SIZ	ZE (210))	
the internal structure is defi	ined in CCITT Red Q. 763	
SubscriberState ::= CHOICE {		
assumedIdle	[0] NULL,	
camelBusy [1] NULL.	· · · · · ·	
netDetNotReachable	NotReachableReason.	
notProvidedFromVLR	[2] NULL.	
notrovideariomvik		
<pre>IotReachableReason ::= ENUMERATED {</pre>		
msPurged (0),		
imsiDetached (1),		
restrictedArea (2),		
notRegistered (3)}		
any time interrogation info types		
AnyTimeInterrogationArg ::= SEOUEN	CE {	
subscriberIdentity	[0] SubscriberIdentity.	
requestedInfo	[1] RequestedInfo.	
gsmSCF-Address	[3] ISDN-AddressString	
extensionContainer	[2] ExtensionContainor	
CALCHISTORCORLATHEL	[2] EXCENSIONCONCAINED	OFIIONAL,
····}		
anyTimeInterrogationRes ::= SEQUEN	CE {	
1 11		

subscriberInfo SubscriberInfo, extensionContainer ExtensionContainer OPTIONAL, ...}

END

# 3GPP TSG-N WG2 #8 Kyoto, Japan, 17-21 Jan 2000

# Document N2B000065

e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

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		23.008	CR	013		Current Versio	on: <u>3.1.0</u>	
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Work item:	SoLSA							
Category:FA(only one categoryshall be markedCwith an X)D	Correction Correspond Addition of Functional o Editorial mo	ls to a correction feature modification of fea odification	in an ea ature	rlier releas	se X	Release:	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	X
<u>Reason for</u> <u>change:</u>	In GSM 03. indicator an Information. with these in	73 and GSM 08.0 d an active mode In order to comp ndicators.	8 a prefe indication ly with the	erential ac on are definis require	ccess inc ined for ement GS	dicator, an acti each subscribe SM 03.08 need	ve mode supported LSA in the I	ort _SA ∋d
Clauses affected	<u>d: 2.4.17,</u>	4						
Other specs affected:	Other 3G corr Other GSM c MS test speci BSS test speci O&M specific	e specifications ore specifications fications cifications ations	X	$\begin{array}{l} \rightarrow \text{ List of } \\ \rightarrow \text{ List of } \end{array}$	CRs: 2 CRs: 0 CRs: CRs: CRs: CRs:	2 <mark>3.016, 29.002</mark> 03.08, 03.16, 0	9.02	
<u>Other</u> comments:								
1 the second								



<----- double-click here for help and instructions on how to create a CR.

# 2.4.17 Localised Service Area Information

If a mobile subscriber has a localised service area subscription, the HLR shall store a list of up to 20 Localised Service Area Identities (LSA IDs) per PLMN. The structure of LSA ID is defined in GSM 03.03.

On updating the VLR or the SGSN, the HLR identifies the VPLMN given by the VLR or SGSN number and transfers the applicable LSA ID List to the VLR or SGSN. The VLR or SGSN derives from the LSA ID List the allowed LSA(s), priority of each LSA, the preferential access indicator, the active mode support indicator and active mode indication and the "LSA only access" indicator.

### 2.4.17.1 LSA Identity

LSA Identity (LSA ID) is defined in GSM 03.03. The element uniquely identifies a LSA.

### 2.4.17.2 LSA Priority

Localised Service Area Priority (LSA Priority) is defined in GSM 08.08. The LSA Priority is permanent subscriber data stored conditionally in the HLR.

### 2.4.17.3 LSA Preferential Access Indicator

The Localised Service Area Preferential Access Indicator defines if the subscriber shall be favoured in cells belonging to the LSA at resource allocation compared to other subscribers. The LSA Preferential Access Indicator is permanent subscriber data stored conditionally in the HLR.

### 2.4.17.4 LSA Active Mode Support Indicator

The Localised Service Area Active Mode Support Indicator defines if cells belonging to the LSA shall be favoured for the subscriber compared to other cells at resource allocation. The LSA Active Mode Indicator is permanent subscriber data stored conditionally in the HLR.

### 2.4.17.3<u>5</u> LSA Only Access Indicator

The LSA Only Access Indicator defines if the subscriber is only allowed within its subscribed LSAs. The LSA Only Access Indicator is permanent subscriber data stored conditionally in the HLR.

# 2.4.17.4<u>6</u> LSA Active Mode Indicator

The Localised Service Area Active Mode Indicator defines if the LSA Identity of the cell in which the MS is currently in radio contact with shall be indicated to the subscriber in active mode. The LSA Active Mode Indicator is permanent subscriber data stored conditionally in the HLR.

# 2.4.17.57 VPLMN Identifier

The VPLMN Identifier identifies the VPLMN in which an LSA Identity is applicable. This identifier is not applicable to Universal LSA IDs as defined in GSM 03.03. The VPLMN identifier is permanent subscriber data stored conditionally in the HLR.

# 4 Accessing subscriber data

It shall be possible to retrieve or store subscriber data concerning a specific MS from the HLR by use of each of the following references:

- International Mobile Subscriber Identity (IMSI);
- Mobile Station ISDN Number (MSISDN)

It shall be possible to retrieve or store subscriber data concerning a specific MS from the VLR by use of each of the following references:

- International Mobile Subscriber Identity (IMSI);
- Temporary Mobile Subscriber Identity (TMSI).

It shall be possible to retrieve or store subscriber data concerning a specific MS from the SGSN by use of each of the following references:

- International Mobile Subscriber Identity (IMSI);

Table a Packet Temporary Mobile Subscriber identity (P-TMSI).

It shall be possible to retrieve or store subscriber data concerning a specific MS from the GGSN by use of each of the following references:

Table a International Mobile Subscriber Identity (IMSI);

See clause 3 for explanation of M, C, T and P in table 1 and table 2.

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE	
IMSI	2.1.1.1	М	М	Р	Note
Network Access Mode	2.1.1.2	Μ	-	Р	Note
International MS ISDN number	2.1.2	Μ	Μ	Р	
Multinumbering MSISDNs	2.1.3	С	-	Р	Note
Basic MSISDN indicator	2.1.3.1	С	-	Р	
MSISDN-Alert indicator	2.1.3.2	Č	-	P	
TMSI	2.1.4	-	С	T	
LMSI	2.1.8	С	Č	Ť	Note
Mobile Station Category	2.2.1	M	M	Р	
I MU Identifier	2.2.1	C	C	P	
RAND_SRES and Kc	231	M	M	T	
Ciphering Key Sequence Number	232	-	M	Ť	
MSRN	241	-	C	Ť	Note
Location Area Identity	242	-	M	Ť	
VI R number	245	М	-	Ť	Note
MSC number	246	M	С	Ť	Noto
HIR number	2.1.0	-	č	Ť	
Subscription restriction	249	С	-	P	
RS7L lists	2.4.0	Ċ	-	P	
Zone Code List	2.4.10.1	-	C	P	
MSC area restricted flag	2.4.10.2	- M	0	T	
I A not allowed flag	2.4.11	111	- M	Ť	
ODB-induced barring data	2.4.12	- C	111	Ť	
Poaming restriction due to unsupported feature	2.4.15.1	M	- M	Ť	
	2.4.10.2	IVI		і Т	
	2.4.10	-	Č	I D	
LSA Identity	2.4.+ 1/1.1		Č	P D	
LSA Priority	2.4. <del>A<u>17</u>.2</del>		Č	P	
LSA Preferential Access Indicator	$\frac{2.4.17.3}{2.4.17.4}$	E	Ĕ	Ë	
LSA Active Mode Support Indicator	$\frac{2.4.17.4}{0.4}$	Ê	Ë	Ĕ	
LSA Only Access Indicator	2.4. <u>×17</u> . <u>35</u>	C	C	Р	
LSA Active Mode Indicator	2.4. <del>X<u>17</u>.4<u>6</u></del>	C	C	Р	
	2.4. <u>×17</u> .ə <u>7</u>	C	-	Р	
Provision of bearer service	2.5.1	M	M	Р	
Provision of teleservice	2.5.2	IVI	M	Р	
BC allocation	2.5.3	С	C	P	
IMSI detached flag	2.7.1	-	C	<u> </u>	
Confirmed by Radio Contact indicator	2.7.4.1	-	M	<u> </u>	
Subscriber Data Confirmed by HLR indicator	2.7.4.2	-	М	T	
Location Information Confirmed in HLR indicator	2.7.4.3	-	М	Т	
Check SS indicator	2.7.4.4	M	-	Т	
MS purged for non-GPRS flag	2.7.5	M	-	Т	
MNRR	2.7.7	С	-	Т	
Subscriber status	2.8.1	С	С	Р	
Barring of outgoing calls	2.8.2.1	С	С	Р	
Barring of incoming calls	2.8.2.2	С	-	Р	
Barring of roaming	2.8.2.3	С	-	Р	
Barring of premium rate calls	2.8.2.4	С	С	Р	
Barring of supplementary service management	2.8.2.5	С	С	Р	
Barring of registration of call forwarding	2.8.2.6	С	-	Р	
Barring of invocation of call transfer	2.8.2.7	С	С	Р	
Operator determined barring PLMN-specific data	2.8.3	С	С	Р	
Handover Number	2.9.1	-	С	Т	
Messages Waiting Data	2.10.1	С	-	Т	
Mobile Station Not Reachable Flag	2.10.2	С	Μ	Т	
Memory Capacity Exceeded Flag	2.10.3	С	-	Т	
(continued	)			•	·

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE	
Trace Reference	2.11.1	С	С	Р	
Trace Type	2.11.2	С	С	Р	
Operations Systems Identity	2.11.3	С	С	Р	
HLR Trace Type	2.11.4	С	-	Р	
MAP Error On Trace	2.11.5	С	-	Т	
Trace Activated in VLR	2.11.6	С	С	Т	
Foreign Subscriber Registered in VLR	2.11.7	-	С	Р	Note
VGCS Group Membership List	2.12.1	С	С	Р	
VBS Group Membership List	2.12.2	С	С	Р	
Broadcast Call Initiation Allowed List	2.12.2.1	С	С	Р	
Originating CAMEL Subscription Information	2.14.1.1	С	С	Р	
Terminating CAMEL Subscription Information	2.14.1.2	С	-	Р	
Location Information/Subscriber state Information	2.14.1.3	С	-	Р	
USSD CAMEL subscription information(U-CSI)	2.14.1.4	С	-	Р	
SS invocation notification (SS-CSI)	2.14.1.5/3.2	С	С	Р	
FTN translation information flag(TIF-CSI)	2.14.1.6	С	-	Р	
USSD General CAMEL service information (UG-CSI)	2.14.2	С	-	Р	
Negotiated CAMEL Capability Handling	2.14.2	С	-	Т	
Privacy Exception List	2.15.1.1	С	С	Р	
Home GMLC Numbers	2.15.1.2	С	С	Р	

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

PARAMETER	Subclause	HIR	VIR	SGSN	GGSN TYPE	
	2111	M	M	M	M	P Note
Network Access Mode	2.1.1.1	M	-	C (a)	-	P Note
International MS ISDN number	2.1.1.2	M	M	M	_	T
multinumbering MSISDNs	2.1.2	C	-	-	-	T Note
Basic MSISDN indicator	2131	C	_	_	-	T
MSISDN-Alert indicator	2132	C	_	_	-	т. т
P-TMSI	2.1.5.2	-	_	Ċ	_	T Note
	216	_	_	C C	-	T
Random TI I I	217	-	-	C C	_	T Note
IMEI	219	-	-	č	-	T
RAND/SRES and Kc	2.3.1	М	-	м	-	Ť
Ciphering Key Sequence Number	2.3.2	-	-	M	-	Ť
Selected Ciphering Algorithm	233	-	-	M	-	Ť
Current Kc	2.3.4	-	-	M	-	Ť
P-TMSI Signature	2.3.5	-	-	C	-	Ť
Routing Area Identity	2.4.3	-	-	M	-	Ť
Cell Global Identification	2.4.4	-	-	C	-	Ť
SGSN Number	2.4.8.1	М	C (Gs)	-	-	T Note
GGSN Number	2.4.8.2	©	-	-	-	P Note
VLR Number	2.4.5	M	-	C (Gs)	-	Т
RSZI Lists	2.4.10.1	C	-	- ()	-	P
Zone Code List	2.4.10.2	-	-	С	-	Р
LA not allowed flag	2.4.12	-	-	M	-	T
SGSN area restricted flag	2.4.13	М	-	-	-	т
Roaming Restriction in the SGSN	2.4.15.2	М	-	Μ	-	Т
Cell ID	2.4.16	-	-	С	-	Т
LSA Identity	2.4. <del>X</del> 17.1	С	С	С	-	Р
LSA Priority	2.4. <del>X</del> 17.2	Ċ	Ċ	Ċ	-	Р
LSA Preferential Access Indicator	2.4.17.3	<u>C</u>	<u>C</u>	C	=	P
LSA Active Mode Support Indicator	2.4.17.4	C	C	C	=	Р
LSA Only Access Indicator	2.4.X17.35	С	С	C	-	P
LSA Active Mode Indicator	2.4. <del>X</del> 17.46	С	С	С	-	Р
VPLMN Identifier	2.4. <del>X</del> 17. <del>5</del> 7	С	-	-	-	Р
Provision of teleservice	2.5.2	С	-	С	-	Р
Transfer of SM option	2.5.4	Μ	-	-	-	Р
Subscriber Status	2.8.1	С	-	С	-	Р
Barring of outgoing calls	2.8.2.1	С	-	С	-	Р
Barring of roaming	2.8.2.3	С	-	С	-	Р
ODB PLMN-specific data	2.8.3	С	-	С	-	Р
MM State	2.7.3	-	-	Μ	-	Т
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	Μ	-	Т
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	Μ	-	Т
MS purged for GPRS flag	2.7.6	М	-	-	-	Т
MNRG	2.7.2	М	-	Μ	М	Т
MNRR	2.7.7	С	-	-	-	Т
Trace Activated in SGSN	2.11.7	С	-	С	-	Р
PDP Type	2.13.1	С	-	С	М	Р
PDP Address	2.13.2	С	-	С	М	Р
NSAPI	2.13.3	-	-	С	С	Т
PDP State	2.13.4	-	-	С	-	Т
New SGSN Address	2.13.5	-	-	С	-	Т
Access Point Name	2.13.6	С	-	С	С	P/T Note
GGSN Address in Use	2.13.7	-	-	С	-	Т
VPLMN Address Allowed	2.13.8	С	-	С	-	P
Dynamic Address	2.13.9	-	-	-	С	Ţ
SGSN Address	2.13.10	-	-	-	M	Т
GGSN-list	2.13.11	Μ	-	-	-	Т
	(continued)					

### Table 2: Overview of data used for GPRS Network Access Mode

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN TYPE	
Quality of Service Subscribed	2.13.12	С	-	С	-	Р
Quality of Service Requested	2.13.13	-	-	С	-	Т
Quality of Service Negotiated	2.13.14	-	-	С	М	Т
SND	2.13.15	-	-	С	С	Т
SNU	2.13.16	-	-	С	С	Т
DRX Parameters	2.13.17	-	-	М	-	Т
Compression	2.13.18	-	-	С	-	Т
NGAF	2.13.19	-	-	C (Gs)	-	Т
Classmark	2.13.20	-	-	Μ	-	Т
TID	2.13.21	-	-	С	С	Т
Radio Priority	2.13.22	-	-	С	-	Т
Radio Priority SMS	2.13.23	-	-	С	-	Т

### Table 2 (concluded): Overview of data used for GPRS Network Access Mode

- NOTE 1: The HLR column indicates only GPRS related use, i.e. if the HLR uses a parameter in non-GPRS Network Access Mode but not in GPRS Network Access Mode, it is not mentioned in this table 2.
   (Gs): The VLR column is applicable if Gs interface is installed. It only indicates GPRS related data to be stored and is only relevant to GPRS subscribers registered in VLR.
  - a): This parameter is relevant in the SGSN only when the Gs interface is installed.
- NOTE 2: For special condition of storage see in the clauses 2.x.y referred-to. See clause 3 for explanation of M,C,T and P in table 2.

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e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

			CHANGE	REQ	UES <sup>-</sup>	Please page t	e see embedded help f for instructions on how	ile at the bottom of th to fill in this form corr	is ectly.
			23.016	CR	010		Current Versi	on: 3.2.0	
GSM (AA.BB) or S	3G (A	A.BBB) specifica	ation number $\uparrow$		ſ	CR number	as allocated by MCC s	support team	
For submission	n to: I meet	ing # here ↑	for a for info	approval ormation	X		strate non-strate	gic (for SM gic X use or	MG nly)
Proposed char (at least one should be	Form: ( <b>nge</b> e mark	CR cover sheet, ve affects: (ed with an X)	rsion 2 for 3GPP and SMG	The lates	t version of t	his form is ava	ilable from: ftp://ftp.3gpp.o	rg/Information/CR-Form	-v2.doc
Source:	1	N2					Date:	12 Jan 2000	
Subject:	(	Correction of	of LSA Information	on.					
Work item:	S	SoLSA							
Category: (only one category shall be marked with an X)	F A C D	Correction Correspond Addition of Functional Editorial mo	ls to a correction feature modification of fe odification	in an ea eature	rlier rele	ease	X X	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	X
<u>Reason for</u> <u>change:</u>		According to support indi 08.08 they a active mode on the A into n order to c	D GSM 03.73 the cator are defined are defined as an indicator is also erface to the BSS comply with these	e priority, d for each octet str defined S. e TS GSI	a prefe subsc ring and per eac M 03.16	rential ac ribed LS/ are refe ch subscr	cess indicator a A in the LSA Info red to as attribu ibed LSA but th b be updated.	and an active m prmation. In GS tes to the LSA. is is not forward	ode SM An ded
Clauses affect	ed:	4.5.4							
Other specs affected:	Ot Ot M: BS	her 3G cor her GSM c S test spec SS test spe &M specific	e specifications ore specification fications cifications ations	s X -	$\begin{array}{l} \rightarrow \ \text{List} \\ \rightarrow \ \text{List} \end{array}$	of CRs: of CRs: of CRs: of CRs: of CRs: of CRs:	23.008, 29.002 03.08, 03.16, 0	2 )9.02	
<u>Other</u> comments:									

help.doc

<----- double-click here for help and instructions on how to create a CR.

# 4.5.4 Consistency of supplementary service data

In some cases, the protocol used between the HLR and VLR encodes some data that is not EBSG-related SS data with an EBSG qualifier. In this case, the HLR shall ensure that when this data is sent it is always the same for all EBSGs. If this data is modified, the HLR must send the supplementary service data to the VLR for all EBSGs which meet all the following criteria:

- at least one basic service in the EBSG is supported; and
- the supplementary service is applicable to at least one (possibly different) basic service in the EBSG; and
- the subscriber has a subscription to at least one (possibly different) basic service in the EBSG.

```
IMSI
 ••Basic MSISDN
• • Category
 •••Basic Service List•
 . . . . . . . . . . . . . . . . . .
 •••Forwarding Info•
 •••Call Barring Info•
 . . . . . . . . . . . . . . . . . .
 . ........
 •••CUG Info•
 . ........
 . . . . . . . . .
 ••SS Data•
 . .......
 •••ODB Data for non-GPRS services•
 •••Roaming Restriction Data in the VLR•
 •••Regional Subscription Data•
 •••VBS, VGCS Data
 •••CAMEL Subscription Info
 •••NAEA, Preferred Carrier Id
 •••LSA Data
 •••IST Data
 ••LMU Indicator
 . .......
 •••LCS Information
```

Figure 1: Abstract data structure of non-GPRS Subscriber Data (Data sent to the VLR)

```
IMSI
••Access Mode
••Basic MSISDN
•••Basic Service List•
•••ODB Data for GPRS services•
•••Roaming Restriction Data in the SGSN•
•••Regional Subscription Data•
•••GPRS subscription Data
           •
•••LSA Data
```

Figure 2: Abstract data structure of GPRS Subscriber Data (Data sent to the SGSN)

```
• Teleservices
• TS(1)
• ....
• TS(n)
• Bearer Services
• BS(1)
• ....
• BS(n)
```

NOTE: For detailed information see GSM 02.01, GSM 02.02, GSM 02.03 and GSM 09.02.

Figure 3: Basic Service List

••Call Forwarding Unconditional (CFU) • • Provisioning State  $\bullet \bullet BSG(1)$ • • Activation State • • • Registration State • ••.... • •  $\bullet \bullet BSG(n)$ • Activation State • Registration State ••Call Forwarding on mobile subscriber Busy (CFB) ••Subscription Options • Provisioning State .  $\bullet \bullet BSG(1)$ • Activation State • • . . • Registration State • Forwarded-to Number • ٠ ••Subaddress • • ••.... • ٠ • ••BSG(n) ••Activation State • ••Registration State ••Forwarded-to Number ••Subaddress ••Call Forwarding on mobile subscriber Not Reachable (CFNRc) • Subscription Options • Provisioning State . ٠ ••BSG(1) ••Activation State • . • Registration State • • ••Forwarded-to Number ٠ ••Subaddress • • ••.... ٠ ••BSG(n) • • Activation State ••Registration State . ••Forwarded-to Number ••Subaddress • ••Call Forwarding on No Reply (CFNRy) ••Subscription Options • Provisioning State ••BSG(1) • Activation State • ••Registration State ••No Reply Condition Timer • ••Forwarded-to Number ٠ ••Subaddress • ••.... • ••BSG(n) • Activation State ••Registration State ••No Reply Condition Timer ••Forwarded-to Number ••Subaddress

NOTE: For detailed information see GSM 03.82 and GSM 09.02.

Figure 4: Forwarding Info

```
••Barring of All Outgoing Calls (BAOC)
    ••Provisioning State
•
     \bullet \bullet BSG(1)
•
    • • Activation State
    ••....
٠
٠
    ••BSG(n)
٠
         • Activation State
•
•
••Barring of Outgoing International Calls (BOIC)
    • Provisioning State
    ••BSG(1)
•
    • • Activation State
•
    ••....
•
•
     \bullet \bullet BSG(n)
         • Activation State
••Barring of Outgoing International Calls except those directed to the Home PLMN Country (BOIC-
exHC)
     • Provisioning State
     ••BSG(1)

    • •Activation State

     ••....
     ••BSG(n)
         • Activation State
```

NOTE: For detailed information see GSM 03.88 and GSM 09.02.

#### Figure 5: Call Barring Info

```
••Closed User Group (CUG)
    ••Interlock(1)
        ••CUG Index
    •
        ••Intra CUG Restrictions
    •
    •
        ••BSG(1)
    •
        ••.
        ••BSG(n)
    •
    ••....
    ٠
    ••Interlock(m)
        ••CUG Index
    •
        ••Intra CUG Restrictions
        ••BSG(1)
        ••...
    •
        ••BSG(n)
    ٠
    \bullet \bullet BSG(1)
        • Preferential CUG
    •
    •
        ••Inter CUG Accessibility
    ••....
    \bullet \bullet BSG(n)
        • Preferential CUG
         • Inter CUG Accessibility
```

NOTE: For detailed information see GSM 03.85 and GSM 09.02.

#### Figure 6: CUG Info

••Calling Line Identification Presentation (CLIP) • Provisioning State • Activation State ••Override Category ••Calling Line Identification Restriction (CLIR) • Provisioning State • Activation State • Presentation Mode ••Connected Line identification Presentation (COLP) • Provisioning State • Activation State ••Override Category ••Connected Line identification Restriction (COLR) • Provisioning State • Activation State ••Call Waiting (CW) • Provisioning State • ••BSG(1) •Activation State ••....  $\bullet \bullet BSG(n)$ • Activation State • ••Call Hold (HOLD) • Provisioning State • Activation State ••Multi Party (MPTY) ••Provisioning State • Activation State ••Advice of Charge Information (AoCI) • Provisioning State • • Activation State ••Advice of Charge Charging (AoCC) • Provisioning State • Activation State ••Explicit Call Transfer (ECT) • Provisioning State • Activation State ••Calling Name Presentation (CNAP) • • Provisioning State • Activation State ••Override Category • enhanced Multi-Level Precedence Pre-Emption (eMLPP) • Provisioning State • • Activation State ••Maximum Entitled Priority • • Default ••Completion of Calls to Busy Subscriber (CCBS)originating NW • Provisioning State • Activation State ••Completion of Calls to Busy Subscriber (CCBS)destination NW • Provisioning State • Activation State

NOTE: For detailed information see GSM 03.67, GSM 03.81, GSM 03.83, GSM 03.84, GSM 03.86, GSM 03.91, GSM 03.93, GSM 03.96 and GSM 09.02.

Figure 7: SS Data

••Subscriber Status • all OG-Calls Barred ••international OG-Calls Barred ••international OG-Calls Not To HPLMN Country Barred ••inter-zonal OG-Calls Barred .. inter-zonal OG-Calls Not To HPLMN Country Barred ••international OG-Calls Not To HPLMN Country AND inter-zonal OG-Calls Barred • Premium Rate Information OG-Calls Barred • Premium Rate Entertainment OG-Calls Barred ••SS Access Barred ••all call transfers Barred • chargeable call transfers Barred ••international call transfers Barred ••inter-zonal call transfers Barred doubly chargeable call transfers Barred ••multiple call transfers Barred • PLMN-Specific Barring Type ••PLMN-Specific Barring Type 2 ••PLMN-Specific Barring Type 3 ••PLMN-Specific Barring Type 4

NOTE: For detailed information see GSM 03.15 and GSM 09.02.

#### Figure 8: ODB Data for non-GPRS services

Subscriber Status

all OG-Calls Barred
international OG-Calls Barred
international OG-Calls Not To HPLMN Country Barred
inter-zonal OG-Calls Barred
inter-zonal OG-Calls Not To HPLMN Country Barred
international OG-Calls Not To HPLMN Country AND
inter-zonal OG-Calls Barred
PLMN-Specific Barring Type 1
PLMN-Specific Barring Type 2
PLMN-Specific Barring Type 3
PLMN-Specific Barring Type 4

NOTE: For detailed information see GSM 03.15 and GSM 09.02.

#### Figure 9: ODB Data for GPRS services

• Roaming Restriction Due To Unsupported Feature

NOTE: For detailed information see GSM 09.02.

#### Figure 10: Roaming Restriction Data in the VLR

••Roaming Restricted in the SGSN Due To Unsupported Feature

NOTE: For detailed information see GSM 09.02.

#### Figure 11: Roaming Restriction Data in the SGSN

```
ZoneCode(1)
ZoneCode(k)
```

NOTE: For detailed information see GSM 09.02.

#### Figure 12: Regional Subscription Data

```
••VGCS membership List

•Group-Id(1)

•....

•Group-Id (n)
```

NOTE: For detailed information see GSM 03.68 and GSM 09.02.

#### Figure 13: Voice Group Call Data

```
••VBS membership List
•
•Group-Id(1)
•
•Broadcast Call Initiation Entitlement
•
•
•
•Group-Id (n)
•Broadcast Call Initiation Entitlement
```

NOTE: For detailed information see GSM 03.69 and GSM 09.02.

#### Figure 14: Voice Broadcast Call Data

```
••CAMEL Subscription Information
   ••CAMEL Capability Handling
   ••originating CAMEL Subscription Info
      ••O-Bcsm CAMEL TDP Data (1)
          O-Bcsm TDPDP Criteria
       •
          •• Service Key
          •• gsmSCF Address
           •• Default Call Handling
       ••....
       ••O-Bcsm CAMEL TDP Data (n)
   •
           •• O-Bcsm TDP
           •• DP Criteria
           •• Service Key
           •• gsmSCF Address
           •• Default Call Handling
   ••SS Invocation Notification CAMEL Subscription Info
   •
         •• Notification Criteria
         •• gsmSCF address
   ••Translation Information Flag
```

NOTE: For detailed information see GSM 03.72, GSM 03.78 and GSM 09.02.

Figure 15: CAMEL subscription info

```
••LCS Information
   ••HPLMN GMLC List
       ••GMLC Address (1)
   •
       ••GMLC Address (n)
   .
   ••LCS Privacy Exception List
      ••Universal Privacy Class
• ••Provisioning State
          • Activation State
      .
          • Registration State
      ••Call Related Privacy Class
          • Provisioning State
          • Activation State
          • Registration State
      ••Call Unrelated Privacy Class
          • Provisioning State
          • Activation State
          • Registration State
          ••External Client List
      .
              ••External Client (1)
              •
                  ••Address
                  ••GMLC restriction
               •
               •
      ٠
              ••....
              ••External Client (n)
      •
      •
                   ••Address
                   ••GMLC restriction
      ٠
      • PLMN Operator Privacy Class
          • Provisioning State
          • Activation State
          • Registration State
          ••PLMN Client List
               ••PLMN client ID (1)
               ••....
               • PLMN client ID (n)
```

NOTE: For detailed information see GSM 03.71 and GSM 09.02.

#### Figure 16: LCS Information

```
PDP Context List
PDP Context (1)
PDP Context Identifier
PDP Type
PDP Address
VPLMN Address Allowed
Quality of Service Subscribed
Access Point Name
....
PDP Context (n)
```

NOTE: The figure shows the information in the SGSN. For detailed information see GSM 03.60. For information about the GGSN information, see GSM 03.08.

Figure 17: GPRS subscription data

|

|

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••L ••L	SA Only Access Indicator SA Data List
	• •LSA Data (1) • •LSA Identity • •LSA <del>Priority<u>Attributes</u></del> • •LSA Active Mode Indicator • •LSA Active Mode Support Indicator
	•
	••LSA Data (n)



### Figure 18: LSA data in the VLR

•	•LSA Only Access Indicator •LSA Data List
_	<ul> <li>•LSA Data (1)</li> <li>•LSA Identity</li> <li>•LSA PriorityAttributes</li> <li>•LSA Active Mode Indicator</li> <li>•LSA Active Mode Support Indicator</li> </ul>
	• • • • LSA Data (n)

NOTE: For detailed information see GSM 03.73 and GSM 09.02.

### Figure 19: LSA data in the SGSN

••IST Alert Timer

NOTE: For detailed information see GSM 03.35 and GSM 09.02.

Figure 20: IST data in the VLR

# 3GPP TSG-N WG2 #8 Kyoto, Japan, 17-21 Jan 2000

# Document N2B000100

e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

		CHANGE I	REQI	JEST	Please se page for	ee embedded help fi instructions on how	le at the bottom of th to fill in this form corr	is ectly.
		29.002	CR	087		Current Versio	on: 3.3.0	
GSM (AA.BB) or 3G	G (AA.BBB) specific	ation number $\uparrow$		↑ CR	? number as	allocated by MCC s	upport team	
For submission	to: CN#07 neeting # here ↑	for a for info	pproval rmation	X		strate non-strate	gic (for SM gic X use or	ИG ıly)
For Proposed changes (at least one should be r	rm: CR cover sheet, ve <b>ge affects:</b> marked with an X)	(U)SIM	The latest	Version of this fo	orm is availab	Radio	rg/Information/CR-Form	-v2.doc
Source:	N2					Date:	12 Jan 2000	
Subject:	Correction	of LSA informatior	າ.					
Work item:	SoLSA							
Category:FA(only one categoryshall be marked(with an X)	<ul> <li>Correction</li> <li>Correspond</li> <li>Addition of</li> <li>Functional</li> <li>Editorial model</li> </ul>	ds to a correction feature modification of fea odification	in an ea ature	rlier releas	se X	Release:	Phase 2 Release 96 Release 97 Release 98 Release 99 Release 00	X
<u>Reason for</u> <u>change:</u>	According t support indi 08.08 they active mode on the A int In order to c	o GSM 03.73 the cator are defined are defined as an e indicator is also erface to the BSS comply with these	priority, for each octet str defined TS GSN	a preferen subscribe ing and ar per each s 1 09.02 ne	tial acce ed LSA i re refere subscrib	ess indicator a n the LSA Info d to as attribu ed LSA but thi be updated.	nd an active m prmation. In GS tes to the LSA. s is not forwar	iode 3M An ded
Clauses affected	<u>d:</u> 7.6.3.5	<mark>6, 8.8.1.3, 17.7.1</mark>						
Other specs affected:	Other 3G cor Other GSM c MS test spec BSS test spe O&M specific	e specifications ore specifications ifications cifications ations	X	$\begin{array}{l} \rightarrow \text{ List of } 0\\ \rightarrow \text{ List of } 0\end{array}$	CRs: 2 CRs: 0 CRs: CRs: CRs: CRs:	23.008, 23.016 03.08, 03.16, 0	9.02	
<u>Other</u> comments:								

help.doc

<----- double-click here for help and instructions on how to create a CR.

### 7.6.3.56 LSA Information

This parameter refers to one or more localised service areas a subscriber may be a member of, together with the priority<sub> $\pm$ </sub> the preferential access indicator, the active mode support indicator and active mode indication of each localised service area. The access right outside these localised service areas is also indicated.

### 8.8.1.3 Parameter use

#### Network access mode

This parameter defines if the subscriber has access to MSC/VLR and/or to SGSN. This parameter is used by SGSN and MSC/VLR. In VLR, the parameter is used only as part of Restore Data Procedure and the parameter is not stored in the VLR.

All parameters are described in subclause 7.6. The following clarifications are applicable:

#### IMSI

It is only included if the service is not used in an ongoing transaction (e.g. location updating). This parameter is used by the VLR and the SGSN.

#### **MSISDN**

It is included either at location updating or when it is changed. The MSISDN sent shall be the basic MSISDN. This parameter is used by the VLR and the SGSN.

#### Category

It is included either at location updating or when it is changed. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Subscriber Status

It is included either at location updating or when it is changed.

To apply, remove or update Operator Determined Barring Categories the Subscriber Status is set to Operator Determined Barring. In this case ODB General Data shall also be present. If the Operator Determined Barring applies and the subscriber is registered in the HPLMN and HPLMN specific Operator Determined Barring applies then ODB HPLMN Specific Data shall also be present.

To remove all Operator Determined Barring Categories the Subscriber Status shall be set to "Service Granted". This parameter is used by the VLR and the SGSN.

#### Bearer service List

A list of Extensible Bearer service parameters (Extensible Bearer service is defined in subclause 7.6). An Extensible Bearer service parameter must be the code for an individual Bearer service, except in the cases described below.

The codes for the Bearer service groups "allAlternateSpeech-DataCDA" and "allAlternateSpeech-DataCDS" shall, if applicable, be sent from the HLR to the VLR as a pair. The codes for the Bearer service groups "allSpeechFollowedByDataCDA" and "allSpeechFollowedByDataCDS" shall, if applicable, be sent from the HLR to the VLR as a pair.

If it is included in the Request/Indication, it includes either all Extensible Bearer services subscribed (at location updating or at restoration) or only the ones added (at subscriber data modification).

If the VLR receives an Indication containing any Extensible Bearer service parameters which it does not support/allocate it returns them in the response to the HLR and discards the unsupported Extensible Bearer services (no error is sent back), except in the cases described below.

If the VLR receives the codes for the Bearer service groups "allSpeechFollowedByDataCDA" and "allSpeechFollowedByDataCDS" and supports one or more of the circuit-switched synchronous or asynchronous data rates specified for simple data bearer services, it shall accept the bearer service codes, and not return them in the response to the HLR. If the VLR does not support any of the circuit-switched synchronous or asynchronous data rates

specified for simple data bearer services, and receives the pair of codes for "allAlternateSpeech-DataCDA" and "allAlternateSpeech-DataCDS" or the pair of codes for "allSpeechFollowedByDataCDA" and "allSpeechFollowedByDataCDS", it shall reject the pair of codes by returning them in the response to the HLR. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### **Teleservice** List

A list of Extensible Teleservice parameters (Extensible Teleservice is defined in subclause 7.6). An Extensible Teleservice parameter must be the code for an individual Teleservice.

If it is included in the Request/Indication, it contains either all Extensible Teleservices subscribed (at location updating or at restoration) or the ones added (at subscriber data modification). Only the Extensible Teleservices that are relevant to the node at which the message is received should be included in the Teleservice List.

If the VLR or the SGSN receives an Indication containing any Extensible Teleservice parameters which it does not support/allocate it returns them in the response to the HLR and discards the unsupported Extensible Teleservices (no error is sent back). This parameter is used by the VLR and the SGSN.

#### Forwarding information List

A list of Extensible Forwarding information parameters (Extensible Forwarding information is defined in subclause 7.6). It includes Call Forwarding services either at location updating or at restoration or when they are changed. Each Extensible Forwarding information parameter shall be treated independently of all other parameters in the primitive.

The Extensible Forwarding information shall include the SS-Code for an individual call forwarding supplementary service. The Extensible Forwarding information shall contain one or more Extensible Forwarding Features (Extensible Forwarding Features is defined in subclause 7.6).

The Extensible Forwarding Feature may include an Extensible Basic Service Group. This shall be interpreted according to the rules in subclause 8.8.1.4.

The Extensible Forwarding Feature shall contain an Extensible SS-Status parameter.

If the Extensible SS-Status indicates that call forwarding is registered then (except for call forwarding unconditional) the Extensible Forwarding Feature shall contain a forwarded-to number and, if available, the forwarded-to subaddress. In other states the forwarded-to number and, if applicable, the forwarded-to subaddress shall not be included. For call forwarding unconditional the forwarded-to number and, if applicable, the forwarded-to subaddress shall not be included. For call forwarding unconditional the forwarded-to number and, if applicable, the forwarded-to subaddress shall not be included. If the VLR does not receive a forwarded-to subaddress then it shall assume that a forwarded-to subaddress has not been registered.

The Extensible Forwarding Feature shall contain the extensible forwarding options (except for call forwarding unconditional where the extensible forwarding options shall not be included). Bits 3 and 4 of the extensible forwarding options shall be ignored by the VLR, and may be set to any value by the HLR.

For call forwarding on no reply: If the extensible SS-Status indicates that call forwarding is registered then the Extensible Forwarding Feature shall contain an extensible no reply condition timer. In other states the no reply condition timer shall not be included.

For call forwarding services other than call forwarding on no reply: The Extensible Forwarding Feature shall not contain a no reply condition timer.

If the VLR receives an Indication containing any Call Forwarding service codes which it does not support/allocate it returns them to the HLR in the parameter SS-Code List and discards the unsupported Call Forwarding service codes (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Call barring information List

A list of Extensible Call barring information parameters (Extensible Call barring information is defined in subclause 7.6). It includes Call Barring services either at location updating or at restoration or when they are changed. Each Extensible Call barring information parameter shall be treated independently of all other parameters in the primitive.

The Extensible Call barring information shall include the SS-Code for an individual call barring supplementary service. The Extensible Call barring information shall contain one or more Extensible Call Barring Features (Extensible Call Barring Feature is defined in subclause 7.6).

The Extensible Call Barring Feature may include an Extensible Basic Service Group. This shall be interpreted according to the rules in subclause 8.8.1.4.

The Extensible Call Barring Feature shall contain an extensible SS-Status parameter.

If the VLR receives an Indication containing any Extensible Call Barring service codes which it does not support/allocate it returns them to the HLR in the parameter SS-Code List and discards the unsupported Extensible Call Barring service codes (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### CUG information List

A list of CUG information list parameters (CUG information is defined in subclause 7.6). It includes CUG information either at location updating or at restoration or when it is changed.

At location updating, restoration or when there is a change in CUG data, the HLR shall include the complete CUG-SubscriptionList and, if there are options per basic group, it shall also include the complete CUG-FeatureList. If there are not options per extensible basic service group the CUG-FeatureList shall not be included.

In any dialogue, the first insertSubscriberData message which contains CUG information shall include a non-empty CUG-SubscriptionList.

When the VLR receives CUG data it shall replace the stored CUG data with the received data set.

If CUG-FeatureList is omitted in the Insert Subscriber Data operation VLR shall interpret that no options per extensible basic service group exist, and then it shall apply the default values i.e. no outgoing access, no incoming access, no preferential CUG exists.

If CUG-Feature is received without preferential CUG, the VLR shall interpret that no preferential CUG applies.

If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value.

Note that data consistency between CUG subscription data and CUG feature data is the responsibility of the HLR.

If the VLR does not support the CUG service it returns its code to the HLR in the parameter SS-Code List and discards the received information (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### SS-Data List

A list of Extensible SS-Data parameters (Extensible SS-Data is defined in subclause 7.6). It is sent for any other supplementary service than Call Forwarding, Call Barring, CUG and eMLPP either at location updating or at restoration or when they are changed. Each SS-Data parameter shall be treated independently of all other parameters in the primitive.

The Extensible SS-Data shall include the SS-Code for an individual supplementary service.

The Extensible SS-Data shall contain an Extensible SS-Status parameter and any subscription options that are applicable to the service defined by the SS-Code.

The SS-Data may include a Basic Service Group List. This shall be interpreted according to the rules in subclause 8.8.1.4.

If the VLR receives an Indication containing any supplementary service codes which it does not support/allocate it returns them to the HLR in the parameter SS-Code List and therefore discards the unsupported service codes received (no error is sent back). This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Operator Determined Barring General data

If it is included in a Request/Indication, it includes all the Operator Determined Barring categories that may be applied to a subscriber registered in any PLMN. This parameter is only included in a Request/Indication when the parameter Subscriber Status is set to the value Operator Determined Barring. Note that all General Operator Determined Barring Categories shall be set to their actual status.

If the VLR or the SGSN receives an Indication containing Operator Determined Barring General Data which shows that the subscriber is subject to barring not supported / not allocated by the VLR or by the SGSN, it returns Operator Determined Barring General Data in the response to the HLR to show the barring categories which are not supported / not allocated by the VLR and the SGSN.

#### Operator Determined Barring HPLMN data

It includes all the Operator Determined Barring categories that may be applied only to a subscriber registered in the HPLMN. Therefore, it shall only be transferred to the VLR or to the SGSN when the subscriber is roaming into the HPLMN and when the parameter Subscriber Status is set to the value Operator Determined Barring. Note that all HPLMN Operator Determined Barring Categories shall be set to their actual status.

If Subscriber Status is set to the value Operator Determined Barring and no Operator Determined Barring HPLMN data is present then the VLR or the SGSN shall not apply any HPLMN specific ODB services to the subscriber. This parameter is used by the VLR and the SGSN.

#### eMLPP Subscription Data

If included in the Insert Subscriber Data request this parameter defines the priorities the subscriber might apply for a call (as defined in subclause 7.6). It contains both subparameters of eMLPP.

If the VLR does not support the eMLPP service it returns its code to the HLR in the parameter SS-Code List and therefore discards the received information (no error is sent back).

eMLPP subscription data that have been stored previously in a subscriber data record in the VLR are completely replaced by the new eMLPP subscription data received in a MAP\_INSERT\_SUBSCRIBER\_DATA during either an Update Location or Restore Data procedure or a stand alone Insert Subscriber data procedure. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Roaming Restriction Due To Unsupported Feature

The HLR may decide to include this parameter in the request if certain services or features are indicated as not supported by the MSC/VLR (e.g. Advice of Charge Charging Level).

If this parameter is sent to the VLR the MSC area is restricted by the HLR and the VLR. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

#### Regional Subscription Data

If included in the Insert Subscriber Data request this parameter defines the subscriber's subscription area for the addressed VLR or for the addressed SGSN (as defined in subclause 7.6). It contains the complete list of up to 10 Zone Codes that apply to a subscriber in the currently visited PLMN. The HLR shall send only those Zone Codes which are stored against the CC and NDC of the VLR or the CC and NDC of the SGSN to be updated.

NOTE: Support of this parameter is a network operator option and it will not be sent to networks which do not support Regional Subscription.

Regional subscription data that have been stored previously in a subscriber data record in the VLR or in the SGSN are completely replaced by the regional subscription data received in an Insert Subscriber Data indication during either an Update Location or Restore Data procedure or a stand alone Insert Subscriber data procedure.

After the regional subscription data are inserted the VLR or the SGSN shall derive whether its location areas are allowed or not. If the whole MSC or SGSN area is restricted it will be reported to HLR by returning the Regional Subscription Response.

The VLR or the SGSN returns a Regional Subscription Response indicating that a problem with the Zone Code has been detected in one of the following cases:

- Too Many Zone Codes: more than 10 Zone Codes are to be stored in the VLR or in the SGSN;
- Regional Subscription Not Supported by the VLR or the SGSN;
- Zone Codes Conflict: the VLR or the SGSN detects that the zone codes indicate conflicting service permission for a location area.

Zone codes which have no mapping to location areas shall be ignored.

If a sequence of MAP\_INSERT\_SUBSCRIBER\_DATA services is used during a dialogue, Regional Subscription Data shall be accepted only in one service. Regional Subscription Data received in a subsequent service shall be rejected with the error Unexpected Data Value.

If Regional Subscription Data are not included in any MAP\_INSERT\_SUBSCRIBER\_DATA service, there is no restriction of roaming due to Regional Subscription. This parameter is used by the VLR and the SGSN.

### Voice Broadcast Data

This parameter contains a list of group id's a user might have subscribed to; (VBS-Data is defined in subclause 7.6). It includes VBS information either at location updating or at restoration or when it is changed.

At location updating, restoration or when there is a change in VBS data, the HLR shall include the complete VBS-Data.

When the VLR receives VBS-Data within a dialogue it shall replace the stored VBS-data with the received data set. All subsequent VBS-dta received within this dialogue shall be interpreted as add-on data.

If VBS-data is omitted in the Insert Subscriber Data operation the VLR shall keep the previously stored VBS data.

If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### Voice Group Call Data

This parameter contains a list of group id's a user might have subscribed to; see subclause 7.6.

At location updating, restoration or when there is a change in VGCS data, the HLR shall include the complete VGCS-Data.

When the VLR receives VGCS-Data within a dialogue it shall replace the stored VGCS-Data with the received data set. All VGCS-Data received within this dialogue shall be interpreted as add-on data.

If VBCS-Data is omitted in the Insert Subsciber Data operation the VLR shall keep the previously stored VGCS-Data.

If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

### North American Equal Access preferred Carrier Id List

A list of the preferred carrier identity codes that are subscribed to.

When the VLR receives this parameter from the HLR, it shall replace the previously stored preferred carrier identity codes with the received ones. It is not possible to delete all the preferred carrier identity codes from the VLR using this service. To delete all the preferred carrier identity codes from the VLR, the HLR shall use the MAP\_CANCEL\_LOCATION service.

### LSA Information

If included in the ISD request, this parameter contains a list of localised service area identities a user might have subscribed to together with the priority, the preferential access indicator, the active mode support indicator and active mode indication of each localised service area; see subclause 7.6. The access right outside these localised service areas is also indicated. In all cases mentioned below, the LSA information shall only include LSA Data applicable to the VPLMN where the Subscriber is located. The VLR number, received in the MAP-UPDATE\_LOCATION primitive, or

the SGSN number, received in the MAP\_UPDATE\_GPRS\_LOCATION primitive, can be used, alongside data stored in the HLR, to determine the LSA Data applicable to the VPLMN.

At restoration, location updating or GPRS location updating the HLR shall include the complete set of applicable LSA Information.

When there is a change in LSA data the HLR shall include at least the new and/or modified LSA data.

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When there is a change in the access right outside the localised service areas the HLR shall include the LSA only access indicator.

When the SGSN or the VLR receives LSA information within a dialogue it shall check if the received data has to be considered as the entire LSA information. If so, it shall replace the stored LSA information with the received data set, otherwise it shall replace the data only for the modified LSA data (if any) and/or access right, and add the new LSA data (if any) to the stored LSA Information.

If the entire LSA information is received, it shall always include the LSA only access indicator value together with the LSA data applicable for the PLMN (if any).

If LSA Information is omitted in the Insert Subscriber Data operation the SGSN or the VLR shall keep the previously stored LSA Information.

If the SGSN or the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used by the VLR and the SGSN.

#### LMU Identifier

This parameter indicates the presence of an LMU.

#### LCS Information

This parameter provides the following LCS related information for an MS subscriber:

- list of GMLCs in the HPLMN
- privacy exception list

#### SS-Code List

The list of SS-Code parameters that are provided to a subscriber but are not supported/allocated by the VLR (SS-Code is defined in subclause 7.6). The list can only include individual SS-Codes that were sent in the service request. This parameter is used only by the VLR.

#### Regional Subscription Response

If included in the response this parameter indicates one of:

- MSC Area Restricted entirely because of regional subscription;
- SGSN Area Restricted entirely because of regional subscription;
- Too Many Zone Codes to be inserted;
- Zone Codes Conflict;
- Regional Subscription not Supported by the VLR or by the SGSN.

If the VLR determines after insertion of Regional Subscription Data that the entire MSC area is restricted, the VLR shall respond with a Regional Subscription Response indicating MSC Area Restricted. Otherwise MSC Area Restricted is not sent. The HLR shall check whether the current MSC area is no longer restricted.

If the SGSN determines after insertion of Regional Subscription Data that the entire SGSN area is restricted, the SGSN shall respond with a Regional Subscription Response indicating SGSN Area Restricted. Otherwise SGSN Area Restricted is not sent. The HLR shall check whether the current SGSN area is no longer restricted. This parameter is used by the VLR and by the SGSN.

#### VLR CAMEL Subscription Info

This parameter is sent for subscribers who have CAMEL services which are invoked in the MSC. In CAMEL phase 1 this parameter contains only the O-CSI. If an O-CSI is contained, TDP-Criteria may also be present in CAMEL Phase 2. In CAMEL Phase 2 this parameter contains the SS-CSI and/or the O-CSI. The VLR CAMEL Subscription Info is sent at location updating or when any information in the applicable CAMEL Subscription Info in the HLR has been changed. The entire set of CAMEL Subscription Info is sent within one dialogue. If a set of CAMEL Subscription Info is already stored in the VLR, i.e received within a previous dialogue, it is replaced by the received data. If the VLR CAMEL Subscription Info is ommitted in the Insert Subscriber Data operation the VLR shall keep the previously stored VLR CAMEL Subscription Info. Within one dialogue subsequent received data are interpreted as add-on data. If the VLR detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the VLR and if the SGSN receives this parameter it shall ignore it.

The VLR CAMEL Subscription Info may contain the TIF-CSI (Translation Information Flag). See GSM 03.72 for the use of this parameter and the conditions for its presence.

#### Supported CAMEL Phases

The use of this parameter and the requirements for its presence are specified in GSM 03.78. This parameter is used only by the VLR.

A VLR not supporting any CAMEL-Phase may omit this parameter.

#### GPRS Subscription Data

This parameter contains a list of PDP-contexts a user has subscribed to; see subclause 7.6.

At GPRS location updating the HLR shall include the complete GPRS Subscription Data.

When there is a change in GPRS subscriber data the HLR shall include only the new and/or modified PDP contexts.

When the SGSN receives GPRS Subscription Data within a dialogue it shall check if the received data has to be considered as the entire GPRS subscription data. If so, it shall replace the stored GPRS Subscription Data with the received data set, otherwise it shall replace the data only for the modified PDP contexts (if any) and add the new PDP contexts (if any) to the stored GPRS Subscription Data.

If GPRS Subscription Data is omitted in the Insert Subscriber Data operation the SGSN shall keep the previously stored GPRS Subscription Data.

If the SGSN detects that there is overlapping in the information received within a dialogue, it shall send the error Unexpected Data Value. This parameter is used only by the SGSN and if the VLR receives this parameter it shall ignore it.

#### Roaming Restricted In SGSN Due To Unsupported Feature

The HLR may decide to include this parameter in the request if certain services or features are indicated as not supported by the SGSN. This parameter is used only by the SGSN and if the VLR receives this parameter it shall ignore it.

#### User error

Only one of the following values is applicable:

- Unidentified subscriber;
- Data missing;
- Unexpected data value.

# 17.7.1 Mobile Service data types

MAP-MS-DataTypes {
 ccitt identified-organization (4) etsi (0) mobileDomain (0)
 gsm-Network (1) modules (3) map-MS-DataTypes (11) version5 (5)}

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```
-- location registration types
UpdateLocationArg,
UpdateLocationRes,
CancelLocationArg,
CancelLocationRes,
PurgeMS-Arg,
PurgeMS-Res,
SendIdentificationRes,
UpdateGprsLocationArg,
UpdateGprsLocationRes,
-- handover types
PrepareHO-Arg,
PrepareHO-Res,
PrepareSubsequentHO-Arg,
-- authentication management types
SendAuthenticationInfoArg,
SendAuthenticationInfoRes,
-- security management types
EquipmentStatus,
Kc.
-- subscriber management types
InsertSubscriberDataArg,
InsertSubscriberDataRes,
DeleteSubscriberDataArg,
DeleteSubscriberDataRes,
SubscriberData,
ODB-Data,
SubscriberStatus,
ZoneCodeList,
maxNumOfZoneCodes,
O-CSI,
O-BcsmCamelTDPCriteriaList,
SS-CSI,
ServiceKey,
DefaultCallHandling,
CamelCapabilityHandling,
BasicServiceCriteria,
SupportedCamelPhases,
maxNumOfCamelTDPData,
CUG-Index,
CUG-Interlock,
InterCUG-Restrictions,
IntraCUG-Options,
-- fault recovery types
```

ResetArg, RestoreDataArg, RestoreDataRes,

-- subscriber information enquiry types ProvideSubscriberInfoArg, ProvideSubscriberInfoRes, SubscriberInfo, LocationInformation, SubscriberState,

-- any time information enquiry types AnyTimeInterrogationArg,

AnyTimeInterrogationRes,

```
-- gprs location information retrieval types
      SendRoutingInfoForGprsArg,
      SendRoutingInfoForGprsRes,
      -- failure reporting types
      FailureReportArg,
     FailureReportRes,
      -- gprs notification types
     NoteMsPresentForGprsArg,
     NoteMsPresentForGprsRes
;
IMPORTS
     maxNumOfSS,
     SS-SubscriptionOption,
     SS-List
FROM MAP-SS-DataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-SS-DataTypes (14) version5 (5)}
     SS-Code
FROM MAP-SS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-SS-Code (15) version5 (5)}
     Ext-BearerServiceCode
FROM MAP-BS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-BS-Code (20) version5 (5)}
     Ext-TeleserviceCode
FROM MAP-TS-Code {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-TS-Code (19) version5 (5)}
     ISDN-AddressString,
     maxISDN-AddressLength,
      ISDN-SubaddressString,
      ExternalSignalInfo,
     IMSI,
     HLR-List,
     LMSI,
      Identity,
      GlobalCellId,
      CellIdOrLAT.
      Ext-BasicServiceCode,
     NAEA-PreferredCI,
     EMLPP-Info,
      SubscriberIdentity,
     AgeOfLocationInformation,
     LCSClientExternalID,
     LCSClientInternalID
FROM MAP-CommonDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-CommonDataTypes (18) version5 (5)}
     ExtensionContainer
FROM MAP-ExtensionDataTypes {
   ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version5 (5)}
     AbsentSubscriberDiagnosticSM
FROM MAP-ER-DataTypes {
  ccitt identified-organization (4) etsi (0) mobileDomain (0)
   gsm-Network (1) modules (3) map-ER-DataTypes (17) version5 (5)}
```

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-- location registration types

;

<b>UpdateLocationArg</b> ::= SEQUENCE {		
imsi	IMSI,	
msc-Number	[1] ISDN-AddressString	
	[1] IDDA Maarebbbering,	
lmai	[10] INGLODITONN	
Insi	[IU] LMSI OPIIONAL,	
extensionContainer	ExtensionContainer	OPTIONAL,
,		
vlr-Capability	[6] VLR-Capability	OPTIONAL }
VLR-Capability ::= SEQUENCE {		
supportedCamelPhases	[0] SupportedCamelPhases	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL.
enteribioneoneutilei		or reorate,
···· /		
solsasupportindicator		OPTIONAL }
UpdateLocationRes ::= SEQUENCE {		
hlr-Number	ISDN-AddressString	
IIII - Nulliber	ISDN AddressString,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		
CancelLocationArg ::= [3] SEQUENCE {		
identity	Identity,	
cancellationType	CancellationType	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
		,
••••		
CancellationType ::= ENUMERATED J		
undateDrogodura	( <b>0</b> )	
upualeriocedure	(U),	
subscriptionwithdraw	(1),	
}		
The HLR shall not send values	other than listed above	
CancelLocationRes ::= SEQUENCE {		
CancelLocationRes ::= SEQUENCE {     extensionContainer	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    }	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    }	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {	ExtensionContainer	OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi</pre>	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     ulr-Number	ExtensionContainer	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     oner Number	ExtensionContainer IMSI, [0] ISDN-AddressString	OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString	OPTIONAL, OPTIONAL, OPTIONAL,
CancelLocationRes ::= SEQUENCE {     extensionContainer     } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE { </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE { </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     uthertisetting of the integration } </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, http://www.actional.com/	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList     c }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE { </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSet ::= SEQUENCE {     rand     sres </pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSet ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    }</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16)) SRES ::= OCTET STRING (SIZE (4))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSetList ::= SEQUENCE SI AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16)) SRES ::= OCTET STRING (SIZE (4))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>CancelLocationRes ::= SEQUENCE {     extensionContainer    } PurgeMS-Arg ::= [3] SEQUENCE {     imsi     vlr-Number     sgsn-Number     extensionContainer    } PurgeMS-Res ::= SEQUENCE {     freezeTMSI     freezeP-TMSI     extensionContainer    } SendIdentificationRes ::= SEQUENCE {     imsi     authenticationSetList    } AuthenticationSet ::= SEQUENCE {     rand     sres     kc    } RAND ::= OCTET STRING (SIZE (16)) Kc ::= OCTET STRING (SIZE (4))</pre>	ExtensionContainer IMSI, [0] ISDN-AddressString [1] ISDN-AddressString ExtensionContainer [0] NULL [1] NULL ExtensionContainer IMSI, AuthenticationSetList ZE (15) OF AuthenticationSet RAND, SRES, Kc,	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,

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-- gprs location registration types

<b>UpdateGprsLocationArg</b> ::= SEQUENCE {		
imsi	IMSI,	
sgsn-Number	ISDN-AddressString,	
sgsn-Address	GSN-Address,	
extensionContainer	ExtensionContainer	OPTIONAL,
···· /		
sgsn-Capability	[0] SGSN-Capability	OPTIONAL }
aday genetility of groupygr		
SGSN-Capability ::= SEQUENCE{		00000
solsaSupportIndicator		OPTIONAL,
extensionContainer	[1] ExtensionContainer	OPTIONAL,
}		
GSN-Address ::= OCTET STRING (SIZE (5	17))	
Octets are coded according to TS	GSM 03.03	
<pre>UpdateGprsLocationRes ::= SEQUENCE {</pre>		
hlr-Number	ISDN-AddressString.	
extensionContainer	ExtensionContainer	OPTIONAL.
}		0111010112)
handover types		
PrepareHO-Arg ::= SEQUENCE {		
targetCellId	GlobalCellId	OPTIONAL,
ho-NumberNotRequired	NULL	OPTIONAL,
bss-APDU	ExternalSignalInfo	OPTIONAL,
}		,
PrepareHO-Res ::= SEQUENCE {		
handoverNumber	ISDN-AddressString	OPTIONAL,
bss-APDU	ExternalSignalInfo	OPTIONAL,
}		,
PrepareSubsequentHO-Arg ::= SEQUENCE {		
targetCellId	GlobalCellId,	
targetMSC-Number	ISDN-AddressString,	
bss-APDU	ExternalSignalInfo,	
}	· · · · · · · · · · · · · · · · · · ·	

-- authentication management types

#### SendAuthenticationInfoArg ::= IMSI

SendAuthenticationInfoRes ::= AuthenticationSetList

-- security management types

EquipmentStatus	::= ENUMERATED	{
whiteListed	(0),	
blackListed	(1),	
greyListed	(2)}	

-- subscriber management types

ertSubscriberDataArg ::= SEQU	ENCE {	
imsi	[0] IMSI	OPTIONAL,
COMPONENTS OF	SubscriberData,	
extensionContainer	[14] ExtensionContainer	OPTIONAL,
,		0000000
naea-PreferredCl	[15] NAEA-PreferredCl	OPTIONAL,
naea-PreferredCI is inclu	ded at the discretion of the HLR opera	tor.
gprsSubscriptionData	[16] GPRSSubscriptionData	OPTIONAL,
roamingRestrictedInSgsnDueTo	DUnsupportedFeature [23]	NULL
		OPTIONAL,
networkAccessMode	[24] NetworkAccessMode	OPTIONAL,
lsaInformation	[25] LSAInformation	OPTIONAL,
lmu-Indicator	[21] NULL	OPTIONAL,
lcsInformation	[22] LCSInformation	OPTIONAL
}		
If the Network Access Mod	le parameter is sent, it shall be prese	nt only in
the first sequence if the	e segmentation is used	

LCSInformation ::= SEQUENCE { hplmn-GMLC-List [0] HPLMN-GMLC-List OPTIONAL, lcs-PrivacyExceptionList [1] LCS-PrivacyExceptionList OPTIONAL, ...}

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HPLMN-GMLC-List ::= SEQUENCE SIZE (1..maxNumOfGMLC) OF ISDN-AddressString

maxNumOfGMLC INTEGER ::= 5

NetworkAccessMode ::= ENUMERATED {
 bothMSCAndSGSN (0),
 onlyMSC (1),
 onlySGSN (2),
 ...}
 -- if unknown values are received in NetworkAccessMode
 -- they shall be discarded.

**GPRSDataList** ::= SEQUENCE SIZE (1..maxNumOfPDP-Contexts) OF PDP-Context

maxNumOfPDP-Contexts INTEGER ::= 50

<b>PDP-Context</b> ::= SEQUENCE {			
pdp-ContextId	ContextId,		
pdp-Type	[16] PDP-Type,		
pdp-Address	[17] PDP-Address	OPTIONAL,	
qos-Subscribed	[18] QoS-Subscribed,		
vplmnAddressAllowed	[19] NULL OPTIONAL,		
apn	[20] APN ,		
extensionContainer	[21] ExtensionContainer	OPTIONAL,	
}			
ž			_

**ContextId** ::= INTEGER (1..maxNumOfPDP-Contexts)

GPRSSubscriptionData ::= SEQUENCE {		
completeDataListIncluded	NULL	OPTIONAL,
If segmentation is used,	completeDataListIncluded	may only be present in the
first segment.		
gprsDataList	[1] GPRSDataList,	
extensionContainer	[2] ExtensionContaine	er OPTIONAL,

APN ::= OCTET STRING (SIZE (2..63)) -- Octets are coded according to TS GSM 03.03

**PDP-Type** ::= OCTET STRING (SIZE (2)) -- Octets are coded according to TS GSM 09.60

PDI	P-Add	iress ::	= OCTE	T STRING	G (SIZ	E (116))	
	Octe	ets are	coded	accordi	ng to	TS GSM 09.60	
	The	possibl	e size	e values	are:		
	1-7	octets	X.25	address	type		
	4	octets	IPv4	address	type		
	16	octets	Іруб	address	tvpe		

**QoS-Subscribed** ::= OCTET STRING (SIZE (3)) -- Octets are coded according to TS GSM 04.08.

LSAOnlyAccessIndicator ::= ENUMERATED { accessOutsideLSAsAllowed (0), accessOutsideLSAsRestricted (1)}

LSADataList ::= SEQUENCE SIZE (1..maxNumOfLSAs) OF LSAData

maxNumOfLSAs INTEGER ::= 20

LSAData ::= SEQUENCE {		
lsaIdentity	[0] LSAIdentity,	
lsa <del>Priority<u>Attributes</u></del>	<li>[1] LSA<del>Priority<u>Attributes</u>,</del></li>	
lsaActiveModeIndicator	[2] NULL	OPTIONAL,
lsaActiveModeSupportIndicator	[3] NULL	OPTIONAL,
extensionContainer	[4 <u>3</u> ] ExtensionContainer	OPTIONAL,
}	=	

LSAInformation ::= SEQUENCE {			
completeDataListIncluded	NUL	_	OPTIONAL,
If segmentation is used first segment.	l, complet	eDataListIncluded may only	be present in the
lsaOnlyAccessIndicator	[1]	LSAOnlyAccessIndicator	OPTIONAL,
lsaDataList	[2]	LSADataList	OPTIONAL,
extensionContainer	[3]	ExtensionContainer	OPTIONAL,

**LSAIdentity** ::= OCTET STRING (SIZE (3)) -- Octets are coded according to TS GSM 03.03

LSAPriorityAttributes ::= OCTET STRING (SIZE (1)) -- Octets are coded according to TS GSM 08.08

Subscr	iberData ::= SEQUENCE {			
m	sisdn	[1]	ISDN-AddressString	OPTIONAL,
C	ategory	[2]	Category	OPTIONAL,
S	ubscriberStatus	[3]	SubscriberStatus	OPTIONAL,
b	earerServiceList	[4]	BearerServiceList	OPTIONAL,
-	- The exception handling for recept	ion	of unsupported / not allocated	
-	- bearerServiceCodes is defined in	sect	ion 6.8.1	
t	eleserviceList	[6]	TeleserviceList	OPTIONAL,
-	- The exception handling for recept	ion	of unsupported / not allocated	
-	- teleserviceCodes is defined in se	ctio	n 6.8.1	
p	rovisionedSS	[7]	Ext-SS-InfoList	OPTIONAL,
00	db-Data	[8]	ODB-Data	OPTIONAL,
roamingRestrictionDueToUnsupportedFeature [9] NULL			OPTIONAL,	
r	egionalSubscriptionData	[10]	ZoneCodeList	OPTIONAL,
v	bsSubscriptionData	[11]	] VBSDataList	OPTIONAL,
V	gcsSubscriptionData	[12]	] VGCSDataList	OPTIONAL,
v.	lrCamelSubscriptionInfo	[13]	] VlrCamelSubscriptionInfo	OPTIONAL

**Category** ::= OCTET STRING (SIZE (1)) -- The internal structure is defined in CCITT Rec Q.763.

SubscriberStatus ::= ENUMERATED {
 serviceGranted (0),
 operatorDeterminedBarring (1)}

BearerServiceList ::= SEQUENCE SIZE (1..maxNumOfBearerServices) OF Ext-BearerServiceCode

maxNumOfBearerServices INTEGER ::= 50

**TeleserviceList** ::= SEQUENCE SIZE (1..maxNumOfTeleservices) OF Ext-TeleserviceCode

maxNumOfTeleservices INTEGER := 20

<b>ODB-Data</b> ::= SEQUENCE {	
odb-GeneralData	
odb-HPLMN-Data	
extensionContainer	
}	

ODB-GeneralData, ODB-HPLMN-Data ExtensionContainer

OPTIONAL, OPTIONAL,

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**ODB-GeneralData** ::= BIT STRING { allOG-CallsBarred (0), internationalOGCallsBarred (1), internationalOGCallsNotToHPLMN-CountryBarred (2), interzonalOGCallsBarred (6), interzonalOGCallsNotToHPLMN-CountryBarred (7), interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8), premiumRateInformationOGCallsBarred (3), premiumRateEntertainementOGCallsBarred (4), ss-AccessBarred (5), allECT-Barred (9), chargeableECT-Barred (10), internationalECT-Barred (11), interzonalECT-Barred (12), doublyChargeableECT-Barred (13), multipleECT-Barred (14) { (SIZE (15..32)) -- exception handling: reception of unknown bit assignments in the -- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData

ODB-HPLMN-Data ::= BIT STRING {
 plmn-SpecificBarringType1 (0),
 plmn-SpecificBarringType2 (1),
 plmn-SpecificBarringType3 (2),
 plmn-SpecificBarringType4 (3)} (SIZE (4..32))
 -- exception handling: reception of unknown bit assignments in the
 -- ODB-HPLMN-Data type shall be treated like unsupported ODB-HPLMN-Data

**Ext-SS-InfoList** ::= SEQUENCE SIZE (1..maxNumOfSS) OF Ext-SS-Info

Ext-SS-Info ::= CHOICE {
 forwardingInfo
 callBarringInfo
 cug-Info
 ss-Data
 emlpp-Info

[0] Ext-ForwInfo, [1] Ext-CallBarInfo, [2] CUG-Info, [3] Ext-SS-Data, [4] EMLPP-Info}

Ext-ForwInfo ::= SEQUENCE {
 ss-Code
 forwardingFeatureList
 extensionContainer
 ...}

SS-Code, Ext-ForwFeatureList, [0] ExtensionContainer

OPTIONAL,

**Ext-ForwFeatureList ::=** SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF Ext-ForwFeature

**Ext-ForwFeature** ::= SEQUENCE { basicService Ext-BasicServiceCode OPTIONAL, ss-Status [4] Ext-SS-Status, [5] ISDN-AddressString forwardedToNumber OPTIONAL, -- When this data type is sent from an HLR which supports CAMEL Phase 2 -- to a VLR that supports CAMEL Phase 2 the VLR shall not check the -- format of the number [8] ISDN-SubaddressString forwardedToSubaddress OPTIONAL, [6] Ext-ForwOptions forwardingOptions OPTIONAL, noReplyConditionTime [7] Ext-NoRepCondTime OPTIONAL, extensionContainer [9] ExtensionContainer OPTIONAL, . . . }

Ext-SS-Status ::= OCTET STRING (SIZE (1..5))
-- OCTET 1:
--- bits 8765: 0000 (unused)
-- bits 4321: Used to convey the "P bit", "R bit", "A bit" and "Q bit",
-- representing supplementary service state information
-- as defined in TS GSM 03.11
-- bit 4: "Q bit"
-- bit 3: "P bit"
-- bit 2: "R bit"
-- bit 1: "A bit"
-- OCTETS 2-5: reserved for future use. They shall be discarded if
-- received and not understood.
**Ext-ForwOptions** ::= OCTET STRING (SIZE (1..5)) -- OCTET 1: -- bit 8: notification to forwarding party -- 0 no notification 1 notification -- bit 7: redirecting presentation -- 0 no presentation -- 1 presentation -- bit 6: notification to calling party \_\_\_ 0 no notification -- 1 notification -- bit 5: 0 (unused) -- bits 43: forwarding reason -- 00 ms not reachable -- 01 ms busy \_ \_ 10 no reply 11 unconditional \_\_\_ -- bits 21: 00 (unused) -- OCTETS 2-5: reserved for future use. They shall be discarded if -- received and not understood. Ext-NoRepCondTime ::= INTEGER (1..100) -- Only values 5-30 are used. -- Values in the ranges 1-4 and 31-100 are reserved for future use -- If received: \_\_\_ values 1-4 shall be mapped on to value 5 values 31-100 shall be mapped on to value 30 **Ext-CallBarInfo** ::= SEQUENCE { ss-Code SS-Code, callBarringFeatureList Ext-CallBarFeatureList, extensionContainer ExtensionContainer OPTIONAL, . . . } Ext-CallBarFeatureList ::= SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF Ext-CallBarringFeature **Ext-CallBarringFeature** ::= SEQUENCE { basicService Ext-BasicServiceCode OPTIONAL, ss-Status [4] Ext-SS-Status, extensionContainer ExtensionContainer OPTIONAL, . . . } CUG-Info ::= SEQUENCE { cug-SubscriptionList CUG-SubscriptionList, cug-FeatureList CUG-FeatureList OPTIONAL, extensionContainer [0] ExtensionContainer OPTIONAL, CUG-SubscriptionList ::= SEQUENCE SIZE (0..maxNumOfCUG) OF CUG-Subscription **CUG-Subscription** ::= SEQUENCE { cug-Index CUG-Index, cug-Interlock CUG-Interlock, IntraCUG-Options, intraCUG-Options basicServiceGroupList Ext-BasicServiceGroupList OPTIONAL, extensionContainer [0] ExtensionContainer OPTIONAL, . . . } CUG-Index ::= INTEGER (0..32767) -- The internal structure is defined in ETS 300 138. CUG-Interlock ::= OCTET STRING (SIZE (4)) IntraCUG-Options ::= ENUMERATED { noCUG-Restrictions (0), cugIC-CallBarred (1),

cugOG-CallBarred (2)}

maxNumOfCUG INTEGER ::= 10

**CUG-FeatureList** ::= SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF CUG-Feature

**Ext-BasicServiceGroupList** ::= SEQUENCE SIZE (1..maxNumOfExt-BasicServiceGroups) OF

Ext-BasicServiceCode

## maxNumOfExt-BasicServiceGroups INTEGER ::= 32

CUG-Feature ::= SEQUENCE {		
basicService	Ext-BasicServiceCode	OPTIONAL,
preferentialCUG-Indicator	CUG-Index OPTIONAL,	
interCUG-Restrictions	InterCUG-Restrictions,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		

**InterCUG-Restrictions** ::= OCTET STRING (SIZE (1))

-- bits 876543: 000000 (unused) -- Exception handling: -- bits 876543 shall be ignored if received and not understood -- bits 21 -- 00 CUG only facilities -- 01 CUG with outgoing access -- 10 CUG with incoming access -- 11 CUG with both outgoing and incoming access Ext-SS-Data ::= SEQUENCE {

ss-Code
ss-Status[4] Ext-SS-Status,
ss-SubscriptionOption
basicServiceGroupList
extensionContainer
....}

SS-Code,

SS-SubscriptionOption Ext-BasicServiceGroupList [5] ExtensionContainer OPTIONAL, OPTIONAL, OPTIONAL,

LCS-PrivacyExceptionList ::= SEQUENCE SIZE (1..maxNumOfPrivacyClass) OF LCS-PrivacyClass

maxNumOfPrivacyClass INTEGER := 4

LCS-PrivacyClass ::= SEQUENCE	{	
ss-Code	SS-Code,	
ss-Status	Ext-SS-Status,	
externalClientList	<pre>[0] ExternalClientList</pre>	OPTIONAL,
externalClientList is exp	ected only for SS-code = callunrelate	d
plmnClientList	[1] PLMNClientList	OPTIONAL,
plmnClientList is expecte	ed only for SS-code - plmn	
extensionContainer	[2] ExtensionContainer	OPTIONAL,
}		

**ExternalClientList** ::= SEQUENCE SIZE (1..maxNumOfExternalClient) OF ExternalClient

maxNumOfExternalClient INTEGER ::= 5

**PLMNClientList** ::= SEQUENCE SIZE (1..maxNumOfPLMNClient) OF LCSClientInternalID

maxNumOfPLMNClient INTEGER ::= 5

ExternalClient ::= SEQUENCE {		
clientIdentity	LCSClientExternalID,	
gmlc-Restriction	[0] GMLC-Restriction	OPTIONAL,
extensionContainer	<pre>[1] ExtensionContainer</pre>	OPTIONAL,
}		
GMLC-Restriction ::= ENUMERATED {		
hplmn	(0),	
home-Country	(1)}	

ZoneCodeList ::= SEQUENCE SIZE (1..maxNumOfZoneCodes) OF ZoneCode

maxNumOfZoneCodes INTEGER ::= 10

ITDSertSubscriberDataRes ::= SFOUENCE {		
tologorrigoligt	[1] Tologorrigoligt	ODUTONAL
teleservicelist		OPTIONAL,
bearerServiceList	[2] BearerServiceList	OPTIONAL,
ss-List	[3] SS-List	OPTIONAL,
odb-GeneralData	[4] ODB-GeneralData	OPTIONAL,
regionalSubscriptionResponse	[5]	<i>.</i>
DesignalSubaggintionDeanon		
RegionalSubscriptionRespon	se Opiional,	
supportedCamelPhases	[6] SupportedCamelPhases	OPTIONAL,
extensionContainer	[7] ExtensionContainer	OPTIONAL,
}		
Regional Subscription Response ::= ENUMERA	רידיד ∫	
networkhode-AreaRestricted	(0),	
tooManyZoneCodes	(1),	
zoneCodesConflict	(2),	
regionalSubscNotSupported	(3)}	
DeleteSubscriberDataArg ::= SEQUENCE {		
ingi	[0] TMOT	
basicServiceList	[1] BasicServiceList	OPTIONAL,
The exception handling for recept	tion of unsupported/not allocated	
basicServiceCodes is defined in a	section 6.8.2	
ag-List	[2] SS_Ligt	ODTIONAT
		OPTIONAL,
roamingRestrictionDueToUnsupportedFe	eature [4] NULL	OPTIONAL,
regionalSubscriptionIdentifier	[5] ZoneCode	OPTIONAL,
vbsGroupIndication	[7] NULL	OPTIONAL,
vacsGroupIndication		- ,
	[0] MULL OPHIONAL,	
cameiSubscriptioninioWithdraw	LEI OPIIONAL,	
extensionContainer	[6] ExtensionContainer OPTIONAL,	
• • • • /		
gprsSubscriptionDataWithdraw	[10] GPRSSubscriptionDataWithdraw	OPTIONAL,
roomingPostrigtodInSggnDuoToUnguppo	rtodFosturo [11] NULI	
		OPTIONAL,
IsaInformationWithdraw	[12] LSAInformationWithdraw	OPTIONAL }
GPRSSubscriptionDataWithdraw ::= CHOICE allGPRSData	{ NULL,	
contextIdList	ContextIdList }	
ContextIdList ::= SEQUENCE SIZE (1maxN	umOIPDP-Contexts) OF	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN	ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN	UMDIPPP-Contexts) OF ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {	ContextId	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData	NULL,	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList	NULL, LSAIdentityList }	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList	NULL, LSAIdentityList }	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	NULL, LSAIdentityList }	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode</pre>	
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0]</pre>	
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse</pre>	OPTIONAL
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse outonsignContained	<pre>umOIPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse Ext-opsionContained</pre>	OPTIONAL,
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    }</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    }</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer {</pre>	OPTIONAL, OPTIONAL,
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] 0-CSI</pre>	OPTIONAL, OPTIONAL,
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [0] O-CSI [1] ExtensionContainer</pre>	OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL,
ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE { allLSAData lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE { regionalSubscriptionResponse extensionContainer } VlrCamelSubscriptionInfo ::= SEQUENCE o-CSI extensionContainer ,	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif=CET</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [2] MUL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif-CSI</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif-CSI     }</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1m maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif-CSI     } </pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif-CSI     } SS-CSI ::= SEQUENCE {</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
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<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif-CSI     } SS-CSI ::= SEQUENCE {     ss-CamelData     SS-CSI ::= SEQUENCE {         ss-CamelData     } </pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL SS-CamelData, ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,
<pre>ContextIdList ::= SEQUENCE SIZE (1maxN LSAInformationWithdraw ::= CHOICE {     allLSAData     lsaIdentityList LSAIdentityList ::= SEQUENCE SIZE (1ma BasicServiceList ::= SEQUENCE SIZE (1ma maxNumOfBasicServices INTEGER ::= 70 DeleteSubscriberDataRes ::= SEQUENCE {     regionalSubscriptionResponse     extensionContainer    } VlrCamelSubscriptionInfo ::= SEQUENCE {     o-CSI     extensionContainer    ,     ss-CSI     o-BcsmCamelTDP-CriteriaList     tif-CSI     } SS-CSI ::= SEQUENCE {     ss-CamelData     extensionContainer    )</pre>	<pre>umOTPDP-Contexts) OF ContextId NULL, LSAIdentityList } xNumOfLSAs) OF LSAIdentity axNumOfBasicServices) OF Ext-BasicServiceCode [0] RegionalSubscriptionResponse ExtensionContainer { [0] O-CSI [1] ExtensionContainer [2] SS-CSI [4] O-BcsmCamelTDPCriteriaList [3] NULL SS-CamelData, ExtensionContainer</pre>	OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL, OPTIONAL,

**SS-CamelData** ::= SEQUENCE { ss-EventList gsmSCF-Address extensionContainer ...

SS-EventList,
ISDN-AddressString,
[0] ExtensionContainer

OPTIONAL,

SS-EventList ::= SEQUENCE SIZE (1..maxNumOfCamelSSEvents) OF SS-Code -- Actions for the following SS-Code values are defined in CAMEL Phase 2: -- ect SS-Code ::= '00110001'B -- multiPTY SS-Code ::= '01010001'B -- cd SS-Code ::= '00100100'B -- all other SS codes shall be ignored

maxNumOfCamelSSEvents INTEGER ::= 10

**O-CSI** ::= SEQUENCE { o-BcsmCamelTDPDataList extensionContainer ..., camelCapabilityHandling

O-BcsmCamelTDPDataList, ExtensionContainer [0] CamelCapabilityHandling

OPTIONAL,

O-BcsmCamelTDPDataList ::= SEQUENCE SIZE (1..maxNumOfCamelTDPData) OF

O-BcsmCamelTDPData

--- O-BcsmCamelTDPDataList shall not contain more than one instance of

--- O-BcsmCamelTDPData containing the same value for o-BcsmTriggerDetectionPoint.

--- For CAMEL Phase 2, this means that only one instance of O-BcsmCamelTDPData is allowed

--- with o-BcsmTriggerDetectionPoint being equal to DP2.

maxNumOfCamelTDPData INTEGER ::= 10

O-BcsmCamelTDPData ::= SEQUENCE {		
o-BcsmTriggerDetectionPoint	O-BcsmTriggerDetectionPoint,	
serviceKey	ServiceKey,	
gsmSCF-Address	[0] ISDN-AddressString,	
defaultCallHandling	<ol> <li>DefaultCallHandling,</li> </ol>	
extensionContainer	[2] ExtensionContainer	OPTIONAL,
····		

**ServiceKey** ::= INTEGER (0..2147483647)

O-BcsmTriggerDetectionPoint ::= ENUMERATED {
 collectedInfo (2),
 ... }
-- exception handling:
-- For O-BcsmCamelTDPData sequences containing this parameter with any
-- other value than the ones listed the receiver shall ignore the whole
-- O-BcsmCamelTDPDatasequence.
-- For O-BcsmCamelTDP-Criteria sequences containing this parameter with any
-- other value than the ones listed the receiver shall ignore the whole
-- O-BcsmCamelTDP-Criteria sequence.

**O-BcsmCamelTDPCriteriaList** ::= SEQUENCE SIZE (1..maxNumOfCamelTDPData) OF O-BcsmCamelTDP-Criteria

O-RagmCamolTDD-Critoria ··- GEOMENCE		
O-BCSMCAMETIDF-CITCEIIa ···= SEQUENCE {		
o-BcsmTriggerDetectionPoint 0-	BcsmTriggerDetectionPoint,	
destinationNumberCriteria [0	] DestinationNumberCriteria	OPTIONAL,
basicServiceCriteria [1	] BasicServiceCriteria	OPTIONAL,
callTypeCriteria [2	] CallTypeCriteria	OPTIONAL,
}		
DestinationNumberCriteria ::= SEQUENCE	{	
matchType [0	] MatchType,	
destinationNumberList [1	] DestinationNumberList	OPTIONAL,
destinationNumberLengthList [2	] DestinationNumberLengthList	OPTIONAL,
one or both of destinationNumberList	and destinationNumberLengthList	2
shall be present		
}		
DestinationNumberList ::= SEQUENCE SIZE	(1maxNumOfCamelDestinationN	umbers) OF
IS	DN-AddressString	

-- The receiving entity shall not check the format of a number in

-- the dialled number list

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DestinationNumberLengthList ::= SEQUENCE	SIZE	C (1maxNumOfCamelDestinat	ionNumberLengths)
OF			
	INT	EGER(1maxNumOfISDN-Addre	ssDigits)
Pagi geomi codni tonia		Numof dama i part a davit	and a long
Ext-BasicServiceCode	.max	inumorcamerBasicServiceCrit	eria) OF
maxNumOfISDN-AddressDigits INTEGER ::= 15			
maxNumOfCamelDestinationNumbers INTEGER ::= 1	10		
maxNumOfCamelDestinationNumberLengths INTEGE	R ::	= 3	
maxNumOfCamelBasicServiceCriteria INTEGER :::	= 5		
forwarded (0)			
notForwarded (1)}			
MatchType ::= ENUMERATED {			
inhibiting (0),			
enabling (1)}			
DefaultCallHandling ::= ENUMERATED {			
continueCall (0) ,			
releaseCall (1) ,			
}			
exception handling:			
reception of values in range 2-31 shall be	trea	ated as "continueCall"	
reception of values greater than 31 shall h	be L.	reated as "releasecall"	
CamelCapabilityHandling ::= INTEGER(1 16)			
value 1 = CAMEL phase 1,			
value 2 = CAMEL phase 2:			
reception of values greater than 2 shall be	e tr	eated as CAMEL phase 2	
SupportedCamelPhases ::= BIT STRING {			
phase1 (0), phase2 (1) $\frac{1}{2}$ (SIZE (1 16))			
gprs location information retrieval types			
SendRoutingInfoForGprsArg ::= SEQUENCE {	101	TMOT	
Imsi ggan-Address	[0]	IMSI, GSN-lddress	ΟΡΤΤΟΝΑΙ.
extensionContainer	[2]	ExtensionContainer	OPTIONAL,
}			,
SendRoutingInfoForGprsRes ::= SEQUENCE {			
sgsn-Address	[0]	GSN-Address,	
ggsn-Address	[1]	GSN-Address	OPTIONAL,
MODIIENOTREACHADIEREASON ORTIONAL	[2]	AbsentSubscriberDiagnost	LCSM
extensionContainer	[3]	ExtensionContainer	OPTIONAL,
}			,
failure report types			
FailureReportArg ::= SEQUENCE {	101	TMOT	
aasn-Number	[1]	ISDN-AddressString	
ggsn-Address	[2]	GSN-Address	, OPTIONAL,
extensionContainer	[3]	ExtensionContainer	OPTIONAL,
}			
FailureReportRes ::= SEQUENCE {			05770111-
ggsn-Address	[0] [1]	GSN-Address	OPTIONAL,
excension concarner	ι⊥J	evcension concarnet.	OFIIONAL,

-- gprs notification types

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NoteMsPresentForGprsArg ::= SEQUENCE {		
imsi	[0] IMSI,	
sgsn-Address	<pre>[1] GSN-Address,</pre>	
ggsn-Address	[2] GSN-Address	OPTIONAL,
extensionContainer	[3] ExtensionContainer	OPTIONAL,
}		

NoteMsPresentForGprsRes ::= SEQUENCE {
 extensionContainer [0] ExtensionContainer OPTIONAL,
 ...}

-- fault recovery types

ResetArg ::= SEQUENCE {		
hlr-Number	ISDN-AddressString,	
hlr-List	HLR-List	OPTIONAL,
}		
<b>RestoreDataArg</b> ::= SEQUENCE {		
imsi	IMSI,	
lmsi	LMSI	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
•••• ,		
vlr-Capability	[6] VLR-Capability	OPTIONAL }
RestoreDataRes ::= SEQUENCE 5		
hlr-Number	ISDN-AddressString	
mgNotReachable	NULL	
ortongionContainor	ExtongionContainor	OPTIONAL,
	Excensionconcarner	OF I IONAL,
••• 5		
VBS/VGCS types		
<b>VBSDataList</b> ::= SEQUENCE SIZE (1max	NumOfVBSGroupIds) OF	
	VoiceBroadcastData	
VGCSDataList ::= SEQUENCE SIZE (1. ma	xNumOfVGCSGroupIds) OF	
	VoiceGroupCallData	
	Torocoroapoarrada	
maxNumOfVBSGroupIds INTEGER ::= 50		
maxNumOfVGCSGroupIds INTEGER ::= 50		
VoiceGroupCallData ::= SEQUENCE {		
groupId	GroupId,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		
VoiceBroadcastData ::= SEQUENCE {		
groupid	GroupId,	
broadcastInitEntitlement	NULL	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
}		

GroupId ::= OCTET STRING (SIZE (3))
 -- Refers to the Group Identification as specified in GSM TS 03.03
 -- and 03.68/ 03.69

-- provide subscriber info types

<b>ProvideSubscriberInfoArg</b> ::= SEQUENCE	{	
imsi [0] IMSI,		
lmsi [1] LMSI	OPTIONAL,	
requestedInfo	[2] RequestedInfo,	
extensionContainer	[3] ExtensionContainer	OPTIONAL,
}		
<b>ProvideSubscriberInfoRes</b> ::= SEQUENCE	{	
subscriberInfo	SubscriberInfo,	
extensionContainer	ExtensionContainer	OPTIONAL,
}		
SubscriberInfo ::= SEQUENCE {		
locationInformation	[0] LocationInformation	OPTIONAL,
subscriberState	[1] SubscriberState	OPTIONAL,
extensionContainer	[2] ExtensionContainer	OPTIONAL,
}		

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RequestedInfo ::= SEQUENCE {		
locationInformation	[0] NULL	OPTIONAL,
subscriberState	[1] NULL	OPTIONAL,
extensionContainer	[2] ExtensionContainer	OPTIONAL,
}	• • • • • • • • • • • •	<b>,</b>
	,	
ocationInformation ::= SEQUENCE		ODET ON A L
ageUILocationInformation	Ageoilocationinformation	OPTIONAL,
geographicalinformation	[U] GeographicalInformati	on OPTIONAL,
vlr-number	[1] ISDN-AddressString	OPTIONAL,
locationNumber	[2] LocationNumber	OPTIONAL,
cellIdOrLAI	[3] CellIdOrLAI	OPTIONAL,
extensionContainer	[4] ExtensionContainer	OPTIONAL,
•••}		
eographicalInformation ::= OCTE	F STRING (SIZE (8))	
- Refers to geographical Information	on defined in GSM 03.32.	
Only the description of an ellip	soid point with uncertainty cire	cle
as specified in GSM 03.32 is allo	wed to be used	
- The internal structure according	to GSM 03.32 is as follows:	
- Type of shape (ellipsoid p	oint with uncertainty circle)	1 octet
<ul> <li>Degrees of Latitude</li> </ul>		3 octets
- Degrees of Longitude		3 octets
- Uncertainty code		1 octet
ocationNumber ::= OCTET STRING (S	SIZE (210))	
the internal structure is de	erined in CCITT Rec Q. 763	
SubscriberState ::= CHOICE {		
assumedIdle	[0] NULL,	
camelBusy [1] NULL,		
netDetNotReachable	NotReachableReason.	
notProvidedFromVLR	[2] NULL}	
IotReachableReason ::= ENUMERATED	{	
msPurged (0),		
imsiDetached (1),		
restrictedArea (2),		
notRegistered (3)}		
any time interrogation info type	S	
AnyTimeInterrogationArg ::= SEOU	ENCE {	
subscriberIdentity	[0] SubscriberIdentity,	
requestedInfo	[1] RequestedInfo.	
gsmSCF-Address	[3] ISDN-AddressString	
extensionContainer	[2] ExtensionContainer	OPTIONAL.
· · · }	[2] Extensioncontainer	of i towner,
inyTimeInterrogationRes ::= SEQUI	ENCE {	

subscriberInfo SubscriberInfo, extensionContainer ExtensionContainer OPTIONAL, ...}

END