

3GPP TSG CN Plenary Meeting #17
4th – 6th September 2002 Biarritz, FRANCE.

NP-020453

Source: TSG CN WG4
Title: Camel4
Agenda item: 8.3
Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.002	479	2	N4-021094	Rel5	Handling of partial implementations of CAMEL phase 4	C	5.2.0
23.008	056	1	N4-021095	Rel5	Handling of partial implementations of CAMEL phase 4	C	5.1.0

3GPP TSG CN WG4 Meeting #15
Helsinki, Finland, 29th July – 2nd August 2002

N4-021095

N4-021046 rev

3GPP TSG CN WG2 Meeting #25
Helsinki, Finland, 29th July – 2nd August 2002

N2-020788

N2-020661 rev

CR-Form-v7

CHANGE REQUEST

⌘ **23.008 CR 056** ⌘ rev **1** ⌘ Current version: **5.1.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Handling of partial implementations of CAMEL phase 4
Source:	⌘ CN4
Work item code:	⌘ CAMEL4
Date:	⌘ 01/08/2002
Category:	⌘ C
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .
Release:	⌘ Rel-5
	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Rel-5 CAMEL stage 1 22.078 introduces the "Handling of partial implementations of CAMEL phase 4". The 22.078 CR is contained in S1-021500. The current 23.008 CR introduces the corresponding "Handling of partial implementations of CAMEL phase 4" mechanism in the Rel-5 CAMEL stage 2 specification.
Summary of change:	⌘ Modification of the new parameters for the handling of "supported CAMEL 4 subsets" such that they handle now the "partial CAMEL implementations" by an entity. Note: Used terms in respect to the old "CAMEL phase 4 subsets" concept: - general: "partial implementation of CAMEL Phase 4"
Consequences if not approved:	⌘ The Handling of partial implementations of CAMEL phase 4 as indicated in Rel-5 CAMEL stage 1 22.078 is not possible.

Clauses affected:	⌘ 2.14.2, 5.1, 5.2								
Other specs affected:	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X
Y	N								
X									
	X								
	X								
	⌘ Rel-5 23.078-CR416, Rel-5 29.078-CR258, Rel-5 29.002-CR479								

Other comments: ☹

[Redacted area]

— First modified section —

2.14.2 Other Data stored in the HLR

2.14.2.1 Negotiated CAMEL Capability Handling

The HLR shall have a set of *negotiated CAMEL Capability Handling* variables. Each CSI that may be downloaded to the VLR or to the SGSN shall have a negotiated CAMEL Capability Handling (CCH) variable associated with it.

The negotiated CCH variable for a CSI indicates what CAMEL Phase is indicated in that CSI in the VLR or SGSN.

When the negotiated CCH variable has a value NULL, it indicates that the given CSI has not been downloaded to the VLR or SGSN.

The following table shows the *negotiated CAMEL Capability Handling* variables.

Variable name	Associated CSI	CSI stored in	Allowable values for negotiated CCH
O-CSI Negotiated CAMEL Capability Handling	O-CSI	VLR	NULL, 1, 2, 3, 4
D-CSI Negotiated CAMEL Capability Handling	D-CSI	VLR	NULL, 3, 4
SS-CSI Negotiated CAMEL Capability Handling	SS-CSI	VLR	NULL, 2, 3, 4
VT-CSI Negotiated CAMEL Capability Handling	VT-CSI	VLR	NULL, 3, 4
MO-SMS-CSI VLR Negotiated CAMEL Capability Handling	MO-SMS-CSI	VLR	NULL, 3
MT-SMS-CSI VLR Negotiated CAMEL Capability Handling	MT-SMS-CSI	VLR	NULL, 4
M-CSI Negotiated CAMEL Capability Handling	M-CSI	VLR	NULL, 3, 4
MG-CSI Negotiated CAMEL Capability Handling	MG-CSI	SGSN	NULL, 4
MO-SMS-CSI SGSN Negotiated CAMEL Capability Handling	MO-SMS-CSI	SGSN	NULL, 3
MT-SMS-CSI SGSN Negotiated CAMEL Capability Handling	MT-SMS-CSI	SGSN	NULL, 4
GPRS-CSI Negotiated CAMEL Capability Handling	GPRS-CSI	SGSN	NULL, 3

There is no *negotiated CAMEL Capability Handling* variable associated with TIF-CSI.

The HLR does not store a *Negotiated CAMEL Capability Handling* for CSIs that are sent to the GMSC, since a subscriber is not permanently registered in a GMSC.

2.14.2.2 Supported CAMEL Phases

The HLR shall store the supported CAMEL Phases of the VLR where the subscriber is currently registered and the SGSN where the subscriber is currently attached.

The following variables are required:

- VLR Supported CAMEL Phases
- SGSN Supported CAMEL Phases

The HLR does not store the Supported CAMEL Phases of the GMSC, since a subscriber is not permanently registered at a GMSC.

2.14.2.2A ~~Supported Offered CAMEL4 Subsets~~CSIs

The HLR shall store the ~~supported offered CAMEL4 Subsets~~CSIs of the VLR where the subscriber is currently registered and the SGSN where the subscriber is currently attached.

The following variables are required:

- VLR ~~Supported Offered CAMEL4 Subsets~~CSIs
- SGSN ~~Supported Offered CAMEL4 Subsets~~CSIs

The HLR does not store the ~~Supported-Offered~~ CAMEL4 ~~Subsets~~ CSIs of the GMSC, since a subscriber is not permanently registered at a GMSC.

2.14.2.3 UG-CSI

The USSD general CAMEL service(UG-CSI) is also stored in the HLR. This data is used on USSD request receipt from the MS. It consists of a list of:

- a service code. The service code defines a specific application in the gsmSCF;
- a gsmSCFaddress. It is the gsmSCF address (E.164 number) where the USSD application is treated for this subscriber.

2.14.2.4 gsmSCF address for CSI

This information element contains the list of gsmSCF address(E164 address) to which Notification on Change of Subscriber Data is to be sent.

— Next modified section —

5.1 Non-GPRS Network Access Mode Data Storage

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

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE
IMSI	2.1.1.1	M	M	P
Network Access Mode	2.1.1.2	M	-	P
International MS ISDN number	2.1.2	M	M	P
multinumbering MSISDNs	2.1.3	C	-	P
Basic MSISDN indicator	2.1.3.1	C	-	P
MSISDN-Alert indicator	2.1.3.2	C	-	P
TMSI	2.1.4	-	C	T
LMSI	2.1.8	C	C	T
Mobile Station Category	2.2.1	M	M	P
LMU Identifier	2.2.2	C	C	P
RAND, SRES and Kc	2.3.1	-	C	T
RAND, XRES, CK, IK and AUTN	2.3.2	M	C	T
Ciphering Key Sequence Number	2.3.3	-	M	T
Key Set Identifier (KSI)	2.3.4	-	M	T
MSRN	2.4.1	-	C	T
Location Area Identity	2.4.2	-	M	T
VLR number	2.4.5	M	-	T
MSC number	2.4.6	M	C	T
HLR number	2.4.7	-	C	T
Subscription restriction	2.4.10	C	-	P
RSZI lists	2.4.11.1	C	-	P
Zone Code List	2.4.11.2	-	C	P
MSC area restricted flag	2.4.12	M	-	T
LA not allowed flag	2.4.13	-	M	T
ODB-induced barring data	2.4.15.1	C	-	T
Roaming restriction due to unsupported feature	2.4.15.2	M	M	T
Cell Global ID or Service Area ID	2.4.16	-	C	T
LSA Identity	2.4.17.1	C	C	P
LSA Priority	2.4.17.2	C	C	P
LSA Preferential Access Indicator	2.4.17.2A	C	C	P
LSA Active Mode Support Indicator	2.4.17.2B	C	C	P
LSA Only Access Indicator	2.4.17.3	C	C	P
LSA Active Mode Indicator	2.4.17.4	C	C	P
VPLMN Identifier	2.4.17.5	C	-	P
Provision of bearer service	2.5.1	M	M	P
Provision of teleservice	2.5.2	M	M	P
BC allocation	2.5.3	C	C	P
IMSI detached flag	2.7.1	-	C	T
Confirmed by Radio Contact indicator	2.7.4.1	-	M	T
Subscriber Data Confirmed by HLR indicator	2.7.4.2	-	M	T
Location Information Confirmed in HLR indicator	2.7.4.3	-	M	T
Check SS indicator	2.7.4.4	M	-	T
MS purged for non-GPRS flag	2.7.5	M	-	T
MNRR	2.7.7	C	-	T
Subscriber status	2.8.1	C	C	P
Barring of outgoing calls	2.8.2.1	C	C	P
Barring of incoming calls	2.8.2.2	C	-	P
Barring of roaming	2.8.2.3	C	-	P
Barring of premium rate calls	2.8.2.4	C	C	P
Barring of supplementary service management	2.8.2.5	C	C	P
Barring of registration of call forwarding	2.8.2.6	C	-	P
Barring of invocation of call transfer	2.8.2.7	C	C	P
Operator determined barring PLMN-specific data	2.8.3	C	C	P
Notification to CSE flag for ODB	2.8.4	C	-	T
gsmSCF address list for ODB	2.8.5	C	-	P
Handover Number	2.9.1	-	C	T
Messages Waiting Data	2.10.1	C	-	T
Mobile Station Not Reachable Flag	2.10.2	C	M	T
Memory Capacity Exceeded Flag	2.10.3	C	-	T

PARAMETER	SUBCLAUSE	HLR	VLR	TYPE
Trace Reference	2.11.1	C	C	P
Trace Type	2.11.2	C	C	P
Operations Systems Identity	2.11.3	C	C	P
HLR Trace Type	2.11.4	C	-	P
MAP Error On Trace	2.11.5	C	-	T
Trace Activated in VLR	2.11.6	C	C	T
Foreign Subscriber Registered in VLR	2.11.7	-	C	P
VGCS Group Membership List	2.12.1	C	C	P
VBS Group Membership List	2.12.2	C	C	P
Broadcast Call Initiation Allowed List	2.12.2.1	C	C	P
Originating CAMEL Subscription Information (O-CSI)	2.14.1.1/3.1	C	C	P
Terminating CAMEL Subscription Information (T-CSI)	2.14.1.2	C	-	P
VMSC Terminating CAMEL Subscription Information (VT-CSI)	2.14.1.2/3.2	C	C	P
Location Information/Subscriber state Information	2.14.1.3	C	-	P
USSD CAMEL subscription information(U-CSI)	2.14.1.4	C	-	P
SS invocation notification (SS-CSI)	2.14.1.5/3.2	C	C	P
Translation information flag(TIF-CSI)	2.14.1.6/3.6	C	C	P
Dialled service CAMEL Subscription Information (D-CSI)	2.14.1.11/3.7	C	C	P
USSD General CAMEL service information (UG-CSI)	2.14.2.4	C	-	P
O-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
SS-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
VT-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
Short Message Service CAMEL Subscription Information(MO-SMS-CSI)	2.14.1.8/2.14.3.5	C	C	P
Short Message Service CAMEL Subscription Information(MT-SMS-CSI)	2.14.1.9/2.14.3.6	C	C	P
MO-SMS-CSI VLR Negotiated CAMEL Capability Handling	2.14.2.1	C		T
MT-SMS-CSI VLR Negotiated CAMEL Capability Handling	2.14.2.1	C		P
M-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C		T
VLR Supported CAMEL Phases	2.14.2.3	C		T
GsmSCF address for CSI	2.14.2.4	C		P
VLR Supported Offered CAMEL4 Subsets CSIs	2.14.2.2A	C		T
IST Alert Timer	2.15.1	C	C	P
Privacy Exception List	2.16.1.1	C	C	P
GMLC Numbers	2.16.1.2	C	C	P
MO-LR List	2.16.1.3	C	C	P
Service Types	2.16.1.4	C	C	P
Codeword Handling Information	2.16.1.5	C		P
Age Indicator	2.17.1	C	C	T
CS Allocation/Retention priority	2.18.1	C	C	P

— Next modified section —

5.2 GPRS Network Access Mode Storage

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

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
IMSI	2.1.1.1	M	M	M	M	P
Network Access Mode	2.1.1.2	M	-	C note1	-	P
International MS ISDN number	2.1.2	M	M	M	M	T
multinumering MSISDNs	2.1.3	C	-	-	-	T
Basic MSISDN indicator	2.1.3.1	C	-	-	-	T
MSISDN-Alert indicator	2.1.3.2	C	-	-	-	T
P-TMSI	2.1.5	-	-	C	-	T
TLLI	2.1.6	-	-	C	-	T
Random TLLI	2.1.7	-	-	C	-	T
IMEI	2.1.9	-	-	C	-	T
RAND/SRES and Kc	2.3.1	-	-	C	-	T
RAND, XRES, CK, IK, AUTN	2.3.2	M	-	C	-	T
Ciphering Key Sequence Number	2.3.3	-	-	M	-	T
Key Set Identifier (KSI)	2.3.4	-	-	M	-	T
Selected Ciphering Algorithm	2.3.5	-	-	M	-	T
Current Kc	2.3.6	-	-	M	-	T
P-TMSI Signature	2.3.7	-	-	C	-	T
Routing Area Identity	2.4.3	-	-	M	-	T
VLR Number	2.4.5	M	-	C note2	-	T
SGSN Number	2.4.8.1	M	C note2	-	-	T
GGSN Number	2.4.8.2	M	-	-	-	P
RSZI Lists	2.4.11.1	C	-	-	-	P
Zone Code List	2.4.11.2	-	-	C	-	P
LA not allowed flag	2.4.13	-	-	M	-	T
SGSN area restricted flag	2.4.14	M	-	-	-	T
Roaming Restriction in the SGSN ..	2.4.15.2	M	-	M	-	T
Cell Global ID or Service Area ID	2.4.16	-	-	C	-	T
LSA Identity	2.4.17.1	C	C	C	-	P
LSA Priority	2.4.17.2	C	C	C	-	P
LSA Preferential Access Indicator	2.4.17.2A	C	C	C	-	P
LSA Active Mode Support Indicator	2.4.17.2B	C	C	C	-	P
LSA Only Access Indicator	2.4.17.3	C	C	C	-	P
LSA Active Mode Indicator	2.4.17.4	C	C	C	-	P
VPLMN Identifier	2.4.17.5	C	-	-	-	P
Provision of teleservice	2.5.2	C	-	C	-	P
Transfer of SM option	2.5.4	M	-	-	-	P
MNRG	2.7.2	M	-	M	M	T
MM State	2.7.3	-	-	M	-	T
Subscriber Data Confirmed by HLR Indicator	2.7.4.2	-	-	M	-	T
Location Info Confirmed by HLR Indicator	2.7.4.3	-	-	M	-	T
MS purged for GPRS flag	2.7.6	M	-	-	-	T
MNRR	2.7.7	C	-	-	-	T
Subscriber Status	2.8.1	C	-	C	-	P
Barring of outgoing calls	2.8.2.1	C	-	-	-	P
Barring of roaming	2.8.2.3	C	-	C	-	P
Barring of Packet Oriented Services	2.8.2.8	C	-	C	-	P
ODB PLMN-specific data	2.8.3	C	-	C	-	P
Notification to CSE flag for ODB	2.8.4	C	-	-	-	T
gsmSCF address list for ODB	2.8.5	C	-	-	-	P
Trace Activated in SGSN	2.11.7	C	-	C	-	P
PDP Type	2.13.1	C	-	C	M	P
PDP Address	2.13.2	C	-	C	M	P
NSAPI	2.13.3	-	-	C	C	T
PDP State	2.13.4	-	-	C	-	T
New SGSN Address	2.13.5	-	-	C	-	T
Access Point Name	2.13.6	C	-	C	C	P/T
GGSN Address in Use	2.13.7	-	-	C	-	T
VPLMN Address Allowed	2.13.8	C	-	C	-	P
Dynamic Address	2.13.9	-	-	-	C	T

PARAMETER	Subclause	HLR	VLR	SGSN	GGSN	TYPE
SGSN Address	2.13.10	-	-	-	M	T
GGSN-list	2.13.11	M	-	-	-	T
Quality of Service Subscribed	2.13.12	C	-	C	-	P
Quality of Service Requested	2.13.13	-	-	C	-	T
Quality of Service Negotiated	2.13.14	-	-	C	M	T
SND	2.13.15	-	-	C	C	T
SNU	2.13.16	-	-	C	C	T
DRX Parameters	2.13.17	-	-	M	-	T
Compression	2.13.18	-	-	C	-	T
NGAF	2.13.19	-	-	C note2	-	T
Classmark	2.13.20	-	-	M	-	T
TEID	2.13.21	-	-	C	C	T
Radio Priority	2.13.22	-	-	C	-	T
Radio Priority SMS	2.13.23	-	-	C	-	T
PDP Context Identifier	2.13.24	C	-	C	-	T
PDP Context Charging Characteristics	2.13.25	C	-	C	C	P
GPRS CAMEL Subscription Information (GPRS-CSI)	2.14.1.10/2.14.4.4	C	-	C	-	C
MO Short Message Service CAMEL Subscription Information(MO-SMS-CSI)	2.14.1.8/2.14.4.1	C	-	C	-	C
MT Short Message Service CAMEL Subscription Information(MT-SMS-CSI)	2.14.1.9/2.14.4.2	C	-	C	-	C
MO-SMS-CSI SGSN Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	P
MT-SMS-CSI SGSN Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	P
Mobility Management for GPRS event notification (MG-CSI)	2.14.1.12/2.14.4.4	C	-	C	-	C
MG-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	P
GPRS-CSI Negotiated CAMEL Capability Handling	2.14.2.1	C	-	-	-	T
SGSN Supported CAMEL Phases	2.14.2.3	C	-	-	-	T
SGSN Supported Offered CAMEL4 Subsets CSIs	2.14.2.2A	C	-	-	-	T
GsmSCF address for CSI	2.14.2.4	C	-	-	-	P
Age Indicator	2.16.1	C	-	C	-	T
Subscribed Charging Characteristics	2.19.1	C	-	C	C	P
Privacy Exception List	2.16.1.1	C	-	C	-	P
GMLC Numbers	2.16.1.2	C	-	C	-	P
MO-LR List	2.16.1.3	C	-	C	-	P
Service Types	2.16.1.4	C	-	C	-	P
Codeword Handling Information	2.16.1.5	C	-	-	-	P

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

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

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

For special condition of storage see in clause 2. See clause 3 for explanation of M, C, T and P in table 2.

3GPP TSG CN WG2 Meeting #15
Helsinki, Finland, 29th July – 2nd August 2002

N4-021094

N2-021092 rev

3GPP TSG CN WG2 Meeting #25
Helsinki, Finland, 29th July – 2nd August 2002

N2-020787

N2-020776 rev

CR-Form-v7

CHANGE REQUEST

⌘ **29.002 CR 479** ⌘ rev **2** ⌘ Current version: **5.2.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Handling of partial implementations of CAMEL phase 4		
Source:	⌘ CN4		
Work item code:	⌘ CAMEL4	Date:	⌘ 01/08/2002
Category:	⌘ C Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Release:	⌘ Rel-5 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

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Summary of change:	⌘ Modification of the new parameters for the handling of "supported CAMEL 4 subsets" such that they handle now the "partial CAMEL implementations" by an entity. Note: Used terms in respect to the old "CAMEL phase 4 subsets" concept: - general: "partial implementation of CAMEL Phase 4"
Consequences if not approved:	⌘ The Handling of partial implementations of CAMEL phase 4 as indicated in Rel-5 CAMEL stage 1 22.078 is not possible.

Clauses affected:	⌘ 7.6, 7.6.3.36B, 7.6.3.36C, 7.6.3.36D, 7.6.3.36E, 7.6.3.36F, 7.6.3.36G, 8.1.2.2, 8.1.2.3, 8.1.7.2, 8.1.7.3, 8.1.8.2, 8.1.8.3, 8.8.1.2, 8.8.1.3, 8.10.3.2, 8.10.3.3, 8.11.3.2, 10.1.2, 10.1.3, 10.2.2, 10.2.3, 17.7.1, 17.7.3						
Other specs affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Rel-5 23.008-CR056, Rel-5 23.078-CR416, Rel-5 29.078-CR258 Test specifications	Y	N	X			X
Y	N						
X							
	X						

O&M Specifications

Other comments: ☼

7.6 Definition of parameters

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

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

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

Absent Subscriber Diagnostic SM	7.6.8.9	Invoke Id	7.6.1.1
Access connection status	7.6.9.3	ISDN Bearer Capability	7.6.3.41
		IST Alert Timer	7.6.3.66
		IST Information Withdrawn	7.6.3.68
		IST Support Indicator	7.6.3.69
		LCS Codeword	7.6.11.18
		LCS Codeword Applicability	7.6.11.19
		LCS Information	7.6.3.60
		LCS Service Type Id	7.6.11.15
		LCS Codeword Notification	7.6.11.22
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		Long Forwarded-to Number	7.6.2.22A
Age Indicator	7.6.3.72	Long FTN Supported	7.6.2.22B
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Alert Reason	7.6.8.8	LSA Information	7.6.3.56
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B subscriber Number	7.6.2.48	MSC number	7.6.2.11
B subscriber subaddress	7.6.2.49	MSISdn-Alert	7.6.2.29
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Extensible Forwarding info	7.6.3.15	SM-RP-MTI	7.6.8.16
Extensible Forwarding information for CSE	7.6.3.80	SM-RP-OA	7.6.8.2
Extensible Forwarding Options	7.6.3.18	SM-RP-PRI	7.6.8.5
Extensible No reply condition timer	7.6.3.19	SM-RP-SMEA	7.6.8.17
Extensible QoS-Subscribed	7.6.3.74	SM-RP-UI	7.6.8.4
Extensible SS-Data	7.6.3.29	Sres	7.6.7.3
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— Next modified section —

7.6.3 Subscriber management parameters

...

7.6.3.36 Supported CAMEL Phases in the VLR

This parameter indicates which phases of CAMEL are supported in the VLR.

7.6.3.36A Supported CAMEL Phases in the SGSN

This parameter indicates which phases of CAMEL are supported in the SGSN.

7.6.3.36B ~~Supported~~Offered CAMEL4 Subsets CSIs in the VLR

This parameter indicates which ~~subsets~~CSIs of CAMEL phase 4 are ~~supported~~offered in the VLR as defined in 3GPP TS 23.078.

7.6.3.36C ~~Supported~~Offered CAMEL4 Subsets CSIs in the SGSN

This parameter indicates which ~~subsets~~CSIs of CAMEL phase 4 are ~~supported~~offered in the SGSN as defined in 3GPP TS 23.078.

7.6.3.36D ~~Supported~~Offered CAMEL4 Subsets CSIs

This parameter indicates which ~~subsets~~CSIs of CAMEL phase 4 are ~~supported~~offered as defined in 3GPP TS 23.078.

7.6.3.36E ~~Supported~~Offered CAMEL4 Subsets CSIs in GMSC

This parameter indicates which ~~subsets~~CSIs of CAMEL phase 4 are ~~supported~~offered in the GMSC as defined in 3GPP TS 23.078.

7.6.3.36F ~~Supported~~Offered CAMEL4 Subsets CSIs in VMSC

This parameter indicates which ~~subsets~~CSIs of CAMEL phase 4 are ~~supported~~offered in the VMSC as defined in 3GPP TS 23.078.

7.6.3.36G Offered CAMEL4 Functionalities

This parameter indicates which functionalities of CAMEL phase 4 are offered as defined in 3GPP TS 23.078.

...

— Next modified section —

8.1.2 MAP_UPDATE_LOCATION service

...

8.1.2.2 Service primitives

Table 8.1/2: MAP_UPDATE_LOCATION

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
IMSI	M	M(=)		
MSC Address	M	M(=)		
VLR number	M	M(=)		
LMSI	U	C(=)		
Supported CAMEL Phases	C	C(=)		
SoLSA Support Indicator	C	C(=)		
IST Support Indicator	C	C(=)		
Super-Charger Supported in Serving Network Entity	C	C(=)		
Long FTN Supported	C	C(=)		
Supported LCS Capability Sets	C	C(=)		
Supported <u>Offered</u> CAMEL 4 Subsets CSIs	C	C(=)		
Inform Previous Network Entity	C	C(=)		
CS LCS Not Supported by UE	C	C(=)		
HLR number			C	C(=)
User error			C	C(=)
Provider error				O

8.1.2.3 Parameter definitions and use

...

~~Supported~~Offered CAMEL 4 Subsets~~CSIs~~

This parameter indicates the CAMEL phase 4 ~~subsetsCSIs supported-offered~~ in the VMSC/VLR (see clause 7.6.3.36D).

...

— Next modified section —

8.1.7 MAP_UPDATE_GPRS_LOCATION service

...

8.1.7.2 Service primitives

Table 8.1/7: MAP_UPDATE_GPRS_LOCATION

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
IMSI	M	M(=)		
SGSN number	M	M(=)		
SGSN address	M	M(=)		
Supported CAMEL Phases	C	C(=)		
SoLSA Support Indicator	C	C(=)		
Super-Charger Supported in Serving Network Entity	C	C(=)		
GPRS enhancements support indicator	C	C(=)		
Supported LCS Capability Sets	C	C(=)		
Supported-Offered CAMEL 4 SubsetsCSIs	C	C(=)		
Inform Previous Network Entity	C	C(=)		
PS LCS Not Supported by UE	C	C(=)		
HLR number			C	C(=)
User error			C	C(=)
Provider error				O

8.1.7.3 Parameter definitions and use

...

~~Supported-Offered CAMEL 4 SubsetsCSIs~~

This parameter indicates the CAMEL phase 4 ~~subsetsCSIs supported-offered~~ in the SGSN (see clause 7.6.3.36D).

...

— Next modified section —

8.1.8 MAP-NOTE-MM-EVENT

...

8.1.8.2 Service primitives

The service primitives are shown in table 8.1/8.

Table 8.1/8: MAP_NOTE_MM_EVENT parameters

Parameter name	Request	Indication	Response	Confirm
Invoke id	M	M(=)	M(=)	M(=)
Event Met	M	M(=)		
Service Key	M	M(=)		
IMSI	M	M(=)		
Basic MSISDN	M	M(=)		

Location Information for GPRS	C	C(=)		
Location Information	C	C(=)		
LSA Identity	C	C(=)		
Supported CAMEL Phases	M	M(=)		
Supported CAMEL 4 Subsets	G	G(=)		
Offered CAMEL 4 Functionalities	C	C(=)		
User error			C	C(=)
Provider error				O

8.1.8.3 Parameter use

...

Supported Offered CAMEL 4 Subsets

This parameter indicates the CAMEL phase 4 subsets supported by the sending entity, VMSC/VLR or SGSN (see clause 7.6.3.36D).

Offered CAMEL 4 Functionalities

This parameter indicates the CAMEL phase 4 functionalities offered by the sending entity, VMSC/VLR or SGSN (see clause 7.6.3.36G).

...

— Next modified section —

8.8.1 MAP-INSERT-SUBSCRIBER-DATA service

...

8.8.1.2 Service primitives

Table 8.8/1: MAP-INSERT-SUBSCRIBER-DATA

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
IMSI	C	C(=)		
MSISDN	C	C(=)		
Category	C	C(=)		
Subscriber Status	C	C(=)		
Bearer service List	C	C(=)	C	C(=)
Teleservice List	C	C(=)	C	C(=)
Forwarding information List	C	C(=)		
Call barring information List	C	C(=)		
CUG information List	C	C(=)		
SS-Data List	C	C(=)		
eMLPP Subscription Data	C	C(=)		
MC-Subscription Data	C	C(=)		
Operator Determined Barring General data	C	C(=)	C	C(=)
Operator Determined Barring HPLMN data	C	C(=)		
Roaming Restriction Due To Unsupported Feature	C	C(=)		
Regional Subscription Data	C	C(=)		
VLR CAMEL Subscription Info	C	C(=)		
Voice Broadcast Data	C	C(=)		
Voice Group Call Data	C	C(=)		
Network access mode	C	C(=)		
GPRS Subscription Data	C	C(=)		
Roaming Restricted In SGSN Due To Unsupported Feature	C	C(=)		

Parameter name	Request	Indication	Response	Confirm
North American Equal Access preferred Carrier Id List	U	C(=)		
SGSN CAMEL Subscription Info	C	C(=)		
LSA Information	C	C(=)		
IST Alert Timer	C	C(=)		
SS-Code List			C	C(=)
LMU Identifier	C	C(=)		
LCS Information	C	C(=)		
CS Allocation/Retention priority	C	C(=)		
Super-Charger Supported In HLR	C	C(=)		
Regional Subscription Response			C	C(=)
Supported CAMEL Phases			C	C(=)
Supported Offered CAMEL 4 SubsetsCSIs			C	C(=)
User error			U	C(=)
Provider error				O

CR Editor's Note: the parameter "Offered CAMEL 4 CSIs" and "User error" shall be in different lines of cells in the table.

8.8.1.3 Parameter use

...

~~Supported Offered CAMEL 4 SubsetsCSIs~~

This parameter indicates the CAMEL phase 4 ~~subsetsCSIs supported-offered~~ in the VMSC/VLR or SGSN (see clause 7.6.3.36D).

...

— Next modified section —

8.10.3 MAP_RESTORE_DATA service

...

8.10.3.2 Service primitives

Table 8.10/3: MAP_RESTORE_DATA

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
IMSI	M	M(=)		
LMSI	U	C(=)		
Supported CAMEL phases	C	C(=)		
SoLSA Support Indicator	C	C(=)		
IST Support Indicator	C	C(=)		
Super-Charger Supported in Serving Network Entity	C	C(=)		
Long FTN Supported	C	C(=)		
Supported LCS Capability Sets	C	C(=)		
HLR number			C	C(=)
Supported Offered CAMEL 4 SubsetsCSIs	C	C(=)		
MS Not Reachable Flag			C	C(=)
User error			C	C(=)
Provider error				O

8.10.3.3 Parameter definitions and use

...

~~Supported-Offered CAMEL 4 Subsets~~CSIs

This parameter indicates the CAMEL phase 4 ~~subsets~~CSIs ~~supported-offered~~ in the VMSC/VLR (see clause 7.6.3.36D).

...

— Next modified section —

8.11.3 MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION service

...

8.11.3.2 Service primitives

Table 8.11/3: Any_Time_Subscription_Interrogation

Parameter name	Request	Indication	Response	Confirm
Invoke id	M	M(=)	M(=)	M(=)
Requested Subscription Info	M	M(=)		
GsmSCF-Address	M	M(=)		
IMSI	C	C(=)		
MSISDN	C	C(=)		
Long FTN Supported	C	C(=)		
Call Forwarding Data			C	C(=)
Call Barring Data			C	C(=)
ODB Info			C	C(=)
CAMEL Subscription Info			C	C(=)
Supported CAMEL phases in VLR			C	C(=)
Supported CAMEL phases in SGSN			C	C(=)
Supported-Offered CAMEL 4 Subsets CSIs in VLR			C	C(=)
Supported-Offered CAMEL 4 Subsets CSIs in SGSN			C	C(=)
User error			C	C(=)
Provider error				O

...

— Next modified section —

10.1 MAP_SEND_ROUTING_INFORMATION service

...

10.1.2 Service primitives

Table 10.1/1: MAP_SEND_ROUTING_INFORMATION parameters

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
Interrogation Type	M	M(=)		
GMSC or gsmSCF Address	M	M(=)		
MSISDN	M	M(=)	C	C(=)
OR Interrogation	C	C(=)		
OR Capability	C	C(=)		
CUG Interlock	C	C(=)	C	C(=)
CUG Outgoing Access	C	C(=)	C	C(=)
Number of Forwarding	C	C(=)		
Network Signal Info	C	C(=)		
Supported CAMEL Phases	C	C(=)	C	C(=)

Parameter name	Request	Indication	Response	Confirm
Suppress T-CSI	C	C(=)		
Supported Offered CAMEL 4 Subsets CSIs	C	C(=)		
Suppression of Announcement	C	C(=)		
Call Reference Number	C	C(=)		
Forwarding Reason	C	C(=)		
Basic Service Group	C	C(=)		
Alerting Pattern	C	C(=)		
CCBS Call	C	C(=)		
Supported CCBS Phase	C	C(=)		
Additional Signal Info	C	C(=)		
IST Support Indicator	C	C(=)		
Pre-paging supported	C	C(=)		
Call Diversion Treatment Indicator	C	C(=)		
Long FTN Supported	C	C(=)		
Suppress VT-CSI	C	C(=)		
Suppress Incoming Call Barring	C	C(=)		
gsmSCF Initiated Call	C	C(=)		
IMSI			C	C(=)
MSRN			C	C(=)
Forwarding Data			C	C(=)
Forwarding Interrogation Required			C	C(=)
VMSC address			C	C(=)
GMSC Camel Subscription Info			C	C(=)
Location Information			C	C(=)
Subscriber State			C	C(=)
Basic Service Code			C	C(=)
CUG Subscription Flag			C	C(=)
North American Equal Access preferred			U	C(=)
Carrier Id				
User error			C	C(=)
SS-List			U	C(=)
CCBS Target			C	C(=)
Keep CCBS Call Indicator			C	C(=)
IST Alert Timer			C	C(=)
Number Portability Status			U	C(=)
Supported CAMEL Phases in VMSC			C	
Supported Offered CAMEL 4 Subsets CSIs in VMSC			C	C(=)
Provider error				O

CR Editor's Note: the parameter "Offered CAMEL 4 CSIs" and "Suppression of Announcement" shall be in different lines of cells in the table.

10.1.3 Parameter use

...

~~Supported~~ Offered CAMEL 4 ~~Subsets~~ CSIs

This parameter indicates the CAMEL phase 4 ~~subsets~~ CSIs supported-offered in the GMSC/VLR (see clause 7.6.3.36D).

...

~~Supported~~ Offered CAMEL 4 ~~Subsets~~ CSIs in VMSC

This parameter is defined in clause 7.6.3.36F.

...

10.2 MAP_PROVIDE_ROAMING_NUMBER service

...

10.2.2 Service primitives

Table 10.2/1: MAP_PROVIDE_ROAMING_NUMBER parameters

Parameter name	Request	Indication	Response	Confirm
Invoke Id	M	M(=)	M(=)	M(=)
IMSI	M	M(=)		
MSC Number	M	M(=)		
MSISDN	U	C(=)		
LMSI	C	C(=)		
GSM Bearer Capability	C	C(=)		
Network Signal Info	C	C(=)		
Suppression Of Announcement	C	C(=)		
Call Reference Number	C	C(=)		
GMSC Address	C	C(=)		
OR Interrogation	C	C(=)		
OR Not Supported in GMSC	C	C(=)		
Alerting Pattern	C	C(=)		
CCBS Call	C	C(=)		
Supported CAMEL Phases in GMSC	C	C(=)		
Additional Signal Info	C	C(=)		
Pre-paging supported	C	C(=)		
Long FTN Supported	C	C(=)		
Suppress VT-CSI	C	C(=)		
Roaming Number			C	C(=)
Supported-Offered CAMEL 4 SubsetsCSIs in GMSC	C	C(=)		
User error			C	C(=)
Provider error				O

10.2.3 Parameter use

...

~~Supported-Offered CAMEL 4 SubsetsCSIs in GMSC~~

This parameter is defined in clause 7.6.3.36E.

...

— Next modified section —

17.7 MAP constants and data types

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) version8 (8)}
```

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```
-- location registration types
UpdateLocationArg,
UpdateLocationRes,
```

```

CancelLocationArg,
CancelLocationRes,
PurgeMS-Arg,
PurgeMS-Res,
SendIdentificationArg,
SendIdentificationRes,
UpdateGprsLocationArg,
UpdateGprsLocationRes,
IST-SupportIndicator,
SupportedLCS-CapabilitySets,

-- gprs location registration types
GSN-Address,

-- handover types
ForwardAccessSignalling-Arg,
PrepareHO-Arg,
PrepareHO-Res,
PrepareSubsequentHO-Arg,
PrepareSubsequentHO-Res,
ProcessAccessSignalling-Arg,
SendEndSignal-Arg,
SendEndSignal-Res,

-- authentication management types
SendAuthenticationInfoArg,
SendAuthenticationInfoRes,
AuthenticationFailureReportArg,
AuthenticationFailureReportRes,

-- security management types
EquipmentStatus,
Kc,

-- subscriber management types
InsertSubscriberDataArg,
InsertSubscriberDataRes,
LSAIdentity,
DeleteSubscriberDataArg,
DeleteSubscriberDataRes,
Ext-QoS-Subscribed,
SubscriberData,
ODB-Data,
SubscriberStatus,
ZoneCodeList,
maxNumOfZoneCodes,
O-CSI,
D-CSI,
O-BcsmCamelTDPCriteriaList,
T-BCSM-CAMEL-TDP-CriteriaList,
SS-CSI,
ServiceKey,
DefaultCallHandling,
CamelCapabilityHandling,
BasicServiceCriteria,
SupportedCamelPhases,
SupportedCamel4SubsetsOfferedCamel4CSIs,
OfferedCamel4Functionalities,
maxNumOfCamelTDPData,
CUG-Index,
CUG-Info,
CUG-Interlock,
InterCUG-Restrictions,
IntraCUG-Options,
NotificationToMSUser,
QoS-Subscribed,
IST-AlertTimerValue,
T-CSI,
T-BcsmTriggerDetectionPoint,
APN,

-- fault recovery types
ResetArg,
RestoreDataArg,
RestoreDataRes,

```

```

-- provide subscriber info types
GeographicalInformation,
MS-Classmark2,
GPRSMSCClass,

-- subscriber information enquiry types
ProvideSubscriberInfoArg,
ProvideSubscriberInfoRes,
SubscriberInfo,
LocationInformation,
LocationInformationGPRS,
RAIdentity,
SubscriberState,
GPRSChargingID,

-- any time information enquiry types
AnyTimeInterrogationArg,
AnyTimeInterrogationRes,

-- any time information handling types
AnyTimeSubscriptionInterrogationArg,
AnyTimeSubscriptionInterrogationRes,
AnyTimeModificationArg,
AnyTimeModificationRes,

-- subscriber data modification notification types
NoteSubscriberDataModifiedArg,
NoteSubscriberDataModifiedRes,

-- gprs location information retrieval types
SendRoutingInfoForGprsArg,
SendRoutingInfoForGprsRes,

-- failure reporting types
FailureReportArg,
FailureReportRes,

-- gprs notification types
NoteMsPresentForGprsArg,
NoteMsPresentForGprsRes,

-- Mobility Management types
NoteMM-EventArg,
NoteMM-EventRes

;

IMPORTS
maxNumOfSS,
SS-SubscriptionOption,
SS-List,
SS-ForBS-Code,
Password
FROM MAP-SS-DataTypes {
ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) map-SS-DataTypes (14) version8 (8)}

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

Ext-BearerServiceCode
FROM MAP-BS-Code {
ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) map-BS-Code (20) version8 (8)}

Ext-TeleserviceCode
FROM MAP-TS-Code {
ccitt identified-organization (4) etsi (0) mobileDomain (0)
gsm-Network (1) modules (3) map-TS-Code (19) version8 (8)}

AddressString,
ISDN-AddressString,
ISDN-SubaddressString,
FTN-AddressString,

```

```

AccessNetworkSignalInfo,
IMSI,
IMEI,
TMSI,
HLR-List,
LMSI,
Identity,
GlobalCellId,
CellGlobalIdOrServiceAreaIdOrLAI,
Ext-BasicServiceCode,
NAEA-PreferredCI,
EMLPP-Info,
MC-SS-Info,
SubscriberIdentity,
AgeOfLocationInformation,
LCSCClientExternalID,
LCSCClientInternalID,
Ext-SS-Status,
LCSServiceTypeID

```

```

FROM MAP-CommonDataTypes {
  ccitt identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-CommonDataTypes (18) version8 (8)}

```

ExtensionContainer

```

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

```

AbsentSubscriberDiagnosticSM

```

FROM MAP-ER-DataTypes {
  ccitt identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-ER-DataTypes (17) version8 (8)}

```

;

-- location registration types

...

VLR-Capability ::= SEQUENCE{		
supportedCamelPhases	[0] SupportedCamelPhases	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
...		
solsaSupportIndicator	[2] NULL	OPTIONAL,
istSupportIndicator	[1] IST-SupportIndicator	OPTIONAL,
superChargerSupportedInServingNetworkEntity	[3] SuperChargerInfo	OPTIONAL,
longFTN-Supported	[4] NULL	OPTIONAL,
supportedLCS-CapabilitySets	[5] SupportedLCS-CapabilitySets	OPTIONAL,
supportedCamel4SubsetsOfferedCamel4CSIs	[6] SupportedCamel4SubsetsOfferedCamel4CSIs	OPTIONAL }

...

SGSN-Capability ::= SEQUENCE{		
solsaSupportIndicator	NULL	OPTIONAL,
extensionContainer	[1] ExtensionContainer	OPTIONAL,
...		
superChargerSupportedInServingNetworkEntity	[2] SuperChargerInfo	OPTIONAL,
gprsEnhancementsSupportIndicator	[3] NULL	OPTIONAL,
supportedCamelPhases	[4] SupportedCamelPhases	OPTIONAL,
supportedLCS-CapabilitySets	[5] SupportedLCS-CapabilitySets	OPTIONAL,
supportedCamel4SubsetsOfferedCamel4CSIs	[6] SupportedCamel4SubsetsOfferedCamel4CSIs	OPTIONAL }

...


```

InsertSubscriberDataRes ::= SEQUENCE {
    teleserviceList          [1] TeleserviceList          OPTIONAL,
    bearerServiceList        [2] BearerServiceList        OPTIONAL,
    ss-List                  [3] SS-List                  OPTIONAL,
    odb-GeneralData          [4] ODB-GeneralData          OPTIONAL,
    regionalSubscriptionResponse [5] RegionalSubscriptionResponse OPTIONAL,
    supportedCamelPhases     [6] SupportedCamelPhases     OPTIONAL,
    extensionContainer       [7] ExtensionContainer       OPTIONAL,
    ... ,
    supportedCamel4SubsetsOfferedCamel4CSIs [8] SupportedCamel4SubsetsOfferedCamel4CSIs
    OPTIONAL }

```

...

```

SupportedCamel4SubsetsOfferedCamel4CSIs ::= BIT STRING {
    es-CallHandling          (0),
    echargingNotification    (1),
    eAMELControlOver-MT-SMS  (2),
    gprs-MobilityManagement  (3),
    gprs-AnyTimeInterrogation (4),
    o-csi                    (0),
    d-csi                     (1),
    vt-csi                    (2),
    t-csi                     (3),
    mt-sms-csi               (4),
    mg-csi                    (5),
    psi-enhancements         (6)
} (SIZE (57..16))
-- A node supporting Camel phase 4 shall mark in the BIT STRING all Camel4 subsets
-- CSIs it supports/offers.
-- Other values than listed above shall be discarded.

```

```

OfferedCamel4Functionalities ::= BIT STRING {
    ica-new-party            (0),
    split-leg                (1),
    move-leg                 (2),
    disconnect-leg           (3),
    entity-released          (4),
    dfc-with-argument        (5),
    play-tone                (6),
    dtmf-mid-call            (7),
    charging-indicator       (8),
    alerting-dp              (9),
    location-at-alerting     (10),
    change-of-position-dp    (11),
    or-interactions          (12),
    warning-tone-enhancements (13),
    cf-enhancements          (14)
} (SIZE (15..32))
-- A node supporting Camel phase 4 shall mark in the BIT STRING all Camel4
-- functionalities it offers.
-- Other values than listed above shall be discarded.

```

...

```

AnyTimeSubscriptionInterrogationRes ::= SEQUENCE {
    callForwardingData       [1] CallForwardingData       OPTIONAL,
    callBarringData          [2] CallBarringData          OPTIONAL,
    odb-Info                  [3] ODB-Info                  OPTIONAL,
    camel-SubscriptionInfo    [4] CAMEL-SubscriptionInfo    OPTIONAL,
    supportedVLR-CAMEL-Phases [5] SupportedCamelPhases    OPTIONAL,
    supportedSGSN-CAMEL-Phases [6] SupportedCamelPhases    OPTIONAL,
    extensionContainer        [7] ExtensionContainer        OPTIONAL,
    ... ,
    supportedCamel4SubsetsOfferedCamel4CSIsInVLR [8] SupportedCamel4SubsetsOfferedCamel4CSIs
    OPTIONAL,
    supportedCamel4SubsetsOfferedCamel4CSIsInSGSN [9] SupportedCamel4SubsetsOfferedCamel4CSIs
    OPTIONAL }

```

...

-- mobility management event notification info types

```

NoteMM-EventArg::= SEQUENCE {
    serviceKey                ServiceKey,
    eventMet                  [0] MM-Code,
    imsi                      [1] IMSI,
    msisdn                    [2] ISDN-AddressString,
    locationInformation       [3] LocationInformation OPTIONAL,
    supportedCAMELPhases     [5] SupportedCamelPhases OPTIONAL,
    extensionContainer        [6] ExtensionContainer OPTIONAL,
    . . . ,
    locationInformationGPRS   [7] LocationInformationGPRS OPTIONAL,
    supportedCamel4Subsets    [8] SupportedCamel4Subsets OPTIONAL,
    offeredCamel4Functionalities [8] OfferedCamel4Functionalities OPTIONAL
}

```

...

END

— Next modified section —

17.7.3 Call handling data types

```

MAP-CH-DataTypes {
    ccitt identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-CH-DataTypes (13) version8 (8)}

```

DEFINITIONS

IMPLICIT TAGS

::=

BEGIN

EXPORTS

```

    SendRoutingInfoArg,
    SendRoutingInfoRes,
    ProvideRoamingNumberArg,
    ProvideRoamingNumberRes,
    ResumeCallHandlingArg,
    ResumeCallHandlingRes,
    NumberOfForwarding,
    SuppressionOfAnnouncement,
    CallReferenceNumber,
    ProvideSIWFSNumberArg,
    ProvideSIWFSNumberRes,
    SIWFSSignallingModifyArg,
    SIWFSSignallingModifyRes,
    SetReportingStateArg,
    SetReportingStateRes,
    StatusReportArg,
    StatusReportRes,
    RemoteUserFreeArg,
    RemoteUserFreeRes,
    IST-AlertArg,
    IST-AlertRes,
    IST-CommandArg,
    IST-CommandRes
;

```

IMPORTS

```

    SubscriberInfo,
    SupportedCamelPhases,
    SupportedCamel4SubsetsOfferedCamel4CSIs,
    CUG-Interlock,
    O-C SI,
    D-C SI,
    O-BcsmCamelTDPCriteriaList,
    T-BCSM-CAMEL-TDP-CriteriaList,
    IST-SupportIndicator,
    IST-AlertTimerValue,
    T-C SI

```

```

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

ForwardingOptions,
SS-List,
CCBS-Feature
FROM MAP-SS-DataTypes {
  ccitt identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-SS-DataTypes (14) version8 (8)}

ISDN-AddressString,
ISDN-SubaddressString,
FTN-AddressString,
ExternalSignalInfo,
Ext-ExternalSignalInfo,
IMSI,
LMSI,
Ext-BasicServiceCode,
AlertingPattern,
NAEA-PreferredCI

FROM MAP-CommonDataTypes {
  ccitt identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-CommonDataTypes (18) version8 (8)}

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

```

...

```

SendRoutingInfoRes ::= [3] SEQUENCE {
  imsi [9] IMSI OPTIONAL,
  -- IMSI must be present if SendRoutingInfoRes is not segmented.
  -- If the TC-Result-NL segmentation option is taken the IMSI must be
  -- present in one segmented transmission of SendRoutingInfoRes.
  extendedRoutingInfo ExtendedRoutingInfo OPTIONAL,
  cug-CheckInfo [3] CUG-CheckInfo OPTIONAL,
  cugSubscriptionFlag [6] NULL OPTIONAL,
  subscriberInfo [7] SubscriberInfo OPTIONAL,
  ss-List [1] SS-List OPTIONAL,
  basicService [5] Ext-BasicServiceCode OPTIONAL,
  forwardingInterrogationRequired [4] NULL OPTIONAL,
  vmsc-Address [2] ISDN-AddressString OPTIONAL,
  extensionContainer [0] ExtensionContainer OPTIONAL,
  ... ,
  naea-PreferredCI [10] NAEA-PreferredCI OPTIONAL,
  -- naea-PreferredCI is included at the discretion of the HLR operator.
  ccbs-Indicators [11] CCBS-Indicators OPTIONAL,
  msisdn [12] ISDN-AddressString OPTIONAL,
  numberPortabilityStatus [13] NumberPortabilityStatus OPTIONAL,
  istAlertTimer [14] IST-AlertTimerValue OPTIONAL,
  supportedCamelPhasesInVMSC [15] SupportedCamelPhases OPTIONAL,
  supportedCamel4SubsetsOfferedCamel4CSIsInVMSC [16]
  SupportedCamel4SubsetsOfferedCamel4CSIs OPTIONAL
}

```

...

```

ProvideRoamingNumberArg ::= SEQUENCE {
    imsi [0] IMSI,
    msc-Number [1] ISDN-AddressString,
    msisdn [2] ISDN-AddressString OPTIONAL,
    lmsi [4] LMSI OPTIONAL,
    gsm-BearerCapability [5] ExternalSignalInfo OPTIONAL,
    networkSignalInfo [6] ExternalSignalInfo OPTIONAL,
    suppressionOfAnnouncement [7] SuppressionOfAnnouncement OPTIONAL,
    gmsc-Address [8] ISDN-AddressString OPTIONAL,
    callReferenceNumber [9] CallReferenceNumber OPTIONAL,
    or-Interrogation [10] NULL OPTIONAL,
    extensionContainer [11] ExtensionContainer OPTIONAL,
    ... ,
    alertingPattern [12] AlertingPattern OPTIONAL,
    ccbs-Call [13] NULL OPTIONAL,
    supportedCamelPhasesInGMSC [15] SupportedCamelPhases OPTIONAL,
    additionalSignalInfo [14] Ext-ExternalSignalInfo OPTIONAL,
    orNotSupportedInGMSC [16] NULL OPTIONAL,
    pre-pagingSupported [17] NULL OPTIONAL,
    longFTN-Supported [18] NULL OPTIONAL,
    suppress-VT-CSI [19] NULL OPTIONAL,
    supportedCamel4SubsetsOfferedCamel4CSIsInGMSC [20]
SupportedCamel4SubsetsOfferedCamel4CSIs OPTIONAL
}

```

...

```

CamelInfo ::= SEQUENCE {
    supportedCamelPhases SupportedCamelPhases,
    suppress-T-CSI NULL OPTIONAL,
    extensionContainer ExtensionContainer OPTIONAL,
    ... ,
    supportedCamel4SubsetsOfferedCamel4CSIs [0] SupportedCamel4SubsetsOfferedCamel4CSIs
OPTIONAL }

```

...

END

— End —