

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

NP-040044

Source: TSG CN WG4
Title: Corrections on Location services release 98
Agenda item: 7.4
Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
09.02	A340	2	N4-040329	R98	Correction to Insert Subscriber Data message for LCS SS	F	7.14.0
29.002	705	2	N4-040330	R99	Correction to Insert Subscriber Data message for LCS SS	A	3.18.0
29.002	706	2	N4-040331	Rel-4	Correction to Insert Subscriber Data message for LCS SS	F	4.13.0
29.002	707	2	N4-040332	Rel-5	Correction to Insert Subscriber Data message for LCS SS	F	5.8.0
29.002	708	2	N4-040333	Rel-6	Correction to Insert Subscriber Data message for LCS SS	F	6.4.0
03.16	A046	2	N4-040334	R98	Correction to SS data for LCS SS	F	7.6.0
23.016	031	2	N4-040335	R99	Correction to SS data for LCS SS	A	3.9.0
23.016	032	2	N4-040336	Rel-4	Correction to SS data for LCS SS	A	4.3.0
23.016	033	2	N4-040337	Rel-5	Correction to SS data for LCS SS	A	5.2.0
23.016	034	2	N4-040338	Rel-6	Correction to SS data for LCS SS	A	6.0.0

CHANGE REQUEST

⌘ **03.16 CR A046** ⌘ rev **2** ⌘ Current version: **7.6.0** ⌘

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:	⌘ Correction to SS data for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 14/01/04
Category:	⌘ F	Release:	⌘ R98
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR to return those codes in the MAP Insert Subscriber Data Res message if the VLR does not support that particular Location Service SS. To accomplish this in the subscriber data management stage 2, the sending entity must be allowed to include LCS SS codes in the SS Data.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 4.5.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">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>	Y	N	X			X		X	Other core specifications	⌘ CR 09.02-A340
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

4 General on handling of subscriber information

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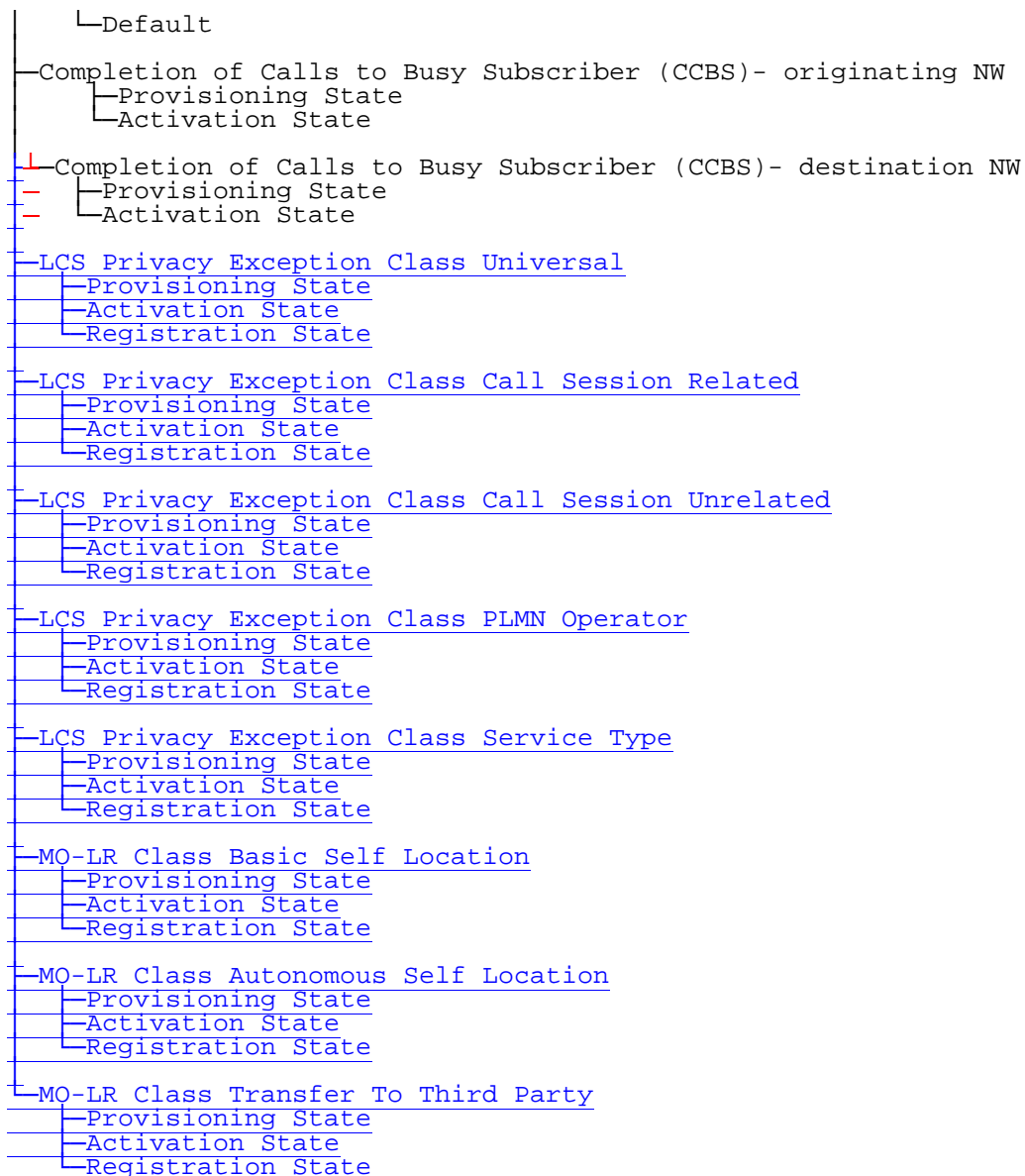
4.5 Handling of supplementary service data with respect to basic service data

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4.5.4 Consistency of supplementary service data

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- | Ã — Calling Line Identification Presentation (CLIP)
 - Provisioning State
 - Activation State
 - Override Category
- Calling Line Identification Restriction (CLIR)
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 - Provisioning State
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 - Override Category
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 - Provisioning State
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 - Maximum Entitled Priority



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 and GSM 03.71.

The codes below are used for the single purpose of enabling the visited network to notify the home network whether or not the particular Supplementary Service is supported. These codes are also included in the LCS Information parameter and the visited network shall use the codes in the LCS Information parameter, and only this parameter, to obtain the information needed for the LCS Supplementary Service.

- LCS Privacy Exception Class Universal
- LCS Privacy Exception Class Call Session Related
- LCS Privacy Exception Class Call Session Unrelated
- LCS Privacy Exception Class PLMN Operator
- LCS Privacy Exception Class Service Type
- MO-LR Class Basic Self Location
- MO-LR Class Autonomous Self Location
- MO-LR Class Transfer To Third Party

Figure 6: SS Data

CHANGE REQUEST

⌘ **09.02 CR A340** ⌘ rev **2** ⌘ Current version: **7.14.0** ⌘

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:	⌘ Correction to Insert Subscriber Data message for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 14/01/04
Category:	⌘ F	Release:	⌘ R98
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
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	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR to return those codes in the MAP Insert Subscriber Data Res message if the VLR does not support that particular Location Service. To accomplish this in MAP, the receiving entity must not assume that a data overlap has occurred.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 8.8.1.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ CR 03.16-A046
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by ". . .".										

8 Mobility services

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8.8 Subscriber management services

8.8.1 MAP-INSERT-SUBSCRIBER-DATA service

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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(=)		
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(=)		
North American Equal Access preferred Carrier Id List	U	C(=)		
LSA Information	C	C(=)		
SS-Code List			C	C(=)
LMU Identifier	C	C(=)		
LCS Information	C	C(=)		
Regional Subscription Response			C	C(=)
Supported CAMEL Phases			C	C(=)
User error			U	C(=)
Provider error				O

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. This parameter shall always be sent to the SGSN as part of the subscriber data at GPRS location updating. It shall be sent to the SGSN or VLR as appropriate if it is to be changed as a result of administrative action.

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.

...

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.

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LCS Information

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

- list of GMLCs in the HPLMN
- privacy exception list
- MO-LR list

At restoration and location updating, the HLR shall include the complete LCS data of the subscriber.

When there is a change in LCS subscriber data the HLR shall include at least the new and/or modified LCS data. LCS data that is not modified need not be included.

The VLR shall keep any previously stored LCS Information that is not included in an Insert Subscriber Data operation.

If the VLR detects that there is overlapping in the LCS information received within a dialogue, it shall send the error Unexpected Data Value. [However, if the VLR receives the LCS code in both the LCS Information and the SS-Data List, then the VLR shall not interpret this as overlapping data.](#)

This parameter is used only by the VLR and shall be ignored if received by an SGSN.

SS-Code List

The list of SS-Code parameters for the services 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 and SS-Codes for the eMLPP and/or CUG services if the above mentioned conditions, as described in eMLPP Subscription Data and/or CUG information List, are met (that is, eMLPP Subscription Data and/or CUG information List are received). This parameter is used only by the VLR.

CHANGE REQUEST

⌘ **23.016 CR 031** ⌘ rev **2** ⌘ Current version: **3.9.0** ⌘

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:	⌘ Correction to SS data for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 3/02/04
Category:	⌘ A	Release:	⌘ R99
	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 .		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:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR to return those codes in the MAP Insert Subscriber Data Res message if the VLR does not support that particular Location Service SS. To accomplish this in the subscriber data management stage 2, the sending entity must be allowed to include LCS SS codes in the SS Data.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 4.5.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ CR 29.002-705	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

4 General on handling of subscriber information

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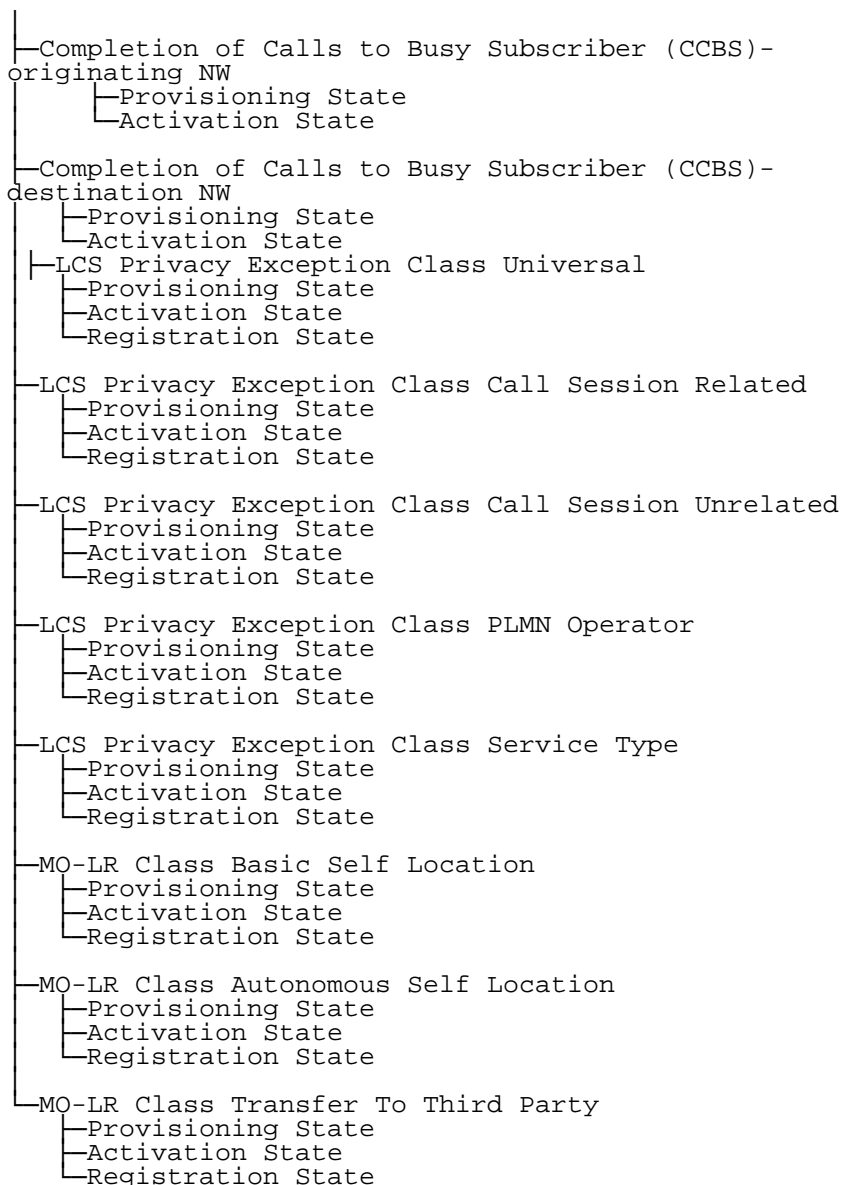
4.5 Handling of supplementary service data with respect to basic service data

...

4.5.4 Consistency of supplementary service data

...

- 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)
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 -
 - 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
- Multicall (MC)
 - Provisioning State
 - Activation State
 - Registration State
 - Subscribed maximum CS bearers
 - User defined maximum CS bearers



NOTE: For detailed information see 3GPP TS 23.067, 3GPP TS 23.081, 3GPP TS 23.083, 3GPP TS 23.084, 3GPP TS 23.086, 3GPP TS 23.091, 3GPP TS 23.093, 3GPP TS 23.096, 3GPP TS 23.135, 3GPP TS 29.002 and 3GPP TS 23.071.

The codes below are used for the single purpose of enabling the visited network to notify the home network whether or not the particular Supplementary Service is supported. These codes are also included in the LCS Information parameter and the visited network shall use the codes in the LCS Information parameter, and only this parameter, to obtain the information needed for the LCS Supplementary Service.

- LCS Privacy Exception Class Universal
- LCS Privacy Exception Class Call Session Related
- LCS Privacy Exception Class Call Session Unrelated
- LCS Privacy Exception Class PLMN Operator
- LCS Privacy Exception Class Service Type
- MO-LR Class Basic Self Location
- MO-LR Class Autonomous Self Location

- MO-LR Class Transfer To Third Party

Figure 7: SS Data

CR-Form-v7

CHANGE REQUEST

⌘ **23.016 CR 032** ⌘ rev **2** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘ Correction to SS data for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 3/02/04
Category:	⌘ A	Release:	⌘ Rel-4
	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 .		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:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR to return those codes in the MAP Insert Subscriber Data Res message if the VLR does not support that particular Location Service SS. To accomplish this in the subscriber data management stage 2, the sending entity must be allowed to include LCS SS codes in the SS Data.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 4.5.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ CR 29.002-706	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

4 General on handling of subscriber information

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4.5 Handling of supplementary service data with respect to basic service data

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4.5.4 Consistency of supplementary service data

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 - Activation State
 - Maximum Entitled Priority
 - Default
- Multicall (MC)
 - Provisioning State
 - Activation State
 - Registration State
 - Subscribed maximum CS bearers
 - User defined maximum CS bearers

- MO-LR Class Transfer To Third Party

Figure 7: SS Data

CHANGE REQUEST

⌘ **23.016 CR 033** ⌘ rev **2** ⌘ Current version: **5.2.0** ⌘

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

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

Title:	⌘ Correction to SS data for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 3/02/04
Category:	⌘ A	Release:	⌘ Rel-5
	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 .		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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Y	N										
X											
	X										
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 - Provisioning State
 - Activation State
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 - Activation State
 -
 - 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
- Multicall (MC)
 - Provisioning State
 - Activation State
 - Registration State
 - Subscribed maximum CS bearers
 - User defined maximum CS bearers

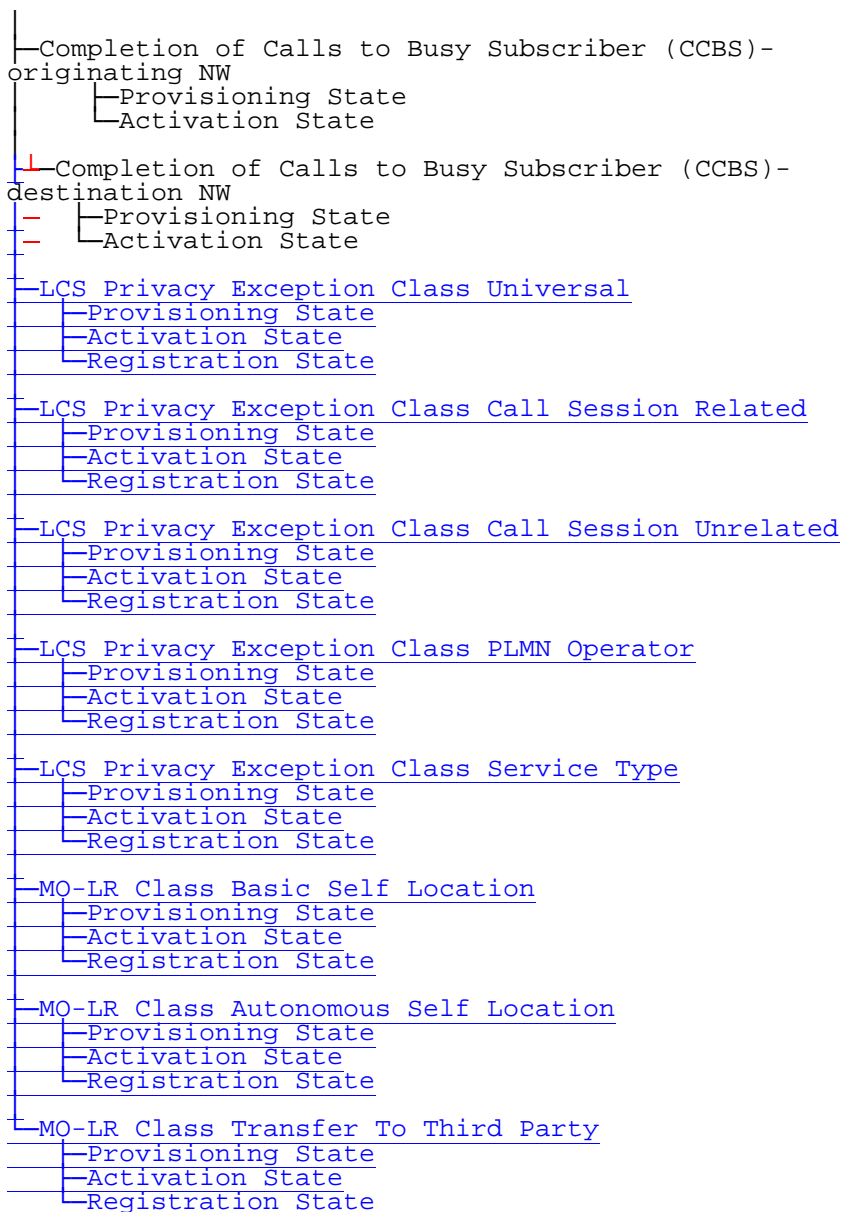


Figure 7-SS Data

NOTE: For detailed information see 3GPP TS 23.067, 3GPP TS 23.081, 3GPP TS 23.083, 3GPP TS 23.084, 3GPP TS 23.086, 3GPP TS 23.091, 3GPP TS 23.093, 3GPP TS 23.096, 3GPP TS 23.135, and 3GPP TS 29.002 and 3GPP TS 23.071.

The codes below are used for the single purpose of enabling the visited network to notify the home network whether or not the particular Supplementary Service is supported. These codes are also included in the LCS Information parameter and the visited network shall use the codes in the LCS Information parameter, and only this parameter, to obtain the information needed for the LCS Supplementary Service.

- [LCS Privacy Exception Class Universal](#)
- [LCS Privacy Exception Class Call Session Related](#)
- [LCS Privacy Exception Class Call Session Unrelated](#)
- [LCS Privacy Exception Class PLMN Operator](#)
- [LCS Privacy Exception Class Service Type](#)
- [MO-LR Class Basic Self Location](#)

- [MO-LR Class Autonomous Self Location](#)
- [MO-LR Class Transfer To Third Party](#)

Figure 7: SS Data

CHANGE REQUEST

⌘ **23.016 CR 034** ⌘ rev **2** ⌘ Current version: **6.0.0** ⌘

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:	⌘ Correction to SS data for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 3/02/04
Category:	⌘ A	Release:	⌘ Rel-6
	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 .		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:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR to return those codes in the MAP Insert Subscriber Data Res message if the VLR does not support that particular Location Service SS. To accomplish this in the subscriber data management stage 2, the sending entity must be allowed to include LCS SS codes in the SS Data.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 4.5.4										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <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	⌘ CR 29.002-708	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

4 General on handling of subscriber information

...

4.5 Handling of supplementary service data with respect to basic service data

...

4.5.4 Consistency of supplementary service data

...

- 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
 -
 - 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
- Multicall (MC)
 - Provisioning State
 - Activation State
 - Registration State
 - Subscribed maximum CS bearers
 - User defined maximum CS bearers

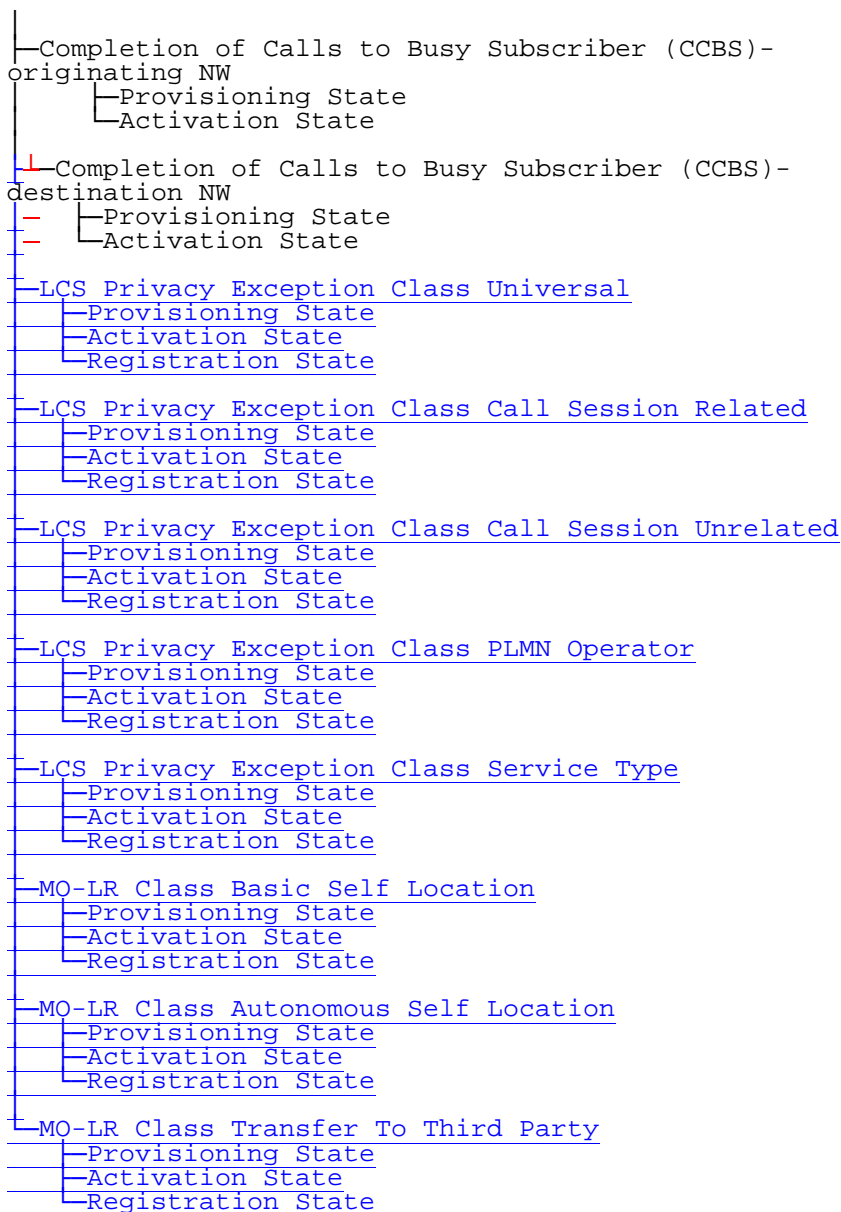


Figure 7-SS Data

NOTE: For detailed information see 3GPP TS 23.067, 3GPP TS 23.081, 3GPP TS 23.083, 3GPP TS 23.084, 3GPP TS 23.086, 3GPP TS 23.091, 3GPP TS 23.093, 3GPP TS 23.096, 3GPP TS 23.135, and 3GPP TS 29.002 and 3GPP TS 23.071.

The codes below are used for the single purpose of enabling the visited network to notify the home network whether or not the particular Supplementary Service is supported. These codes are also included in the LCS Information parameter and the visited network shall use the codes in the LCS Information parameter, and only this parameter, to obtain the information needed for the LCS Supplementary Service.

- [LCS Privacy Exception Class Universal](#)
- [LCS Privacy Exception Class Call Session Related](#)
- [LCS Privacy Exception Class Call Session Unrelated](#)
- [LCS Privacy Exception Class PLMN Operator](#)
- [LCS Privacy Exception Class Service Type](#)
- [MO-LR Class Basic Self Location](#)

- [MO-LR Class Autonomous Self Location](#)
- [MO-LR Class Transfer To Third Party](#)

Figure 7: SS Data

CHANGE REQUEST

⌘ **29.002 CR 705** ⌘ rev **2** ⌘ Current version: **3.18.0** ⌘

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:	⌘ Correction to Insert Subscriber Data message for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 2/02/04
Category:	⌘ A	Release:	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR to return those codes in the MAP Insert Subscriber Data Res message if the VLR does not support that particular Location Service. To accomplish this in MAP, the receiving entity must not assume that a data overlap has occurred.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 8.8.1.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ CR 23.016-031
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by ". . .".										

8 Mobility services

...

8.8 Subscriber management services

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(=)		
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(=)
User error			U	C(=)
Provider error				O

8.8.1.3 Parameter use

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

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. This parameter shall always be sent to the SGSN as part of the GPRS subscriber data at GPRS location updating. It shall be sent to the SGSN if it is changed as a result of administrative action.

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.

...

SS-Data List

A list of Extensible SS-Data parameters (Extensible SS-Data is defined in clause 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 clause 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.

...

LCS Information

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

- list of GMLCs in the HPLMN;
- privacy exception list;
- MO-LR list.

At restoration and location updating, the HLR shall include the complete LCS data of the subscriber.

When there is a change in LCS subscriber data the HLR shall include at least the new and/or modified LCS data. LCS data that is not modified need not be included.

The VLR shall keep any previously stored LCS Information that is not included in an Insert Subscriber Data operation.

If the VLR detects that there is overlapping in the LCS information received within a dialogue, it shall send the error Unexpected Data Value. [However, if the VLR receives the LCS code in both the LCS Information and the SS-Data List, then the VLR shall not interpret this as overlapping data.](#)

This parameter is used only by the VLR and shall be ignored if received by an SGSN.

Super-Charger Supported In HLR

This parameter is used by the HLR to indicate support for the Super-Charger functionality. If this parameter is present it shall include an indication of the age of the subscription data stored in the HLR.

If this parameter is absent then the HLR does not support the Super-Charger functionality.

SS-Code List

The list of SS-Code parameters for the services that are provided to a subscriber but are not supported/allocated by the VLR (SS-Code is defined in clause 7.6). The list can only include individual SS-Codes that were sent in the service request and SS-Codes for the eMLPP and/or CUG services if the above mentioned conditions, as described in eMLPP Subscription Data and/or CUG information List, are met (that is, eMLPP Subscription Data and/or CUG information List are received). This parameter is used only by the VLR.

CHANGE REQUEST

⌘ **29.002 CR 706** ⌘ rev **2** ⌘ Current version: **4.13.0** ⌘

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:	⌘ Correction to Insert Subscriber Data message for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 2/02/04
Category:	⌘ F	Release:	⌘ Rel-4
	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 .		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:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it. From Rel-4 onwards, the SGSN supports the LCS SS, so the same mechanics for the VLR need to be applied to the SGSN.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR/SGSN to return those codes in the MAP Insert Subscriber Data Res message if the VLR/SGSN does not support that particular Location Service. To accomplish this in MAP, the receiving entity must not assume that a data overlap has occurred.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 8.8.1.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ CR 23.016-032	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

The last paragraph in SS-Data List is re-worded to accommodate the changes in the reason for change section. The exact wording from Rel-5 and onwards has been re-used here (seems Rel-4 was previously forgotten to be updated).

8 Mobility services

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8.8 Subscriber management services

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(=)		
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(=)
User error			U	C(=)
Provider error				O

8.8.1.3 Parameter use

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

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. This parameter shall always be sent to the SGSN as part of the GPRS subscriber data at GPRS location updating. It shall be sent to the SGSN if it is changed as a result of administrative action.

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.

...

SS-Data List

A list of Extensible SS-Data parameters (Extensible SS-Data is defined in clause 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 clause 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 by the SGSN only for LCS. If the SGSN receives an Indication containing any [LCS related](#) supplementary service codes (~~either LCS related or not~~) which it does not support/allocate then it ~~discards them~~ [returns them to the HLR in the parameter SS-Code List and therefore discards the unsupported service codes received \(no error is sent back\)](#). [SS-codes not related to the supported LCS capability set shall be discarded.](#)

...

LCS Information

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

- list of GMLCs in the HPLMN;
- privacy exception list;
- MO-LR list.

At restoration and location updating, the HLR shall include the complete LCS data of the subscriber.

When there is a change in LCS subscriber data the HLR shall include at least the new and/or modified LCS data. LCS data that is not modified need not be included.

The VLR/SGSN shall keep any previously stored LCS Information that is not included in an Insert Subscriber Data operation.

If the VLR/SGSN detects that there is overlapping in the LCS information received within a dialogue, it shall send the error Unexpected Data Value. [However, if the VLR receives the LCS code in both the LCS Information and the SS-Data List, then the VLR shall not interpret this as overlapping data.](#)

Super-Charger Supported In HLR

This parameter is used by the HLR to indicate support for the Super-Charger functionality. If this parameter is present it shall include an indication of the age of the subscription data stored in the HLR.

If this parameter is absent then the HLR does not support the Super-Charger functionality.

SS-Code List

The list of SS-Code parameters for the services that are provided to a subscriber but are not supported/allocated by the VLR (SS-Code is defined in clause 7.6). The list can only include individual SS-Codes that were sent in the service request, ~~and~~ For the VLR, this list can also include SS-Codes for the eMLPP and/or CUG services if the above mentioned conditions, as described in eMLPP Subscription Data and/or CUG information List, are met (that is, eMLPP Subscription Data and/or CUG information List are received). This parameter is used only by ~~only~~ the VLR.

CHANGE REQUEST

⌘ **29.002 CR 707** ⌘ rev **2** ⌘ Current version: **5.8.0** ⌘

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:	⌘ Correction to Insert Subscriber Data message for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 2/02/04
Category:	⌘ F	Release:	⌘ Rel-5
	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 .		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:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it. From Rel-4 onwards, the SGSN supports the LCS SS, so the same mechanics for the VLR need to be applied to the SGSN.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR/SGSN to return those codes in the MAP Insert Subscriber Data Res message if the VLR/SGSN does not support that particular Location Service. To accomplish this in MAP, the receiving entity must not assume that a data overlap has occurred.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 8.8.1.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ CR 23.016-033	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

8 Mobility services

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8.8 Subscriber management services

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(=)		
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(=)
Offered CAMEL 4 CSIs			C	C(=)
User error			U	C(=)
Provider error				O

8.8.1.3 Parameter use

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

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. This parameter shall always be sent to the SGSN as part of the GPRS subscriber data at GPRS location updating. It shall be sent to the SGSN if it is changed as a result of administrative action.

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.

...

SS-Data List

A list of Extensible SS-Data parameters (Extensible SS-Data is defined in clause 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 clause 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 by the SGSN only for LCS. If the SGSN receives an Indication containing any LCS related 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). SS-codes not related to the supported LCS capability set shall be discarded.

...

LCS Information

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

- list of GMLCs in the HPLMN;
- privacy exception list;
- MO-LR list.

At restoration and location updating, the HLR shall include the complete LCS data of the subscriber.

When there is a change in LCS subscriber data the HLR shall include at least the new and/or modified LCS data. LCS data that is not modified need not be included.

The VLR/SGSN shall keep any previously stored LCS Information that is not included in an Insert Subscriber Data operation.

If the VLR/SGSN detects that there is overlapping in the LCS information received within a dialogue, it shall send the error Unexpected Data Value. [However, if the VLR receives the LCS code in both the LCS Information and the SS-Data List, then the VLR shall not interpret this as overlapping data.](#)

Super-Charger Supported In HLR

This parameter is used by the HLR to indicate support for the Super-Charger functionality. If this parameter is present it shall include an indication of the age of the subscription data stored in the HLR.

If this parameter is absent then the HLR does not support the Super-Charger functionality.

SS-Code List

The list of SS-Code parameters for the services that are provided to a subscriber but are not supported/allocated by the VLR (SS-Code is defined in clause 7.6). The list can only include individual SS-Codes that were sent in the service request, ~~and~~ For the VLR, this list can also include SS-Codes for the eMLPP and/or CUG services if the above mentioned conditions, as described in eMLPP Subscription Data and/or CUG information List, are met (that is, eMLPP Subscription Data and/or CUG information List are received). This parameter is used only by ~~only~~ the VLR.

CHANGE REQUEST

⌘ **29.002 CR 708** ⌘ rev **2** ⌘ Current version: **6.4.0** ⌘

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:	⌘ Correction to Insert Subscriber Data message for LCS SS		
Source:	⌘ CN4		
Work item code:	⌘ LCS	Date:	⌘ 2/02/04
Category:	⌘ F	Release:	⌘ Rel-6
	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 .		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:	⌘ Essential Correction
	Currently the mechanism by which the VLR can notify the HLR that the VLR does not support Location Services (LCS) is not clearly standardized. Due to current Supplementary Services (SS) procedures, if the HLR does not get informed that an SS is not supported, it assumes that the VLR does support it. From Rel-4 onwards, the SGSN supports the LCS SS, so the same mechanics for the VLR need to be applied to the SGSN.
Summary of change:	⌘ Allow the LCS SS codes to be transported both in the SS-data list IE and in the LCS Information IE in the MAP Insert Subscriber Data Arg message, which in turn, enables the pre-R98 VLR/SGSN to return those codes in the MAP Insert Subscriber Data Res message if the VLR/SGSN does not support that particular Location Service. To accomplish this in MAP, the receiving entity must not assume that a data overlap has occurred.
Consequences if not approved:	⌘ Unpredictable behaviour and in the worst case can lead to a complete loss of service for the subscriber in the visited network.

Clauses affected:	⌘ 8.8.1.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">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	⌘ CR 23.016-034	
Y	N										
X											
	X										
	X										
Other comments:	⌘ Some contents of section 8.8.1.3 are not shown to enhance the readability of this CR. Removed text is shown by "...".										

8 Mobility services

...

8.8 Subscriber management services

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(=)		
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MC-Subscription Data	C	C(=)		
Operator Determined Barring General data	C	C(=)	C	C(=)
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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(=)		
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(=)
Offered CAMEL 4 CSIs			C	C(=)
User error			U	C(=)
Provider error				O

8.8.1.3 Parameter use

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

Network access mode

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IMSI

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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 clause 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 by the SGSN only for LCS. If the SGSN receives an Indication containing any LCS related 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). SS-codes not related to the supported LCS capability set shall be discarded.

...

LCS Information

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The VLR/SGSN shall keep any previously stored LCS Information that is not included in an Insert Subscriber Data operation.

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SS-Code List

The list of SS-Code parameters for the services that are provided to a subscriber but are not supported/allocated by the VLR ~~or the~~ /SGSN (SS-Code is defined in clause 7.6). The list can only include individual SS-Codes that were sent in the service request. ~~and~~ For the VLR, this list can also include SS-Codes for the eMLPP and/or CUG services if the above mentioned conditions, as described in eMLPP Subscription Data and/or CUG information List, are met (that is, eMLPP Subscription Data and/or CUG information List are received).