

**3GPP TSG CN Plenary Meeting #15
6th – 8th March 2002.Cheju, Korea.**

NP-020023

Source: TSG CN WG4
Title: CRs on R99 Camel3
Agenda item: 7.2
Document for: APPROVAL

Introduction:

This document contains 6 CRs on R99 Work Item " Camel3", that have been agreed by TSG CN WG4, and are forwarded to TSG CN Plenary meeting #15 for approval.

| Spec | CR | Rev | Doc-2nd-Level | Phase | Subject | Cat | Ver_C |
|-------------|-----------|------------|----------------------|--------------|---|------------|--------------|
| 23.018 | 096 | | N4-020133 | R99 | Correction on the Active Location Retrieval description | F | 3.10.0 |
| 23.018 | 097 | | N4-020134 | Rel-4 | Correction on the Active Location Retrieval description | A | 4.5.0 |
| 23.018 | 098 | | N4-020135 | Rel-5 | Correction on the Active Location Retrieval description | A | 5.2.0 |
| 29.002 | 371 | 1 | N4-020209 | R99 | Inclusion of complete ODB data in ATSI and NSDC | F | 3.11.0 |
| 29.002 | 372 | 1 | N4-020210 | Rel-4 | Inclusion of complete ODB data in ATSI and NSDC | A | 4.6.0 |
| 29.002 | 373 | | N4-020013 | Rel-5 | Inclusion of complete ODB data in ATSI and NSDC | A | 5.0.0 |

CHANGE REQUEST

⌘ **23.018 CR 096** ⌘ rev **-** ⌘ Current version: **3.10.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|--------------|---|
| Title: | ⌘ Correction on the Active Location Retrieval description | | |
| Source: | ⌘ CN4 | | |
| Work item code: | ⌘ CAMEL 3 | Date: | ⌘ |
| Category: | ⌘ F Agreed by Consensus 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: ⌘ R99 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) |

| | | | |
|--------------------------------------|--|--|--|
| Reason for change: | ⌘ The UMTS specific location information (SAI) has to be taken into account | | |
| Summary of change: | ⌘ The Active Location Retrieval procedure allows the gsmSCF to know the location of the MS with the accuracy of the cell ID for GSM or SAI for UMTS at every time it is possible. The CN4 meeting #21 (CANCUN) has already corrected the § 7.2.3.4 (procedure Retrieve_Current_Location_VLR) and the SDL 64 (procedure Current_Location_Page_MSC) in order to take into account the specific UMTS procedure Location Reporting Control that has been previously forgotten.- However, the SDL 65 (procedure Current_Location_Search_MSC) has to be corrected too. | | |
| Consequences if not approved: | ⌘ Incomplete Active Location Retrieval mechanism | | |

| | | | |
|------------------------------|---|---|--|
| Clauses affected: | ⌘ 7.2.4 | | |
| Other specs affected: | ⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ | |
| Other comments: | ⌘ | | |

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

***** Change *****

7.2.4.7. Procedure Current_Location_Search_MSC

The test "MS connection exists" takes the "Yes" exit if there is a radio connection established between the MS and the network.

The test "GSM Access" takes the "Yes" exit if the MS is using a GSM radio access to communicate with the network.

The test "Report on change of service area?" takes the "Yes" exit if the MSC has performed the Location Reporting Control procedure (see 3GPP TS 25.413 [26]) with the Request Type IE set to "Change of service area".

If the test "Report on change of service area?" takes the "No" exit the MSC shall perform a Location Reporting Control procedure with the Request Type IE set to "Direct".

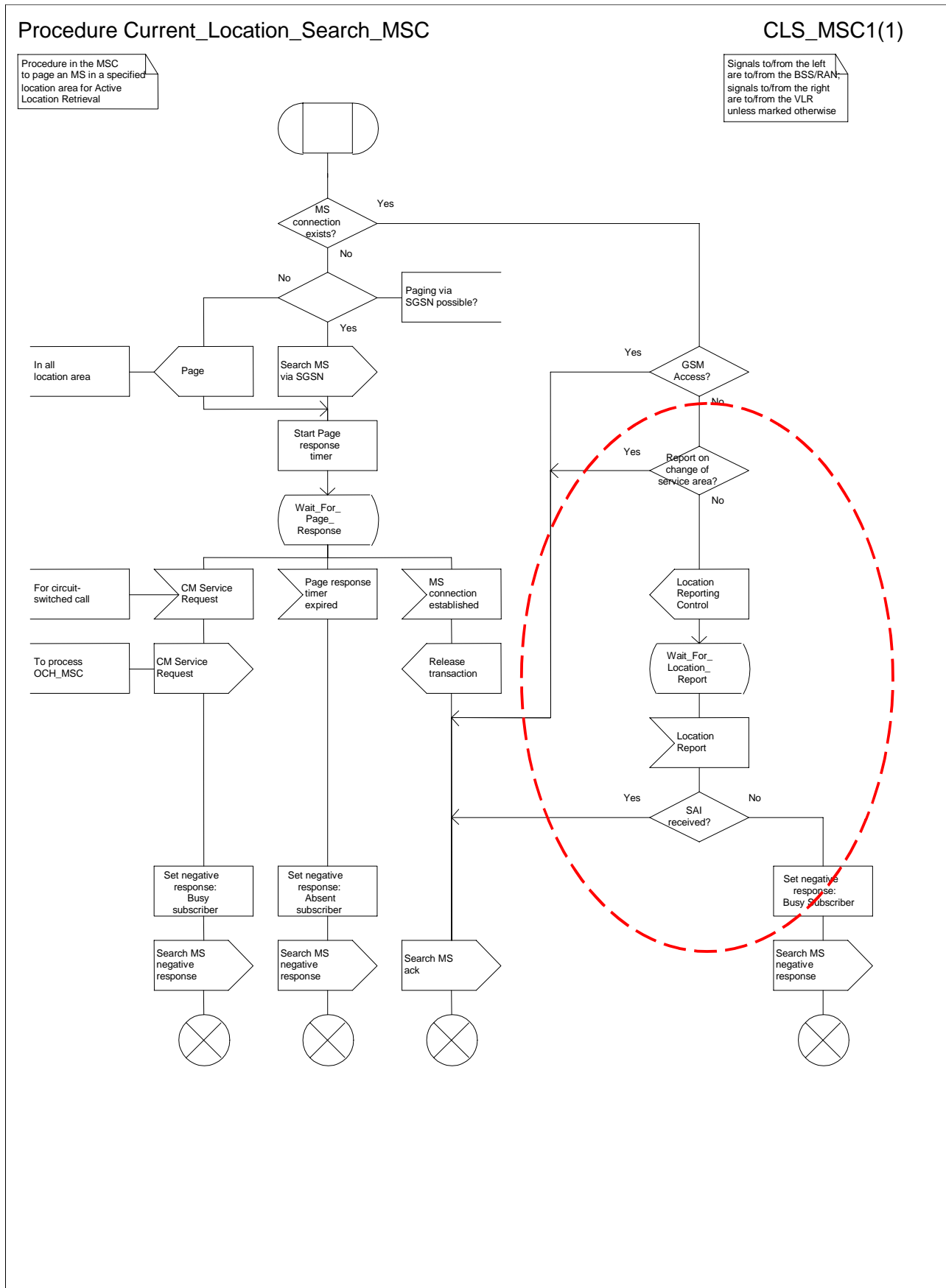


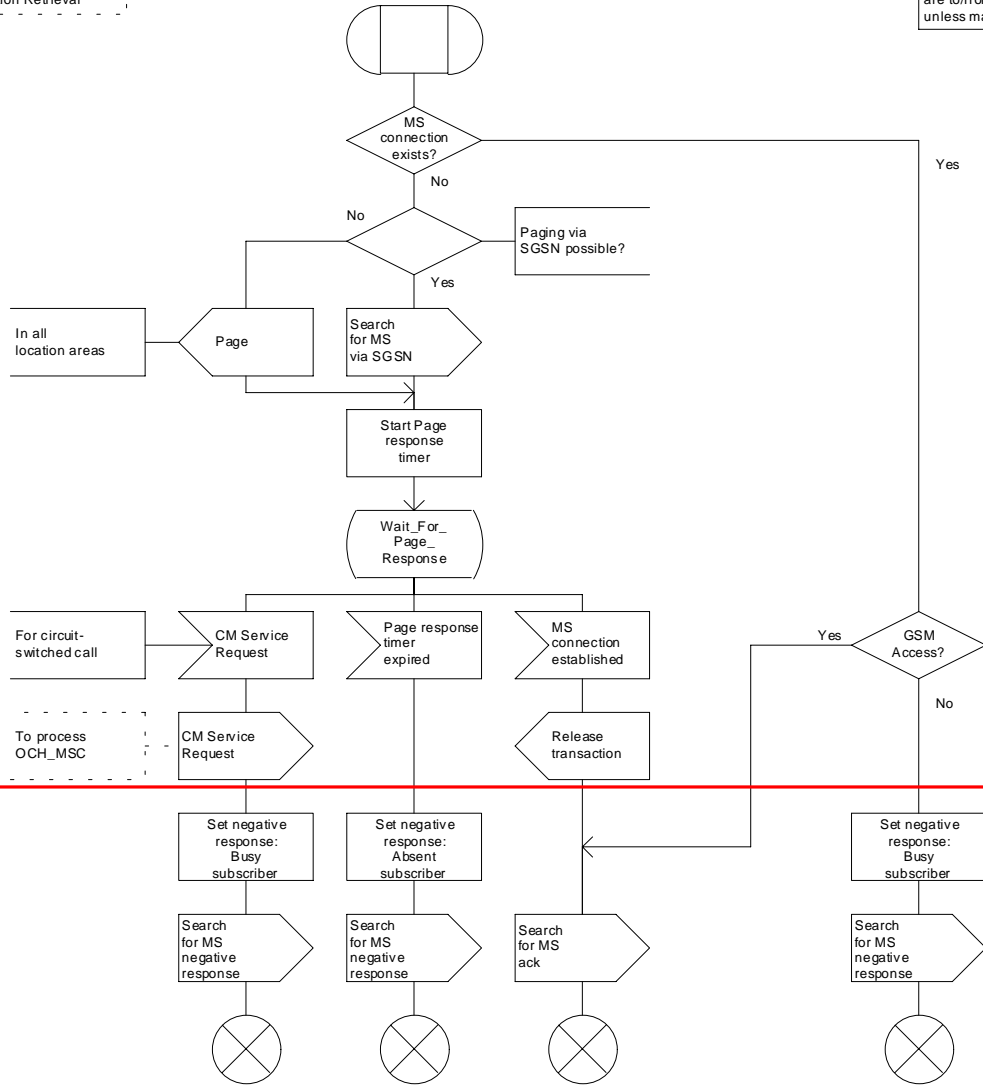
Figure 65: Procedure Current_Location_Search_MSC

Procedure Current_Location_Search_MSC

CLS_MSC1(1)

Procedure in the MSC to page an MS in all location areas for Active Location Retrieval

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise



CHANGE REQUEST

⌘ **29.002 CR 373** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | | | |
|------------------------|--|-----------------|---|--|--|
| Title: | ⌘ Inclusion of complete ODB data in ATSI and NSDC | | | | |
| Source: | ⌘ Siemens AG | | | | |
| Work item code: | ⌘ CAMEL3 | Date: | ⌘ 31 January 2002 | | |
| Category: | ⌘ A | Release: | ⌘ Rel-5 | | |
| | Use <u>one</u> of the following categories: | | Use <u>one</u> of the following releases: | | |
| | F (correction) | | 2 (GSM Phase 2) | | |
| | A (corresponds to a correction in an earlier release) | | R96 (Release 1996) | | |
| | B (addition of feature), | | R97 (Release 1997) | | |
| | C (functional modification of feature) | | R98 (Release 1998) | | |
| | D (editorial modification) | | R99 (Release 1999) | | |
| | Detailed explanations of the above categories can be found in 3GPP TR 21.900 . | | REL-4 (Release 4) | | |
| | | | REL-5 (Release 5) | | |

Reason for change: ⌘ "Any time subscription interrogation" is the feature which the SCP interrogates the HLR to query the subscriber's attributes. "Notification to CSE of change of subscriber data" is to inform the SCP of the change of subscriber data. The scope of subscriber data to be interrogated/changed by these operations include SS-CF, SS-CB, ODB, CSI and Supported CAMEL Phases in VLR and/or SGSN. When one of the data is requested by ATSI, then the HLR sends the data to the SCP, or if one of the data is changed in the HLR, the HLR sends NSDC to the SCP with the changed data.

If one of the operations is used for the ODB data, the ODB data for the applied subscriber should include the complete ODB category for the subscriber. However, the definition of the ODB data included in ATSI and NSDC, ODB-Info, contains only the ODB data which are sent to VLR/SGSN from the HLR. This results in the missing data if, for example, ODB for all incoming call, is requested/modified, i.e., the ATSI ack. and the NSDC req. are sent without requested/modified data.

(It seems this error caused when ODB-GeneralData which had been defined for ISD before was reused for ATSI and NSDC in R99)

Summary of change: ⌘ Add ODB categories in ODB-GeneralData to form the complete ODB in the HLR.

Consequences if not approved: ⌘ The above problem remains. The SCP is not able to query/be informed about these data.

Clauses affected: ⌘ 7, 8, 16, 17

Other specs affected: ⌘ Other core specifications ⌘ Test specifications ⌘ O&M Specifications

Other comments: ⌘ This CR includes the following corrections;

- 7.6.3.9: All the missing ODB data added. They are stored in the HLR.
- 7.6.3.9 bottom line: New comment is added to note that the additional ODBs are not used for ISD
- 7.6.3.8.5 ODB Data: It does not contain Notification to CSE flag. Deleted.
- 7.6.3.xx ODB Info: Corrent ASN.1 for ATSI and NSDC contains ODB Info, not ODB data. This explanation for ODB Info is missing. Added as defined in ASN.1.
- 8.11.3.2 ATSI parameter table: as above.
- 8.11.5.2 NSDC parameter table: as above.
- 8.11.5.3 NSDC parameters: as above and correction of the reference sections.
- 16.2.2.4 Operation: anyTimeSubscriptionInterrogation (editorial).
- ASN.1 ODB-GeneralData: All the missing ODB data added as described above.

***** For information *****

| 3GPP TS 22.041 | 3GPP TS 29.002 | defined in; | stored in |
|--|--|--------------------|------------------|
| 1.1 Barring outgoing calls | allOG-CallsBarred (0) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.2 Barring outgoing international calls | internationalOGCallsBarred (1) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.3 Barring outgoing international calls except those directed to the home PLMN country | internationalOGCallsNotToHPLMN-CountryBarred (2) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.4 Barring of outgoing calls when roaming outside the home PLMN country | | --none-- | HLR |
| 1.5 Barring of outgoing inter-zonal calls | interzonalOGCallsBarred (6) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.6 Barring of outgoing inter-zonal calls except those directed to the home PLMN country | interzonalOGCallsNotToHPLMN-CountryBarred (7) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.7 Barring of outgoing international calls except those directed to the home PLMN country AND barring of outgoing inter-zonal calls | interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8) | ODB-GeneralData | HLR/VLR/SGSN |
| 2.1 Barring incoming calls | | --none-- | HLR |
| 2.2 Barring incoming calls when roaming outside the home PLMN country | | --none-- | HLR |
| 2.3 Barring incoming calls when roaming outside the zone of the home PLMN country | | --none-- | HLR |
| 3.1 Barring of Roaming outside the home PLMN | | --none-- | HLR |
| 3.2 Barring of Roaming outside the home PLMN country | | --none-- | HLR |
| 4.1 Barring of outgoing Premium Rate Calls (Information) | premiumRateInformationOGCallsBarred (3) | ODB-GeneralData | HLR/VLR |
| 4.2 Barring of outgoing Premium Rate Calls (Entertainment) | premiumRateEntertainmentOGCallsBarred (4) | ODB-GeneralData | HLR/VLR |
| 5.1 When registered in the HPLMN, Operator Specific Barring (Type 1) | plmn-SpecificBarringType1 (0) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.2 When registered in the HPLMN, Operator Specific Barring (Type 2) | plmn-SpecificBarringType1 (1) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.3 When registered in the HPLMN, Operator Specific Barring (Type 3) | plmn-SpecificBarringType1 (2) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.4 When registered in the HPLMN, Operator Specific Barring (Type 4) | plmn-SpecificBarringType1 (3) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 6.1 Barring of Supplementary Services Management | ss-AccessBarred (5) | ODB-GeneralData | HLR/VLR |
| 7.1 Barring of registration of any call forwarded-to number | | --none-- | HLR |
| 7.2 Barring of registration of any international call forwarded-to number | | --none-- | HLR |
| 7.3 Barring or registration of any international call forwarded-to number except to a number within the HPLMN country | | --none-- | HLR |
| 7.4 Barring of registration of any inter-zone call forwarded-to number | | --none-- | HLR |
| 7.5 Barring of registration of any inter-zone call forwarded-to number except to a number within the HPLMN country | | --none-- | HLR |

| 3GPP TS 22.041 | 3GPP TS 29.002 | defined in; | stored in |
|---|--------------------------------------|-----------------|-----------|
| 8.1 Barring of invocation of call transfer | allECT-Barred (9) | ODB-GeneralData | HLR/VLR |
| 8.2 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber | chargeableECT-Barred (10) | ODB-GeneralData | HLR/VLR |
| 8.3 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber at international rates | internationalECT-Barred (11) | ODB-GeneralData | HLR/VLR |
| 8.4 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber at inter-zonal rates | interzonalECT-Barred (12) | ODB-GeneralData | HLR/VLR |
| 9 Barring of invocation of call transfer where both calls are calls charged to the served subscriber | doublyChargeableECT-Barred (13) | ODB-GeneralData | HLR/VLR |
| 10 Barring of further invocation of call transfer if there is already one ongoing transferred call for the served subscriber in the serving MSC/VLR | multipleECT-Barred (14) | ODB-GeneralData | HLR/VLR |
| Packets (subclause 5.2) | allPacketOrientedServicesBarred (15) | ODB-GeneralData | HLR/SGSN |
| Packets (subclause 5.2) | roamerAccessToHPLMN-AP-Barred (16) | ODB-GeneralData | HLR/SGSN |
| Packets (subclause 5.2) | roamerAccessToHPLMN-AP-Barred (17) | ODB-GeneralData | HLR/SGSN |

***** First modified part *****

7.6.3.9 Operator Determined Barring General Data

This parameter refers to the set of subscriber features that the network operator or the service provider can regulate. This set only includes those limitations that can be controlled in the VLR or in the SGSN:

- All outgoing calls barred; (*)
- International outgoing calls barred; (*)
- International outgoing calls except those to the home PLMN country barred; (*)
- Interzonal outgoing calls barred; (*)
- Interzonal outgoing calls except those to the home PLMN country barred; (*)
- Interzonal outgoing calls AND international outgoing calls except those directed to the home PLMN country barred; (*)
- Premium rate (information) outgoing calls barred;
- Premium rate (entertainment) outgoing calls barred;
- Supplementary service access barred;
- Invocation of call transfer barred;
- Invocation of chargeable call transfer barred;
- Invocation of internationally chargeable call transfer barred;
- Invocation of interzonally chargeable call transfer barred;
- Invocation of call transfer where both legs are chargeable barred;
- Outgoing calls when roaming outside the home PLMN country; (**)
- All incoming calls; (**)
- Incoming calls when roaming outside the home PLMN country; (**)

- Incoming calls when roaming outside the zone of the home PLMN country; (**)
- Roaming outside the home PLMN; (**)
- Roaming outside the home PLMN country; (**)
- Registration of any call forwarded-to number; (**)
- Registration of any international call forwarded-to number; (**)
- Registration of any international call forwarded-to number except to a number within the HPLMN country; (**)
- Registration of any inter-zone call forwarded-to number; (**)
- Registration of any inter-zone call forwarded-to number except to a number within the HPLMN country. (**)

(*) Only these ODBs are supported by the SGSN. The SGSN applies them only for short message transfer.

(**) These ODBs are not used for InsertSubscriberData.

7.6.3.10 ODB HPLMN Specific Data

This parameter refers to the set of subscriber features that the network operator or the service provider can regulate only when the subscriber is registered in the HPLMN. This set only includes those limitations that can be controlled in the VLR or in the SGSN:

- Operator Determined Barring Type 1;
- Operator Determined Barring Type 2;
- Operator Determined Barring Type 3;
- Operator Determined Barring Type 4.

7.6.3.85 ODB Data

This parameter contains the ODB general data, ODB HPLMN specific data and ~~Notification to CSE flag.~~

7.6.3.xx ODB Info

This parameter contains the ODB data and Notification to CSE flag.

***** Next modified part *****

8.11.3 MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION service

8.11.3.1 Definition

This service is used by the gsmSCF, to request subscription information (e.g. call forwarding supplementary service data or CSI) from the HLR at any time.

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 InfoData | | | C | C(=) |
| CAMEL Subscription Info | | | C | C(=) |
| Supported CAMEL phases in VLR | | | C | C(=) |
| Supported CAMEL phases in SGSN | | | C | C(=) |
| User error | | | C | C(=) |
| Provider error | | | | O |

8.11.3.3 Parameter definition and use

All parameters are described in clause 7.6.

The HLR may be able to use the value of the parameter gsmSCF-address to screen a MAP_Any_Time_Subscription_Interrogation indication.

The use of the parameters and the requirements for their presence are specified in 3G TS 23.078.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Unexpected Data Value;
- Unknown Subscriber;
- BearerServiceNotProvisioned;
- TeleserviceNotProvisioned;
- CallBarred;
- IllegalSS-Operation;
- SS-NotAvailable;
- InformationNotAvailable;
- Any Time Subscription Interrogation Not Allowed;
- Data Missing.

Provider error

These are defined in clause 7.6.1.

***** Next modified part *****

8.11.5 MAP-NOTE-SUBSCRIBER-DATA-MODIFIED service

8.11.5.1 Definition

This service is used by the HLR to inform the gsmSCF that subscriber data have been modified.

8.11.5.2 Service primitives

Table 8.11/5: Note Subscriber Data Modified

| Parameter name | Request | Indication | Response | Confirm |
|--------------------------------------|---------|------------|----------|---------|
| Invoke id | M | M(=) | M(=) | M(=) |
| IMSI | M | M(=) | | |
| MSISDN | M | M(=) | | |
| Ext Forwarding information-for-CSE | C | C(=) | | |
| Ext Call barring information-for-CSE | C | C(=) | | |
| ODB dataInfo | C | C(=) | | |
| CAMEL subscription info | C | C(=) | | |
| All Information Sent | C | C(=) | | |
| User error | | | C | C(=) |

| Parameter name | Request | Indication | Response | Confirm |
|----------------|---------|------------|----------|---------|
| Provider error | | | | O |

8.11.5.3 Parameter definition and use

Invoke id

See clause 7.6.1 for the use of this parameter.

IMSI

See clause 7.6.2 for the use of this parameter.

MSISDN

See clause 7.6.2 for the use of this parameter.

Ext Forwarding information-for-CSE

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

Ext Call barring information-for-CSE

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

ODB Infodata

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

CAMEL subscription info

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

All Information Sent

This parameter is set when the HLR has sent all information to gsmSCF.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Data Missing;
- Unexpected Data Value;
- Unknown Subscriber.

Provider error

These are defined in clause 7.6.1.

The use of the parameters and the requirements for their presence are specified in 3G TS 23.078.

***** Next modified part *****

16.2.2.4 Operation

When mapping a request primitive on to a Remote Operations PDU (invoke), the MAP PM shall set the operation code according to the mapping described in table 16.2/1.

When mapping a response primitive on to a Remote Operations service, the MAP PM shall set the operation code of the TC-RESULT-L/NL primitive (if required) to the same value as the one received at invocation time.

Table 16.2/1: Mapping of MAP specific services on to MAP operations

| | |
|---|----------------------------------|
| MAP-SERVICE | operation |
| MAP-ACTIVATE-SS | activateSS |
| MAP-ACTIVATE-TRACE-MODE | activateTraceMode |
| MAP-ALERT-SERVICE-CENTRE | alertServiceCentre |
| MAP-ANY-TIME-INTERROGATION | anyTimeInterrogation |
| MAP_AUTHENTICATION_FAILURE_REPORT | authenticationFailureReport |
| MAP-ANY-TIME-MODIFICATION | anyTimeModification |
| MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION | anyTimeSubscriptionInterrogation |

| | |
|---|-------------------------------|
| MAP-CANCEL-LOCATION | cancelLocation |
| MAP-CHECK-IMEI | checkIMEI |
| MAP-DEACTIVATE-SS | deactivateSS |
| MAP-DEACTIVATE-TRACE-MODE | deactivateTraceMode |
| MAP-DELETE-SUBSCRIBER-DATA | deleteSubscriberData |
| MAP-ERASE-CC-ENTRY | eraseCC-Entry |
| MAP-ERASE-SS | eraseSS |
| MAP-FAILURE-REPORT | failureReport |
| MAP-FORWARD-ACCESS-SIGNALLING | forwardAccessSignalling |
| MAP-FORWARD-CHECK-SS-INDICATION | forwardCheckSsIndication |
| MAP-FORWARD-GROUP-CALL-SIGNALLING | forwardGroupCallSignalling |
| MAP-MT-FORWARD-SHORT-MESSAGE | mt-forwardSM |
| MAP-MO-FORWARD-SHORT-MESSAGE | mo-forwardSM |
| MAP-GET-PASSWORD | getPassword |
| MAP-INFORM-SERVICE-CENTRE | informServiceCentre |
| MAP-INSERT-SUBSCRIBER-DATA | insertSubscriberData |
| MAP-INTERROGATE-SS | interrogateSs |
| MAP-IST-ALERT | istAlert |
| MAP-IST-COMMAND | istCommand |
| MAP-NOTE-MS-PRESENT-FOR-GPRS | noteMsPresentForGprs |
| MAP-NOTE-SUBSCRIBER-DATA-MODIFIED | noteSubscriberDataModified |
| MAP-PREPARE-GROUP-CALL | prepareGroupCall |
| MAP-PREPARE-HANDOVER | prepareHandover |
| MAP-PREPARE-SUBSEQUENT-HANDOVER | prepareSubsequentHandover |
| MAP-PROCESS-ACCESS-SIGNALLING | processAccessSignalling |
| MAP-PROCESS-GROUP-CALL-SIGNALLING | processGroupCallSignalling |
| MAP-PROCESS-UNSTRUCTURED-SS-REQUEST | processUnstructuredSS-Request |
| MAP-PROVIDE-ROAMING-NUMBER | provideRoamingNumber |
| MAP-PROVIDE-SIWFS-NUMBER | provideSIWFSNumber |
| MAP-PROVIDE-SUBSCRIBER-LOCATION | provideSubscriberLocation |
| MAP-PROVIDE-SUBSCRIBER-INFO | provideSubscriberInfo |
| MAP-PURGE-MS | purgeMS |
| MAP-READY-FOR-SM | readyForSM |
| MAP-REGISTER-CC-ENTRY | registerCC-Entry |
| MAP-REGISTER-PASSWORD | registerPassword |
| MAP-REGISTER-SS | registerSS |
| MAP-REMOTE-USER-FREE | remoteUserFree |
| MAP-REPORT-SM-DELIVERY-STATUS | reportSmDeliveryStatus |
| MAP-RESET | reset |
| MAP-RESTORE-DATA | restoreData |
| MAP-SECURE-TRANSPORT-CLASS-1 | secureTransportClass1 |
| MAP-SECURE-TRANSPORT-CLASS-2 | secureTransportClass2 |
| MAP-SECURE-TRANSPORT-CLASS-3 | secureTransportClass3 |
| MAP-SECURE-TRANSPORT-CLASS-4 | secureTransportClass4 |
| MAP-SEND_GROUP_CALL_END_SIGNAL | sendGroupCallEndSignal |
| MAP-SEND-END-SIGNAL | sendEndSignal |
| MAP-SEND-AUTHENTICATION-INFO | sendAuthenticationInfo |
| MAP-SEND-IMSI | sendIMSI |
| MAP-SEND-IDENTIFICATION | sendIdentification |
| MAP-SEND-ROUTING-INFO-FOR-SM | sendRoutingInfoForSM |
| MAP-SEND-ROUTING-INFO-FOR-GPRS | sendRoutingInfoForGprs |
| MAP-SEND-ROUTING-INFO-FOR-LCS | sendRoutingInfoForLCS |
| MAP-SEND-ROUTING-INFORMATION | sendRoutingInfo |
| MAP-SET-REPORTING-STATE | setReportingState |
| MAP-SIWFS-SIGNALLING-MODIFY | SIWFSsignallingModify |
| MAP-STATUS-REPORT | statusReport |
| MAP-SUBSCRIBER-LOCATION-REPORT | subscriberLocationReport |
| MAP-SUPPLEMENTARY-SERVICE-INVOCATION-NOTIFICATION | ss-Invocation-Notification |
| MAP-UNSTRUCTURED-SS-NOTIFY | unstructuredSS-Notify |
| MAP-UNSTRUCTURED-SS-REQUEST | unstructuredSS-Request |
| MAP-UPDATE-GPRS-LOCATION | updateGprsLocation |
| MAP-UPDATE-LOCATION | updateLocation |
| MAP-NOTE-MM-EVENT | NoteMM-Event |

***** Next modified part *****

CR editor's note: This part contains the description of the operation for information as well as the correction. The highlights below are only for reader's convenience to indicate the data types. Actual change is applied to ODB-GeneralData data type only.

17.7 MAP constants and data types

17.7.1 Mobile Service data types

...

-- any time information handling operations

```
AnyTimeSubscriptionInterrogation ::= OPERATION --Timer m
ARGUMENT
    anyTimeSubscriptionInterrogationArg AnyTimeSubscriptionInterrogationArg
RESULT
    anyTimeSubscriptionInterrogationRes AnyTimeSubscriptionInterrogationRes
ERRORS {
    ATSI-NotAllowed,
    DataMissing,
    UnexpectedDataValue,
    UnknownSubscriber,
    BearerServiceNotProvisioned,
    TeleserviceNotProvisioned,
    CallBarred,
    IllegalSS-Operation,
    SS-NotAvailable,
    InformationNotAvailable}
```

-- subscriber data modification notification operations

```
NoteSubscriberDataModified ::= OPERATION --Timer m
ARGUMENT
    noteSubscriberDataModifiedArg NoteSubscriberDataModifiedArg
RESULT
    noteSubscriberDataModifiedRes NoteSubscriberDataModifiedRes
    -- optional
ERRORS {
    DataMissing,
    UnexpectedDataValue,
    UnknownSubscriber}
```

-- any time information handling types

```
AnyTimeSubscriptionInterrogationArg ::= SEQUENCE {
    subscriberIdentity [0] SubscriberIdentity,
    requestedSubscriptionInfo [1] RequestedSubscriptionInfo,
    gsmSCF-Address [2] ISDN-AddressString,
    extensionContainer [3] ExtensionContainer OPTIONAL,
    longFTN-Supported [4] NULL OPTIONAL,
    ...}
```

```
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,
    ...}
```

-- subscriber data modification notification types


```

NoteSubscriberDataModifiedArg ::= SEQUENCE {
    imsi                IMSI,
    msisdgn             ISDN-AddressString,
    forwardingInfoFor-CSE [0] Ext-ForwardingInfoFor-CSE    OPTIONAL,
    callBarringInfoFor-CSE [1] Ext-CallBarringInfoFor-CSE  OPTIONAL,
    odb-Info            [2] ODB-Info                        OPTIONAL,
    camel-SubscriptionInfo [3] CAMEL-SubscriptionInfo     OPTIONAL,
    allInformationSent   [4] NULL                          OPTIONAL,
    extensionContainer   ExtensionContainer                OPTIONAL,
    ...}

```

```

NoteSubscriberDataModifiedRes ::= SEQUENCE {
    extensionContainer   ExtensionContainer                OPTIONAL,
    ...}

```

```

ODB-Info ::= SEQUENCE {
    odb-Data            ODB-Data,
    notificationToCSE  NULL                              OPTIONAL,
    extensionContainer  ExtensionContainer                OPTIONAL,
    ...}

```

```

ODB-Data ::= SEQUENCE {
    odb-GeneralData    ODB-GeneralData,
    odb-HPLMN-Data    ODB-HPLMN-Data                    OPTIONAL,
    extensionContainer  ExtensionContainer                OPTIONAL,
    ...}

```

```

ODB-GeneralData ::= BIT STRING {
    allOG-CallsBarred (0),
    internationalOGCallsBarred (1),
    internationalOGCallsNotToHPLMN-CountryBarred (2),
    interzonalOGCallsBarred (6),
    interzonalOGCallsNotToHPLMN-CountryBarred (7),
    interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8),
    premiumRateInformationOGCallsBarred (3),
    premiumRateEntertainmentOGCallsBarred (4),
    ss-AccessBarred (5),
    allECT-Barred (9),
    chargeableECT-Barred (10),
    internationalECT-Barred (11),
    interzonalECT-Barred (12),
    doublyChargeableECT-Barred (13),
    multipleECT-Barred (14),
    allPacketOrientedServicesBarred (15),
    roamerAccessToHPLMN-AP-Barred (16),
    roamerAccessToVPLMN-AP-Barred (17),
    roamingOutsidePLMNOG-CallsBarred (18),
    allIC-CallsBarred (19),
    roamingOutsidePLMNIC-CallsBarred (20),
    roamingOutsidePLMNICountryIC-CallsBarred (21),
    roamingOutsidePLMN-Barred (22),
    roamingOutsidePLMN-CountryBarred (23),
    registrationAllCF-Barred (24),
    registrationCFNotToHPLMN-Barred (25),
    registrationInterzonalCF-Barred (26),
    registrationInterzonalCFNotToHPLMN-Barred (27)} (SIZE (15..32))
-- exception handling: reception of unknown bit assignments in the
-- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData
-- When the ODB-GeneralData type is removed from the HLR for a given subscriber,
-- in NoteSubscriberDataModified operation sent toward the gsmSCF
-- all bits shall be set to "0".

```

```

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

```

CHANGE REQUEST

⌘ **29.002 CR 372** ⌘ rev **1** ⌘ Current version: **4.6.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|-----------------|--|
| Title: | ⌘ Inclusion of complete ODB data in ATSI and NSDC | | |
| Source: | ⌘ CN4 | | |
| Work item code: | ⌘ CAMEL3 | Date: | ⌘ 31 January 2002 |
| 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) |

| | |
|--------------------------------------|---|
| Reason for change: | ⌘ "Any time subscription interrogation" is the feature which the SCP interrogates the HLR to query the subscriber's attributes. "Notification to CSE of change of subscriber data" is to inform the SCP of the change of subscriber data. The scope of subscriber data to be interrogated/changed by these operations include SS-CF, SS-CB, ODB, CSI and Supported CAMEL Phases in VLR and/or SGSN. When one of the data is requested by ATSI, then the HLR sends the data to the SCP, or if one of the data is changed in the HLR, the HLR sends NSDC to the SCP with the changed data. If one of the operations is used for the ODB data, the ODB data for the applied subscriber should include the complete ODB category for the subscriber. However, the definition of the ODB data included in ATSI and NSDC, ODB-Info, contains only the ODB data which are sent to VLR/SGSN from the HLR. This results in the missing data if, for example, ODB for all incoming call, is requested/modified, i.e., the ATSI ack. and the NSDC req. are sent without requested/modified data. (It seems this error caused when ODB-GeneralData which had been defined for ISD before was reused for ATSI and NSDC in R99) |
| Summary of change: | ⌘ Add ODB categories in ODB-GeneralData to form the complete ODB in the HLR. |
| Consequences if not approved: | ⌘ The above problem remains. The SCP is not able to query/be informed about these data. |

| | | | |
|------------------------------|---|---|--|
| Clauses affected: | ⌘ 7, 8, 16, 17 | | |
| Other specs affected: | <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ | |
| Other comments: | ⌘ This CR includes the following corrections; | | |

- 7.6.3.9: All the missing ODB data added. They are stored in the HLR.
- 7.6.3.9 bottom line: New comment is added to note that the additional ODBs are not used for ISD
- 7.6.3.8.5 ODB Data: It does not contain Notification to CSE flag. Deleted.
- 7.6.3.xx ODB Info: Corrent ASN.1 for ATSI and NSDC contains ODB Info, not ODB data. This explanation for ODB Info is missing. Added as defined in ASN.1.
- 8.11.3.2 ATSI parameter table: as above.
- 8.11.5.2 NSDC parameter table: as above.
- 8.11.5.3 NSDC parameters: as above and correction of the reference sections.
- 16.2.2.4 Operation: anyTimeSubscriptionInterrogation (editorial).
- ASN.1 ODB-GeneralData: All the missing ODB data added as described above.

***** For information *****

| 3GPP TS 22.041 | 3GPP TS 29.002 | defined in; | stored in |
|--|--|--------------------|------------------|
| 1.1 Barring outgoing calls | allOG-CallsBarred (0) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.2 Barring outgoing international calls | internationalOGCallsBarred (1) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.3 Barring outgoing international calls except those directed to the home PLMN country | internationalOGCallsNotToHPLMN-CountryBarred (2) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.4 Barring of outgoing calls when roaming outside the home PLMN country | | --none-- | HLR |
| 1.5 Barring of outgoing inter-zonal calls | interzonalOGCallsBarred (6) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.6 Barring of outgoing inter-zonal calls except those directed to the home PLMN country | interzonalOGCallsNotToHPLMN-CountryBarred (7) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.7 Barring of outgoing international calls except those directed to the home PLMN country AND barring of outgoing inter-zonal calls | interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8) | ODB-GeneralData | HLR/VLR/SGSN |
| 2.1 Barring incoming calls | | --none-- | HLR |
| 2.2 Barring incoming calls when roaming outside the home PLMN country | | --none-- | HLR |
| 2.3 Barring incoming calls when roaming outside the zone of the home PLMN country | | --none-- | HLR |
| 3.1 Barring of Roaming outside the home PLMN | | --none-- | HLR |
| 3.2 Barring of Roaming outside the home PLMN country | | --none-- | HLR |
| 4.1 Barring of outgoing Premium Rate Calls (Information) | premiumRateInformationOGCallsBarred (3) | ODB-GeneralData | HLR/VLR |
| 4.2 Barring of outgoing Premium Rate Calls (Entertainment) | premiumRateEntertainmentOGCallsBarred (4) | ODB-GeneralData | HLR/VLR |
| 5.1 When registered in the HPLMN, Operator Specific Barring (Type 1) | plmn-SpecificBarringType1 (0) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.2 When registered in the HPLMN, Operator Specific Barring (Type 2) | plmn-SpecificBarringType1 (1) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.3 When registered in the HPLMN, Operator Specific Barring (Type 3) | plmn-SpecificBarringType1 (2) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.4 When registered in the HPLMN, Operator Specific Barring (Type 4) | plmn-SpecificBarringType1 (3) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 6.1 Barring of Supplementary Services Management | ss-AccessBarred (5) | ODB-GeneralData | HLR/VLR |
| 7.1 Barring of registration of any call forwarded-to number | | --none-- | HLR |
| 7.2 Barring of registration of any international call forwarded-to number | | --none-- | HLR |
| 7.3 Barring or registration of any international call forwarded-to number except to a number within the HPLMN country | | --none-- | HLR |
| 7.4 Barring of registration of any inter-zone call forwarded-to number | | --none-- | HLR |
| 7.5 Barring of registration of any inter-zone call forwarded-to number except to a number within the HPLMN country | | --none-- | HLR |

| 3GPP TS 22.041 | 3GPP TS 29.002 | defined in; | stored in |
|---|--------------------------------------|-----------------|-----------|
| 8.1 Barring of invocation of call transfer | allECT-Barred (9) | ODB-GeneralData | HLR/VLR |
| 8.2 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber | chargeableECT-Barred (10) | ODB-GeneralData | HLR/VLR |
| 8.3 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber at international rates | internationalECT-Barred (11) | ODB-GeneralData | HLR/VLR |
| 8.4 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber at inter-zonal rates | interzonalECT-Barred (12) | ODB-GeneralData | HLR/VLR |
| 9 Barring of invocation of call transfer where both calls are calls charged to the served subscriber | doublyChargeableECT-Barred (13) | ODB-GeneralData | HLR/VLR |
| 10 Barring of further invocation of call transfer if there is already one ongoing transferred call for the served subscriber in the serving MSC/VLR | multipleECT-Barred (14) | ODB-GeneralData | HLR/VLR |
| | | | |
| Packets (subclause 5.2) | allPacketOrientedServicesBarred (15) | ODB-GeneralData | HLR/SGSN |
| Packets (subclause 5.2) | roamerAccessToHPLMN-AP-Barred (16) | ODB-GeneralData | HLR/SGSN |
| Packets (subclause 5.2) | roamerAccessToHPLMN-AP-Barred (17) | ODB-GeneralData | HLR/SGSN |

***** First modified part *****

7.6.3.9 Operator Determined Barring General Data

This parameter refers to the set of subscriber features that the network operator or the service provider can regulate. This set only includes those limitations that can be controlled in the VLR or in the SGSN:

- All outgoing calls barred; (*)
- International outgoing calls barred; (*)
- International outgoing calls except those to the home PLMN country barred; (*)
- Interzonal outgoing calls barred; (*)
- Interzonal outgoing calls except those to the home PLMN country barred; (*)
- Interzonal outgoing calls AND international outgoing calls except those directed to the home PLMN country barred; (*)
- Premium rate (information) outgoing calls barred;
- Premium rate (entertainment) outgoing calls barred;
- Supplementary service access barred;
- Invocation of call transfer barred;
- Invocation of chargeable call transfer barred;
- Invocation of internationally chargeable call transfer barred;
- Invocation of interzonally chargeable call transfer barred;
- Invocation of call transfer where both legs are chargeable barred;
- Outgoing calls when roaming outside the home PLMN country; (**)
- All incoming calls; (**)
- Incoming calls when roaming outside the home PLMN country; (**)
- Incoming calls when roaming outside the zone of the home PLMN country; (**)
- Roaming outside the home PLMN; (**)
- Roaming outside the home PLMN country; (**)
- Registration of any call forwarded-to number; (**)
- Registration of any international call forwarded-to number; (**)
- Registration of any international call forwarded-to number except to a number within the HPLMN country; (**)

- Registration of any inter-zone call forwarded-to number; (**)
 - Registration of any inter-zone call forwarded-to number except to a number within the HPLMN country. (**)
- (*) Only these ODBs are supported by the SGSN. The SGSN applies them only for short message transfer.
 (**) These ODBs are not used for InsertSubscriberData.

7.6.3.10 ODB HPLMN Specific Data

This parameter refers to the set of subscriber features that the network operator or the service provider can regulate only when the subscriber is registered in the HPLMN. This set only includes those limitations that can be controlled in the VLR or in the SGSN:

- Operator Determined Barring Type 1;
- Operator Determined Barring Type 2;
- Operator Determined Barring Type 3;
- Operator Determined Barring Type 4.

7.6.3.85 ODB Data

This parameter contains the ODB general data, ODB HPLMN specific data and Notification to CSE flag.

7.6.3.xx ODB Info

This parameter contains the ODB data and Notification to CSE flag.

*** Next modified part ***

8.11.3 MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION service

8.11.3.1 Definition

This service is used by the gsmSCF, to request subscription information (e.g. call forwarding supplementary service data or CSI) from the HLR at any time.

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 InfoData | | | C | C(=) |
| CAMEL Subscription Info | | | C | C(=) |
| Supported CAMEL phases in VLR | | | C | C(=) |
| Supported CAMEL phases in SGSN | | | C | C(=) |
| User error | | | C | C(=) |
| Provider error | | | | O |

8.11.3.3 Parameter definition and use

All parameters are described in clause 7.6.

The HLR may be able to use the value of the parameter gsmSCF-address to screen a MAP_Any_Time_Subscription_Interrogation indication.

The use of the parameters and the requirements for their presence are specified in 3G TS 23.078.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Unexpected Data Value;
- Unknown Subscriber;
- BearerServiceNotProvisioned;
- TeleserviceNotProvisioned;
- CallBarred;
- IllegalSS-Operation;
- SS-NotAvailable;
- InformationNotAvailable;
- Any Time Subscription Interrogation Not Allowed;
- Data Missing.

Provider error

These are defined in clause 7.6.1.

*** Next modified part ***

8.11.5 MAP-NOTE-SUBSCRIBER-DATA-MODIFIED service

8.11.5.1 Definition

This service is used by the HLR to inform the gsmSCF that subscriber data have been modified.

8.11.5.2 Service primitives

Table 8.11/5: Note_Subscriber_Data_Modified

| Parameter name | Request | Indication | Response | Confirm |
|--------------------------------------|---------|------------|----------|---------|
| Invoke id | M | M(=) | M(=) | M(=) |
| IMSI | M | M(=) | | |
| MSISDN | M | M(=) | | |
| Ext Forwarding information-for-CSE | C | C(=) | | |
| Ext Call barring information-for-CSE | C | C(=) | | |
| ODB dataInfo | C | C(=) | | |
| CAMEL subscription info | C | C(=) | | |
| All Information Sent | C | C(=) | | |
| User error | | | C | C(=) |
| Provider error | | | | O |

8.11.5.3 Parameter definition and use

Invoke id

See clause 7.6.1 for the use of this parameter.

IMSI

See clause 7.6.2 for the use of this parameter.

MSISDN

See clause 7.6.2 for the use of this parameter.

Ext Forwarding information-for-CSE

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

Ext Call barring information-for-CSE

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

ODB Infodata

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

CAMEL subscription info

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

All Information Sent

This parameter is set when the HLR has sent all information to gsmSCF.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Data Missing;
- Unexpected Data Value;
- Unknown Subscriber.

Provider error

These are defined in clause 7.6.1.

The use of the parameters and the requirements for their presence are specified in 3G TS 23.078.

*** Next modified part ***

16.2.2.4 Operation

When mapping a request primitive on to a Remote Operations PDU (invoke), the MAP PM shall set the operation code according to the mapping described in table 16.2/1.

When mapping a response primitive on to a Remote Operations service, the MAP PM shall set the operation code of the TC-RESULT-L/NL primitive (if required) to the same value as the one received at invocation time.

Table 16.2/1: Mapping of MAP specific services on to MAP operations

| | |
|---|----------------------------------|
| MAP-SERVICE | operation |
| MAP-ACTIVATE-SS | activateSS |
| MAP-ACTIVATE-TRACE-MODE | activateTraceMode |
| MAP-ALERT-SERVICE-CENTRE | alertServiceCentre |
| MAP-ANY-TIME-INTERROGATION | anyTimeInterrogation |
| MAP_AUTHENTICATION_FAILURE_REPORT | authenticationFailureReport |
| MAP-ANY-TIME-MODIFICATION | anyTimeModification |
| MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION | anyTimeSubscriptionInterrogation |
| MAP-CANCEL-LOCATION | cancelLocation |
| MAP-CHECK-IMEI | checkIMEI |
| MAP-DEACTIVATE-SS | deactivateSS |
| MAP-DEACTIVATE-TRACE-MODE | deactivateTraceMode |
| MAP-DELETE-SUBSCRIBER-DATA | deleteSubscriberData |
| MAP-ERASE-CC-ENTRY | eraseCC-Entry |
| MAP-ERASE-SS | eraseSS |
| MAP-FAILURE-REPORT | failureReport |
| MAP-FORWARD-ACCESS-SIGNALLING | forwardAccessSignalling |
| MAP-FORWARD-CHECK-SS-INDICATION | forwardCheckSsIndication |
| MAP-FORWARD-GROUP-CALL-SIGNALLING | forwardGroupCallSignalling |
| MAP-MT-FORWARD-SHORT-MESSAGE | mt-forwardSM |
| MAP-MO-FORWARD-SHORT-MESSAGE | mo-forwardSM |
| MAP-GET-PASSWORD | getPassword |
| MAP-INFORM-SERVICE-CENTRE | informServiceCentre |
| MAP-INSERT-SUBSCRIBER-DATA | insertSubscriberData |
| MAP-INTERROGATE-SS | interrogateSs |
| MAP-IST-ALERT | istAlert |
| MAP-IST-COMMAND | istCommand |
| MAP-NOTE-MS-PRESENT-FOR-GPRS | noteMsPresentForGprs |
| MAP-NOTE-SUBSCRIBER-DATA-MODIFIED | noteSubscriberDataModified |
| MAP-PREPARE-GROUP-CALL | prepareGroupCall |
| MAP-PREPARE-HANDOVER | prepareHandover |
| MAP-PREPARE-SUBSEQUENT-HANDOVER | prepareSubsequentHandover |
| MAP-PROCESS-ACCESS-SIGNALLING | processAccessSignalling |
| MAP-PROCESS-GROUP-CALL-SIGNALLING | processGroupCallSignalling |
| MAP-PROCESS-UNSTRUCTURED-SS-REQUEST | processUnstructuredSS-Request |
| MAP-PROVIDE-ROAMING-NUMBER | provideRoamingNumber |
| MAP-PROVIDE-SIWFS-NUMBER | provideSIWFSNumber |
| MAP-PROVIDE-SUBSCRIBER-LOCATION | provideSubscriberLocation |
| MAP-PROVIDE-SUBSCRIBER-INFO | provideSubscriberInfo |
| MAP-PURGE-MS | purgeMS |
| MAP-READY-FOR-SM | readyForSM |
| MAP-REGISTER-CC-ENTRY | registerCC-Entry |

| | |
|---|----------------------------|
| MAP-REGISTER-PASSWORD | registerPassword |
| MAP-REGISTER-SS | registerSS |
| MAP-REMOTE-USER-FREE | remoteUserFree |
| MAP-REPORT-SM-DELIVERY-STATUS | reportSmDeliveryStatus |
| MAP-RESET | reset |
| MAP-RESTORE-DATA | restoreData |
| MAP-SECURE-TRANSPORT-CLASS-1 | secureTransportClass1 |
| MAP-SECURE-TRANSPORT-CLASS-2 | secureTransportClass2 |
| MAP-SECURE-TRANSPORT-CLASS-3 | secureTransportClass3 |
| MAP-SECURE-TRANSPORT-CLASS-4 | secureTransportClass4 |
| MAP-SEND_GROUP-CALL_END_SIGNAL | sendGroupCallEndSignal |
| MAP-SEND-END-SIGNAL | sendEndSignal |
| MAP-SEND-AUTHENTICATION-INFO | sendAuthenticationInfo |
| MAP-SEND-IMSI | sendIMSI |
| MAP-SEND-IDENTIFICATION | sendIdentification |
| MAP-SEND-ROUTING-INFO-FOR-SM | sendRoutingInfoForSM |
| MAP-SEND-ROUTING-INFO-FOR-GPRS | sendRoutingInfoForGprs |
| MAP-SEND-ROUTING-INFO-FOR-LCS | sendRoutingInfoForLCS |
| MAP-SEND-ROUTING-INFORMATION | sendRoutingInfo |
| MAP-SET-REPORTING-STATE | setReportingState |
| MAP-SIWFS-SIGNALLING-MODIFY | SIWFSSignallingModify |
| MAP-STATUS-REPORT | statusReport |
| MAP-SUBSCRIBER-LOCATION-REPORT | subscriberLocationReport |
| MAP-SUPPLEMENTARY-SERVICE-INVOCATION-NOTIFICATION | ss-Invocation-Notification |
| MAP-UNSTRUCTURED-SS-NOTIFY | unstructuredSS-Notify |
| MAP-UNSTRUCTURED-SS-REQUEST | unstructuredSS-Request |
| MAP-UPDATE-GPRS-LOCATION | updateGprsLocation |
| MAP-UPDATE-LOCATION | updateLocation |
| MAP-NOTE-MM-EVENT | NoteMM-Event |

*** Next modified part ***

CR editor's note: This part contains the description of the operation for information as well as the correction. The highlights below are only for reader's convenience to indicate the data types. Actual change is applied to ODB-GeneralData data type only.

17.7 MAP constants and data types

17.7.1 Mobile Service data types

...

-- any time information handling operations

```

AnyTimeSubscriptionInterrogation ::= OPERATION --Timer m
  ARGUMENT
    anyTimeSubscriptionInterrogationArg AnyTimeSubscriptionInterrogationArg
  RESULT
    anyTimeSubscriptionInterrogationRes AnyTimeSubscriptionInterrogationRes
  ERRORS {
    ATSI-NotAllowed,
    DataMissing,
    UnexpectedDataValue,
    UnknownSubscriber,
    BearerServiceNotProvisioned,
    TeleserviceNotProvisioned,
    CallBarred,
    IllegalSS-Operation,
    SS-NotAvailable,
    InformationNotAvailable}

```

-- subscriber data modification notification operations

```

NoteSubscriberDataModified ::= OPERATION --Timer m
ARGUMENT
    noteSubscriberDataModifiedArg NoteSubscriberDataModifiedArg
RESULT
    noteSubscriberDataModifiedRes NoteSubscriberDataModifiedRes
    -- optional
ERRORS {
    DataMissing,
    UnexpectedDataValue,
    UnknownSubscriber}

```

-- any time information handling types

```

AnyTimeSubscriptionInterrogationArg ::= SEQUENCE {
    subscriberIdentity [0] SubscriberIdentity,
    requestedSubscriptionInfo [1] RequestedSubscriptionInfo,
    gsmSCF-Address [2] ISDN-AddressString,
    extensionContainer [3] ExtensionContainer OPTIONAL,
    longFTN-Supported [4] NULL OPTIONAL,
    ...}

```

```

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,
    ...}

```

-- subscriber data modification notification types

```

NoteSubscriberDataModifiedArg ::= SEQUENCE {
    imsi IMSI,
    msisdn ISDN-AddressString,
    forwardingInfoFor-CSE [0] Ext-ForwardingInfoFor-CSE OPTIONAL,
    callBarringInfoFor-CSE [1] Ext-CallBarringInfoFor-CSE OPTIONAL,
    odb-Info [2] ODB-Info OPTIONAL,
    camel-SubscriptionInfo [3] CAMEL-SubscriptionInfo OPTIONAL,
    allInformationSent [4] NULL OPTIONAL,
    extensionContainer ExtensionContainer OPTIONAL,
    ...}

```

```

NoteSubscriberDataModifiedRes ::= SEQUENCE {
    extensionContainer ExtensionContainer OPTIONAL,
    ...}

```

```

ODB-Info ::= SEQUENCE {
    odb-Data ODB-Data,
    notificationToCSE NULL OPTIONAL,
    extensionContainer ExtensionContainer OPTIONAL,
    ...}

```

```

ODB-Data ::= SEQUENCE {
    odb-GeneralData ODB-GeneralData,
    odb-HPLMN-Data ODB-HPLMN-Data OPTIONAL,
    extensionContainer ExtensionContainer OPTIONAL,
    ...}

```

```

ODB-GeneralData ::= BIT STRING {
    allOG-CallsBarred (0),
    internationalOGCallsBarred (1),
    internationalOGCallsNotToHPLMN-CountryBarred (2),
    interzonalOGCallsBarred (6),
    interzonalOGCallsNotToHPLMN-CountryBarred (7),
    interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8),
    premiumRateInformationOGCallsBarred (3),
    premiumRateEntertainmentOGCallsBarred (4),
    ss-AccessBarred (5),
    allECT-Barred (9),
    chargeableECT-Barred (10),
    internationalECT-Barred (11),
    interzonalECT-Barred (12),
    doublyChargeableECT-Barred (13),
    multipleECT-Barred (14),
    allPacketOrientedServicesBarred (15),
    roamerAccessToHPLMN-AP-Barred (16),
    roamerAccessToVPLMN-AP-Barred (17),
    roamingOutsidePLMNOG-CallsBarred (18),
    allIC-CallsBarred (19),
    roamingOutsidePLMNIC-CallsBarred (20),
    roamingOutsidePLMNICountryIC-CallsBarred (21),
    roamingOutsidePLMN-Barred (22),
    roamingOutsidePLMN-CountryBarred (23),
    registrationAllCF-Barred (24),
    registrationCFNotToHPLMN-Barred (25),
    registrationInterzonalCF-Barred (26),
    registrationInterzonalCFNotToHPLMN-Barred (27)} (SIZE (15..32))
    -- exception handling: reception of unknown bit assignments in the
    -- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData
    -- When the ODB-GeneralData type is removed from the HLR for a given subscriber,
    -- in NoteSubscriberDataModified operation sent toward the gsmSCF
    -- all bits shall be set to "0".

```

```

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

```

CHANGE REQUEST

⌘ **29.002 CR 371** ⌘ rev **1** ⌘ Current version: **3.11.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|--------------|--|
| Title: | ⌘ Inclusion of complete ODB data in ATSI and NSDC | | |
| Source: | ⌘ CN4 | | |
| Work item code: | ⌘ CAMEL3 | Date: | ⌘ 31 January 2002 |
| Category: | ⌘ F (essential correction) | | 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) |

| | |
|--------------------------------------|---|
| Reason for change: | ⌘ "Any time subscription interrogation" is the feature which the SCP interrogates the HLR to query the subscriber's attributes. "Notification to CSE of change of subscriber data" is to inform the SCP of the change of subscriber data. The scope of subscriber data to be interrogated/changed by these operations include SS-CF, SS-CB, ODB, CSI and Supported CAMEL Phases in VLR and/or SGSN. When one of the data is requested by ATSI, then the HLR sends the data to the SCP, or if one of the data is changed in the HLR, the HLR sends NSDC to the SCP with the changed data. If one of the operations is used for the ODB data, the ODB data for the applied subscriber should include the complete ODB category for the subscriber. However, the definition of the ODB data included in ATSI and NSDC, ODB-Info, contains only the ODB data which are sent to VLR/SGSN from the HLR. This results in the missing data if, for example, ODB for all incoming call, is requested/modified, i.e., the ATSI ack. and the NSDC req. are sent without requested/modified data. (It seems this error caused when ODB-GeneralData which had been defined for ISD before was reused for ATSI and NSDC in R99) |
| Summary of change: | ⌘ Add ODB categories in ODB-GeneralData to form the complete ODB in the HLR. |
| Consequences if not approved: | ⌘ The above problem remains. The SCP is not able to query/be informed about these data. |

| | | | |
|------------------------------|--|---|--|
| Clauses affected: | ⌘ 7, 8, 16, 17 | | |
| Other specs affected: | ⌘ <input type="checkbox"/> Other core specifications | ⌘ | |
| | <input type="checkbox"/> Test specifications | | |
| | <input type="checkbox"/> O&M Specifications | | |
| Other comments: | ⌘ This CR includes the following corrections; | | |

- 7.6.3.9: All the missing ODB data added. They are stored in the HLR.
- 7.6.3.9 bottom line: New comment is added to note that the additional ODBs are not used for ISD
- 7.6.3.8.5 ODB Data: It does not contain Notification to CSE flag. Deleted.
- 7.6.3.xx ODB Info: Corrent ASN.1 for ATSI and NSDC contains ODB Info, not ODB data. This explanation for ODB Info is missing. Added as defined in ASN.1.
- 8.11.3.2 ATSI parameter table: as above.
- 8.11.5.2 NSDC parameter table: as above.
- 8.11.5.3 NSDC parameters: as above and correction of the reference sections.
- 16.2.2.4 Operation: anyTimeSubscriptionInterrogation (editorial).
- ASN.1 ODB-GeneralData: All the missing ODB data added as described above.

***** For information *****

| 3GPP TS 22.041 | 3GPP TS 29.002 | defined in; | stored in |
|--|--|--------------------|------------------|
| 1.1 Barring outgoing calls | allOG-CallsBarred (0) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.2 Barring outgoing international calls | internationalOGCallsBarred (1) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.3 Barring outgoing international calls except those directed to the home PLMN country | internationalOGCallsNotToHPLMN-CountryBarred (2) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.4 Barring of outgoing calls when roaming outside the home PLMN country | | --none-- | HLR |
| 1.5 Barring of outgoing inter-zonal calls | interzonalOGCallsBarred (6) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.6 Barring of outgoing inter-zonal calls except those directed to the home PLMN country | interzonalOGCallsNotToHPLMN-CountryBarred (7) | ODB-GeneralData | HLR/VLR/SGSN |
| 1.7 Barring of outgoing international calls except those directed to the home PLMN country AND barring of outgoing inter-zonal calls | interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8) | ODB-GeneralData | HLR/VLR/SGSN |
| 2.1 Barring incoming calls | | --none-- | HLR |
| 2.2 Barring incoming calls when roaming outside the home PLMN country | | --none-- | HLR |
| 2.3 Barring incoming calls when roaming outside the zone of the home PLMN country | | --none-- | HLR |
| 3.1 Barring of Roaming outside the home PLMN | | --none-- | HLR |
| 3.2 Barring of Roaming outside the home PLMN country | | --none-- | HLR |
| 4.1 Barring of outgoing Premium Rate Calls (Information) | premiumRateInformationOGCallsBarred (3) | ODB-GeneralData | HLR/VLR |
| 4.2 Barring of outgoing Premium Rate Calls (Entertainment) | premiumRateEntertainmentOGCallsBarred (4) | ODB-GeneralData | HLR/VLR |
| 5.1 When registered in the HPLMN, Operator Specific Barring (Type 1) | plmn-SpecificBarringType1 (0) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.2 When registered in the HPLMN, Operator Specific Barring (Type 2) | plmn-SpecificBarringType1 (1) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.3 When registered in the HPLMN, Operator Specific Barring (Type 3) | plmn-SpecificBarringType1 (2) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 5.4 When registered in the HPLMN, Operator Specific Barring (Type 4) | plmn-SpecificBarringType1 (3) | ODB-HPLMN-Data | HLR/VLR/SGSN |
| 6.1 Barring of Supplementary Services Management | ss-AccessBarred (5) | ODB-GeneralData | HLR/VLR |
| 7.1 Barring of registration of any call forwarded-to number | | --none-- | HLR |
| 7.2 Barring of registration of any international call forwarded-to number | | --none-- | HLR |
| 7.3 Barring or registration of any international call forwarded-to number except to a number within the HPLMN country | | --none-- | HLR |
| 7.4 Barring of registration of any inter-zone call forwarded-to number | | --none-- | HLR |
| 7.5 Barring of registration of any inter-zone call forwarded-to number except to a number within the HPLMN country | | --none-- | HLR |

| 3GPP TS 22.041 | 3GPP TS 29.002 | defined in; | stored in |
|---|--------------------------------------|-----------------|-----------|
| 8.1 Barring of invocation of call transfer | allECT-Barred (9) | ODB-GeneralData | HLR/VLR |
| 8.2 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber | chargeableECT-Barred (10) | ODB-GeneralData | HLR/VLR |
| 8.3 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber at international rates | internationalECT-Barred (11) | ODB-GeneralData | HLR/VLR |
| 8.4 Barring of invocation of call transfer where at least one of the two calls is a call charged to the served subscriber at inter-zonal rates | interzonalECT-Barred (12) | ODB-GeneralData | HLR/VLR |
| 9 Barring of invocation of call transfer where both calls are calls charged to the served subscriber | doublyChargeableECT-Barred (13) | ODB-GeneralData | HLR/VLR |
| 10 Barring of further invocation of call transfer if there is already one ongoing transferred call for the served subscriber in the serving MSC/VLR | multipleECT-Barred (14) | ODB-GeneralData | HLR/VLR |
| | | | |
| Packets (subclause 5.2) | allPacketOrientedServicesBarred (15) | ODB-GeneralData | HLR/SGSN |
| Packets (subclause 5.2) | roamerAccessToHPLMN-AP-Barred (16) | ODB-GeneralData | HLR/SGSN |
| Packets (subclause 5.2) | roamerAccessToHPLMN-AP-Barred (17) | ODB-GeneralData | HLR/SGSN |

***** First modified part *****

7.6.3.9 Operator Determined Barring General Data

This parameter refers to the set of subscriber features that the network operator or the service provider can regulate. This set only includes those limitations that can be controlled in the VLR or in the SGSN:

- All outgoing calls barred; (*)
- International outgoing calls barred; (*)
- International outgoing calls except those to the home PLMN country barred; (*)
- Interzonal outgoing calls barred; (*)
- Interzonal outgoing calls except those to the home PLMN country barred; (*)
- Interzonal outgoing calls AND international outgoing calls except those directed to the home PLMN country barred; (*)
- Premium rate (information) outgoing calls barred;
- Premium rate (entertainment) outgoing calls barred;
- Supplementary service access barred;
- Invocation of call transfer barred;
- Invocation of chargeable call transfer barred;
- Invocation of internationally chargeable call transfer barred;
- Invocation of interzonally chargeable call transfer barred;
- Invocation of call transfer where both legs are chargeable barred;
- Outgoing calls when roaming outside the home PLMN country; (**)
- All incoming calls; (**)
- Incoming calls when roaming outside the home PLMN country; (**)
- Incoming calls when roaming outside the zone of the home PLMN country; (**)
- Roaming outside the home PLMN; (**)
- Roaming outside the home PLMN country; (**)
- Registration of any call forwarded-to number; (**)
- Registration of any international call forwarded-to number; (**)
- Registration of any international call forwarded-to number except to a number within the HPLMN country; (**)

- Registration of any inter-zone call forwarded-to number; (**)
 - Registration of any inter-zone call forwarded-to number except to a number within the HPLMN country. (**)
- (*) Only these ODBs are supported by the SGSN. The SGSN applies them only for short message transfer.
 (**) These ODBs are not used for InsertSubscriberData.

7.6.3.10 ODB HPLMN Specific Data

This parameter refers to the set of subscriber features that the network operator or the service provider can regulate only when the subscriber is registered in the HPLMN. This set only includes those limitations that can be controlled in the VLR or in the SGSN:

- Operator Determined Barring Type 1;
- Operator Determined Barring Type 2;
- Operator Determined Barring Type 3;
- Operator Determined Barring Type 4.

7.6.3.85 ODB Data

This parameter contains the ODB general data, ODB HPLMN specific data and Notification to CSE flag.

7.6.3.xx ODB Info

This parameter contains the ODB data and Notification to CSE flag.

*** Next modified part ***

8.11.3 MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION service

8.11.3.1 Definition

This service is used by the gsmSCF, to request subscription information (e.g. call forwarding supplementary service data or CSI) from the HLR at any time.

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 InfoData | | | C | C(=) |
| CAMEL Subscription Info | | | C | C(=) |
| Supported CAMEL phases in VLR | | | C | C(=) |
| Supported CAMEL phases in SGSN | | | C | C(=) |
| User error | | | C | C(=) |
| Provider error | | | | O |

8.11.3.3 Parameter definition and use

All parameters are described in clause 7.6.

The HLR may be able to use the value of the parameter gsmSCF-address to screen a MAP_Any_Time_Subscription_Interrogation indication.

The use of the parameters and the requirements for their presence are specified in 3G TS 23.078.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Unexpected Data Value;
- Unknown Subscriber;
- BearerServiceNotProvisioned;
- TeleserviceNotProvisioned;
- CallBarred;
- IllegalSS-Operation;
- SS-NotAvailable;
- InformationNotAvailable;
- Any Time Subscription Interrogation Not Allowed;
- Data Missing.

Provider error

These are defined in clause 7.6.1.

*** Next modified part ***

8.11.5 MAP-NOTE-SUBSCRIBER-DATA-MODIFIED service

8.11.5.1 Definition

This service is used by the HLR to inform the gsmSCF that subscriber data have been modified.

8.11.5.2 Service primitives

Table 8.11/5: Note_Subscriber_Data_Modified

| Parameter name | Request | Indication | Response | Confirm |
|--------------------------------------|---------|------------|----------|---------|
| Invoke id | M | M(=) | M(=) | M(=) |
| IMSI | M | M(=) | | |
| MSISDN | M | M(=) | | |
| Ext Forwarding information-for-CSE | C | C(=) | | |
| Ext Call barring information-for-CSE | C | C(=) | | |
| ODB dataInfo | C | C(=) | | |
| CAMEL subscription info | C | C(=) | | |
| All Information Sent | C | C(=) | | |
| User error | | | C | C(=) |
| Provider error | | | | O |

8.11.5.3 Parameter definition and use

Invoke id

See clause 7.6.1 for the use of this parameter.

IMSI

See clause 7.6.2 for the use of this parameter.

MSISDN

See clause 7.6.2 for the use of this parameter.

Ext Forwarding information-for-CSE

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

Ext Call barring information-for-CSE

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

ODB Infodata

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

CAMEL subscription info

See clause 7.6.32 for the use of this parameter. The use of this parameter and the requirements for their presence are specified in 3G TS 23.078.

All Information Sent

This parameter is set when the HLR has sent all information to gsmSCF.

User error

This parameter is sent by the responder when an error is detected and if present, takes one of the following values:

- Data Missing;
- Unexpected Data Value;
- Unknown Subscriber.

Provider error

These are defined in clause 7.6.1.

The use of the parameters and the requirements for their presence are specified in 3G TS 23.078.

*** Next modified part ***

16.2.2.4 Operation

When mapping a request primitive on to a Remote Operations PDU (invoke), the MAP PM shall set the operation code according to the mapping described in table 16.2/1.

When mapping a response primitive on to a Remote Operations service, the MAP PM shall set the operation code of the TC-RESULT-L/NL primitive (if required) to the same value as the one received at invocation time.

Table 16.2/1: Mapping of MAP specific services on to MAP operations

| | |
|---|----------------------------------|
| MAP-SERVICE | operation |
| MAP-ACTIVATE-SS | activateSS |
| MAP-ACTIVATE-TRACE-MODE | activateTraceMode |
| MAP-ALERT-SERVICE-CENTRE | alertServiceCentre |
| MAP-ANY-TIME-INTERROGATION | anyTimeInterrogation |
| MAP_AUTHENTICATION_FAILURE_REPORT | authenticationFailureReport |
| MAP-ANY-TIME-MODIFICATION | anyTimeModification |
| MAP-ANY-TIME-SUBSCRIPTION-INTERROGATION | anyTimeSubscriptionInterrogation |
| MAP-CANCEL-LOCATION | cancelLocation |
| MAP-CHECK-IMEI | checkIMEI |
| MAP-DEACTIVATE-SS | deactivateSS |
| MAP-DEACTIVATE-TRACE-MODE | deactivateTraceMode |
| MAP-DELETE-SUBSCRIBER-DATA | deleteSubscriberData |
| MAP-ERASE-CC-ENTRY | eraseCC-Entry |
| MAP-ERASE-SS | eraseSS |
| MAP-FAILURE-REPORT | failureReport |
| MAP-FORWARD-ACCESS-SIGNALLING | forwardAccessSignalling |
| MAP-FORWARD-CHECK-SS-INDICATION | forwardCheckSsIndication |
| MAP-FORWARD-GROUP-CALL-SIGNALLING | forwardGroupCallSignalling |
| MAP-MT-FORWARD-SHORT-MESSAGE | mt-forwardSM |
| MAP-MO-FORWARD-SHORT-MESSAGE | mo-forwardSM |
| MAP-GET-PASSWORD | getPassword |
| MAP-INFORM-SERVICE-CENTRE | informServiceCentre |
| MAP-INSERT-SUBSCRIBER-DATA | insertSubscriberData |
| MAP-INTERROGATE-SS | interrogateSs |
| MAP-IST-ALERT | istAlert |
| MAP-IST-COMMAND | istCommand |
| MAP-NOTE-MS-PRESENT-FOR-GPRS | noteMsPresentForGprs |
| MAP-NOTE-SUBSCRIBER-DATA-MODIFIED | noteSubscriberDataModified |
| MAP-PREPARE-GROUP-CALL | prepareGroupCall |
| MAP-PREPARE-HANDOVER | prepareHandover |
| MAP-PREPARE-SUBSEQUENT-HANDOVER | prepareSubsequentHandover |
| MAP-PROCESS-ACCESS-SIGNALLING | processAccessSignalling |
| MAP-PROCESS-GROUP-CALL-SIGNALLING | processGroupCallSignalling |
| MAP-PROCESS-UNSTRUCTURED-SS-REQUEST | processUnstructuredSS-Request |
| MAP-PROVIDE-ROAMING-NUMBER | provideRoamingNumber |
| MAP-PROVIDE-SIWFS-NUMBER | provideSIWFSNumber |
| MAP-PROVIDE-SUBSCRIBER-LOCATION | provideSubscriberLocation |
| MAP-PROVIDE-SUBSCRIBER-INFO | provideSubscriberInfo |
| MAP-PURGE-MS | purgeMS |
| MAP-READY-FOR-SM | readyForSM |
| MAP-REGISTER-CC-ENTRY | registerCC-Entry |

| | |
|---|----------------------------|
| MAP-REGISTER-PASSWORD | registerPassword |
| MAP-REGISTER-SS | registerSS |
| MAP-REMOTE-USER-FREE | remoteUserFree |
| MAP-REPORT-SM-DELIVERY-STATUS | reportSmDeliveryStatus |
| MAP-RESET | reset |
| MAP-RESTORE-DATA | restoreData |
| MAP-SECURE-TRANSPORT-CLASS-1 | secureTransportClass1 |
| MAP-SECURE-TRANSPORT-CLASS-2 | secureTransportClass2 |
| MAP-SECURE-TRANSPORT-CLASS-3 | secureTransportClass3 |
| MAP-SECURE-TRANSPORT-CLASS-4 | secureTransportClass4 |
| MAP-SEND_GROUP-CALL_END_SIGNAL | sendGroupCallEndSignal |
| MAP-SEND-END-SIGNAL | sendEndSignal |
| MAP-SEND-AUTHENTICATION-INFO | sendAuthenticationInfo |
| MAP-SEND-IMSI | sendIMSI |
| MAP-SEND-IDENTIFICATION | sendIdentification |
| MAP-SEND-ROUTING-INFO-FOR-SM | sendRoutingInfoForSM |
| MAP-SEND-ROUTING-INFO-FOR-GPRS | sendRoutingInfoForGprs |
| MAP-SEND-ROUTING-INFO-FOR-LCS | sendRoutingInfoForLCS |
| MAP-SEND-ROUTING-INFORMATION | sendRoutingInfo |
| MAP-SET-REPORTING-STATE | setReportingState |
| MAP-SIWFS-SIGNALLING-MODIFY | SIWFSSignallingModify |
| MAP-STATUS-REPORT | statusReport |
| MAP-SUBSCRIBER-LOCATION-REPORT | subscriberLocationReport |
| MAP-SUPPLEMENTARY-SERVICE-INVOCATION-NOTIFICATION | ss-Invocation-Notification |
| MAP-UNSTRUCTURED-SS-NOTIFY | unstructuredSS-Notify |
| MAP-UNSTRUCTURED-SS-REQUEST | unstructuredSS-Request |
| MAP-UPDATE-GPRS-LOCATION | updateGprsLocation |
| MAP-UPDATE-LOCATION | updateLocation |
| MAP-NOTE-MM-EVENT | NoteMM-Event |

*** Next modified part ***

CR editor's note: This part contains the description of the operation for information as well as the correction. The highlights below are only for reader's convenience to indicate the data types. Actual change is applied to ODB-GeneralData data type only.

17.7 MAP constants and data types

17.7.1 Mobile Service data types

...

-- any time information handling operations

```

AnyTimeSubscriptionInterrogation ::= OPERATION --Timer m
  ARGUMENT
    anyTimeSubscriptionInterrogationArg AnyTimeSubscriptionInterrogationArg
  RESULT
    anyTimeSubscriptionInterrogationRes AnyTimeSubscriptionInterrogationRes
  ERRORS {
    ATSI-NotAllowed,
    DataMissing,
    UnexpectedDataValue,
    UnknownSubscriber,
    BearerServiceNotProvisioned,
    TeleserviceNotProvisioned,
    CallBarred,
    IllegalSS-Operation,
    SS-NotAvailable,
    InformationNotAvailable}

```

-- subscriber data modification notification operations

```

NoteSubscriberDataModified ::= OPERATION --Timer m
  ARGUMENT
    noteSubscriberDataModifiedArg NoteSubscriberDataModifiedArg
  RESULT
    noteSubscriberDataModifiedRes NoteSubscriberDataModifiedRes
    -- optional
  ERRORS {
    DataMissing,
    UnexpectedDataValue,
    UnknownSubscriber}

```

-- any time information handling types

```

AnyTimeSubscriptionInterrogationArg ::= SEQUENCE {
  subscriberIdentity [0] SubscriberIdentity,
  requestedSubscriptionInfo [1] RequestedSubscriptionInfo,
  gsmSCF-Address [2] ISDN-AddressString,
  extensionContainer [3] ExtensionContainer OPTIONAL,
  longFTN-Supported [4] NULL OPTIONAL,
  ...}

```

```

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,
  ...}

```

-- subscriber data modification notification types

```

NoteSubscriberDataModifiedArg ::= SEQUENCE {
  imsi IMSI,
  msisdn ISDN-AddressString,
  forwardingInfoFor-CSE [0] Ext-ForwardingInfoFor-CSE OPTIONAL,
  callBarringInfoFor-CSE [1] Ext-CallBarringInfoFor-CSE OPTIONAL,
  odb-Info [2] ODB-Info OPTIONAL,
  camel-SubscriptionInfo [3] CAMEL-SubscriptionInfo OPTIONAL,
  allInformationSent [4] NULL OPTIONAL,
  extensionContainer ExtensionContainer OPTIONAL,
  ...}

```

```

NoteSubscriberDataModifiedRes ::= SEQUENCE {
  extensionContainer ExtensionContainer OPTIONAL,
  ...}

```

```

ODB-Info ::= SEQUENCE {
  odb-Data ODB-Data,
  notificationToCSE NULL OPTIONAL,
  extensionContainer ExtensionContainer OPTIONAL,
  ...}

```

```

ODB-Data ::= SEQUENCE {
  odb-GeneralData ODB-GeneralData,
  odb-HPLMN-Data ODB-HPLMN-Data OPTIONAL,
  extensionContainer ExtensionContainer OPTIONAL,
  ...}

```

```

ODB-GeneralData ::= BIT STRING {
    allOG-CallsBarred (0),
    internationalOGCallsBarred (1),
    internationalOGCallsNotToHPLMN-CountryBarred (2),
    interzonalOGCallsBarred (6),
    interzonalOGCallsNotToHPLMN-CountryBarred (7),
    interzonalOGCallsAndInternationalOGCallsNotToHPLMN-CountryBarred (8),
    premiumRateInformationOGCallsBarred (3),
    premiumRateEntertainmentOGCallsBarred (4),
    ss-AccessBarred (5),
    allECT-Barred (9),
    chargeableECT-Barred (10),
    internationalECT-Barred (11),
    interzonalECT-Barred (12),
    doublyChargeableECT-Barred (13),
    multipleECT-Barred (14),
    roamingOutsidePLMNOG-CallsBarred (18),
    allIC-CallsBarred (19),
    roamingOutsidePLMNIC-CallsBarred (20),
    roamingOutsidePLMNICCountryIC-CallsBarred (21),
    roamingOutsidePLMN-Barred (22),
    roamingOutsidePLMN-CountryBarred (23),
    registrationAllCF-Barred (24),
    registrationCFNotToHPLMN-Barred (25),
    registrationInterzonalCF-Barred (26),
    registrationInterzonalCFNotToHPLMN-Barred (27)} (SIZE (15..32))
-- exception handling: reception of unknown bit assignments in the
-- ODB-GeneralData type shall be treated like unsupported ODB-GeneralData
-- When the ODB-GeneralData type is removed from the HLR for a given subscriber,
-- in NoteSubscriberDataModified operation sent toward the gsmSCF
-- all bits shall be set to "0".

```

```

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

```

CHANGE REQUEST

⌘ **23.018 CR 098** ⌘ rev **-** ⌘ 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: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|-----------------|---|
| Title: | ⌘ Correction on the Active Location Retrieval description | | |
| Source: | ⌘ CN4 | | |
| Work item code: | ⌘ CAMEL 3 | Date: | ⌘ |
| Category: | ⌘ A | Release: | ⌘ R5 |
| | 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) |

| | | | |
|--------------------------------------|--|--|--|
| Reason for change: | ⌘ The UMTS specific location information (SAI) has to be taken into account | | |
| Summary of change: | ⌘ The Active Location Retrieval procedure allows the gsmSCF to know the location of the MS with the accuracy of the cell ID for GSM or SAI for UMTS at every time it is possible. The CN4 meeting #21 (CANCUN) has already corrected the § 7.2.3.4 (procedure Retrieve_Current_Location_VLR) and the SDL 64 (procedure Current_Location_Page_MSC) in order to take into account the specific UMTS procedure Location Reporting Control that has been previously forgotten.- However, the SDL 65 (procedure Current_Location_Search_MSC) has to be corrected too. | | |
| Consequences if not approved: | ⌘ Incomplete Active Location Retrieval mechanism | | |

| | | | |
|------------------------------|---|---|--|
| Clauses affected: | ⌘ 7.2.4 | | |
| Other specs affected: | ⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ | |
| Other comments: | ⌘ | | |

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

***** Change *****

7.2.4.7. Procedure Current_Location_Search_MSC

The test "MS connection exists" takes the "Yes" exit if there is a radio connection established between the MS and the network.

The test "GSM Access" takes the "Yes" exit if the MS is using a GSM radio access to communicate with the network.

The test "Report on change of service area?" takes the "Yes" exit if the MSC has performed the Location Reporting Control procedure (see 3GPP TS 25.413 [26]) with the Request Type IE set to "Change of service area".

If the test "Report on change of service area?" takes the "No" exit the MSC shall perform a Location Reporting Control procedure with the Request Type IE set to "Direct".

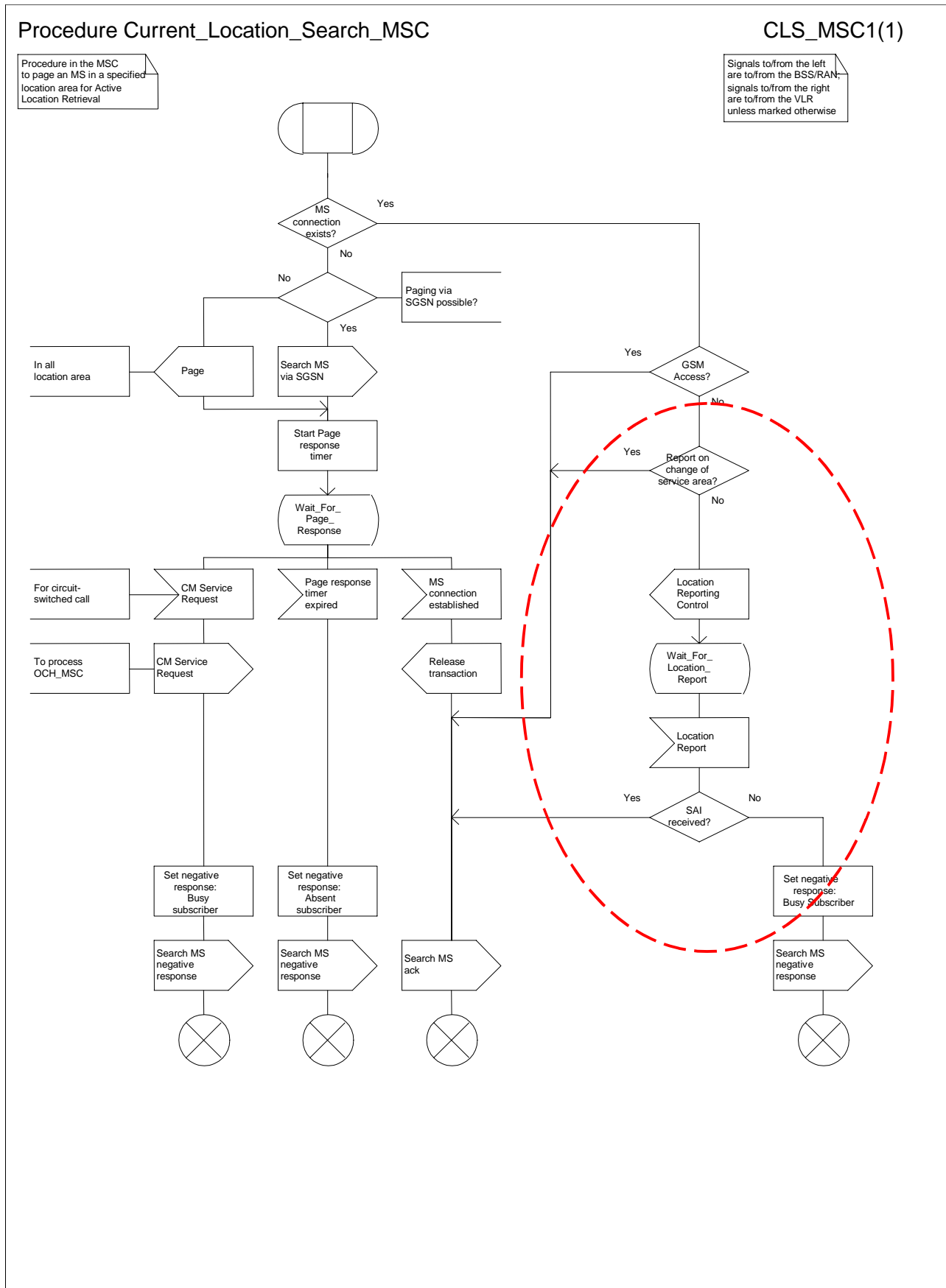


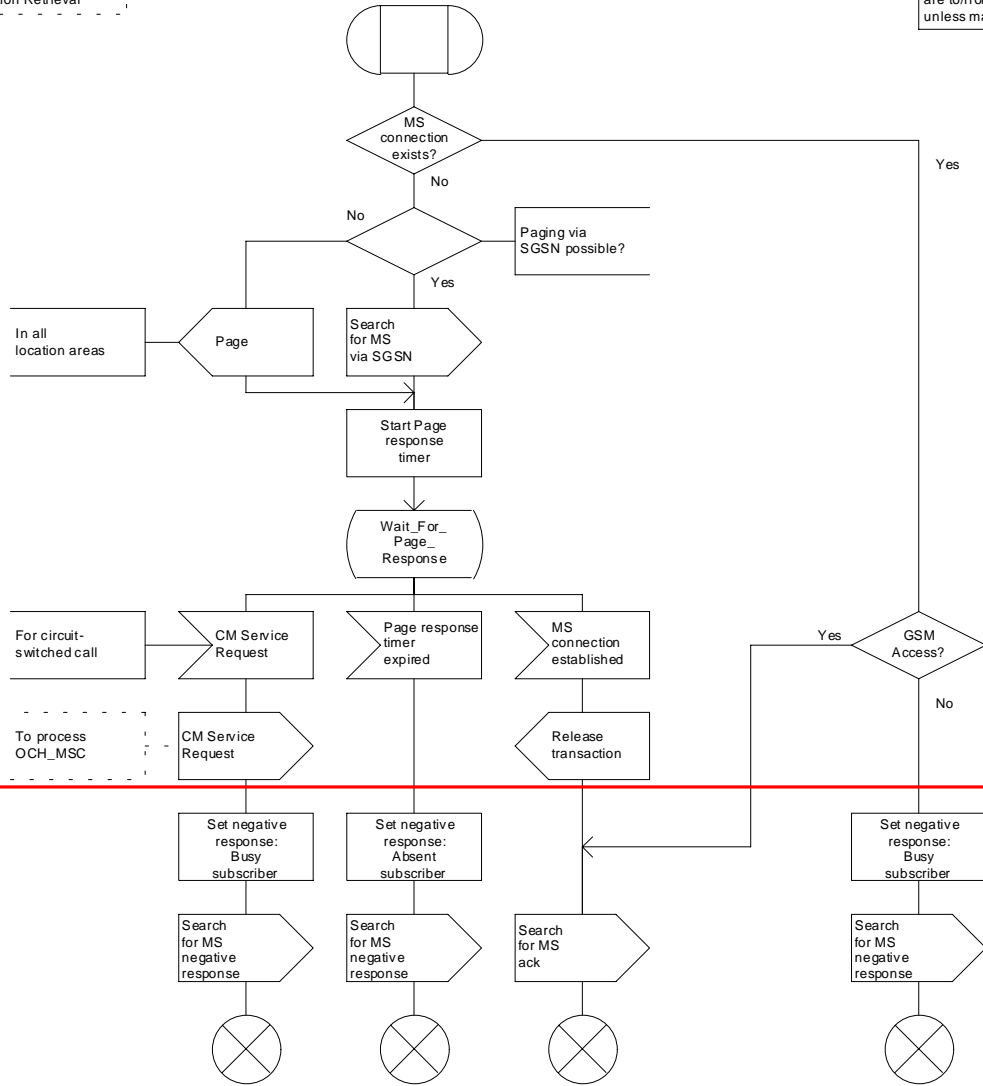
Figure 65: Procedure Current_Location_Search_MSC

Procedure Current_Location_Search_MSC

CLS_MSC1(1)

Procedure in the MSC to page an MS in all location areas for Active Location Retrieval

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise



CHANGE REQUEST

⌘ **23.018 CR 097** ⌘ rev **-** ⌘ Current version: **4.5.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

| | | | |
|------------------------|---|-----------------|---|
| Title: | ⌘ Correction on the Active Location Retrieval description | | |
| Source: | ⌘ CN4 | | |
| Work item code: | ⌘ CAMEL 3 | Date: | ⌘ |
| Category: | ⌘ A | Release: | ⌘ R4 |
| | 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) |

| | | | |
|--------------------------------------|--|--|--|
| Reason for change: | ⌘ The UMTS specific location information (SAI) has to be taken into account | | |
| Summary of change: | ⌘ The Active Location Retrieval procedure allows the gsmSCF to know the location of the MS with the accuracy of the cell ID for GSM or SAI for UMTS at every time it is possible. The CN4 meeting #21 (CANCUN) has already corrected the § 7.2.3.4 (procedure Retrieve_Current_Location_VLR) and the SDL 64 (procedure Current_Location_Page_MSC) in order to take into account the specific UMTS procedure Location Reporting Control that has been previously forgotten.- However, the SDL 65 (procedure Current_Location_Search_MSC) has to be corrected too. | | |
| Consequences if not approved: | ⌘ Incomplete Active Location Retrieval mechanism | | |

| | | | |
|------------------------------|---|---|--|
| Clauses affected: | ⌘ 7.2.4 | | |
| Other specs affected: | ⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications | ⌘ | |
| Other comments: | ⌘ | | |

How to create CRs using this form:

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***** Change *****

7.2.4.7. Procedure Current_Location_Search_MSC

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If the test "Report on change of service area?" takes the "No" exit the MSC shall perform a Location Reporting Control procedure with the Request Type IE set to "Direct".

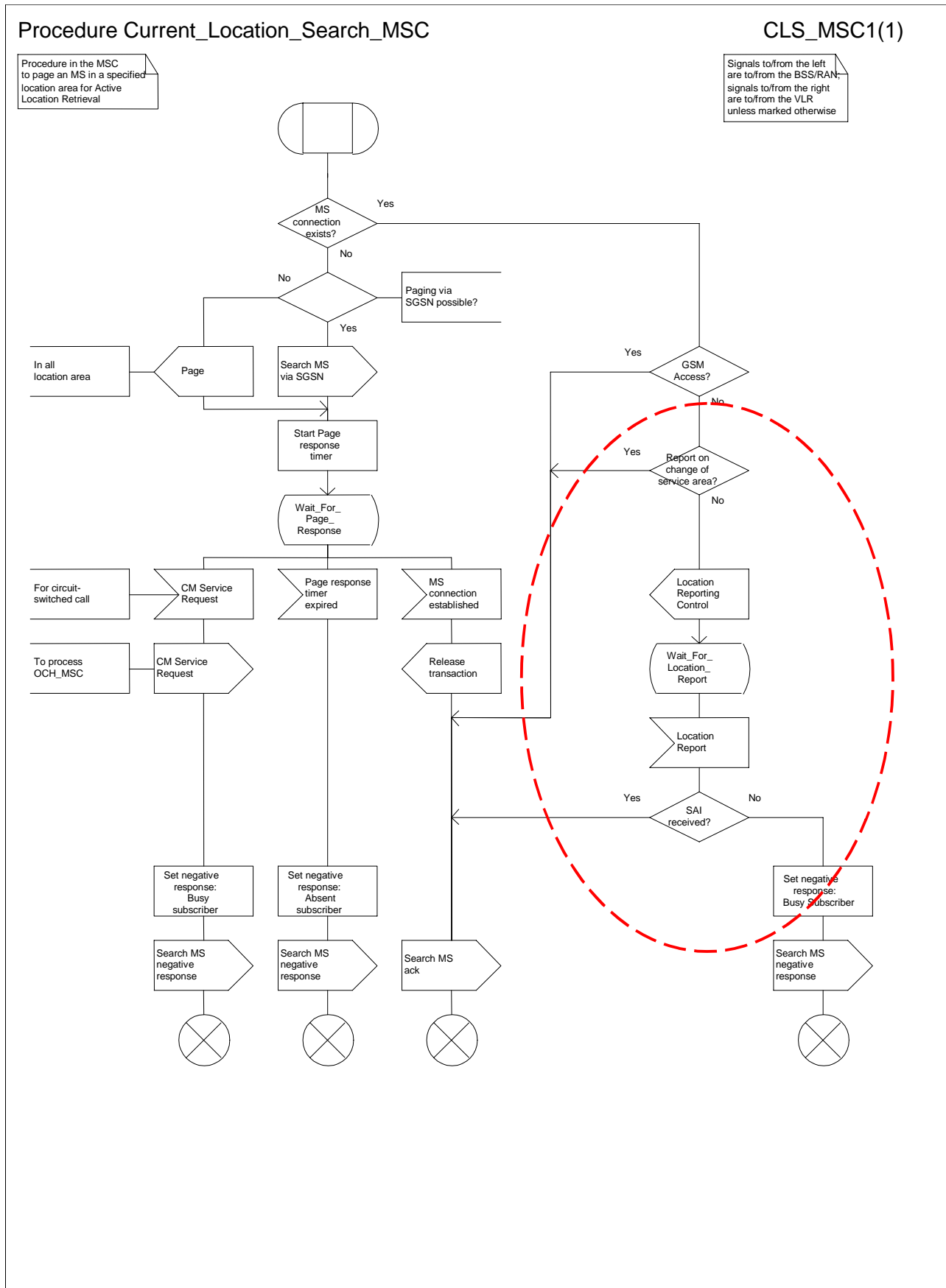


Figure 65: Procedure Current_Location_Search_MSC

Procedure Current_Location_Search_MSC

CLS_MSC1(1)

Procedure in the MSC to page an MS in all location areas for Active Location Retrieval

Signals to/from the left are to/from the BSS; signals to/from the right are to/from the VLR unless marked otherwise

