3GPP TSG CN Plenary **Tdoc NP-010057**
Meeting #11, Palm Springs, U.S.A
14th - 16th March 2001

Source: **TSG CN WG 2**

Title: **CRs to R99 on Work Item CAMEL3 29.078**

Agenda item: **6.2.1**

Document for: **APPROVAL**

Introduction:

This document contains **12** CRs on **R99** Work Item **"CAMEL3"**, that have been agreed by **TSG CN WG2**, and are forwarded to TSG CN Plenary meeting #11 for approval.

Following relations exists for some of these CRs towards CRs on 23.078 v3.7.0 R99,- brought to this Plenary for approval for work item CAMEL3, documented in NP-010055 :

23.078-256r2 (N2-010209) ←---→ 29.078-137r2 (N2-010210)
23.078-258r1 (N2-010084) ←---→ 29.078-139r2 (N2-010112)
23.078-259r1 (N2-010086) ←---→ 29.078-140r1 (N2-010087)
23.078-260r1 (N2-010095) ←---→ 29.078-141r1 (N2-010096)
23.078-263r1 (N2-010089) ←---→ 29.078-143r2 (N2-010113)

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.078	137	2	N2-010210	R99	Clarification on APN usage in the ConnectGPRS operation	F	3.6.0
29.078	138	1	N2-010083	R99	Inconsistency between InitialDPGPRS procedure and generic GPRS procedureSIGTRAN	F	3.6.0
29.078	139	2	N2-010112	R99	Hand-over indication for GPRS	F	3.6.0
29.078	140	1	N2-010087	R99	Description of Entity Released GPRS	F	3.6.0
29.078	141	1	N2-010096	R99	Correction to description of 'O-CSI Applicable' parameter	F	3.6.0
29.078	142	1	N2-010088	R99	Correction to LocationInformationGPRS	F	3.6.0
29.078	143	2	N2-010113	R99	No Volume charging on GPRS Session (clarifying text)	F	3.6.0
29.078	145	1	N2-010094	R99	Correction to MO-SMS	F	3.6.0
29.078	147	1	N2-010100	R99	Correction on GPRS related operation	F	3.6.0
29.078	148	1	N2-010091	R99	Correction to MSNetwork Capability parameter length	F	3.6.0
29.078	149		N2-010148	R99	Definition of the geographicalInformation parameter coding	F	3.6.0
29.078	151		N2-010156	R99	Removal of duplicate description in CWA	F	3.6.0

3GPP TSG-CN2 Meeting #17
Nice, France, Feb 26 - Mar 02 2001

Tdoc N2-010210

CR-Form-v3

CHANGE REQUEST

⌘ **29.078** **CR** **137** ⌘ rev **2** ⌘ Current version: **3.6.0** ⌘

*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:	⌘	Clarification on APN usage in the ConnectGPRS operation
Source:	⌘	Nokia
Work item code:	⌘	CAMEL3
Date:	⌘	30th of Jan 2001
Category:	⌘	**F (essential correction)**
Release:	⌘	R99

Use one of the following categories:
F *(essential 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 one 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 secondary PDP context (PDPc) uses the same parameters as the corresponding primary one, except QoS. The MS requests a secondary PDP context is requested with a distinct operation. The SCP shall know whether this is a secondary PDPc, and it shall be specified that APN can not be changed for a secondary PDPc.
Summary of change:	⌘	1. For R99 the IDP/EDP would indicate whether it is a primary / secondary PDPc. The new parameter shall be after the ellipsis.
Consequences if not approved:	⌘	The pre-paid subsribers may have problems with secondary PDP contexts.

Clauses affected:	⌘			
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	23.078-CR256
Other comments:	⌘			

****** FIRST MODIFIED SECTION ******

5 Common CAP Types

5.1 Data types

…

```
GPRSEventSpecificInformation {PARAMETERS-BOUND : bound}                ::= CHOICE {

        attachChangeOfPositionSpecificInformation
                                        [0] SEQUENCE {
                locationInformationGPRS         [0] LocationInformationGPRS OPTIONAL,
                ...
                },
        pdp-ContextchangeOfPositionSpecificInformation
                                        [1] SEQUENCE {
                accessPointName                 [0] AccessPointName {bound} OPTIONAL,
                chargingID                      [1] GPRSChargingID          OPTIONAL,
                locationInformationGPRS         [2] LocationInformationGPRS OPTIONAL,
                endUserAddress~~pDPType~~                               [3] EndUserAddress~~PDPType~~
        OPTIONAL,
                qualityOfService                [4] QualityOfService        OPTIONAL,
                timeAndTimeZone                 [5] TimeAndTimeZone         OPTIONAL,
                ...,
                gGSNAddress                     [6] GSN-Address             OPTIONAL
                },
        detachSpecificInformation           [2] SEQUENCE {
                inititatingEntity               [0] InitiatingEntity        OPTIONAL,
                ...
                },
        disconnectSpecificInformation       [3] SEQUENCE {
                inititatingEntity               [0] InitiatingEntity        OPTIONAL,
                ...
                },
        pDPContextEstablishmentSpecificInformation
                                        [4] SEQUENCE {
                accessPointName                 [0] AccessPointName {bound} OPTIONAL,
                endUserAddress~~pDPType~~                               [1] EndUserAddress~~PDPType~~
        OPTIONAL,
                qualityOfService                [2] QualityOfService        OPTIONAL,
                locationInformationGPRS         [3] LocationInformationGPRS OPTIONAL,
                timeAndTimeZone                 [4] TimeAndTimeZone         OPTIONAL
                pDPInitiationType               [5] PDPInitiationType       OPTIONAL,
                ...,
                secondaryPDP-context            [6] NULL                    OPTIONAL
                },
        pDPContextEstablishmentAcknowledgementSpecificInformation
                                        [5] SEQUENCE {
                accessPointName                 [0] AccessPointName {bound} OPTIONAL,
                chargingID                      [1] GPRSChargingID          OPTIONAL,
                endUserAddress~~pDPType~~                               [2] EndUserAddress~~PDPType~~
        OPTIONAL,
                qualityOfService                [3] QualityOfService        OPTIONAL,
                locationInformationGPRS         [4] LocationInformationGPRS OPTIONAL,
                timeAndTimeZone                 [5] TimeAndTimeZone         OPTIONAL,
                ...,
                gGSNAddress                     [6] GSN-Address             OPTIONAL
                }
        }

~~PDPType~~EndUserAddress   {PARAMETERS-BOUND: bound}           ::= SEQUENCE {
        pDPTypeOrganization                 [0] OCTET STRING (SIZE(1)),
        pDPTypeNumber                       [1] OCTET STRING (SIZE(1)),
        PDPAddress                          [2] OCTET STRING (SIZE(
            bound.&minPDPAddressLength .. bound.&maxPDPAddressLength))  OPTIONAL
        }
-- Indicates the ~~PDPType~~EndUserAddress, refer to 3GPP TS 29.060 for the encoding.
-- The pDPTypeOrganization shall use the least significant 4 bits of the octet encoded.
-- The sender of this parameter shall set the most significant 4 bit of the octet to 0.
```

```
-- The receiver of this parameter shall ignore the most significant 4 bits of this octet.
```

****** NEXT MODIFIED SECTION ******

8 GPRS Control

8.1 gsmSCF/gprsSSF operations and arguments

```
...

IMPORTS

    errortypes,
    datatypes,
    operationcodes,
    classes,
    ros-InformationObjects
FROM CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version3(2)}

    OPERATION
FROM Remote-Operations-Information-Objects ros-InformationObjects

    ServiceKey
FROM CS1-DataTypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
modules(0) cs1-datatypes(2) version1(0)}

    MiscCallInfo
FROM CS2-datatypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
cS2(20) modules(0) in-cs2-datatypes (0) version1(0)}

    IMSI,
    ISDN-AddressString
FROM MAP-CommonDataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-Network(1) modules(3) map-CommonDataTypes(18) version6(6)}

    PARAMETERS-BOUND
FROM CAP-classes classes

    opcode-activityTestGPRS,
    opcode-applyChargingGPRS,
    opcode-applyChargingReportGPRS,
    opcode-cancelGPRS,
    opcode-connectGPRS,
    opcode-continueGPRS,
    opcode-entityReleasedGPRS,
    opcode-eventReportGPRS,
    opcode-furnishChargingInformationGPRS,
    opcode-initialDPGPRS,
    opcode-releaseGPRS,
    opcode-requestReportGPRSEvent,
    opcode-resetTimerGPRS,
    opcode-sendChargingInformationGPRS
FROM CAP-operationcodes operationcodes

    AccessPointName {},
    GPRSCause {},
    ChargingCharacteristics,
    ChargingResult,
    FCIGPRSBillingChargingCharacteristics,
    GPRSChargingID,
    GPRSEventSpecificInformation {},
    GPRSEvent,
    GPRSEventType,
    GPRSMSClass,
    PDPID,
    ~~PDPType~~EndUserAddress,
    QualityOfService,
    RAIdentity,
    SCIGPRSBillingChargingCharacteristics,
```

```
    SGSNCapabilities,
    TimeAndTimezone {},
    TimerID,
    TimerValue
FROM CAP-datatypes datatypes

    missingCustomerRecord,
    missingParameter,
    parameterOutOfRange,
    systemFailure,
    taskRefused,
    unexpectedComponentSequence,
    unexpectedDataValue,
    unexpectedParameter,
    unknownPDPID
FROM CAP-errortypes errortypes

;

. . .

InitialDPGPRSArg {PARAMETERS-BOUND : bound}::= SEQUENCE {
        serviceKey                      [0] ServiceKey,
        gPRSEventType                   [1] GPRSEventType,
        mSISDN                          [2] ISDN-AddressString,
        iMSI                            [3] IMSI,
        timeAndTimeZone                 [4] TimeAndTimezone {bound},
        gPRSMSClass                     [5] GPRSMSClass                 OPTIONAL,
        endUserAddresspDPType                       [6] EndUserAddressPDPType
        OPTIONAL,
        qualityOfService                [7] QualityOfService            OPTIONAL,
        accessPointName                 [8] AccessPointName{bound}      OPTIONAL,
        routeingAreaIdentity            [9] RAIdentity                  OPTIONAL,
        chargingID                      [10] GPRSChargingID             OPTIONAL,
        sGSNCapabilities                [11] SGSNCapabilities           OPTIONAL,
        locationInformationGPRS         [12] LocationInformationGPRS    OPTIONAL,
        pDPInitiationType               [13] PDPInitiationType          OPTIONAL,
        extensions                      [14] SEQUENCE SIZE(1..bound.&numOfExtensions)   OF
                                                ExtensionField {bound}      OPTIONAL,
        ...,
        gGSNAddress                     [15] GSN-Address                OPTIONAL,
        secondaryPDP-context            [16] NULL                       OPTIONAL

        }
```

****** NEXT MODIFIED SECTION ******

11.25 EventReportGPRS procedure

11.25.1 General description

This operation is used to notify the gsmSCF of a GPRS session or PDP context event previously requested by the gsmSCF in a RequestReportGPRSEvent operation. The monitoring of more than one event can be requested with a RequestReportGPRSEvent operation, but each of these requested events is reported in a separate EventReportGPRS operation.

11.25.1.1 Parameters

- gPRSEventType:
  This parameter specifies the type of event that is reported.

- gPRSEventSpecificInformation:
  This parameter indicates the GPRS session or PDP context related information specific to the event.

  For Change of Position GPRS Session it shall contain the "locationInformationGPRS", if available.

  For Change of Position PDP context it shall contain the "accessPointName", "chargingID", "locationInformationGPRS", "~~pDPType~~endUserAddress", Quality of Service and "timeAndTimeZone", "gGSNAddress" and "secondaryPDP-context" if available.

  For Detach and Disconnect it shall contain the "initiatingEntity".

  For PDP context establishment it shall contain the "accessPointName", "~~pDPType~~endUserAddress", the "pDPInitiationType", the Quality of Service, "locationInformationGPRS" and "timeAndTimeZone" and " secondaryPDP-context ", if available.
  The Quality of Service shall contain the Requested QoS and the Subscribed QoS.

  For PDP context establishment acknowledge it shall contain the "accessPointName", "chargingID" "~~pDPType~~endUserAddress", the Quality of Service, "locationInformationGPRS" and "timeAndTimeZone', " gGSNAddress", if available.
  The Quality of Service shall contain the Requested QoS, the Subscribed QoS and the Negotiated QoS.

  All optional gPRSEventSpecificInformation parameters shall be sent according to 3GPP TS 23.078 subclause 6.6.1.4 and 3GPP TS 22.078 annex "GPRS Information provided to the CSE".

- miscGPRSInfo:
  This parameter contains DP related information.

- messageType:
  This parameter indicates whether the message is a request, i.e. resulting from a RequestReportGPRSEvent with "monitorMode" = "interrupted", or a notification, i.e. resulting from a RequestReportGPRSEvent with "monitorMode" = "notifyAndContinue".

- pDPID:
  This parameter, if present, identifies the PDP Context, within the Session dialogue, for which the event is reported.

11.25.2 Invoking entity (gprsSSF)

11.25.2.1 Normal procedure

gprsSSF preconditions:

(1) The gprsSSF shall be in state "Monitoring" or "WaitingForInstructions".

(2) The GPRS session or PDP context FSM proceeds to an EDP that is armed.

gprsSSF postconditions:

(1) The gprsSSF stays in the state "Monitoring" if the message type was notification and there are still EDPs armed that can be met or an ApplyChargingReportGPRS is requested.

(2) The gprsSSF moves to the state "Idle" if the message type was notification and there are no more EDPs armed that can be met, or no more ApplyChargingReportGPRS is requested or no more PDP contexts pending.

(3) The gprsSSF moves to the state "Waiting for Instructions" if the message type was request. GPRS session or PDP context processing is interrupted.

If an EDP-R is met that causes the release of a GPRS session or PDP context, all EDPs related to the GPRS session or PDP Context shall be disarmed.

11.25.2.2 Error handling

In case the message type is request, on expiration of T_{SSF} before receiving any operation, the gprsSSF aborts the interaction with the gsmSCF and instructs the SGSN to handle the GPRS session or PDP context according to the default GPRS handling parameters of the valid CSI.

Generic error handling for the operation related errors is described in clause 10 and the TCAP services which are used for reporting operation errors are described in clause 12.

****** NEXT MODIFIED SECTION ******

11.31 InitialDPGPRS procedure

11.31.1 General description

This operation is used by the gprsSSF after detection of a TDP-R in the GPRS session or PDP context state machine, to request the gsmSCF for instructions to complete the GPRS session or PDP context.

For a GPRS Session, the 'Attach' and 'Change of Position Session' TDP's may result in the InitialDPGPRS Procedure.

For a PDP Context, the 'PDP Context Establishment', the 'PDP Context Establishment Acknowledgement' and the 'Change of Position Context' TDP's may result in the InitialDPGPRS Procedure.

If a PDP Context related TDP is met, and there is at that moment a GPRS dialogue for the GPRS Session, then the gprsSSF shall not initiate the InitialDPGPRS Procedure for that PDP Context.

If the 'PDP Context Establishment Acknowledgement' event occurs and this event is armed as a TDP, and there is at that moment a GPRS dialogue for the PDP Context, then the gprsSSF shall not initiate a new InitialDPGPRS Procedure for that PDP Context.

11.31.1.1 Parameters

- serviceKey:
  This parameter indicates to the gsmSCF the requested IN service. It is used to address the required application/SLP within the gsmSCF (not for SCP addressing).

- gPRSEventType:
  This parameter indicates the armed GPRS Attach/Detach SM or PDP Context SM DP event, resulting in the InitialDPGPRS operation.

- mSISDN:
  MSISDN of the mobile subscriber for which the CAMEL service is invoked. For encoding see 3GPP TS 29.002 [13].

- iMSI:
  IMSI of the mobile subscriber for which the CAMEL service is invoked. For encoding see 3GPP TS 29.002 [13].

- timeAndTimezone:
  This parameter contains the time that the gprsSSF was triggered, and the time zone that the invoking gprsSSF resides in.

- gPRSMSClass:
  This parameter contains the MS Station capabilites of the mobile subscriber for which the CAMEL service is invoked.

  - MSNetworkCapabilities:
    This parameter contains the Network Capabilities of the GPRS session.

  - MSRadioAccessCapabilities:
    This parameter contains the Radio Access Capabilities of the MS.

- ~~pDPType~~endUserAddress:
  This parameter identifies the PDP type, PDP type organisation and the actual PDP address. For encoding see 3GPP TS 29.060 [43].

~~- pDPTypeOrganization:~~
~~The pDPTypeOrganisation defines the organization that is responisble for the pDPTypeNumber field and the PDP Address format, e.g. ETSI or an IETF type of address. For encoding see 3GPP TS 29.060 [43].~~

~~pDPTypeNumber:~~
~~The pDPTypeNumber defines the end user protocol to be used between the external packet data network and the MS related to the pDPTypeOrganization. For encoding see 3GPP TS 29.060 [43].~~

~~pDPAddress:~~
~~This parameter is the address of the PDP context of the MS for which the CAMEL service is invoked for, that identifies the MS from the externa packet data network. For encoding see 3GPP TS 29.060 [43].~~

- qualityOfService:
  This parameter contains the Quality of Service.
  If the InitialDPGPRS operation is sent as a result of the 'PDP Context Establishment' TDP, then the Quality of Service parameter shall contain the Requested QoS and the Subscribed QoS.
  If the InitialDPGPRS operation is sent as a result of the 'PDP Context Establishment Ackonwledgement' TDP, then the Quality of Service parameter shall contain the Requested QoS, the Subscribed QoS and the Negotiated QoS.

- accessPointName:
  This parameter contains the requested address that the MS for which the CAMEL service is invoked for wants to connect to. For encoding see 3GPP TS 29.060 [43].

- routeingAreaIdentity:
  This parameter contains the location information of the MS for which the CAMEL service is invoked from. For encoding see 3GPP TS 29.060 [43].

- chargingID:
  This parameter contains the charging ID that uniquely identifies the PDP context for the MS for which the CAMEL service is invoked from. For encoding see 3GPP TS 32.015.

- sGSNcapabilities:
  This parameter specifies the capabilities which the SGSN node can provide for the CAMEL service control.

- locationInformationInSGSN:
  This parameter indicates the location of the sending MS.

- pDPInitiationType:
  This parameter indicates whether a PDP context was established as a result of a network-initiated request or as a result of a subscriber request.

- SecondaryPDP-context
  This parameter indicates that the PDP context is requested as a secondary PDP context.

11.31.2 Invoking entity (gprsSSF)

11.31.2.1 Normal procedure

gprsSSF preconditions:

(1) An event has been met that is armed as TDP.

(2) There is no GPRS dialogue active for that PDP Context or for the GPRS Session.

gprsSSF postcondition:

(1) A control relationship has been established and the gprsSSF is in state "waiting for instructions".

The address of the gsmSCF that the InitialDPGPRS operation shall be sent to is fetched from the valid CSI. The gprsSSF provides all available parameters.

The gprsSSF shall memorise the address of the response message and use it in the future TCAP dialogues.

A control relationship is established with the gsmSCF. The gprsSSF application timer T_{SSF} is set when the gprsSSF sends InitialDPGPRS for requesting instructions from the gsmSCF. It is used to prevent from excessive GPRS session or PDP context duration or volume usage.

11.31.2.2 Error handling

If the destination gsmSCF is not accessible then the gprsSSF instructs the SGSN to handle the GPRS session or PDP context according to the Default GPRS handling parameter of the valid CSI.

On expiration of T_{SSF} before receiving any operation, the gprsSSF aborts the interaction with the gsmSCF and instructs the SGSN to handle the call according to the Default GPRS handling parameter of the valid CSI.

If the MS abandons the establishment of a GPRS session or PDP context after the sending of InitialGPRSEvent, then the gprsSSF aborts the control relationship after the first response from the gsmSCF has been received.

Generic error handling for the operation related errors is described in clause 10 and the TCAP services which are used for reporting operation errors are described in clause 12.

3GPP TSG-CN WG2 Meeting #nn
China, Beijing, 15-19 of January 2001

Tdoc N2-010083

CR-Form-v3

CHANGE REQUEST

⌘ **29.078** **CR** 138 ⌘ rev **1** ⌘ Current version: **3.6.0** ⌘

*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:	⌘	Inconsistency between InitialDPGPRS procedure and generic GPRS procedure
Source:	⌘	Nokia
Work item code:	⌘	CAMEL3
Date:	⌘	16.01.2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential 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 one 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 InitialDPGPRS 11.31.2.1 Normal procedure requests to memorise the gsmSCF address of the response message and use it in the future TC dialogues, and the gprsSSF-gsmSCF interface 12.1.7.1 Normal procedure requests to memorise the gsmSCF address used for InitialDPGPRS, and use it in the further TC dialogues.
Summary of change:	⌘	The gprsSSF-gsmSCF interface will be corrected according the InitialDPGPRS procedure.
Consequences if not approved:	⌘	If some gprsSSF implementation follows the generic GPRS procedure, the dynamic load sharing of the gsmSCF does not work.

Clauses affected:	⌘	12.1.7.1.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

****** For Information ******

11.31 InitialDPGPRS procedure

…

11.31.2 Invoking entity (gprsSSF)

11.31.2.1 Normal procedure

gprsSSF preconditions:

(1) An event has been met that is armed as TDP.

(2) There is no GPRS dialogue active for that PDP Context or for the GPRS Session.

gprsSSF postcondition:

(1) A control relationship has been established and the gprsSSF is in state "waiting for instructions".

The address of the gsmSCF that the InitialDPGPRS operation shall be sent to is fetched from the valid CSI. The gprsSSF provides all available parameters.
The gprsSSF shall memorise the address of the response message and use it in the future TC dialogues.
A control relationship is established with the gsmSCF. The gprsSSF application timer T_{SSF} is set when the gprsSSF sends InitialDPGPRS for requesting instructions from the gsmSCF. It is used to prevent from excessive GPRS session or PDP context duration or volume usage.

****** First Modified Section ******

12.1.7.1.3 gprsSSF-to-gsmSCF messages

This subclause defines the normal procedures for TC messages from the gprsSSF to the gsmSCF.
gprsSSF-FSM related messages
A GPRS dialogue and a TC dialogue shall be established when the gprsSSF moves from the state Idle to the state Waiting for Instructions. The InitialDPGPRS operation shall be transmitted in the same TC message, i.e. TC-BEGIN. It shall contain the GPRS-Reference as assigned by the SGSN in the originationReference. The gprsSSF may intiate the subsequent TC dialogues for this GPRS dialogue with the following operations:

- ApplyChargingReportGPRS
- EntityReleasedGPRS
- EventReportGPRS

The gprsSSF shall memorise the gsmSCF address used in the first response message ~~for~~ to the InitialDPGPRS, and use it in the further TC dialogues. The gsmSCF shall memorise the gprsSSF address received along with the InitialDPGPRS, and use it in the further TC dialogues for the relationship between these processes.
The gsmSCF may open subsequent TC dialogues with the following CAP operations:

- ActivityTestGPRS;
- ApplyChargingGPRS;
- CancelGPRS;

- FurnishChargingInformationGPRS;
- ReleaseGPRS;
- RequestReportGPRSEvent;
- SendChargingInformationGPRS.

The CAP operation that opens a TC dialogue shall be sent with a TC-BEGIN request primitive. This message shall contain the GPRS-ReferenceNumber assigned by the sender of this message in the originationReference. If the operation opens a subsequent TC dialogue this message shall contain also the previously received destinationReference. If an operation opens a GPRS dialogue then the TC message reply shall contain the originationReference as assigned by the sender, i.e. the gsmSCF.
The TC dialogue shall be closed for the idle periods, i.e. when the gprsSSF moves from the Waiting for Instructions state to the Idle state, if the gprsSSF is in the Monitoring state and has received all replies or time-outs for the operations sent, after standalone operations of the SCF in Monitoring state if gprsSSF is not going to the Idle state (ActivityTestGPRS, ApplyChargingGPRS, CancelGPRS, FurnishChargingInformationGPRS, RequestReportGPRSEvent, SendChargingInformationGPRS), or at the end of a GPRS dialogue.
Each TC dialogue shall be terminated by the gprsSSF using TC-END (basic end). The following operations can cause the end of the GPRS dialogue:

- ContinueGPRS;
- ConnectGPRS;
- ApplyChargingReportGPRS result;
- EntityReleasedGPRS rersult;
- EventReportGPRS (EDP-N) result;
- CancelGPRS;
- ReleaseGPRS;
- RequestReportGPRSEvent (disarming of DPs).

When the gprsSSF makes a non-error case state transition to the state Idle and there is one or more pending operation and TC dialogue is established, TC dialogue may be terminated by TC-END primitive with zero component(s) after all pending operations have been sent. When the gsmSSF sends the last EventReportGPRS or ApplyChargingReportGPRS the GPRS dialogue may be ended from the gprsSSF by a TC-END request primitive with basic end.
In the case that there is no pending operation, result nor error, and TC dialogue is established, TC dialogue shall be terminated by TC-END primitive with zero component.
In the case where a PDP context release or detach is initiated by any other entity than an gsmSCF, the gprsSSF shall end a GPRS dialogue with the EntityReleasedGPRS operation if the gprsSSF has no armed DP to report nor pending ApplyChargingReportGPRS which should reported.
In the case of overlapping dialogues for the same GPRS dialogue the gsmSCF opened TC dialogue is aborted by the gprsSSF with the abort reason overlapping-dialogue as specified in clause 5.7. This abort reason is used to indicate to the gsmSCF that a specific instance already has a TC dialogue open. It is typically obtained when both the gsmSCF and gprsSSF open a new dialogue at the same time. While the gprsSSF waits for a response to an operation sent in TC-BEGIN it may receive an operation from the gsmSCF in TC-BEGIN. In such cases the

dialogue opened by the gprsSSF is maintained and the dialogue opened by the gsmSCF is aborted with this abort reason.

SSME-FSM related messages

The following procedures shall be followed:

- The dialogue shall be ended with basic end when the ActivityTestGPRS Return Result is sent.

****** End of Document ******

3GPP TSG-CN2 Meeting #16 ***N2-010112***
Beijing, China, 15 – 19 January 2001 (revision of N2-010085)

CHANGE REQUEST

⌘ **29.078** **CR** **139** ⌘ rev **2** ⌘ Current version: 3.6.0 ⌘

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

Title:	⌘	Routeing Area Update indication to Detach and Disconnect notifications to SCP			
Source:	⌘	Ericsson			
Work item code:	⌘	CAMEL3	***Date:***	⌘	19 January 2001
Category:	⌘	**F (essential correction)**	***Release:***	⌘	R99

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Use one 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: ⌘

Current Situation

GPRS Sessions and PDP Contexts may be handed over from one SGSN to another SGSN. The service logic instance which is running in the SCP for that Session and/or PDP Context will be resumed after hand-over.

At the moment of hand-over, the SCP will store relevant information of the active Session and/oer PDP Context(s). When the service logic for this Session and/or PDP Context(s) is resumed after hand-over, the service logic may retrieve this information for the Session and/or PDP Context(s) and resume the handling hereof, taking the 'history' of that Session and/or PDP Context(s) into account.

The SCP therefore needs to know that when a Detacgh or PDP Context Disconnect is reported, whether this Detach or PDP Context Disconnect is due to a genuine Detach or PDP Context Disconnect or due to hand-over to a new SGSN.

In the case of a genuine Detach or PDP Context Disconnect, no information needs to be stored. In the case of hand-over, relevant information needs to be stored.

Problem

Currently, such indication, as described in the previous section, is not present in the event reporting. The result is that the SCP would either:

- not store any data on the Session or PDP Context.
  The result of this behaviour may be that in the case of hand-over, no proper charging may be possible after service resumption from the new SGSN.

Or

	- always store relevant data on the Session or PDP Context. The SCP would then discard the data of there is no service re-invocation within a pre-defined period. The result of this behaviour may be that in all genuine Detach or PDP Context Disconnect events, the data of the Session or PDP Context is stored unnecessarily, resulting in downgraded performance. **Proposed Solution** The event specific information for the Detach or PDP Context Disconnect event shall be able to indicate 'routeing area update'. This enbables the SCP to decide whether or not relevant data for the Session or that PDP Context shall be stored.
Summary of change: ⌘	Addition of new parameter in Detach and PDP Context Disconnect event specific information.
Consequences if not approved: ⌘	Misinterpretation of the Detach and PDP Context Disconnect events by the SCP by different manufacturers, possibly resulting in incorrect action taken by SCP.

Clauses affected:	⌘	5.1, 11.25		
Other specs Affected:	⌘	[X] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	23.078 (CR 258r1)
Other comments:	⌘	This discussion was started in Tdoc N2-000312, CR 110 (cat C) on 29.078, 'Adding 'Routeing Area Update' indication to Disconnect and Detach notification'. No conclusion was reached when the document was presented. The author was requested to re-submit the document.		

****** First Change ******

5 Common CAP Types

5.1 Data types

```
-- The Definition of Common Data Types follows

CAP-datatypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-datatypes(52) version3(2)}
-- This module contains the type definitions for the CAP v.3 data types.

DEFINITIONS IMPLICIT TAGS ::= BEGIN

...
```

< unmodified ASN.1 >

```
...

GPRSEventSpecificInformation {PARAMETERS-BOUND : bound}                ::= CHOICE {

    attachChangeOfPositionSpecificInformation
                                    [0] SEQUENCE {
            locationInformationGPRS         [0] LocationInformationGPRS OPTIONAL,
            ...
            },

    pdp-ContextchangeOfPositionSpecificInformation
                                    [1] SEQUENCE {
            accessPointName             [0] AccessPointName {bound} OPTIONAL,
            chargingID                  [1] GPRSChargingID          OPTIONAL,
            locationInformationGPRS     [2] LocationInformationGPRS OPTIONAL,
            pDPType                     [3] PDPType                 OPTIONAL,
            qualityOfService            [4] QualityOfService        OPTIONAL,
            timeAndTimeZone             [5] TimeAndTimeZone         OPTIONAL,
            ...,
            gGSNAddress                 [6] GSN-Address             OPTIONAL
            },

    detachSpecificInformation       [2] SEQUENCE {
            initiatingEntity            [0] InitiatingEntity        OPTIONAL,
            ...,
            routeingAreaUpdate          [1] NULL                    OPTIONAL
            },

    disconnectSpecificInformation   [3] SEQUENCE {
            initiatingEntity            [0] InitiatingEntity        OPTIONAL,
            ...,
            routeingAreaUpdate          [1] NULL                    OPTIONAL
            },

    pDPContextEstablishmentSpecificInformation
                                    [4] SEQUENCE {
            accessPointName             [0] AccessPointName {bound} OPTIONAL,
            pDPType                     [1] PDPType                 OPTIONAL,
            qualityOfService            [2] QualityOfService        OPTIONAL,
            locationInformationGPRS     [3] LocationInformationGPRS OPTIONAL,
            timeAndTimeZone             [4] TimeAndTimeZone         OPTIONAL,
            pDPInitiationType           [5] PDPInitiationType       OPTIONAL,
            ...
            },

    pDPContextEstablishmentAcknowledgementSpecificInformation
                                    [5] SEQUENCE {
            accessPointName             [0] AccessPointName {bound} OPTIONAL,
            chargingID                  [1] GPRSChargingID          OPTIONAL,
            pDPType                     [2] PDPType                 OPTIONAL,
            qualityOfService            [3] QualityOfService        OPTIONAL,
            locationInformationGPRS     [4] LocationInformationGPRS OPTIONAL,
```

```
            timeAndTimeZone                 [5] TimeAndTimeZone         OPTIONAL,
            ...,
            gGSNAddress                     [6] GSN-Address             OPTIONAL
            }
        }
```

…

< unmodified ASN.1 >

…

***** *Next Change* *****

11.25 EventReportGPRS procedure

11.25.1 General description

This operation is used to notify the gsmSCF of a GPRS session or PDP context event previously requested by the gsmSCF in a RequestReportGPRSEvent operation. The monitoring of more than one event can be requested with a RequestReportGPRSEvent operation, but each of these requested events is reported in a separate EventReportGPRS operation.

11.25.1.1 Parameters

- gPRSEventType:
  This parameter specifies the type of event that is reported.

- gPRSEventSpecificInformation:
  This parameter indicates the GPRS session or PDP context related information specific to the event.

  For Change of Position GPRS Session it shall contain the "locationInformationGPRS", if available.

  For Change of Position PDP context it shall contain the "accessPointName", "chargingID", "locationInformationGPRS", "pDPType", Quality of Service and "timeAndTimeZone", if available.

  For Detach and Disconnect it shall contain the "initiatingEntity" and, conditionally, "routeingAreaUpdate". The "initiatingEntity" indicates the entity that initiated the Detach or PDP Context Disconnect. The "routeingAreaUpdate" indicates that the Detach or PDP Context Disconnect is due to inter-SGSN routeing area update.
  In the case of inter-SGSN routeing area update, the gsmSCF may ignore the "initiatingEntity".

  For PDP context establishment it shall contain the "accessPointName", “pDPType”, the “pDPInitiationType”, the Quality of Service, “locationInformationGPRS” and “timeAndTimeZone”, if available.
  The Quality of Service shall contain the Requested QoS and the Subscribed QoS.

  For PDP context establishment acknowledge it shall contain the “accessPointName”, "chargingID" “pDPType”, the Quality of Service, “locationInformationGPRS” and “timeAndTimeZone’, if available.
  The Quality of Service shall contain the Requested QoS, the Subscribed QoS and the Negotiated QoS.

  All optional gPRSEventSpecificInformation parameters shall be sent according to 3GPP TS 23.078 subclause 6.6.1.4 and 3GPP TS 22.078 annex "GPRS Information provided to the CSE".

- miscGPRSInfo:
  This parameter contains DP related information.

- messageType:
  This parameter indicates whether the message is a request, i.e. resulting from a RequestReportGPRSEvent with "monitorMode" = "interrupted", or a notification, i.e. resulting from a RequestReportGPRSEvent with "monitorMode" = "notifyAndContinue".

- pDPID:
  This parameter, if present, identifies the PDP Context, within the Session dialogue, for which the event is reported.

11.25.2 Invoking entity (gprsSSF)

11.25.2.1 Normal procedure

gprsSSF preconditions:

(1) The gprsSSF shall be in state "Monitoring" or "WaitingForInstructions".

(2) The GPRS session or PDP context FSM proceeds to an EDP that is armed.

gprsSSF postconditions:

(1) The gprsSSF stays in the state "Monitoring" if the message type was notification and there are still EDPs armed that can be met or an ApplyChargingReportGPRS is requested.

(2) The gprsSSF moves to the state "Idle" if the message type was notification and there are no more EDPs armed that can be met, or no more ApplyChargingReportGPRS is requested or no more PDP contexts pending.

(3) The gprsSSF moves to the state "Waiting for Instructions" if the message type was request. GPRS session or PDP context processing is interrupted.

If an EDP-R is met that causes the release of a GPRS session or PDP context, all EDPs related to the GPRS session or PDP Context shall be disarmed.

11.25.2.2 Error handling

In case the message type is request, on expiration of T_{SSF} before receiving any operation, the gprsSSF aborts the interaction with the gsmSCF and instructs the SGSN to handle the GPRS session or PDP context according to the default GPRS handling parameters of the valid CSI.

Generic error handling for the operation related errors is described in clause 10 and the TC services which are used for reporting operation errors are described in clause 12.

****** End of Document ******

3GPP TSG-CN2 Meeting #16 ***N2-010087***
Beijing, China, 15 – 19 January 2001 (revision of N2-010017)

CHANGE REQUEST

⌘ **29.078** **CR** **140** ⌘ rev **1** ⌘ Current version: 3.6.0 ⌘

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

Title:	⌘	Correction to description of Entity Released GPRS
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3
Date:	⌘	18 January 2001
Category:	⌘	**F (non-essential, agreed by concensus)**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*

Use one 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: ⌘

When a GPRS Session is detached or a PDP Context is disconnected and the corresponding event detection point is not armed at that moment (ie. neither armed as EDP-N nor armed as EDP-R), then the gprsSSF shall use the operation Entity Released GPRS.
The use of this operation is independent of the functional entity that initiates the release of the Session or PDP Context. The use of this operation is also independent of the reason why the detach or PDP Context disconnect occurred.

This behaviour is correctly reflected in the GPRS SDL's in 3G TS 23.078.

However, the description of the operation (in the ASN.1 syntax) and the Procedure Desscription (capter 11 in 3G TS 29.078) imply that the procedure Entity Released GPRS shall be used only when the release is caused by the SGSN and the release is due to an abnormal event.

That description is not in-line with the behaviour of the gprsSSF, as currently depicted by the GPRS SDL in 3G TS 23.078. The description of the procedure shall therefore be corrected.

This correction is needed to prevent ambiguity about the usage of this procedure.

Summary of change: ⌘ Correction to description of procedure Entity Released GPRS.

Consequences if not approved: ⌘ Designers from different vendors may interpret the description of this procedure differently, which may result in interworking problems for CAMEL GPRS Services.

Clauses affected: ⌘ 8.1, 11.22

Other specs affected: ⌘

☒	Other core specifications	23.078 (CR 259r1)
☐	Test specifications	
☐	O&M Specifications	

Other comments: ⌘

****** First Change ******

8 GPRS Control

8.1 gsmSCF/gprsSSF operations and arguments

```
CAP-gprsSSF-gsmSCF-ops-args {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-GPRS-ops-args(107) version3(2)}

DEFINITIONS IMPLICIT TAGS ::= BEGIN

-- This module contains the operations and operation arguments used for the
-- gprsSSF – gsmSCF interface, for the control of GPRS.

-- The table in section 2.1 lists the specifications that contain the modules
-- that are used by CAP.
```

…

< unmodified ASN.1 >

…

```
entityReleasedGPRS  {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        EntityReleasedGPRSArg {bound}
    RETURN RESULT   TRUE
    ERRORS          {missingParameter |
                    taskRefused |
                    unknownPDPID}
    CODE            opcode-entityReleasedGPRS
    }
--  Direction: gprsSSF -> gsmSCF, Timer: T_erg
--  This operation is used to notify the gsmSCF that a PDP Context has been
--  terminated abnormally in the SGSN.
--  This operation is used when the GPRS Session is detached or a PDP Context is diconnected and
--  the associated event is not armed for reporting.
--  The usage of this operation is independent of the functional entity that initiates the Detach
--  or PDP Context Disconnection and is independent of the cause of the Detach or PDP Context
--  Disconnect.

EntityReleasedGPRSArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
        gPRSCause                       [0] GPRSCause {bound},
        pDPID                           [1] PDPID                   OPTIONAL
        }
```

…

< unmodified ASN.1 >

…

***** *Next Change* *****

11.22 EntityReleasedGPRS procedure

11.22.1 General description

~~This operation is used by the gprsSSF to inform the gsmSCF that a PDP Context or Session has terminated abnormally. This operation is also used when the PDP Context or Session terminates in a normal way but this event is not armed as EDP and therefore not reported.~~

This operation is used by the gprsSSF to inform the gsmSCF that the GPRS Session is detached or a PDP Context is disconnected. It shall be used only when the associated event detection point (ie. for GPRS Session Detach: DP 'detached' and for PDP Context Disconnect: DP 'disconnect') is at that moment not armed for reporting.

This operation shall be used irrespectively of the functional entity that initiated the Detach or PDP Context Disconnect and irrespectively of the cause for the Detach or PDP Context Disconnect.

When a PDP Context is terminated, all outstanding reports of that PDP Context shall be sent to the SCP.
When a GPRS Session is terminated, all outstanding reports of the Session shall be sent to the SCP.

11.22.1.1 Parameters

- gPRSCause:
  A number giving an indication to the gprsSCF about the reason for discontinuing the PDP Context or GPRS Session. This may be used by gsmSCF if FurnishChargingInformationGPRS is to be sent to the gprsSSF.

- pDPID:
  This parameter, if present, identifies the PDP Context within the Session dialogue, which has terminated ~~abnormally~~.

11.22.2 Invoking entity (gprsSSF)

11.22.2.1 Normal procedure

gprsSSF preconditions:

(1) State "Waiting for Instructions" or State "Monitoring".

gprsSSF postcondition:

(1) Possible armed EDPs are ignored for the indicated PDP Context or GPRS Session. All connections and resources related to the specific PDP Context or GPRS Session are released.
If there are no more armed EDPs or pending reports, then the gprsSSF transits to state 'Idle'; otherwise the gprsSSF remains in the same state.

11.22.2.2 Error handling

Generic error handling for the operation related errors is described in clause 10 and the TC services which are used for reporting operation errors are described in clause 12.

***** *End of Document* *****

3GPP TSG-CN2 Meeting #16 ***N2-010096***
Beijing, China, 15 – 19 January 2001 (revision of N2-010019)

CHANGE REQUEST

⌘ **29.078** **CR** **141** ⌘ rev **1** ⌘ Current version: 3.6.0 ⌘

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

Title:	⌘	Correction to description of 'O-CSI Applicable' parameter
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3
Date:	⌘	18 January 2000
Category:	⌘	**F (non-essential, agreed by concensus)**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*

Use one 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 'O-CSI Applicable' parameter in the Connect operation may be used in a relationship between the gsmSCF and the GMSC and in a relationship between the gsmSCF and the VMSC. The current text in section 11.13 ('Connect Procedure') refers to GMSC only. The reference to VMSC shall be added.
Summary of change:	⌘	Textual correction to section 11.13.
Consequences if not approved:	⌘	Misinterpretation of the CAP specification, resulting in possible incorrect and incompatible implementation of the CAMEL standard. This may lead to interworking problems.

Clauses affected:	⌘	11.13
Other specs affected:	⌘	☐ Other core specifications ⌘ 23.078 (CR 260r1) ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	The omission of a reference to VMSC is probably a left-over from CAMEL Phase 1 and 2. The CAMEL interaction with call forwarding in the VMSC was introduced in CAMEL Phase 3.

****** First Change ******

11.13 Connect procedure

11.13.1 General description

This operation is used to request the gsmSSF to perform the call processing actions to route a call to a specific destination.

In general all parameters which are provided in a Connect operation to the gsmSSF shall replace the corresponding signalling parameter in the CCF in O-BCSM, in accordance with ES 201 296 [38] and shall be used for subsequent call processing. The CCF of the T-BCSM shall send corresponding signalling parameters to new call leg without using them in subsequent call processing. Parameters which are not provided by the Connect operation shall retain their value (if already assigned) in the CCF for subsequent call processing.

11.13.1.1 Parameters

- destinationRoutingAddress:
  This parameter contains the called party numbers towards which the call is to be routed.

- alertingPattern:
  This parameter indicates the type of alerting to be applied. It is defined in 3GPP TS 29.002 [13].

- serviceInteractionIndicatorsTwo:
  This parameter contains indicators which are exchanged between the gsmSSF and the gsmSCF to resolve interactions between IN based services and network based services.

- callingPartysCategory:
  This parameter indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber).

- originalCalledPartyID:
  This parameter carries the dialled digits if the call is forwarded by the gsmSCF.

- redirectingPartyID:
  This parameter, if present, indicates the last directory number the call was redirected from.

- redirectionInformation:
  This parameter contains forwarding related information, such as redirecting counter.

- genericNumbers:
  This parameter allows the gsmSCF to set the Generic Number parameter used in the network. It is used for transfer of Additional Calling Party Number.

- suppressionOfAnnouncement:
  This parameter indicates that announcements and tones which are played in the exchange at non-successful call set-up attempts shall be suppressed.

- oCSIApplicable:
  This parameter indicates to the GMSC/gsmSSF <u>or VMSC/gsmSSF</u> that the Originating CAMEL Subscription Information, if present, shall be applied on the outgoing call leg created with the Connect operation. For the use of this parameter see 3GPP TS 23.078 [42].

- Carrier:
  This parameter indicates carrier information. It consists of the carrier selection field followed by the Carrier ID information to be used by gsmSSF for routing a call to a carrier.

  It comprises the following embedded sub-parameter:

  - carrierSelectionField
    This parameter indicates how the selected carrier is provided (e.g. pre-subscribed).

  - carrierID
    This alternative indicates the carrier to use for the call. It contains the digits of the carrier identification code.

- naOliInfo:
  This parameter contains originating line information which identifies the charged party number type to the carrier.

- ChargeNumber:
  This parameter contains the number that identifies the entity to be charged for the call. It identifies the chargeable number for the usage of a carrier (applicable on a call sent into a North American long distance carrier). For a definition of this parameter refer to ANSI ISUP T1.113 [53].

- cug-Info:
  This parameter contains the CUG information, altered by the gsmSCF, for the call.

- cug-Index:
  This parameter contains the CUG index passed between the user and the network. This is only significant within the context of a users subscription.

11.13.2 Responding entity (gsmSSF)

11.13.2.1 Normal procedure

gsmSSF precondition:

(1) A control relationship exists between the gsmSSF and the gsmSCF

(2) BCSM: Basic call processing has been suspended at a DP.

(3) The gsmSSF is in state "Waiting for Instructions".

gsmSSF postcondition:

(1) The gsmSSF performs the call processing actions to route the call to the specified destination.

(2) In the O-BCSM, call processing resumes at PIC Analyze_Information.

On receipt of this operation in the gsmSSF state "Waiting for Instructions", the gsmSSF performs the following actions:

- The gsmSSF cancels T_{SSF}.
- If no EDPs have been armed and neither a CallInformationReport nor an ApplyChargingReport has been requested, the gsmSSF goes to state "Idle". Otherwise, the gsmSSF goes to state "Monitoring".

No implicit activation or deactivation of DPs occurs.

Statistic counter(s) are not affected.

11.13.2.2 Error handling

Generic error handling for the operation related errors are described in clause 10 and the TC services which are used for reporting operation errors are described in clause 12.

****** End of Document ******

3GPP TSG-CN2 Meeting #16 ***N2-010088***
Beijing, China, 15 – 19 January 2001 (revision of N2-010034)

CHANGE REQUEST

⌘ **29.078** **CR** **142** ⌘ rev **1** ⌘ Current version: 3.6.0 ⌘

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

Title:	⌘	Correction to LocationInformationGPRS			
Source:	⌘	Ericsson			
Work item code:	⌘	CAMEL3	***Date:*** ⌘	18 january 2001	
Category:	⌘	**F (essential correction)**	***Release:*** ⌘	R99	

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*

Use one 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 reason for change is twofold.

(1) Data type 'LocationInformationGPRS' is defineded in module 'CAP-datatypes' (sect. 5.1). LocationInformationGPRS uses data type definition 'LSAIdentity'.
CAP does not specify this data type. Instead, CAP re-uses the definition for this data type as specified in MAP, in module MAP-MS-DataTypes (3G TS 29.002 V3.7.0, sect. 17.7.1).

However, CAP does not specify the IMPORT statement for this data type. The IMPORT statement for this data type is needed to use it in CAP.

The present CR proposes to add this IMPORT statement for LSAIdentity.

(2) LocationInformationGPRS is used in CAP module CAP-gprsSSF-gsmSCF-ops-args (sect. 8.1). However, this module does not specify the IMPORT statement for this data type.

The IMPORT statement for this data type is needed in this CAP module, since LocationInformationGPRS is defined in another CAP module.

The present CR proposes to add the IMPORT statement for LocationInformationGPRS.

Note.
MAP does at present not specify the EXPORT statement for LSAIDentity. The EXPORT statement is required for this data type to allow other modules to IMPORT it.
This error is addressed in a CR on 29.002.

Summary of change:	⌘	Addition of IMPORT statement (2 x)
Consequences if not approved:	⌘	Incorrect ASN.1 syntax, possibly leading to implementation errors.

Clauses affected:	⌘	5.1, 8.1			
Other specs affected:	⌘	X	Other core specifications	⌘	29.002
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

****** First Change ******

5 Common CAP Types

5.1 Data types

```
-- The Definition of Common Data Types follows

CAP-datatypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-datatypes(52) version3(2)}
-- This module contains the type definitions for the CAP v.3 data types.

DEFINITIONS IMPLICIT TAGS ::= BEGIN


IMPORTS

    CallingPartysCategory,
    Duration,
    HighLayerCompatibility,
    Integer4,
    Interval,
    LegID,
    RedirectionInformation,
    ServiceKey
FROM CS1-DataTypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
modules(0) cs1-datatypes(2) version1(0)}

    BothwayThroughConnectionInd,
    CriticalityType,
    MiscCallInfo
FROM CS2-datatypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
cS2(20) modules(0) in-cs2-datatypes(0) version1(0)}

    IMSI,
    ISDN-AddressString,
    Ext-BasicServiceCode,
    NAEA-CIC
FROM MAP-CommonDataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-CommonDataTypes(18) version6(6)}

    Ext-QoS-Subscribed,
    GSN-Address,
    LocationInformation,
    LSAIdentity,
    QoS-Subscribed,
    SubscriberState
FROM MAP-MS-DataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-MS-DataTypes(11) version6(6)}

    CallReferenceNumber,
    SuppressionOfAnnouncement
FROM MAP-CH-DataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-CH-DataTypes(13) version6(6)}

    tc-Messages,
    classes
FROM CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version3(2)}

    TCInvokeIdSet
FROM TCAPMessages tc-Messages

    EXTENSION,
    PARAMETERS-BOUND,
    SupportedExtensions {}
FROM CAP-classes classes

;
```

…

< unmodified syntax >

…

***** *Next Change* *****

8 GPRS Control

8.1 gsmSCF/gprsSSF operations and arguments

```
CAP-gprsSSF-gsmSCF-ops-args {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-GPRS-ops-args(107) version3(2)}

DEFINITIONS IMPLICIT TAGS ::= BEGIN

-- This module contains the operations and operation arguments used for the
-- gprsSSF – gsmSCF interface, for the control of GPRS.

-- The table in section 2.1 lists the specifications that contain the modules
-- that are used by CAP.

IMPORTS

    errortypes,
    datatypes,
    operationcodes,
    classes,
    ros-InformationObjects
FROM CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version3(2)}

    OPERATION
FROM Remote-Operations-Information-Objects ros-InformationObjects

    ServiceKey
FROM CS1-DataTypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
modules(0) cs1-datatypes(2) version1(0)}

    MiscCallInfo
FROM CS2-datatypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
cS2(20) modules(0) in-cs2-datatypes (0) version1(0)}

    IMSI,
    ISDN-AddressString
FROM MAP-CommonDataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-Network(1) modules(3) map-CommonDataTypes(18) version6(6)}

    GSN-Address
FROM MAP-MS-DataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-MS-DataTypes(11) version6(6)}

    PARAMETERS-BOUND
FROM CAP-classes classes

    opcode-activityTestGPRS,
    opcode-applyChargingGPRS,
    opcode-applyChargingReportGPRS,
    opcode-cancelGPRS,
    opcode-connectGPRS,
    opcode-continueGPRS,
    opcode-entityReleasedGPRS,
    opcode-eventReportGPRS,
    opcode-furnishChargingInformationGPRS,
```

```
    opcode-initialDPGPRS,
    opcode-releaseGPRS,
    opcode-requestReportGPRSEvent,
    opcode-resetTimerGPRS,
    opcode-sendChargingInformationGPRS
FROM CAP-operationcodes operationcodes

    AccessPointName {},
    GPRSCause {},
    ChargingCharacteristics,
    ChargingResult,
    FCIGPRSBillingChargingCharacteristics,
    GPRSChargingID,
    GPRSEventSpecificInformation {},
    GPRSEvent,
    GPRSEventType,
    GPRSMSClass,
    LocationInformationGPRS,
    PDPID,
    PDPType,
    QualityOfService,
    RAIdentity,
    SCIGPRSBillingChargingCharacteristics,
    SGSNCapabilities,
    TimeAndTimezone {},
    TimerID,
    TimerValue
FROM CAP-datatypes datatypes

    missingCustomerRecord,
    missingParameter,
    parameterOutOfRange,
    systemFailure,
    taskRefused,
    unexpectedComponentSequence,
    unexpectedDataValue,
    unexpectedParameter,
    unknownPDPID
FROM CAP-errortypes errortypes

;
```

…

< unmodified syntax >

…

****** End of Document ******

3GPP TSG-CN2 Meeting #16 ***N2-010113***
Beijing, China, 15 – 19 January 2001 (revision of N2-010090)

CHANGE REQUEST

⌘ **29.078** **CR** **143** ⌘ rev **2** ⌘ Current version: 3.6.0 ⌘

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

Title:	⌘	Correction to description of Apply Charging GPRS (No volume charging for GPRS Session)
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3
Date:	⌘	19 January 2001
Category:	⌘	**F (non-essential, agreed by concensus)**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*

Use one 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 description of the Apply Charing GPRS Procedure specifies that volume charging shall be possible for the GPRS Session and for PDP Contexts. This is not in alignment with the stage 2 functionality. Volume charging shall not be applied to GPRS Sessions. This restriction shall be specified unambiguously to prevent misinterpretation by implementors of CAMEL GPRS functionality.
Summary of change:	⌘	Textual correction to Apply Charing GPRS Procedure description.
Consequences if not approved:	⌘	Misinterpretation of CAMEL GPRS functionality, leading to incorrect implementation and inconsistent Service Logic behaviour.

Clauses affected:	⌘	11.4		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	23.078 (CR263r1)
Other comments:	⌘			

****** First Change ******

11.4 ApplyChargingGPRS procedure

11.4.1 General description

This operation is used for interacting from the gsmSCF with the gprsSSF function: CSE control of GPRS session or PDP Context duration and volume. The ApplyChargingGPRSReport operation provides the feedback from the gprsSSF to the gsmSCF. The charging scenarios supported by this operation are those given in 3GPP TS 22.078 for CSE control of GPRS session and PDP Context duration and volume.

This procedure may only be used if there is a control relationship between the gsmSCF and the GPRS Session or PDP Context, for which the charging instruction is intended.

If this procedure is used within a PDP Context dialogue, then the charging instruction shall pertain to the PDP Context only. Data volume threshold and duration threshold may be defined separately.

If this procedure is used within a Session dialogue, then the charging instruction may pertain to the Session or to a PDP Context. ~~Data volume threshold and duration threshold may be defined separately, for both the Session and for the PDP Contexts.~~

~~Charging on duration may be applied to the Session or to PDP Contexts. Charging on volume may be applied to PDP Contexts only.~~Charging for a PDP Context may be on duration and/or volume. Charging for a Session may be on duration only.

NOTE: Charging for a PDP Context on duration and volume requires two ApplyChargingGPRS operations.

11.4.1.1 Parameters

- chargingCharacteristics:
  This parameter specifies a choice between parameters required for CSE control of a GPRS session or a PDP Context:

  - maxTransferredVolume:
    This parameter specifies the maximum volume to be transferred in number of bytes before a ApplyChargingReportGPRS shall be sent to the gsmSCF.

  - maxElapsedTime:
    This parameter specifies the maximum period of time before a ApplyChargingReportGPRS shall be sent to the gsmSCF.

- tariffSwitchInterval:
  This parameter indicates to the gprsSSF the time duration until the next tariff switch. The measurement of the elapsed tariff switch period commences immediately upon successful execution of this operation.

- pDPID:
  This parameter, if present, identifies the PDP Context, within the Session dialogue , to which the charging instruction applies.

11.4.2 Responding entity (gprsSSF)

11.4.2.1 Normal procedure

gprsSSF preconditions:

(1) A control relationship exists between the gsmSCF and the GPRS Session or PDP Context to which the operation applies.

(2) The gprsSSF is in one of the following states: "Waiting for Instructions" or "Monitoring".

SSF postcondition:

(1) No gprsSSF state transition

On receipt of this operation, the gprsSSF sets the charging data using the information elements included in the operation.

11.4.2.2 Error handling

TaskRefused: In addition to the generic error handling noted below, this error shall be indicated when:

- a previously received GPRS session or PDP context period or volume duration is pending;
- a tariffSwitchInterval is indicated when a previously received tariffSwitchInterval is pending.

Generic error handling for the operation related errors is described in clause 10 and the TC services used for reporting operation errors are described in clause 12.

****** End of Document ******

3GPP TSG-CN2 Meeting #16 **N2-010094**
Beijing, China, 15 – 19 January 2001 (revision of N2-010052)

CHANGE REQUEST

⌘ **29.078** **CR** **145** ⌘ rev **1** ⌘ Current version: 3.6.0 ⌘

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

Title:	⌘	Corrections to CAMEL control of MO-SMS
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3
Date:	⌘	18 January 2001
Category:	⌘	**F (essential correction)**
Release:	⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*

Use one 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 following corrections are needed.

(1) Sect. 5.1: The description of tpShortMessageSubmissionInfo was incorrect. It may be obtained from the SMS-SUBMIT TPDU or from the SMS-COMMAND TPDU.

(2) Sect. 5.6: The syntax of the Contract between gsmSCF and gprsSSF was incorrect. The correct name of the Contract is 'id-cap3GsmSCFTogprsSSF'. This Contract is IMPORTed and used in sect. 8.2.1.

(3) Sect. 5.6: The Contract identifier for SMS was not specified. The name of the Contract shall be 'id-cap3SmsSsfTogsmScf '. This Contract is used in sect. 7.2.1.

(4) Sect. 7.1: Correction to description of FurnishChargingInformationSMS. This operation may be sent to the gsmSSF and to the gprsSSF.

(5) Sect. 7.1: Correction to the timer name of operation ReleaseSMS. The timer name shall be 'T_{relsms}'.

(6) Sect. 7.1: Correction to description of ResetTimerSMS operation. This operation may be sent to the gsmSSF and to the gprsSSF.

(7) Sect. 7.1.1: Operation EventReportSMS has a 'Long' operation timer. This timer shall, however, be 'Short'. The corresponding operations for Circuit Switched call control and GPRS also have a Short operation timer.

(8) Sect. 7.1.1: Correction to the timer name of operation ReleaseSMS.

(9) Sect. 7.2.1: The Application Context (AC) name for SMS, id-ac-cap3-sms-AC, is currently not IMPORTed in this Module. This AC name is added to the IMPORT list.

	It is used for the AC definition for SMS. (10) Sect. 7.2.1: The Contract name for SMS, id-cap3SmsSsfTogsmScf, is currently not IMPORTed in this Module. This Contract name is added to the IMPORT list. It is used for the Contract definition for SMS. (11) Sect. 7.2.1: The reference of the SMS Abstrax Syntax has been corrected. It shall read 'sms-AbstractSyntax'. It is used in the SMS Application Context definition and it is defined in section 7.2.1. (12) Sect. 7.2.1: The name of the SMS Contract has been corrected; it shall be 'id-cap3SmsSsfTogsmScf'. (13) Sect. 11.32: The description of tPDataCodingScheme has been corrected. (14) Sect. 11.32: The description of tPShortMessageSubmissionInfo has been corrected. This element is applicable for the SMS-SUBMIT TPDU and for the SMS-COMMAND TPDU.
Summary of change: ⌘	Corrections to the ASN.1 syntax of MO-SMS
Consequences if not approved: ⌘	Incorrect CAP specification, leading to misinterpretation by CAMEL Phase 3 implementors.

Clauses affected:	⌘	5.1, 5.6, 7.1, 7.1.1, 7.2.1, 11.32		
Other specs affected:	⌘	[X] Other core specifications [ ] Test specifications [ ] O&M Specifications	⌘	
Other comments:	⌘			

****** First Change ******

5 Common CAP Types

5.1 Data types

```
-- The Definition of Common Data Types follows

CAP-datatypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-datatypes(52) version3(2)}
--  This module contains the type definitions for the CAP V3 data types.

DEFINITIONS IMPLICIT TAGS ::= BEGIN


IMPORTS
```

…

< unmodified ASN.1 >

…

```
TPShortMessageSubmissionInfo        ::= OCTET STRING (SIZE (1))
-- contains the 1st octect of the SMS-SUBMIT TPDU or the SMS-COMMAND TPDU as specified in
-- 3GPP TS 23.040 [46].
```

…

< unmodified ASN.1 >

…

****** Next Change ******

5.6 Object IDentifiers (IDs)

```
CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version4(3)}


DEFINITIONS ::= BEGIN
```

…

< unmodified ASN.1 >

…

```
-- gprsSSF/gsmSCF Contracts
id-cap3GprsSsfTogsmScf                    OBJECT IDENTIFIER ::= {id-contract 14}
id-cap3G~~g~~smSCFTogprsSSF                    OBJECT IDENTIFIER ::= {id-contract 15}

-- gprsSSF/gsmSCF or gsmSSF/gsmSCF Contracts
id-cap3SmsSsfTogsmScf                     OBJECT IDENTIFIER ::= {id-contract 16}
```

```
-- gprsSSF/gsmSCF or gsmSSF/gsmSCF Abstract Syntaxes
id-as-smsAS                                 OBJECT IDENTIFIER ::= {id-as 61}
```

...

< unmodified ASN.1 >

...

***** *Next Change* *****

7 MO SMS Control

This clause defines the operations, arguments, packages and appliaction contexts used for CSE control of MO SMS over the gsmSCF – gprsSSF and gsmSCF – gsmSSF interfaces.

7.1 SMS operations and arguments

```
CAP-SMS-ops-args {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-SMS-ops-args(105) version3(2)}

DEFINITIONS IMPLICIT TAGS::= BEGIN

-- This module contains the operations and operation arguments used for the
-- gsmSSF/gprsSSF – gsmSCF interface, for the control of MO-SMS.

-- The table in section 2.1 lists the specifications that contain the modules
-- that are used by CAP.

IMPORTS

    errortypes,
    datatypes,
    operationcodes,
    classes,
    ros-InformationObjects,
    tc-Messages
FROM CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version3(2)}

    OPERATION
FROM Remote-Operations-Information-Objects ros-InformationObjects

    ServiceKey
FROM CS1-DataTypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
modules(0) cs1-datatypes(2) version1(0)}

    MiscCallInfo
FROM CS2-datatypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
cS2(20) modules(0) in-cs2-datatypes (0) version1(0)}

    IMSI,
    ISDN-AddressString
FROM MAP-CommonDataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-Network(1) modules(3) map-CommonDataTypes(18) version6(6)}

    LocationInformation
```

```
FROM MAP-MS-DataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-Network(1) modules(3) map-MS-DataTypes(11) version6(6)}

    PARAMETERS-BOUND
FROM CAP-classes classes

    opcode-connectSMS,
    opcode-continueSMS,
    opcode-eventReportSMS,
    opcode-furnishChargingInformationSMS,
    opcode-initialDPSMS,
    opcode-releaseSMS,
    opcode-requestReportSMSEvent,
    opcode-resetTimerSMS
FROM CAP-operationcodes operationcodes

    CalledPartyBCDNumber {},
    EventSpecificInformationSMS,
    EventTypeSMS,
    ExtensionField {},
    FCISMSBillingChargingCharacteristics,
    LocationInformationGPRS,
    RPCause,
    SMSEvent,
    TimeAndTimezone {},
    TimerID,
    TimerValue,
    TPDataCodingScheme,
    TPProtocolIdentifier,
    TPShortMessageSubmissionInfo,
    TPValidityPeriod
FROM CAP-datatypes datatypes

    missingCustomerRecord,
    missingParameter,
    parameterOutOfRange,
    systemFailure,
    taskRefused,
    unexpectedComponentSequence,
    unexpectedDataValue,
    unexpectedParameter
FROM CAP-errortypes errortypes

;
```

…

< unmodified ASN.1 >

…

```
furnishChargingInformationSMS {PARAMETERS-BOUND : bound}        OPERATION ::= {
    ARGUMENT        FurnishChargingInformationSMSArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {missingParameter |
                     taskRefused |
                     unexpectedComponentSequence |
                     unexpectedDataValue |
                     unexpectedParameter}
    CODE            opcode-furnishChargingInformationSMS
    }
--  Direction: gsmSCF –> gsmSSF or gprsSSF, Timer: Tfcisms
--  This operation is used to request the gsmSSF/gprsSSF to generate, register a charging record
--  or to include some information in the default SM record. The registered charging record is
--  intended for off line charging of the SM.

FurnishChargingInformationSMSArg {PARAMETERS-BOUND : bound}        ::=
   FCISMSBillingChargingCharacteristics {bound}
```

…

< unmodified ASN.1 >

…

```
initialDPSMS {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        InitialDPSMSArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {missingCustomerRecord |
                    missingParameter |
                    parameterOutOfRange |
                    systemFailure |
                    taskRefused |
                    unexpectedComponentSequence |
                    unexpectedDataValue |
                    unexpectedParameter}
    CODE            opcode-initialDPSMS
    }
--  Direction: gsmSSF or gprsSSF -> gsmSCF, Timer: Tidpsms
--  This operation is used after a TDP to indicate request for service.

InitialDPSMSArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    serviceKey                          [0] ServiceKey,
    destinationSubscriberNumber         [1] CalledPartyBCDNumber {bound}        OPTIONAL,
    callingPartyNumber                  [2] ISDN-AddressString                  OPTIONAL,
    eventTypeSMS                        [3] EventTypeSMS                        OPTIONAL,
    iMSI                                [4] IMSI                                OPTIONAL,
    locationInformationMSC              [5] LocationInformation                 OPTIONAL,
    locationInformationGPRS             [6] LocationInformationGPRS             OPTIONAL,
    sMSCAddress                         [7] ISDN-AddressString                  OPTIONAL,
    timeAndTimezone                     [8] TimeAndTimezone {bound}             OPTIONAL,
    tPShortMessageSubmission~~Specific~~Info [9] TPShortMessageSubmissionInfo   OPTIONAL,
    tPProtocolIdentifier                [10] TPProtocolIdentifier               OPTIONAL,
    tPDataCodingScheme                  [11] TPDataCodingScheme                 OPTIONAL,
    tPValidityPeriod                    [12] TPValidityPeriod                   OPTIONAL,
    extensions                          [13] SEQUENCE SIZE(1..bound.&numOfExtensions)   OF
                                                    ExtensionField {bound}      OPTIONAL,
    ...
    }
```

…

< unmodified ASN.1 >

…

```
releaseSMS                      OPERATION ::= {
    ARGUMENT        ReleaseSMSArg
    RETURN RESULT   FALSE
    ALWAYS RESPONDS FALSE
    CODE            opcode-releaseSMS
    }
--  Direction: gsmSCF -> gsmSSF or gprsSSF, Timer: T~~rcsms~~relsms
--  This operation is used to prevent an attempt to submit a short message.

ReleaseSMSArg                       ::= RPCause
```

…

< unmodified ASN.1 >

…

```
resetTimerSMS {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        ResetTimerSMSArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {missingParameter |
                    parameterOutOfRange |
                    taskRefused |
                    unexpectedComponentSequence |
                    unexpectedDataValue |
                    unexpectedParameter}
    CODE            opcode-resetTimerSMS
    }
-- Direction: gsmSCF -> gsmSSF/gprsSSF, Timer: Trtsms
-- This operation is used to request the gsmSSF/gprsSSF to refresh an application
```

```
-- timer in the gsmSSF/gprsSSF.

ResetTimerSMSArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    timerID         [0] TimerID DEFAULT tssf,
    timervalue      [1] TimerValue,
    extensions      [2] SEQUENCE SIZE(1..bound.&numOfExtensions) OF
                                                        ExtensionField {bound}  OPTIONAL,
    ...
    }
```

***** *Next Change* *****

7.1.1 Operation timers

The following value ranges apply for operation specific timers in CAP:

short: 1 to 20 seconds;
medium: 1 to 60 seconds;
long: 1 second to 30 minutes

Table 7-1 lists all operation timers and the value range for each timer. The definitive value for each operation timer may be network specific and has to be defined by the network operator.

Table 7-1: Operation timers and their value range

Operation Name	Timer	value range
ConnectSMS	T_{consms}	Short
ContinueSMS	T_{cuesms}	short
EventReportSMS	T_{erbsms}	~~Long~~Short
FurnishChargingInformationSMS	T_{fcisms}	Short
InitialDPSMS	T_{idpsms}	Short
ReleaseSMS	$T_{~~rcsms~~relsms}$	Short
RequestReportSMSEvent	T_{rrbsms}	Short
ResetTimerSMS	T_{rtsms}	short

***** *Next Change* *****

7.2 SMS contracts, packages and ACs

7.2.1 SMS ASN.1 module

```
CAP-smsSSF-gsmSCF-pkgs-contracts-acs {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-smsSSF-gsmSCF-pkgs-contracts-acs(106) version3(2)}

DEFINITIONS ::= BEGIN

-- This module specifies the Operation Packages, Contracts, Application Contexts
-- and Abstract Syntaxes used for the gsmSSF/gprsSSF – gsmSCF interface, for the
-- control of MO-SMS.

-- The table in section 2.1 lists the specifications that contain the modules
-- that are used by CAP.
```

```
IMPORTS

    PARAMETERS-BOUND,
    cAPSpecificBoundSet
FROM CAP-classes classes

    CONTRACT,
    OPERATION-PACKAGE,
    OPERATION
FROM Remote-Operations-Information-Objects ros-InformationObjects

    TCMessage {}
FROM TCAPMessages tc-Messages

    APPLICATION-CONTEXT,
    dialogue-abstract-syntax
FROM TC-Notation-Extensions tc-NotationExtensions

    connectSMS{},
    continueSMS,
    eventReportSMS{},
    furnishChargingInformationSMS{},
    initialDPSMS{},
    releaseSMS,
    requestReportSMSEvent{},
    resetTimerSMS{}
FROM CAP-SMS-ops-args sms-Operations

    id-ac-cap3-sms-AC,
    id-cap3SmsSsfTogsmScf,
    sms-Operations,
    tc-NotationExtensions,
    tc-Messages,
    ros-InformationObjects,
    classes,
    id-as-sms-AS
FROM CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version3(2)}

;

-- Application Contexts

cap3-sms-AC APPLICATION-CONTEXT ::= {
    CONTRACT                    cap3SMS
    DIALOGUE MODE               structured
    ABSTRACT SYNTAXES           {dialogue-abstract-syntax |
                                gprsSSF-scfAbstractSyntaxsms-AbstractSyntax}
    APPLICATION CONTEXT NAME    id-ac-cap3-sms-AC}


-- Contracts

cap3SMS CONTRACT ::= {
-- dialogue initiated by gprsSSF or gsmSSF with InitialDPSMS Operation
    INITIATOR CONSUMER OF
            {smsActivationPackage {cAPSpecificBoundSet}}
    RESPONDER CONSUMER OF
            {smsConnectPackage {cAPSpecificBoundSet} |
            smsReleasePackage {cAPSpecificBoundSet} |
            smsEventHandlingPackage {cAPSpecificBoundSet} |
            smsTimerPackage {cAPSpecificBoundSet} |
            smsBillingPackage {cAPSpecificBoundSet} |
            smsProcessingPackage {cAPSpecificBoundSet}}
    ID      id-cap3GprsSsfToScfid-cap3SmsSsfTogsmScf}


-- Operation Packages

smsActivationPackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {initialDPSMS {bound}}
    ID      id-package-smsActivation}
smsConnectPackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {connectSMS {bound}}
    ID      id-package-smsConnect}
smsProcessingPackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {continueSMS}
```

```
    ID      id-package-smsContinue}
SmsReleasePackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {releaseSMS}
    ID      id-package-smsRelease}
smsEventHandlingPackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {requestReportSMSEvent {bound}}
    SUPPLIER INVOKES    {eventReportSMS {bound}}
    ID      id-package-smsEventHandling}
smsBillingPackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {furnishChargingInformationSMS {bound}}
    ID      id-package-smsBilling}
smsTimerPackage {PARAMETERS-BOUND : bound} OPERATION-PACKAGE ::= {
    CONSUMER INVOKES    {resetTimerSMS {bound}}
    ID      id-package-smsTimer}


-- Abstract Syntaxes

sms-AbstractSyntax ABSTRACT-SYNTAX ::= {
    Generic-sms-PDUs
    IDENTIFIED BY   id-as-sms-AS}

Generic-sms-PDUs ::= TCMessage {{SmsInvokable}, {SmsReturnable}}

SmsInvokable OPERATION ::= {
    connectSMS {cAPSpecificBoundSet} |
    eventReportSMS {cAPSpecificBoundSet} |
    furnishChargingInformationSMS {cAPSpecificBoundSet} |
    initialDPSMS {cAPSpecificBoundSet} |
    requestReportSMSEvent {cAPSpecificBoundSet} |
    resetTimerSMS {cAPSpecificBoundSet}
    }

SmsReturnable OPERATION ::= {
    connectSMS {cAPSpecificBoundSet} |
    continueSMS |
    furnishChargingInformationSMS {cAPSpecificBoundSet}|
    initialDPSMS {cAPSpecificBoundSet}|
    releaseSMS { }|
    requestReportSMSEvent {cAPSpecificBoundSet}|
    resetTimerSMS {cAPSpecificBoundSet}
    }

END
```

****** Next Change ******

11.32 InitialDPSMS procedure

11.32.1 General description

This operation is sent by the gsmSSF or gprsSSF after detection of a TDP-R in the FSM, to request the gsmSCF for instructions to complete the MO SMS submission.

11.32.1.1 Parameters

- destinationSubscriberNumber:
  This IE contains a number to identify the Destination short message entity.

- callingPartyNumber:
  This parameter carries the MSISDN of the sending MS.

- eventType:
  This parameter indicates the armed FSM DP event, resulting in the InitialDPSMS operation.

- iMSI:
  IMSI of the mobile subscriber for which the CAMEL service is invoked. For encoding see 3GPP TS 29.002 [13].

- locationInformationInMSC:
  This parameter indicates the location of the sending MS when the SM is sent via MSC.

- locationInformationInSGSN:
  This parameter indicates the location of the sending MS when the SM is sent via GPRS SGSN.

- serviceKey:
  This parameter indicates to the gsmSCF the requested IN service. It is used to address the required application/SLP within the gsmSCF (not for gsmSCF addressing).

- timeAndTimeZone:
  This parameter contains the time that the gsmSSF/gprsSSF was triggered, and the time zone that the invoking gsmSSF/gprsSSF resides in.

- tPDataCodingScheme:
  This IE indicates the data coding scheme of the TP-User Data element within the TPDU. ~~field, and~~ It may indicate a message class. The message class may indicate e.g. the originator of Short Message.

- tPShortMessageSubmission~~Specific~~Info:
  ~~This IE contains the 1st octect of the~~ SMS-SUBMIT TPDU which is specified in 3GPP TS 23.040 [46].This IE contains the 1st octet of the TPDU. Refer to 3G TS 23.040 [46] for a description of the various TPDUs.

- tPProtocolIdentifier:
  This IE indicates the protocol used above SM-Transfer Layer.

- tPValidityPeriod:
  This IE indicates the length of the validity period or the absolute time of the validity period termination.

- sMSCAddress:
  This I.E defines the address of the SMSC to which the MO short message is intended to be submitted.

11.32.2 Invoking entity (gsmSSF or gprsSSF)

11.32.2.1 Normal procedure

gsmSSF/gprsSSF preconditions:

(1) A MO SMS submission attempt has been initiated.

(2) An event has been detected at a DP.

gsmSSF/gprsSSF postcondition:

(1) A control relationship has been established and the gsmSSF/gprsSSF waits for instructions from the gsmSCF.

The address of the gsmSCF the InitialDPSMS operation shall be sent to is fetched from the SMS-CSI. The gsmSSF or gprsSSF provides all available parameters.

A control relationship is established to the gsmSCF. The gsmSSF/gprsSSF application timer T_{SSF} is set when the gsmSSF/gprsSSF sends InitialDPSMS for requesting instructions from the gsmSCF. It is used to prevent from excessive SMS delivery suspension time.

11.32.2.2 Error handling

If the destination gsmSCF is not accessible then the gsmSSF/gprsSSF instructs the MSC/SGSN to handle the SM according to the Default SMS Handling parameter of the SMS-CSI.

On expiration of T_{SSF} before receiving any operation, the gsmSSF/gprsSSF aborts the interaction with the gsmSCF and instructs the VMSC/SGSN to handle the SM according to the Default SMS Handling parameter of the SMS-CSI.

If the sending mobile party abandons after the sending of InitialDPSMS, then the gsmSSF/gprsSSF closes the control relationship after the first answer message from the gsmSCF has been received, and after the SMSC has responded or a timer has expired.

Generic error handling for the operation related errors is described in clause 10 and the TC services which are used for reporting operation errors are described in clause 12.

****** End of Document ******

3GPP TSG-CN2 Meeting #16
Beijing, China, 15 – 19 January 2001

N2-010100

CR-Form-v3

CHANGE REQUEST

⌘ **29.078** **CR** **147** ⌘ rev **1** ⌘ Current version: **3.6.0** ⌘

*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:	⌘	Correction on GPRS related operation
Source:	⌘	Siemens
Work item code:	⌘	CAMEL3
Date:	⌘	17 January 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential 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 one 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:	⌘	There are still small errors in GPRS related operations to be corrected.
Summary of change:	⌘	Correction applied to the gprsSSF postcondition in ActivityTestGPRS operation Correction in the case of the overlapping dialogue in 12.1.7.1.4 on GPRS Reference ID and the wording of TC primitive.
Consequences if not approved:	⌘	Possible misunderstanding of the use of the operation above, and incorrect usage of the operations.

Clauses affected:	⌘	11.2 and 12.1.7.1.4
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	This CR shall be approved “by consensus”

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

11.2 ActivityTestGPRS procedure

11.2.1 General description

11.2.2 Responding entity (gprsSSF)

11.2.2.1 Normal procedure

gprsSSF precondition:
(1) A relationship exists between the gsmSCF and the gprsSSF

gprsSSF postcondition:
(1) The SSME-FSM stays in the state" Idle Management"

(2) If the relationship exists and if there is a gprsSSF using the GPRS-Reference Number, the SSME sends a Return Result "ActivityTestGPRS" to the gsmSCF. The SSME-FSM returns to the state"Idle Management".

If the GPRS ~~–~~ReferenceNumber~~Dialogue ID~~ is not active, the TC User in the gprsSSF will instruct to issue a U~~P~~-Abort~~, the SSME will in that case never receive the"ActivityTestGPRS" req.ind and thus will not be able to reply~~.

(3) The temporary TC dialogue is closed.

CR editor's note: P-Abort is not applicable since TCAP dialogue is opened, but non-existing GPRS referenceID may be detected by the TCAP user.

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

12.1.7.1.4 gsmSCF-to-gprsSSF messages

This subclause defines the normal procedures for TC messages from the gsmSCF to the gprsSSF. In the case of overlapping dialogues for the same relationship the gsmSCF opened dialogue is closed by the gprsSSF ~~with an error code~~ as specified in clause 5.7~~10~~. The gsmSCF shall first respond normally to the operations sent by the gprsSSF, and then decide on the further actions.

CR editor's note: Error codes is obsolete, user abort is used here.

3GPP TSG-CN2 Meeting #16
Beijing, China, 15th – 19th January 2001

Tdoc N2-010091

CR-Form-v3

CHANGE REQUEST

⌘ **29.078 CR 148** ⌘ rev **1** ⌘ Current version: 3.6.0 ⌘

*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 **X**

Title:	⌘	Correction to MSNetwork Capability parameter length
Source:	⌘	Lucent Technologies
Work item code:	⌘	CAMEL Phase 3
Date:	⌘	3rd January 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
- ***F*** *(essential 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 one 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 *MS network capabilityis* defined in 24.008 *as* a type 4 information element with a maximum of 10 octets length. The coding is defined in figure 10.5.128/TS 24.008. In TS 29.078, the ASN.1 coding that needs to carry is MS Network Capability is restricted to a length of 3 octets. This needs to be at least eight octets (since the IE identifier and the length do not need to be included) to make sure that the correct information is sent to the service logic. The category of this CR is “Essential Correction”
Summary of change:	⌘	In the ASN.1 description of the MSNetworkCapability parameter, the octet string is increased from 3 octets to 8 octets to accommodate the appropriate parameter.
Consequences if not approved:	⌘	The service logic in the gsmSCF will not get the correct information for the MSNetworkCapability parameter.

Clauses affected:	⌘	5.1
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ 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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

****** FIRST MODIFIED SECTION ******

5 Common CAP Types

5.1 Data types

```
:
:
(unmodified text)

MSNetworkCapability                          ::= OCTET STRING (SIZE (38))
--  MS Network Capability describes the GPRS terminal capabilites related to the network,
    i.e. SMS
--  point to point service over packet data channels. For encoding refer to 3GPP TS 24.008
    [12].
```

****** END OF DOCUMENT ******

3GPP TSG-CN2 Meeting #17 ***Tdoc N2-010148***
Sophia Antipolis, France, 26 Feb 02 Mar 2001

CR-Form-v3

CHANGE REQUEST

⌘ **29.078** **CR** **149** ⌘ rev **-** ⌘ Current version: **3.6.0** ⌘

*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:	⌘	Definition of the geographicalInformation parameter coding
Source:	⌘	Nokia
Work item code:	⌘	Camel 3 ***Date:*** ⌘ 07 Feb 2001
Category:	⌘	**F** "essential correction" ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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 one 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 internal coding of the geographical information parameter is not defined. Used reference, 3GPP TS 23.032, includes seven different shape and only one of those have the exact 8 octet length (EllipsoidPointWithUncertaintyCircle). Due this shape is also used in MAP, the GeographicalInformation type is proposed to import from MAP and the comments related to the 3GPP TS 23.032 are proposed to remove.
Summary of change:	⌘	The GeographicalInformation type is imported from MAP i.e. the same coding as in MAP will be used also in CAP.
Consequences if not approved:	⌘	Misalignement between the implementations due the seven different Geographical Information coding in the 3GPP TS 23.032.

Clauses affected:	⌘			
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	29.002
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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

****** For Information ******

Copy from MAP 29.002 V3.7.2:

```
GeographicalInformation ::= OCTET STRING (SIZE (8))
--   Refers to geographical Information defined in GSM 03.32.
--   Only the description of an ellipsoid point with uncertainty circle
--   as specified in GSM 03.32 is allowed to be used
--   The internal structure according to GSM 03.32 is as follows:
--        Type of shape (ellipsoid point with uncertainty circle)          1 octet
--        Degrees of Latitude                                              3 octets
--        Degrees of Longitude                                             3 octets
--        Uncertainty code                                                 1 octet
```

****** First Change ******

5 Common CAP Types

5.1 Data types

```
-- The Definition of Common Data Types follows

CAP-datatypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-datatypes(52) version3(2)}
-- This module contains the type definitions for the CAP v.3 data types.

DEFINITIONS IMPLICIT TAGS ::= BEGIN


IMPORTS

    CallingPartysCategory,
    Duration,
    HighLayerCompatibility,
    Integer4,
    Interval,
    LegID,
    RedirectionInformation,
    ServiceKey
FROM CS1-DataTypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
modules(0) cs1-datatypes(2) version1(0)}

    BothwayThroughConnectionInd,
    CriticalityType,
    MiscCallInfo
FROM CS2-datatypes {ccitt(0) identified-organization(4) etsi(0) inDomain(1) in-network(1)
cS2(20) modules(0) in-cs2-datatypes(0) version1(0)}

    IMSI,
    ISDN-AddressString,
    Ext-BasicServiceCode,
    NAEA-CIC
FROM MAP-CommonDataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-CommonDataTypes(18) version6(6)}

    Ext-QoS-Subscribed,
    GeographicalInformation,
    LocationInformation,
    QoS-Subscribed,
    SubscriberState
FROM MAP-MS-DataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-MS-DataTypes(11) version6(6)}

    CallReferenceNumber,
    SuppressionOfAnnouncement
FROM MAP-CH-DataTypes {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
gsm-network(1) modules(3) map-CH-DataTypes(13) version6(6)}

    tc-Messages,
```

```
    classes
FROM CAP-object-identifiers {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version3(2)}

    TCInvokeIdSet
FROM TCAPMessages tc-Messages

    EXTENSION,
    PARAMETERS-BOUND,
    SupportedExtensions {}
FROM CAP-classes classes

;

...

Unchanged asn.1
...



LocationInformationGPRS     ::= SEQUENCE {
    cellGlobalIdOrServiceAreaIdOrLAI    [0] OCTET STRING (SIZE(5..7))   OPTIONAL,
    routeingAreaIdentity                [1] RAIdentity                  OPTIONAL,
    geographicalInformation             [2] GeographicalInformation~~OCTET STRING (SIZE (8))~~
    OPTIONAL,
    sgsn-Number                         [3] ISDN-AddressString          OPTIONAL,
    selectedLSAIdentity                 [4] LSAIdentity                 OPTIONAL,
    extensionContainer                  [5] ExtensionContainer          OPTIONAL,
    ...,
    sai-Present                         [6] NULL                        OPTIONAL
}
-- CellGlobalIdOrServiceAreaIdOrLAI and LSAIdentity are coded in accordance with
-- 3GPP TS 29.002 [13].
~~-- GeographicalInformation refers to geographical Information as defined~~
~~-- in 3GPP TS 23.032 [44].~~
-- sai-Present indicates that the cellGlobalIdOrServiceAreaIdOrLAI parameter contains
-- a Service Area Identity.
```

****** End of Document ******

3GPP TSG-CN2 Meeting #17
Sophia Antipolis, France, 26th February – 2nd March 2001

Tdoc N2-010156

CR-Form-v3

CHANGE REQUEST

29.078	CR	151	rev		Current version:	3.6.0

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

Title:	Removal of duplicate desciption in CWA
Source:	Vodafone
Work item code:	CAMEL3
Date:	20th February 2001
Category:	**F**
Release:	R99

Use one of the following categories:
F *(essential 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 one 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 description of the Service Interaction Indicators Two parameter is duplicated in the desciption of the Continue With Argument Operation
Summary of change:	Removal of the 2nd description
Consequences if not approved:	The duplication could be a cause of confusion

Clauses affected:	11.20.1.1
Other specs affected:	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications
Other comments:	This CR should be classified as "Agreed by Consensus"

****** Modified Section ******

11.20 ContinueWithArgument Procedure

…

11.20.1.1 Parameters

- alertingPattern:
  This parameter indicates the type of alerting to be applied. It is defined in 3GPP TS 29.002 [13].

- serviceInteractionIndicatorsTwo:
  This parameter contains indicators which are exchanged between the gsmSSF and the gsmSCF to resolve interactions between IN based services and network based services.

- callingPartysCategory:
  This parameter indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber).

- genericNumbers:
  This parameter allows the gsmSCF to set the Generic Number parameter used in the network. It is used for transfer of Additional Calling Party Number.

- suppressionOfAnnouncement:
  This parameter indicates that announcements and tones which are played in the exchange at non-successful call set-up attempts shall be suppressed.

- Carrier:
  This parameter indicates carrier information. It consists of the carrier selection field followed by the Carrier ID information to be used by gsmSSF for routing a call to a carrier.

  It comprises the following embedded sub-parameter:

  - carrierSelectionField
    This parameter indicates how the selected carrier is provided (e.g. pre-subscribed).

  - carrierID
    This alternative indicates the carrier to use for the call. It contains the digits of the carrier identification code.

- naOliInfo:
  This parameter contains originating line information which identifies the charged party number type to the carrier.

- ChargeNumber:
  This parameter contains the number that identifies the entity to be charged for the call. It identifies the chargeable number for the usage of a carrier (applicable on a call sent into a North American long distance carrier). For a definition of this parameter refer to ANSI ISUP T1.113 [53].

- cug-Interlock:
  This parameter uniquely identifies a CUG within a network.

- cug-OutgoingAccess:
  This parameter indicates if the calling user has subscribed to the outgoing access inter-CUG accessibility subscription option.

- ~~serviceInteractionIndicatorsTwo:~~
  ~~This parameter contains indicators which are exchanged between the gsmSSF and the gsmSCF to resolve interactions between IN based services and network based services.~~

****** End of Document ******