3GPP TSG CN Plenary Meeting #12 **Tdoc NP-010311**
Stockholm, Sweden, 13th - 15th June 2001

Source: TSG CN WG2

Title: CRs on R99 and Rel-4 Work Item “CAMEL3”

Agenda item: 7.2

Document for: APPROVAL

Introduction:

This document contains 8 CRs on R99 and Rel-4 Work Item ”CAMEL3”, that have been agreed by TSG CN WG2, and are forwarded to TSG CN Plenary meeting #12 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.078	155	3	N2-010466	R99	Contradiction and inconsistency among descriptions on SMS	F	3.7.0
29.078	156	2	N2-010467	Rel-4	Contradiction and inconsistency among descriptions on SMS	A	4.0.0
29.078	157	1	N2-010391	R99	Correction to ACR-GPRS procedure description	F	3.7.0
29.078	177		N2-010392	Rel-4	Correction to ACR-GPRS procedure description	A	4.0.0
29.078	159	1	N2-010408	R99	Correction on the usage of SII2 parameter in CAP	F	3.7.0
29.078	178		N2-010409	Rel-4	Correction on the usage of SII2 parameter in CAP	A	4.0.0
29.078	160	1	N2-010414	R99	Correction to state transition for Assisting gsmSSF	F	3.7.0
29.078	180		N2-010415	Rel-4	Correction to state transition for Assisting gsmSSF	A	4.0.0

3GPP TSG-CN WG2 Meeting #18
Puerto Rico, 14th - 18th May 2001

Tdoc N2-010391
(revision of N2-010319)

CHANGE REQUEST

⌘ **29.078** **CR** **157** ⌘ rev **1** ⌘ Current version: **3.7.0** ⌘

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

Title:	⌘	Correction to ACR-GPRS procedure description
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	14 May 2001
Category:	⌘	F (essential correction)
Release:	⌘	R99

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

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 ApplyChargingReportGPRS Procedure is incomplete. It describes the usage of this procedure for limited cases only. This may lead to misunderstanding and incorrect implementation in the SGSN or the SCP. The present CR proposes corrective text.
Summary of change:	⌘	Correction of the ApplyChargingReportGPRS Procedure description.
Consequences if not approved:	⌘	Misleading and incorrect specification, leading to misinterpretation of the specification and possibly leading to inconsistent implementation.

Clauses affected:	⌘	11.6
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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

11.6 ApplyChargingReportGPRS procedure

11.6.1 General description

This operation is used by the gprsSSF to report charging related information to the gsmSCF as requested by the gsmSCF using the ApplyChargingGPRS operation.

Timing of duration and measuring of transferred data (if applicable) shall be started when either an Attach event, PDP context activation acknowledgement or an Inter SGSN routeing area update acceptance is detected by the gprsSSF.

A report shall be made either when a PDP context deactivation, Detach event or Change in QoS is detected by the gprsSSF or when the gprsSSF detects that the transferred volume or elapsed time duration indicated in parameter transferredVolume or elapsedTime (received in ApplyChargingGPRS operation) has been reached.
That sending of ApplyChargingReportGPRS shall only be made on chargeable QoS changes.

11.6.1.1 Parameters

…
< unmodified >
…

11.6.2 Invoking entity (gprsSSF)

11.6.2.1 Normal procedure

gprsSSF preconditions:

(1) A relationship exists between the gsmSCF and the GPRS Session or PDP Context.

(2) A charging event has been detected that was requested by the gsmSCF via an ApplyChargingGPRS operation

gprsSSF postconditions:

(1) If termination of the GPRS session or a PDP context has occurred:

- If the sending of ApplyChargingReportGPRS is directly followed by the reporting of an EDP-R, then the gprsSSF shall transit to state “Waiting for Instructions”, else
- If there are any outstanding EDPs or pending reports then the gprsSSF shall remain in the same state, else
- If there are no outstanding EDPs or pending reports, then the gprsSSF shall transit to state ‘Idle’.

(2) If the sending of ApplyChargingReportGPRS is due to a timer or counter expiry:

- If there are any outstanding EDPs or pending reports then the gprsSSF shall remain in the same state, else
- If there are no outstanding EDPs or pending reports, then the gprsSSF shall transit to state ‘Idle’.

(3) If the sending of ApplyChargingReportGPRS is due to a change in QoS of a PDP Context:

- The gprsSSF shall remain in the same state.

11.6.2.2 Error handling

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.

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Puerto Rico, 14th - 18th May 2001

Tdoc N2-010392

CHANGE REQUEST

⌘ **29.078** **CR** **177** ⌘ rev ⌘ Current version: **4.0.0** ⌘

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

Title:	⌘	Correction to ACR-GPRS procedure description
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	14 May 2001
Category:	⌘	A
Release:	⌘	Rel-4

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

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 ApplyChargingReportGPRS Procedure is incomplete. It describes the usage of this procedure for limited cases only. This may lead to misunderstanding and incorrect implementation in the SGSN or the SCP. The present CR proposes corrective text.
Summary of change:	⌘	Correction of the ApplyChargingReportGPRS Procedure description.
Consequences if not approved:	⌘	Misleading and incorrect specification, leading to misinterpretation of the specification and possibly leading to inconsistent implementation.

Clauses affected:	⌘	11.6
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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

11.6 ApplyChargingReportGPRS procedure

11.6.1 General description

This operation is used by the gprsSSF to report charging related information to the gsmSCF as requested by the gsmSCF using the ApplyChargingGPRS operation.

Timing of duration and measuring of transferred data (if applicable) shall be started when either an Attach event, PDP context activation acknowledgement or an Inter SGSN routeing area update acceptance is detected by the gprsSSF.

A report shall be made either when a PDP context deactivation, Detach event or Change in QoS is detected by the gprsSSF or when the gprsSSF detects that the transferred volume or elapsed time duration indicated in parameter transferredVolume or elapsedTime (received in ApplyChargingGPRS operation) has been reached.
That sending of ApplyChargingReportGPRS shall only be made on chargeable QoS changes.

11.6.1.1 Parameters

…
< unmodified >
…

11.6.2 Invoking entity (gprsSSF)

11.6.2.1 Normal procedure

gprsSSF preconditions:

(1) A relationship exists between the gsmSCF and the GPRS Session or PDP Context.

(2) A charging event has been detected that was requested by the gsmSCF via an ApplyChargingGPRS operation

gprsSSF postconditions:

(1) If termination of the GPRS session or a PDP context has occurred:

- If the sending of ApplyChargingReportGPRS is directly followed by the reporting of an EDP-R, then the gprsSSF shall transit to state “Waiting for Instructions”, else
- If there are any outstanding EDPs or pending reports then the gprsSSF shall remain in the same state, else
- If there are no outstanding EDPs or pending reports, then the gprsSSF shall transit to state ‘Idle’.

(2) If the sending of ApplyChargingReportGPRS is due to a timer or counter expiry:

- If there are any outstanding EDPs or pending reports then the gprsSSF shall remain in the same state, else
- If there are no outstanding EDPs or pending reports, then the gprsSSF shall transit to state ‘Idle’.

(3) If the sending of ApplyChargingReportGPRS is due to a change in QoS of a PDP Context:

- The gprsSSF shall remain in the same state.

11.6.2.2 Error handling

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.

3GPP TSG-CN WG2 Meeting #18
Puerto Rico, 14th - 18th May 2001

Tdoc N2-010408
(revision of N2-010321)

CHANGE REQUEST

⌘ **29.078 CR** 159 ⌘ rev **1** ⌘ Current version: 3.7.0 ⌘

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

Title:	⌘	Correction on the usage of SII2 parameter in CAP
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	15 May 2001
Category:	⌘	F (agreed by concensus)
Release:	⌘	R99

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

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 data type definition of the parameter "ServiceInteractionIndicatorsTwo" (SII2) lacks a clear description in which CAP operations the sub-parameters of SII2 may be included. For the sub-parameters "forwardServiceInteractionInd", "backwardServiceInteractionInd" and "nonCUGCall" it is indicated in which CAP operations they may be included. Such indication is missing for "bothwayThroughConnectionInd", "connectedNumberTreatmentInd", "holdTreatmentIndicator", "cwTreatmentIndicator" and "ectTreatmentIndicator". The lack of this indication leads to ambiguity as to when the SII2 parameter may be included in the CAP operations. For "backwardServiceInteractionInd", it is indicated that this parameter may be included in "InitialDP". This is not correct. According to 23.078, this parameter shall not be included in InitialDP. The present CR proposes corrective text that clarifies when these sub-parameters may be included. This text is in alignment with the functional description of the SII2 parameter in 3G TS 23.078.
Summary of change:	⌘	Adding corrective and clarifying text to the "ServiceInteractionIndicatorsTwo" data type definition in section 5.1.
Consequences if not approved:	⌘	Ambiguity concerning the usage of the ServiceInteractionIndicatorsTwo parameter. This may result in situations that this parameter is not included when service designers or MSC designers expect it and vice versa. This may affect Service behaviour.

Clauses affected:	⌘	5.1

Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Terms like “CON” and “CWA” are semi-official abbreviations for CAMEL operations. The present CR uses the formal CAP operation names instead.		

****** 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

...
< unmodified text >
...


ServiceInteractionIndicatorsTwo                          ::= SEQUENCE {
    forwardServiceInteractionInd        [0] ForwardServiceInteractionInd        OPTIONAL,
    -- applicable to operations InitialDP, Connect and ContinueWithArgument.
    backwardServiceInteractionInd       [1] BackwardServiceInteractionInd       OPTIONAL,
    -- applicable to operations Connect and ContinueWithArgument.
    bothwayThroughConnectionInd         [2] BothwayThroughConnectionInd         OPTIONAL,
    -- applicable to ConnectToResource and EstablishTemporaryConnection
    connectedNumberTreatmentInd         [4] ConnectedNumberTreatmentInd         OPTIONAL,
    -- applicable to Connect and ContinueWithArgument
    nonCUGCall                          [13] NULL                               OPTIONAL,
    -- applicable to Connect and ContinueWithArgument
    -- indicates that no parameters for CUG shall be used for the call (i.e. the call shall
    -- be a non-CUG call).
    -- If not present, it indicates one of three things:
    --  a) continue with modified CUG information (when one or more of either CUG Interlock Code
    --     and Outgoing Access Indicator are present), or
    --  b) continue with original CUG information (when neither CUG Interlock Code or Outgoing
    --     Access Indicator are present), i.e. no IN impact.
    --  c) continue with the original non-CUG call.
    holdTreatmentIndicator              [50] OCTET STRING (SIZE(1))             OPTIONAL,
    -- applicable to InitialDP, Connect and ContinueWithArgument
    -- acceptHoldRequest    'xxxx xx01'B
    -- rejectHoldRequest    'xxxx xx10'B
    -- network default is accept hold request
    cwTreatmentIndicator                [51] OCTET STRING (SIZE(1))             OPTIONAL,
    -- applicable to InitialDP, Connect and ContinueWithArgument
    -- acceptCw 'xxxx xx01'B
    -- rejectCw 'xxxx xx10'B
    -- network default is accept cw
    ectTreatmentIndicator               [52] OCTET STRING (SIZE(1))             OPTIONAL,
    -- applicable to InitialDP, Connect and ContinueWithArgument
    -- acceptEctRequest 'xxxx xx01'B
    -- rejectEctRequest 'xxxx xx10'B
    -- network default is accept ect request
    ...
    }

...
< unmodified text >
...
```

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

3GPP TSG-CN WG2 Meeting #18
Puerto Rico, 14th - 18th May 2001

Tdoc N2-010409

CHANGE REQUEST

⌘ **29.078 CR** 178 ⌘ rev ⌘ Current version: 4.0.0 ⌘

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

Title:	⌘	Correction on the usage of SII2 parameter in CAP
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	15 May 2001
Category:	⌘	A
Release:	⌘	Rel-4

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

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 data type definition of the parameter "ServiceInteractionIndicatorsTwo" (SII2) lacks a clear description in which CAP operations the sub-parameters of SII2 may be included. For the sub-parameters "forwardServiceInteractionInd", "backwardServiceInteractionInd" and "nonCUGCall" it is indicated in which CAP operations they may be included. Such indication is missing for "bothwayThroughConnectionInd", "connectedNumberTreatmentInd", "holdTreatmentIndicator", "cwTreatmentIndicator" and "ectTreatmentIndicator". The lack of this indication leads to ambiguity as to when the SII2 parameter may be included in the CAP operations. For "backwardServiceInteractionInd", it is indicated that this parameter may be included in "InitialDP". This is not correct. According to 23.078, this parameter shall not be included in InitialDP. The present CR proposes corrective text that clarifies when these sub-parameters may be included. This text is in alignment with the functional description of the SII2 parameter in 3G TS 23.078.
Summary of change:	⌘	Adding corrective and clarifying text to the "ServiceInteractionIndicatorsTwo" data type definition in section 5.1.
Consequences if not approved:	⌘	Ambiguity concerning the usage of the ServiceInteractionIndicatorsTwo parameter. This may result in situations that this parameter is not included when service designers or MSC designers expect it and vice versa. This may affect Service behaviour.

Clauses affected:	⌘	5.1

Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Terms like “CON” and “CWA” are semi-official abbreviations for CAMEL operations. The present CR uses the formal CAP operation names instead.		

***** *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

...
< unmodified text >
...


ServiceInteractionIndicatorsTwo                         ::= SEQUENCE {
    forwardServiceInteractionInd        [0] ForwardServiceInteractionInd        OPTIONAL,
    -- applicable to operations InitialDP, Connect and ContinueWithArgument.
    backwardServiceInteractionInd       [1] BackwardServiceInteractionInd       OPTIONAL,
    -- applicable to operations Connect and ContinueWithArgument.
    bothwayThroughConnectionInd         [2] BothwayThroughConnectionInd         OPTIONAL,
    -- applicable to ConnectToResource and EstablishTemporaryConnection
    connectedNumberTreatmentInd         [4] ConnectedNumberTreatmentInd         OPTIONAL,
    -- applicable to Connect and ContinueWithArgument
    nonCUGCall                          [13] NULL                               OPTIONAL,
    -- applicable to Connect and ContinueWithArgument
    -- indicates that no parameters for CUG shall be used for the call (i.e. the call shall
    -- be a non-CUG call).
    -- If not present, it indicates one of three things:
    --  a) continue with modified CUG information (when one or more of either CUG Interlock Code
    --     and Outgoing Access Indicator are present), or
    --  b) continue with original CUG information (when neither CUG Interlock Code or Outgoing
    --     Access Indicator are present), i.e. no IN impact.
    --  c) continue with the original non-CUG call.
    holdTreatmentIndicator              [50] OCTET STRING (SIZE(1))             OPTIONAL,
    -- applicable to InitialDP, Connect and ContinueWithArgument
    -- acceptHoldRequest    'xxxx xx01'B
    -- rejectHoldRequest    'xxxx xx10'B
    -- network default is accept hold request
    cwTreatmentIndicator                [51] OCTET STRING (SIZE(1))             OPTIONAL,
    -- applicable to InitialDP, Connect and ContinueWithArgument
    -- acceptCw 'xxxx xx01'B
    -- rejectCw 'xxxx xx10'B
    -- network default is accept cw
    ectTreatmentIndicator               [52] OCTET STRING (SIZE(1))             OPTIONAL,
    -- applicable to InitialDP, Connect and ContinueWithArgument
    -- acceptEctRequest 'xxxx xx01'B
    -- rejectEctRequest 'xxxx xx10'B
    -- network default is accept ect request
    ...
    }

...
< unmodified text >
...
```

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

3GPP TSG-CN WG2 Meeting #18
Puerto Rico, 14th – 18th May 2001

Tdoc N2-010414
(revision of N2-010322)

CHANGE REQUEST

⌘ **29.078 CR** 160 ⌘ rev **1** ⌘ Current version: 3.7.0 ⌘

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

Title:	⌘	Correction to state transition for Assisting gsmSSF
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	15 May 2001
Category:	⌘	F (essential correction)
Release:	⌘	R99

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

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:	⌘	In section 12.1.2.1.1 of 29.078, it is specified that an Assisting gsmSSF shall transit from state "Idle" to state "Active" when it establishes a CAP dialogue with the gsmSCF. This is incorrect. When an Assisting gsmSSF establishes a CAP dialogue with the gsmSCF, it shall transit from state "Idle" to state "Waiting for Instructions". That behaviour of the Assisting gsmSSF is in line with the behaviour of the gsmSSF, as specified in the same section (12.1.2.1.1). This behaviour of the Assisting gsmSSF follows also from sheet 1 of Process "Assisting_gsmSSF", in 23.078 V3.8.0 and from the post condition in section 11.7.2.1 in 29.078 V3.7.0.
Summary of change:	⌘	Change the state of the Assisting gsmSSF, after it has initiated the establishment of a CAP dialogue with the gsmSCF, from "Active" to "Waiting for Instructions".
Consequences if not approved:	⌘	Implementation of CAMEL Phase 3 User Interaction may be incorrect, resulting in misbehaviour of Assisting SSFs.

Clauses affected:	⌘	12.1.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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

12.1.2 gsmSSF-gsmSCF interfaces

12.1.2.1 Normal procedures

12.1.2.1.1 gsmSSF-to-gsmSCF messages

This subclause defines the normal procedures for TC messages from the gsmSSF to the gsmSCF.

gsmSSF-FSM related messages

A dialogue shall be established when the gsmSSF-FSM moves from the state Idle to the state Waiting for Instructions. The InitialDP operation shall be transmitted in the same message.

The CAP operation InitialDP shall be sent with a TC-BEGIN request primitive.

For all other operations sent from the gsmSSF-FSM, the dialogue shall be maintained except for the following cases.

When the gsmSSF-FSM 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 can be terminated by TC-END primitive with component(s). When the gsmSSF sends the last EventReportBCSM, ApplyChargingReport or CallInformationReport the dialogue may be ended from the gsmSSF by a TC-END request primitive with basic end.

In the case that there is no pending operation and TC dialogue is established, TC dialogue can be terminated by TC-END primitive with zero component or prearranged end. When the gsmSSF-FSM makes a non-error case state transition to the state Idle and there is no operation to be sent, the dialogue is ended by means of a TC-END request primitive (basic) with zero components, or the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

In the case where a call release is initiated by any other entity than an gsmSCF, the gsmSSF can end a dialogue with a TC-END request primitive with zero component or prearranged end if a TC dialogue is established and the gsmSSF has no pending call information requests (or pending requests which should be treated in the same way, see subclause 12.1.1.1) nor any armed EDP.

When the gsmSSF has sent the last EventReportBCSM, ApplyChargingReport or CallInformationReport the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end.

Assisting gsmSSF FSM related messages

A dialogue shall be established when the Assisting gsmSSF-FSM moves from the state Idle to the state Waiting for Instructions. The AssistRequestInstructions operation shall be transmitted with a TC-BEGIN request primitive.

For all other operations sent from the Assisting gsmSSF-FSM, the dialogue shall be maintained except for the following cases.

When the Assisting gsmSSF-FSM 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 can be terminated by TC-END primitive with component(s).

In the case that there is no pending operation and TC dialogue is established, TC dialogue can be terminated by TC-END primitive with zero component or prearranged end. When the Assisting gsmSSF-FSM makes a non-error case state transition to the state Idle and there is no operation to be sent, the dialogue is ended by means of a TC-END request primitive (basic) with zero components, or the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

SSME-FSM related messages

The following procedures shall be followed:

- The dialogue shall be maintained when the ActivityTest Return Result is sent.

12.1.2.1.2 gsmSCF-to-gsmSSF messages

This subclause defines the normal procedures for TC messages from the gsmSCF to the gsmSSF.

SCSM-FSM related messages

A dialogue shall be established when the SCSM-FSM receives of InitialDP operation for TDP-R or AssistRequestInstructions operation.

For subsequent operations sent from the SCSM-FSM, the dialogue shall be maintained except for the following cases, i.e. all other operations are sent after a dialogue was established from the gsmSSF (the gsmSCF has previously received a TC-BEGIN indication primitive with an InitialDP operation or an AssistRequestInstructions operation).

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSCF. When the gsmSCF does not expect any messages other than possibly REJECT or ERROR messages for the operations sent and when the last associated operation timer expires, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.
Alternatively, the sending of operations, leading to the termination of the relationship, by means of a TC-END request primitive (basic end) is possible.

SCME-FSM related messages

The operations sent from the SCME-FSM shall be issued according to the following procedures:

- The dialogue shall be maintained when the ActivityTest operation is sent.
- For sending one or more CallGap operations, the SCME FSM shall use an existing SCSM FSM associated dialogue which was initiated by a gsmSSF-FSM (i.e. established for the transmission of the InitialDP operation). The dialogue shall be maintained.

12.1.2.1.3 gsmSSF/gprsSSF-to-gsmSCF SMS related messages

A dialogue shall be established when the gsmSSF/gprsSSF has finalised trigger processing and moves to the state Waiting for Instructions. The relevant CAP operation, which can only be the InitialDPSMS operation, shall be transmitted in the same message.

For all other operations sent from the gsmSSF/gprsSSF, the dialogue shall be maintained.

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSSF/gprsSSF. When the gsmSSF/gprsSSF makes a state transition to the state Idle, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

When the gsmSSF/gprsSSF has sent the last EventReportSMS operation the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end. The gsmSSF/gprsSSF has option to send last CAP operation in TC-END or to send a separate TC-END with zero components.

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

3GPP TSG-CN WG2 Meeting #18
Puerto Rico, 14th – 18th May 2001

Tdoc N2-010415

CHANGE REQUEST

⌘ **29.078 CR** 180 ⌘ rev ⌘ Current version: 4.0.0 ⌘

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

Title:	⌘	Correction to state transition for Assisting gsmSSF
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	15 May 2001
Category:	⌘	A
Release:	⌘	Rel-4

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

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:	⌘	In section 12.1.2.1.1 of 29.078, it is specified that an Assisting gsmSSF shall transit from state "Idle" to state "Active" when it establishes a CAP dialogue with the gsmSCF. This is incorrect. When an Assisting gsmSSF establishes a CAP dialogue with the gsmSCF, it shall transit from state "Idle" to state "Waiting for Instructions". That behaviour of the Assisting gsmSSF is in line with the behaviour of the gsmSSF, as specified in the same section (12.1.2.1.1). This behaviour of the Assisting gsmSSF follows also from sheet 1 of Process "Assisting_gsmSSF", in 23.078 V3.8.0 and from the post condition in section 11.7.2.1 in 29.078 V3.7.0.
Summary of change:	⌘	Change the state of the Assisting gsmSSF, after it has initiated the establishment of a CAP dialogue with the gsmSCF, from "Active" to "Waiting for Instructions".
Consequences if not approved:	⌘	Implementation of CAMEL Phase 3 User Interaction may be incorrect, resulting in misbehaviour of Assisting SSFs.

Clauses affected:	⌘	12.1.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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

12.1.2 gsmSSF-gsmSCF interfaces

12.1.2.1 Normal procedures

12.1.2.1.1 gsmSSF-to-gsmSCF messages

This subclause defines the normal procedures for TC messages from the gsmSSF to the gsmSCF.

gsmSSF-FSM related messages

A dialogue shall be established when the gsmSSF-FSM moves from the state Idle to the state Waiting for Instructions. The InitialDP operation shall be transmitted in the same message.

The CAP operation InitialDP shall be sent with a TC-BEGIN request primitive.

For all other operations sent from the gsmSSF-FSM, the dialogue shall be maintained except for the following cases.

When the gsmSSF-FSM 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 can be terminated by TC-END primitive with component(s). When the gsmSSF sends the last EventReportBCSM, ApplyChargingReport or CallInformationReport the dialogue may be ended from the gsmSSF by a TC-END request primitive with basic end.

In the case that there is no pending operation and TC dialogue is established, TC dialogue can be terminated by TC-END primitive with zero component or prearranged end. When the gsmSSF-FSM makes a non-error case state transition to the state Idle and there is no operation to be sent, the dialogue is ended by means of a TC-END request primitive (basic) with zero components, or the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

In the case where a call release is initiated by any other entity than an gsmSCF, the gsmSSF can end a dialogue with a TC-END request primitive with zero component or prearranged end if a TC dialogue is established and the gsmSSF has no pending call information requests (or pending requests which should be treated in the same way, see subclause 12.1.1.1) nor any armed EDP.

When the gsmSSF has sent the last EventReportBCSM, ApplyChargingReport or CallInformationReport the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end.

Assisting gsmSSF FSM related messages

A dialogue shall be established when the Assisting gsmSSF-FSM moves from the state Idle to the state Waiting for Instructions. The AssistRequestInstructions operation shall be transmitted with a TC-BEGIN request primitive.

For all other operations sent from the Assisting gsmSSF-FSM, the dialogue shall be maintained except for the following cases.

When the Assisting gsmSSF-FSM 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 can be terminated by TC-END primitive with component(s).

In the case that there is no pending operation and TC dialogue is established, TC dialogue can be terminated by TC-END primitive with zero component or prearranged end. When the Assisting gsmSSF-FSM makes a non-error case state transition to the state Idle and there is no operation to be sent, the dialogue is ended by means of a TC-END request primitive (basic) with zero components, or the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

SSME-FSM related messages

The following procedures shall be followed:

- The dialogue shall be maintained when the ActivityTest Return Result is sent.

12.1.2.1.2 gsmSCF-to-gsmSSF messages

This subclause defines the normal procedures for TC messages from the gsmSCF to the gsmSSF.

SCSM-FSM related messages

A dialogue shall be established when the SCSM-FSM receives of InitialDP operation for TDP-R or AssistRequestInstructions operation.

For subsequent operations sent from the SCSM-FSM, the dialogue shall be maintained except for the following cases, i.e. all other operations are sent after a dialogue was established from the gsmSSF (the gsmSCF has previously received a TC-BEGIN indication primitive with an InitialDP operation or an AssistRequestInstructions operation).

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSCF. When the gsmSCF does not expect any messages other than possibly REJECT or ERROR messages for the operations sent and when the last associated operation timer expires, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.
Alternatively, the sending of operations, leading to the termination of the relationship, by means of a TC-END request primitive (basic end) is possible.

SCME-FSM related messages

The operations sent from the SCME-FSM shall be issued according to the following procedures:

- The dialogue shall be maintained when the ActivityTest operation is sent.
- For sending one or more CallGap operations, the SCME FSM shall use an existing SCSM FSM associated dialogue which was initiated by a gsmSSF-FSM (i.e. established for the transmission of the InitialDP operation). The dialogue shall be maintained.

12.1.2.1.3 gsmSSF/gprsSSF-to-gsmSCF SMS related messages

A dialogue shall be established when the gsmSSF/gprsSSF has finalised trigger processing and moves to the state Waiting for Instructions. The relevant CAP operation, which can only be the InitialDPSMS operation, shall be transmitted in the same message.

For all other operations sent from the gsmSSF/gprsSSF, the dialogue shall be maintained.

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSSF/gprsSSF. When the gsmSSF/gprsSSF makes a state transition to the state Idle, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

When the gsmSSF/gprsSSF has sent the last EventReportSMS operation the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end. The gsmSSF/gprsSSF has option to send last CAP operation in TC-END or to send a separate TC-END with zero components.

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

3GPP TSG-CN2 Meeting #18
PuertoRico, 14-18 May 2001

Tdoc N2-010466

CR-Form-v3

CHANGE REQUEST

⌘ **29.078** **CR** **155** ⌘ rev **3** ⌘ Current version: **3.7.0** ⌘

*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:	⌘	Contradiction and inconsistency among descriptions on SMS
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	18 May 2001
Category:	⌘	**F (Essential correction)**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use 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 contradictions and inconsistensies among descriptions on SMS related messages in 29.078. See next page for detail.
Summary of change:	⌘	Delete contradicting and inconsistent description from subclause 12.1.3.1.
Consequences if not approved:	⌘	Differing interpretation on allowed TCAP dialogue primitves may lead to interworking problems.

Clauses affected:	⌘	12		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

There are three similar, but not the same, descriptions on the use of SMS related messages in the clause 12.

Clause 12.1.2.1.3 gsmSSF/gprsSSF-to-gsmSCF SMS related messages

...

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSSF/gprsSSF. When the gsmSSF/gprsSSF makes a state transition to the state Idle, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

When the gsmSSF/gprsSSF has sent the last EventReportSMS operation the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end. The gsmSSF/gprsSSF has option to send last CAP operation in TC-END or to send a separate TC-END with zero components.

Clause 12.1.3 gsmSCF-to-gsmSSF/gprsSSF SMS related messages

...

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSCF. When the gsmSCF does not expect any messages other than possibly REJECT or ERROR messages for the operations sent and when the last associated operation timer expires, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

Alternatively, the sending of operations, leading to the termination of the control relationship, by means of a TC-END request primitive (basic end) is possible.

Clause 12.1.3.1 Use of dialogue handling services

...

The TC-END service is solely used to support the dialogue closing procedure (i.e it is never used to trigger the sending of components).

On receipt of an empty TC-CONTINUE.req primitive, the FE should ignore the primitive.

On receipt of an TC-END.req with a CAP request, the FE should not perform the request and consider the requested TC-END service as a dialogue closing procedure. The dialogue is then terminated (see subclause 12.1.1.1).

It is an application-process responsibility to provide in the TC-BEGIN-req primitive a destination address which can be used by the underlying SCCP to route the message to the proper FE if this FE is addressed through the SS7 network.

The pre-arranged end can be used.

Siemens View is as follows.

The first two descriptions allow all variants of dialogue termination (see examples without monitoring and monitor relationship). However, the last description seems to contradict and exclude examples i.4 and ii.2 depicted below.

i) **SSF->SCF**

(1) (receipt of CUE/CONSMS without RRBSMS)

TC_End (prearranged)

(2) -> TC_CONTINUE(ERSMS(SMSsubmitted/failure-Notify))

TC_End (prearranged)

(3) -> TC_CONTINUE(ERSMS(SMSsubmitted/failure-Notify))

<- TC_END()

(4) -> TC_END(ERSMS(SMSsubmitted/failure-Notify))

ii) **SCF->SSF**

(1) <- TC_CONTINUE(CUE/CONSMS)

TC_End (prearranged)

(2) <- TC_END(CUE/CONSMS)

Such difference of the description basically comes from the similar description scattering over the several sub-clauses (document maintenance problem).

Apart from the inconsistency among three descriptions within the clause 12.1 (SMS related messages), Siemens does not see the need to deny the possibility of dialogue termination by TC_END with components sent by SSF since;

- This is common for the normal SSF-SCF interface.
- It minimises SS7 traffice and resources of both entities.

Therefore it shall not be any harm to delete the description in the clause 12.1.3.1.

Note that TC_END which is sent by SSF shall be sent with zero component.

Proposed change

12.1.2.1.3 gsmSSF/gprsSSF-to-gsmSCF SMS related messages

A dialogue shall be established when the gsmSSF/gprsSSF has finalised trigger processing and moves to the state Waiting for Instructions. The relevant CAP operation, which can only be the InitialDPSMS operation, shall be transmitted in the same message.

For all other operations sent from the gsmSSF/gprsSSF, the dialogue shall be maintained.

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSSF/gprsSSF. When the gsmSSF/gprsSSF makes a state transition to the state Idle, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

When the gsmSSF/gprsSSF has sent the last EventReportSMS operation the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end. If the gsmSSF/gprsSSF decides to apply basic end, it shall send TC-END with zero components.

12.1.3 gsmSCF-to-gsmSSF/gprsSSF SMS related messages

All operations are sent after a dialogue was established from the gsmSSF/gprsSSF (the gsmSCF has previously received a TC-BEGIN indication primitive with an InitialSMSEvent operation).

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSCF. When the gsmSCF does not expect any messages other than possibly REJECT or ERROR messages for the operations sent and when the last associated operation timer expires, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

Alternatively, the sending of operations, leading to the termination of the control relationship, by means of a TC-END request primitive (basic end) is possible.

12.1.3.1 Use of dialogue handling services

Dialogue handling services are used to trigger the sending of the APDUs associated with the operations involved in the CAP packages.

Component grouping is performed under the control of the application-process through an appropriate usage of the TC-BEGIN, TC-CONTINUE and TC_END service.

3GPP TSG-CN2 Meeting #18
PuertoRico, 14-18 May 2001

Tdoc N2-010467

CR-Form-v3

CHANGE REQUEST

⌘ **29.078** **CR** **156** ⌘ rev **2** ⌘ Current version: **4.0.0** ⌘

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

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

Title:	⌘	Contradiction and inconsistency among descriptions on SMS
Source:	⌘	CN2
Work item code:	⌘	CAMEL3
Date:	⌘	18 May 2001
Category:	⌘	**A** Essential correction
Release:	⌘	Rel-4

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)*
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REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	There are contradictions and inconsistensies among descriptions on SMS related messages in 29.078. See next page for detail.
Summary of change:	⌘	Delete contradicting and inconsistent description from subclause 12.1.3.1.
Consequences if not approved:	⌘	Differing interpretation on allowed TCAP dialogue primitves may lead to interworking problems.

Clauses affected:	⌘	12		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

There are three similar, but not the same, descriptions on the use of SMS related messages in the clause 12.

Clause 12.1.2.1.3 gsmSSF/gprsSSF-to-gsmSCF SMS related messages

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The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSSF/gprsSSF. When the gsmSSF/gprsSSF makes a state transition to the state Idle, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

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Clause 12.1.3 gsmSCF-to-gsmSSF/gprsSSF SMS related messages

...

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The pre-arranged end can be used.

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Note that TC_END which is sent by SSF shall be sent with zero component.

Proposed change

12.1.2.1.3 gsmSSF/gprsSSF-to-gsmSCF SMS related messages

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For all other operations sent from the gsmSSF/gprsSSF, the dialogue shall be maintained.

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSSF/gprsSSF. When the gsmSSF/gprsSSF makes a state transition to the state Idle, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

When the gsmSSF/gprsSSF has sent the last EventReportSMS operation the dialogue may be ended from the gsmSCF by a TC-END request primitive with basic end. If the gsmSSF/gprsSSF decides to apply basic end, it shall send TC-END with zero components.

12.1.3 gsmSCF-to-gsmSSF/gprsSSF SMS related messages

All operations are sent after a dialogue was established from the gsmSSF/gprsSSF (the gsmSCF has previously received a TC-BEGIN indication primitive with an InitialSMSEvent operation).

The dialogue shall no longer be maintained when the prearranged end condition is met in the gsmSCF. When the gsmSCF does not expect any messages other than possibly REJECT or ERROR messages for the operations sent and when the last associated operation timer expires, the dialogue is locally ended by means of a TC-END request primitive with prearranged end.

Alternatively, the sending of operations, leading to the termination of the control relationship, by means of a TC-END request primitive (basic end) is possible.

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Dialogue handling services are used to trigger the sending of the APDUs associated with the operations involved in the CAP packages.

Component grouping is performed under the control of the application-process through an appropriate usage of the TC-BEGIN, TC-CONTINUE and TC_END service.