**3GPP TSG CN Plenary Meeting #14** **Tdoc NP-010587**
**Japan, Kyoto, 12th – 14th December 2001**

**Source:** TSG CN WG2

**Title:** CR on R99 Work Item CAMEL3, Pack 6

**Agenda item:** 7.2

**Document for:** APPROVAL

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**Introduction:**

This document contains 10 CRs on R99 WI CAMEL3 (5 CRs for R99 and the 5 mirror CRs for Rel-4). These CRs have been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting #14 for approval.

| Spec | CR | Rev | Doc-2nd-Level | Phase | Subject | Cat | Ver_C |
|---|---|---|---|---|---|---|---|
| 23.078 | 345 | | N2-010871 | R99 | Correction to Procedure "Handle_AC" (missing check box exit) | F | 3.10.0 |
| 23.078 | 365 | | N2-010998 | Rel-4 | Correction to Procedure "Handle_AC" (missing check box exit) | A | 4.2.0 |
| 23.078 | 346 | 1 | N2-010999 | R99 | Corrections in the Call Information Report/Request operation | F | 3.10.0 |
| 23.078 | 366 | | N2-011000 | Rel-4 | Corrections in the Call Information Report/Request operation | A | 4.2.0 |
| 23.078 | 347 | | N2-010895 | R99 | Tccd shall be stopped in procedure Handle_ACR | F | 3.10.0 |
| 23.078 | 367 | | N2-011009 | Rel-4 | Tccd shall be stopped in procedure Handle_ACR | A | 4.2.0 |
| 23.078 | 348 | | N2-010896 | R99 | Correction to ECT Treatment Indicator description | F | 3.10.0 |
| 23.078 | 368 | | N2-011010 | Rel-4 | Correction to ECT Treatment Indicator description | A | 4.2.0 |
| 23.078 | 351 | | N2-010899 | R99 | Reporting QoS changes shall not be restricted to "User initiated" QoS changes | F | 3.10.0 |
| 23.078 | 364 | | N2-010990 | Rel-4 | Reporting QoS changes shall not be restricted to "User initiated" QoS changes | A | 4.2.0 |

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-010871***

# CHANGE REQUEST

⌘ **23.078** **CR** **345** ⌘ rev ⌘ Current version: 3.10.0 ⌘

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction to Procedure "Handle_AC" (missing check box exit) |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | dd November 2001 |
| ***Category:*** | ⌘ | F (essential correction) |
| ***Release:*** | ⌘ | R99 |

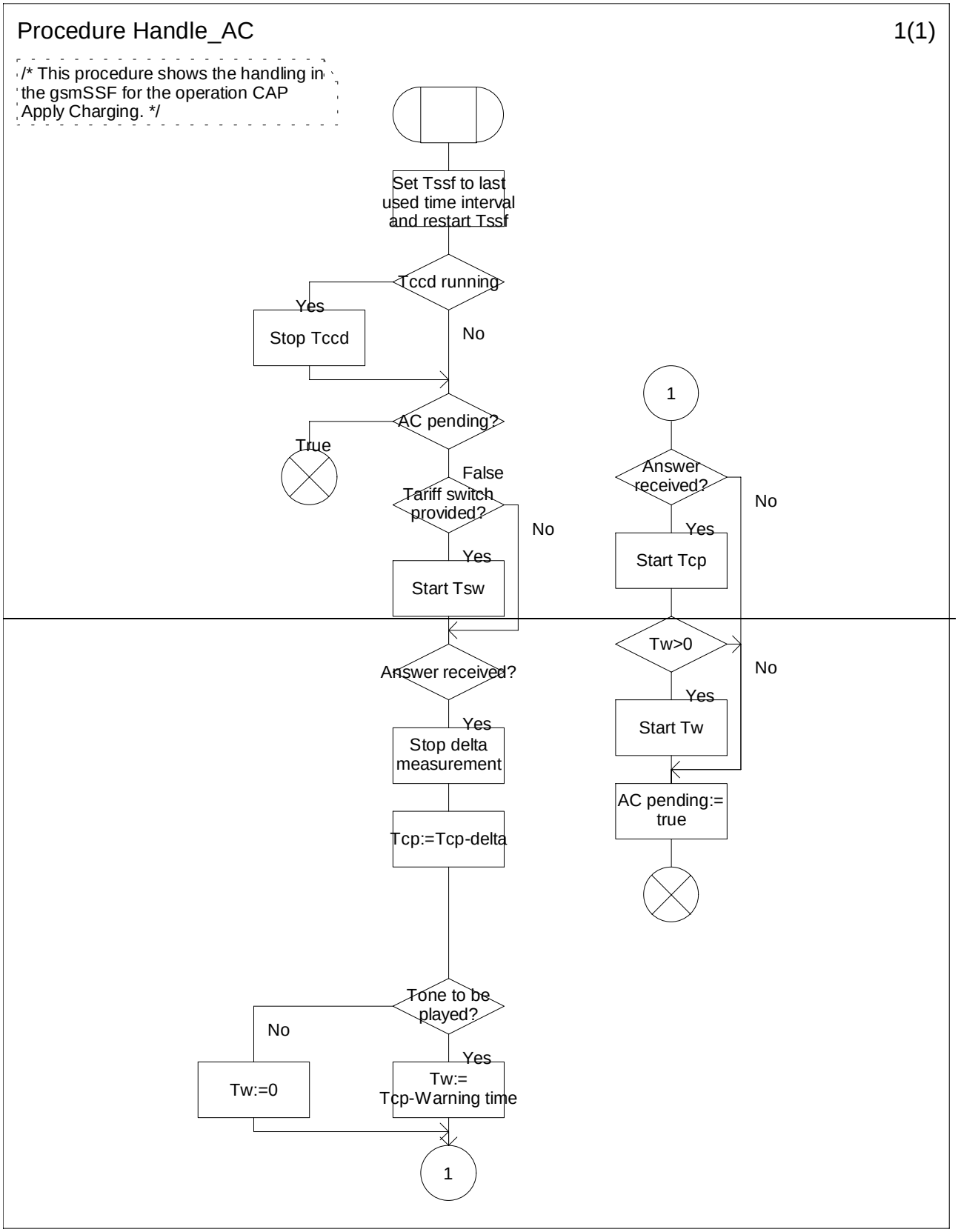
*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*

*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:*** | ⌘ | Procedure Handle_AC in the gsmSSF is called when the CAP ApplyCharging operation has been received from the gsmSCF.<br><br>This procedure checks, amongst others, if an Answer event was detected for this call (check box "Answer received?").<br><br>The "No" exit from this check box is missing.<br><br>The present CR adds this missing "No" exit. |
| ***Summary of change:*** | ⌘ | Add the "No" exit to the check box "Answer received?" in sheet 1 of procedure Handle_AC in the gsmSSF. |
| ***Consequences if not approved:*** | ⌘ | Incorrect specification. Designers won't know what action the gsmSSF shall perform in the case that the answer was not yet received when the Handle_AC procedure is executed.<br><br>This may lead to inoperability between equipment from different vendors. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.5.6.4 |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications ⌘<br>☐ Test specifications<br>☐ O&M Specifications |
| ***Other comments:*** | ⌘ | |

*** First Modification ***




**~~Figure 4.69a: Procedure Handle_AC (sheet 1)~~**

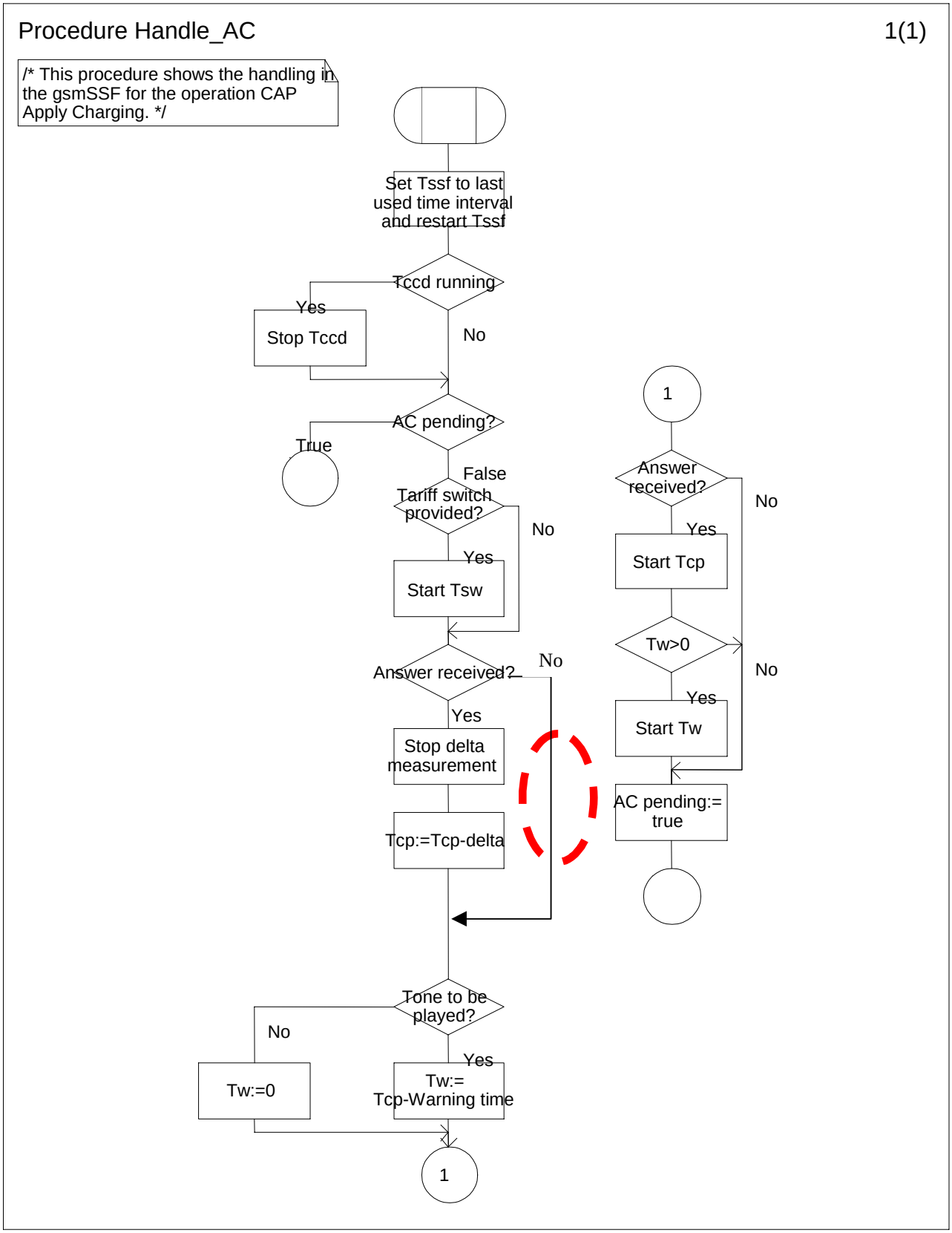



**Figure 4.69a: Procedure Handle_AC (sheet 1)**

*** End of Document ***

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-010895***

# CHANGE REQUEST

| ⌘ | 23.078 | CR | 347 | ⌘ | rev | | ⌘ | Current version: | 3.10.0 | ⌘ |
|---|---|---|---|---|---|---|---|---|---|---|

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Tccd shall be stopped in procedure Handle_ACR |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | 15 November 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:*** ⌘

When the timer Tcp expires, the gsmSSF sends ApplyCharingReport to the SCP and starts timer Tccd. Tccd monitors the reception of a subsequent ApplyCharging operation.

- If no subsequent ApplyCharging operation is received within a predefined time, then timer Tccd expires and the gsmSSF will then release the call.
- If a subsequent ApplyCharging operation is received within a predefined time, then timer Tccd will be stopped.

It may occur, however, that while Tccd is running, an event occurs that requires reporting to the SCP: Disconnect or Abandon.

In that case, Tccd shall be stopped, since the leg for which Tccd is applicable is no longer existing and it needs to be prevented therefore, that Tccd would still expire, resulting in unintentional, premature call release.
Especially if Disconnect is reported as EDP-R, may there be the risk that timer Tccd expires unintentionally. The reporting of Disconnect as EDP-R may be followed by a CAP Connect operation. It shall be prevented in that case that the call would be prematurely released due to Tccd expiry.

The present CR proposes, therefore, that timer Tccd be stopped in procedure Handle_ACR. When a Disconnect or Abandon event occurs, Handle_ACR is called and Tccd will be stopped. This prevents unintentional, premature call release.

The stopping of timer Tccd in procedure Handle_ACR shall be done before the check box "AC pending = True". Reason is that when Tccd is running, then there is no AC pending at that moment.

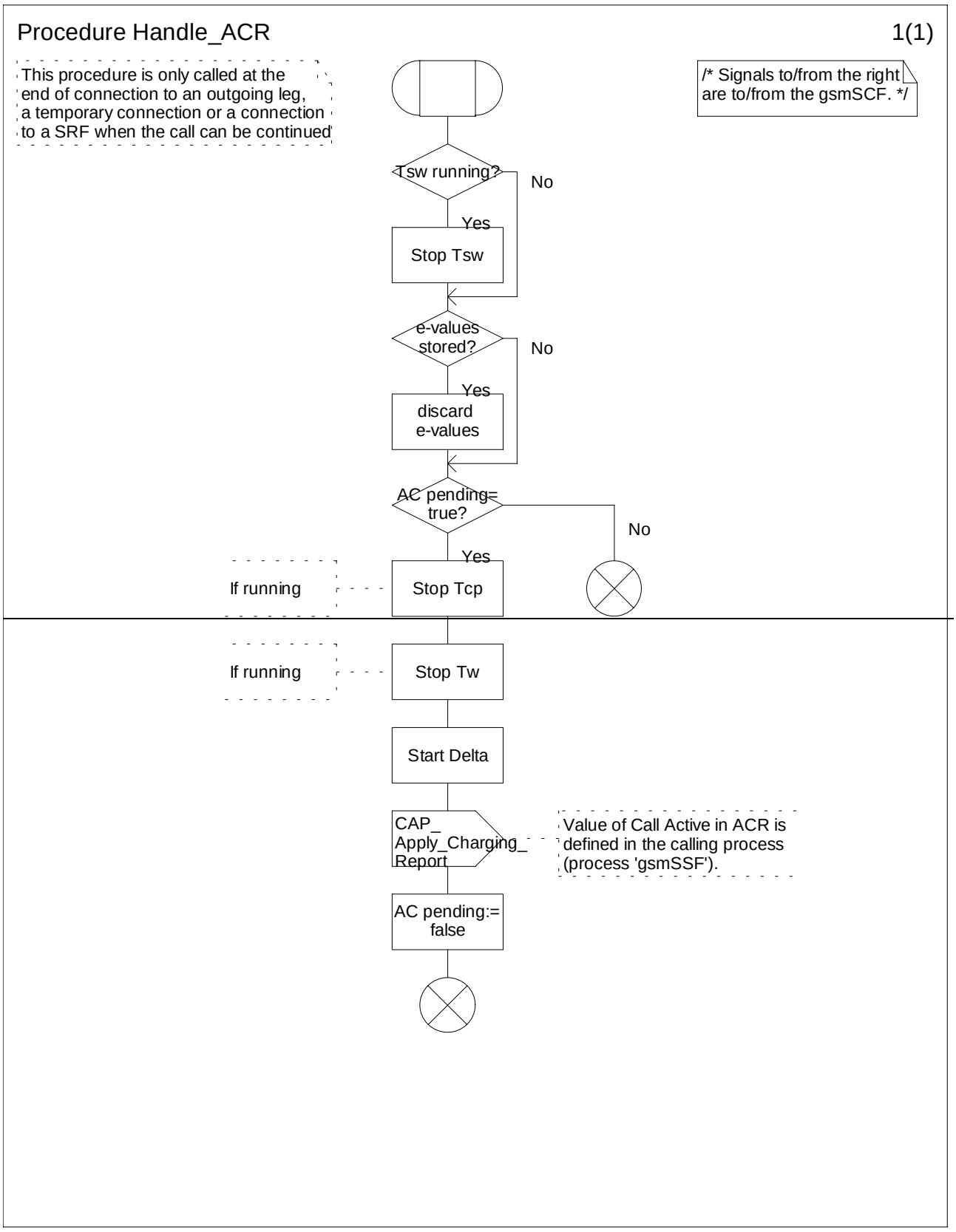
***Summary of change:*** ⌘ Stop timer Tccd in procedure Handle_ACR

***Consequences if*** ⌘ Unintentional, premature call release may occur, resulting in inconsistent and

| | | |
|---|---|---|
| ***not approved:*** | | undesirable SSF behaviour. |

| | | | | |
|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.5.6.4 (Process gsmSSF and procedures) | | |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications<br>☐ Test specifications<br>☐ O&M Specifications | ⌘ | |
| ***Other comments:*** | ⌘ | | | |

*** First Modification ***




**~~Figure 4.70a: Procedure Handle_ACR (sheet 1)~~**

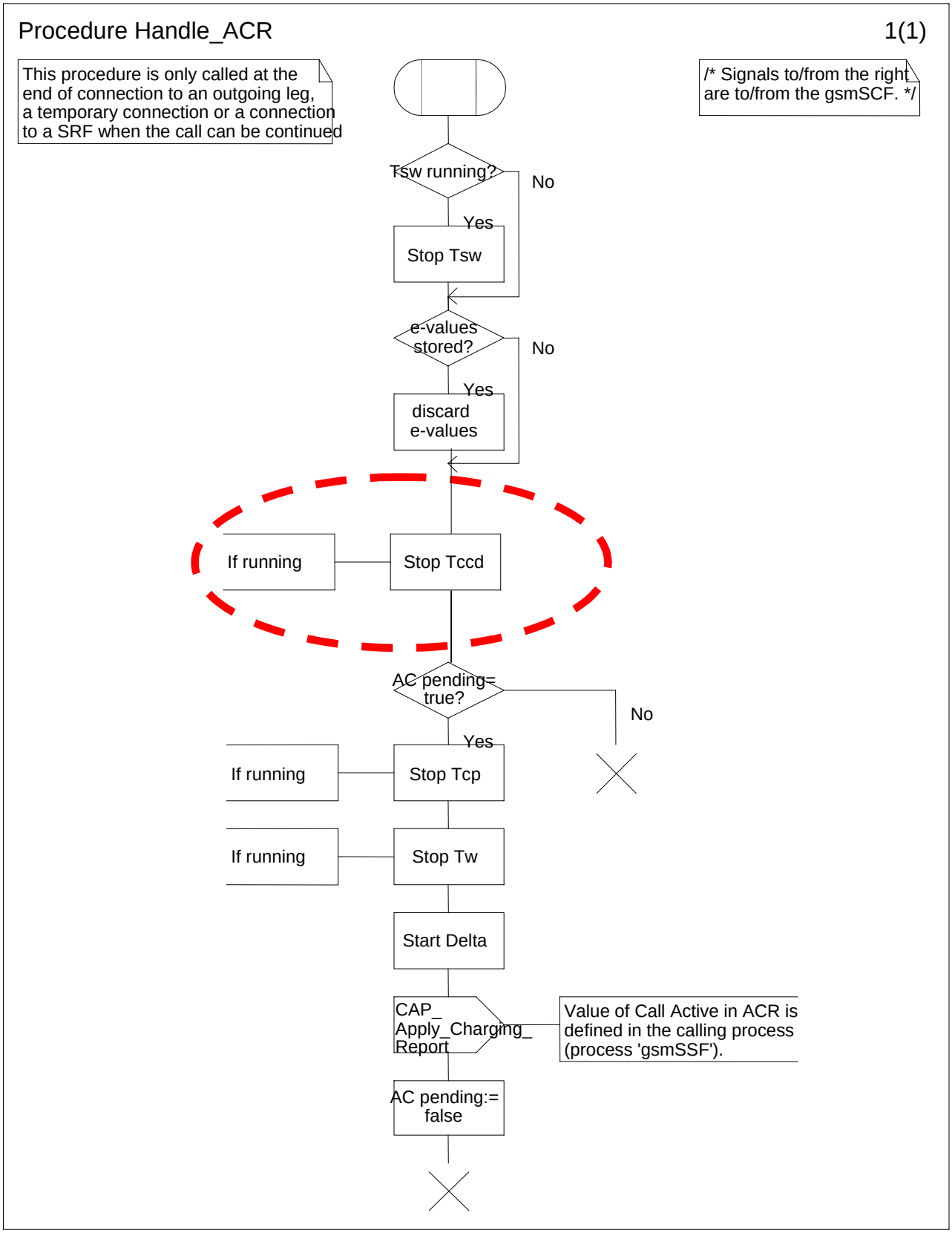



**Figure. 70a: Procedure Handle_ACR (sheet 1)**

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**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-010896***

# CHANGE REQUEST

⌘ **23.078** **CR** **348** ⌘ rev ⌘ Current version: 3.10.0 ⌘

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction to ECT Treatment Indicator description |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | dd November 2001 |
| ***Category:*** | ⌘ | F (essential correction) |
| ***Release:*** | ⌘ | R99 |

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*R98* *(Release 1998)*
*R99* *(Release 1999)*
*REL-4* *(Release 4)*
*REL-5* *(Release 5)*

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | For the Initial DP information flow, it is currently specified that the "ECT Treatment Indicator" information element applies to the "calling subscriber".<br><br>This is not correct. The ECT Treatment Indicator shall apply to the "CAMEL subscriber". Reason is as follows.<br><br>The ECT Treatment Indicator may be included in IDP for a Mobile Originated call (MO call) and for a Mobile Terminated call in the VMSC (VT call).<br><br>The ECT Treatment Indicator can not be transported over ISUP; it is applicable to the call handling in a single exchange only.<br><br>Therefore, the ECT Treatment Indicator is always applicable to the CAMEL subscriber on whose behalf the IDP is sent to the SCP. |
| ***Summary of change:*** | ⌘ | Correct the description of ECT Treatment Indicator for Initial DP. |
| ***Consequences if not approved:*** | ⌘ | Incorrect service logic design. The ECT Treatment Indicator would convey incorrect information to the SCP for a VT CAMEL service. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.6 (Initial DP) |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications ⌘<br>☐ Test specifications<br>☐ O&M Specifications |
| ***Other comments:*** | ⌘ | For info, Connect (CON) and Continue With Argument (CWA) have been included in the present CR. CON and CWA use the correct description of ECT Treatment Indicator. |

*** For Information ***

## 4.6.2.6 Connect

### 4.6.2.6.1 Description

This IF is used to request the gsmSSF to perform the call processing actions to route a call to a specific destination. To do so, the gsmSSF may use destination information from the calling party and existing call set-up information depending on the information provided by the gsmSCF.

### 4.6.2.6.2 Information Elements

…
< unmodified text >
…

Service Interaction Indicators Two contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Forward Service Interaction Indicator | O | O | O | O | This IE is described in a table below. |
| Backward Service Interaction Indicator | O | O | O | O | This IE is described in a table below. |
| HOLD Treatment Indicator | O | - | - | O | This IE indicates whether the CAMEL subscriber can invoke HOLD for the call. |
| CW Treatment Indicator | O | - | - | O | This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing. |
| ECT Treatment Indicator | O | - | - | O | This IE indicates whether the call leg can become part of an ECT call initiated by the **CAMEL** subscriber. |
| Connected number treatment indicator | O | O | O | O | This IE indicates the treatment of the connected number at the originating side. |
| Non-CUG Call | O | O | O | O | This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). |
| O Optional (Service logic dependent).<br>- Not applicable. | | | | | |

…
< unmodified text >
…

## 4.6.2.9 Continue With Argument

### 4.6.2.9.1 Description

This information flow requests the gsmSSF to proceed the call processing with modified information at the DP at which it previously suspended call processing to await gsmSCF instructions. The gsmSSF completes DP processing, and continues basic call processing (i.e., proceeds to the next point in call in the BCSM) with the modified call setup information as received from the gsmSCF.

### 4.6.2.9.2 Information Elements

The following information elements are required:

…
< unmodified text >
…

Service Interaction Indicators Two contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Forward Service Interaction Indicator | O | O | O | O | See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter. |
| Backward Service Interaction Indicator | O | O | O | O | See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter. |
| HOLD Treatment Indicator | O | - | - | O | This IE indicates whether the CAMEL subscriber can invoke HOLD for the call. |
| CW Treatment Indicator | O | - | - | O | This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing. |
| ECT Treatment Indicator | O | - | - | O | This IE indicates whether the call leg can become part of an ECT call initiated by the **CAMEL** subscriber. |
| Connected number treatment indicator | O | O | O | O | This IE indicates the treatment of the connected number at the originating side. |
| Non-CUG Call | O | O | - | - | This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). |
| O Optional (Service logic dependent).<br>- Not applicable. | | | | | |

…

< unmodified text >

…

*** First Modification ***

### 4.6.1.5 Initial DP

#### 4.6.1.5.1 Description

This IF is generated by the gsmSSF when a trigger is detected at a DP in the BCSM, to request instructions from the gsmSCF.

#### 4.6.1.5.2 Information Elements

The following information elements are required:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Additional Calling Party Number | C | C | C | C | The calling party number provided by the access signalling system of the calling user or received from the gsmSCF due to the previous CAMEL processing. |
| Bearer Capability | M | C | C | C | This IE indicates the type of the bearer capability connection to the user. |
| Called Party Number | C | M | M | M | This IE contains the number used to identify the called party in the forward direction.<br>For the MO and MF calls this parameter is used in the case of TDP Route_Select_Failure (this is the destination number used to route the call) and in the case of TDP Busy and TDP No Reply (this is the MSISDN when the destination number used for the call is a MSRN, or in the case of unsuccessful establishment received from the HLR via MAP interface, otherwise it is the number used to route the call).<br>For the VT calls when there is no forwarding pending this is the MSISDN received in the Provide Roaming Number; if the MSISDN is not available, the basic MSISDN is used.<br>For the MT and VT call case when there is call forwarding or call deflection pending, this is the MSISDN, i.e. not the forwarded-to or deflected-to number. |
| Called Party BCD Number | C | - | - | - | This IE contains the number used to identify the called party in the forward direction. It is used for MO call in all cases except in the case of TDP Route_Select_Failure.<br>For the TDP Collected_Information, the number contained in this IE shall be identical to the number received over the access network. It may e.g. include service selection information, such as ∗ and # digits, or carrier selection information dialled by the subscriber.<br>For the TDP Analysed_Information, the number contained in this IE shall be the dialled number received over the network access or received from a gsmSCF in a CONNECT operation, service selection information, such as * and # digits may be present (see clause 4.2.1.2.2), carrier selection information dialled by the subscriber is not present. |
| Calling Party Number | M | C | C | C | This IE carries the calling party number to identify the calling party or the origin of the call. |
| Calling Party Category | M | C | C | C | Indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber). |
| CallGap Encountered | C | C | C | C | This parameter indicates the type of gapping the related call have been subjected to.<br>This parameter shall be present only if a call gapping context is applicable to the initialDP operation. |
| Call Reference Number | M | M | M | M | This IE may be used by the gsmSCF for inclusion in a network optional gsmSCF call record. It has to be coupled with the identity of the MSC which allocated it in order to define unambiguously the identity of the call.<br>For MO calls, the call reference number is set by the serving VMSC and included in the MO call record.<br>For MT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC.<br>For VT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC.<br>For CF calls, the call reference number is set by the GMSC and included in the CF record in the forwarding MSC. |
| Cause | C | C | C | C | This IE indicates the cause specific to the armed BCSM DP event. This IE is applicable to DP Route_Select_Failure and DP T_Busy. The cause may be used by the SCF to decide about the further handling of the call. |

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Event Type BCSM | M | M | M | M | This IE indicates the armed BCSM DP event, resulting in the Initial DP IF. |
| Ext-Basic Service Code | C | C | C | C | This IE indicates the type of basic service i.e., teleservice or bearer service. |
| High Layer Compatibility | C | C | C | C | This IE indicates the type of the high layer compatibility, which will be used to determine the ISDN-teleservice of a connected ISDN terminal. |
| IMSI | M | M | M | M | This IE identifies the mobile subscriber. |
| IP SSP Capabilities | C | C | C | C | This IE indicates which SRF resources are supported within the gsmSSF and are available. If this IE is absent, this indicates that no gsmSRF is attached and available. |
| Location Information | M | - | C | M | This IE is described in the next table. |
| Location Number | M | C | C | C | For mobile originated calls this IE represents the location of the calling party. For all other call scenarios this IE contains the location number received in incoming ISUP signalling. |
| MSC Address | M | M | M | M | For MO calls, the MSC Address carries the international E.164 address of the serving VMSC.<br>For MT calls, the MSC Address carries the international E.164 address of the GMSC.<br>For VT calls, the MSC Address carries the international E.164 address of the serving VMSC.<br>For CF calls, the MSC Address carries the international E.164 address of the forwarding MSC. |
| GMSC Address | - | M | - | M | For CF calls, the GMSC Address carries the international E.164 address of the GMSC.<br>For VT calls, the GMSC Address carries the international E.164 address of the GMSC. |
| Carrier | C | C | C | C | The content of this IE is described in the next table.<br>The IE may be sent when the VPLMN and the HPLMN of the subscriber are both North American.<br>For MO calls, this IE shall contain any carrier that was dialled by the calling subscriber. If no carrier was dialled, the IE shall contain the calling subscriber's subscribed carrier.<br>For MT and VT calls, the IE shall contain the carrier subscribed to by the called subscriber.<br>For CF calls, the IE shall contain the carrier subscribed to by the forwarding subscriber. |
| Original Called Party ID | C | C | C | C | This IE carries the dialled digits if the call has met call forwarding on the route to the gsmSSF. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing. |
| Redirecting Party ID | C | C | C | C | This IE indicates the directory number the call was redirected from. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing. |
| Redirection Information | C | C | C | C | This IE contains forwarding related information, such as redirection counter. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing. |
| Service Key | M | M | M | M | This IE indicates to the gsmSCF the requested CAMEL Service. It is used to address the required application/SLP within the gsmSCF. |
| Subscriber State | - | - | C | C | This IE indicates the status of the MS. The states are:<br>- CAMELBusy: The MS is engaged on a transaction for a mobile originating or terminated circuit-switched call.<br>- NetworkDeterminedNotReachable: The network can determine from its internal data that the MS is not reachable.<br>- AssumedIdle: The state of the MS is neither "CAMELBusy" nor "NetworkDeterminedNotReachable".<br>- Not provided from VLR. |
| Time And Timezone | M | M | M | M | This IE contains the time that the gsmSSF was triggered, and the time zone the gsmSSF resides in. |

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| GSM Forwarding Pending | - | - | C | C | This parameter indicates that a forwarded-to-number was received and the call will be forwarded due to GSM supplementary service call forwarding in the GMSC/VMSC. This parameter is present in the following cases:<br>- When the FTN is received from the HLR prior to triggering in the Terminating_Attempt_Authorised DP.<br>- When a conditional call forwarding or call deflection is invoked in the GMSC/MSC, and T_Busy or T_No_answer is reported as a TDP. |
| Service Interaction Indicators Two | C | C | C | C | This IE is sent if it is received in the ISUP message or due to previous CAMEL processing. The IE is described in a table below. |
| CUG Index | C | - | - | - | See 3GPP TS 23.085 [9] for details of this IE. |
| CUG Interlock Code | C | C | C | C | See 3GPP TS 23.085 [9] for details of this IE. The latest available data shall be used, i.e., if the CUG data which had been obtained in the ISUP IAM or from the VLR has been modified by the previous Connect or Continue With Argument IF, this modified data shall be used. |
| Outgoing Access Indicator | C | C | C | C | See 3GPP TS 23.085 [9] for details of this IE. In the MO case this IE is received from the VLR. |
| M Mandatory (The IE shall always be sent).<br>C Conditional (The IE shall be sent, if available).<br>- Not applicable. | | | | | |

Location Information is defined in 3GPP TS 23.018 [3]. The following differences apply:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Location Number | - | - | C | C | See 3GPP TS 23.018 [3]. |
| Service area ID | C2 | - | C2 | C2 | See 3GPP TS 23.018 [3]. |
| Cell ID | C2 | - | C2 | C2 | See 3GPP TS 23.018 [3]. |
| Geographical information | C | - | C | C | See 3GPP TS 23.018 [3]. |
| Geodetic information | C | - | C | C | See 3GPP TS 23.018 [3]. |
| VLR number | M | - | C | M | See 3GPP TS 23.018 [3]. |
| Age Of location information | M | - | C | C | See 3GPP TS 23.018 [3]. |
| Current Location Retrieved | - | - | - | - | Not applicable |
| Location area ID | C2 | - | C2 | C2 | See 3GPP TS 23.003 [37]. |
| Selected LSA Identity | C1 | - | C1 | C1 | This IE indicates the LSA identity associated with the current position of the MS. Shall be present if the LSA ID in the subscriber data matches the LSA ID of the current cell. In the case of multiple matches the LSA ID with the highest priority shall be sent. See 3GPP TS 23.073 [23]. |
| M Mandatory (The IE shall always be sent).<br>C Conditional (The IE shall be sent, if available. Further conditions are in the description column.).<br>C1 Conditional (The IE shall be sent, if available and SoLSA is supported).<br>C2 Conditional (One and only one of the three conditional IEs shall be sent).<br>- Not applicable. | | | | | |

Carrier contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Carrier Identification Code | M | M | M | M | This IE uniquely identifies a North American long distance carrier. |
| Carrier Selection Information | M | M | M | M | This IE indicates the way the carrier was selected e.g.:<br>– dialled<br>– subscribed |
| M Mandatory (The IE shall always be sent). | | | | | |

Service Interaction Indicators Two contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Forward Service Interaction Indicator | C | C | C | C | This IE is described in a table below. |
| HOLD Treatment Indicator | C | - | - | C | This IE indicates whether the CAMEL subscriber can invoke HOLD for the call. |
| CW Treatment Indicator | C | - | - | C | This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing. |
| ECT Treatment Indicator | C | - | - | C | This IE indicates whether the call leg can become part of an ECT call initiated by the ~~calling~~CAMEL subscriber. |
| C Conditional (The IE shall be sent, if available).<br>- Not applicable. | | | | | |

Forward Service Interaction Indicator contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Conference Treatment Indicator | C | C | C | C | This IE indicates whether the call leg can become part of a MPTY call initiated by the called subscriber. |
| Call Diversion Treatment Indicator | C | C | C | C | This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection Supplementary Services. |
| C Conditional (The IE shall be sent, if available). | | | | | |

*** Next Modification ***

*** End of Document ***

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-010899***

# CHANGE REQUEST

⌘ **23.078** **CR** **351** ⌘ rev ⌘ Current version: 3.10.0 ⌘

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Reporting QoS changes shall not be restricted to "User initiated" QoS changes |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | 15 November 2001 |
| ***Category:*** | ⌘ | F |
| ***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:*** ⌘

When for an active PDP Context the Quality of Service (QoS) changes, and the change of QoS is regarded as a chargeable change of QoS, then the gprsSSF shall send a notification to the gsmSCF, provided that the gsmSCF had previously requested such notification.

TS 23.078, section 6.6.1.2, specifies that only "User initiated" chargeable QoS changes shall be reported.

However, this restriction is in contradiction with the behaviour of the SGSN/gprsSSF, as specified in the process gprsSSF (TS 23.078, section 6.5.3.9, "SDL diagrams for process GPRS_SSF and procedures") and the QoS change procedures in the SGSN (TS 23.060, section 9.2.3, "Modification Procedures").

TS 23.078: There is no indication in process gprsSSF that the reporting of the chargeable QoS changes shall be limited to user-initiated chargeable QoS changes.

TS 23.060: The CAMEL procedure "CAMEL_GPRS_Change_Of_QoS" is called whenever the QoS changes, irrespective of the initiator of the change in QoS.

The result of the current TS 23.060 and TS 23.078, is that all chargeable QoS changes are reported to the SCP, irrespective of the initiator of the change in QoS. This is in contradiction with section section 6.6.1.2 in 23.078.

This inconsistency in the specification is misleading and shall be resolved.

TS 23.078, section 6.6.1.2, shall not specify that the reporting of chargeable QoS changes shall be restricted to user-initiated changes in QoS. In line with TS 23.060, TS 23.078 shall specify that the reporting of chargeable QoS changes shall be applicable to all changes in QoS.

| | | |
|---|---|---|
| | | Moreover, it is important for the SCP to be notified about QoS changes, irrespective of the cause of such change in QoS. Not being notified about QoS changes initiated by other entities than the user, deprives the SCP from information that may be needed for charging the subscriber correctly. |
| ***Summary of change:*** ⌘ | | Specify in section 6.6.1.2 that the reporting of chargeable changes in QoS shall be applicable to all chargeable changes in QoS, irrespective of the initiator of the change. |
| ***Consequences if not approved:*** ⌘ | 1. | Inconsistency between equipment from different vendors: an SCP from one vendor may expect to receive notifications for all chargeable changes in QoS, whilst the SGSN from another vendors reports only the user-initiated chargeable changes in QoS. |
| | 2. | Having to report user-initiated chargeable QoS changes only, leads to additional complexity in the interface between SGSN and gprsSSF. |
| | 3. | If the SCP is not informed about chareable QoS changes, initiated by other entities than the user, then the user may be incorrectly charged. |

| | | | | |
|---|---|---|---|---|
| ***Clauses affected:*** ⌘ | 6.6.1.2 | | | |
| ***Other specs affected:*** ⌘ | ☐ | Other core specifications | ⌘ | |
| | ☐ | Test specifications | | |
| | ☐ | O&M Specifications | | |
| ***Other comments:*** ⌘ | | | | |

*** First Modification ***

### 6.6.1.2 Apply Charging Report GPRS

#### 6.6.1.2.1 Description

This IF is used by the gprsSSF to report to the gsmSCF the information requested in the Apply Charging GPRS IF. In addition, this IF is used to notify the gsmSCF of ~~user initiated~~ changes in QoS. Note that there are several possible QoS profiles defined by the combinations of the different QoS attributes as defined in 3GPP TS 23.060 [11]. A PLMN may only support and charge on a limited subset of those QoS. It is recommended that changes in QoS are only reported in Apply Charging Report GPRS for those QoS profiles.

#### 6.6.1.2.2 Information Elements

The following information elements are required:

| Information element name | Required | Description |
|---|---|---|
| GPRS Reference Number | C | This IE consists of a number assigned by the gprsSSF and a number assigned by the gsmSCF. It is used for TCAP dialogue segmentation. Refer to 3GPP TS 29.078 [5] for the usage of this element. |
| Charging Result | M | This IE contains the charging information for the PDP provided by the gsmSSF. It is a choice between elapsed time and data volume. |
| Quality of Service | C | This IE is described in the table below. |
| Active | M | This IE indicates if the GPRS session or PDP context is still established, or if it has been detached or deactivated. |
| PDP ID | C | This IE identifies the PDP context which the Apply Charging Report is applicable for. If not present the dialogue corresponds to the GPRS session or to one single PDP context. |
| Charging Roll Over | C | This IE indicates which parameter(s) of the *Charging Result* have overflowed. Refer to 3GPP TS 29.078 [5] for the usage of this element. NOTE: It is possible that early implementations of the gprsSSF do not support this information element. |
| M Mandatory (The IE shall always be sent). C Conditional (The IE shall be sent, if available). | | |

Quality of Service contains the following information element:

| Information element name | Required | Description |
|---|---|---|
| Negotiated QoS | C | This IE identifies the QoS which was negotiated between the user, the SGSN and the GGSN, as a result of a 'Modify PDP Conext' request. This IE shall be included only if sending of the Apply Charging Report was triggered by a change in Quality of Service. |
| C Conditional (The IE shall be sent, if available). | | |

*** End of Document ***

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-010990***

# CHANGE REQUEST

⌘ **23.078** **CR** **364** ⌘ rev ⌘ Current version: **4.2.0** ⌘

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Reporting QoS changes shall not be restricted to "User initiated" QoS changes |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | 27 November 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:*** ⌘

When for an active PDP Context the Quality of Service (QoS) changes, and the change of QoS is regarded as a chargeable change of QoS, then the gprsSSF shall send a notification to the gsmSCF, provided that the gsmSCF had previously requested such notification.

TS 23.078, section 6.6.1.2, specifies that only "User initiated" chargeable QoS changes shall be reported.

However, this restriction is in contradiction with the behaviour of the SGSN/gprsSSF, as specified in the process gprsSSF (TS 23.078, section 6.5.3.9, "SDL diagrams for process GPRS_SSF and procedures") and the QoS change procedures in the SGSN (TS 23.060, section 9.2.3, "Modification Procedures").

TS 23.078: There is no indication in process gprsSSF that the reporting of the chargeable QoS changes shall be limited to user-initiated chargeable QoS changes.

TS 23.060: The CAMEL procedure "CAMEL_GPRS_Change_Of_QoS" is called whenever the QoS changes, irrespective of the initiator of the change in QoS.

The result of the current TS 23.060 and TS 23.078, is that all chargeable QoS changes are reported to the SCP, irrespective of the initiator of the change in QoS. This is in contradiction with section section 6.6.1.2 in 23.078.

This inconsistency in the specification is misleading and shall be resolved.

TS 23.078, section 6.6.1.2, shall not specify that the reporting of chargeable QoS changes shall be restricted to user-initiated changes in QoS. In line with TS 23.060, TS 23.078 shall specify that the reporting of chargeable QoS changes shall be applicable to all changes in QoS.

| | |
|---|---|
| | Moreover, it is important for the SCP to be notified about QoS changes, irrespective of the cause of such change in QoS. Not being notified about QoS changes initiated by other entities than the user, deprives the SCP from information that may be needed for charging the subscriber correctly. |
| ***Summary of change:*** ⌘ | Specify in section 6.6.1.2 that the reporting of chargeable changes in QoS shall be applicable to all chargeable changes in QoS, irrespective of the initiator of the change. |
| ***Consequences if not approved:*** ⌘ | 1. Inconsistency between equipment from different vendors: an SCP from one vendor may expect to receive notifications for all chargeable changes in QoS, whilst the SGSN from another vendors reports only the user-initiated chargeable changes in QoS.<br>2. Having to report user-initiated chargeable QoS changes only, leads to additional complexity in the interface between SGSN and gprsSSF.<br>3. If the SCP is not informed about chareable QoS changes, initiated by other entities than the user, then the user may be incorrectly charged. |

| | | | |
|---|---|---|---|
| ***Clauses affected:*** ⌘ | 6.6.1.2 | | |
| ***Other specs affected:*** ⌘ | ☐ Other core specifications<br>☐ Test specifications<br>☐ O&M Specifications | ⌘ | |
| ***Other comments:*** ⌘ | | | |

*** First Modification ***

### 6.6.1.2 Apply Charging Report GPRS

#### 6.6.1.2.1 Description

This IF is used by the gprsSSF to report to the gsmSCF the information requested in the Apply Charging GPRS IF. In addition, this IF is used to notify the gsmSCF of ~~user initiated~~ changes in QoS. Note that there are several possible QoS profiles defined by the combinations of the different QoS attributes as defined in 3GPP TS 23.060 [11]. A PLMN may only support and charge on a limited subset of those QoS. It is recommended that changes in QoS are only reported in Apply Charging Report GPRS for those QoS profiles.

#### 6.6.1.2.2 Information Elements

The following information elements are required:

| Information element name | Required | Description |
|---|---|---|
| GPRS Reference Number | C | This IE consists of a number assigned by the gprsSSF and a number assigned by the gsmSCF. It is used for TCAP dialogue segmentation. Refer to 3GPP TS 29.078 [5] for the usage of this element. |
| Charging Result | M | This IE contains the charging information for the PDP provided by the gsmSSF. It is a choice between elapsed time and data volume. |
| Quality of Service | C | This IE is described in the table below. |
| Active | M | This IE indicates if the GPRS session or PDP context is still established, or if it has been detached or deactivated. |
| PDP ID | C | This IE identifies the PDP context which the Apply Charging Report is applicable for. If not present the dialogue corresponds to the GPRS session or to one single PDP context. |
| Charging Roll Over | C | This IE indicates which parameter(s) of the *Charging Result* have overflowed.<br>Refer to 3GPP TS 29.078 [5] for the usage of this element.<br>NOTE: It is possible that early implementations of the gprsSSF do not support this information element. |
| M Mandatory (The IE shall always be sent).<br>C Conditional (The IE shall be sent, if available). | | |

Quality of Service contains the following information element:

| Information element name | Required | Description |
|---|---|---|
| Negotiated QoS | C | This IE identifies the QoS which was negotiated between the user, the SGSN and the GGSN, as a result of a 'Modify PDP Conext' request. This IE shall be included only if sending of the Apply Charging Report was triggered by a change in Quality of Service. |
| C Conditional (The IE shall be sent, if available). | | |

*** End of Document ***

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-010998***

# CHANGE REQUEST

⌘ **23.078** **CR** **365** ⌘ rev ⌘ Current version: 4.2.0 ⌘

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction to Procedure "Handle_AC" (missing check box exit) |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | 27 November 2001 |
| ***Category:*** | ⌘ | A |
| ***Release:*** | ⌘ | Rel-4 |

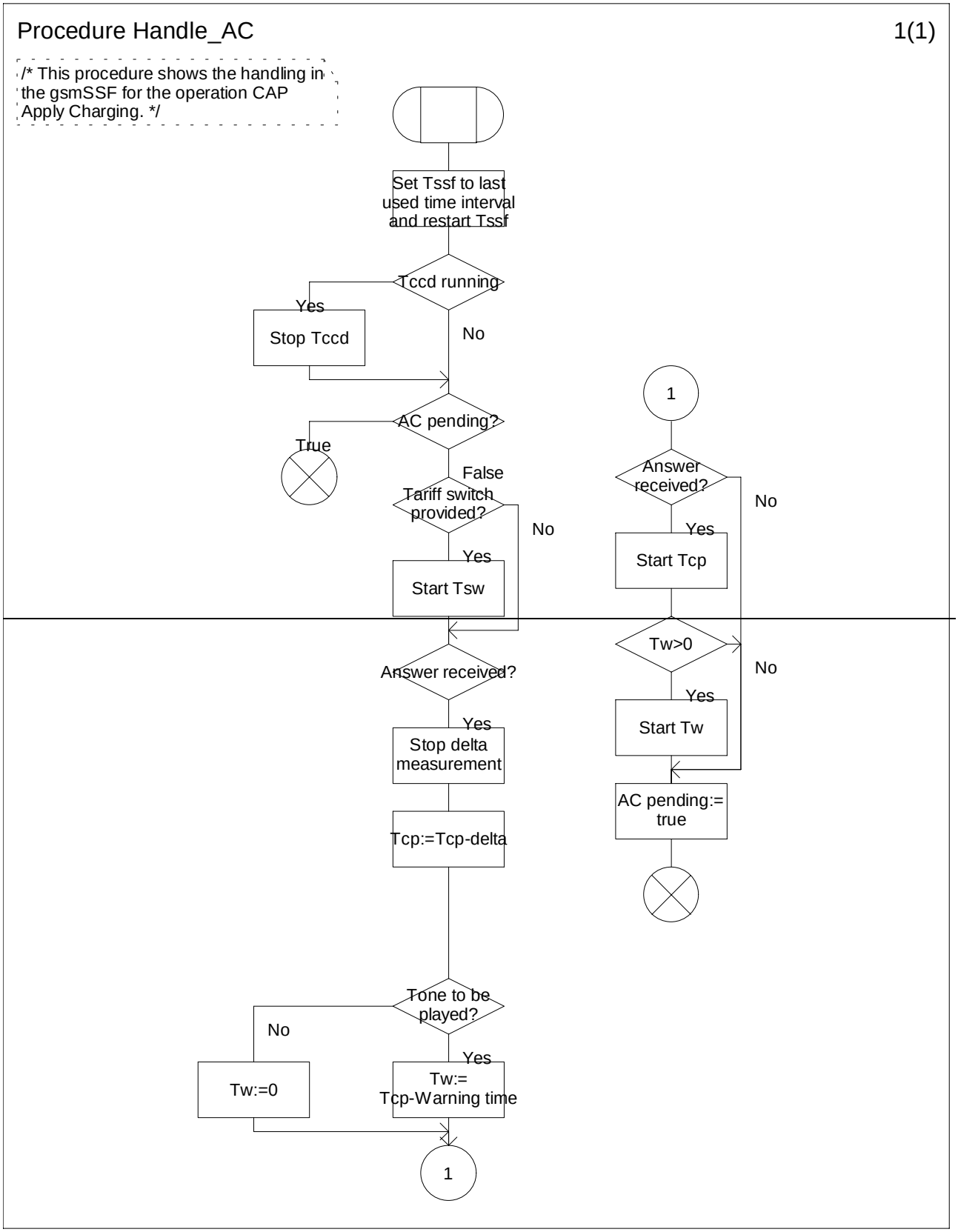
*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*

*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:*** | ⌘ | Procedure Handle_AC in the gsmSSF is called when the CAP ApplyCharging operation has been received from the gsmSCF.<br><br>This procedure checks, amongst others, if an Answer event was detected for this call (check box "Answer received?").<br><br>The "No" exit from this check box is missing.<br><br>The present CR adds this missing "No" exit. |
| ***Summary of change:*** | ⌘ | Add the "No" exit to the check box "Answer received?" in sheet 1 of procedure Handle_AC in the gsmSSF. |
| ***Consequences if not approved:*** | ⌘ | Incorrect specification. Designers won't know what action the gsmSSF shall perform in the case that the answer was not yet received when the Handle_AC procedure is executed.<br><br>This may lead to inoperability between equipment from different vendors. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.5.6.4 |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications ⌘<br>☐ Test specifications<br>☐ O&M Specifications |
| ***Other comments:*** | ⌘ | |

*** First Modification ***




**~~Figure 4.69a: Procedure Handle_AC (sheet 1)~~**

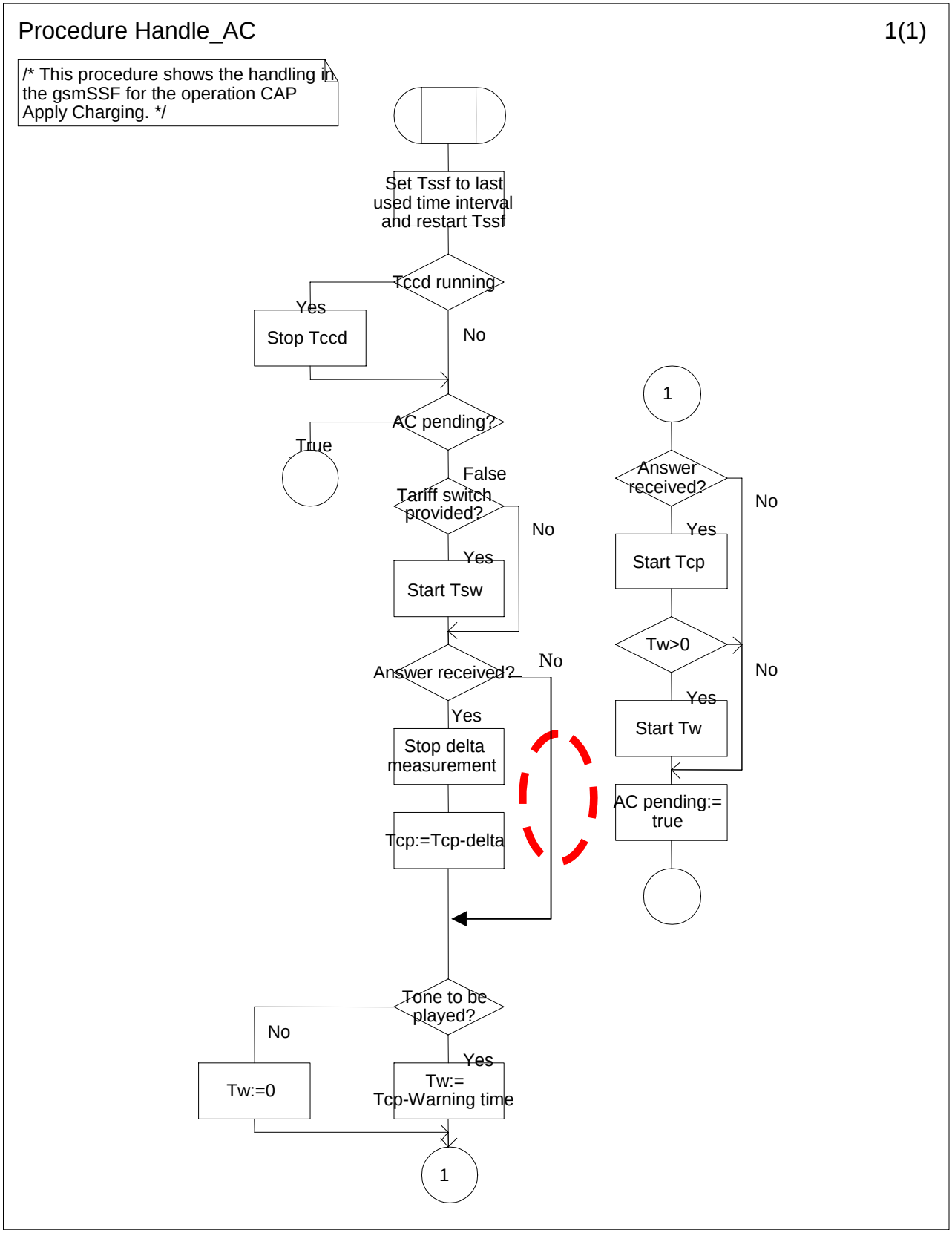



**Figure 4.69a: Procedure Handle_AC (sheet 1)**

*** End of Document ***

**3GPP TSG CN WG2 Meeting #21** **N2-010999**
**Cancun, Mexico, 26th - 30th November 2001**

CR-Form-v5

# CHANGE REQUEST

⌘ **23.078** **CR** 346 ⌘ **rev** **1** ⌘ Current version: **3.10.0** ⌘

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

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction in the Call Information Report/Request operation |
| ***Source:*** | ⌘ | France Telecom |
| ***Work item code:*** | ⌘ | CAMEL 3 |
| ***Date:*** | ⌘ | 25/11/2001 |
| ***Category:*** | ⌘ | **F** Agreed by consensus |
| ***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:*** | ⌘ | The parameter leg ID has to be clarified |
| ***Summary of change:*** | ⌘ | The specification 23.078 indicates for the Call Information Request and for the Call Information Report operations that the parameter "leg ID" is mandatory (i.e. shall always be sent). However, it is written (§ 4.6.1.3. and § 4.6.2.4.) :<br>" When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument."<br>The last sentence is not correct from a functional point of view and shall be deleted in stage 2. |
| ***Consequences if not approved:*** | ⌘ | Inconsistency in the Call Information Request/Report description in stage 2 |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.6.1.3, 4.6.2.4 |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications ⌘<br>☐ Test specifications<br>☐ O&M Specifications |
| ***Other comments:*** | ⌘ | |

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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

### 4.6.1.3. Call Information Report

#### 4.6.1.3.1 Description

This IF is used to send specific call information for a single call to the gsmSCF as requested from the gsmSCF in a previous Call Information Request.

#### 4.6.1.3.2 Information Elements

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Requested Information List | M | M | M | M | This IE specifies a list of Requested information Values which are requested. |
| Leg ID | M | M | M | M | This IE indicates the party in the call for which information shall be collected. ~~When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument.~~ |
| M Mandatory (The IE shall always be sent). | | | | | |

## ****Second Modified Section ****

### 4.6.2.4. Call Information Request

#### 4.6.2.4.1 Description

This IF is used to request the gsmSSF to record specific information about a single call and report it to the gsmSCF (with a CallInformationReport).

#### 4.6.2.4.2 Information Elements

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Requested Information Type List | M | M | M | M | This IE specifies a list of specific items of information which are requested. |
| Leg ID | M | M | M | M | This IE indicates the party in the call for which information shall be collected. ~~When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument.~~ |
| M Mandatory (The IE shall always be sent). | | | | | |

**3GPP TSG CN WG2 Meeting #21** **N2-011000**
**Cancun, Mexico, 26th - 30th November 2001**

CR-Form-v5

# CHANGE REQUEST

⌘ **23.078** **CR** 366 ⌘ **rev** ⌘ Current version: **4.2.0** ⌘

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

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction in the Call Information Report/Request operation |
| ***Source:*** | ⌘ | France Telecom |
| ***Work item code:*** | ⌘ | CAMEL 3 |
| ***Date:*** | ⌘ | 25/11/2001 |
| ***Category:*** | ⌘ | **A** Agreed by consensus |
| ***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)*
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 parameter leg ID has to be clarified |
| ***Summary of change:*** | ⌘ | The specification 23.078 indicates for the Call Information Request and for the Call Information Report operations that the parameter "leg ID" is mandatory (i.e. shall always be sent). However, it is written (§ 4.6.1.3. and § 4.6.2.4.) :<br>" When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument."<br>The last sentence is not correct from a functional point of view and shall be deleted in stage 2. |
| ***Consequences if not approved:*** | ⌘ | Inconsistency in the Call Information Request/Report description in stage 2 |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.6.1.3, 4.6.2.4 |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications ⌘<br>☐ Test specifications<br>☐ O&M Specifications |
| ***Other comments:*** | ⌘ | |

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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

### 4.6.1.3. Call Information Report

#### 4.6.1.3.1 Description

This IF is used to send specific call information for a single call to the gsmSCF as requested from the gsmSCF in a previous Call Information Request.

#### 4.6.1.3.2 Information Elements

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Requested Information List | M | M | M | M | This IE specifies a list of Requested information Values which are requested. |
| Leg ID | M | M | M | M | This IE indicates the party in the call for which information shall be collected. ~~When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument.~~ |
| M Mandatory (The IE shall always be sent). | | | | | |

## ****Second Modified Section ****

### 4.6.2.4. Call Information Request

#### 4.6.2.4.1 Description

This IF is used to request the gsmSSF to record specific information about a single call and report it to the gsmSCF (with a CallInformationReport).

#### 4.6.2.4.2 Information Elements

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Requested Information Type List | M | M | M | M | This IE specifies a list of specific items of information which are requested. |
| Leg ID | M | M | M | M | This IE indicates the party in the call for which information shall be collected. ~~When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument.~~ |
| M Mandatory (The IE shall always be sent). | | | | | |

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-011009***

# CHANGE REQUEST

| ⌘ | 23.078 | CR | 367 | ⌘ | rev | | ⌘ | Current version: | 4.2.0 | ⌘ |
|---|---|---|---|---|---|---|---|---|---|---|

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Tccd shall be stopped in procedure Handle_ACR |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | 28 November 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:*** ⌘

When the timer Tcp expires, the gsmSSF sends ApplyCharingReport to the SCP and starts timer Tccd. Tccd monitors the reception of a subsequent ApplyCharging operation.

- If no subsequent ApplyCharging operation is received within a predefined time, then timer Tccd expires and the gsmSSF will then release the call.
- If a subsequent ApplyCharging operation is received within a predefined time, then timer Tccd will be stopped.

It may occur, however, that while Tccd is running, an event occurs that requires reporting to the SCP: Disconnect or Abandon.

In that case, Tccd shall be stopped, since the leg for which Tccd is applicable is no longer existing and it needs to be prevented therefore, that Tccd would still expire, resulting in unintentional, premature call release.
Especially if Disconnect is reported as EDP-R, may there be the risk that timer Tccd expires unintentionally. The reporting of Disconnect as EDP-R may be followed by a CAP Connect operation. It shall be prevented in that case that the call would be prematurely released due to Tccd expiry.

The present CR proposes, therefore, that timer Tccd be stopped in procedure Handle_ACR. When a Disconnect or Abandon event occurs, Handle_ACR is called and Tccd will be stopped. This prevents unintentional, premature call release.

The stopping of timer Tccd in procedure Handle_ACR shall be done before the check box "AC pending = True". Reason is that when Tccd is running, then there is no AC pending at that moment.

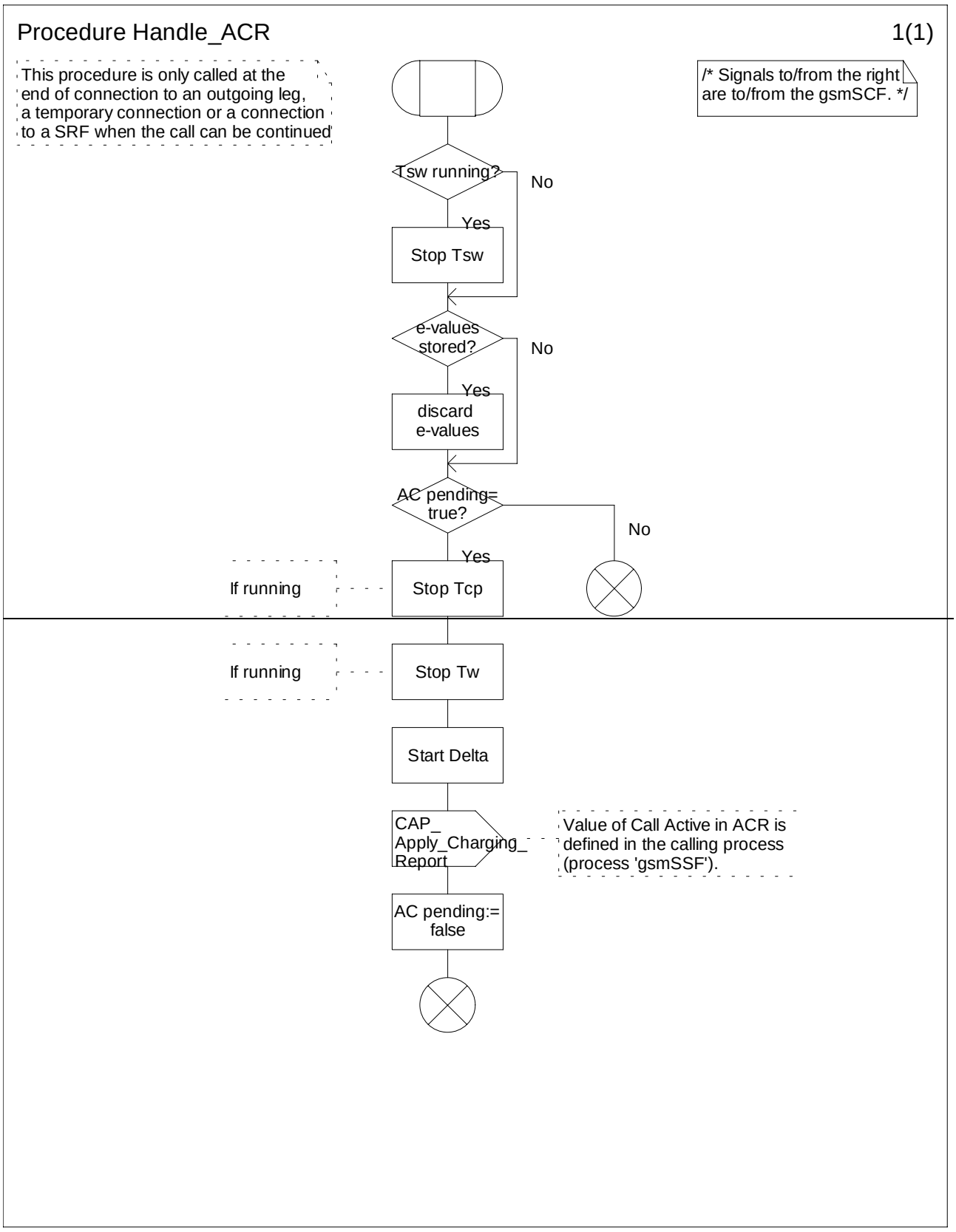
***Summary of change:*** ⌘ Stop timer Tccd in procedure Handle_ACR

***Consequences if*** ⌘ Unintentional, premature call release may occur, resulting in inconsistent and

| | | |
|---|---|---|
| ***not approved:*** | | undesirable SSF behaviour. |

| | | | | |
|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.5.6.4 (Process gsmSSF and procedures) | | |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications<br>☐ Test specifications<br>☐ O&M Specifications | ⌘ | |
| ***Other comments:*** | ⌘ | | | |

*** First Modification ***




**~~Figure 4.70a: Procedure Handle_ACR (sheet 1)~~**

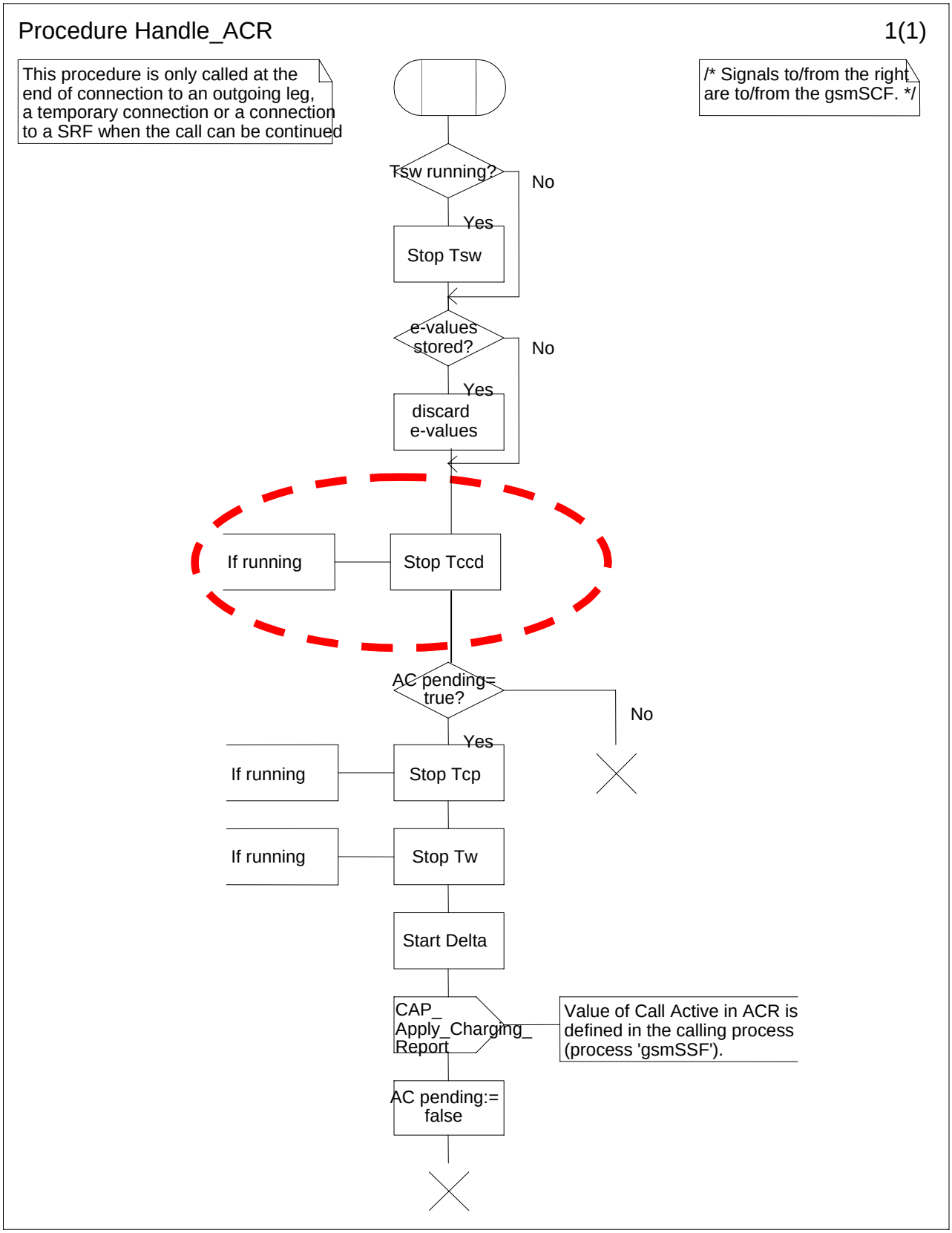



**Figure. 70a: Procedure Handle_ACR (sheet 1)**

*** End of Document ***

**3GPP TSG-CN WG2 Meeting #21**
**Cancun, Mexico, 26th - 30th November 2001**

***Tdoc N2-011010***

# CHANGE REQUEST

⌘ **23.078** **CR** **368** ⌘ rev ⌘ Current version: **4.2.0** ⌘

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

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction to ECT Treatment Indicator description |
| ***Source:*** | ⌘ | Ericsson |
| ***Work item code:*** | ⌘ | CAMEL3 |
| ***Date:*** | ⌘ | 28 November 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:*** | ⌘ | For the Initial DP information flow, it is currently specified that the "ECT Treatment Indicator" information element applies to the "calling subscriber".<br><br>This is not correct. The ECT Treatment Indicator shall apply to the "CAMEL subscriber". Reason is as follows.<br><br>The ECT Treatment Indicator may be included in IDP for a Mobile Originated call (MO call) and for a Mobile Terminated call in the VMSC (VT call).<br><br>The ECT Treatment Indicator can not be transported over ISUP; it is applicable to the call handling in a single exchange only.<br><br>Therefore, the ECT Treatment Indicator is always applicable to the CAMEL subscriber on whose behalf the IDP is sent to the SCP. |
| ***Summary of change:*** | ⌘ | Correct the description of ECT Treatment Indicator for Initial DP. |
| ***Consequences if not approved:*** | ⌘ | Incorrect service logic design. The ECT Treatment Indicator would convey incorrect information to the SCP for a VT CAMEL service. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.6 (Initial DP) |
| ***Other specs affected:*** | ⌘ | ☐ Other core specifications ⌘<br>☐ Test specifications<br>☐ O&M Specifications |
| ***Other comments:*** | ⌘ | For info, Connect (CON) and Continue With Argument (CWA) have been included in the present CR. CON and CWA use the correct description of ECT Treatment Indicator. |

*** For Information ***

## 4.6.2.6 Connect

### 4.6.2.6.1 Description

This IF is used to request the gsmSSF to perform the call processing actions to route a call to a specific destination. To do so, the gsmSSF may use destination information from the calling party and existing call set-up information depending on the information provided by the gsmSCF.

### 4.6.2.6.2 Information Elements

…
< unmodified text >
…

Service Interaction Indicators Two contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Forward Service Interaction Indicator | O | O | O | O | This IE is described in a table below. |
| Backward Service Interaction Indicator | O | O | O | O | This IE is described in a table below. |
| HOLD Treatment Indicator | O | - | - | O | This IE indicates whether the CAMEL subscriber can invoke HOLD for the call. |
| CW Treatment Indicator | O | - | - | O | This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing. |
| ECT Treatment Indicator | O | - | - | O | This IE indicates whether the call leg can become part of an ECT call initiated by the **CAMEL** subscriber. |
| Connected number treatment indicator | O | O | O | O | This IE indicates the treatment of the connected number at the originating side. |
| Non-CUG Call | O | O | O | O | This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). |
| O Optional (Service logic dependent).<br>- Not applicable. | | | | | |

…
< unmodified text >
…

## 4.6.2.9 Continue With Argument

### 4.6.2.9.1 Description

This information flow requests the gsmSSF to proceed the call processing with modified information at the DP at which it previously suspended call processing to await gsmSCF instructions. The gsmSSF completes DP processing, and continues basic call processing (i.e., proceeds to the next point in call in the BCSM) with the modified call setup information as received from the gsmSCF.

### 4.6.2.9.2 Information Elements

The following information elements are required:

…
< unmodified text >
…

Service Interaction Indicators Two contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Forward Service Interaction Indicator | O | O | O | O | See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter. |
| Backward Service Interaction Indicator | O | O | O | O | See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter. |
| HOLD Treatment Indicator | O | - | - | O | This IE indicates whether the CAMEL subscriber can invoke HOLD for the call. |
| CW Treatment Indicator | O | - | - | O | This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing. |
| ECT Treatment Indicator | O | - | - | O | This IE indicates whether the call leg can become part of an ECT call initiated by the **CAMEL** subscriber. |
| Connected number treatment indicator | O | O | O | O | This IE indicates the treatment of the connected number at the originating side. |
| Non-CUG Call | O | O | - | - | This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). |
| O Optional (Service logic dependent).<br>- Not applicable. | | | | | |

…

< unmodified text >

…

*** First Modification ***

### 4.6.1.5 Initial DP

#### 4.6.1.5.1 Description

This IF is generated by the gsmSSF when a trigger is detected at a DP in the BCSM, to request instructions from the gsmSCF.

#### 4.6.1.5.2 Information Elements

The following information elements are required:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Additional Calling Party Number | C | C | C | C | The calling party number provided by the access signalling system of the calling user or received from the gsmSCF due to the previous CAMEL processing. |
| Bearer Capability | M | C | C | C | This IE indicates the type of the bearer capability connection to the user. |
| Called Party Number | C | M | M | M | This IE contains the number used to identify the called party in the forward direction.<br>For the MO and MF calls this parameter is used in the case of TDP Route_Select_Failure (this is the destination number used to route the call) and in the case of TDP Busy and TDP No Reply (this is the MSISDN when the destination number used for the call is a MSRN, or in the case of unsuccessful establishment received from the HLR via MAP interface, otherwise it is the number used to route the call).<br>For the VT calls when there is no forwarding pending this is the MSISDN received in the Provide Roaming Number; if the MSISDN is not available, the basic MSISDN is used.<br>For the MT and VT call case when there is call forwarding or call deflection pending, this is the MSISDN, i.e. not the forwarded-to or deflected-to number. |
| Called Party BCD Number | C | - | - | - | This IE contains the number used to identify the called party in the forward direction. It is used for MO call in all cases except in the case of TDP Route_Select_Failure.<br>For the TDP Collected_Information, the number contained in this IE shall be identical to the number received over the access network. It may e.g. include service selection information, such as ∗ and # digits, or carrier selection information dialled by the subscriber.<br>For the TDP Analysed_Information, the number contained in this IE shall be the dialled number received over the network access or received from a gsmSCF in a CONNECT operation, service selection information, such as * and # digits may be present (see clause 4.2.1.2.2), carrier selection information dialled by the subscriber is not present. |
| Calling Party Number | M | C | C | C | This IE carries the calling party number to identify the calling party or the origin of the call. |
| Calling Party Category | M | C | C | C | Indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber). |
| CallGap Encountered | C | C | C | C | This parameter indicates the type of gapping the related call have been subjected to.<br>This parameter shall be present only if a call gapping context is applicable to the initialDP operation. |
| Call Reference Number | M | M | M | M | This IE may be used by the gsmSCF for inclusion in a network optional gsmSCF call record. It has to be coupled with the identity of the MSC which allocated it in order to define unambiguously the identity of the call.<br>For MO calls, the call reference number is set by the serving VMSC and included in the MO call record.<br>For MT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC.<br>For VT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC.<br>For CF calls, the call reference number is set by the GMSC and included in the CF record in the forwarding MSC. |
| Cause | C | C | C | C | This IE indicates the cause specific to the armed BCSM DP event. This IE is applicable to DP Route_Select_Failure and DP T_Busy. The cause may be used by the SCF to decide about the further handling of the call. |

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Event Type BCSM | M | M | M | M | This IE indicates the armed BCSM DP event, resulting in the Initial DP IF. |
| Ext-Basic Service Code | C | C | C | C | This IE indicates the type of basic service i.e., teleservice or bearer service. |
| High Layer Compatibility | C | C | C | C | This IE indicates the type of the high layer compatibility, which will be used to determine the ISDN-teleservice of a connected ISDN terminal. |
| IMSI | M | M | M | M | This IE identifies the mobile subscriber. |
| IP SSP Capabilities | C | C | C | C | This IE indicates which SRF resources are supported within the gsmSSF and are available. If this IE is absent, this indicates that no gsmSRF is attached and available. |
| Location Information | M | - | C | M | This IE is described in the next table. |
| Location Number | M | C | C | C | For mobile originated calls this IE represents the location of the calling party. For all other call scenarios this IE contains the location number received in incoming ISUP signalling. |
| MSC Address | M | M | M | M | For MO calls, the MSC Address carries the international E.164 address of the serving VMSC.<br>For MT calls, the MSC Address carries the international E.164 address of the GMSC.<br>For VT calls, the MSC Address carries the international E.164 address of the serving VMSC.<br>For CF calls, the MSC Address carries the international E.164 address of the forwarding MSC. |
| GMSC Address | - | M | - | M | For CF calls, the GMSC Address carries the international E.164 address of the GMSC.<br>For VT calls, the GMSC Address carries the international E.164 address of the GMSC. |
| Carrier | C | C | C | C | The content of this IE is described in the next table.<br>The IE may be sent when the VPLMN and the HPLMN of the subscriber are both North American.<br>For MO calls, this IE shall contain any carrier that was dialled by the calling subscriber. If no carrier was dialled, the IE shall contain the calling subscriber's subscribed carrier.<br>For MT and VT calls, the IE shall contain the carrier subscribed to by the called subscriber.<br>For CF calls, the IE shall contain the carrier subscribed to by the forwarding subscriber. |
| Original Called Party ID | C | C | C | C | This IE carries the dialled digits if the call has met call forwarding on the route to the gsmSSF. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing. |
| Redirecting Party ID | C | C | C | C | This IE indicates the directory number the call was redirected from. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing. |
| Redirection Information | C | C | C | C | This IE contains forwarding related information, such as redirection counter. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing. |
| Service Key | M | M | M | M | This IE indicates to the gsmSCF the requested CAMEL Service. It is used to address the required application/SLP within the gsmSCF. |
| Subscriber State | - | - | C | C | This IE indicates the status of the MS. The states are:<br>- CAMELBusy: The MS is engaged on a transaction for a mobile originating or terminated circuit-switched call.<br>- NetworkDeterminedNotReachable: The network can determine from its internal data that the MS is not reachable.<br>- AssumedIdle: The state of the MS is neither "CAMELBusy" nor "NetworkDeterminedNotReachable".<br>- Not provided from VLR. |
| Time And Timezone | M | M | M | M | This IE contains the time that the gsmSSF was triggered, and the time zone the gsmSSF resides in. |

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| GSM Forwarding Pending | - | - | C | C | This parameter indicates that a forwarded-to-number was received and the call will be forwarded due to GSM supplementary service call forwarding in the GMSC/VMSC. This parameter is present in the following cases:<br>- When the FTN is received from the HLR prior to triggering in the Terminating_Attempt_Authorised DP.<br>- When a conditional call forwarding or call deflection is invoked in the GMSC/MSC, and T_Busy or T_No_answer is reported as a TDP. |
| Service Interaction Indicators Two | C | C | C | C | This IE is sent if it is received in the ISUP message or due to previous CAMEL processing. The IE is described in a table below. |
| CUG Index | C | - | - | - | See 3GPP TS 23.085 [9] for details of this IE. |
| CUG Interlock Code | C | C | C | C | See 3GPP TS 23.085 [9] for details of this IE. The latest available data shall be used, i.e., if the CUG data which had been obtained in the ISUP IAM or from the VLR has been modified by the previous Connect or Continue With Argument IF, this modified data shall be used. |
| Outgoing Access Indicator | C | C | C | C | See 3GPP TS 23.085 [9] for details of this IE. In the MO case this IE is received from the VLR. |
| M Mandatory (The IE shall always be sent).<br>C Conditional (The IE shall be sent, if available).<br>- Not applicable. | | | | | |

Location Information is defined in 3GPP TS 23.018 [3]. The following differences apply:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Location Number | - | - | C | C | See 3GPP TS 23.018 [3]. |
| Service area ID | C2 | - | C2 | C2 | See 3GPP TS 23.018 [3]. |
| Cell ID | C2 | - | C2 | C2 | See 3GPP TS 23.018 [3]. |
| Geographical information | C | - | C | C | See 3GPP TS 23.018 [3]. |
| Geodetic information | C | - | C | C | See 3GPP TS 23.018 [3]. |
| VLR number | M | - | C | M | See 3GPP TS 23.018 [3]. |
| Age Of location information | M | - | C | C | See 3GPP TS 23.018 [3]. |
| Current Location Retrieved | - | - | - | - | Not applicable |
| Location area ID | C2 | - | C2 | C2 | See 3GPP TS 23.003 [37]. |
| Selected LSA Identity | C1 | - | C1 | C1 | This IE indicates the LSA identity associated with the current position of the MS. Shall be present if the LSA ID in the subscriber data matches the LSA ID of the current cell. In the case of multiple matches the LSA ID with the highest priority shall be sent. See 3GPP TS 23.073 [23]. |
| M Mandatory (The IE shall always be sent).<br>C Conditional (The IE shall be sent, if available. Further conditions are in the description column.).<br>C1 Conditional (The IE shall be sent, if available and SoLSA is supported).<br>C2 Conditional (One and only one of the three conditional IEs shall be sent).<br>- Not applicable. | | | | | |

Carrier contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Carrier Identification Code | M | M | M | M | This IE uniquely identifies a North American long distance carrier. |
| Carrier Selection Information | M | M | M | M | This IE indicates the way the carrier was selected e.g.:<br>– dialled<br>– subscribed |
| M Mandatory (The IE shall always be sent). | | | | | |

Service Interaction Indicators Two contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Forward Service Interaction Indicator | C | C | C | C | This IE is described in a table below. |
| HOLD Treatment Indicator | C | - | - | C | This IE indicates whether the CAMEL subscriber can invoke HOLD for the call. |
| CW Treatment Indicator | C | - | - | C | This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing. |
| ECT Treatment Indicator | C | - | - | C | This IE indicates whether the call leg can become part of an ECT call initiated by the ~~calling~~CAMEL subscriber. |
| C Conditional (The IE shall be sent, if available).<br>- Not applicable. | | | | | |

Forward Service Interaction Indicator contains the following information:

| Information element name | MO | MF | MT | VT | Description |
|---|---|---|---|---|---|
| Conference Treatment Indicator | C | C | C | C | This IE indicates whether the call leg can become part of a MPTY call initiated by the called subscriber. |
| Call Diversion Treatment Indicator | C | C | C | C | This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection Supplementary Services. |
| C Conditional (The IE shall be sent, if available). | | | | | |

*** End of Document ***