3GPP TSG-CN Meeting #24 **NP-040209**
2nd – 4th June 2004. Seoul, Korea.

Source: **3GPP TSG CN2**

Title: **CRs for Rel-6 WI TEI_6**

Agenda item: **9.21**

Document for: **APPROVAL**

This document contains following CRs for the Rel-6 WI TEI_6 that are approved by CN2 and are forwarded to TSG CN#24 for approval:

TDoc #	Title	Spec	CR #	Rev	Cat	Rel	Version	WI
N2-040207	Correction to CS_gsmSSF for call release	23.078	723		F	Rel-6	6.1.0	TEI_6
N2-040208	Correction to First Digit Timer for Prompt&Collect	29.078	375		F	Rel-6	6.1.0	TEI_6
N2-040209	Stopping charging timers after Cancel[All]	23.078	724		F	Rel-6	6.1.0	TEI_6
N2-040225	Adding missing ROS Object Identifier	29.078	367	1	F	Rel-6	6.1.0	TEI_6
N2-040232	Enhancement to User Interaction	29.078	366	1	B	Rel-6	6.1.0	TEI_6
N2-040239	IP version of GGSN address for CAMEL	23.078	685	2	F	Rel-6	6.1.0	TEI_6
N2-040248	Enhancement to User Interaction	23.078	716	3	B	Rel-6	6.1.0	TEI_6

CHANGE REQUEST

⌘ **23.078** **CR** **723** ⌘**rev** ⌘ Current version: **6.1.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to CS_gsmSSF for call release
Source:	⌘	Ericsson
Work item code:	⌘	TEI_6
Date:	⌘	10 May 2004
Category:	⌘	F
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘

Refer process CS_gsmSSF, sheet 20. When the CS_gsmSSF has cleared (i.e. has sent Application_End to CSA_gsmSSF) and has closed the CDRs, then there is the check box “Call to be released”. Sheet 2 of CS_gsmSSF specifies the following for this “Call to be released” check box:

> It is questioned whether or not the ongoing call will be released immediately after CS_gsmSSF has responded; that is the ongoing call will not send any signals further on to the CS_gsmSSF.
>
> NOTE: In this case the CS_gsmSSF shall also go to idle.

The wording in that text is ambiguous and as a result, implementers have difficulty in implementing this task box:

- On the one hand, the wording “...whether or not the ongoing call will be released...” relates to the entire call, including any legs in any Call Segment within the CSA.
- On the other hand, the wording “...call will not send any signals further on to the CS_gsmSSF” implies that we’re talking only about the part of the call that is controlled by this CS_gsmSSF instance.

Consider the following examples.

Example 1

Call from A (leg1) to B (leg2); leg1 and leg2 are both in Call Segment 1. B clears the call, gsmSSF sends EDP-R[Disconnect], gsmSCF responds with CWA. The call will now be released, so the check box takes the Yes exit.

Example 2

Call from A (leg1) to B (leg2); leg1 is in Call Segment 1, leg2 is in Call Segment

		2. B clears the call, CS_gsmSSF for Call Segment 2 sends EDP-R[Disconnect], gsmSCF responds with CWA. Leg2 will now be cleared. Leg1 will in this case not be automatically released. However, since the Call Segment containing leg2 is released, the check box shall in this case take the Yes exit.
Summary of change:	⌘	Correct the wording in figure 4.5.7.5, sheet 2, regarding the explanation of "Call to be released". It shall be explained that the check box in question relates to the part of the call that is controlled by the current CS_gsmSSF process instance.
Consequences if not approved:	⌘	Ambiguity for implementers; it will not be clear how to implement the check box "Call to be released". This may lead to inconsistent implementation and to prematurely terminated CAMEL dialogues.

Clauses affected:	⌘	4.5.7.5				
		Y	**N**			
Other specs affected:	⌘		**X**	Other core specifications	⌘	
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

***** *First Modification* *****

4.5.7.5 Process CS_gsmSSF and procedures

Process CS_gsmSSF 2(61)

/* Invocation of CS_gsmSSF */

/* Decision box definition (1)

'armed TDPs for this CSI?'
It is questioned whether or not the ongoing call can encounter further TDPs which are indicated in the current CSI.

'Call to be released?'
It is questioned whether or not the ongoing call will be released imediately after CS_gsmSSF has responded; that is the ongoing call will not send any signals furtheron to the CS_gsmSSF.
NOTE: In this case the CS_gsmSSF shall also go to idle.
*/

/* Decision box definitions (2)
Thefollowing decisions are used by procedures in CCF.

'gsmSSF invoked?'
Is the CS_gsmSSF process in any state other than Idle?
*/

/*
Note to the task box "Perform implicit disarming of DPs";

If DP O_Change_Of_Position and/or DP T_Change_Of_Position are disarmed by this task,
the CS_gsmSSF sends
Int_Invoke_O_Change_Of_Position_MSC to the CAMEL_O_CHANGE_OF_POSITION_MSC and/or
Int_Invoke_T_Change_Of_Position_MSC to the CAMEL_T_CHANGE_OF_POSITION_MSC
with the parameter "Transparent, respectively.
*/

/* Information per each leg:

The following information is present for each leg:
- The timers applicable per leg: Tcp(pty), Tsw(pty), Tw(pty), DELTA(pty) and Tccd(pty).
- AC(pty) pending
- ACR(pty) sent
- Call Information Request (legID)
- Logical call record for FCI (legID)
- ORC_Leg (legID)

If a leg is split or moved into another call segment also the information for this leg is moved together with this leg.
*/

~~**Figure 4.99-2: Process CS_gsmSSF (sheet 2)**~~

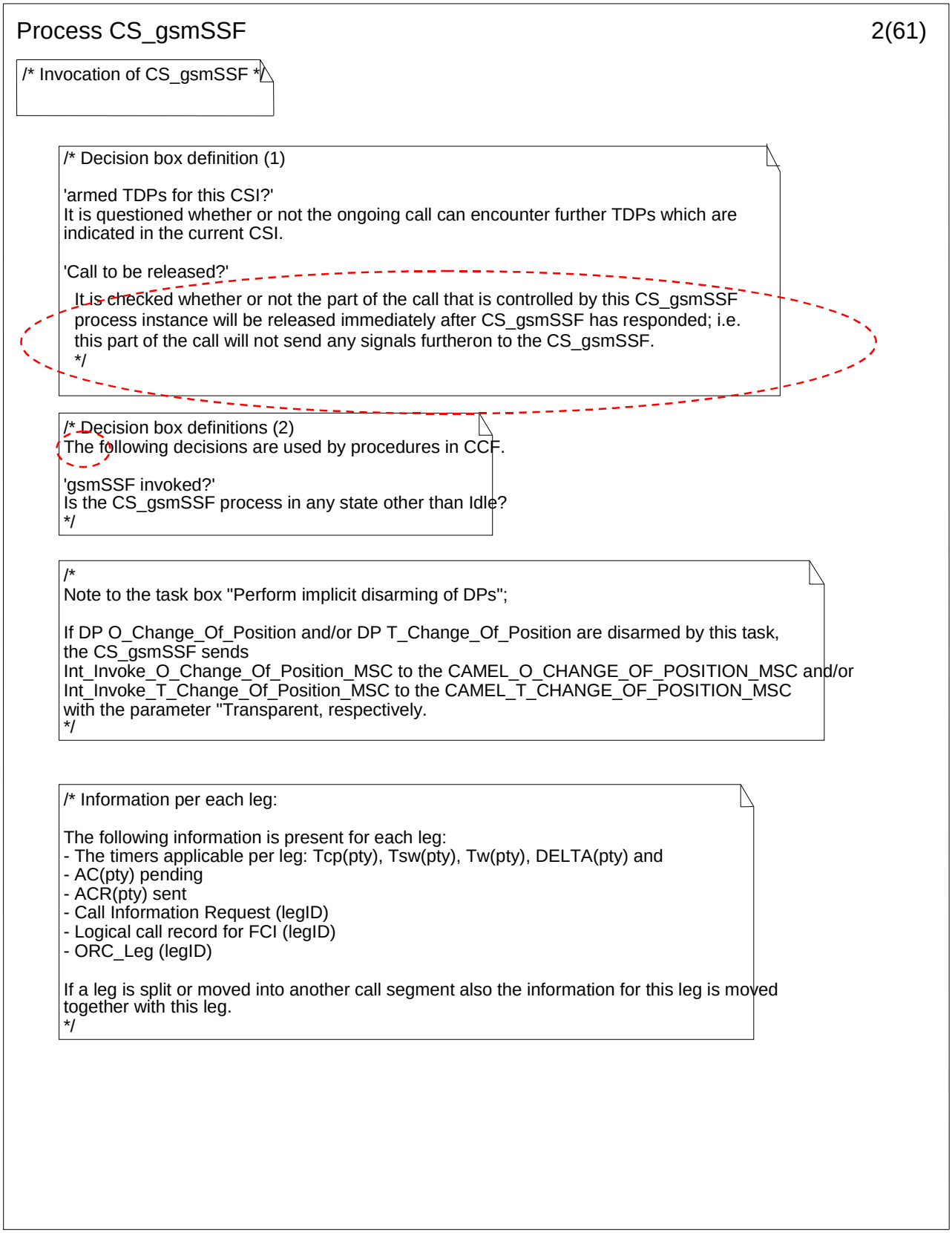


Figure 4.99-2: Process CS_gsmSSF (sheet 2)

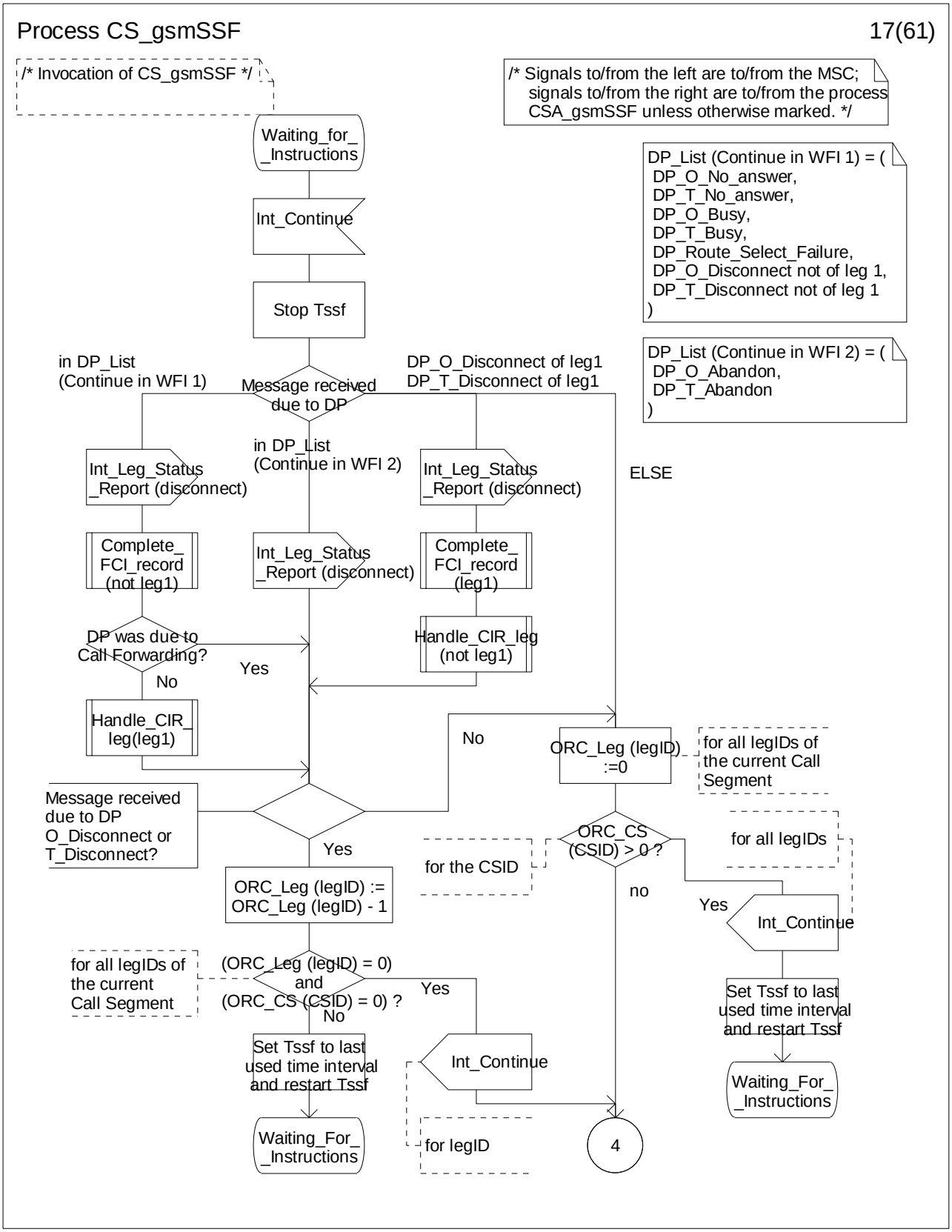


Figure 4.99-17: Process CS_gsmSSF (sheet 17)

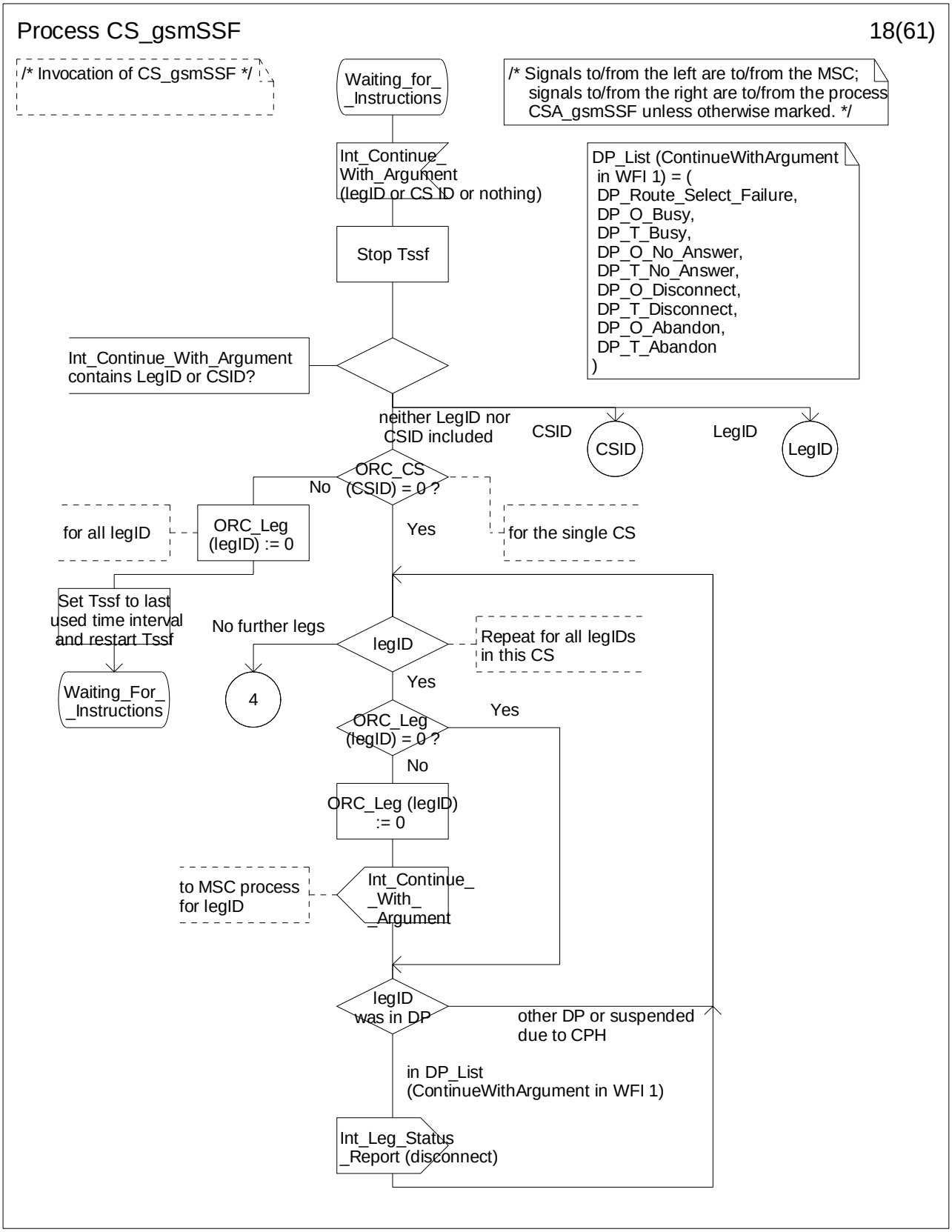


Figure 4.99-18: Process CS_gsmSSF (sheet 18)

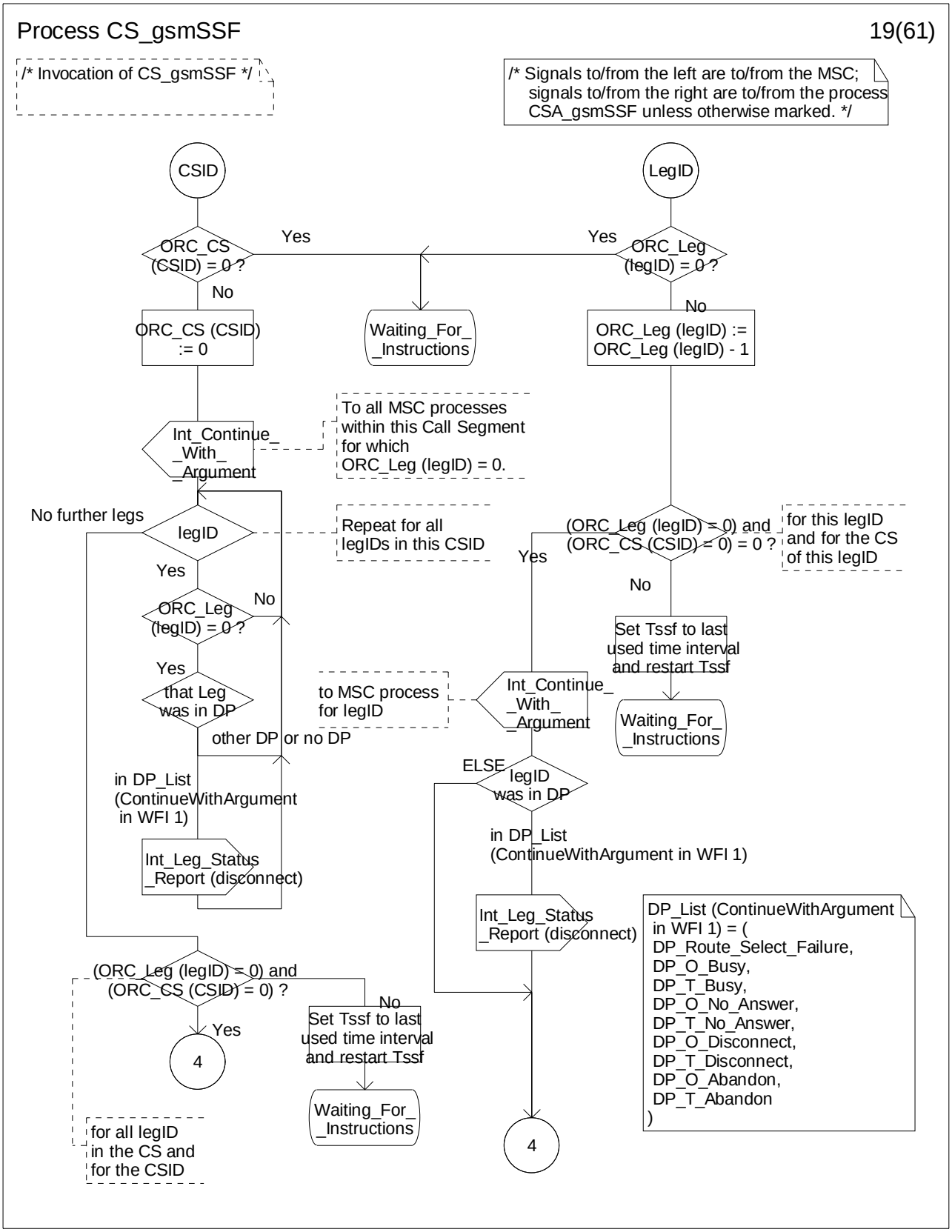


Figure 4.99-19: Process CS_gsmSSF (sheet 19)

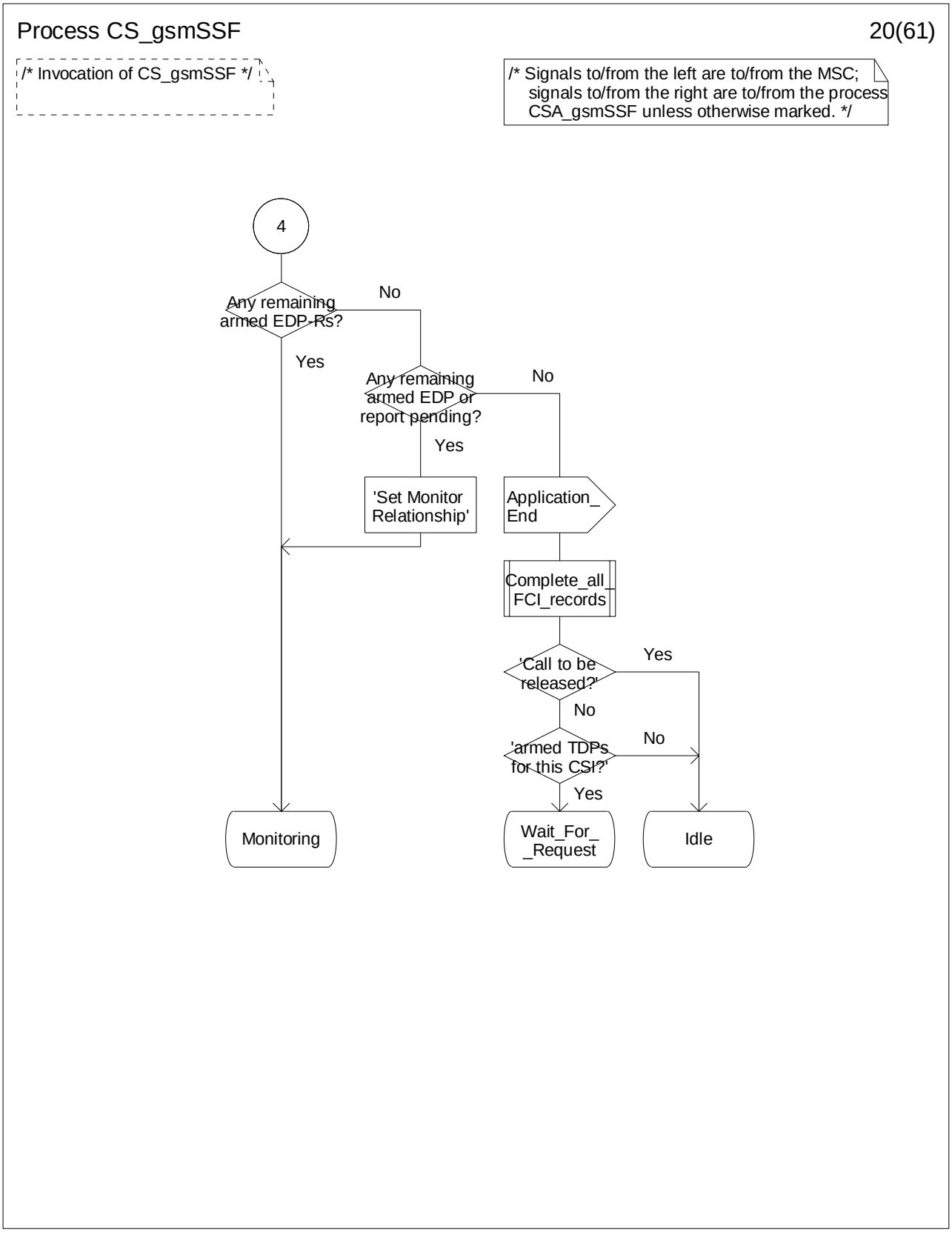


Figure Error! Reference source not found.**-2: Process CS_gsmSSF (sheet 2)**

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

3GPP TSG CN WG2 Meeting #33
Zagreb, Croatia, 10th – 14th May 2004

N2-040208

CHANGE REQUEST

⌘ **29.078** **CR** **375** ⌘ **rev** ⌘ Current version: **6.1.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Correction to First Digit Timer for Prompt&Collect
Source:	⌘	Ericsson
Work item code:	⌘	TEI_6
Date:	⌘	11/05/2004
Category:	⌘	F
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘

Refer to section 11.25 (P&C procedure). The following is specified for parameter "firstDigitTimeOut":

> If this parameter is present, then the first digit shall be received by the gsmSRF before first-digit timer expiration. If the first digit is not received before first-digit timer expiration, then the input is considered to be erroneous. After receipt of the first valid or invalid input digit, the first-digit timer shall be stopped.
>
> If this parameter is not present, then the gsmSRF shall use a default value for the first-digit timer.
>
> If "startDigit" is present, then the first-digit timer shall be stopped after the start digit is received.

The text in the first paragraph "...receipt of the first valid or invalid input digit, the first-digit timer shall be stopped." implies that ***any digit*** shall stop the first-digit timer, including "invalid" digits.

The text in the third paragraph "If "startDigit" is present, then the first-digit timer shall be stopped after the start digit is received." implies that if a start-digit is present, then the first-digit timer shall be stopped only when the start-digit (or start digits string) is received.

Clearly, the description of firstDigitTimeOut is ambiguous and shall be corrected.

Summary of change: ⌘ Correct the description of firstDigitTimeOut.

Consequences if not approved: ⌘ Interworking problems; if firstDigitTimeOut is not properly specified, then this may lead to unexpected behaviour of the Prompt & Collect procedure, such as

unnecessary timer expiry or unnecessary long waiting time.

Clauses affected:	⌘	11.25			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

****** First Modification ******

11.25 PromptAndCollectUserInformation procedure

11.25.1 General description

The gsmSCF uses this operation to interact with a call party in order to collect information.

11.25.1.1 Parameters

- collectedInfo:
  - collectedDigits:
    - minimumNbOfDigits:
      This parameter specifies the minimum number of valid digits to be collected.
    - maximumNbOfDigits:
      This parameter specifies the maximum number of valid digits to be collected. The following applies: "maximumNbOfDigits" ≥ "minimumNbOfDigits".
    - endOfReplyDigit:
      This parameter indicates the digit string used to signal the end of input.

      In the case that the "maximumNbOfDigits" > "minimumNbOfDigits" the following applies:

      If "endOfReplyDigit" is not present, then the end of input is indicated:

      - when the inter-digit timer expires; or
      - when the number of valid digits received equals the "maximumNbOfDigits".

      If "endOfReplyDigit" is present, then the end of input is indicated:

      - when the inter-digit timer expires; or
      - when the end of reply digit is received; or
      - when the number of valid digits received equals the "maximumNbOfDigits".

      When the end of input is reached, the collected digits are sent from gsmSRF to the gsmSCF, including the "endOfReplyDigit" if received by the gsmSRF. In the case the number of valid digits received is less than the "minimumNbOfDigits" when the inter-digit timer expires or when the end of reply digit is received, the input is considered to be erroneous.
  - cancelDigit:
    This parameter indicates the cancel digit string that may be entered by the user to request a retry. All digits already received by the gsmSRF are discarded and the PromptAndCollectUserInformation procedure is performed again, thus e.g. the same announcement to request user information is given to the user and information is collected. If this parameter is not present, then the user is not able to request a retry.
  - startDigit:
    This parameter indicates the start digit string that indicates the start of the valid digits to be collected. The digits that are received by the gsmSRF before this start digit is received, are discarded and are not considered to be valid. The start digit string itself is considered to be valid digits.

    If this parameter is not present, then all received digits are considered to be valid.

    When the end of input is reached, the collected digits are sent from gsmSRF to the gsmSCF, including the "startDigit" if received by the gsmSRF.

- firstDigitTimeOut:
  If this parameter is present, then the first digit shall be received by the gsmSRF before first-digit timer expiration. If the first digit is not received before first-digit timer expiration, then the input is considered to be erroneous. ~~After receipt of the first valid or invalid input digit, the first-digit timer shall be stopped.~~

  If this parameter is not present, then the gsmSRF shall use a default value for the first-digit timer.

  If "startDigit" is present, then the first-digit timer shall be stopped after the start digit is received. If "startDigit" is not present, then the first-digit timer shall be stopped when any digit is received, except when the digit matches the “cancelDigit”, if present.

- interDigitTimeOut:
  If this parameter is present, then any subsequent valid or invalid digit shall be received by the gsmSRF before the inter-digit timer expires. As a result of receiving a digit, the inter-digit timer is reset and restarted.

  If a subsequent valid or invalid digit is not received before the inter-digit timer expires and the number of received valid digits is less than "minimumNbOfDigits", then the input is considered to be unsuccessful.

  If a subsequent valid or invalid digit is not received before the inter-digit timer expires and the number of received valid digits is greater than "minimumNbOfDigits" and smaller than or equal to "maximumNbOfDigits", then the input is considered to be successful.

  If the "interDigitTimeOut" is not present, then the gsmSRF shall use a default value for the inter-digit timer.

- errorTreatment:
  This parameter defines what specific action shall be taken by the gsmSRF in the event of error conditions occurring.

- interruptableAnnInd:

  If this parameter is TRUE, then the announcement shall interrupted after the first valid or invalid digit is received by the gsmSRF. If the announcement is interrupted, then a first-digit timer shall not apply anymore. However, if the announcement has not been interrupted, then the first-digit timer shall be started after the announcement has been finished.

  If this parameter is FALSE, then the announcement shall not be interrupted after the first digit is received by the gsmSRF. The received digits during the announcement are discarded and considered to be invalid. All other specified parameters ("minimumNbOfDigits", "maximumNbOfDigits", "endOfReplyDigit", etc.) do not apply before the announcement has been finished. The first-digit timer shall be started after the announcement has been finished.

- voiceInformation:
  If this parameter is FALSE, then all valid or invalid digits shall be entered by DTMF.

  If this parameter is TRUE, then the calling user is required to provide all valid or invalid information by speech. The gsmSRF shall perform voice recognition and shall translate the provided information into digits. The end of reply digit(s), if required, shall be provided by speech.

- voiceBack:
  If this parameter is FALSE, then no voice back information shall be given by the gsmSRF.

  If this parameter is TRUE, then the valid input digits received by the gsmSRF shall be announced back to the calling user immediately after the end of input is received. The invalid input digits will not be announced back to the calling user. The end of reply digit(s) shall not be voiced back to the calling user.

- disconnectFromIPForbidden:
  This parameter indicates whether the gsmSRF may initiate a disconnection from the gsmSSF after the interaction has been completed.

  If this parameter is TRUE, then the gsmSRF shall not initiate a disconnection. If this parameter is FALSE, then the gsmSRF may initiate a disconnection.

- informationToSend:
  This parameter indicates an announcement or tone to be sent to the end-user by the gsmSRF.

  - inbandInfo:
    This parameter specifies the inband information to be sent.

    - messageID:
      This parameter indicates the message(s) to be sent;, this may be one of the following:

      - elementaryMessageID:
        This parameter indicates a single announcement.

      - text:
        This parameter indicates a text to be sent. The text shall be transformed to inband information (speech) by the gsmSRF. The attributes of text may consist of items such as language.

      - elementaryMessageIDs:
        This parameter specifies a sequence of announcements.

      - variableMessage:
        This parameter specifies an announcement with one or more variable parts.

  - numberOfRepetitions:
    This parameter indicates the maximum number of times the message shall be sent to the end-user.

  - duration:
    This parameter indicates the maximum time duration in seconds that the message shall be played or repeated. A value of "0" indicates endless repetition.

  - interval:
    This parameter indicates the time interval between successive messages, i.e. the time between the end of the announcement and the start of the repetition of this announcement. This parameter may be used only when "numberOfRepetitions " > 1.

  - tone:
    This parameter specifies a tone to be sent to the end-user.

    - toneID:
      This parameter indicates the tone to be sent.

    - duration:
      This parameter indicates the time duration in seconds of the tone. A value of "0" indicates infinite duration.

- requestAnnouncementStartedNotification:
  This parameter indicatewhether or not a "SpecializedResourceReport" shall be sent to the gsmSCF when the first announcement or tone has started.

- callSegmentID:
  This parameter indicates the Call Segment to which the user interaction shall apply.

Result Parameter:

- digitsResponse:
  This parameter contains the information collected from the end-user.

11.25.2 Responding entity (gsmSRF)

11.25.2.1 Normal procedure

gsmSRF preconditions:

(1) The SRSM-FSM is in the state "Connected"; if the gsmSRF received previously an operation from the gsmSCF, then the SRSM-FSM is in the state "User Interaction".

(2) If the first announcement or tone has started and "RequestAnnouncementStartedNotification" is TRUE, then the SRSM sends a "SpecializedResourceReport" operation, containing the "FirstAnnouncementStarted" parameter, to the gsmSCF.

gsmSRF postconditions:

(1) The gsmSRF has sent the information to the end-user as indicated by "informationToSend".

(2) The collected information from the end-user is sent to the gsmSCF as RETURN RESULT of the "PromptAndCollectUserInformation".

(3) If the "disconnectFromIPForbidden" is FALSE, then the gsmSRF initiates a bearer channel disconnect to the gsmSSF and the SRSM FSM transits to the state "Idle".

(4) Otherwise, the SRSM FSM transits to the state "User Interaction" or remains in the same state.

The announcement sent to the end-user is ended in the following conditions:

- if neither "duration" nor "numberOfRepetitions" is specified, then the network specific announcement ending conditions shall apply; or
- if "numberOfRepetitions" is specified, when all repetitions have been sent; or
- if duration is specified, when the duration has expired. The announcement is repeated until this condition is met; or
- if "duration" and "numberOfRepetitions" is specified, when one of both conditions is satisfied (whichever comes first).

If the parameter "interruptableAnnInd" is not FALSE and the end-user has responded with a digit during the sending of the announcement, then the above conditions are overruled. In that case, the announcement shall be ended immediately.

The parameter "errorTreatment" specifies how the gsmSRF shall treat an error. The value "reportErrorToSCF" means that the error shall be reported to the gsmSCF by means of Return Error with "ImproperCallerResponse". The value "help" indicates that no error shall be reported to gsmSCF but assistance shall be given to the end-user in the form of a network dependent default announcement (which may be dependent on the context, i.e. the sent message). The value "repeatPrompt" indicates that no error shall be reported to the gsmSCF but the prompt shall be repeated to the end-user. The error handling procedures related to "help" and " repeatPrompt" shall be done only once per "PromptAndCollectUserInformation" operation.

NOTE Note on processing "endOfInput"

The receipt of any "endOfInput" condition (e.g endOfReplyDigit, cancelDigit, firstDigitTimeout, interDigitTimeout) terminates immediately the ongoing input. In other words when e.g an endOfReplyDigit is received, then the receipt of a subsequent cancelDigit will not be processed anymore.

11.25.2.2 Error handling

If a Cancel operation is received before or during the processing of the operation, then the operation shall be cancelled immediately and the error "Canceled" shall be reported to the gsmSCF.

Generic error handling for the operation related errors are described in clause 10, the TC services which are used for reporting operation errors are described in clause 14.

If any of the parameter restrictions are violated (e.g. "minimumNbOfDigits" > "maximumNbOfDigits"), then an operation error has occured.

*** *End of Report* ***

CHANGE REQUEST

⌘ **23.078** **CR** **724** ⌘**rev** ⌘ Current version: **6.1.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Stopping charging timers after Cancel[All]
Source:	⌘	Ericsson
Work item code:	⌘	TEI_6
Date:	⌘	10/05/2004
Category:	⌘	F
Release:	⌘	Rel-6

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)
Rel-6 (Release 6)

Reason for change: ⌘

Refer to CS_gsmSSF sheet 15: process CS_gsmSSF receives Cancel[All] in the state Waiting for Instructions. Cancel[All] results in cancellation of the reports of all legs in the Call Segment controlled by this CS_gsmSSF process instance, as well as the disarming of all Detection Points for the legs in the Call Segment controlled by this CS_gsmSSF process instance.

When CS_gsmSSF has processed Cancel[All], it should stop the following timers, for each leg in the call segment:

- Tcp (the call period timer; when ACH is pending for a leg, then Tcp is running for that leg)
- Tw (the warning tone timer; when ACH is pending for a leg, then Tw may be running for that leg)
- Tsw (tariff switch timer; when ACH is pending for a leg, Tsw may be running for that leg)
- Tdelta (the delta timer; when ACH is pending for a leg, then Tdelta timer is not running for that leg; however, Tdelta may be running for some other leg(s))
- Tccd (the “waiting-for-ACH timer”; when ACH is pending for a leg, then Tccd timer is not running for that leg; however; Tccd may be running for some other leg(s))

When Cancel[All] is received in state WFI, it would normally be followed by Continue or Release Call. In both cases, the relationship is terminated. It needs to be prevented, however, that a timer expires before the relationship is terminated.

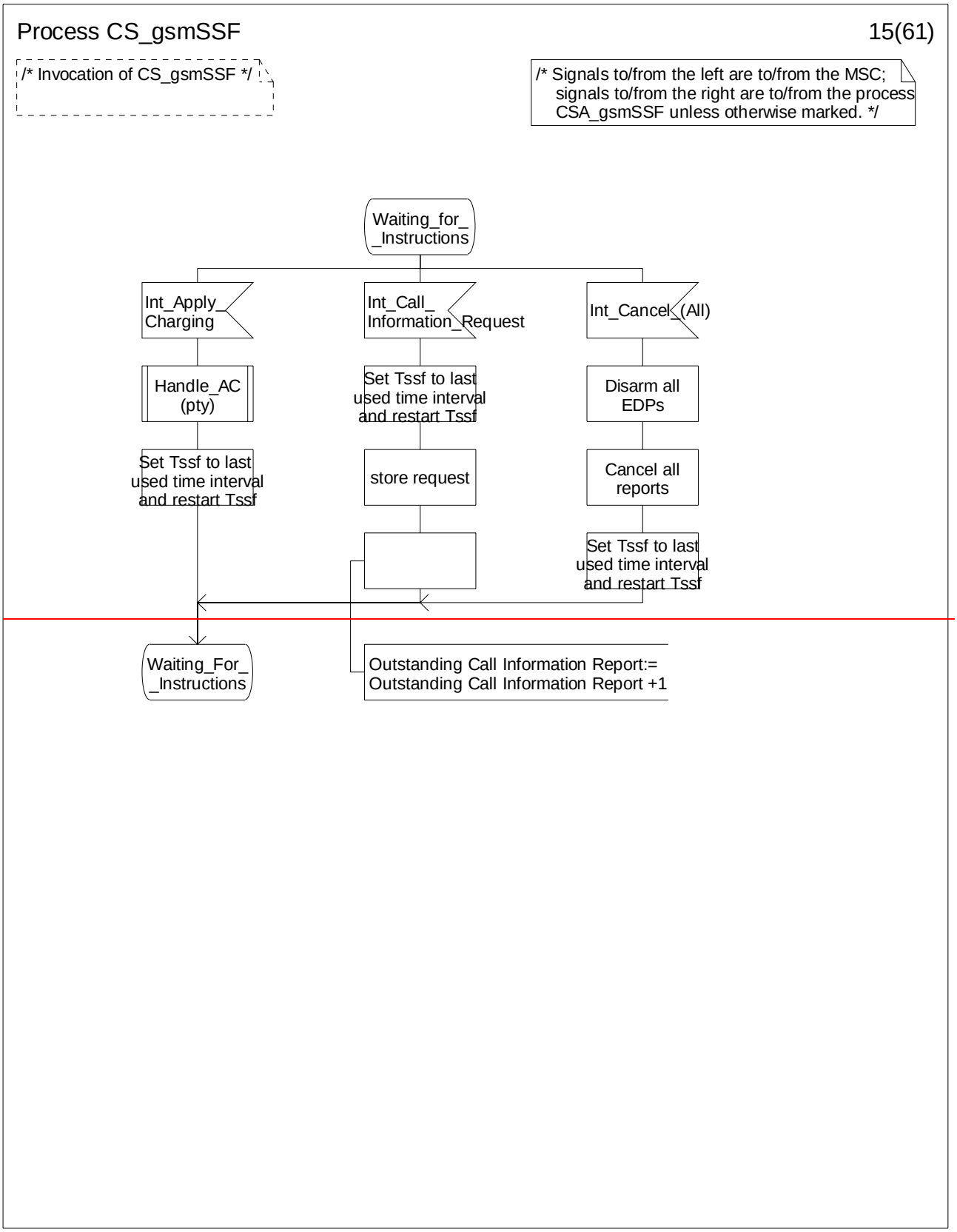
When gsmSCF sends CAP Cancel[All], it does not include a CSId. As a result,

		CSA_gsmSSF sends the Cancel[All] to all CS_gsmSSF instances. Per CS_gsmSSF instance, the Cancel[All] instruction therefore relates only to the DPs and reports of the call legs that are controlled within that CS_gsmSSF instance.
Summary of change:	⌘	Add a task box in CS_gsmSSF, sheet 15, to stop all timers.
Consequences if not approved:	⌘	When for a Call Segment all reports are cancelled and all detection points are disarmed, a charging related timer may still expire whilst the CS_gsmSSF process is in state Waiting for Instructions. The expiry of the charging operation may lead to unexpected behaviour. The expiry of Tccd, for example, would lead to unintended call release; the expiry of Tw would lead to the unintended playing of warning tone etc.

Clauses affected:	⌘	4.5.7.5				
		Y	**N**			
Other specs affected:	⌘		**X**	Other core specifications	⌘	
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

***** *First Modification* *****

4.5.7.5 Process CS_gsmSSF and procedures



~~**Figure 4.99-15: Process CS_gsmSSF (sheet 15)**~~

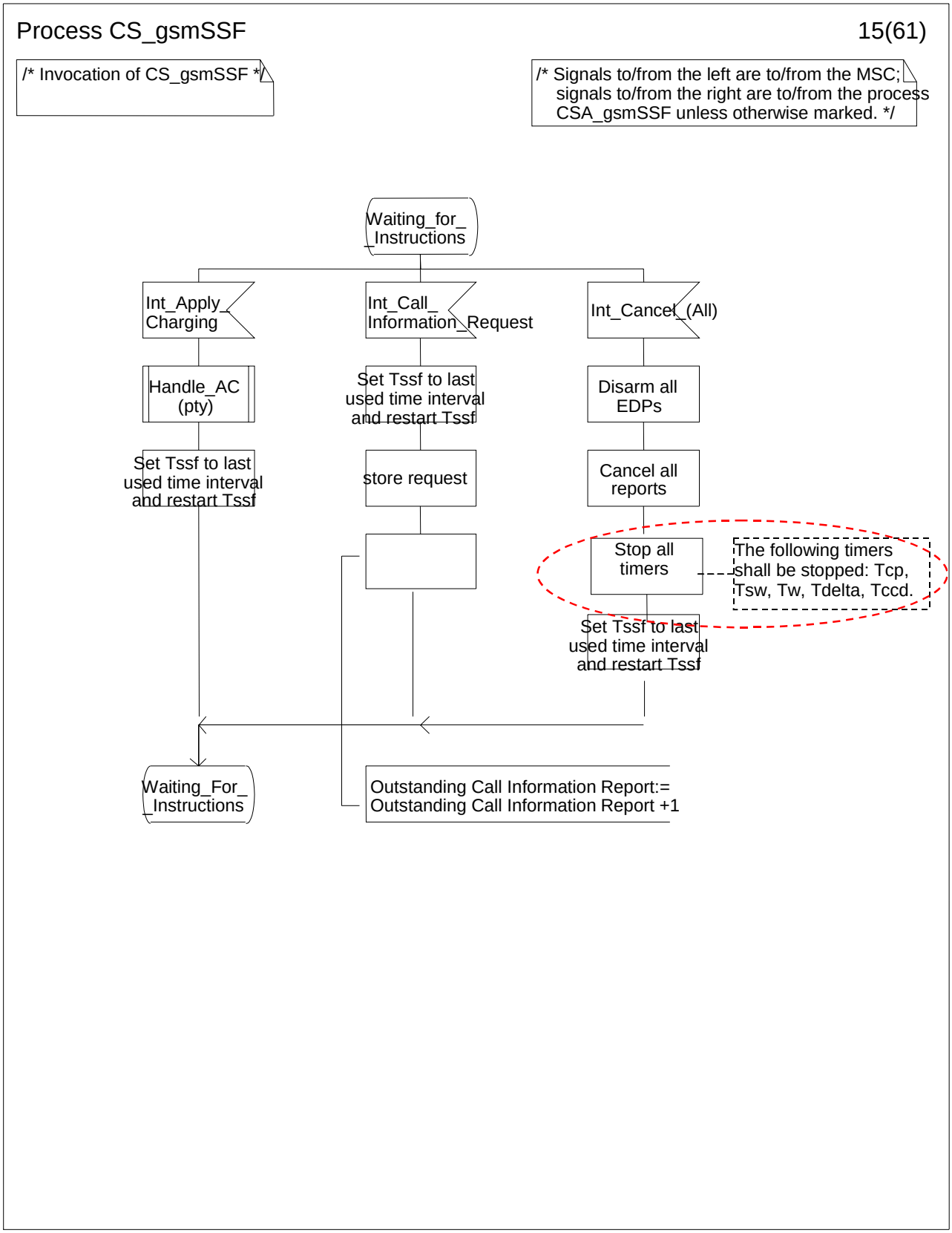


Figure 4.99-15: Process CS_gsmSSF (sheet 15)

*** End of Document ***

CHANGE REQUEST

⌘ 29.078 CR 367 ⌘rev 1 ⌘ Current version: 6.1.0 ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Adding missing ROS Object Identifier
Source:	⌘	Ericsson
Work item code:	⌘	TEI_6
Date:	⌘	10/05/2004
Category:	⌘	F
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
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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)
Rel-6 (Release 6)

Reason for change: ⌘ The reason for the present CR is threefold:

1. gsmSSF ROS-OBJECT-CLASS

gsmSSF ROS-OBJECT-CLASS is currently defined as

```
gsmSSF ROS-OBJECT-CLASS ::= {
   INITIATES    {capSsfToScfGeneric|
                 capAssistHandoffssfToScf}
   RESPONDS     {capSsfToScfGeneric}
   ID           id-rosObject-gsmSSF}
```

The `RESPONDS` definition is, however, incorrect. The current definition

```
   RESPONDS     {capSsfToScfGeneric}
```

implies that the gsmSSF is capable of responding to the `capSsfToScfGeneric` CONTRACT. However, the CONTRACT that the gsmSSF may respond to is the `capScfToSsfGeneric` CONTRACT. That CONTRACT (`capScfToSsfGeneric`) is the contract that the gsmSCF uses to establish a control relationship with the gsmSSF. This relationship is started with InitiateCallAttempt.

2. gprsSSF ROS-OBJECT-CLASS

There is currently no definition for gprsSSF ROS-OBJECT-CLASS. The definition shall be:

```
gprsSSF ROS-OBJECT-CLASS ::= {
   INITIATES    {capGprsSsfToScf}
   RESPONDS     {capGsmScfToGprsSsf}
```

```
   ID          id-rosObject-gprsSSF}
```

INITIATES: This shall be capGprsSsfToScf, which is the CONTRACT used by the gprsSSF to establish a relationship with the gsmSCF; capGprsSsfToScf is defined in section 8.2.1.

RESPONDS: This shall be capGsmScfToGprsSsf, which is the CONTRACT used by the gsmSCF to establish a relationship with the gprsSSF; capGsmScfToGprsSsf is defined in section 8.2.1.

(The gsmSCF may initiate a relationship with the gprsSSF when the TCAP dialogue is segmented for an ongoing CAMEL relationship with the gprsSSF.)

3. smsSSF ROS-OBJECT-CLASS

There is currently no definition for smsSSF ROS-OBJECT-CLASS. There are two SMS related protocols: CAP V3 for MO-SMS and CAP V4 for MT-SMS. Therefore, there shall be two ROS object classes.

```
smsSSF-V3 ROS-OBJECT-CLASS ::= {
   INITIATES   {cap3SMS}
   ID          id-rosObject-smsSSF-V3}
```

and

```
smsSSF-V4 ROS-OBJECT-CLASS ::= {
   INITIATES   {cap4SMS}
   ID          id-rosObject-smsSSF-V4}
```

INITIATES: This shall be cap3SMS or cap4SMS, which is the CONTRACT used by the smsSSF to establish a relationship with the gsmSCF; cap3SMS and cap4SMS are defined in section 7.2.1.

RESPONDS: This field shall be omitted, since a CAMEL control relationship for SMS control is always initiated by the smsSSF; i.e. the smsSSF never responds.

Summary of change: ⌘
- correct the definition of gsmSSF ROS-OBJECT-CLASS
- add definition of gprsSSF ROS-OBJECT-CLASS
- add definition of smsSSF-V3 and smsSSF-V4 ROS-OBJECT-CLASS

Consequences if not approved: ⌘ Implementation difficulty; gsmSSF designers will be confused by the incorrect gsmSSF ROS-OBJECT-CLASS definition.
Code generators may require gprsSSF ROS-OBJECT-CLASS and smsSSF ROS-OBJECT-CLASS definition.

Clauses affected: ⌘ 5.5, 5.6

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘ TS 29.078 defines the Object Identifier for gsmSCF ROS-OBJECT-CLASS:

```
   id-rosObject-gsmSCF    OBJECT IDENTIFIER ::= {id-rosObject 4}
```

The ROS-OBJECT-CLASS for gsmSCF is, however, not defined. Reason is that implementation of the gsmSCF is not specified in TS 29.078.

ROS-OBJECT-CLASS is defined in ITU-T Recommendation X.880 (Information Technology – Remote Operations: Concepts, Model and Notation). Underneath

follows an excerpt from X.880:

…

A pair of ROS-objects must have an association between them to serve as a context for the invocation and performance of operations. Each such association is governed by an **association contract**. A contract is specified in terms of the set of packages which (collectively) determine the operations which can be invoked during the association. If the contract specification includes one or more asymmetrical packages then the contract is itself asymmetrical. For the purpose of specifying an asymmetrical association contract, the two ROS-objects which establish an association with each other are labelled the **initiator** and **responder**.

…

```
ROS-OBJECT-CLASS ::= CLASS
{
    &Is                     ROS-OBJECT-CLASS OPTIONAL,
    &Initiates              CONTRACT OPTIONAL,
    &Responds               CONTRACT OPTIONAL,
    &InitiatesAndResponds   CONTRACT OPTIONAL,
    &id                     OBJECT IDENTIFIER UNIQUE
}
WITH SYNTAX
{
    [IS                     &Is]
    [BOTH                   &InitiatesAndResponds]
    [INITIATES              &Initiates]
    [RESPONDS               &Responds]]
    ID                      &id
}
```

…

8.7.4 The `&Initiates` field specifies a set of `CONTRACT`s for which ROS-objects of the class shall be capable of playing the initiator. This field may be omitted, in which case the ROS-objects shall only be capable of initiating the association contracts specified by the `&InitiatesAndResponds` field.

8.7.5 The `&Responds` field specifies a set of `CONTRACT`s for which object of the class shall be capable of playing the responder. This field may be omitted, in which case the object shall only be capable of responding to the association contracts specified by the `&InitiatesAndResponds` field.

…

***** First Modification *****

5.5 Classes

```
CAP-classes {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-classes(54) version5(4)}

DEFINITIONS ::= BEGIN

IMPORTS

    ROS-OBJECT-CLASS,
    Code
FROM Remote-Operations-Information-Objects ros-InformationObjects

    id-rosObject-gprsSSF,
    id-rosObject-gsmSRF,
    id-rosObject-gsmSSF,
    id-rosObject-smsSSF-V3,
    id-rosObject-smsSSF-V4,
    ros-InformationObjects,
    gsmSSF-gsmSCF-Protocol,
    gsmSCF-gsmSRF-Protocol
FROM CAP-object-identifiers {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version5(4)}

    capSsfToScfGeneric,
    capAssistHandoffssfToScf,
    capScfToSsfGeneric
FROM CAP-gsmSSF-gsmSCF-pkgs-contracts-acs gsmSSF-gsmSCF-Protocol

    gsmSRF-gsmSCF-contract
FROM CAP-gsmSCF-gsmSRF-pkgs-contracts-acs gsmSCF-gsmSRF-Protocol

    cap3SMS,
    cap4SMS
FROM CAP-smsSSF-gsmSCF-pkgs-contracts-acs smsSSF-gsmSCF-Protocol

    capGprsSsfToScf,
    capGsmScfToGprsSsf
FROM CAP-gsmSCF-gsmSRF-pkgs-contracts-acs gprsSSF-gsmSCF-Protocol

    CriticalityType
FROM CS2-datatypes {itu-t(0) identified-organization(4) etsi(0) inDomain(1) in-network(1) cs2(20)
modules(0) in-cs2-datatypes(0) version1(0)}

;

gsmSSF ROS-OBJECT-CLASS ::= {
    INITIATES   {capSsfToScfGeneric|
                 capAssistHandoffssfToScf}
    RESPONDS    {capSsfToScfGenericcapScfToSsfGeneric}
    ID          id-rosObject-gsmSSF}
-- The Rel-6 'gsmSSF' definition uses the Rel-6 capSsfToScfGeneric and, capAssistHandoffssfToScf
-- and capScfToSsfGeneric CONTRACT definitions.

gsmSRF ROS-OBJECT-CLASS ::= {
    INITIATES   {gsmSRF-gsmSCF-contract}
    ID          id-rosObject-gsmSRF}
-- The Rel-6 'gsmSRF' definition uses the Rel-6 gsmSRF-gsmSCF-contract CONTRACT definition.

smsSSF-V3 ROS-OBJECT-CLASS ::= {
    INITIATES   {cap3SMS}
    ID          id-rosObject-smsSSF-V3}
-- The Rel-6 'smsSSF-V3' definition uses the Rel-6 cap3SMS CONTRACT definition. The smsSSF-V3
-- ROS-OBJECT-CLASS is used for MO SMS control.

smsSSF-V4 ROS-OBJECT-CLASS ::= {
    INITIATES   {cap4SMS}
    ID          id-rosObject-smsSSF-V4}
-- The Rel-6 'smsSSF-V4' definition uses the Rel-6 cap4SMS CONTRACT definition. The smsSSF-V4
-- ROS-OBJECT-CLASS is used for MT SMS control.

gprsSSF ROS-OBJECT-CLASS ::= {
    INITIATES   {capGprsSsfToScf}
```

```
    RESPONDS    {capGsmScfToGprsSsf}
    ID          id-rosObject-gprsSSF}
-- The Rel-6 'gprsSSF' definition uses the Rel-6 capGprsSsfTogsmScf and capGsmScfToGprsSsf
-- CONTRACT definitions.
```

…

***** *Next Modification* *****

5.6 Object IDentifiers (IDs)

```
CAP-object-identifiers {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-object-identifiers(100) version5(4)}

DEFINITIONS ::= BEGIN

...


-- ROS Objects

id-rosObject-gsmSCF                          OBJECT IDENTIFIER ::= {id-rosObject 4}
id-rosObject-gsmSSF                          OBJECT IDENTIFIER ::= {id-rosObject 5}
id-rosObject-gsmSRF                          OBJECT IDENTIFIER ::= {id-rosObject 6}
id-rosObject-gprsSSF                         OBJECT IDENTIFIER ::= {id-rosObject 7}
id-rosObject-smsSSF-V3                       OBJECT IDENTIFIER ::= {id-rosObject 8}
id-rosObject-smsSSF-V4                       OBJECT IDENTIFIER ::= {id-rosObject 9}

...
```

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

CHANGE REQUEST

⌘ **29.078** **CR** **366** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Enhancement to User Interaction
Source:	⌘	Ericsson
Work item code:	⌘	TEI_6
Date:	⌘	13 May 2004
Category:	⌘	B
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘

A CAMEL Service may use Establish Temporary Connection (ETC) or Connect To Resource (CTR) to connect a subscriber or Call Segment (CS) to a gsmSRF. CTR is normally used for a connection to a gsmSRF that is integrated in the MSC or connected to the MSC. ETC is normally used for a connection to an MSC with assisting gsmSSF or to an Intelligent Peripheral (IP). For the purpose of the present document, gsmSRF and IP are collectively referred to as Announcement Device.

When the subscriber is connected to the Announcement Device, User Interaction may be applied to the subscriber. The User Interaction entails, amongst others, the playing of announcements. The CAMEL Service may send CAP Operations Play Announcement (PA) to the Announcement Device.

When ETC is used to connect the subscriber to an Announcement Device, an ISUP connection is established between the MSC and the Announcement Device.

In the above manner, the CAMEL Service is in control of the announcements; that means that the CAMEL Service decides which announcement(s) shall be played.

The MSC in the above description may be the VMSC or GMSC of the served subscriber or an assisting MSC, in the case of a Temporary Connection.

For particular groups of CAMEL Services, announcements to be played to a subscriber are subscriber-specific. An example of such CAMEL Service is Personal Greeting Service (PGS). A PGS Service plays a customised announcement during call establishment. The announcement to be played may (typically) depend on served subscriber, Calling Party or Called Party.

	In order to select the announcement to be played, the following methods may be applied: (1) the CAMEL Service determines the announcement and uses PA towards the Announcement Device; (2) the Announcement Device selects the announcement. Many operators apply an Announcement Device for the playing of announcements that are subscriber-specific. Such Announcement Device may contain functionality related to subscriber management, announcement management etc. As an example, a user of a PGS may upload a personalised announcement (e.g. music clip) to the Announcement Device, via public internet. A dilemma that currently exists w.r.t. having the Announcement Device select the announcement is that the Announcement Device requires certain subscriber information, such as Calling Party or Called Party. Example: when PGS is configured as MT CAMEL Service, then PGS may establish an ISUP connection between the GMSC and the Announcement Device. The announcement that the Announcement Device shall play, depends on: Original Called Party Number (in this case, the served subscriber); Calling Party Number (e.g. to adapt the announcement to who is calling). However, this information is not available to the Announcement Device; i.e. the ISUP IAM that is sent to the Announcement Device does not contain these information elements. Hence, the Announcement Device can't select the announcement. Alternatively, the CAMEL Service has to use convoluted structure of the Assisting SSP IP Routing Address in CAP ETC, to have this address contain a subscriber identity, over and above the digits required for ISUP Routeing. Assisting SSP IP Routing Address is mapped on to the Called Party Number in ISUP IAM. The present discussion document proposes that the CAMEL Service shall have the capability to include the required information in CAP ETC. The serving MSC shall copy this information to ISUP IAM, used for the connection to the Announcement Device. The following elements are proposed: - CallingPartyNumber: this element shall be mapped on ***Calling party number*** in ISUP IAM; the gsmSCF may e.g. use this element to identify the served subscriber. - OriginalCalledPartyID: this element shall be mapped on ***Original called number*** in ISUP IAM; the gsmSCF may e.g. use the Calling Party Number from the incoming ISUP IAM (and included in CAP IDP) for this element.
Summary of change: ⌘	- Add Calling Party Number and Original Called Party Id to the Establish Temporary Connection CAP Operation. - The NOTE's in table A.5 are corrected.
Consequences if not approved: ⌘	A potentially very useful enhancement to User Interaction will not be possible. Operators would have to apply complex, proprietary mechanisms to convey information to an Intelligent Peripheral.

Clauses affected:	⌘	6, 11.17, A.6				
Other specs affected:	⌘	**Y**	**N**		⌘	23.078-CR716
		X		Other core specifications		
			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘	

****** First Modification ******

6 Circuit Switched Call Control

6.1 gsmSSF/CCF - gsmSCF Interface

6.1.1 Operations and arguments

```
CAP-gsmSSF-gsmSCF-ops-args {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-network(1) modules(3) cap-gsmSSF-gsmSCF-ops-args(101) version5(4)}

DEFINITIONS IMPLICIT TAGS ::= BEGIN

...


    AChBillingChargingCharacteristics {},
    AdditionalCallingPartyNumber {},
    AlertingPattern,
    AChChargingAddress {},
    AssistingSSPIPRoutingAddress {},
    BCSMEvent {},
    BCSM-Failure,
    BearerCapability {},
    Burst,
    CalledPartyNumber {},
    CalledPartyBCDNumber {},
    CallingPartyNumber {},
    CallResult {},
    CallSegmentID {},
    CallSegmentToCancel {},
    CallSegmentFailure {},
    Carrier,
    Cause {},
    CGEncountered,
    ChargeNumber {},
    ControlType,
    CorrelationID {},
    DestinationRoutingAddress {},
    EventSpecificInformationBCSM {},
    EventTypeBCSM,
    Extensions {},
    FCIBillingChargingCharacteristics {},
    GapCriteria {},
    GapIndicators,
    GapTreatment,
    GenericNumbers {},
    InvokeID,
    IPRoutingAddress {},
    IPSSPCapabilities {},
    leg1,
    leg2,
    LegOrCallSegment {},
    LocationNumber {},
    LowLayerCompatibility {},
    MonitorMode,
    NAOliInfo,
    OCSIApplicable,
    OriginalCalledPartyID {},
    ReceivingSideID,
    RedirectingPartyID {},
    RequestedInformationList {},
    RequestedInformationTypeList,
    ScfID {},
    SCIBillingChargingCharacteristics {},
    SendingSideID,
    ServiceInteractionIndicatorsTwo,
    TimeAndTimezone {},
    TimerID,
    TimerValue
```

```
FROM CAP-datatypes datatypes
-- For Rel-6, the CAP-datatypes module is updated to version5(4); Object Identifier 'datatypes'
-- is also updated to version5(4). As a result, the present module uses Rel-6 data type definitions.

...



establishTemporaryConnection {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        EstablishTemporaryConnectionArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {eTCFailed |
                     missingParameter |
                     systemFailure |
                     taskRefused |
                     unexpectedComponentSequence |
                     unexpectedDataValue |
                     unexpectedParameter |
                     unknownCSID}
    CODE            opcode-establishTemporaryConnection}
-- Direction: gsmSCF -> gsmSSF, Timer: Tetc
-- This operation is used to create a connection to a resource for a limited period
-- of time (e.g. to play an announcement, to collect user information); it implies
-- the use of the assist procedure. Refer to clause 11 for a description of the
-- procedures associated with this operation.

EstablishTemporaryConnectionArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    assistingSSPIPRoutingAddress        [0] AssistingSSPIPRoutingAddress {bound},
    correlationID                       [1] CorrelationID {bound}                   OPTIONAL,
    scfID                               [3] ScfID {bound}                           OPTIONAL,
    extensions                          [4] Extensions {bound}                      OPTIONAL,
    carrier                             [5] Carrier {bound}                         OPTIONAL,
    serviceInteractionIndicatorsTwo     [6] ServiceInteractionIndicatorsTwo         OPTIONAL,
    callSegmentID                       [7] CallSegmentID {bound}                   OPTIONAL,
    naOliInfo                           [50] NAOliInfo                              OPTIONAL,
    chargeNumber                        [51] ChargeNumber {bound}                   OPTIONAL,
    ...,
    originalCalledPartyID               [52] OriginalCalledPartyID {bound}          OPTIONAL,
    callingPartyNumber                  [53] CallingPartyNumber {bound}             OPTIONAL
    }



...
```

****** Next Modification ******

11.17 EstablishTemporaryConnection procedure

11.17.1 General Description

The gsmSCF uses this operation to create a connection between an initiating gsmSSF and an assisting gsmSSF as part of a service assist procedure. It can also be used to create a connection between a gsmSSF and a gsmSRF, for the case where the gsmSRF exists in a separately addressable PE.

The assistingSSPIPRoutingAddress shall contain routeing digits, a correlationID and a scfID when a temporary connection shall be established between PLMNs and no bilateral agreement exists between the involved network operators to transfer correlationID and SCFiD as separate parameters.

11.17.1.1 Parameters

- assistingSSPIPRoutingAddress:
  This parameter indicates the destination address of the gsmSRF for assist procedure. The "assistingSSPIPRoutingAddress" may contain embedded within it, a "correlationID" and "scfID", but only if "correlationID" and "scfID" are not specified separately.

- correlationID:
  This parameter is used by the gsmSCF to associate the "AssistRequestInstructions" from the assisting gsmSSF (or the gsmSRF) with the Request from the initiating gsmSSF. The "correlationID" shall be used only if the correlation id is not embedded in the "assistingSSPIPRoutingAddress". The network operator has to decide about the actual mapping of this parameter on the used signalling system.

- scfID:
  This parameter contains the gsmSCF identifier and enables the assisting gsmSSF to identify which gsmSCF the AssistRequestInstructions shall be sent to.
  The "scfID" shall be used only if the gsmSCF id is not embedded in the "assistingSSPIPRoutingAddress". The network operator has to decide about the actual mapping of this parameter on the used signalling system.
  When ScfID is used in an operation, which may cross an internetwork boundary, its encoding must be understood in both networks; this requires bilateral agreement on the encoding.

- serviceInteractionIndicatorsTwo:
  This parameter contains an indicator that is used for the control of the through connection to the Calling Party.

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

  It contains the following embedded parameter:

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

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

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

- chargeNumber:
  This parameter contains the number that identifies the entity to be charged for the call. It identifies the chargeable number for the usage of a carrier (applicable on a call sent into a North American long distance carrier). For a definition of this parameter refer to ANSI T1.113-1995 [92].

- callSegmentID:
  This parameter indicates the Call Segment to which the temporary connection shall be established.

- originalCalledPartyID:
  This paramerter identifies the original called party.

- callingPartyNumber:
  This parameter identifies the calling party.

11.17.2 Responding entity (gsmSSF)

11.17.2.1 Normal procedure

gsmSSF preconditions:

(1) The gsmSSF FSM is in the state "Waiting_for_Instructions".

(2) The gsmSSF is not an assisting gsmSSF.

gsmSSF postconditions:

(1) The gsmSSF performs the call processing actions to route the call to the assisting gsmSSF or gsmSRF in accordance with the "assistingSSPIPRoutingAddress" requested by the gsmSCF.

(2) The gsmSSF FSM transits to the state "Waiting_for_end_of_Temporary_Connection".

(3) The gsmSSF loads Tssf with the default value and starts Tssf.

On receipt of this operation, the gsmSSF shall perform the following actions:

- Route the call to assisting gsmSSF or gsmSRF using "assistingSSPIPRoutingAddress";

11.17.2.2 Error handling

Until the connection setup has been accepted (refer to ITU-T Recommendation Q.71 [41]) by the assisting gsmSSF or the gsmSRF, all received failure indications from the network on the ETC establishment shall be reported to the gsmSCF as EstablishTemporaryConnection error ETCFailed (e.g., busy, congestion).

NOTE The operation timer for EstablishTemporaryConnection shall be longer than the maximum allowed time for the signalling procedures to accept the connection.

Generic error handling for the operation related errors are described in clause 10 and the TC services which are used for reporting operation errors are described in clause 14.

****** Next Modification ******

A.6 EstablishTemporaryConnection operation

On receipt of an EstablishTemporaryConnection operation from the gsmSCF then if the triggering of the CAMEL service was made for a mobile terminating or forwarded call, an ISUP ACM shall be sent to the preceding exchange. The encoding of the backward call indicators in the ISUP ACM is specified in 3GPP TS 09.12 [1]. In addition, an ISUP IAM shall be sent to the succeeding exchange.

Table A.5 illustrates the mapping of parameters received in the EstablishTemporaryConnection operation to parameters sent in the ISUP IAM to the succeeding exchange. On sending of the ISUP IAM the awaiting address complete timer is started. If the timer expires, then the call is released in both directions and an appropriate indication is returned to the calling subscriber.

Table A.5

CAP Operation EstablishTemporaryConnection ~~(Note 1)~~	ISUP message IAM
AssistingSSPIPRoutingAddress (note 1)	Called party number
CorrelationID	Correlation id (note ~~1~~2)
ScfId	GsmSCF id (note ~~1~~2)
OriginalCalledPartyID	Original called number (note 3)
CallingPartyNumber	Calling party number (note 3)

NOTE 1: The AssistingSSPIPRoutingAddress parameter may also include a Hex B digit, in order to delineate the boundary between digits used for routeing and digits forming part of the SCFiD and/or CorrelationID.

NOTE ~~1~~2: These optional parameters may be absent, i.e. they are mapped only if received. If they are received and cannot be mapped, then an error is sent to the gsmSCF as detailed in clause 11.

~~NOTE 2: The AssistingSSPIPRoutingAddress parameter may also include a Hex B digit, in order to delineate the boundary between digits used for routeing and digits forming part of the SCFiD and/or CorrelationID.~~

NOTE 3: These optional parameters may be absent, i.e. they are mapped only if received.

Except for the Called Party Number the remaining mandatory ISUP IAM parameters are set as follows:

a) Nature of connection indicators

Satellite indicator: set as in an Originating MSC,

Continuity check indicator: set as in Originating MSC,

Echo control device indicator: set as in Originating MSC

b) Forward Call Indicators

National/international call indicator: set as in Originating MSC,

End-to-end method indicator: 00 (no end-to-end method available),

Interworking indicator: 0 (no interworking encountered),

End-to-end information indicator: 0 (no end-to-end information available),

ISDN User Part indicator: 1 (ISDN User Part used all the way),

ISDN User Part preference indicator: 00 (ISDN User Part preferred all the way),

ISDN access indicator: 0 (originating access non-ISDN),

SCCP method indicator: 00 (no indication)

c) Calling Party's Category

00001010 (ordinary subscriber)

d) Transmission Medium Requirement

00000011 (3.1 kHz audio)

The ISUP IAM optional parameter Propagation Delay Counter is set as in an Originating MSC.

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

3GPP TSG CN WG2 Meeting #33 **N2-040239**
Zagreb, Croatia, 10th – 14th May 2004

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **685** ⌘**rev** **2** ⌘ Current version: **6.1.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	IP version of GGSN address for CAMEL
Source:	⌘	Nokia
Work item code:	⌘	TEI_6
Date:	⌘	13.5.2004
Category:	⌘	**F**
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	It is unclear whether to indicate IPv4 or IPv6 GGSN address to SCP. There are 3 cases: - SGSN or GGSN is IPv4 only - SGSN and GGSN support dual stack (IPv4 & IPv6) - SGSN or GGSN supports IPv6 only (in future) Charging corralation may fail if the 2 first cases use IPv6 since CDRs use IPv4 address. Also, if in an inter-SGSN RAU the source and target SGSNs indicate different GGSN addresses, SCP may experience difficulties in CAP dialogue correlation.
Summary of change:	⌘	SGSN shall report same IP version of GGSN address to gsmSCF as it stores in the S-CSR.
Consequences if not approved:	⌘	Prepay charging problems.

Clauses affected:	⌘	6.6.1.4.2, 6.6.1.5.2

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

Other comments:	⌘	- This change may also be relevant in Rel-5 (critical correction).

-- First modified section --

6.6.1.4 Event Report GPRS

6.6.1.4.1 Description

This IF is used to notify the gsmSCF of a GPRS event previously requested by the gsmSCF in a Request Report GPRS Event IF.

6.6.1.4.2 Information Elements

Information element name	Status	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 [36] for the usage of this element.
GPRS Event Type	M	This IE specifies the type of event that is reported.
Misc GPRS Info	M	This IE indicates the DP type (EDP-N or EDP-R).
GPRS Event Specific Information	M	This IE is described in a table below. This IE contains information specific to the reported event.
PDP ID	C	This IE identifies the PDP Context to which the IF applies. Scenario 1: If this IE is not present in the IF, then the Event Report GPRS applies to the GPRS Session. If this IE is present in the IF, then the Event Report GPRS applies to the indicated PDP Context. Scenario 2: This IE is not used in the IF.

If the *GPRS Event Type* contains DP Change of Position GPRS Session, then the GPRS Event Specific Information IE contains the following information elements:

Information element name	Status	Description
Location Information In SGSN	M	See subclause 7.6.1.2.2.

If the *GPRS Event Type* contains DP Change of Position Context, then the GPRS Event Specific Information IE contains the following information elements:

Information element name	Status	Description
Access Point Name	S	This IE identifies the Access Point Name to which the MS is connected. It shall be present, if available, at inter-SGSN routing area update. It shall be absent at intra-SGSN routing area update.
Charging ID	S	This IE contains the Charging ID received from the GGSN for the PDP context. It shall be present, if available, at inter-SGSN routing area update. It shall be absent at intra-SGSN routing area update.
Location Information In SGSN	M	See subclause 7.6.1.2.2.
End User Address	S	See subclause 6.6.1.5.2. It shall be present, if available, at inter-SGSN routing area update. It shall be absent at intra-SGSN routing area update.
Quality Of Service	S	This IE is described in a table below. It shall be present, if available, at inter-SGSN routing area update. It shall be absent at intra-SGSN routing area update.
Time And Time Zone	S	This IE contains the time that the gprsSSF met the detection point, and the time zone the gprsSSF resides in. It shall be present, if available, at inter-SGSN routing area update. It shall be absent at intra-SGSN routing area update.
GGSN Address	S	This IE contains the GGSN address for control plane to which the MS is connected, see 3GPP TS 23.003 [7]. The SGSN shall report the GGSN address in the same IP version as in the S-CDR. See 32.215 [38] subclause 5.15. It shall be present, if available, at inter-SGSN routing area update. It shall be absent at intra-SGSN routing area update.

If the *GPRS Event Type* contains DP Detach or DP PDP context disconnection, then the GPRS Event Specific Information IE contains the following information elements:

Information element name	Status	Description
Initiating Entity	M	This IE identifies the entity that has initiated the disconnection or detachment.
Routeing Area Update	C	This IE indicates that the Detach or Disconnection is due to inter-SGSN routeing area update.

If the *GPRS Event Type* contains DP PDP context establishment, then the GPRS Event Specific Information IE contains the following information elements:

Information element name	Status	Description
Access Point Name	C	This IE identifies the Access Point Name the MS has requested to connect to.
End User Address	C	See subclause 6.6.1.5.2.
Quality Of Service	M	This IE is described in a table below.
Location Information In SGSN	M	See subclause 7.6.1.2.2.
Time And Time Zone	M	This IE contains the time that the gprsSSF met the detection point, and the time zone the gprsSSF resides in.
PDP Initiation Type	M	This IE indicates whether a PDP context was established as a result of a network-initiated request or as a result of a subscriber request.
Secondary PDP Context	C	This IE indicates that the PDP context activation was requested for a secondary PDP context. See 3GPP TS 23.060 [15].

If the *GPRS Event Type* contains DP PDP context establishment acknowledgement, then the GPRS Event Specific Information IE contains the following information elements:

Information element name	Status	Description
Access Point Name	M	This IE identifies the Access Point Name to which the MS is connected.
Charging ID	M	This IE contains the Charging ID received from the GGSN for the PDP context.
End User Address	M	See subclause 6.6.1.5.2.
Quality Of Service	M	This IE is described in a table below.
Location Information In SGSN	M	See subclause 7.6.1.2.2.
Time And Time Zone	M	This IE contains the time that the gprsSSF met the detection point, and the time zone the gprsSSF resides in.
GGSN Address	M	This IE contains the GGSN address for control plane to which the MS is connected, see 3GPP TS 23.003 [7]. The SGSN shall report the GGSN address in the same IP version as in the S-CDR. See 32.215 [38] subclause 5.15.

Quality of Service contains the following information elements:

Information element name	Status	Description
Requested QoS	C	This IE identifies the QoS requested by the subscriber for the PDP Context. It shall be included if the EventReportGPRS is sent at PDP Context Establishment, at PDP Context Establishment Acknowledgement and at Change of Position Context.
Subscribed QoS	C	This IE identifies the subscribed QoS. It shall be included if the EventReportGPRS is sent at PDP Context Establishment, at PDP Context Establishment Acknowledgement and at Change of Position Context.
Negotiated QoS	C	This IE identifies the QoS which was negotiated between the user, the SGSN and the GGSN. It shall be included if the EventReportGPRS is sent at PDP Context Establishment Acknowledgement and at Change of Position Context.
Requested QoS Extension	S	This IE contains a supplement to the Requested QoS IE. It shall be present if the Requested QoS IE is present and the MS requested one or more of the following for the PDP context: - Source Statistics Descriptor; - Signalling Indication; - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.
Subscribed QoS Extension	S	This IE contains a supplement to the Subscribed QoS IE. It shall be present if the Subsribed QoS IE is present and one or more of the following is part of the

Information element name	Status	Description
		subscription profile in the HLR: - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.
Negotiated QoS Extension	S	This IE contains a supplement to the Negotiated QoS. It shall be present if the Negotiated QoS IE is present and one or more of the following was negotiated between the MS, the SGSN and the GGSN: - Source Statistics Descriptor; - Signalling Indication; - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.

-- Next modified section --

6.6.1.5 Initial DP GPRS

6.6.1.5.1 Description

This IF is generated by the gprsSSF when a trigger is detected at a DP in the GPRS state models, to request instructions from the gsmSCF.

6.6.1.5.2 Information Elements

Information element name	Status	Description
Gprs Reference Number	M	This IE consists of a number assigned by the gprsSSF. It is used for TCAP dialogue segmentation. Refer to 3GPP TS 29.078 [36] for the usage of this element.
ServiceKey	M	This IE indicates to the gsmSCF the requested CAMEL Service. It is used to address the required application/SLP within the gsmSCF.
GPRS Event Type	M	This IE indicates the armed GPRS DP event resulting in the Initial DP IF.
MSISDN	M	This IE contains the basic MSISDN of the MS.
IMSI	M	This IE identifies the mobile subscriber.
Time and Time zone	M	This IE contains the time that the gprsSSF was triggered, and the time zone in which the gprsSSF resides.
GPRS MS Class	C	This IE contains the MS network and radio access capabilities.
End User Address	C	This IE is described in a table below.
Quality of Service	C	This IE is described in a table below.
Access Point Name	C	This IE identifies the Access Point Name: - At DP Change Of Position Context contains the selected APN. - AT DP PDP Context Establishment contains the APN which the MS has requested. - AT DP PDP Context Establishment Acknowledgement contains the selected APN.
Charging ID	C	This IE contains the Charging ID received from the GGSN for the PDP context.
SGSN Capabilities	C	This IE specifies the capabilities of the SGSN to support the CAMEL interworking, e.g. support of Advice of Charge.
Location Information in SGSN	M	This IE is described in subclause 7.6.1.2.2.
PDP Initiation Type	C	This IE indicates whether a PDP context was established as a result of a network-initiated request or as a result of a subscriber request.
GGSN Address	C	This IE contains the GGSN address for control plane to which the MS is connected, see 3GPP TS 23.003 [7]. The SGSN shall report the GGSN address in the same IP version as in the S-CDR. See 32.215 [38] subclause 5.15.
Secondary PDP context	C	This IE indicates that the PDP context activation was requested for a secondary PDP context. See 3GPP TS 23.060 [15]. This IE is not sent if this IF is initiated at DP Change of Position Context.
IMEI (with software version)	C	This IE contains the IMEISV (as defined in 3GPP TS 23.003 [7]) of the ME in use by the served subscriber.

Quality of Service contains the following information elements:

Information element name	Status	Description
Requested QoS	C	This IE identifies the QoS requested by the subscriber for a new PDP Context. It shall be included if the InitialDPGPRS is sent at PDP Context Establishment, at PDP Context Establishment Acknowledgement and at Change of Position Context.
Subscribed QoS	C	This IE identifies the subscribed QoS. It shall be included if the InitialDPGPRS is sent at PDP Context Establishment, at PDP Context Establishment Acknowledgement and at Change of Position Context.
Negotiated QoS	C	This IE identifies the QoS which was negotiated between the user, the SGSN and the GGSN. It shall be included if the Initial DP GPRS is sent at PDP Context Establishment Acknowledgement and at Change of Position Context.
Requested QoS Extension	S	This IE contains a supplement to the Requested QoS IE. It shall be present if

Information element name	Status	Description
		the Requested QoS IE is present and the MS requested one or more of the following for the PDP context: - Source Statistics Descriptor; - Signalling Indication; - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.
Subscribed QoS Extension	S	This IE contains a supplement to the Subscribed QoS IE. It shall be present if the Subsribed QoS IE is present and one or more of the following is part of the subscription profile in the HLR: - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.
Negotiated QoS Extension	S	This IE contains a supplement to the Negotiated QoS. It shall be present if the Negotiated QoS IE is present and one or more of the following was negotiated between the MS, the SGSN and the GGSN: - Source Statistics Descriptor; - Signalling Indication; - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.

End User Address shall be populated as follows:

- At DP Change Of Position Context in an Inter-SGSN Routeing Area Update: Initial DP GPRS and EventReportGPRS contain the selected value;

- At DP PDP Context Establishment: Initial DP GPRS and Event Report GPRS contain the value which the MS has requested;

- At DP PDP Context Establishment Acknowledgement: Initial DP GPRS and Event Report GPRS contain the selected value. Note that the PDP Address is not always available at this DP.

For details see 3GPP TS 23.060 [15].

End User Address contains the following information elements:

Information element name	Status	Description
PDP Type Organization	C	This IE identifies the PDP Type Organisation (e.g. IETF).
PDP Type Number	C	This IE identifies the PDP type, e.g. IPv4 or IPv6.
PDP Address	C	This IE identifies the address of the subscriber for a new PDP Context.

-- Next modified section --

11.3.6 SGSN to HLR information flows

11.3.6.1 Provide Subscriber Info ack

11.3.6.1.1 Description

This IF is used by the SGSN to provide the requested subscriber location and/or subscriber state information to the HLR.

11.3.6.1.2 Information Elements

This IF is defined in 3GPP TS 23.018 [12]. The following differences apply:

Information element name	Status	Description
Subscriber State	-	Not applicable.
PS domain Subscriber State	C	This IE indicates the status of the MS in the PS Domain. It shall be present only if requested by the HLR. The possible values of the IE are: - Detached: The SGSN has determined from its internal data that the MS is not attached to the network. - CAMEL attached, MS not reachable for paging: The SGSN has determined from its internal data that the MS is attached to the network, but there is no PDP Context active, and the MS is not reachable for paging. - CAMEL attached, MS may be reachable for paging: The SGSN has determined from its internal data that the MS is attached to the network, but there is no PDP Context active; the SGSN has not determined from its internal data that the MS is not reachable for paging. - CAMEL PDP active, MS not reachable for paging: The SGSN has determined from its internal data that the MS is attached to the network there is at least on PDP context active, and the MS not reachable for paging. - CAMEL PDP active, MS may be reachable for paging: The SGSN has determined from its internal data that the MS is attached to the network and there is at least one PDP context active; the SGSN has not determined from its internal data that the MS is not reachable for paging.
PDP Context Information List	S	This IE is described in a table below. This IE indicates the PDP context information for each PDP context which is active for the MS. It shall be present if the PS domain Subscriber State has the value "CAMEL PDP active, MS not reachable for paging" or "CAMEL PDP active MS may be reachable for paging"; otherwise it shall be absent.
Location Information For GPRS	C	This IE is described in a table below. It indicates the location of the MS. It shall be present only if requested by the HLR.
IMEI (with software version)	C	This IE contains the IMEI & software version of the ME in use by the served subscriber. It shall be present only if requested by the HLR.
GPRS MS Class	C	This IE contains the MS network and radio access capabilities. It shall be present only if requested by the HLR.

PDP Context Information includes the following information elements:

Information element name	Status	Description
PDP Context Identifier	M	Index of the PDP context.
PDP State	C	Packet data protocol state, INACTIVE or ACTIVE.
PDP Type	C	PDP type, e.g., PPP or IP.
PDP Address	C	PDP address, e.g., an IP address.
APN Subscribed	C	The APN received from the HLR.
APN in Use	C	The APN currently used.
NSAPI	C	Network layer Service Access Point Identifier.
TI	C	Transaction Identifier.
TEID for Gn/Gp	C	Tunnel Endpoint Identifier for the Gn and Gp interfaces.
TEID for Iu	C	Tunnel Endpoint Identifier for the Iu interface.

Information element name	Status	Description
GGSN Address in Use	C	The IP address of the GGSN currently used. The SGSN shall report the GGSN address in the same IP version as in the S-CDR. See 32.215 [38] subclause 5.15.
Subscribed QoS	C	The quality of service profile subscribed.
Requested QoS	C	The quality of service profile requested.
Negotiated QoS	C	The quality of service profile negotiated.
Charging ID	C	Charging identifier, identifies charging records generated by SGSN and GGSN.
PDP Context Charging Characteristics	C	The charging characteristics of this PDP context, e.g., normal, prepaid, flat-rate, and/or hot billing.
RNC Address In Use	C	The IP address of the RNC currently used.
Requested QoS Extension	S	This IE contains a supplement to the Requested QoS IE. It shall be present if the Requested QoS IE is present and the MS requested one or more of the following for the PDP context: - Source Statistics Descriptor; - Signalling Indication; - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.
Subscribed QoS Extension	S	This IE contains a supplement to the Subscribed QoS IE. It shall be present if the Subsribed QoS IE is present and one or more of the following is part of the subscription profile in the HLR: - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.
Negotiated QoS Extension	S	This IE contains a supplement to the Negotiated QoS. It shall be present if the Negotiated QoS IE is present and one or more of the following was negotiated between the MS, the SGSN and the GGSN: - Source Statistics Descriptor; - Signalling Indication; - Maximum bit rate for downlink (extended); - Guaranteed bit rate for downlink (extended). Otherwise, it shall be absent.

Location Information For GPRS includes the following information elements:

Information element name	Status	Description
Service area ID	C,E	See 3GPP TS 23.018 [12].
Cell ID	C,E	See 3GPP TS 23.018 [12].
Location area ID	C,E	See 3GPP TS 23.018 [12].
Routeing area ID	C	See 3GPP TS 23.003 [7].
Geographical information	C	See 3GPP TS 23.032 [13].
Geodetic information	C	See ITU-T Q.763 [43].
Age of location information	C	See 3GPP TS 23.018 [12].
Current Location Retrieved	C	See 3GPP TS 23.018 [12].
SGSN number	M	Global Title of the SGSN. See 3GPP TS 23.060 [15].
Selected LSA Identity	C	This IE is applicable only if SoLSA is supported by the SGSN. This IE indicates the LSA identity associated with the current position of the MS. It 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 it shall be present. See 3GPP TS 23.073 [18]

N2-040248

CHANGE REQUEST

⌘ **23.078** **CR** **716** ⌘**rev** **3** ⌘ Current version: **6.1.0** ⌘

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Enhancement to User Interaction
Source:	⌘	Ericsson
Work item code:	⌘	TEI_6
Date:	⌘	14/05/2004
Category:	⌘	B
Release:	⌘	Rel-6

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘

A CAMEL Service may use Establish Temporary Connection (ETC) or Connect To Resource (CTR) to connect a subscriber or Call Segment (CS) to a gsmSRF. CTR is normally used for a connection to a gsmSRF that is integrated in the MSC or connected to the MSC. ETC is normally used for a connection to an MSC with assisting gsmSSF or to an Intelligent Peripheral (IP). For the purpose of the present document, gsmSRF and IP are collectively referred to as Announcement Device.

When the subscriber is connected to the Announcement Device, User Interaction may be applied to the subscriber. The User Interaction entails, amongst others, the playing of announcements. The CAMEL Service may send CAP Operations Play Announcement (PA) to the Announcement Device.

When ETC is used to connect the subscriber to an Announcement Device, an ISUP connection is established between the MSC and the Announcement Device.

In the above manner, the CAMEL Service is in control of the announcements; that means that the CAMEL Service decides which announcement(s) shall be played.

The MSC in the above description may be the VMSC or GMSC of the served subscriber or an assisting MSC, in the case of a Temporary Connection.

For particular groups of CAMEL Services, announcements to be played to a subscriber are subscriber-specific. An example of such CAMEL Service is Personal Greeting Service (PGS). A PGS Service plays a customised announcement during call establishment. The announcement to be played may (typically) depend on served subscriber, Calling Party or Called Party.

In order to select the announcement to be played, the following methods may be applied:

(1) the CAMEL Service determines the announcement and uses PA towards the Announcement Device;

(2) the Announcement Device selects the announcement.

Many operators apply an Announcement Device for the playing of announcements that are subscriber-specific. Such Announcement Device may contain functionality related to subscriber management, announcement management etc. As an example, a user of a PGS may upload a personalised announcement (e.g. music clip) to the Announcement Device, via public internet.

A dilemma that currently exists w.r.t. having the Announcement Device select the announcement is that the Announcement Device requires certain subscriber information, such as Calling Party or Called Party.

Example: when PGS is configured as MT CAMEL Service, then PGS may establish an ISUP connection between the GMSC and the Announcement Device. The announcement that the Announcement Device shall play, depends on:

Original Called Party Number (in this case, the served subscriber);

Calling Party Number (e.g. to adapt the announcement to who is calling).

However, this information is not available to the Announcement Device; i.e. the ISUP IAM that is sent to the Announcement Device does not contain these information elements. Hence, the Announcement Device can't select the announcement. Alternatively, the CAMEL Service has to use convoluted structure of the Assisting SSP IP Routing Address in CAP ETC, to have this address contain a subscriber identity, over and above the digits required for ISUP Routeing. Assisting SSP IP Routing Address is mapped on to the Called Party Number in ISUP IAM.

The present discussion document proposes that the CAMEL Service shall have the capability to include the required information in CAP ETC. The serving MSC shall copy this information to ISUP IAM, used for the connection to the Announcement Device. The following elements are proposed:

- CallingPartyNumber: this element shall be mapped on ***Calling party number*** in ISUP IAM; the gsmSCF may e.g. use this element to identify the served subscriber.

- OriginalCalledPartyID: this element shall be mapped on ***Original called number*** in ISUP IAM; the gsmSCF may e.g. use the Calling Party Number from the incoming ISUP IAM (and included in CAP IDP) for this element.

Summary of change:	⌘	Add Calling Party Number and Original Called Party Id to the Establish Temporary Connection information flow.
Consequences if not approved:	⌘	A potentially very useful enhancement to User Interaction will not be possible. Operators would have to apply complex, proprietary mechanisms to convey information to an Intelligent Peripheral.

Clauses affected:	⌘	1, 4.6.2.13

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	29.078-CR366
			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘

****** First Modification ******

1 Scope

The present document specifies the stage 2 description for the fourth phase (see 3GPP TS 22.078 [**Error! Reference source not found.**]) of the Customized Applications for Mobile network Enhanced Logic (CAMEL) feature which provides the mechanisms to support services of operators which are not covered by standardized services even when roaming outside the HPLMN.

The CAMEL feature is a network feature and not a supplementary service. It is a tool to help the network operator to provide the subscribers with the operator specific services even when roaming outside the HPLMN.

In the present document, the GSM Service Control Function (gsmSCF) is treated as being part of the HPLMN. The regulatory environment in some countries may require the possibility that the gsmSCF and the HPLMN are controlled by different operators, and the gsmSCF and the HPLMN are therefore distinct entities.

The fourth phase of the CAMEL feature supports, in addition to the third phase of the CAMEL:

- Interactions with Optimal Routing;
- Call Party Handling;
- DTMF Mid call procedure for Mobile Originated and Mobile Terminating calls;
- Inclusion of flexible tone injection;
- Provision of location information of called subscriber;
- Provide location information during ongoing call;
- CAMEL control over MT SMS;
- Notification of GPRS mobility management to CSE;
- Inclusion of ODB data in Any Time Modification;
- Enhancement of Any Time Interrogation and Provide Subscriber Information for PS Domain;
- Mobile Number Portability database interrogation;
- Criteria for the provision of location information during ongoing call;
- Enhanced Dialled Services;
- Enhancement to Establish Temporary Connection.

CAMEL applicability to IP-based multimedia services is introduced in the fourth phase of the CAMEL. It is specified in 3GPP TS 23.278 [**Error! Reference source not found.**].

CAMEL is not applicable to Emergency Setup (TS 12), i.e. if an Emergency call is requested, then the gsmSSF shall not be invoked.

The mechanism described in the present document addresses especially the need for information exchange between the VPLMN or IPLMN and the HPLMN for support of operator specific services. Any user procedures for the control of operator specific services are outside the scope of the present document. Subscribers who have subscribed to operator specific services and therefore need the functional support of the CAMEL feature shall be marked in the HPLMN and VPLMN. In case a subscriber is marked to need CAMEL support, the appropriate procedures which provide the necessary information to the VPLMN or the HPLMN are invoked. It is possible for the HPLMN to instruct the VPLMN or IPLMN to interact with a gsmSCF which is controlled by the HPLMN.

The specification of operator specific services is outside the scope of the present document.

***** *Next Modification* *****

4.6.2.13 Establish Temporary Connection

4.6.2.13.1 Description

This IF is used to create a connection between an initiating gsmSSF and an assisting gsmSSF as a part of the assist procedure. It can also be used to create a connection between a gsmSSF and a gsmSRF.

4.6.2.13.2 Information Elements

Information element name	Status	Description
Assisting SSP IP Routing Address	M	This IE indicates the destination address of the gsmSRF or assisting gsmSSF for the assist procedure. As a network operator option, the Assisting gsmSSF IP Routing Address may contain embedded within it, a "Correlation ID" and "gsmSCF ID", but only if "Correlation ID" and "gsmSCF ID" are not specified separately.
Correlation ID	O	This IE is used for: - the correlation of dialogues from the initiating gsmSSF-> gsmSCF with dialogues from gsmSRF -> gsmSCF; - the correlation of dialogues from the initiating gsmSSF-> gsmSCF with dialogues from assisting gsmSSF -> gsmSCF.
Carrier	O	This IE is described in a table below.
NA Originating Line Information	O	This IE identifies the type of number in the Charge Number (e.g. subscriber versus PLMN operator number).
Charge Number	O	This IE identifies the chargeable number for the usage of a North American carrier.
gsmSCF ID	O	This IE indicates the gsmSCF identifier.
Service Interaction Indicators Two	O	This IE indicates whether or not a bothway through connection is required between the call segment and the calling party. When there is no calling party connected to the call segment, then the gsmSSF shall ignore this IE, if received. The handling when this IE is not present is defined in ETSI EN 301 070-1 [**Error! Reference source not found.**].
Call Segment ID	M	This IE indicates the call segment to be connected to the resource. The subsequent user interaction shall apply to all parties connected to the call segment.
Original Called Party ID	O	This IE may be used to identify the original called party. If present, it shall be included in the ISUP IAM for the Temporary Connection. Support of this IE in the gsmSSF is an implementation option.
Calling Party Number	O	This IE may be used to identify the calling party. If present, it shall be included in the ISUP IAM for the Temporary Connection. Support of this IE in the gsmSSF is an implementation option.

Carrier contains the following information elements:

Information element name	Status	Description
Carrier Identification Code	M	This IE uniquely identifies a North American long distance carrier.
Carrier Selection Information	M	This IE indicates the way the carrier was selected, i.e.: - dialled; - subscribed.

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