3GPP TSG CN Plenary Meeting #21 **NP-030365**
17th - 19th September 2003. Frankfurt, Germany.

Source: TSG CN WG2

Title: CRs on Rel-5 Work Item CAMEL4

Agenda item: 8.3

Document for: APPROVAL

Introduction:

This document contains **14** CRs on **Rel-5 Work Item CAMEL4.** These CRs have been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting for approval.

WG_tdoc	Title	Spec	CR	Rev	Ca	Rel	C_Ver
N2-030331	Correction to procedure CAMEL_ICA_MSC	23.078	575		F	Rel-5	5.4.0
N2-030345	Correction of "Int_leg_Status_Report" to avoid double state changes in the CSA	23.078	601		F	Rel-5	5.4.0
N2-030352	Correction to usage of LegId in ICA Operation	23.078	609		F	Rel-5	5.4.0
N2-030353	Correction to usage of LegId in ICA Operation	29.078	322	1	F	Rel-5	5.4.0
N2-030376	Allow user interaction at answer DP	23.078	616		F	Rel-5	5.4.0
N2-030427	Reporting Disconnect (leg n)	23.078	573	2	F	Rel-5	5.4.0
N2-030428	Correction to parameter name in Connect Operation	29.078	313	1	F	Rel-5	5.4.0
N2-030431	Correction to Apply Charging and Apply Charging Report due to introduction of CPH	23.078	611	1	F	Rel-5	5.4.0
N2-030432	Correction to Apply Charging and Apply Charging Report due to introduction of CPH	29.078	327	1	F	Rel-5	5.4.0
N2-030433	Update of Charging spec references	23.078	570	2	F	Rel-5	5.4.0
N2-030460	Correction to CAP Operation Error values	29.078	325	1	F	Rel-5	5.4.0
N2-030466	Handling of Connect operation with and without LegID	23.078	523	5	F	Rel-5	5.4.0
N2-030467	Handling of Information Flows with absent LegID and CS ID	23.078	524	4	F	Rel-5	5.4.0
N2-030468	MoveLeg precondition for source and target CS	29.078	329	2	F	Rel-5	5.4.0

3GPP TSG CN WG2 Meeting #30 **N2-030331**
Sophia Antipolis, France, 25th – 29th August 2003

CHANGE REQUEST

⌘ **23.078** **CR** **575** ⌘ **rev** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to procedure CAMEL_ICA_MSC
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	May 7, 2003
Category:	⌘	F *(essential correction)*
Release:	⌘	Rel-5

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:	⌘	In procedure CAMEL_ICA_MSC sheet 5, the MSC FSM state name in the bottom part of that SDL is incorrect; Wait_For_Answer is indicated already in the upper part of that SDL. The correct state name is "Wait_for_Clear" In sheet 6 of that SDL, the exits of the check box "Release cause = …" are swapped: - when the exit = "yes" (i.e. Release cause = No_Answer), then the procedure CAMEL_ICA_MSC2 shall be called; CAMEL_ICA_MSC2 handles the No_Answer event. - When the exit = "no" (i.e. Release cause <> No_Answer), then the procedure CAMEL_ICA_MSC1 shall be called; CAMEL_ICA_MSC1 handles the Busy event and the Route Select Failure event. On sheet 5 of that SDL, after the procedure CAMEL_OCH_MSC_DISC2 has been called, there is connector "4". Connector 4 leads to the calling of procedure CAMEL_ICA_MSC2. Procedure CAMEL_OCH_MSC_DISC2 handles the reporting of the Disconnect event; there is no need to call procedure CAMEL_ICA_MSC2 after that. Therefore, after the execution of procedure CAMEL_OCH_MSC_DISC2, there shall be a jump to connector "5". Connector 5 continues with analysing the value of Result. This result value may have been set by CAMEL_OCH_MSC_DISC2, CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2.
Summary of change:	⌘	Correct sheets 5 and 6 of process CAMEL_ICA_MSC as described above.
Consequences if not approved:	⌘	Malfunctioning system; the current SDL can not be implemented.

Clauses affected:	⌘	process CAMEL_ICA_MSC			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	With the present CR included, connector “4” is unused in process CAMEL_ICA_MSC. The connectors may therefore need to be renumbered.			

— First modified section —

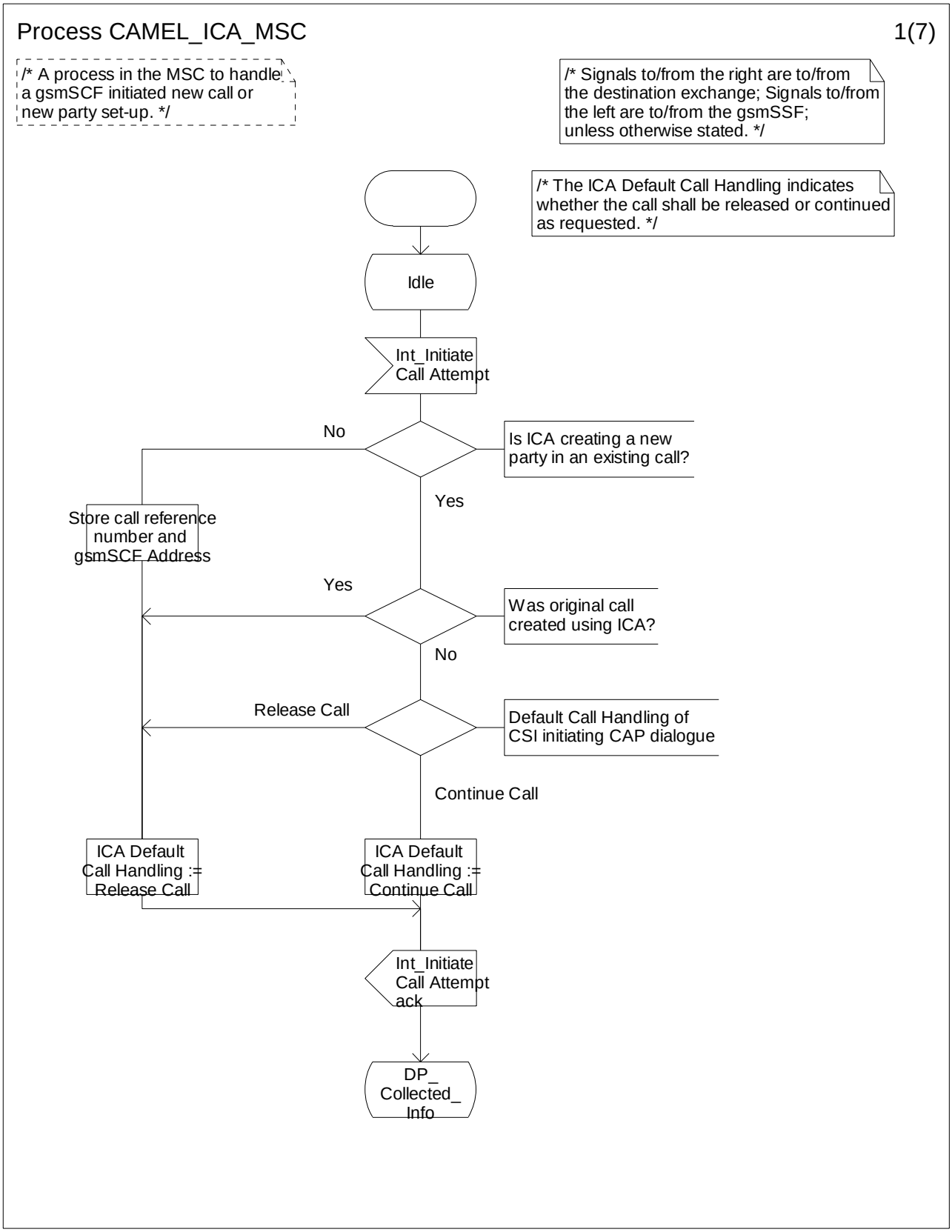


Figure 4.85-1: Process CAMEL_ICA_MSC (sheet 1)

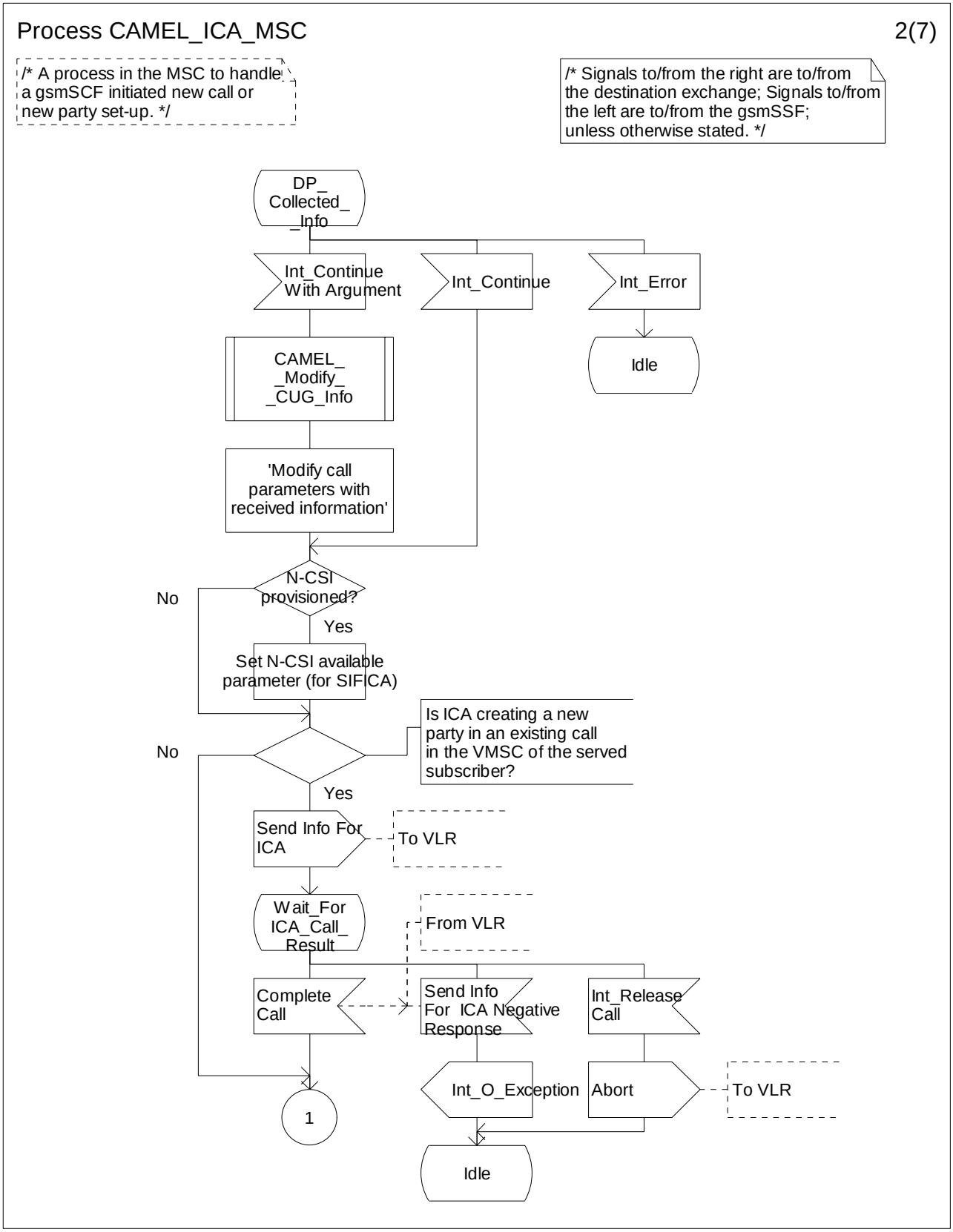


Figure 4.85-2: Process CAMEL_ICA_MSC (sheet 2)

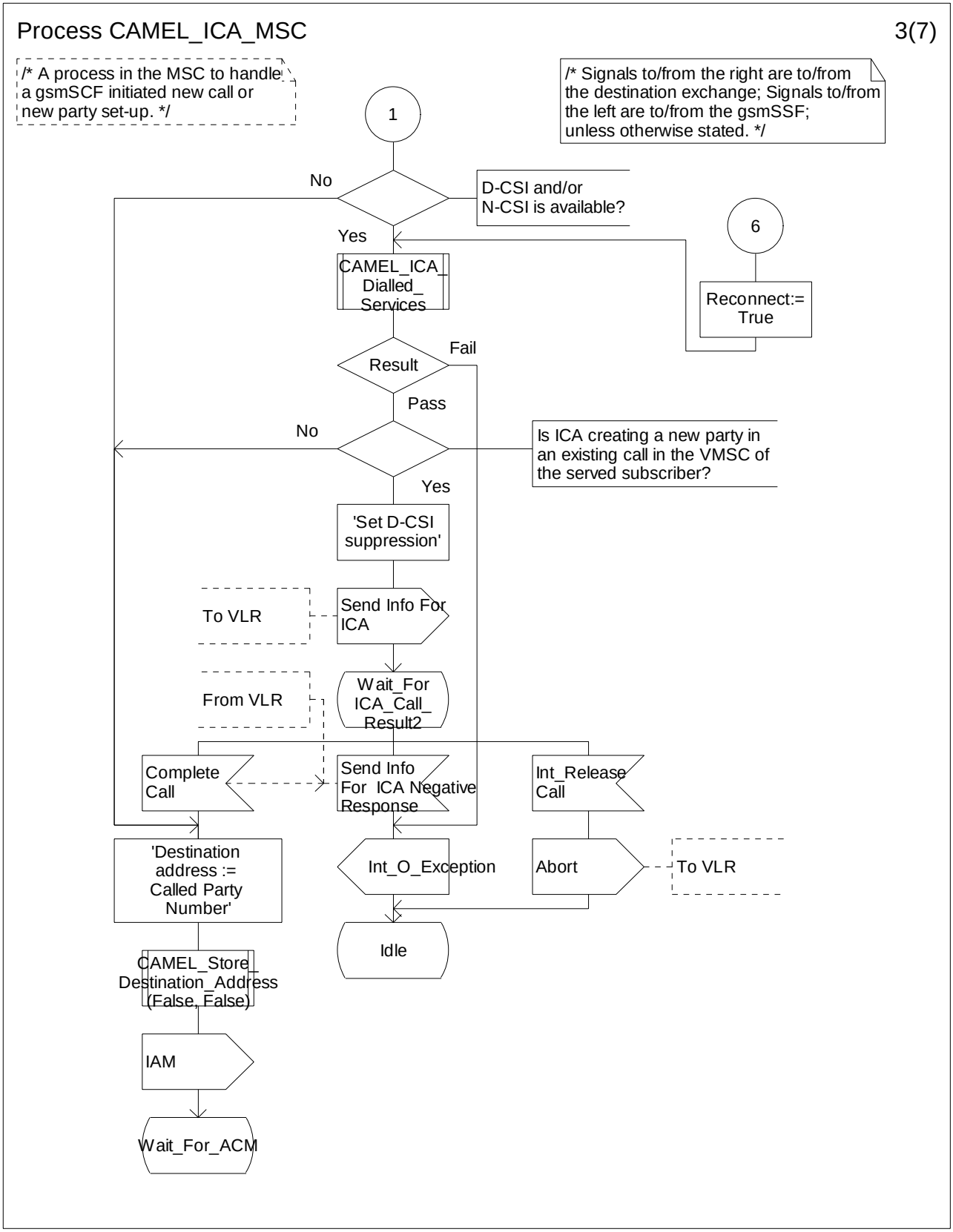


Figure 4.85-3: Process CAMEL_ICA_MSC (sheet 3)

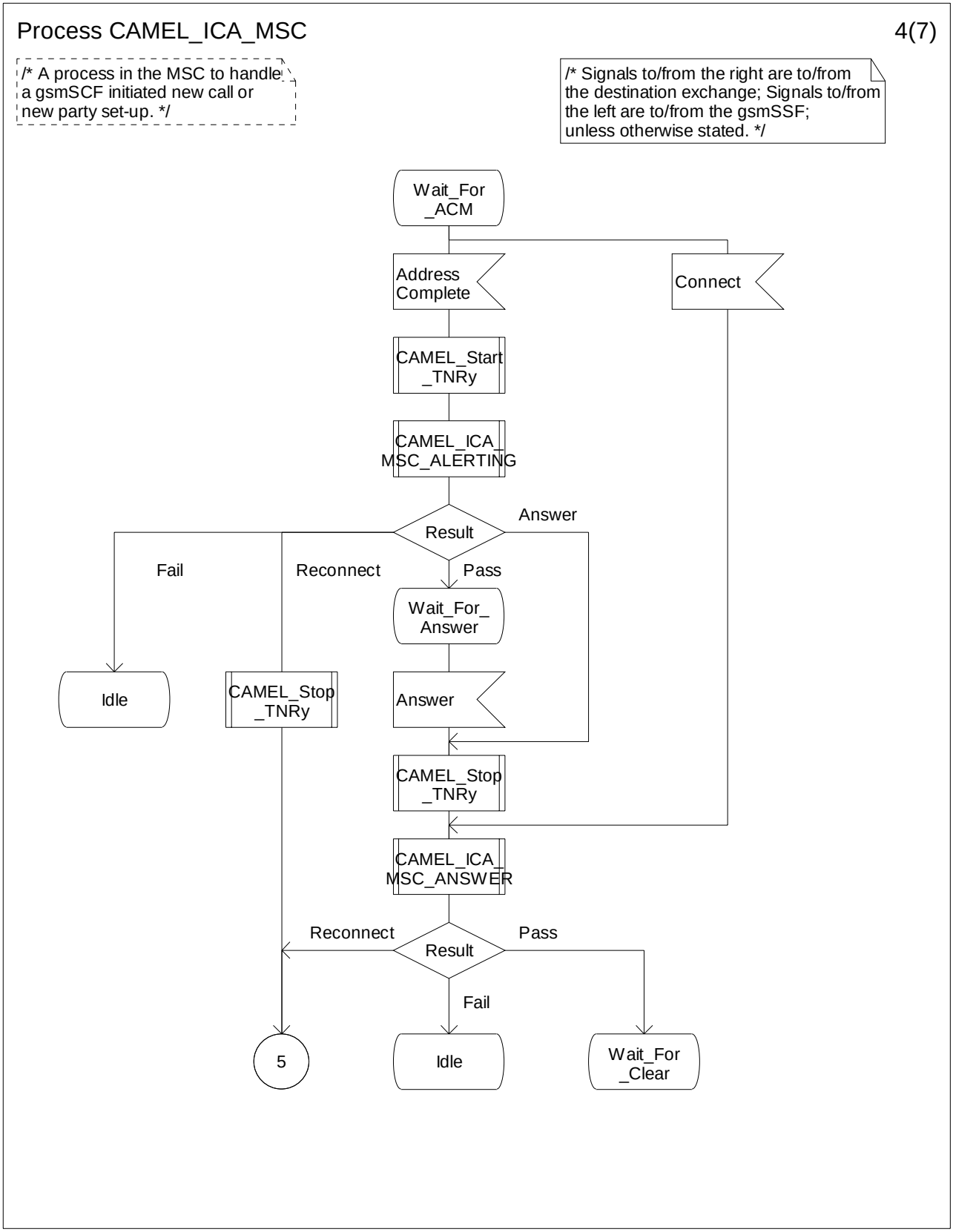
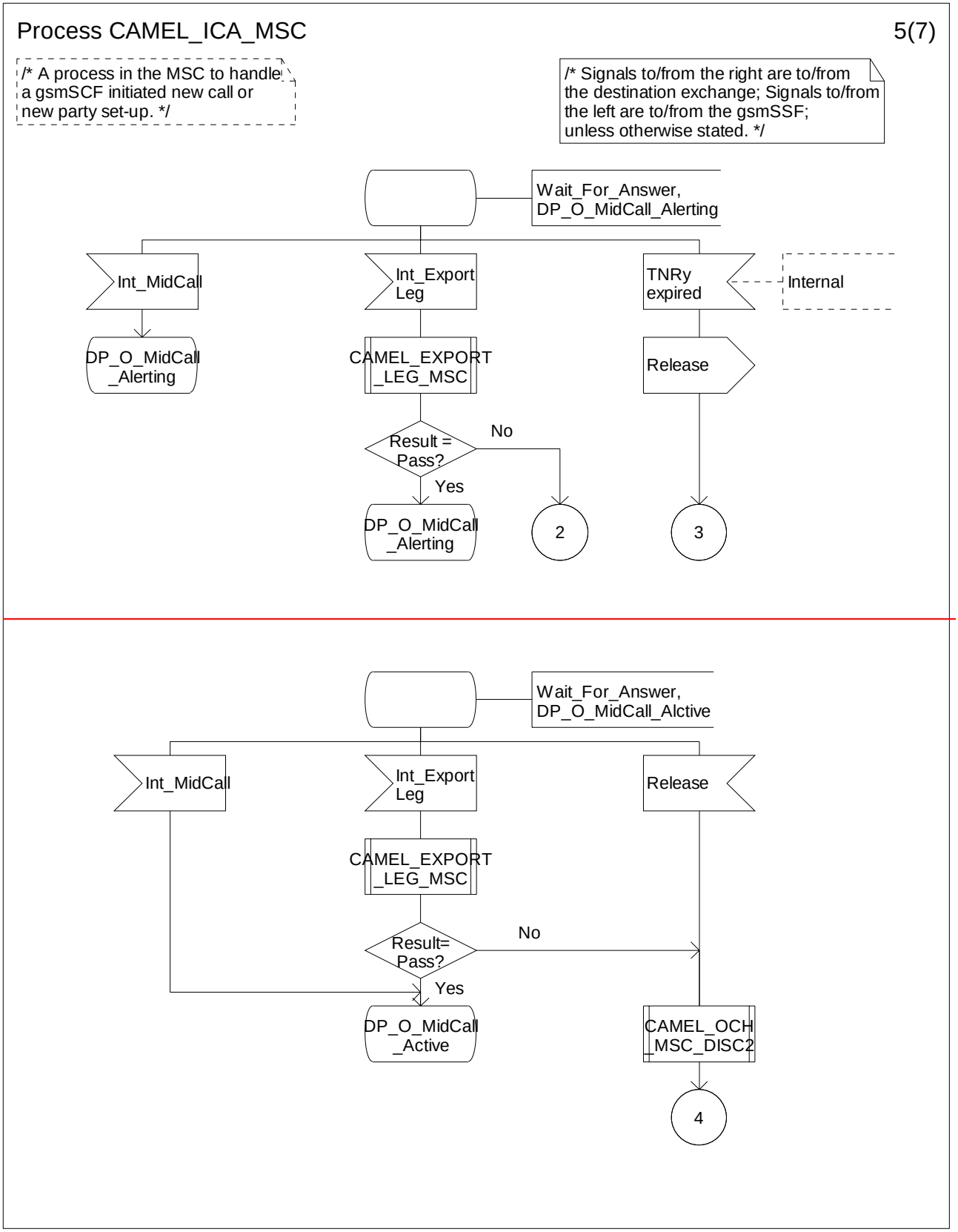


Figure 4.85-4: Process CAMEL_ICA_MSC (sheet 4)



~~Figure 4.85-5: Process CAMEL_ICA_MSC (sheet 5)~~

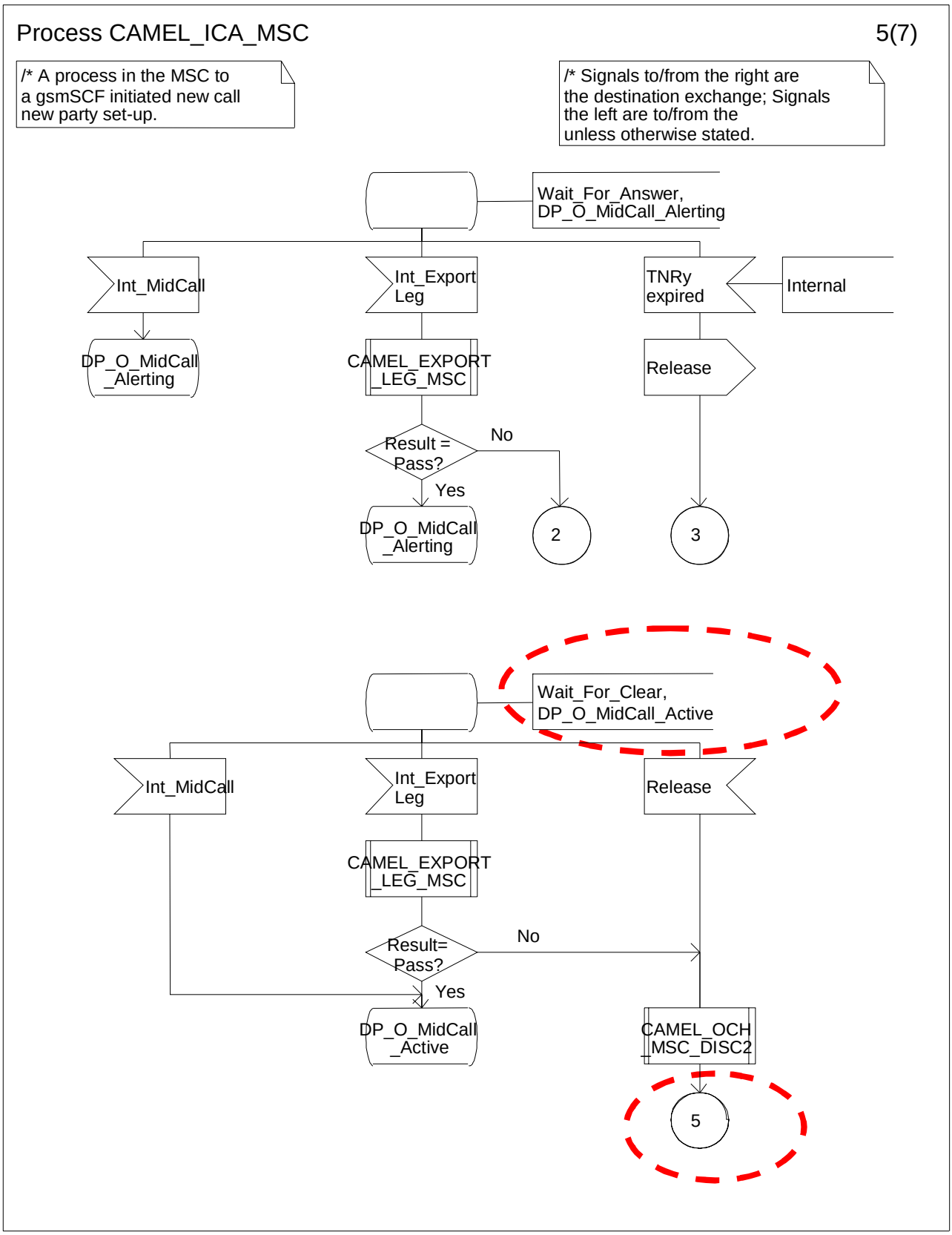
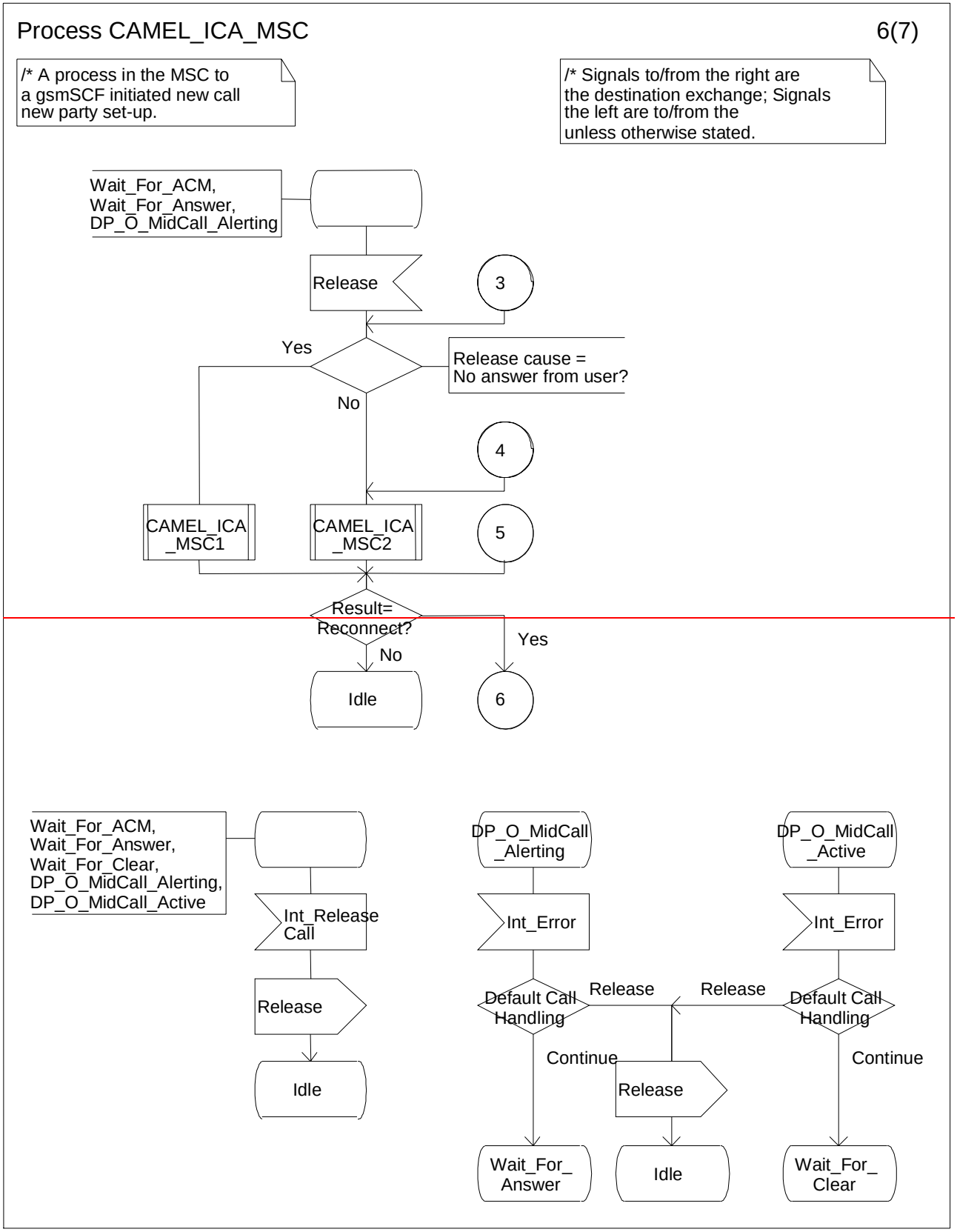


Figure 4.85-5: Process CAMEL_ICA_MSC (sheet 5)



~~Figure 4.85-6: Process CAMEL_ICA_MSC (sheet 6)~~

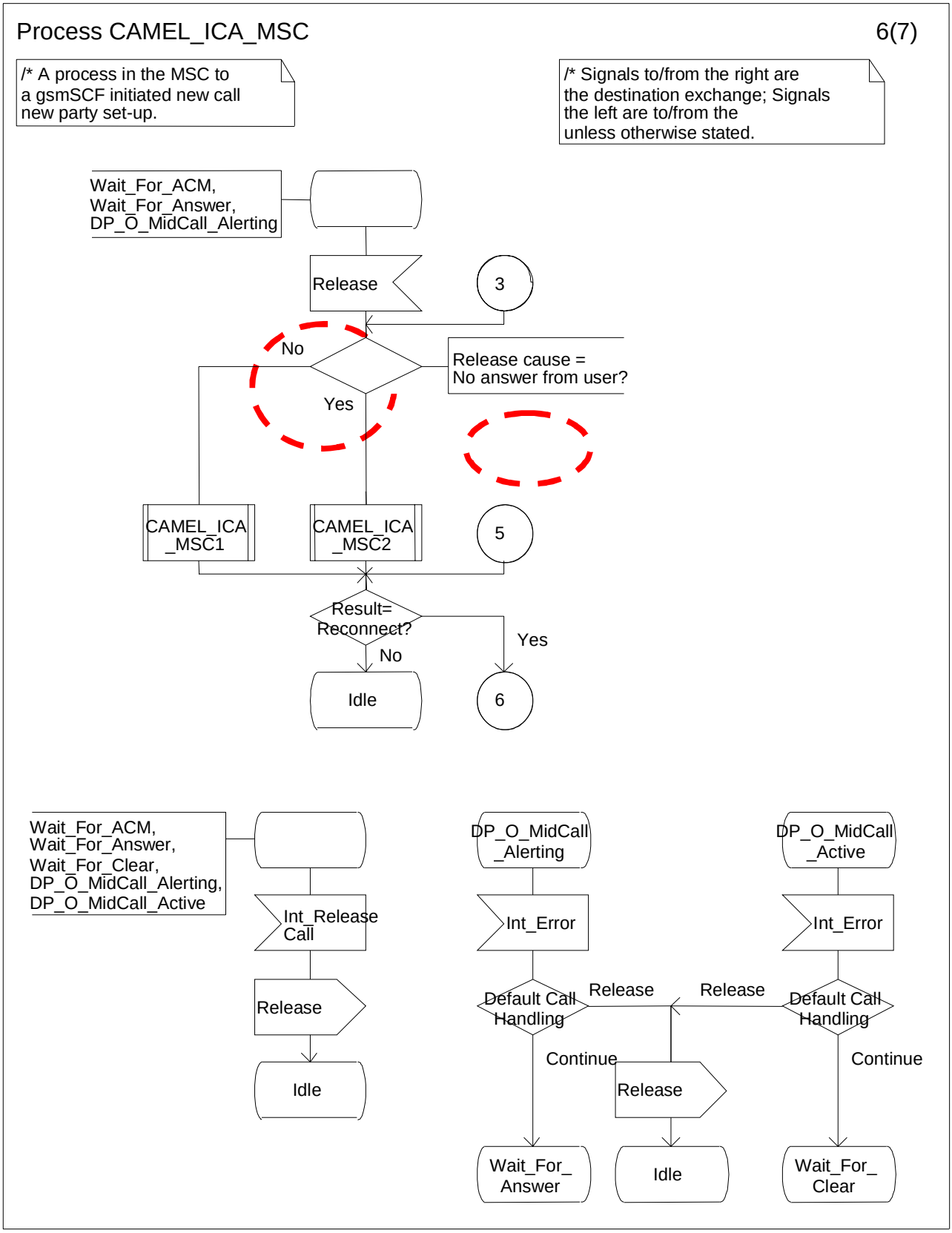


Figure 4.85-6: Process CAMEL_ICA_MSC (sheet 6)

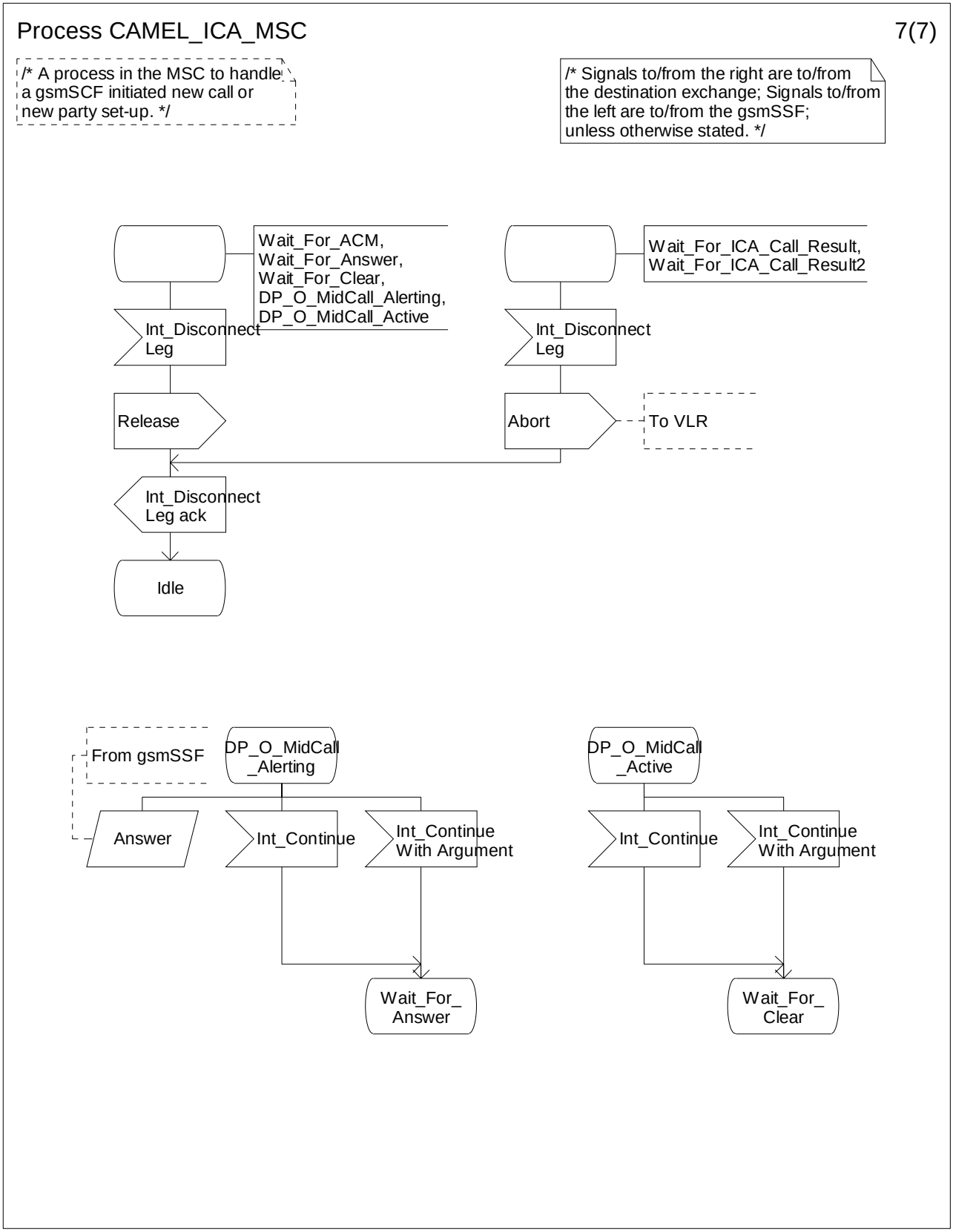


Figure 4.85-7: Process CAMEL_ICA_MSC (sheet 7)

— End of CR —

3GPP TSG CN WG2#30 ***TDoc N2-030345***
Sophia Antipolis, France, 25th – 29th August 2003

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **601** ⌘**rev** **-** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	Correction of "Int_leg_Status_Report" to avoid double state changes in the CSA.
Source:	⌘	Alcatel
Work item code:	⌘	CAMEL4
Date:	⌘	15/07/2003
Category:	⌘	**F**(essential correction)
Release:	⌘	Rel-5

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:	⌘	The process CSA_gsmSSF is handling and co-odrdinating multiple call segments. The corresponding CS_gsmSSF processes are comunicating via a single TCAP connection with the gsmSCF. The primitive "Application End" has been invented for exactly the purpose to inform the CSA_gsmSSF process of the termination of the CS_gsmSSF processes. The fact whether a single or if multiple call segments resides in the CSA the state of process CSA_gsmSSF is reflecting in those states: "One_CS", "Multiple _CS". The process CSA_gsmSSF handles also the primitive "Int_leg_Status_Report". Unfortnately, the CSA_gsmSSF does already some state changes on handling this primitive. These state changes are wrong from a conceptual point of view and need to be avoided; otherwise the CSA_gsmSSF will do a state change twice.
Summary of change:	⌘	To have a **pragmatic** approach, that is not to change too much at this late point in time of CAMEL Phase 4 standardization, it is proposed that on receipt of "Application End" the CSA_gsmSSF checks if it has already changed the state (what should not have been done) by asking the decission "CSID already cleared?". In that case it will not do an additional state change, but it will remain in the current state. Furthermore, one "Application End" is missing if the CSA_gsmSSF goes to idle (via connector 2). Note that in-connector 3 is coming from Disconnect Leg.
Consequences if not approved:	⌘	The TCAP connection towards the gsmSCF can not work in a co-ordinated way and will fail.

Clauses affected:	⌘	4.5.7.7.			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	Sheet 1 and sheet 9 of Process CSA_gsmSSF are included for information to show the in-connector (2) on sheet 1 and the out-connector (3) on sheet 9.			

— For information —

4.5.7.7 Process CSA_gsmSSF and procedures

...

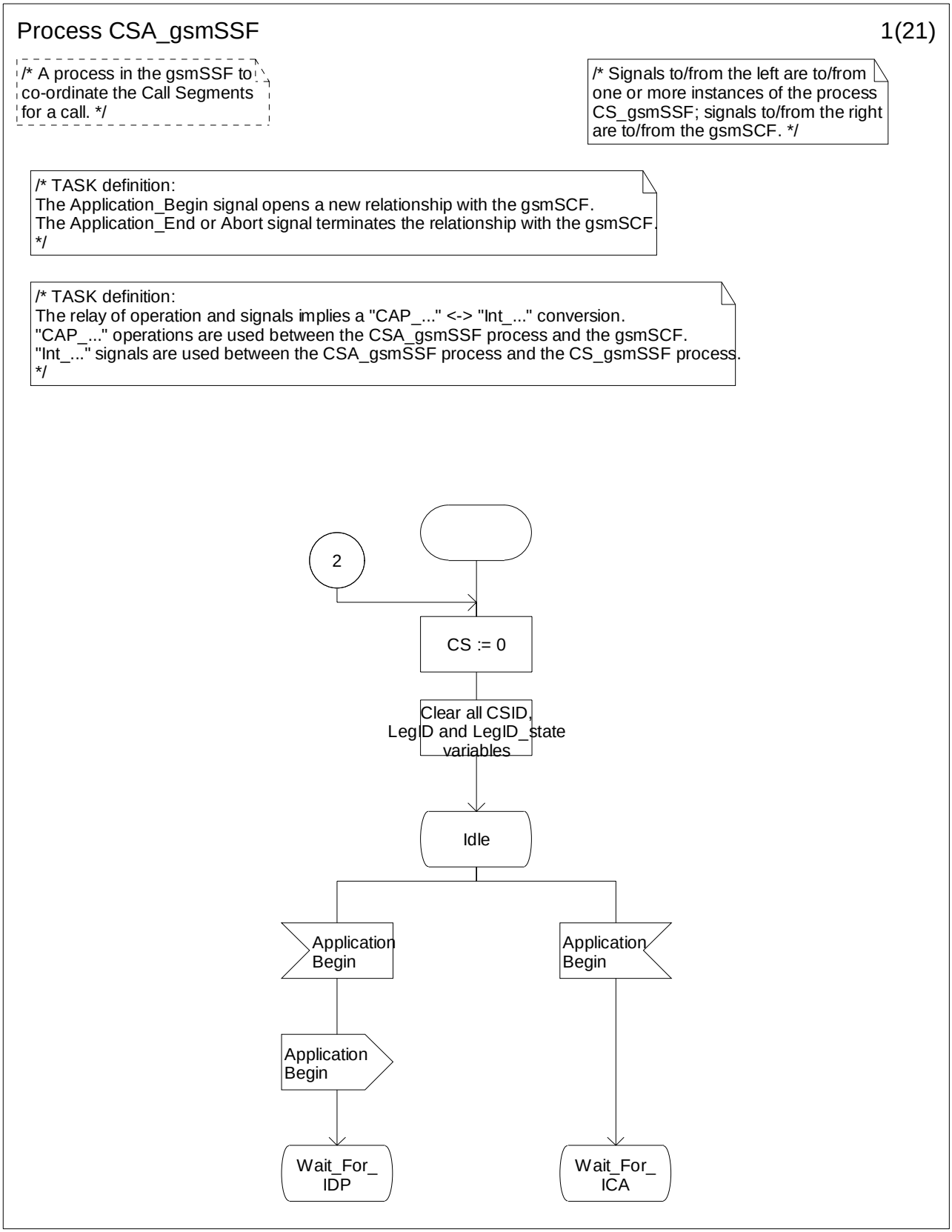
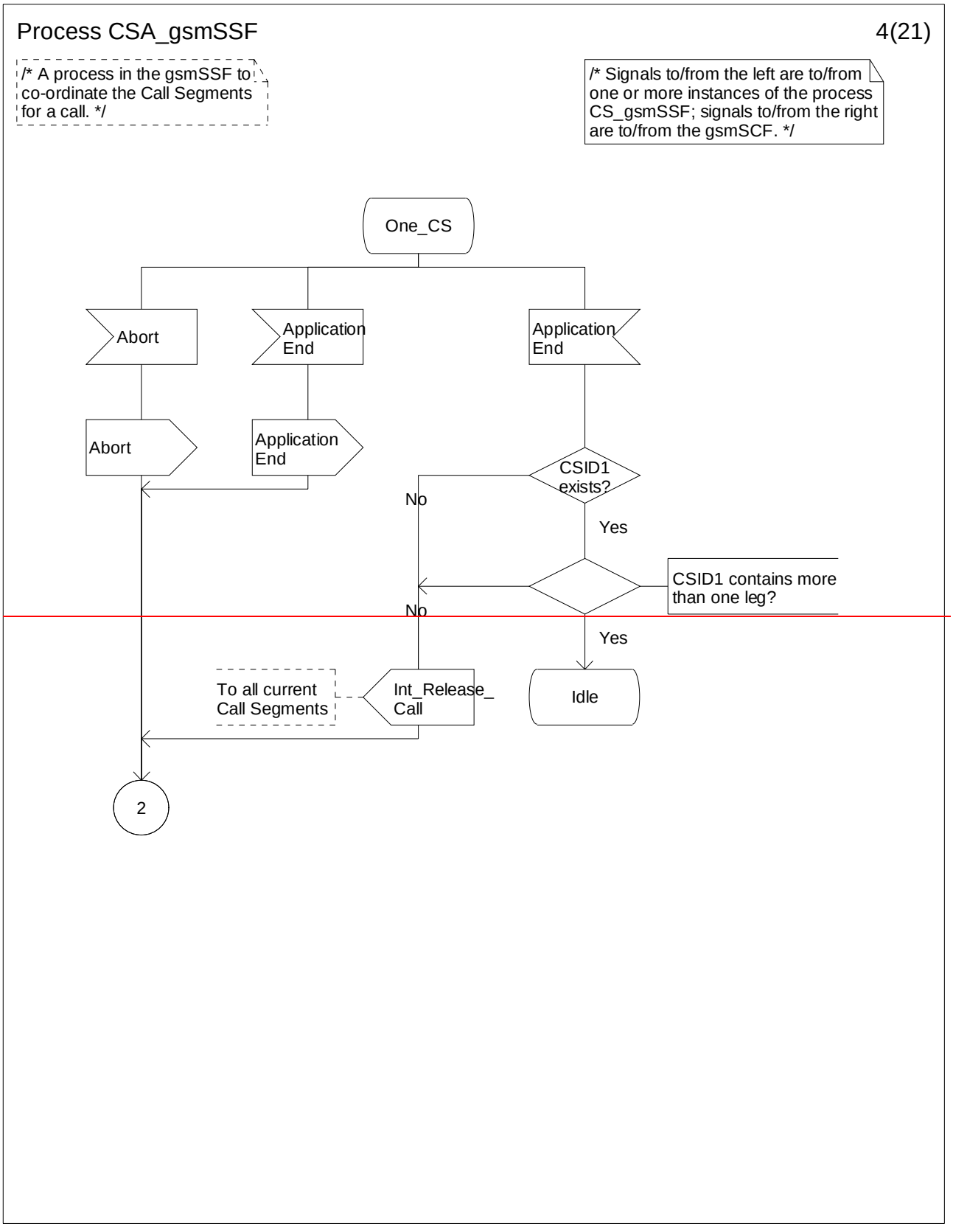


Figure 4.112-1: Process CSA_gsmSSF (sheet 1)

— First modified section —



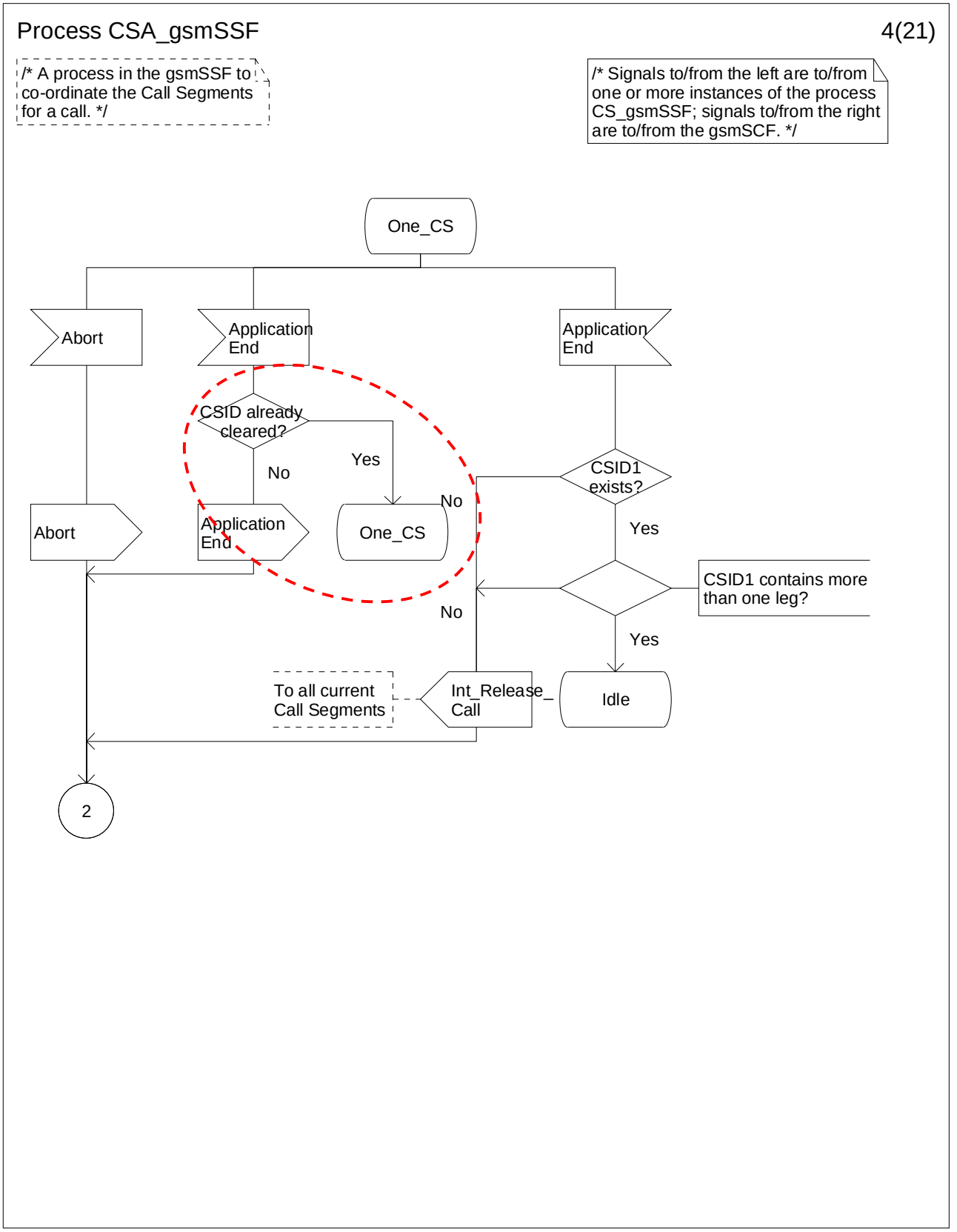


Figure 4.112-4: Process CSA_gsmSSF (sheet 4)

— For information —

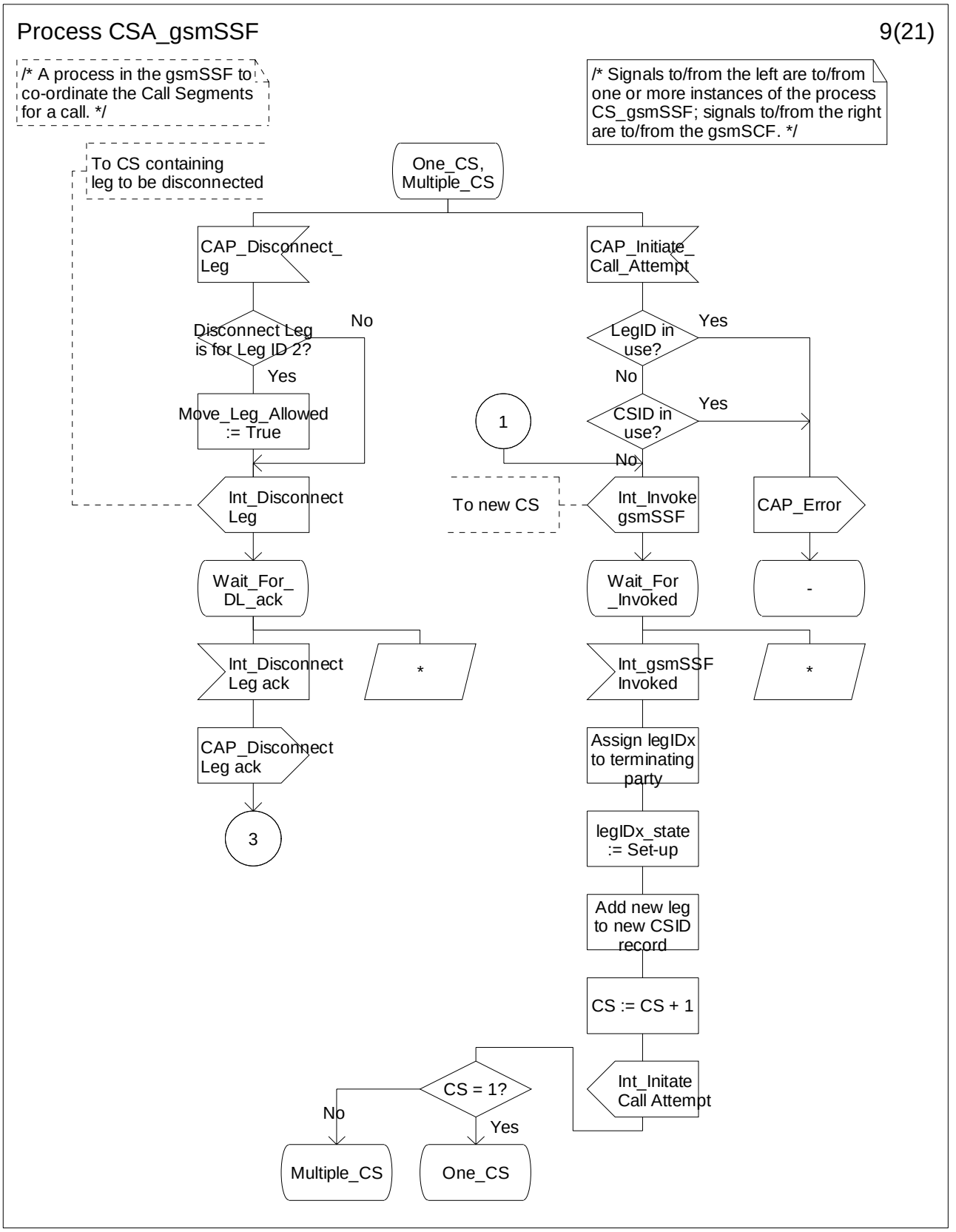
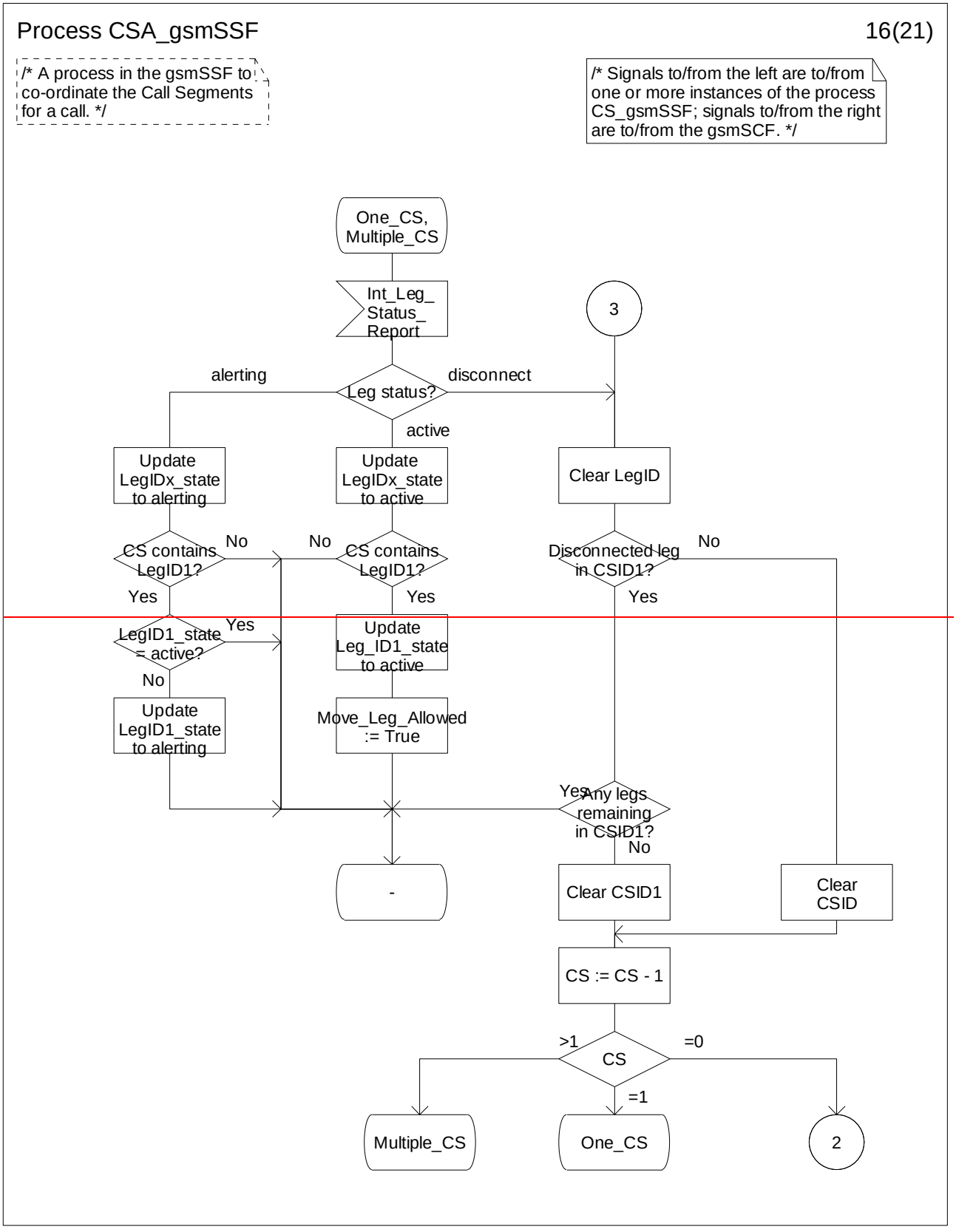


Figure 4.112-9: Process CSA_gsmSSF (sheet 9)

— Next modified section —



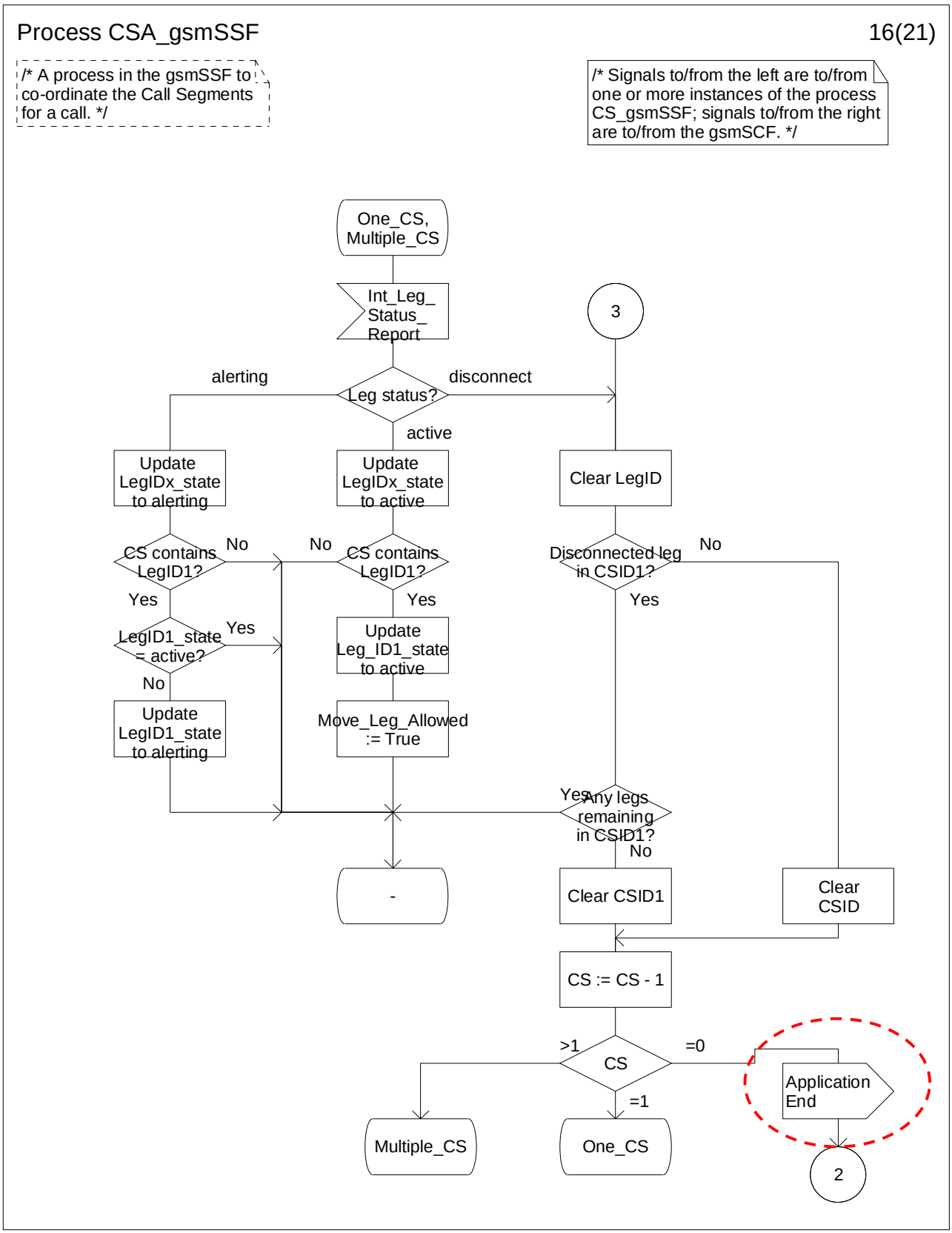
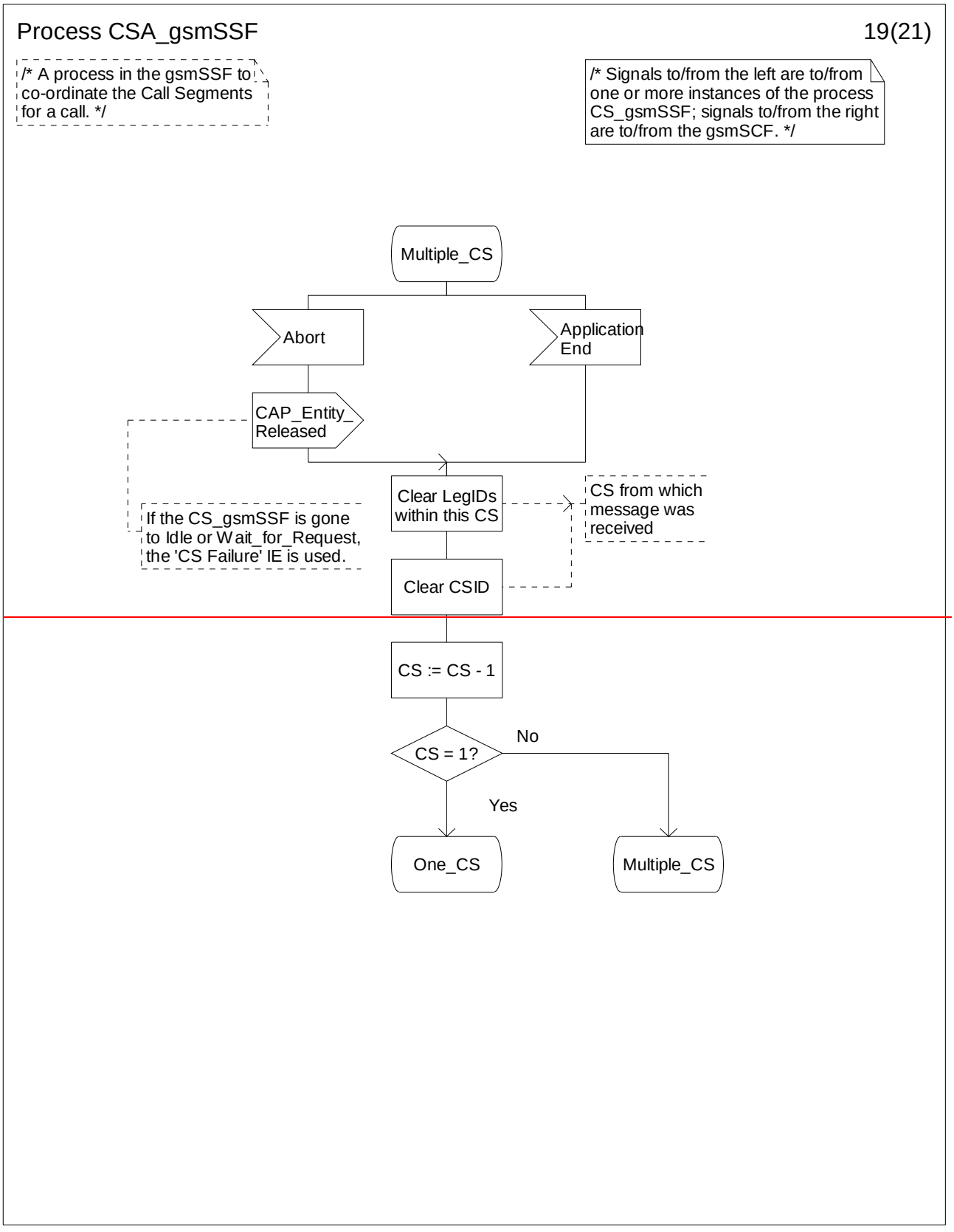


Figure 4.112-16: Process CSA_gsmSSF (sheet 16)

— Next modified section —



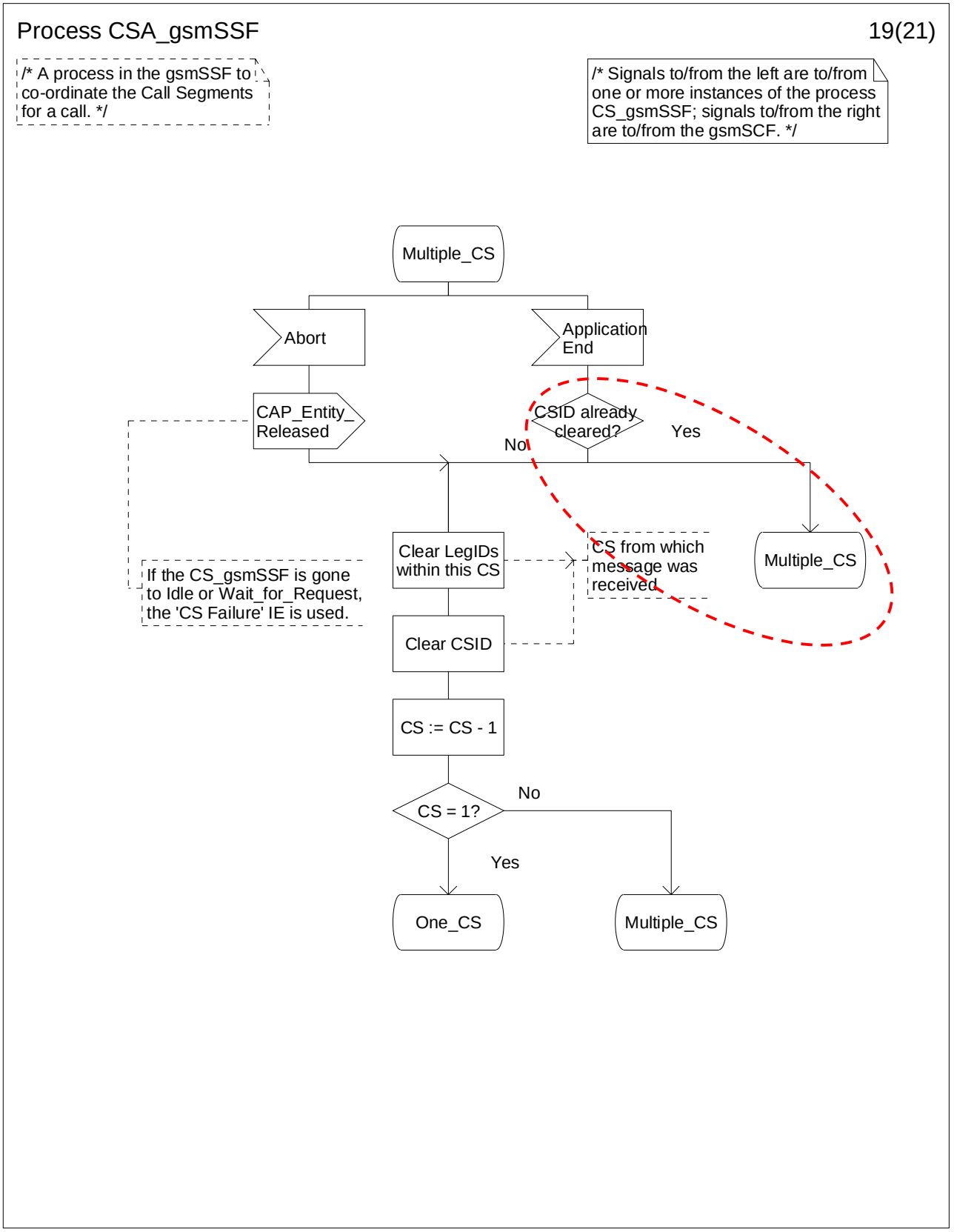


Figure 4.112-19: Process CSA_gsmSSF (sheet 19)

— END —

3GPP TSG CN WG2 Meeting #29 **N2-030352**
San Diego, CA, USA, 19th - 23th May 2003

CHANGE REQUEST

⌘ **23.078** **CR** **609** ⌘ **rev** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to usage of LegId in ICA Operation
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	21 July, 2003
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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:	⌘	CAMEL Phase 4 specifies that the InitiateCallAttempt (ICA) operation may create a leg with Leg Id 2 and higher. Allowing Leg Id 2 for ICA, does not represent any value from a Service Logic point of view. However, it complicates the implementation of CAP V4 in the MSC/gsmSSF. The MSC/gsmSSF has specific handling of legs created as a result of call set up (calling party, called party) and legs created as a result of ICA. However, if Leg Id is allowed for ICA, then the MSC/gsmSSF has to implement additional logic to distinguish a Called Party from a ICA leg, since both may have leg Id 2. For that reason, the present CR proposes that the Leg Id in ICA shall have a value of 3 or higher.
Summary of change:	⌘	Restrict the Leg Id value in ICA to 3 or higher.
Consequences if not approved:	⌘	More complex MSC/gsmSSF implementation. Implementors have to design logic in the MSC which does not serve a useful purpose.

Clauses affected:	⌘	4.6.2.15			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	29.078-CR322
		N / X	Test specifications		
		N / X	O&M Specifications		
Other comments:	⌘				

*** First Modified Section ***

4.6.2.15 Initiate Call Attempt

4.6.2.15.1 Description

This IF is used to request the gsmSSF to create a new party in an existing call (NP), or to create a completely new call (NC). The created leg is an originating call. The address information provided by the gsmSCF is used.

4.6.2.15.2 Information Elements

Information element name	NC	NP	Description
Destination Routeing Address	M	M	This IE contains the called party number towards which the call is to be routed. For calls to an MS this can e.g. be (but shall not be limited to) the MSISDN (for routeing via a GMSC) or the MSRN received from the HLR (for routeing direct to the VMSC).
Calling Party Number	M	-	This IE identifies which number shall be regarded as the calling party for the created call.
Leg To Be Created	M	M	This IE indicates the legID to be assigned to the newly created party. The leg ID shall ~~not~~ be ~~1~~3 or higher.
New Call Segment	M	M	This IE indicates the CS ID to be assigned to the newly created call segment.
Call Reference Number	M	-	This IE may be used by the gsmSCF for inclusion in a network optional gsmSCF call record. The call reference number is included by the MSC in the call record.
gsmSCF Address	M	-	This IE contains the address of the gsmSCF which initiated the new call. This IE is required for a unique Call Reference.
Suppress T-CSI	O	-	This IE indicates that T-CSI shall be suppressed on the terminating leg.

*** End of Document ***

3GPP TSG CN WG2 Meeting #29 **N2-030353**
San Diego, CA, USA, 19th - 23th May 2003

CHANGE REQUEST

⌘ **29.078** **CR** **322** ⌘ **rev** **1** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to usage of LegId in ICA Operation
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4 ***Date:*** ⌘ 8 May, 2003
Category:	⌘	F (essential correction) ***Release:*** ⌘ Rel-5

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:	⌘	CAMEL Phase 4 specifies that the InitiateCallAttempt (ICA) operation may create a leg with Leg Id 2 and higher. Allowing Leg Id 2 for ICA, does not represent any value from a Service Logic point of view. However, it complicates the implementation of CAP V4 in the MSC/gsmSSF. The MSC/gsmSSF has specific handling of legs created as a result of call set up (calling party, called party) and legs created as a result of ICA. However, if Leg Id is allowed for ICA, then the MSC/gsmSSF has to implement additional logic to distinguish a Called Party from a ICA leg, since both may have leg Id 2. For that reason, the present CR proposes that the Leg Id in ICA shall have a value of 3 or higher.
Summary of change:	⌘	Restrict the Leg Id value in ICA to 3 or higher.
Consequences if not approved:	⌘	More complex MSC/gsmSSF implementation. Implementors have to design logic in the MSC which does not serve a useful purpose.

Clauses affected:	⌘	4.1.5

Other specs affected:	⌘	Y	N		⌘	
		X		Other core specifications		23.078-CR609
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

*** First Modified Section ***

4.1.5 Definition and usage of LegID

4.1.5.1 Definition of LegID

In CAP V4, two types of LegID may be exchanged between the gsmSCF and the gsmSSF. These are:

- Sending Side LegID; and
- Receiving Side LegID.

Sending Side LegID is always used in operations sent from the gsmSCF to the gsmSSF, and Receiving Side LegID is always used in operations sent from the gsmSSF to the gsmSCF.

4.1.5.2 Allocation of LegID

For all operations containing a LegID:

- LegID = 1 shall always refer to the Calling Party, more specifically that party in the call present when InitialDP is sent to the gsmSCF;
- LegID = 2 shall always refer to a Called Party, more specifically a party in the call created as a result of the InitialDP operation, followed by the Connect, Continue or ContinueWithArgument operation.
- LegID > 2 shall always refer to a Called Party, more specifically a party in the call created as a result of the InitiateCallAttempt operation, followed by the ContinueWithArgument operation.

*** End of Document ***

3GPP TSG CN WG2 Meeting #30 ***N2-030376***
Sophia Antipolis, France, 25th – 29th Aug 2003

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **616** ⌘ **rev** **-** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	Allow user interaction at answer DP
Source:	⌘	Nokia
Work item code:	⌘	CAMEL4
Date:	⌘	8/8/2003
Category:	⌘	**F (essential correction)**
Release:	⌘	Rel-5

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:	⌘	Misalignment between Stage 1 and 2. 22.078 allows user interaction at answer DP, 23.078 does not have input for EstablishTemporatyConnection or ConnecToResource CAP operations.
Summary of change:	⌘	Input ETC and CTR are added to all answer procedures.
Consequences if not approved:	⌘	User interaction would not be supported at answer detection point which is a serious service restriction and misaligment between specifications.

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

--- For Your Information, 22.078 ---

5 Procedures for Mobile Originated Calls and Forwarded Calls

NOTE: Other information elements not listed in the following subclauses may be necessary to meet some Stage 1 service requirements. Refer to the Stage 2 specification TS 23.078 for complete information element lists.

. . .

5.6 Called party connection procedure

The purpose of this procedure is to manage an outgoing call set-up at the time when the called party answers and the call is successfully established.

If the CSE has activated this subsequent service event for this call and the called party connection event occurs the VPLMN/IPLMN shall:

- Suspend call processing, notify the CSE and await further instructions, or
- Notify the CSE and continue call processing.

The following information shall be provided to the CSE:

- Event met;
- The party in the call for which the event is reported (only called party applicable);
- The charge indicator which will be used in the Call Data Record if available;
- Type of monitoring.

When the VPLMN/IPLMN has made contact with the CSE, the CSE shall be able to instruct the VPLMN to act as described below.

- Perform charging activities;
- Activate subsequent control service events for the call. The CSE shall have the possibility to send the following information:
  - The subsequent service event which shall be detected and reported:
    - Call disconnection;
    - Mid call event (DTMF or out of band information). The out-band information may be detected during alerting phase. The detection of the mid call event shall be limited to VPLMN only).
  - The party in the call for which the event shall be detected and reported (calling or called party);
  - The type of monitoring (control or notification).
- Order in-band user interaction.

There shall be no restriction regarding the order of the above instructions or the number of times each of the above instructions can be repeated. Once the CSE has concluded issuing the above instructions, it shall issue one and only one of the following instructions:

- Release the call;
- Continue the call processing.

6 Procedures for Mobile Terminated Calls

NOTE: Other information elements not listed in the following subclauses may be necessary to meet some Stage 1 service requirements. Refer to the Stage 2 specification TS 23.078 for complete information element lists.

In the following subclauses VPLMN applies to CAMEL3 only.

. . .

6.6 Called party connection procedure

The purpose of this procedure is to manage an incoming call set-up at the time when the called party answers and the call is successfully established.

If the CSE has activated this subsequent service event for this call and the called party connection event occurs, the IPLMN/VPLMN shall:

- Suspend call processing, notify the CSE and await further instructions, or
- Notify the CSE and continue call processing.

The following information shall be provided to the CSE:

- Event met;
- The party in the call for which the event is reported (only called party applicable);
- The charge indicator which will be used in the Call Data Record if available;
- Type of monitoring.

When the IPLMN/VPLMN has made contact with the CSE, the CSE shall be able to instruct the IPLMN/VPLMN to act as described below.

- Perform charging activities;
- Activate subsequent control service events for the call. The CSE shall have the possibility to send the following information:
  - The subsequent service event which shall be detected and reported:
    - (Call disconnection);
    - Mid call event (DTMF or out of band information). Detection of the mid call event shall be limited to the VPLMN. Out-band information may be detected during alerting phase of the call.).
  - The party in the call for which the event shall be detected and reported (calling or called party);
  - The type of monitoring (control or notification).
- Order in-band user interaction;

There shall be no restriction regarding the order of the above instructions or the number of times each of the above instructions can be repeated. Once the CSE has concluded issuing the above instructions, it shall issue one and only one of the following instructions:

- Release the call;
- Continue the call processing;

--- First Modified Section ---

4.5.2 Handling of mobile originated calls

4.5.2.1 Handling of mobile originated calls in the originating MSC

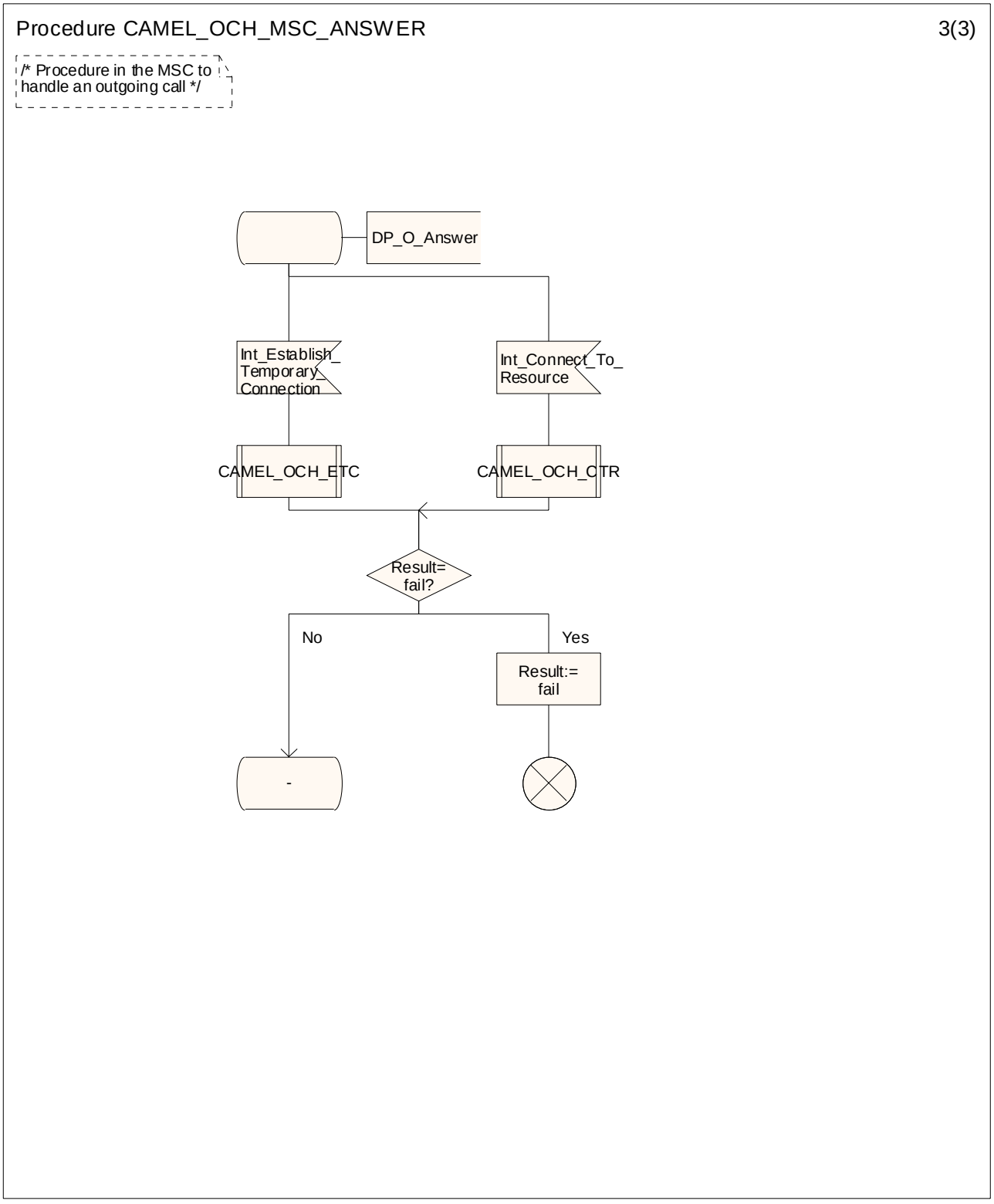


Figure 4.15-X: Procedure CAMEL_OCH_ANSWER (sheet X)

--- Next Modified Section ---

4.5.3 Retrieval of routeing information

4.5.3.1 Retrieval of routeing information in the GMSC

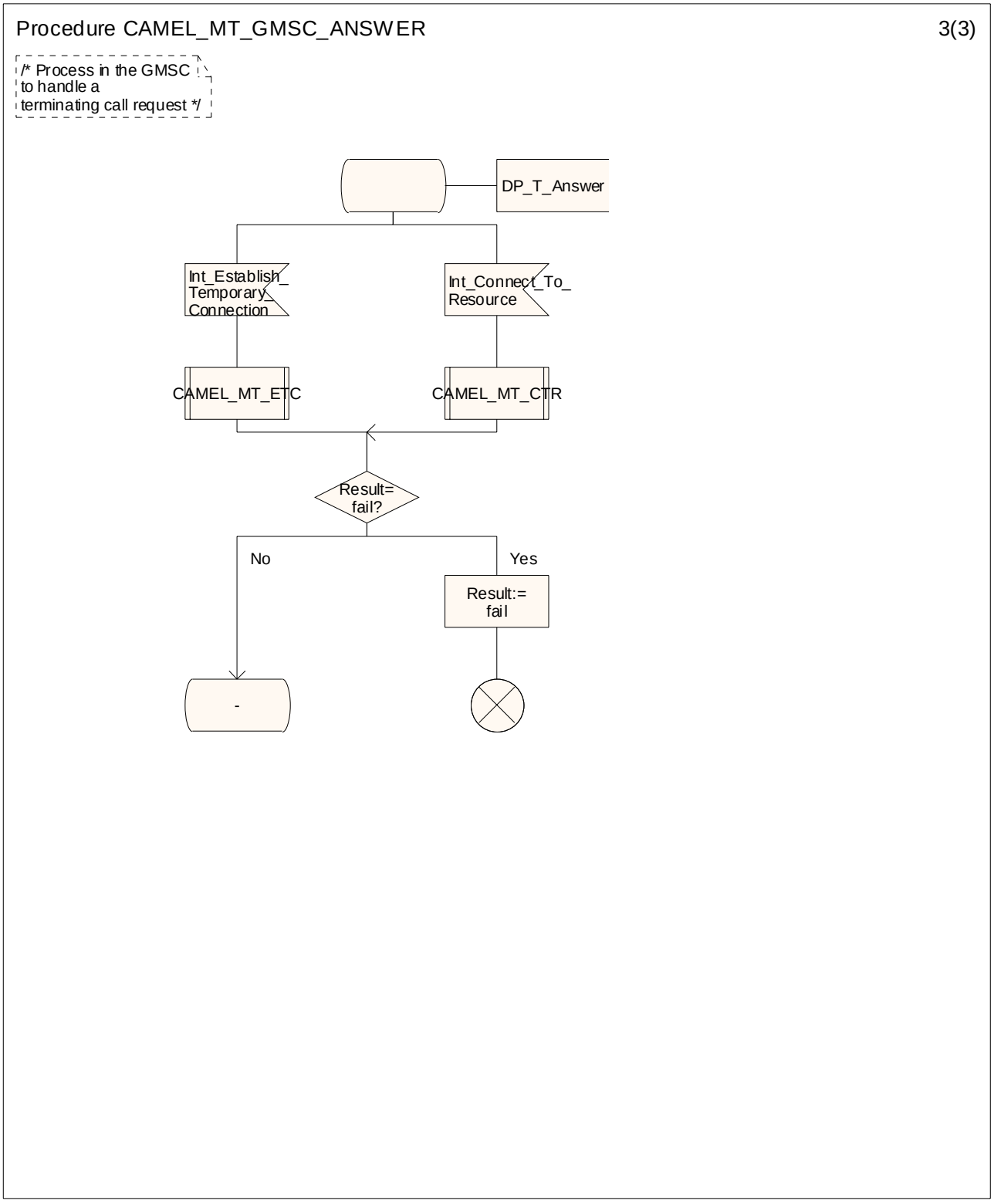


Figure 4.41-x: Procedure CAMEL_MT_GMSC_ANSWER (sheet x)

--- Next Modified Section ---

4.5.5 Handling of forwarded calls

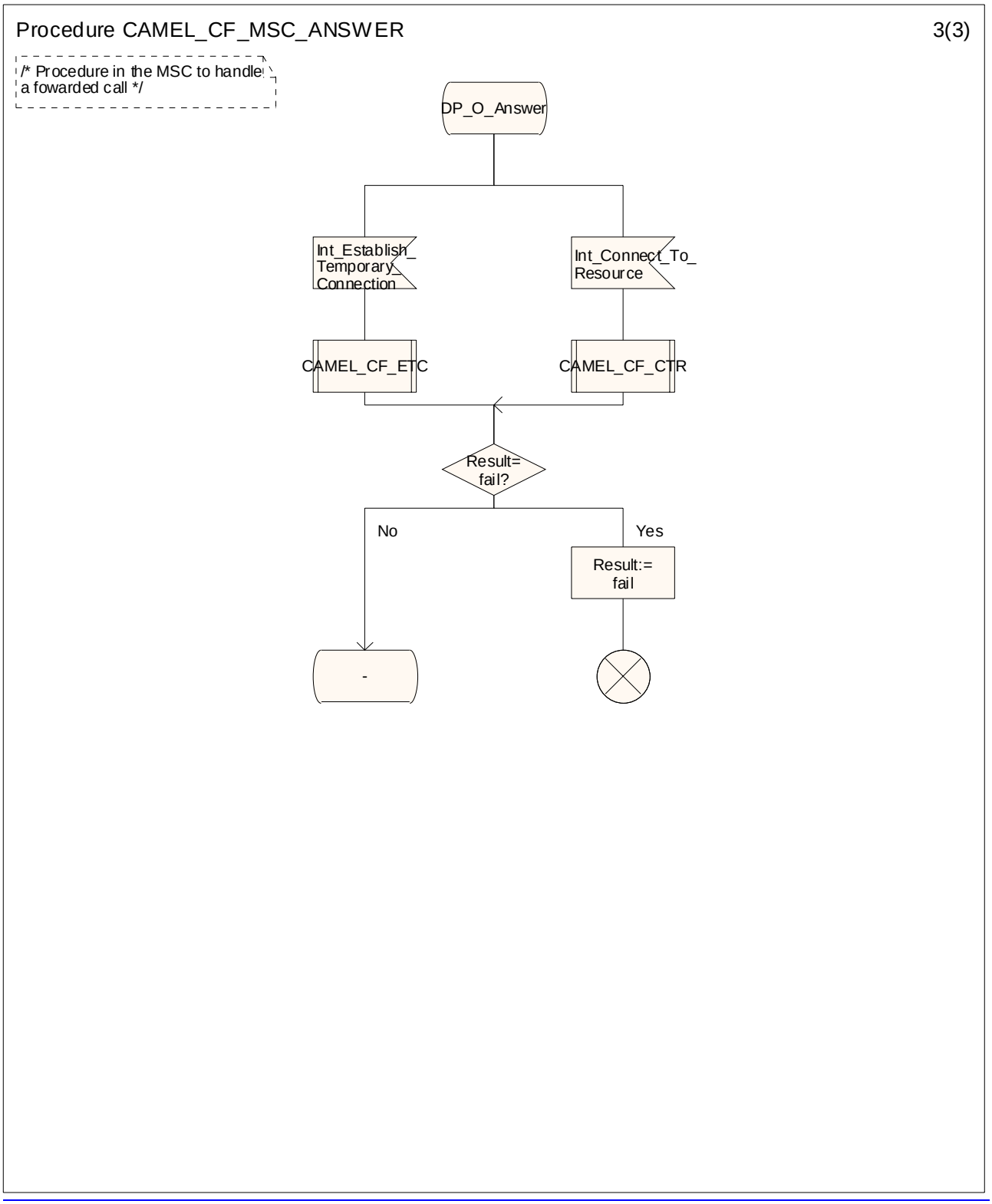


Figure 4.79-x: Procedure CAMEL_CF_MSC_ANSWER (sheet x)

--- Next Modified Section ---

4.5.6 Handling of gsmSCF initiated calls

4.5.6.1 Handling of gsmSCF initiated calls in the MSC

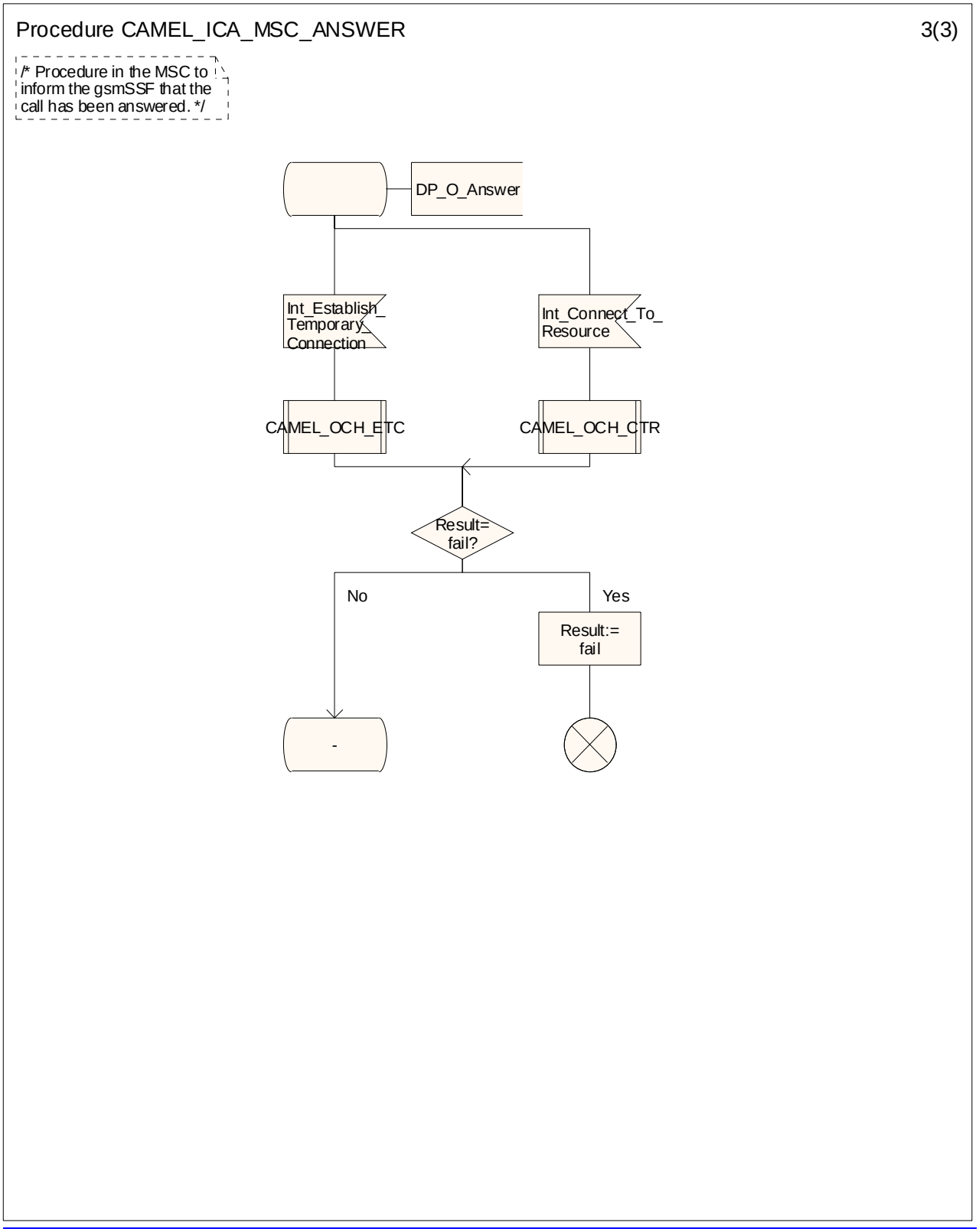


Figure 4.87-x: Procedure CAMEL_ICA_MSC_ANSWER (sheet x)

--- End ---

3GPP TSG CN WG2 Meeting #30 **N2-030427**
Sophia Antipolis, France, 25th – 29th August 2003 (revision of N2-030330)

CHANGE REQUEST

⌘ **23.078** **CR** **573** ⌘ **rev** **2** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Reporting Disconnect (leg n)
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	August 25, 2003
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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: ⌘ Procedure CAMEL_OCH_MSC_DISC2 assumes that the Disconnect to be signalled to CS_gsmSSF shall always be leg 2. This is a left over from CAMEL Phase 3, where the outgoing leg is always leg 2.

With the introduction of Call Party Handling (CPH), the Disconnect event to be signalled to CS_gsmSSF may pertain to a leg with Leg Id 3 or higher. This may be the case when the leg is created as a result of CAP Initiate Call Attempt.

This shall be reflected in procedure CAMEL_OCH_MSC_DISC2. The FSM state names in the SDLs shall be corrected accordingly.

The following shall be borne in mind:

(1) CAMEL_OCH_MSC_DISC1 handles Disconnect of leg 1. Whilst waiting for a response from CS_gsmSSF, procedure CAMEL_OCH_MSC_DISC1 may receive a Release signal from the destination exchange.

The O-BCSM for an ICA leg never has a leg 1; hence, procedure CAMEL_OCH_MSC_DISC1 is never called for an ICA leg. Therefore, the Release signal from the destination exchange in procedure CAMEL_OCH_MSC_DISC1 can't pertain to an ICA leg and therefore, that release signal always pertains to leg 2. As a result, no change is needed for procedure CAMEL_OCH_MSC_DISC1.

(2) When an ICA leg is created, an instance of an O-BCSM is instantiated. As a result, the procedures CAMEL_MT_GMSC_DISC1 and CAMEL_MT_GMSC_DISC2 are never called for an ICA leg, as those procedures are called from within T-BCSM handling. As a result, no change is needed for those procedures.

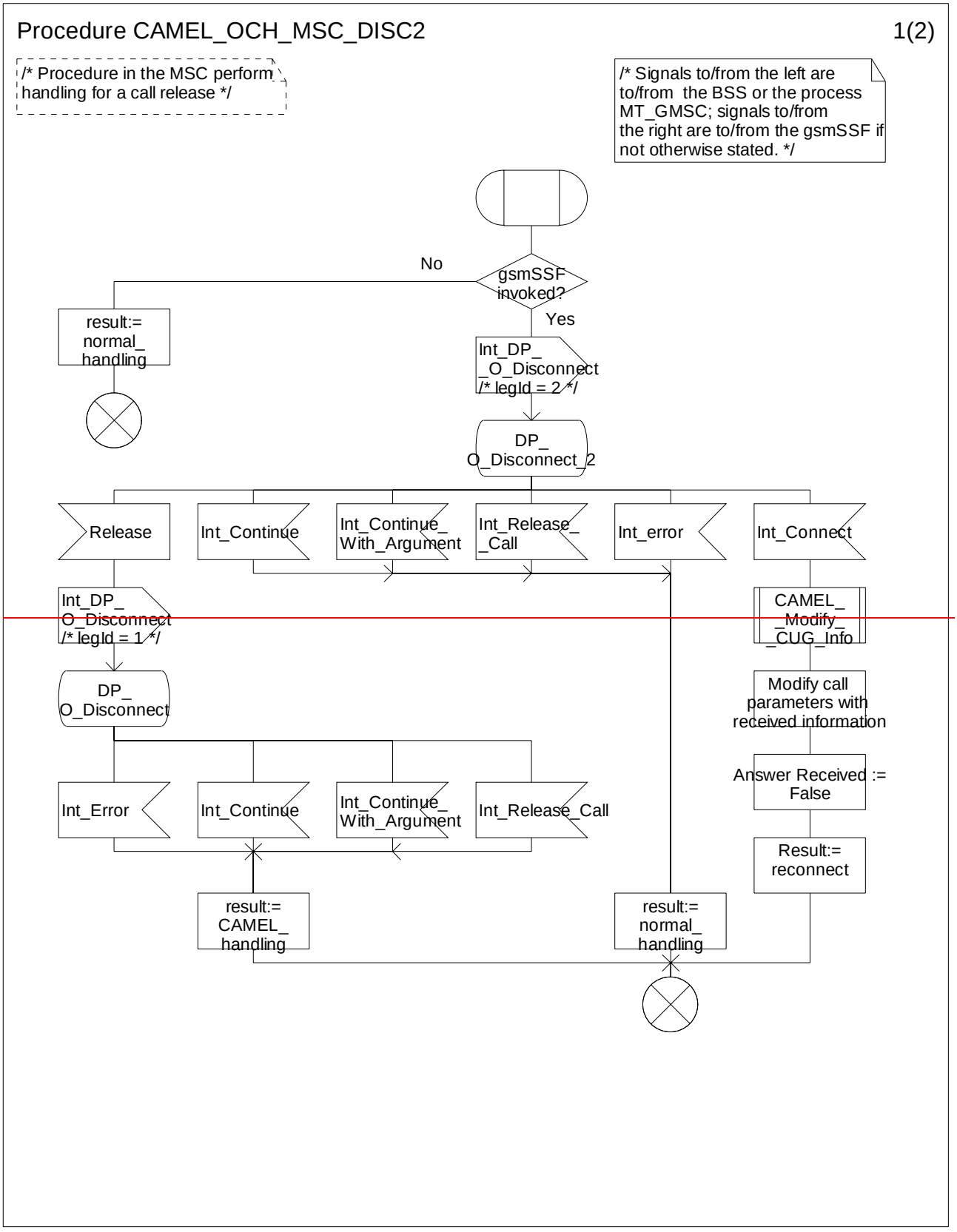
Summary of change: ⌘ Correct procedure CAMEL_OCH_MSC_DISC2 as outlined above.

Consequences if not approved:	⌘	Malfunctioning system; the MSC can not report Disconnect of legs other than 1 and 2 to the gsmSCF.

Clauses affected:	⌘	4.5.2 (procedure CAMEL_OCH_MSC_DISC2)			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

— First modified section —

4.5.2 Handling of mobile originated calls



~~Figure 4.19-1: Procedure CAMEL_OCH_MSC_DISC2 (sheet 1)~~

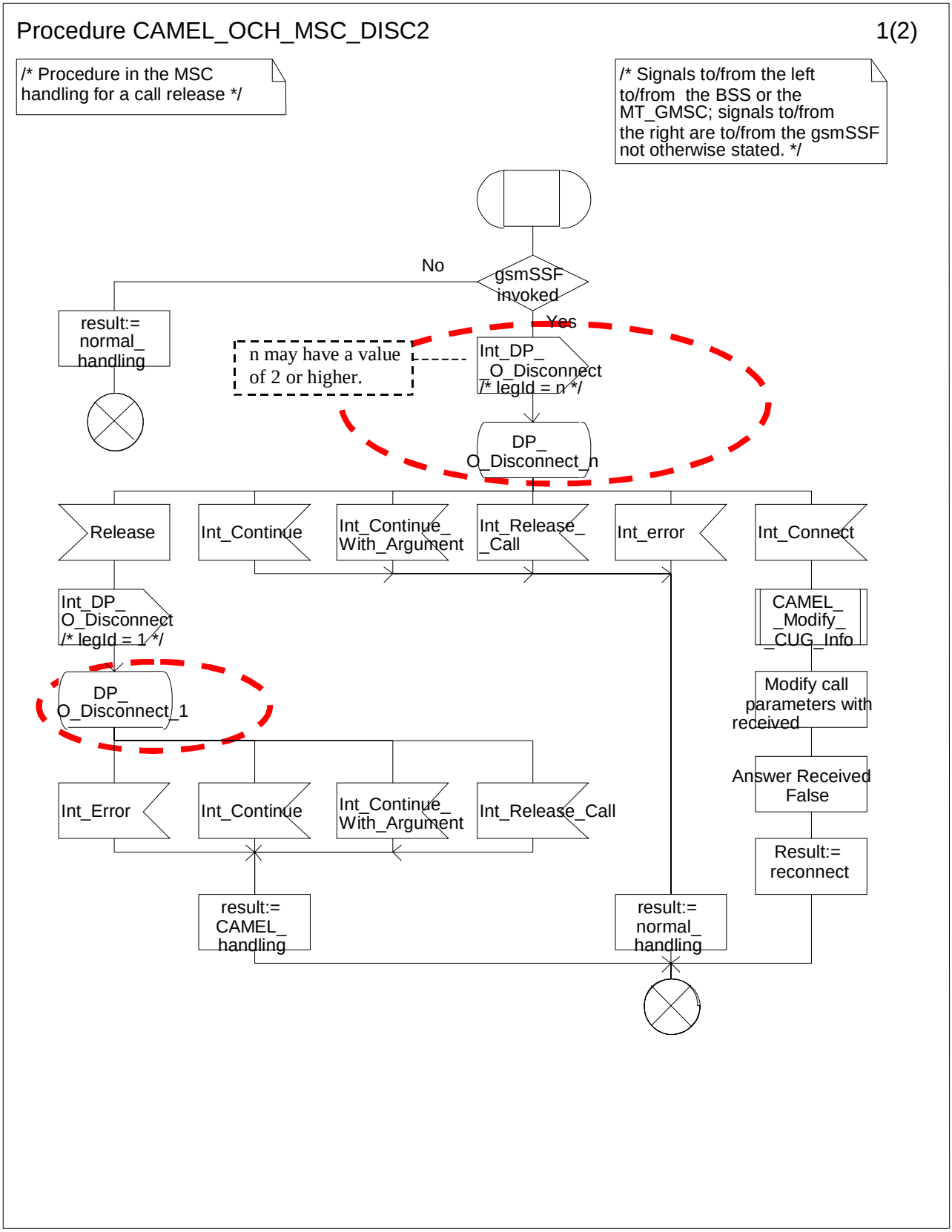
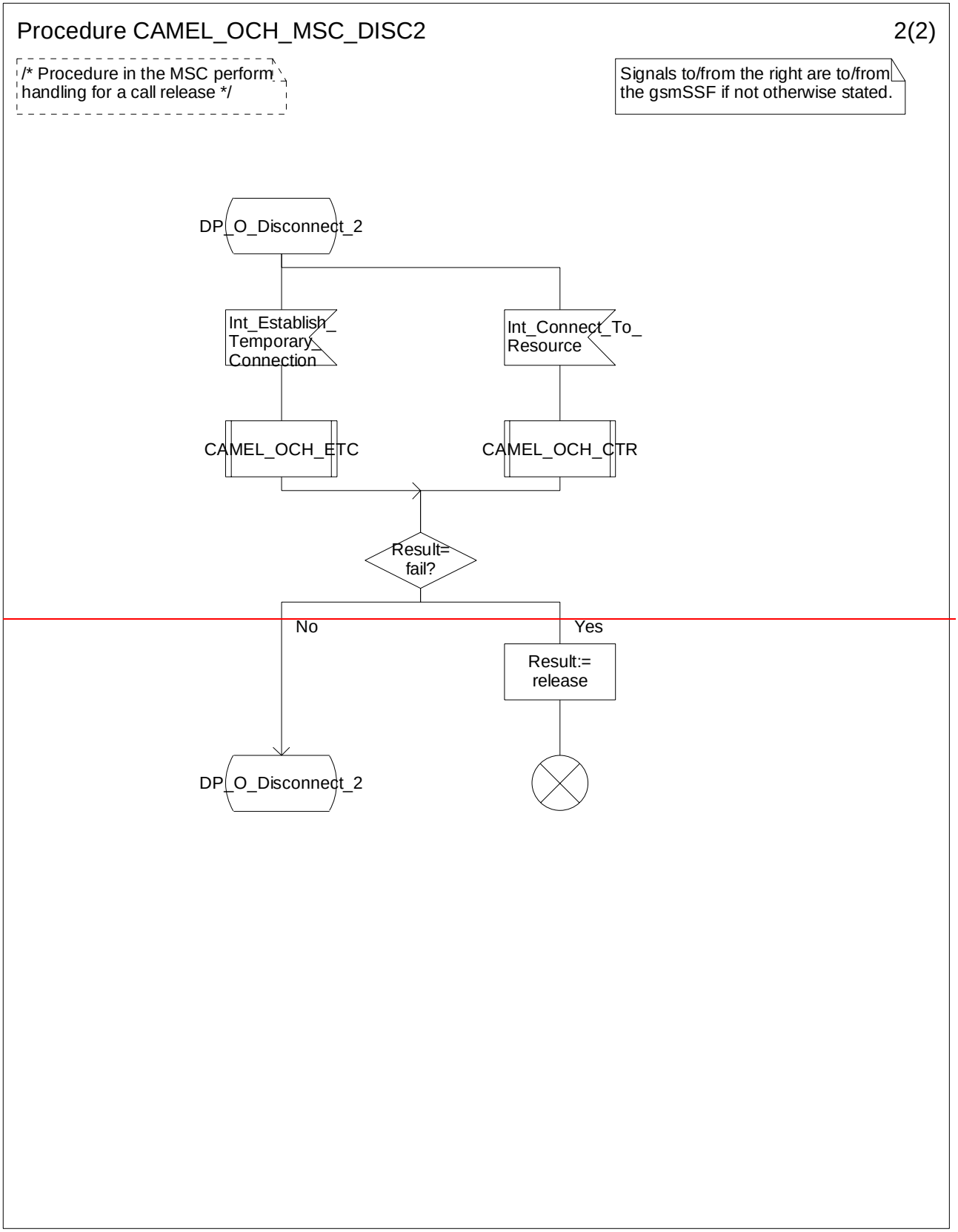


Figure 4.19-1: Procedure CAMEL_OCH_MSC_DISC2 (sheet 1)



~~Figure 4.19-2: Procedure CAMEL_OCH_MSC_DISC2 (sheet 2)~~

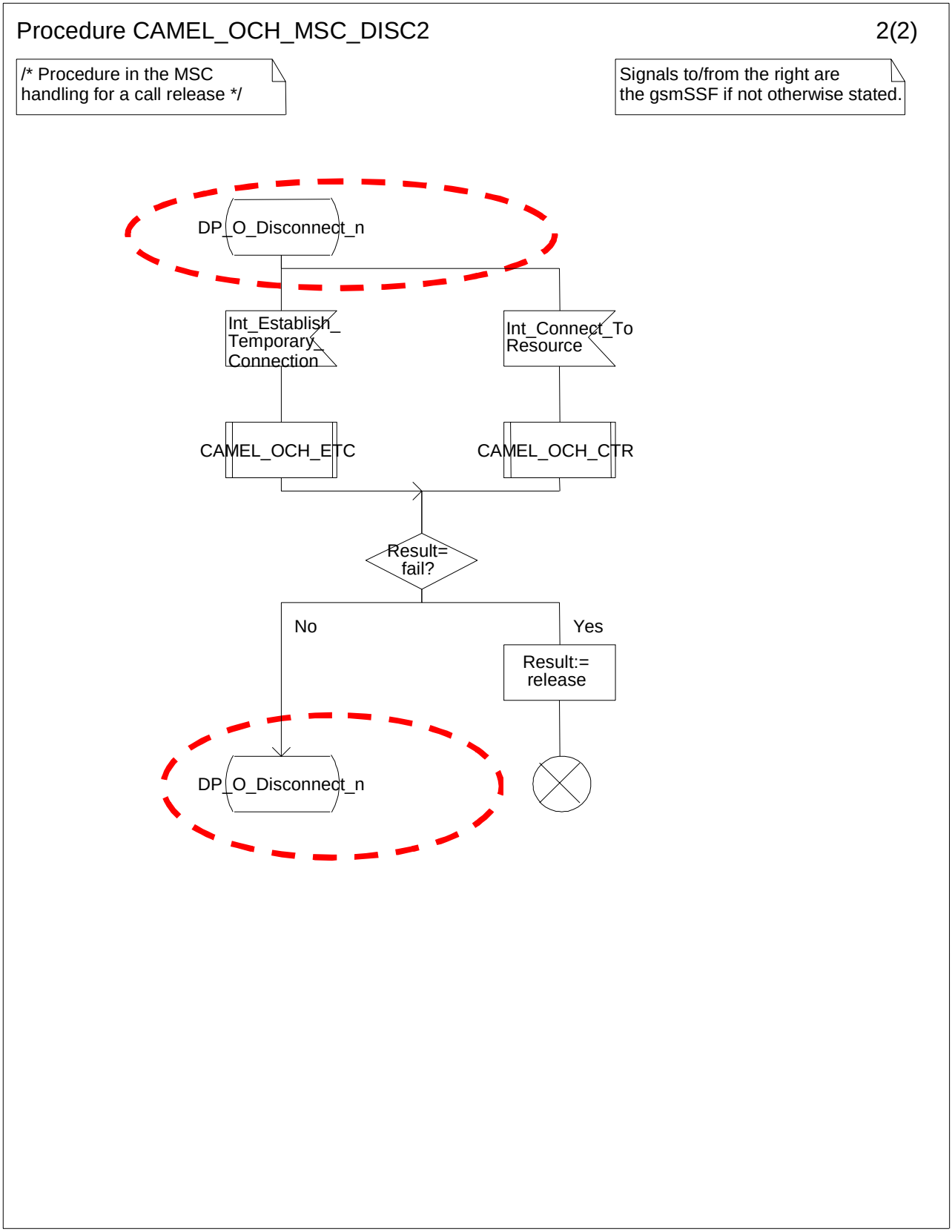


Figure 4.19-2: Procedure CAMEL_OCH_MSC_DISC2 (sheet 2)

— End of CR —

3GPP TSG CN WG2 Meeting #30 **N2-030428**
Sophia Antipolis, France, 25th – 29th August 2003 (revision of N2-030335)

CHANGE REQUEST

⌘ **29.078** **CR** **313** ⌘ **rev** **1** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to parameter name in Connect Operation
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	26 August, 2003
Category:	⌘	F (agreed by consensus)
Release:	⌘	Rel-5

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: ⌘ The Connect IF in TS 23.078 uses the IE "Leg To Be Connected". The corresponding parameter in the Connect Operation in TS 29.078 is called "legToBeCreated". Refer to the ***for information*** section of the present CR for the Connect IF of TS 23.078.

The name of this parameter in TS 29.078 shall be changed to "legToBeConnected". Reasons:

(1) The discrepancy in naming between the IE (TS 23.078) and the corresponding parameter (TS 29.078) is confusing for both implementers and designers;

(2) The description of this parameter in section 11.9 (Connect Procedure) uses the wording "Leg to be connected". Hence, the parameter name is not aligned with the parameter description.

(3) The name "LegToBeCreated" is designated to the Initiate Call Attempt IF.

Summary of change: ⌘ Change the parameter "legToBeCreated" in Connect Operation into "legToBeConnected".

Consequences if not approved: ⌘
- misleading specifications;
- unnecessary confusion for implementors and designer.

Clauses affected: ⌘ 6.1.1, 11.9

Other specs affected: ⌘

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

⌘

Other comments: ⌘

— For Information —

< extract from 3GPP TS 23.078 V5.3.0 >

4.6.2 gsmSCF to gsmSSF information flows

...

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

Information element name	MO	MF	MT	VT	NC	NP	Description
< ... >							
Original Called Party ID	O	O	O	O	O	O	This IE carries the dialled digits if the call has met call forwarding on route to the gsmSSF or is forwarded by the gsmSCF.
Leg To Be Connected	O	O	O	O	O	O	This IE indicates the existing leg to which the Connect IF applies.
Redirecting Party ID	O	O	O	O	O	O	This IE indicates the directory number the call was redirected from.
< ... >							

< end of extract >

— First modified section —

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) version4(3)}

...

connect {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        ConnectArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {missingParameter |
                     parameterOutOfRange |
                     systemFailure |
                     taskRefused |
                     unexpectedComponentSequence |
                     unexpectedDataValue |
                     unexpectedParameter}
    CODE            opcode-connect}
-- Direction: gsmSCF-> gsmSSF, Timer: Tcon
```

```
-- This operation is used to request the gsmSSF to perform the call processing actions
-- to route or forward a call to a specified destination.

ConnectArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    destinationRoutingAddress           [0] DestinationRoutingAddress {bound},
    alertingPattern                     [1] AlertingPattern                         OPTIONAL,
    originalCalledPartyID               [6] OriginalCalledPartyID {bound}           OPTIONAL,
    extensions                          [10] Extensions {bound}                     OPTIONAL,
    carrier                             [11] Carrier {bound}                        OPTIONAL,
    callingPartysCategory               [28] CallingPartysCategory                  OPTIONAL,
    redirectingPartyID                  [29] RedirectingPartyID {bound}             OPTIONAL,
    redirectionInformation              [30] RedirectionInformation                 OPTIONAL,
    genericNumbers                      [14] GenericNumbers {bound}                 OPTIONAL,
    serviceInteractionIndicatorsTwo     [15] ServiceInteractionIndicatorsTwo        OPTIONAL,
    chargeNumber                        [19] ChargeNumber {bound}                   OPTIONAL,
    legTo~~BeCreated~~BeConnected       [21] LegID                                  OPTIONAL,
    cug-Interlock                       [31] CUG-Interlock                          OPTIONAL,
    cug-OutgoingAccess                  [32] NULL                                   OPTIONAL,
    suppressionOfAnnouncement           [55] SuppressionOfAnnouncement              OPTIONAL,
    oCSIApplicable                      [56] OCSIApplicable                         OPTIONAL,
    naOliInfo                           [57] NAOliInfo                              OPTIONAL,
    bor-InterrogationRequested          [58] NULL                                   OPTIONAL,
    ...
    }
...
```

— Next modified section —

11.9 Connect procedure

11.9.1 General description

The gsmSCF uses this operation request the gsmSSF to perform the call processing actions to route a call to a specific destination.

In general all parameters which are provided in a Connect operation to the gsmSSF shall replace the corresponding signalling parameter in the CCF in O-BCSM, in accordance with ETSI ES 201 296 [21] and shall be used for subsequent call processing. The CCF of the T-BCSM shall send corresponding signalling parameters to new call leg without using them in subsequent call processing. Parameters which are not provided by the Connect operation shall retain their value (if already assigned) in the CCF for subsequent call processing.

11.9.1.1 Parameters

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

- alertingPattern:
  This parameter indicates the type of alerting to be applied. It is defined in 3GPP TS 29.002 [11].

- serviceInteractionIndicatorsTwo:
  This parameter contains indicators to resolve interactions between CAMEL based services and network based services.

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

- originalCalledPartyID:
  If the call is forwarded by the gsmSCF, then this parameter carries the dialled digits.

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

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

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

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

- oCSIApplicable:
  This parameter indicates to the GMSC/gsmSSF or VMSC/gsmSSF that the Originating CAMEL Subscription Information, if present, shall be applied on the outgoing call leg created with the Connect operation. For the use of this parameter see 3GPP TS 23.078 [7].

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

  It contains the following embedded parameters:

  - 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].

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

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

- bor-InterrogationRequested:
  This parameter indicates that Basic Optimal Routeing is requested for the call.

- legToBe~~Created~~Connected:
  This parameter indicates the leg to be connected.

...

— End of CR —

3GPP TSG CN WG2 Meeting #30 **N2-030431**
Sophia Antipolis, France, 25th – 29th August 2003 (revision of N2-030359)

CHANGE REQUEST

⌘ **23.078** **CR** **611** ⌘ **rev** **1** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to Apply Charging and Apply Charging Report due to introduction of CPH
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	26 August 2003
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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: ⌘ The descriptions of Apply Charging (ACH) and Apply Charging Report (ACR) IFs are not aligned with the corresponding ASN.1 definitions. This misalignment is caused by the introduction of CPH. In CAMEL Phase 2 and CAMEL Phase 3, the ACH and ACR IFs are aplied to the call as a whole. In CAMEL Phase 4, however, ACH and ACR may be applied to individual legs or to a Call Segment.

The following corrections are needed:

(1) Process CSA_gsmSSF (sheet 7) performs a check on Leg Id in the ACH IF. However, the ACH IF may also contain an SRF Connection Id. This shall be reflected in the Process CSA_gsmSSF.

(2) In the ACH IF description, the IE “Leg Id” shall be replaced by “ACh Charging Address”. The ACh Charging Address IE shall be explained in a table below the ACH IF.

(3) The description of the “Release If Duration Exceeded” IE in the ACH IF shall reflect that ACH, and hence the “Release If Duration Exceeded”, may be used for a leg or for an SRF connection or Temporary Connection.

(4) In the description of the Audible Indicator IE in the ACH IF, the IE “Play Tone” shall be replaced by “Tone” and the IE “Play BurstList” shall be replaced by “Burstlist”.

(5) In the ACR IF description, the IE “Leg Id” shall be replaced by “ACh Charging Address”. The ACh Charging Address IE shall be explained in a table below the ACR IF.

(6) The description of the “Call Leg Released At Tcp Expiry” IE in the ACR IF

	shall reflect that Tcp expiry may apply to a call leg or to a SRF connection or Temporary Connection. (7) The description of "Call Leg Released At Tcp Expiry" in the ACR IF, suggests that the CAMEL dialogue (= CAP dialogue between CSA_gsmSSF and gsmSCF) shall be released when forced call leg release or forced SRF connection or Temporary Connection release (Tcp expires and "Release If Duration Exceeded" = TRUE) occurs. However, in a CPH call, forced call leg release or forced SRF connection or Temporary Connection release does not need to result in CAMEL dialogue termination. Hence, that text shall be removed. The SDLs of process CS_gsmSSF and process CSA_gsmSSF in TS 23.078 give clear indication when the CAMEL dialogue shall be released at Tcp expiry. (8) The description of "Call Leg Released At Tcp Expiry" in the ACR IF shall refer to "Release If Duration Exceeded" (as used in the ACH IF) instead of "Release If Exceeded". For the ***Note*** underneath the BurstList IE table, the ETSI ***Note Style*** shall be used, since the note contains informative text.
Summary of change: ⌘	- correct Figure 4.112-7: Process CSA_gsmSSF (sheet 7); - correct the Apply Charging IF description; - correct the Apply Charging Report IF description.
Consequences if not approved: ⌘	- implementation difficulty for both SSF and SCF; - incorrect implementation of charging operations, especially for CPH implementation in SSF.

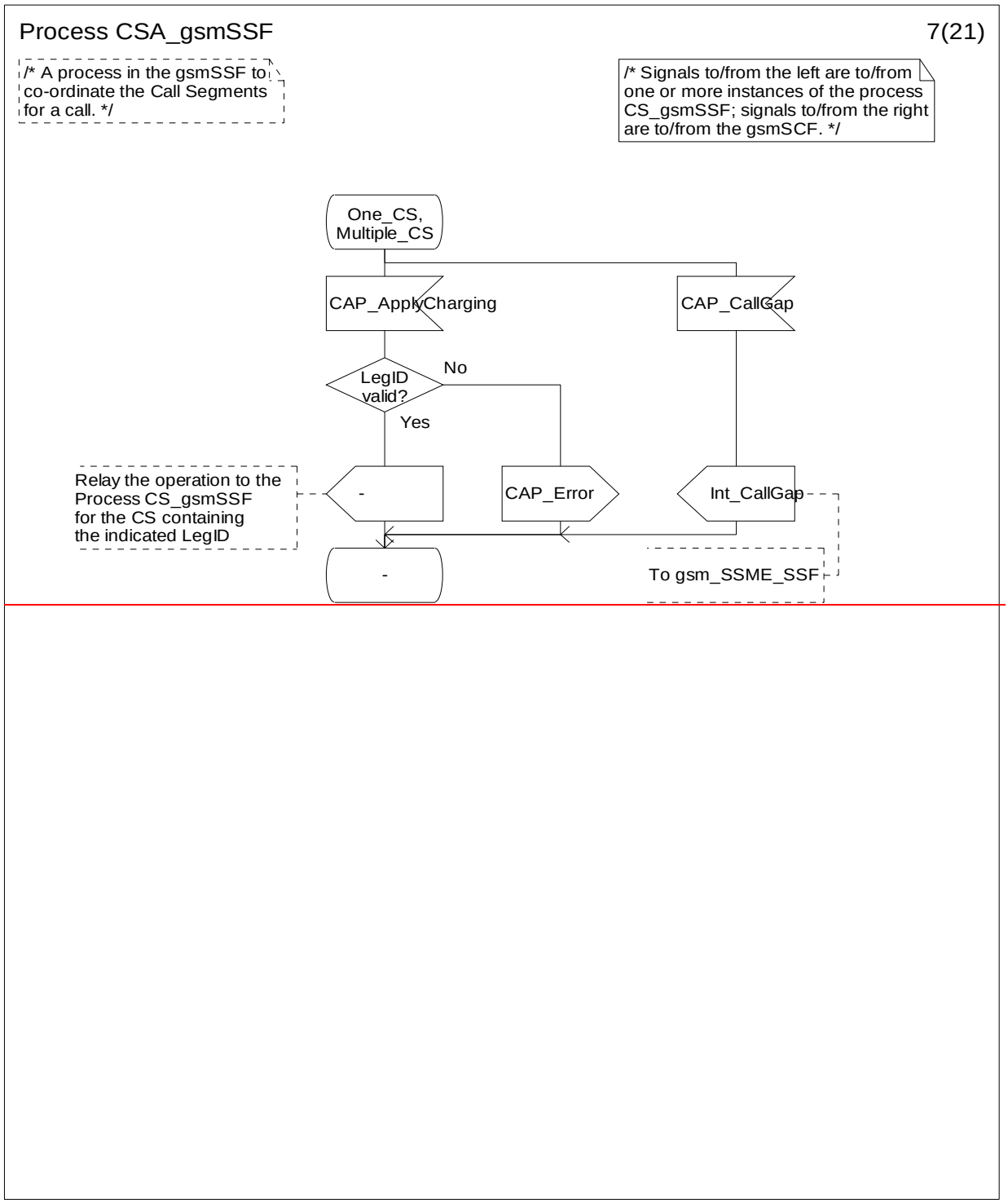
Clauses affected:	⌘	4.5.7.7, 4.6.1.2, 4.6.2.2			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.078-CR327
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

****** For Information – extract from 3GPP TS 29.078 V5.4.0 ******

```
AChChargingAddress {PARAMETERS-BOUND : bound} ::= CHOICE {
    legID               [2] LegID,
    srfConnection       [50] CallSegmentID {bound}
    }
...


CAMEL-CallResult {PARAMETERS-BOUND : bound} ::= CHOICE {
    timeDurationChargingResult          [0] SEQUENCE {
        partyToCharge                       [0] ReceivingSideID,
        timeInformation                     [1] TimeInformation,
        callActive                          [2] BOOLEAN DEFAULT TRUE,
        callReleasedAtTcpExpiry             [3] NULL                                OPTIONAL,
        extensions                          [4] Extensions {bound}                  OPTIONAL,
        aChChargingAddress                  [5] AChChargingAddress {bound}
                                                    DEFAULT legID:receivingSideID:leg1,
        ...
        }
    }
...

ApplyChargingArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    aChBillingChargingCharacteristics   [0] AChBillingChargingCharacteristics {bound},
    partyToCharge                       [2] SendingSideID DEFAULT sendingSideID : leg1,
    extensions                          [3] Extensions {bound}                  OPTIONAL,
    aChChargingAddress                  [50] AChChargingAddress {bound}
                                            DEFAULT legID:sendingSideID:leg1,
    ...
    }

ApplyChargingReportArg {PARAMETERS-BOUND : bound} ::= CallResult {bound}
```

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

4.5.7.7 Process CSA_gsmSSF and procedures



~~Figure 4.112-7: Process CSA_gsmSSF (sheet 7)~~

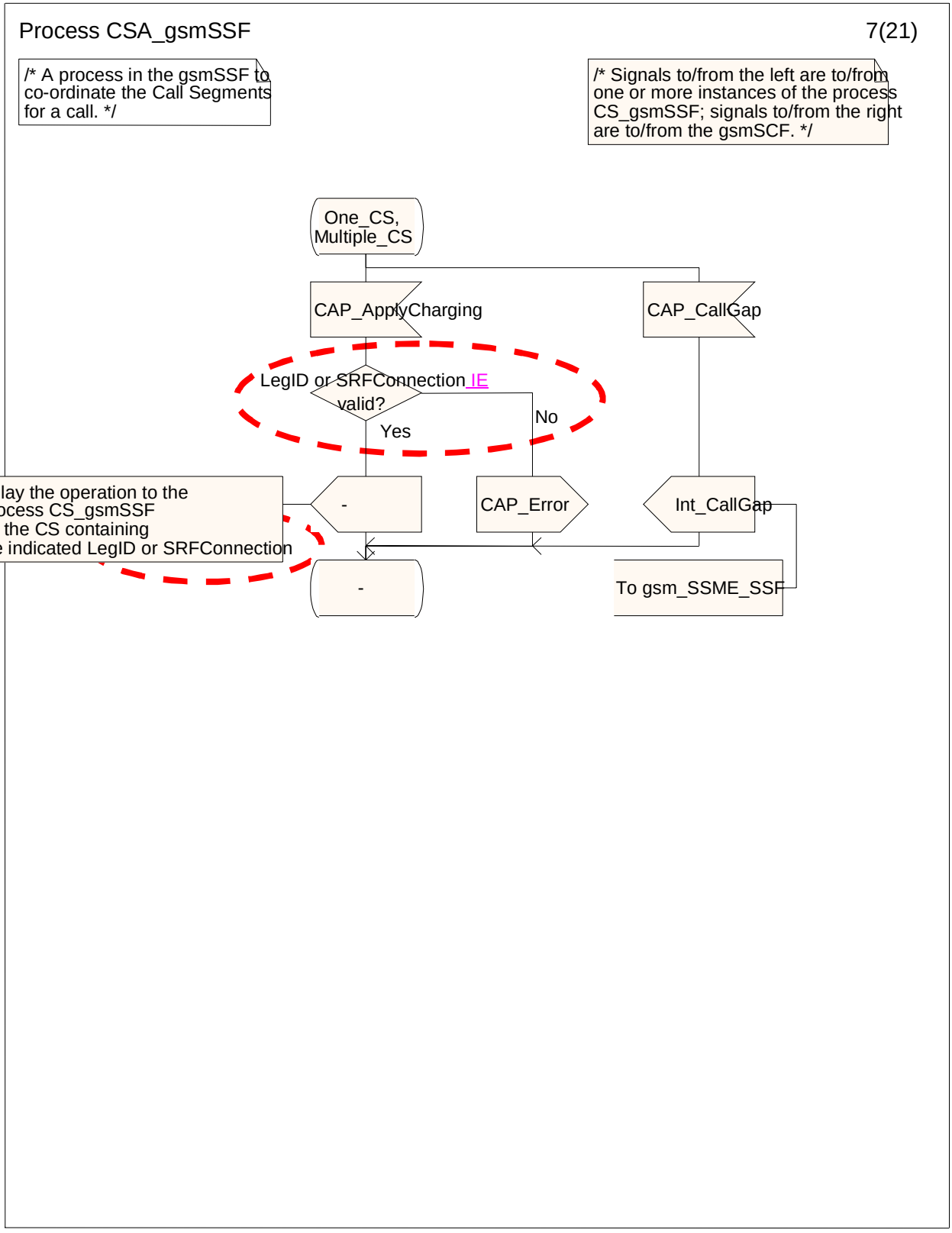


Figure 4.112-7: Process CSA_gsmSSF (sheet 7)

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

4.6.2 gsmSCF to gsmSSF information flows

4.6.2.1 Activity Test

…

4.6.2.2 Apply Charging

4.6.2.2.1 Description

This IF is used to instruct the gsmSSF to apply charging mechanisms to control the call duration.

4.6.2.2.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
ACh Billing Charging Characteristics	M	M	M	M	M	M	This IE specifies the charging related information to be provided by the gsmSSF and the conditions on which this information has to be provided back to the gsmSCF.
Party To Charge	M	M	M	M	M	M	This IE shall be reflected in the corresponding IE of the Apply Charging Report IF. This IE has no effect on the charging procedures in the MSC.
~~Leg ID~~ACh Charging Address	M	M	M	M	M	M	This IE identifies the call party ~~concerned by the~~to which the Apply Charging IF applies. This IE is described in a table below.

ACh Billing Charging Characteristics contains the following information element:

Information element name	MO	MF	MT	VT	NC	NP	Description
Time Duration Charging	M	M	M	M	M	M	This IE is described in a table below.

Time Duration Charging contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Max Call Period Duration	M	M	M	M	M	M	This IE indicates the maximum call period duration timer.
Tariff Switch Interval	O	O	O	O	O	O	This IE indicates the tariff switch time until the next tariff switch applies for this call leg.
Release If Duration Exceeded	O	O	O	O	O	O	This IE indicates that the call leg, SRF connection or Temporary Connection shall be released when the Max call Period Duration expires. The cause used in the Release IF shall be "normal unspecified". The default handling is to continue the call.
Audible Indicator	O	-	O	O	O	O	This IE is described in a table below.

Audible Indicator ~~IE shall~~ contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
~~Play~~ Tone	E	-	E	E	E	E	This IE indicates that a fixed sequence of tones shall be played to the CAMEL subscriber. In the NC case, the first party created will receive the warning tone. If present, this IE indicates that 30 seconds before the Max Call Period Duration timer expires, a fixed sequence of tones consisting of 3 tones of 900 Hz, with a 200

							milliseconds tone duration and a 200 milliseconds intertone duration shall be played.
~~Play~~ Burstlist	E	-	E	E	E	E	This IE is described in the table below. This IE indicates a variable sequence of bursts that shall be played during the call period to the CAMEL subscriber. In the NC case, the first party created will receive the warning tone.

~~Play~~ Burstlist ~~IE consists of~~contains the following information elements:

Information element name	Status	Description
Warning Period	M	This IE indicates the time, before the Max Call Period Duration timer expires, when the Play Burst List IE shall start.
Number Of Bursts	M	This IE indicates the number of bursts to be played. There may be up to three bursts.
Burst Interval	M	This IE indicates the time interval between successive bursts.
Number Of Tones In Burst	M	This IE indicates the number of tones to be played in each burst. There may be up to three tones per burst. The tone is fixed to 900 Hz.
Tone Duration	M	This IE indicates the duration of a tone in a burst.
Tone Interval	M	This IE indicates the time interval between successive tones in a burst.

NOTE Service logic designers should note that the total duration of the Burst List should not exceed the WarningPeriod IE, otherwise an incomplete Burst List will be played to the served party.

ACh Charging Address contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Leg ID	E	E	E	E	E	E	This IE indicates that the Apply Charging IF applies to the specified leg.
SRF Connection	E	E	E	E	E	E	This IE indicates that the Apply Charging IF applies to the Temporary Connection or SRF connection.

…

*** *Next Modification* ***

4.6.1 gsmSSF to gsmSCF information flows

4.6.1.1 Activity Test ack

…

4.6.1.2 Apply Charging Report

4.6.1.2.1 Description

This IF is used by the gsmSSF to report to the gsmSCF the information requested in the Apply Charging IF.

4.6.1.2.2 Information Elements

Information element name	Status	Description
Call Result	M	This IE contains the charging information provided by the gsmSSF.

Call Result contains the following information elements:

Information element name	Status	Description
Time Duration Charging Result	M	This IE is described in a table below.

Time Duration Charging Result contains the following information elements:

Information element name	Status	Description
Time Information	M	This IE is described in a table below.
Party To Charge	M	This IE is received in the related Apply Charging IF to correlate the result to the request. This IE shall be a copy of the corresponding IE received in the Apply Charging IF.
~~LegID~~ACh Charging Address	M	This IE identifies the call party ~~concerned by~~to which the Apply Charging Report IF applies. This IE is described in a table below.
Leg Active	M	This IE indicates whether the call leg is active or not.
Call Leg Released At Tcp Expiry	S	This IE is an indication that the gsmSSF has released the call leg or the Temporary Connection or SRF connection ~~and terminated the dialogue~~, due to Tcp expiry. It shall be present when Apply Charging Report is sent due to Tcp expiry and the gsmSSF has released the call leg or the Temporary Connection or SRF connection (because 'Release If Duration Exceeded' was present in the Apply Charging IF). In all other ~~circumstances~~cases, this IE shall be absent.

Time Information contains the following information elements:

Information element name	Status	Description
Time If No Tariff Switch	S,E	This IE shall be present if no tariff switch has occurred since the reception of the first Apply Charging IF for the connection to the Called Party, the Temporary Connection, or the gsmSRF connection, otherwise it shall be absent. If Answer was detected for the connection to the Called Party, the Temporary Connection or the gsmSRF connection, then the elapsed time since detection of Answer shall be reported. If answer was not detected, it shall be set to "0".
Time If Tariff Switch	S,E	This IE shall be present if a tariff switch has occurred since the reception of the first Apply Charging IF for the connection to the Called Party, the Temporary Connection, or the gsmSRF connection, otherwise it shall be absent.

ACh Charging Address contains the following information elements:

Information element name	Status	Description
Leg ID	E	This IE indicates that the Apply Charging Report IF applies to the specified leg.
SRF Connection	E	This IE indicates that the Apply Charging Report IF applies to the Temporary Connection or SRF connection.

…

*** *End of Document* ***

3GPP TSG CN WG2 Meeting #30 **N2-030432**
Sophia Antipolis, France, 25th – 29th August 2003 (revision of N2-030360)

CHANGE REQUEST

⌘ **29.078** **CR** **327** ⌘ **rev** **1** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to Apply Charging and Apply Charging Report due to introduction of CPH
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	26 August 2003
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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: ⌘ The following corrections are needed to the ApplyCharging and ApplyChargingReport ASN.1 syntax and Procedure description.

(1) The syntax of CAMEL-CallResult shall reflect that a Charging Report may be sent for a call leg of for a Call Segment (for SRF Connection or for Temporary Connection). Therefore, the parameter name “callActive” shall be replaced by “legActive” and the parameter “callReleasedAtTcpExpiry” shall be replaced by “callLegReleasedAtTcpExpiry”. That is also in alignment with the naming of the corresponding Information Elements in TS 23.078.

(2) In the Apply Charging procedure description, the description of the releaseIfdurationExceeded parameter is not correct; the parameter may also refer to the release of an SRF Connection or Temporary Connection. Since the usage of this parameter is already described in TS 23.078, the (incorrect) conditions of presence for this parameter shall be removed.

(3) In the Apply Charging procedure description, the aChChargingAddress parameter does not need to specify the syntactical default value for that parameter. Syntactical default values are primarily specified in the ASN.1 syntax and do not need to be replicated in the procedure description.

(4) In the Apply Charging procedure description, the description of srfConnection shall be improved. The last sentence of that description is confusing and does not convey any useful meaning; it shall therefore be removed.

(5) In the Apply Charging Report procedure description, the parameter “callActive” shall be replaced by “legActive” and the parameter “callReleasedAtTcpExpiry” shall be replaced by “callLegReleasedAtTcpExpiry”. See above for rationale.

		(6) The description of callLegReleasedAtTcpExpiry in the ACR procedure description shall reflect that the gsmSSF may have released a call leg or a SRF Connection or Temporary Connection. (7) The description of callLegReleasedAtTcpExpiry in the ACR procedure shall not have the conditions for presence. The usage of this parameter is already specified in TS 23.078. The (incorrect) conditions of presence for this parameter shall be removed.
Summary of change:	⌘	Correct the ApplyCharging and ApplyChargingReport syntax and procedure descriptions as outlined in the ***Reason for Change*** section of the present CR.
Consequences if not approved:	⌘	- implementation difficulty for both SSF and SCF; - incorrect implementation of charging operations, especially for CPH implementation in SSF. This may lead to serious interworking problems.

Clauses affected:	⌘	5.1, 11.2, 11.3				
		Y	**N**			
Other specs affected:	⌘	**X**		Other core specifications	⌘	TS 23.078-CR611
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

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

5 Common CAP Types

5.1 Data types

```
CAP-datatypes {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0) umts-network(1)
modules(3) cap-datatypes(52) version4(3)}

DEFINITIONS IMPLICIT TAGS ::= BEGIN
...

CallResult {PARAMETERS-BOUND : bound} ::= OCTET STRING (SIZE(
    bound.&minCallResultLength .. bound.&maxCallResultLength))
    (CONSTRAINED BY {-- shall be the result of the BER-encoded value of type -
    CAMEL-CallResult {bound}})
-- The violation of the UserDefinedConstraint shall be handled as an ASN.1 syntax error.
...

CAMEL-CallResult {PARAMETERS-BOUND : bound} ::= CHOICE {
    timeDurationChargingResult          [0] SEQUENCE {
        partyToCharge                       [0] ReceivingSideID,
        timeInformation                     [1] TimeInformation,
        ~~call~~legActive                   [2] BOOLEAN DEFAULT TRUE,
        callLegReleasedAtTcpExpiry          [3] NULL                                OPTIONAL,
        extensions                          [4] Extensions {bound}                  OPTIONAL,
        aChChargingAddress                  [5] AChChargingAddress {bound}
                                                    DEFAULT legID:receivingSideID:leg1,

        ...
        }
    }
...
```

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

11 Detailed operation procedures for circuit switched call control

…

11.2 ApplyCharging procedure

11.2.1 General description

The gsmSCF uses this operation for interacting with the gsmSSF function: "CSE control of call duration". The ApplyChargingReport operation provides the feedback from the gsmSSF to the gsmSCF.

The charging scenarios supported by this operation are those given in 3GPP TS 22.078 [3] for "CSE control of call duration".

11.2.1.1 Parameters

- aChBillingChargingCharacteristics:
  This parameter specifies a list of parameters required for "CSE control of call duration":

  The list may contain the following parameters:

- timeDurationCharging:
  This list contains the following parameters:

  - maxCallPeriodDuration:
    This parameter specifies the period of time for which a call may progress before an ApplyChargingReport shall be sent to the gsmSCF.

  - releaseIfdurationExceeded:
    This parameter specifies the action to be taken at the gsmSSF when the duration specified above has been reached. ~~If the parameter is present and the call duration has been reached, then the gsmSSF shall release the call leg or the Call Segment.~~

  - audibleIndicator:
    This parameter indicates to the gsmSSF that an audible indicator may be played to the served subscriber. This audible indicator may either be a predefined sequence of tones or a sequence defined by the gsmSCF. This parameter shall consist of either tone or burstlist as described below:

    - tone:
      This parameter indicates that a warning tone shall be played when the pre-defined warning tone timer expires.

    - burstlist:
      This parameter indicates that a variable sequence of tones shall be played when the gsmSCF-defined warning tone timer expires. This parameter may consist of the following parameters:

    - warningPeriod:
      This parameter indicates the time, before the Max Call Period Duration timer expires when the playing of the burstlist shall start.

      - burst:
        This parameter indicates the number of bursts that form the burstlist.

      - burstInterval:
        This parameter indicates the time interval between the successive burst in the burstlist.

      - toneInBurst:
        This parameter indicates the number of tones to be played in each burst.

      - toneDuration:
        This parameter indicates the time duration that the tone shall be played for.

      - toneInterval:
        This parameter indicates the time interval between successive tones in a burst

  - tariffSwitchInterval (for the CSE control of call duration):
    This parameter indicates the time duration until the next tariff switch for the CSE control of call duration. The measurement of the elapsed tariff switch period shall start immediately after successful execution of this operation.

- partyToCharge:
  This parameter indicates the party in the call.

- aChChargingAddress:
  This parameter identifies the call party to which the ApplyCharging operation applies. That is the leg or srf Connection. ~~If not present, then the ApplyCharging operation applies to the default legID 1.~~

  This parameter is a choice of one of the following parameters:

  – legID:
    This parameter indicates that the "CSE control of call duration" is associated to the specified leg.

  or

  – srfConnection:
    This parameter indicates that the "CSE control of call duration" is associated to the Temporary Connection or

to the connection to a gsmSRF. ~~The connection is related to the specified Call Segment indicated by the srfConnection parameter.~~

11.2.2 Responding entity (gsmSSF)

11.2.2.1 Normal procedure

gsmSSF preconditions:

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

(2) The gsmSSF FSM is in one of the following states:

"Waiting_for_Instructions"; or
"Waiting_for_end_of_User_Interaction"; or
"Waiting_for_end_of_Temporary_Connection"; or
"Monitoring".

gsmSSF postconditions:

(1) No gsmSSF FSM state transition.

On receipt of this operation, the gsmSSF sets the charging data using the information elements included in the operation and acts accordingly.

If the aChChargingAddress indicates a legID, then:

The "CSE control of call duration" is associated to the specified leg. If Answer has not already been received on the incoming or outgoing connection (leg) to the Call Party, then the gsmSSF shall start monitoring for the Answer event upon receipt of the ApplyCharging operation. Upon subsequent detection of the Answer event on the outgoing connection charging is started. If the Answer event has occurred on the incoming or outgoing connection already when the ApplyCharging operation is received, then charging starts immediately.

Upon release of the incoming or outgoing connection to the Call Party any indication of Answer event occurred on the incoming or outgoing connection shall be cleared, i.e. set to "Answer event not occurred".

If the aChChargingAddress indicates a srfConnection, then:

The "CSE control of call duration" is associated to the Temporary Connection or to the connection to a gsmSRF. If Answer has not already been received on the Temporary Connection, then the gsmSSF will start monitoring for the Answer event upon receipt of the ApplyCharging operation; or, if the gsmSRF is not yet connected, then the gsmSSF will start monitoring for a connection to a gsmSRF. Upon subsequent detection of the Answer event on the Temporary Connection or the subsequent connection to a gsmSRF, charging shall be started. If the Answer event has been received from a Temporary Connection already or if the gsmSRF is already connected when the ApplyCharging operation is received, then charging shall start immediately.

Upon release of the Temporary Connection any indication of Answer event receipt on the outgoing connection shall be cleared i.e. set to "Answer event not received". Upon end of the connection to a gsmSRF, any indication of the connection to the gsmSRF shall be cleared.

11.2.2.2 Error handling

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

- a previously received call period duration is pending for this leg or srfConnection;
- a tariffSwitchInterval for the "CSE control of call duration" is indicated when a previously received tariffSwitchInterval for the "CSE control of call duration" is pending for the Called Party, the Temporary Connection or the connection to a gsmSRF.

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

11.3 ApplyChargingReport procedure

11.3.1 General description

The gsmSSF uses this operation to report charging related information to the gsmSCF as requested by the gsmSCF using the "ApplyCharging" operation.

If Answer is detected by the gsmSSF, then timing of duration shall be started as requested by the ApplyCharging operation. It shall be started independently for a connection to a Called Party, a Temporary Connection and a gsmSRF connection.

The charging report shall be generated as specified in the 3GPP TS 23.078 [7].

The tariff switch mentioned in the following subclause are the tariff switch for "CSE control of call duration" for the connection to which the ApplyChargingReport procedure applies.

11.3.1.1 Parameters

- callResult:
  This parameter provides the gsmSCF with the charging related information previously requested using the ApplyCharging operation. The "CallResult" is a list and may contain the following parameters:

  - timeDurationChargingResult:
    This parameter is a list, and can contain the following parameters:

    - timeInformation:
      This parameter is a choice of the following parameters:

      - timeIfNoTariffSwitch:
        This parameter shall be present if no tariff switch has occurred since the reception of the first ApplyCharging operation for the connection to the Called Party, Temporary Connection or gsmSRF connection, otherwise it shall be absent.
        If Answer was detected for the connection to the Called Party, the Temporary Connection or the gsmSRF connection, then the elapsed time since detection of Answer shall be reported. If answer was not detected, then it shall be set to "0".

        - timeIfTariffSwitch:
          This parameter shall be present if a tariff switch has occurred since the reception of the first ApplyCharging operation for the connection to the Called Party, Temporary Connection or gsmSRF connection, otherwise it shall be absent.
          The parameter may contain the following information:

          - timeSinceLastTariffSwitch:
            If Answer was detected for the connection to the Called Party, the Temporary Connection or the gsmSRF connection, then the elapsed time since detection of Answer or the last tariff switch (whichever of these events was last detected) shall be reported. If Answer was not detected, then it shall be set to "0".

          - TariffSwitchInterval (for the "CSE control of call duration"):
            This parameter is present only if a tariff switch has occurred since the detection of Answer for the connection to the Called Party, the temporary connection or the gsmSRF connection in the reported call period.
            The time interval between either the detection of the Answer event or the previous tariff switch (whichever of these events was last detected) and the last tariff switch is reported.

- partyToCharge:
  The "partyToCharge" parameter as received in the related ApplyCharging operation or deduced from the default value. This parameter is used by the gsmSCF, to correlate the result to the request.

- aChChargingAddress:
  The "aChChargingAddress" parameter as received in the related ApplyCharging operation or deduced from the default value. This parameter is used by the gsmSCF, to correlate the result to the request.

- ~~call~~Leg Active:
  This parameter indicates whether the leg, the Temporary Connection or the connection to a gsmSRF is still active or has been released.

- callLegReleasedAtTcpExpiry:
  This parameter indicates that the gsmSSF has released the call leg or the Temporary Connection or SRF connection~~Call Segment and terminated the dialogue~~.
  ~~It shall be present when ApplyChargingReport is sent due to Tcp expiry and the gsmSSF has released the call leg or Call Segment (because ReleaseIfDurarationExceeded was present in ApplyCharging) and terminated the dialogue.~~
  ~~In all other instancescases, this parameter shall be absent.~~

11.3.2 Invoking entity (gsmSSF)

11.3.2.1 Normal procedure

gsmSSF preconditions:

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

(2) A charging event has been detected that was requested by the gsmSCF via an ApplyCharging operation or a Called Party, Temporary Connection or gsmSRF disconnection event has occurred.

gsmSSF postconditions:

(1) If release of the call has occurred because the allowed call duration has been reached, then:

- All armed EDPs shall be disarmed;
- ApplyChargingReport shall be sent to gsmSCF followed by any pending CallInformationReports, if applicable;
- The gsmSSF FSM shall transit to the state "Idle".

(2) If release of the call has occurred but not because the allowed call duration has been reached, then:

- If there are any armed EDPs or pending reports, then the gsmSSF FSM shall remain in the same state, else;
- The gsmSSF FSM shall transit to the state "Idle".

(3) else:

- no gsmSSF FSM state transition.

11.3.2.2 Error handling

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

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

3GPP TSG CN WG2 Meeting #30 **N2-030433**
Sophia Antipolis, France, 25th – 29th Aug 2003

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **570** ⌘ **rev** **2** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	Update of Charging spec references
Source:	⌘	Nokia
Work item code:	⌘	CAMEL4
Date:	⌘	19.8.2003
Category:	⌘	**F (Essential correction)**
Release:	⌘	Rel-5

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:	⌘	The references to charging specs of Rel-5 are incorrect.
Summary of change:	⌘	1. References to charging specs are corrected. Rel-4 and Rel-5 uses 32.205 (CS) and 32.215 (PS). 2. The 32.205 shall specify how the CDR fields are populated.
Consequences if not approved:	⌘	Incorrect references

Clauses affected:	⌘	

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

Other comments:	⌘	SA5 SWG-B (charging) meets Aug 27th – Sep 5th.

-- First Modified Section --

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] 3GPP TR 21.905: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.004: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; General on supplementary ".

[3] 3GPP TS 22.024: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Description of Charge Advice Information (CAI)".

[4] 3GPP TS 22.041: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Operator Determined Barring (ODB)".

[5] 3GPP TS 22.071: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Location Services (LCS); Service description, Stage 1".

[6] 3GPP TS 22.078: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Customised Applications for Mobile network Enhanced Logic (CAMEL); Service description, Stage 1".

[7] 3GPP TS 23.003: "3rd Generation Partnership Project; Technical Specification Group Core Network; Numbering, addressing and identification".

[8] 3GPP TS 23.008: "3rd Generation Partnership Project; Technical Specification Group Core Network; Organization of subscriber data".

[9] 3GPP TS 23.011: "3rd Generation Partnership Project; Technical Specification Group Core Network; Technical realization of Supplementary Services".

[10] 3GPP TS 23.012: "3rd Generation Partnership Project; Technical Specification Group Core Network; Location management procedures".

[11] 3GPP TS 23.015: "3rd Generation Partnership Project; Technical Specification Group Core Network; Technical realization of Operator Determined Barring (ODB)".

[12] 3GPP TS 23.018: "3rd Generation Partnership Project; Technical Specification Group Core Network; Basic call handling; Technical realization".

[13] 3GPP TS 23.032: "3rd Generation Partnership Project; Technical Specification Group Core Network; Universal Geographical Area Description (GAD)".

[14] 3GPP TS 23.040: "3rd Generation Partnership Project; Technical Specification Group Terminals; Technical realization of the Short Message Service (SMS)".

[15] 3GPP TS 23.060: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; General Packet Radio Service (GPRS); Service description; Stage 2".

[16] 3GPP TS 23.072: "3rd Generation Partnership Project; Technical Specification Group Core Network; Call Deflection (CD) Supplementary Service; Stage 2".

[17] 3GPP TS 23.073: "3rd Generation Partnership Project; Technical Specification Group Core Network; Support of Localised Service Area (SoLSA); Stage 2".

[18] 3GPP TS 23.079: "3rd Generation Partnership Project; Technical Specification Group Core Network; Support of Optimal Routeing (SOR); Technical realization".

[19] 3GPP TS 23.082: "3rd Generation Partnership Project; Technical Specification Group Core Network; Call Forwarding (CF) supplementary services; Stage 2".

[20] 3GPP TS 23.084: "3rd Generation Partnership Project; Technical Specification Group Core Network; Multi Party (MPTY) supplementary service; Stage 2".

[21] 3GPP TS 23.085: "3rd Generation Partnership Project; Technical Specification Group Core Network; Closed User Group (CUG) supplementary service; Stage 2".

[22] 3GPP TS 23.088: "3rd Generation Partnership Project; Technical Specification Group Core Network; Call Barring (CB) Supplementary Services; Stage 2".

[23] 3GPP TS 23.090: "3rd Generation Partnership Project; Technical Specification Group Core Network; Unstructured Supplementary Service Data (USSD); Stage 2".

[24] 3GPP TS 23.091: "3rd Generation Partnership Project; Technical Specification Group Core Network; Explicit Call Transfer (ECT) supplementary service; Stage 2".

[25] 3GPP TS 23.093: "3rd Generation Partnership Project; Technical Specification Group Core Network; Technical realization of Completion of Calls to Busy Subscriber (CCBS); Stage 2".

[26] 3GPP TS 23.271: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Functional stage 2 description of LCS".

[27] 3GPP TS 23.278: "3rd Generation Partnership Project; Technical Specification Group Core Network; Customised Applications for Mobile network Enhanced Logic (CAMEL) - IP Multimedia System (IMS) interworking; Stage 2".

[28] 3GPP TS 24.008: "3rd Generation Partnership Project; Technical Specification Group Core Network; Mobile radio interface layer 3 specification; Core Network Protocols; Stage 3".

[29] 3GPP TS 24.011: “3rd Generation Partnership Project; Technical Specification Group Core Network; Point - to - Point (PP) Short Message Service (SMS); support on mobile radio interface”.

[30] 3GPP TS 25.305: "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Stage 2 Functional Specification of UE Positioning in UTRAN".

[31] 3GPP TS 25.413: "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; UTRAN Iu interface RANAP signalling".

[32] 3GPP TS 29.002: "3rd Generation Partnership Project; Technical Specification Group Core Network; Mobile Application Part (MAP) specification".

[33] 3GPP TS 29.078: "3rd Generation Partnership Project; Technical Specification Group Core Network; Customised Applications for Mobile network Enhanced Logic (CAMEL) Phase 4 CAMEL Application Part (CAP) specification".

[34] 3GPP TS 32.~~005~~205: " Telecommunication management; Charging management; 3G charging data description for the CS domain ~~3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication Management; Charging and billing; 3G call and event data for the Circuit Switched (CS) domain~~".

[35] 3GPP TS 32.~~015~~215: " Telecommunications management; Charging management; Charging data description for the Packet Switched (PS) domain ~~3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication Management; Charging and billing; 3G call and event data for the Packet Switched (PS) domain~~".

[36] 3GPP TS 48.008: "3rd Generation Partnership Project; Technical Specification Group GSM EDGE Radio Access Network; Mobile-services Switching Centre - Base Station System (MSC - BSS) interface; Layer 3 specification".

[37] ETSI EN 300 356-1 (V3.2.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services[ITU-T Recommendations Q.761 to Q.764 (1997), modified]".

[38] ETSI EN 301 070-1 (V1.2.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 interactions with the Intelligent Network Application Part (INAP); Part 1: Protocol specification [ITU-T Recommendation Q.1600 (1997), modified]".

[39] GSM TR 03.47: "Example protocol stacks for interconnecting; Service Centre(s) (SC) and Mobile-services Switching Centre(s) (MSC)".

[40] ITU-T Recommendation Q.763, December 1999: "Signalling System No. 7 - ISDN user part formats and codes".

[41] ITU-T Recommendation Q.1224, September 1997: "Distributed Functional Plane for Intelligent Network Capability Set 2".

-- Next Modified Section --

7.5.5.1 Process SMS_SSF

Sheet 1 The Int_Invoke SMS_SSF signal dictates which TDP shall be armed. For a Mobile Originated SMS service, the SMS_Collected_Info TDP shall be armed. For a Mobile Terminated SMS service, the SMS_Delivery_Request TDP shall be armed.

Sheet 2 The Int_SMS_Failure signal may be received only for a MO-SMS service. It is received when a MS detach event occurs before the SMS_SSF is invoked.

Sheet 3 The SMSC Address and Destination Subscriber Number may be received in CAP ConnectSMS only for a MO-SMS service.

Sheet 4: For a MO-SMS service, the following events may be armed or disarmed: O_SMS_Submission, O_SMS_Failure. For a MT-SMS service, the following events may be armed or disarmed: T_SMS_Delivery, T_SMS_Failure.

Sheet 5: For a MO-SMS service, the gsmSCF may place free-format charging data in the 'MOSMSRecord' CDR (in the MSC) or in the S-SMO-CDR (in the SGSN).

For a MT-SMS service, the gsmSCF may place free-format charging data in the 'MTSMSRecord' (in the MSC) or in the S-SMT-CDR (in the SGSN).

Refer to 3GPP TS 32.2~~0~~05 [34] and 3GPP TS 32.2~~0~~15 [35] for a description of these CDR types.

-- End --

3GPP TSG CN WG2 Meeting #30 **N2-030460**
Sophia Antipolis, France, 25th – 29th August 2003 (revision of N2-030332)

CHANGE REQUEST

⌘ **29.078** **CR** **325** ⌘ **rev** **1** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘	Correction to CAP Operation Error values
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	28 August 2003
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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: ⌘ The definition of the Operation ERRORs for the following CAP Operations need correction:

ApplyChargingReport (ACR) :	When ACR is reported, it may contain an indication of the call leg or the Call Segment for which the ACR applies ("AchChargingAddress"). Hence, the Error values unknownLegID and unknownCSID are required. These Error values are currently not available for ACR. These Error values shall therefore be added for ACR. Note: ACR also contains the parameter "partyToCharge". TS 29.078 R99 does not contain the Operation ERROR "unknownLegId". Hence, for unrecognised value of partyToCharge, the CAMEL Phase 4 gsmSCF may use another suitable value, in alignment with the implementation of ACR of CAMEL Phase 3.
Connect (CON) :	CON may be applied to different legs. Hence, the Error value unknownLegID is required. This Error value is currently not available for CON. This Error value shall therefore be added for CON.
InitiateCallAttempt (ICA) :	ICA may be used to create a new leg, in a new Call Segment. The Call Segment indicated in the ICA operation is always a "new Call Segment", i.e. a Call Segment that does not yet exist, but

		will be created as a result of ICA. Therefore, the Error value "unknownCSID" is not needed. Hence, that Error value shall be removed from ICA.
Summary of change: ⌘	Correction the Operation Error values of the CAP Operations in accordance with the ***Reason for Change*** section of the present CR.	
Consequences if not approved: ⌘	- implementation difficulty; SSF designers and SCF designers need to design CAP Operation erro handling which can not occur; - certain error conditions, related to unknown leg Id, can not be reported adequately to the gsmSCF.	

Clauses affected: ⌘	6.1.1				
Other specs affected: ⌘	**Y**	**N**	Other core specifications	⌘	
		X	Test specifications		
		X	O&M Specifications		
Other comments: ⌘					

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

```
AChBillingChargingCharacteristics {PARAMETERS-BOUND : bound} ::= OCTET STRING (SIZE
    (bound.&minAChBillingChargingLength .. bound.&maxAChBillingChargingLength))
    (CONSTRAINED BY {-- shall be the result of the BER-encoded value of the type --
    CAMEL-AChBillingChargingCharacteristics {bound}})
-- The AChBillingChargingCharacteristics parameter specifies the charging related information
-- to be provided by the gsmSSF and the conditions on which this information has to be reported
-- back to the gsmSCF with the ApplyChargingReport operation. The value of the
-- AChBillingChargingCharacteristics of type OCTET STRING carries a value of the ASN.1 data type:
-- CAMEL-AChBillingChargingCharacteristics. The normal encoding rules are used to encode this
-- value.
-- The violation of the UserDefinedConstraint shall be handled as an ASN.1 syntax error.


CAMEL-AChBillingChargingCharacteristics {PARAMETERS-BOUND : bound} ::= CHOICE {
    timeDurationCharging                [0] SEQUENCE {
        maxCallPeriodDuration               [0] INTEGER (1..864000),
        releaseIfdurationExceeded           [1] BOOLEAN DEFAULT FALSE,
        tariffSwitchInterval                [2] INTEGER (1..86400)                  OPTIONAL,
        audibleIndicator                    [3] AudibleIndicator DEFAULT tone: FALSE,
        extensions                          [4] Extensions {bound}                  OPTIONAL,
        ...
        }
    }
-- tariffSwitchInterval is measured in 1 second units.
-- maxCallPeriodDuration is measured in 100 millisecond units


AChChargingAddress {PARAMETERS-BOUND : bound} ::= CHOICE {
    legID               [2] LegID,
    srfConnection       [50] CallSegmentID {bound}
    }
```

***** 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) version4(3)}

DEFINITIONS IMPLICIT TAGS ::= BEGIN
```

< unmodified syntax >

```
applyChargingReport {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        ApplyChargingReportArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {missingParameter |
                     unexpectedComponentSequence |
                     unexpectedParameter |
                     unexpectedDataValue |
                     unknownCSID |
                     unknownLegID |
                     parameterOutOfRange |
                     systemFailure |
                     taskRefused}
    CODE            opcode-applyChargingReport}
-- Direction: gsmSSF -> gsmSCF, Timer: Tacr
-- This operation is used by the gsmSSF to report to the gsmSCF the occurrence of a
-- specific charging event as requested by the gsmSCF using the ApplyCharging operation.

ApplyChargingReportArg {PARAMETERS-BOUND : bound} ::= CallResult {bound}
```

< unmodified syntax >

```
connect {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        ConnectArg {bound}
    RETURN RESULT   FALSE
    ERRORS          {missingParameter |
                    parameterOutOfRange |
                    systemFailure |
                    taskRefused |
                    unexpectedComponentSequence |
                    unexpectedDataValue |
                    unexpectedParameter |
                    unknownLegID}
    CODE            opcode-connect}
-- Direction: gsmSCF-> gsmSSF, Timer: Tcon
-- This operation is used to request the gsmSSF to perform the call processing actions
-- to route or forward a call to a specified destination.

ConnectArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    destinationRoutingAddress           [0] DestinationRoutingAddress {bound},
    alertingPattern                     [1] AlertingPattern                     OPTIONAL,
    originalCalledPartyID               [6] OriginalCalledPartyID {bound}       OPTIONAL,
    extensions                          [10] Extensions {bound}                 OPTIONAL,
    carrier                             [11] Carrier {bound}                    OPTIONAL,
    callingPartysCategory               [28] CallingPartysCategory              OPTIONAL,
    redirectingPartyID                  [29] RedirectingPartyID {bound}         OPTIONAL,
    redirectionInformation              [30] RedirectionInformation             OPTIONAL,
    genericNumbers                      [14] GenericNumbers {bound}             OPTIONAL,
    serviceInteractionIndicatorsTwo     [15] ServiceInteractionIndicatorsTwo    OPTIONAL,
    chargeNumber                        [19] ChargeNumber {bound}               OPTIONAL,
    legToBeCreated                      [21] LegID                              OPTIONAL,
    cug-Interlock                       [31] CUG-Interlock                      OPTIONAL,
    cug-OutgoingAccess                  [32] NULL                               OPTIONAL,
    suppressionOfAnnouncement           [55] SuppressionOfAnnouncement          OPTIONAL,
    oCSIApplicable                      [56] OCSIApplicable                     OPTIONAL,
    naOliInfo                           [57] NAOliInfo                          OPTIONAL,
    bor-InterrogationRequested          [58] NULL                               OPTIONAL,
    ...
    }
-- na-Info is included at the discretion of the gsmSCF operator.
```

< unmodified syntax >

```
initiateCallAttempt {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        InitiateCallAttemptArg {bound}
    RESULT          InitiateCallAttemptRes {bound}
    ERRORS          {missingParameter |
                    parameterOutOfRange |
                    systemFailure |
                    taskRefused |
                    unexpectedComponentSequence |
                    unexpectedDataValue |
                    unexpectedParameter |
                    ~~unknownCSID~~}
    CODE            opcode-initiateCallAttempt}
-- Direction: gsmSCF -> gsmSSF, Timer Tica
-- This operation is used to instruct the gsmSSF to create a new call to a call party using the
-- address information provided by the gsmSCF.

InitiateCallAttemptArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    destinationRoutingAddress           [0] DestinationRoutingAddress {bound},
    extensions                          [4] Extensions {bound}                  OPTIONAL,
    legToBeCreated                      [5] LegID                               OPTIONAL,
    newCallSegment                      [6] CallSegmentID {bound}               OPTIONAL,
    callingPartyNumber                  [30] CallingPartyNumber {bound}         OPTIONAL,
    callReferenceNumber                 [51] CallReferenceNumber                OPTIONAL,
    gsmSCFAddress                       [52] ISDN-AddressString                 OPTIONAL,
    suppress-T-CSI                      [53] NULL                               OPTIONAL,
    ...
    }

InitiateCallAttemptRes {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    supportedCamelPhases                [0] SupportedCamelPhases                OPTIONAL,
    offeredCamel4Functionalities        [1] OfferedCamel4Functionalities        OPTIONAL,
    extensions                          [2] Extensions {bound}                  OPTIONAL,
```

```
    ...
    }
```

< unmodified syntax >

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

3GPP TSG CN WG2#30 **TDoc N2-030466**
Sophia Antipolis, France, 25th – 29th August 2003 N2-030429rev

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **523** ⌘**rev** **5** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	Handling of Connect operation with and without LegID
Source:	⌘	Alcatel
Work item code:	⌘	CAMEL4
Date:	⌘	29/08/2003
Category:	⌘	**F** (essential correction)
Release:	⌘	Rel-5

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:	⌘	The handling of the Connect operation is not compatible to CAMEL Phase 3 and needs to be corrected. CAMEL Phase 4 would need in some situations an additional Continue with Argument. The following points need to be covered: - CAMEL 3 compatibility; i.e. no LegID, single call segment CSA with one outgoing leg at most. - If the gsmSCF is sending Connect IF and the Leg ID is not included and there is no leg 1 in the call segment, then the CS_gsmSSF shall send a Int_Continue and not a Int_Connect. This is to get the same behaviour as in CAMEL Phase 3. - CAMEL 4 connect and re-connect case for any leg. This item is already included in the current 23.078 version.
Summary of change:	⌘	- The Connect operation must include a legID if the CSA contains more than 1 call segment or if the call segment contains more than 1 outgoing leg; to be more restrictive as agreed in CN2#29: in principle "a CSA with a single call segment and this call segment is only containing leg2 or (leg 1 and leg2) ", - If the Connect operation does not contain a LegID then CAMEL Phase 3 handling applies. The outgoing leg is treated similar to CAMEL Phase 3 leg 2. All outstanding request counters are to be set to 0. - The SDLs are updated accordingly.
Consequences if not approved:	⌘	CAMEL Phase 3 services do not work in a CAMEL Phase 4 environment.

Clauses affected:	⌘	4.5.7.4, 4.5.7.7, 4.6.2.6.1

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	

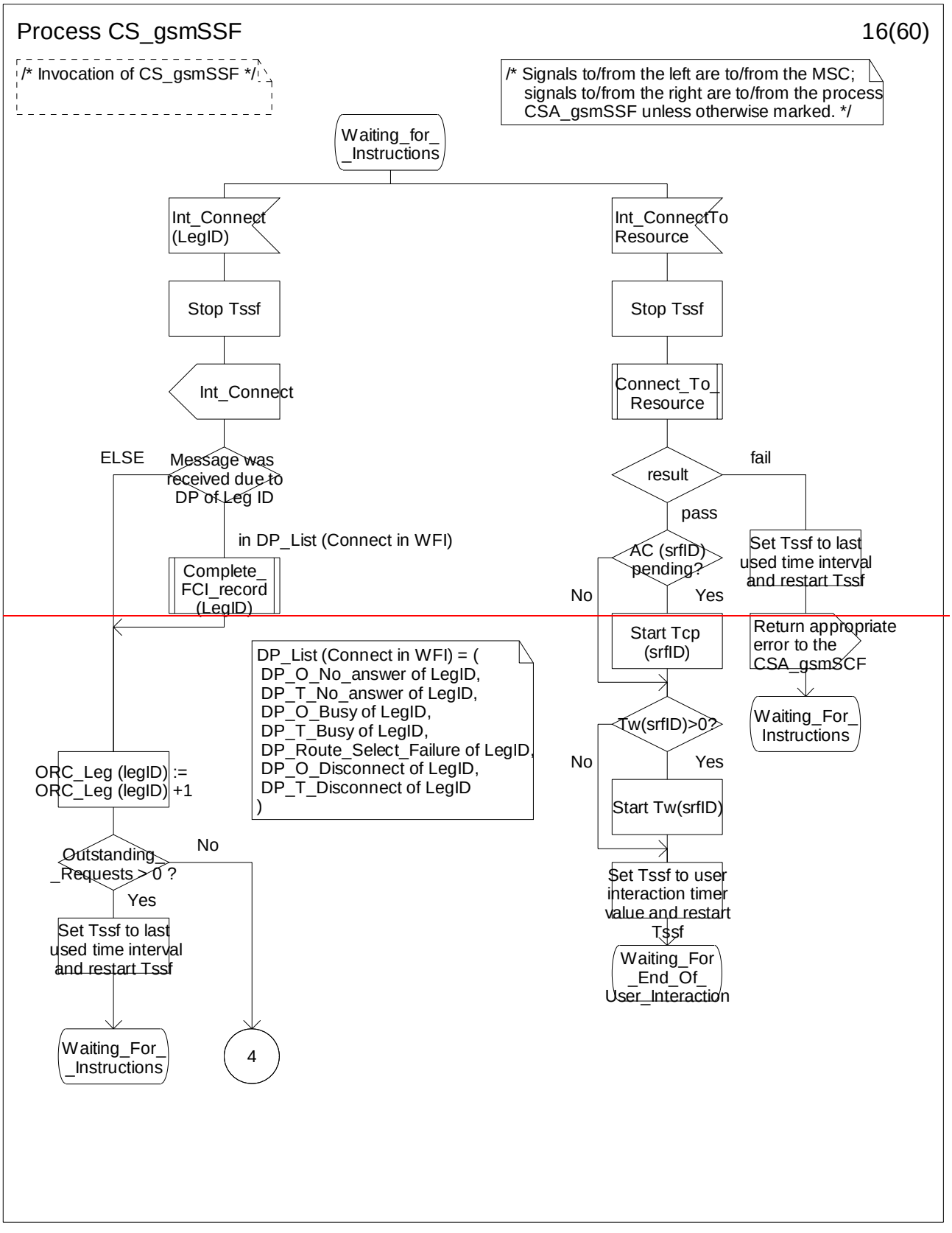
	X	O&M Specifications

Other comments: ⌘

— First modified section —

4.5.7.4 Process CS_gsmSSF and procedures

...



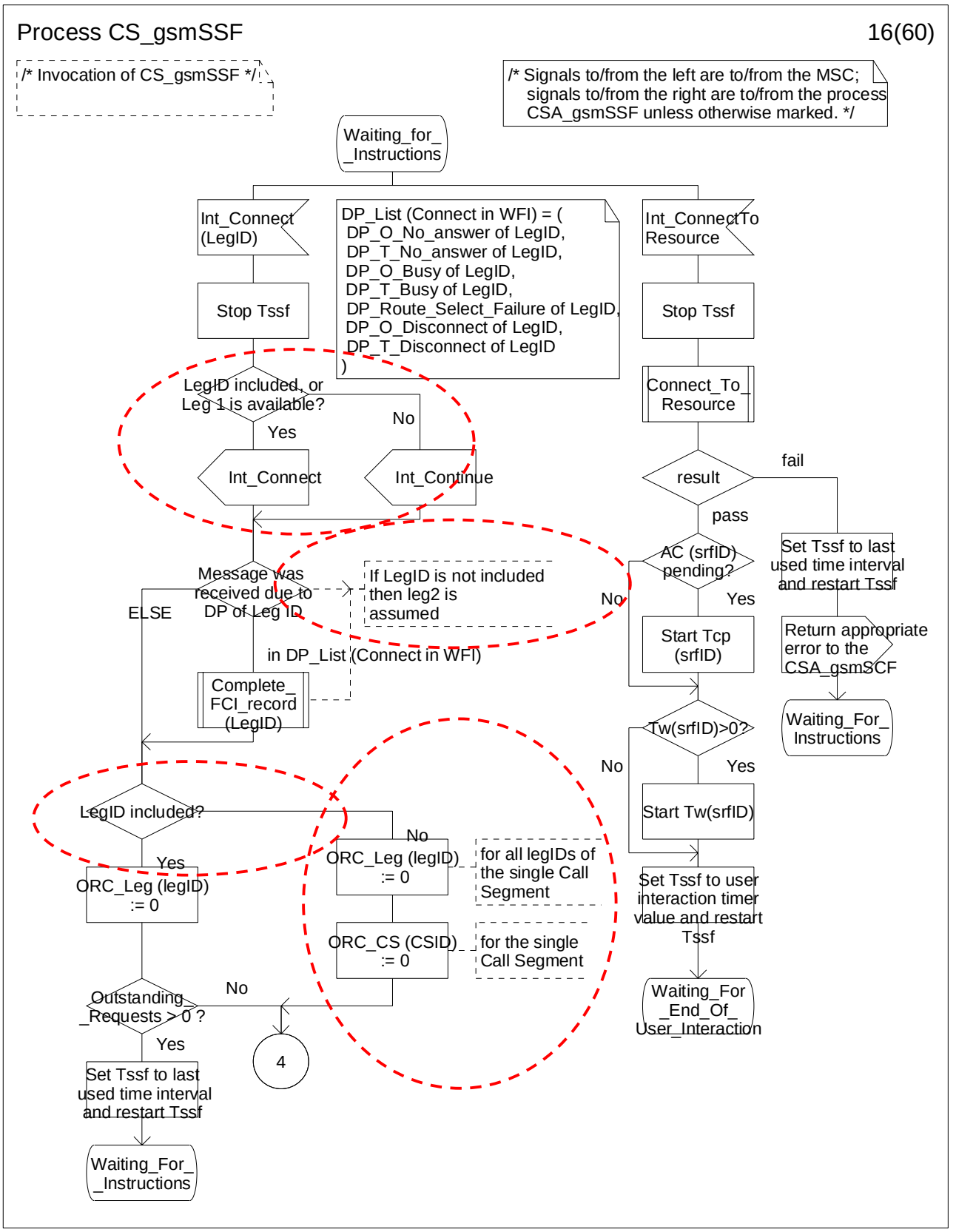
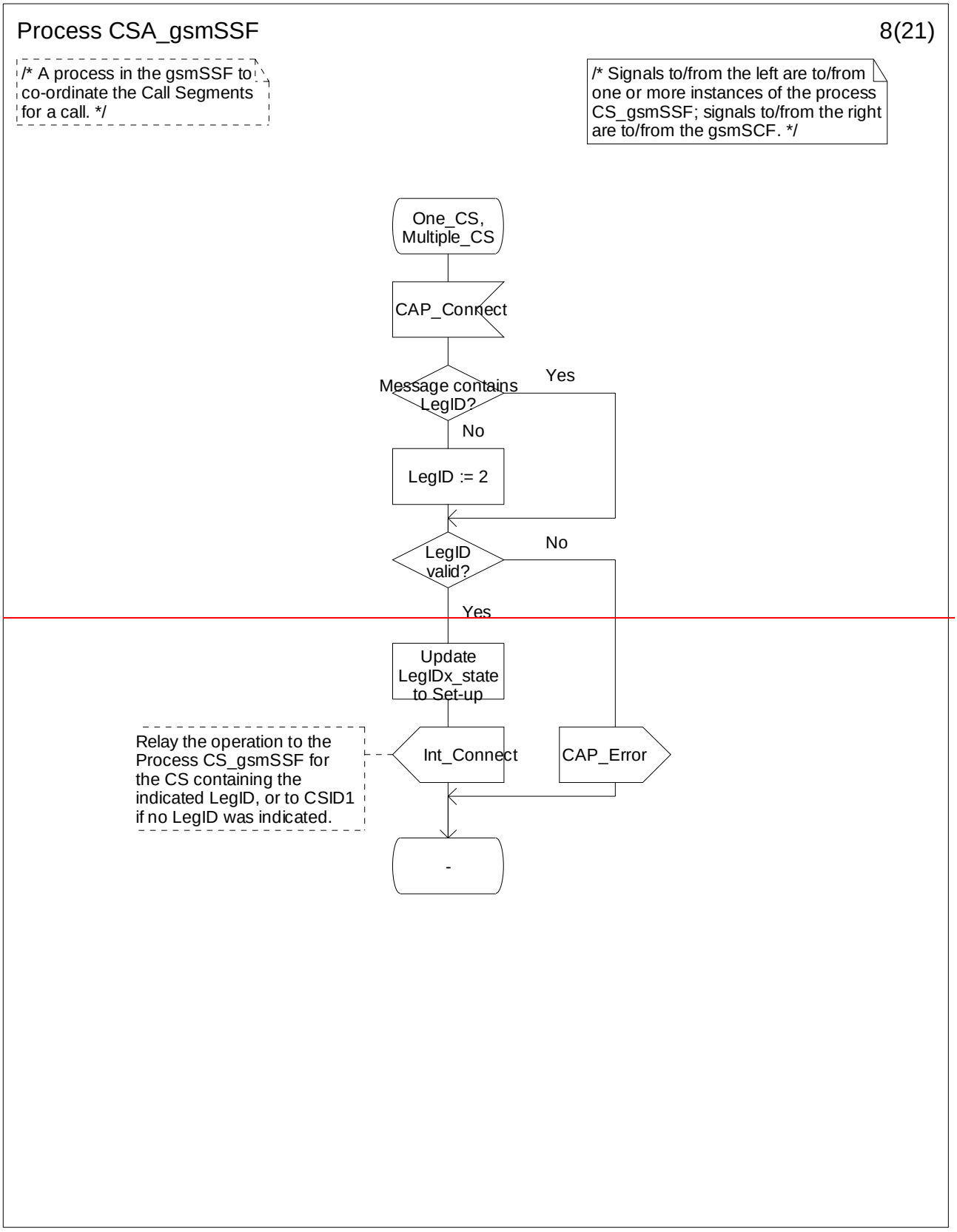


Figure 4.95-16: Process CS_gsmSSF (sheet 16)

— Next modified section —

4.5.7.7 Process CSA_gsmSSF and procedures

...



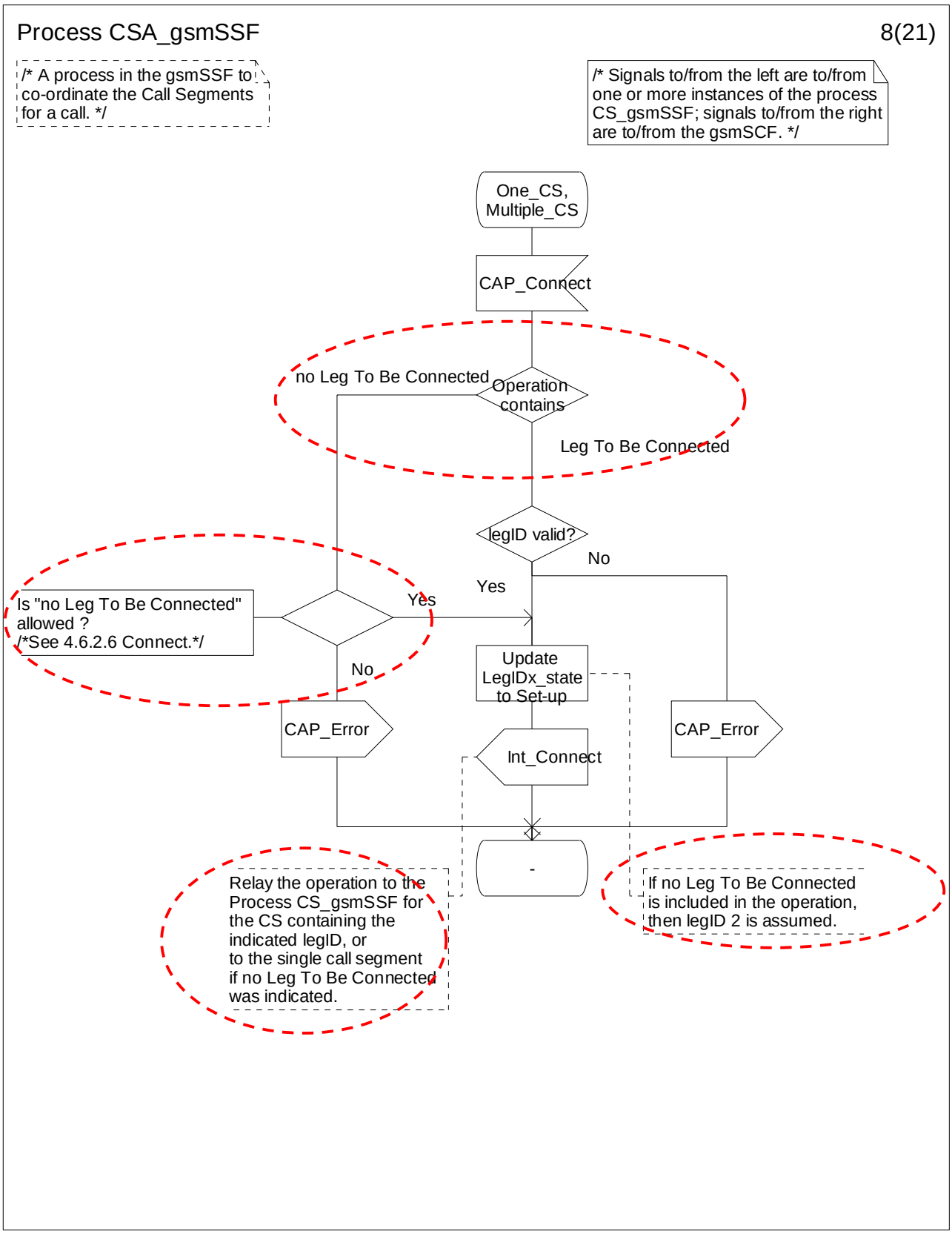


Figure 4.112-8: Process CSA_gsmSSF (sheet 8)

— Next modified section —

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.

The gsmSCF shall not send this operation when there is a CSA with a single call segment which includes only leg1.

4.6.2.6.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
Alerting Pattern	-	-	O	O	-	-	This IE indicates the kind of Alerting Pattern to be applied.
Calling Partys Category	O	O	O	O	O	O	This IE indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber).
Destination Routing Address	M	M	M	M	M	M	This IE contains the called party number towards which the call is to be routed. The NatureOfAddress indicator may contain a national-specific value. For some national-specific *NatureOfAddress indicator* values the length of the digit part of the destination address may be zero. The gsmSCF may use national-specific *NatureOfAddress indicator* values of the gsmSSF country.
Generic Number	O	O	O	O	O	O	This IE contains the generic number. Its used to convey the additional calling party number, which e.g. could be used to modify the calling line ID presented to the called user.
Carrier	O	O	O	O	O	O	This IE is described in a table below.
NA Originating Line Information	O	O	O	O	O	O	This IE identifies the type of number in the Charge Number (e.g. subscriber versus PLMN operator number).
Charge Number	O	O	O	O	O	O	This IE identifies the chargeable number for the usage of a North American carrier.
O-CSI Applicable	-	-	O	O	-	-	This IE indicates that the O-CSI, if present shall be applied on the outgoing leg.
Original Called Party ID	O	O	O	O	O	O	This IE carries the dialled digits if the call has met call forwarding on route to the gsmSSF or is forwarded by the gsmSCF.
Leg To Be Connected	~~O~~S	~~O~~S	~~O~~S	~~O~~S	~~O~~S	~~O~~S	This IE indicates the ~~existing~~ leg to which the Connect IF applies. The gsmSCF shall include the Leg To Be Connected if: - The CSA has more than one call segment, or - The CSA has a single call segment, which contains: - one leg, which is not leg 2; or - two legs, which are not leg1 and leg2, or - more than two legs. Otherwise the IE may be present or absent as required by the service logic. This IE shall not indicate leg1.
Redirecting Party ID	O	O	O	O	O	O	This IE indicates the directory number the call was redirected from.
Redirection Information	O	O	O	O	O	O	This IE contains forwarding related information, such as redirecting counter.

Information element name	MO	MF	MT	VT	NC	NP	Description
Suppression Of Announcements	-	-	O	O	O	O	This IE indicates that announcements or tones generated as a result of unsuccessful call establishment shall be suppressed.
Service Interaction Indicators Two	O	O	O	O	O	O	This IE is described in a table below.
CUG Interlock Code	O	O	O	O	O	O	See 3GPP TS 23.085 [21] for details of this IE.
Outgoing Access Indicator	O	O	O	O	O	O	See 3GPP TS 23.085 [21] for details of this IE.
Basic OR interrogation requested	O	O	-	-	O	O	This IE indicates that a Basic Optimal Routeing interrogation is requested for the call. If Basic Optimal Routeing is successful, this will be reported to the gsmSCF in the Answer event report. This IE shall be ignored if the VMSC associated with the gsmSSF does not support Basic Optimal Routeing. This IE shall be ignored if it is received in a gsmSSF which is handling the MF call case in the GMSC function of the forwarding subscriber.

Carrier contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Carrier Identification Code	M	M	M	M	M	M	This IE uniquely identifies a North American long distance carrier.
Carrier Selection Information	M	M	M	M	M	M	This IE indicates the way the carrier was selected e.g.: - dialled; - subscribed.

Service Interaction Indicators Two contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Forward Service Interaction Indicator	O	O	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 allows the gsmSCF to disallow the invocation of HOLD by the CAMEL subscriber.
CW Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the invocation of CW for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the call leg to 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	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). Shall be absent if one or more of CUG Interlock Code and Outgoing Access Indicator is present in the IF.

Forward Service Interaction Indicator contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Conference Treatment Indicator	O	O	O	O	O	-	This IE allows the gsmSCF to disallow the call leg to become part of a MPTY call initiated by the CAMEL subscriber.
Call Diversion Treatment	O	O	O	O	O	-	This IE allows the gsmSCF to disallow the

Information element name	MO	MF	MT	VT	NC	NP	Description
Indicator							Call Forwarding or Call Deflection supplementary services for this call.
Calling Party Restriction Indicator	O	-	-	-	O	-	This IE allows the gsmSCF to mark the CLI as Restricted for the call. NP only applicable within an MO or NC case.

Backward Service Interaction Indicator contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Conference Treatment Indicator	O	O	O	O	-	O	This IE allows the gsmSCF to disallow the call leg to become part of a MPTY call initiated by the calling subscriber.
Call Completion Treatment Indicator	O	O	O	O	-	O	This IE allows the gsmSCF to disallow a CCBS request to be made for the call. See also 3GPP TS 23.093 [25] for description.

— END —

3GPP TSG CN WG2#30 **TDoc N2-030467**
Sophia Antipolis, France, 25th – 29th August 2003 rev N2-030430rev

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **524** ⌘**rev** **4** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	Handling of Information Flows with absent LegID and CS ID
Source:	⌘	Alcatel
Work item code:	⌘	CAMEL4
Date:	⌘	29/08/2003
Category:	⌘	**F** (essential correction)
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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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:	⌘	- The Continue With Argument IF may contain a Leg ID or a Call Segment ID information element. It is not clear when which of those information elements is included. - Several Information Flows contain a Leg ID or a Call Segment ID. Their presence is sometimes optional, either by 23.078 ("O" or "S" indication) and/or by 29.078 (ASN.1 OPTIONAL). In CAMEL Phase 3 the absence of those parameters can be resolved. However due to the fact that CAMEL Phase 4 is supporting multiple call segments and multiple legs this is not clear any more.
Summary of change:	⌘	- It is clarified that in a Continue With Argument IF the Leg ID is used to continue EDP-Rs and the Call Segment ID is used to continue CPH and ICA information flows. - It is specified that a Leg ID and / or a Call Segment ID may only be absent in a case similar to CAMEL 3 case, i.e. "a CSA with a single call segment and this call segment is only containing leg1 or leg2 or both of them." - Update of the SDLs is necessary to show the case where neither LegID nor CSID is included in the ContinueWithArgument.
Consequences if not approved:	⌘	Unspecified behaviour for the new CAMEL Phase 4 scenarios.

Clauses affected:	⌘	4.5.7.7, 4.6.2.8, 4.6.2.9

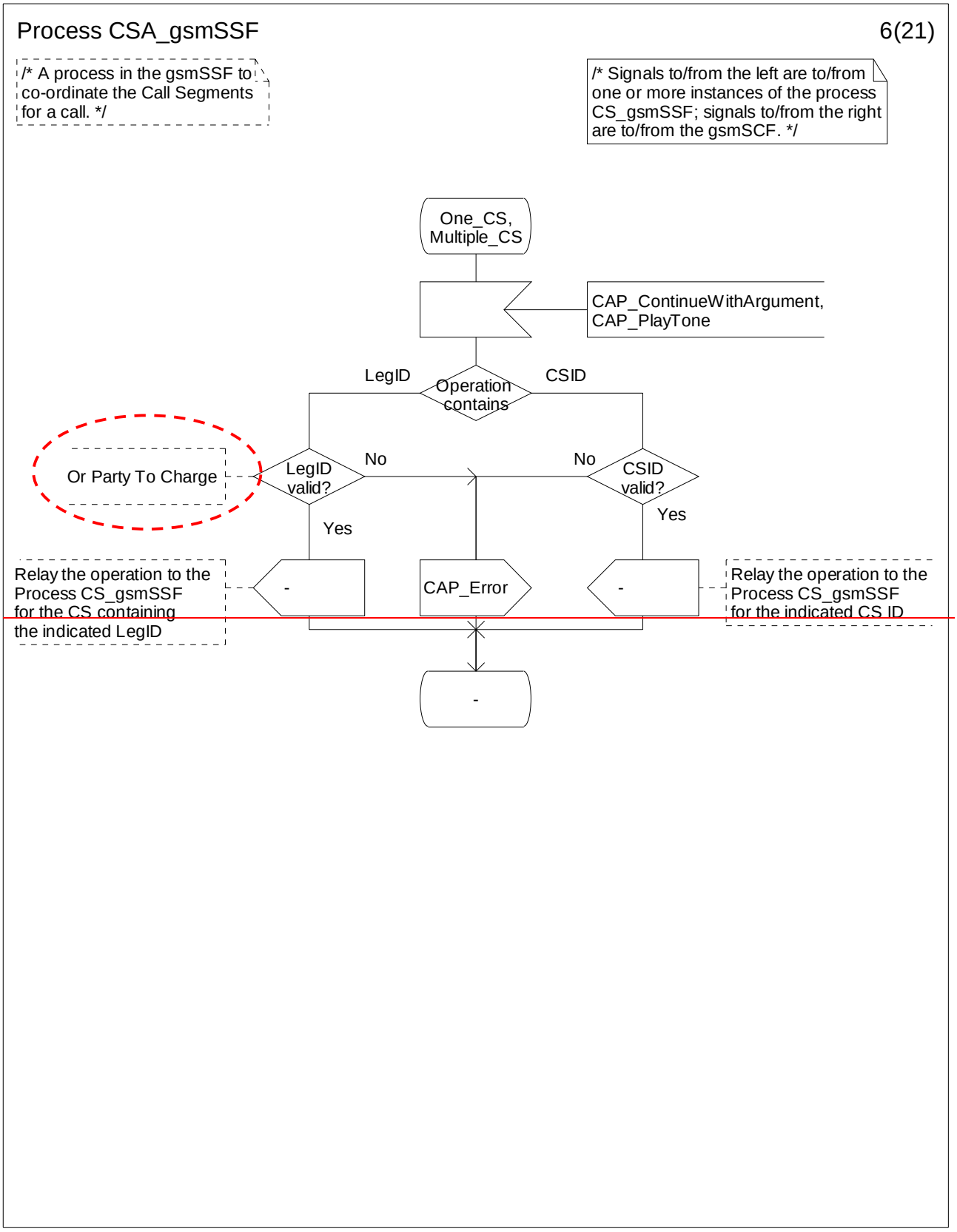
Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	For Call Information Report and Call Information Request 29.078 specifies: When absent, it 'indicates' / 'shall apply to' the "outgoing" leg, this can be a leg created by Connect/Continue/ContinueWithArgument."

— First modified section —

4.5.7.7 Process CSA_gsmSSF and procedures

...



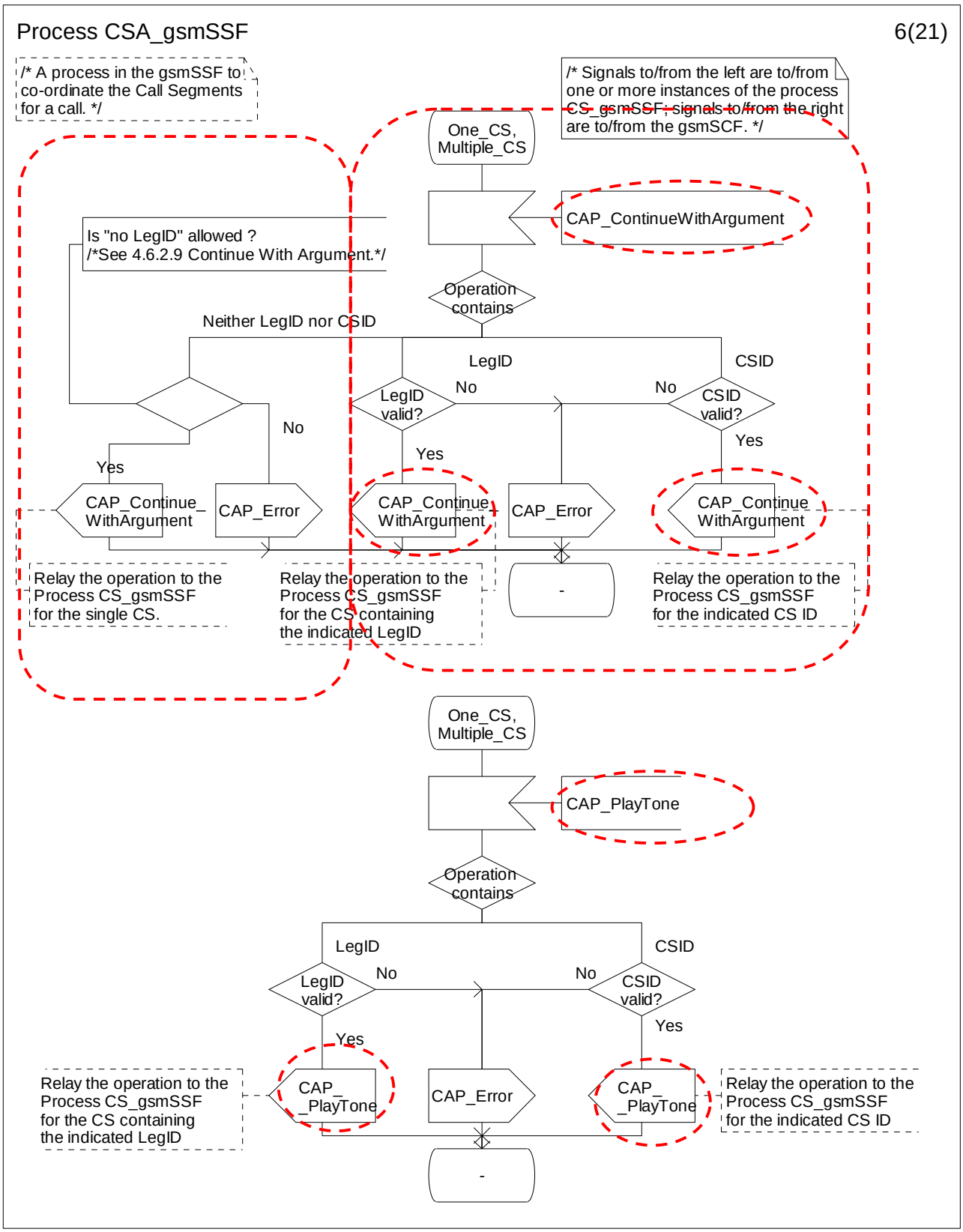


Figure 4.112-6: Process CSA_gsmSSF (sheet 6)

— Next modified section —

4.6.2.8 Continue

4.6.2.8.1 Description

This IF requests the gsmSSF to proceed with call processing 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) without substituting new data from the gsmSCF.

The gsmSCF may send this operation only when there is a CSA with a single call segment which includes:

- only leg1, or
- only leg2, or
- leg1 and leg2 but no other legs.

4.6.2.8.2 Information Elements

This IF contains no information elements.

— Next modified section —

4.6.2.9 Continue With Argument

4.6.2.9.1 Description

This IF requests the gsmSSF to continue the call processing with modified information at the DP at which it previously suspended call processing to await gsmSCF instructions or to continue call processing after a Call Party Handling IF was received. The gsmSSF completes DP processing if necessary, 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.

This IF may also be used to continue call processing after an Initiate Call Attempt IF and Call Party Handling IF.

The gsmSCF can send modified call information at DP Collected_Info and at DP Analysed_Info, as listed in the MO and MF columns in subclause 4.6.2.9.2.

The gsmSCF can send modified call information at DP Termination_Attempt_Authorised, as listed in the MT and VT columns in subclause 4.6.2.9.2.

The gsmSCF can send modified call information immediately after sending an Initiate Call Attempt IF, as listed in the NC and NP columns in subclause 4.6.2.9.2.

In all other cases, Continue With Argument shall contain no other IE than ~~only either the~~ Leg ID or Call Segment ID ~~IE~~.

When Continue With Argument is used to resume the processing of an Initiate Call Attempt IF or a Call Party Handling IF, then a Call Segment ID shall be included and Leg ID shall be absent.

When Continue With Argument is used to resume processing after an EDP-R or TDP-R, then a Leg ID shall be included and Call Segment ID shall be absent. The following exception exists: if Continue With Argument is used to resume processing after an EDP-R or TDP-R in one of the following scenarios:

- the CSA has one Call Segment only, which includes leg 1 only;
- the CSA has one Call Segment only, which includes leg 2 only;
- the CSA has one Call Segment only, which includes leg 1 and leg 2, but no other legs;

then, the Leg ID may be present or absent, as required by the Service Logic.

4.6.2.9.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
Alerting Pattern	-	-	O	O	O	-	This IE indicates the kind of Alerting Pattern to be applied.
Calling Partys Category	O	O	O	O	O	O	This IE indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber).
Generic Number	O	O	O	O	O	O	This IE contains the generic number. It is used to convey the additional calling party number, which e.g. could be used to modify the calling line ID presented to the called user.
Carrier	O	O	O	O	O	O	This IE is described in a table below.
NA Originating Line Information	O	O	O	O	O	O	This IE identifies the type of number in the Charge Number (e.g. subscriber versus PLMN operator number).
Charge Number	O	O	O	O	O	O	This IE identifies the chargeable number for the usage of a North American carrier.
Suppression Of Announcements	-	-	O	O	O	O	This IE indicates that announcements or tones generated as a result of unsuccessful call establishment shall be suppressed.
Service Interaction Indicators Two	O	O	O	O	O	O	This IE is described in a table below.
CUG Interlock Code	O	O	-	-	O	O	See 3GPP TS 23.085 [21] for details of this IE.
Outgoing Access Indicator	O	O	-	-	O	O	See 3GPP TS 23.085 [21] for details of this IE.
Basic OR Interrogation Requested	O	O	-	-	O	O,S	This IE indicates that a Basic Optimal Routeing interrogation is requested for the call. If Basic Optimal Routeing is successful, this will be reported to the gsmSCF in the Answer event report. This IE shall be ignored if the VMSC associated with the gsmSSF does not support Basic Optimal Routeing. This IE shall be ignored if it is received in a gsmSSF which is handling the MF call case in the GMSC function of the forwarding subscriber. For an NP call leg, this IE can only be included if the original call was an MO or NC call.
Leg ID	O,E	O,E	O,E	O,E	O,E	O,E	This IE indicates the party for which call processing is to be resumed.
Call Segment ID	O,E	O,E	O,E	O,E	O,E	O,E	This IE indicates the call segment for which call processing is to be resumed.
Suppress O-CSI	-	-	O	O	-	-	This IE indicates that O-CSI shall be suppressed for the forwarding leg or deflecting leg.
Suppress D-CSI	-	-	-	-	-	O	This IE indicates that D-CSI shall be suppressed for the new call leg. This IE can only be included if this IE is sent to the VMSC of the CAMEL subscriber.
Suppress N-CSI	-	-	-	-	-	O	This IE indicates that N-CSI shall be suppressed for the new call leg. This IE can only be included if this IE is sent to the VMSC of the CAMEL subscriber.
Suppress Outgoing Call Barring	-	-	-	-	-	O	This IE indicates that Outgoing Call Barrings for the created leg shall be suppressed. This IE can only be included if the Initiate Call Attempt IF is sent to the VMSC of the CAMEL subscriber.

Carrier contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Carrier Identification Code	M	M	M	M	M	M	This IE uniquely identifies a North American long distance carrier.
Carrier Selection Information	M	M	M	M	M	M	This IE indicates the way the carrier was selected i.e.: - dialled - subscribed

Service Interaction Indicators Two contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Forward Service Interaction Indicator	O	O	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 allows the gsmSCF to disallow the invocation of HOLD by the CAMEL subscriber.
CW Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the invocation of CW for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the call leg to 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	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). This IE shall be absent if one or more of CUG Interlock Code and Outgoing Access Indicator are present in the IF.

Forward Service Interaction Indicator contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Conference Treatment Indicator	O	O	O	O	O	O	This IE indicates whether the call leg can become part of a MPTY call initiated by the called subscriber.
Call Diversion Treatment Indicator	O	O	O	O	O	O	This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection supplementary services.
Calling Party Restriction Indicator	O	-	-	-	-	O	This IE indicates whether the CLI shall be marked as Restricted by CAMEL action for the call. For an NP case, this IE can only be included if the original call was an MO call.

Backward Service Interaction Indicator contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Conference Treatment Indicator	O	O	O	O	-	-	This IE indicates if the call leg can become part of a MPTY call initiated by the calling subscriber.
Call Completion Treatment Indicator	O	O	O	O	-	-	This IE indicates whether a CCBS request can be made for the call. See also 3GPP TS 23.093 [25] for description.

— END —

3GPP TSG CN WG2 Meeting #30 **N2-030468**
Sophia Antipolis, France, 25th – 29th Aug 2003

CR-Form-v7

CHANGE REQUEST

⌘ **29.078** **CR** **329** ⌘ **rev** **2** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	MoveLeg precondition for source and target CS
Source:	⌘	Nokia
Work item code:	⌘	CAMEL4
Date:	⌘	28.8.2003
Category:	⌘	**F (essential correction)**
Release:	⌘	Rel-5

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:	⌘	The Call Party Handling (CPH) has a unnecessary limitation. It is not possible to trigger at DP2,DP3 or DP12, create legs, and move legs to the conference currently. The CR enables this very basic CPH service scenario.
Summary of change:	⌘	For the target CS the MoveLeg is allowed also in DP2, DP3 and DP12 but only if the original leg2 has been disconnected.
Consequences if not approved:	⌘	CPH works only if the original destination number alerts or answers. For some services this is not acceptable since the dialled number may be a service number without any real subscriber behind it.

Clauses affected:	⌘	

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

⌘

Other comments:	⌘	SplitLeg to CSid1 will need similar changes. Subject to another CR…

-- First modified section --

11.22 MoveLeg procedure

11.22.1 General Description

The gsmSCF uses this operation to request the gsmSSF to move the leg from its current Call Segment to CSID1.

11.22.1.1 Parameters

- legIDToMove:
  This parameter indicates the leg that shall be moved.

11.22.2 Responding entity (gsmSSF)

11.22.2.1 Normal procedure

gsmSSF preconditions:

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

2) The ~~corresponding~~ source BCSM is in the alerting, active or mid-call phase.

3) The target Call Segment fulfills the following preconditions:

   - At least one leg in the target Call Segment is in the alerting, active or mid-call phase, or

   - The original BCSM in the target Call Segment is at Terminating_Attempt_Authorised or Collected_Info detection point, and the outgoing leg of that BCSM has been disconnected by the gsmSCF.

~~3)~~4) The CS_gsmSSF FSM for each Call Segment involved is in the state "Waiting_for_Instructions" or in the state "Monitoring".

~~4)~~5) User Interaction is not in progress in either Call Segment.

gsmSSF postconditions:

1) The gsmSSF performs the appropriate call processing actions.

2) The CS_gsmSSF FSM for CSID1 transits to the state "Waiting_for_Instructions". The BCSM instances within CSID1transit to the O_Mid_Call DP or to the T_Mid_Call DP, if not already suspended. The Mid_Call EDP shall not be reported for this case.

3) The CS_gsmSSF process for the source Call Segment is terminated.

4) A Return Result is sent to the gsmSCF immediately after successful execution of this operation.

11.22.2.2 Error handling

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