3GPP TSG CN Plenary Meeting #25 **NP-040406**
8th – 10th August 2004 Palm Springs, US.

Source: TSG CN WG4

Title: Corrections on Camel TEI6

Agenda item: 9.21

Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level N4-04	Phase	Subject	Cat	Ver_C
23.078	731		0932	Rel-6	Correcting status in the procedure CAMEL_MT_CTR(sheet 4)	F	6.2.0
23.078	732		0933	Rel-6	Redundantly modifying call parameter in CAMEL_MT_GMSC_Notify_CF	F	6.2.0
23.078	733		0934	Rel-6	Correcting SDL of Process CS_gsmSSF(sheet 7)	F	6.2.0
23.081	008		1020	Rel-6	Editorial correction of table definition	F	5.2.0
23.078	737		1024	Rel-6	Correction to CAP SCI for calls with multiple CAP dialogues	F	6.2.0
29.078	383		1025	Rel-6	Correction to usage of ACM for CAP ETC and CAP CTR	F	6.2.0
23.078	738		1026	Rel-6	Correction to CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2	F	6.2.0
23.078	739		1027	Rel-6	Removal of Int_O_Exception from CAMEL_OCH_MSC2 and CAMEL_MT_GMSC_DISC5	F	6.2.0
23.078	740		1028	Rel-6	Correction to CAMEL_Modify_CUG_Info	F	6.2.0
29.078	384		1029	Rel-6	Correction to Cancel procedure description	F	6.2.0
23.078	741		1030	Rel-6	Correction to CAMEL_EXPORT_LEG_MSC procedure	F	6.2.0
23.078	743		1032	Rel-6	Correction to CS_gsmSSF for EDS	F	6.2.0
23.078	744		1033	Rel-6	Correction to CS_gsmSSF for Tcp expiry	F	6.2.0
23.078	745		1034	Rel-6	Correction to Handle_ACR procedure for Tccd timer	F	6.2.0
23.078	747		1036	Rel-6	Correction to any Time Interrogation	F	6.2.0
29.078	385		1037	Rel-6	Correction to SplitLeg ASN.1 description	F	6.2.0
29.078	386		1038	Rel-6	Correction to Apply Charging Report procedure	F	6.2.0
29.078	387		1039	Rel-6	Correction to Assist Request Instructions procedure	F	6.2.0
29.078	388		1040	Rel-6	Correction to Call Information Request and Report	F	6.2.0
29.078	389		1041	Rel-6	Correction to Tssf timer setting for SMS control	F	6.2.0
23.078	730	1	1178	Rel-6	Editorial correction	D	6.2.0
23.018	143	1	1181	Rel-6	Add “CAMEL_Stop_TNRy”in Procedure OG_Call_Setup _MSC (sheet 4)	F	6.2.0
23.078	748	2	1182	Rel-6	Clarification on Outstanding Request Counter (ORC) handling at EDP-R or TDP-R resumption	F	6.2.0
23.078	735		1186	Rel-6	Appended a note in Process CAMEL_ICA_MSC	F	6.2.0

3GPP TSG-CN WG4 Meeting #24 ***N4-040932***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **731** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

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

Title:	⌘	**Correcting status in the procedure CAMEL_MT_CTR(sheet 4)**
Source:	⌘	**CN4**
Work item code:	⌘	**TEI6**
Date:	⌘	**22/07/2004**
Category:	⌘	**F**
Release:	⌘	**Rel-6**

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The following error needs to be corrected in the subclause 4.5.3.1.12. In Figure 4.52-4: Procedure CAMEL_MT_CTR (sheet 4), the figure is used to describe processing in MT. However the status DP_O_Abandon_SRF is a status used in MO which is not compatible with the figure's expression.
Summary of change:	⌘	Correcting the wrong status.
Consequences if not approved:	⌘	Making the readers confusing without correcting the wrong status.

Clauses affected:	⌘	4.5.3.1.12			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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

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

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

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

*** First Modification ***

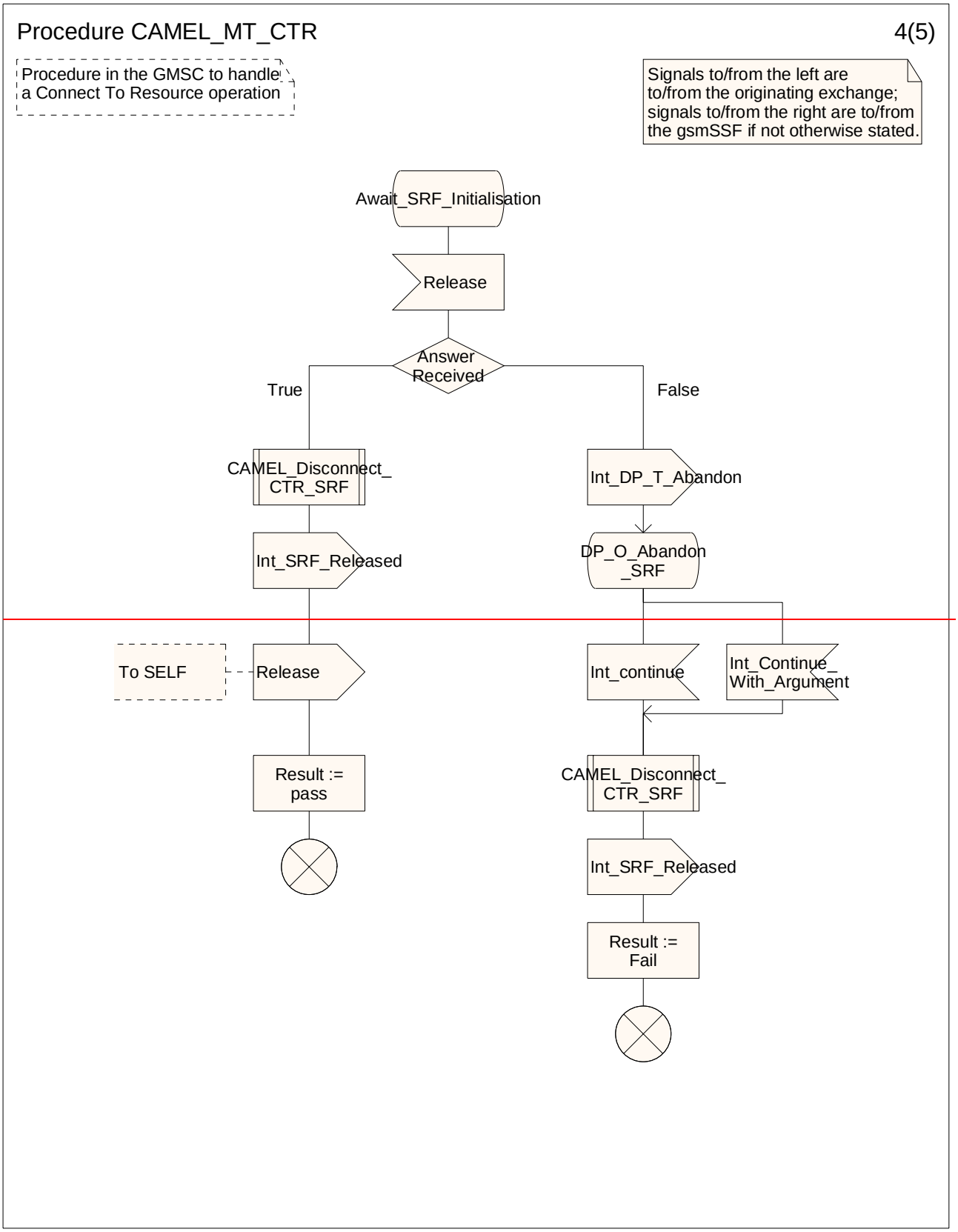

Figure 4.52-4: Procedure CAMEL_MT_CTR (sheet 4)

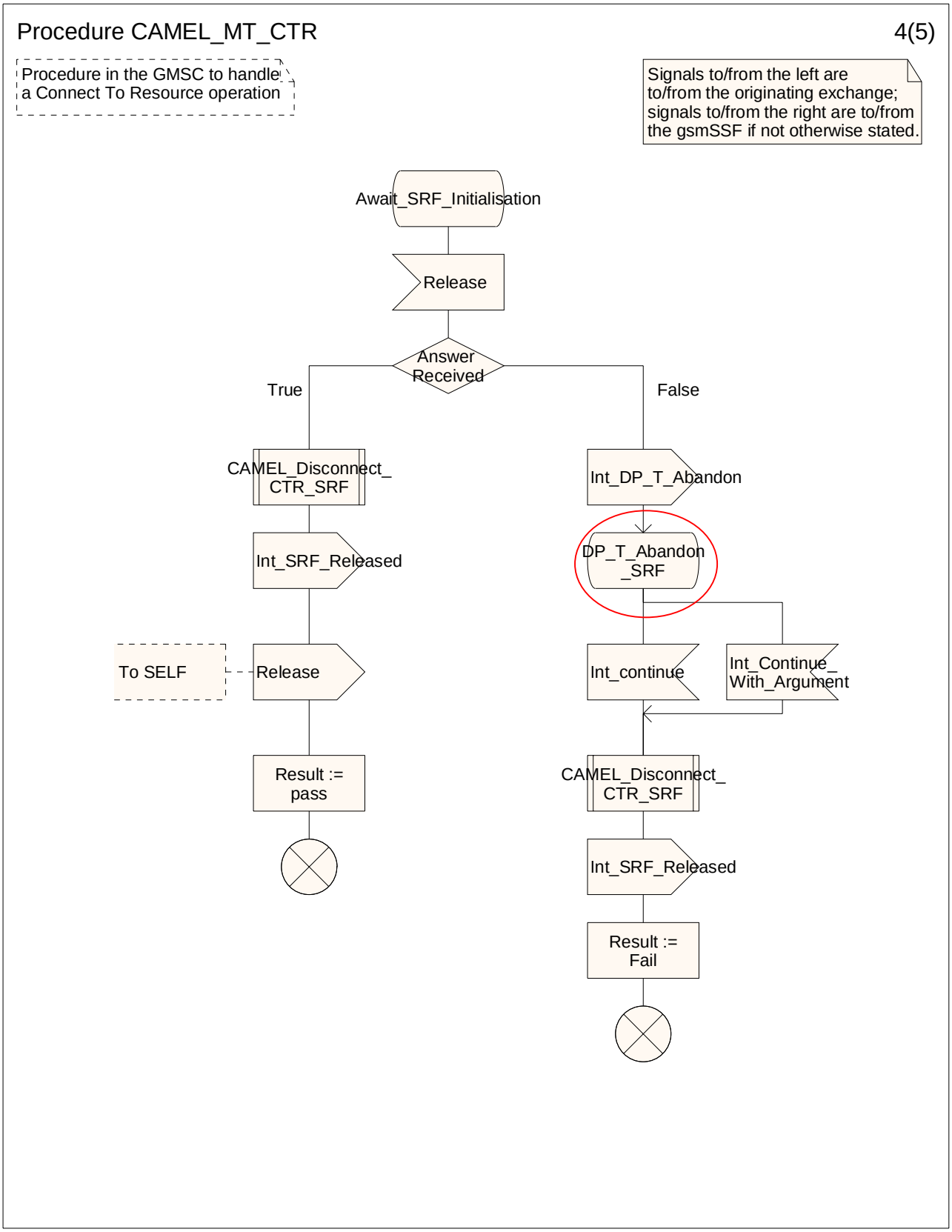

Figure Error! Reference source not found.**-2: Procedure CAMEL_MT_CTR (sheet 2)**

3GPP TSG-CN WG4 Meeting #24 ***N4-040933***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **732** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

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

Title:	⌘	**Redundantly modifying call parameter in CAMEL_MT_GMSC_Notify_CF**
Source:	⌘	**CN4**
Work item code:	⌘	**TEI6**
Date:	⌘	**22/07/2004**
Category:	⌘	**F**
Release:	⌘	**Rel-6**

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	In figure 4.53-1: Prodedure CAMEL_MT_GMSC_Notify_CF (sheet 1), After receiving the message 'Int_Connect', ' modify call parameters with received information' is twice invoked. The later is redundant, no extra messages are received and no other process take place between the two modification.
Summary of change:	⌘	Delete the redundant process.
Consequences if not approved:	⌘	Redundantly process will occur.

Clauses affected:	⌘	4.5.3.1.12			
		Y	**N**		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:
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Below is a brief summary:

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

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

*** First Modification ***

4.5.3.1.12 Action of the MSC on receipt of Int_Disconnect_Leg (Leg 2)

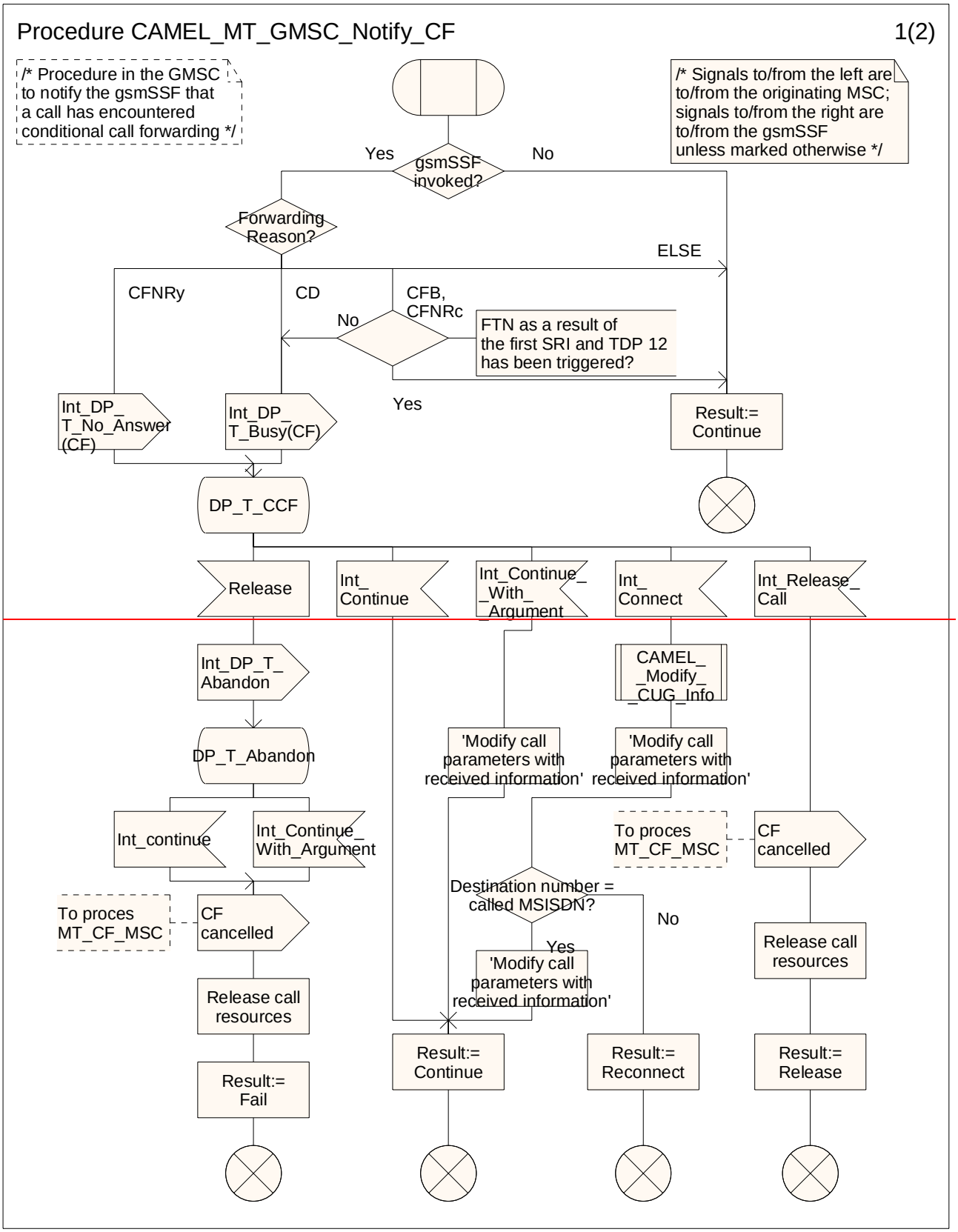

Figure Error! Reference source not found..**1-1: Procedure CAMEL_MT_GMSC_Notify_CF (sheet 1)**

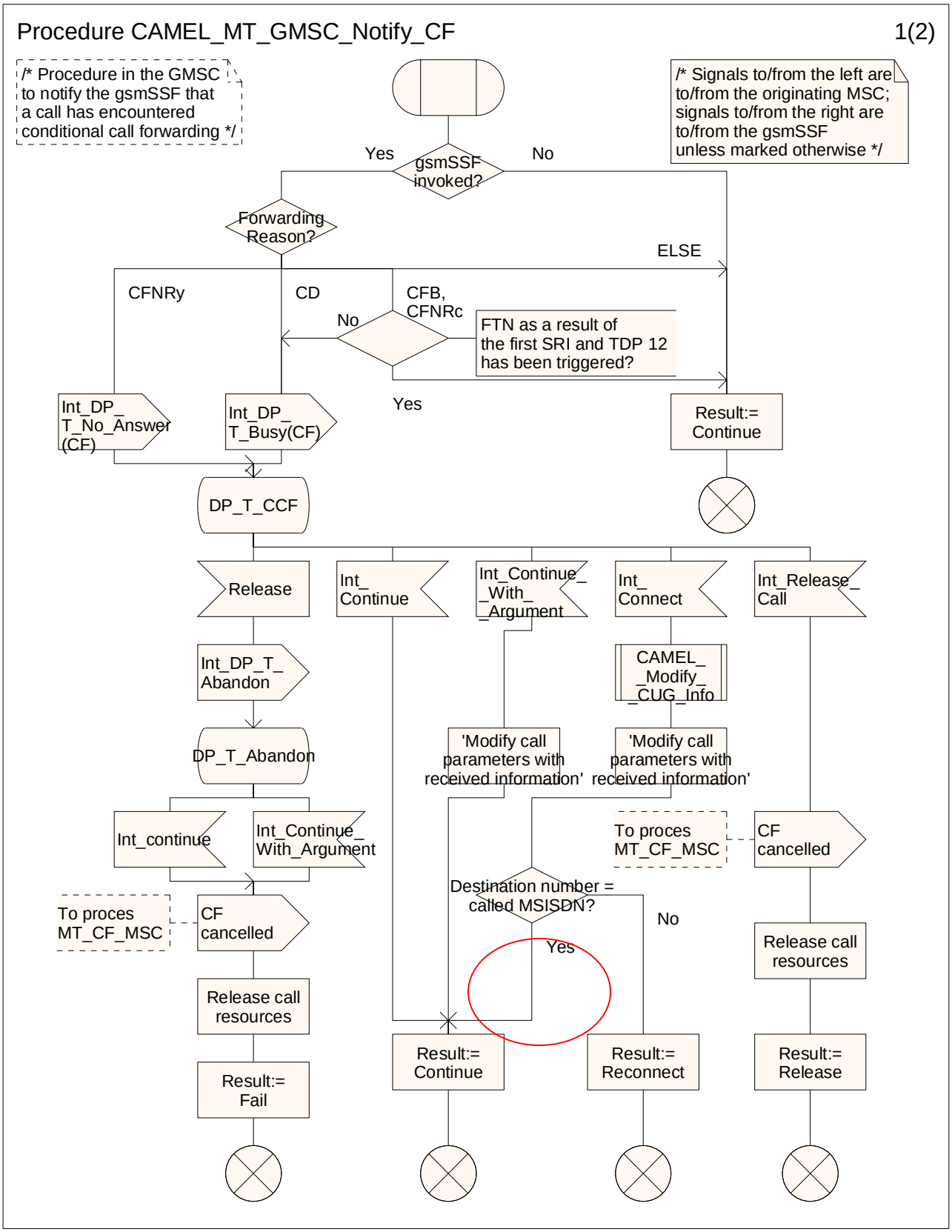

Figure Error! Reference source not found..**2-1: Procedure CAMEL_MT_GMSC_Notify_CF (sheet 1)**

3GPP TSG-CN WG4 Meeting #24 ***N4-040934***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **733** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

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

Title:	⌘	**Correcting SDL of Process CS_gsmSSF(sheet 7)**
Source:	⌘	**CN4**
Work item code:	⌘	**TEI6**
Date:	⌘	**22/07/2004**
Category:	⌘	**F**
Release:	⌘	**Rel-6**

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	In Process CS_gsmSSF(sheet 7), it describes that the ORC_Leg (LegID2) is set to 1, and the ORC_Leg of all other legs is set to 0 when the TDP occurs. This description isn't correct, because if the TDP which occurred is Route_Select_Failure or Analysed_Information (see sheet 5 SDL process CS_gsmSSF), the LegID which ORC_Leg is set to 1 should be the LegID1 instead of LegID2.
Summary of change:	⌘	The description changes to that the ORC_Leg of the LegID which TDP occurs will set to 1.
Consequences if not approved:	⌘	The ORC_Leg of the LegID which TDP occurs may set to an unexpected value.

Clauses affected:	⌘	4.5.7.5

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

Other comments: ⌘

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Below is a brief summary:

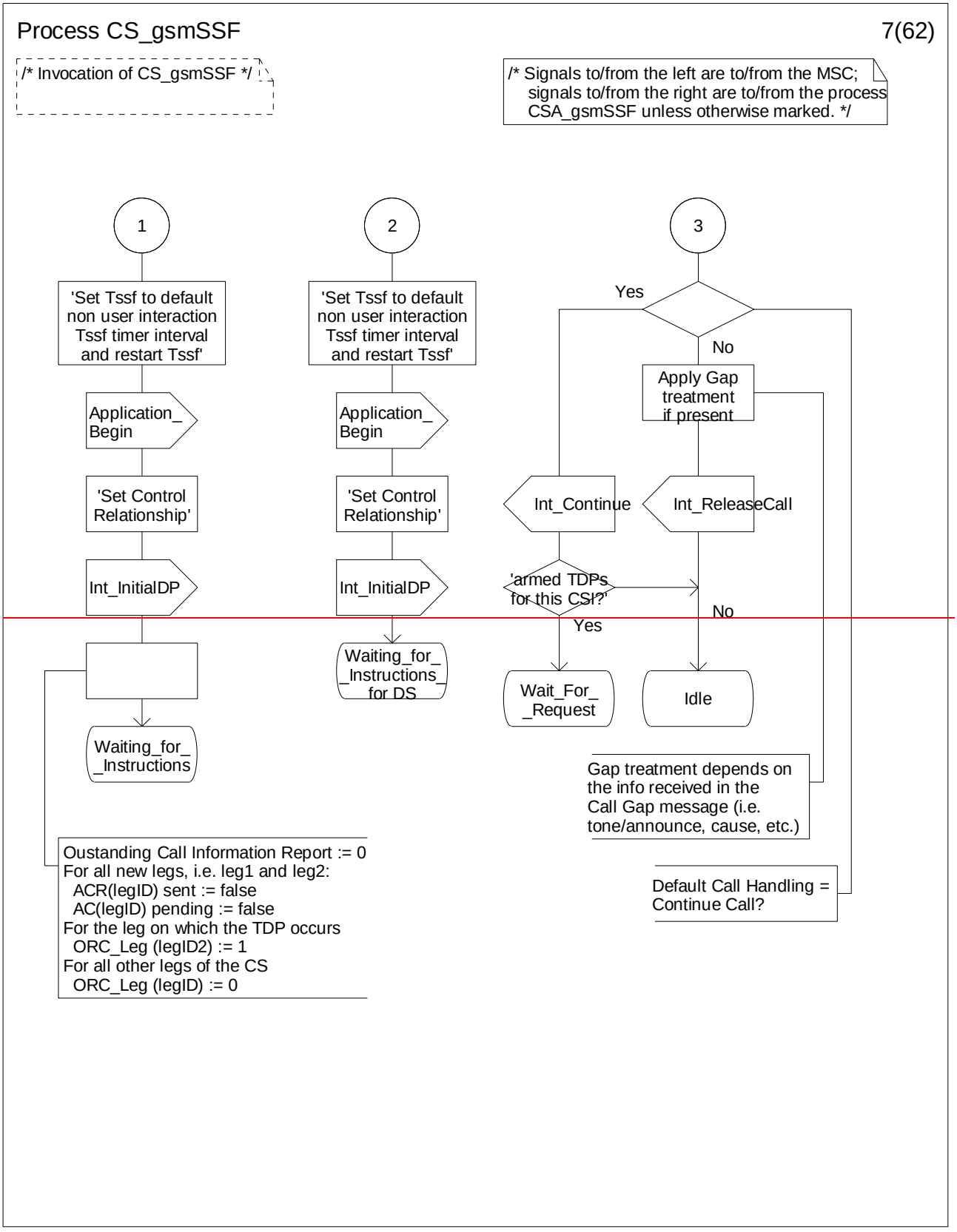
1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

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

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

*** First Modification ***

4.5.7.5 Process CS_gsmSSF and procedures



~~Figure 4.99-7: Process CS_gsmSSF (sheet 7)~~

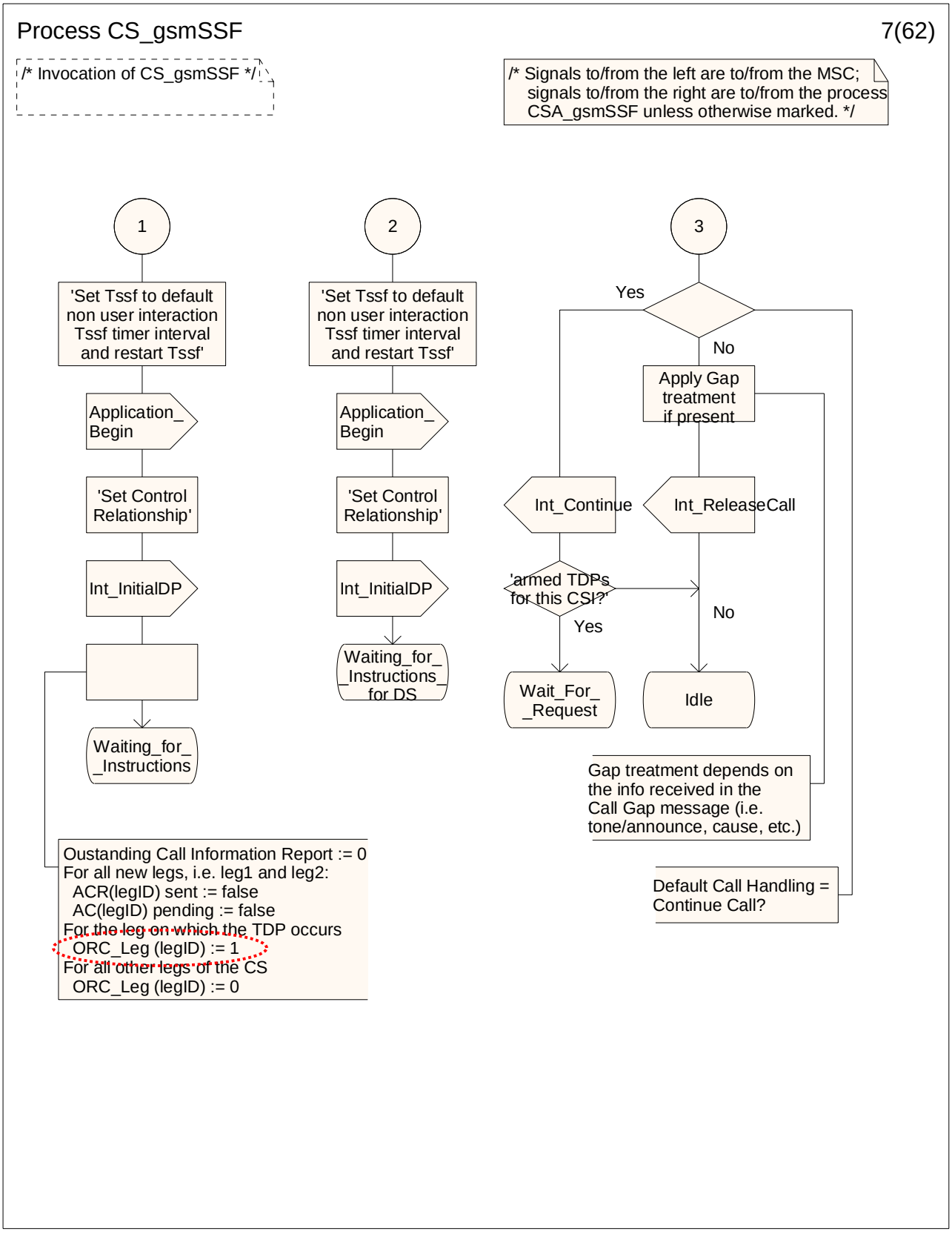


Figure 4.99-7: Process CS_gsmSSF (sheet 7)

3GPP TSG-CN WG4 Meeting #24 ***N4-041020***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.081** **CR** **008** ⌘ **rev** **-** ⌘ Current version: **5.2.0** ⌘

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

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

Title:	⌘	Editorial correction of table definition
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	05/08/2004
Category:	⌘	**F**
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The table which describes the mapping of CLI does not mention the mapping in case CLI is provisioned with override category for the subscriber. Instead it mentions two different mappings for CLI provisioned without override category.
Summary of change:	⌘	Change the text in the appropriate row definition to mention how the mapping is made in case CLI is provisioned with override category.
Consequences if not approved:	⌘	Confusion will be caused in the implementors possibly resulting in a different mapping of CLI when override category is active or not making the feature not to work at all.

Clauses affected:	⌘	ANNEX A

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

Other comments:	⌘	

How to create CRs using this form:
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Below is a brief summary:

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

First modification

Annex A (informative): Mapping of CLI

This annex defines the mapping rules of CLI parameters received via the NW-NW interface to CLI parameters to be sent to the MS.

	Information received over the NW-NW interface					Information sent to the MS		
	presentation indicator	line identity	additional presentation indicator	additional line identity	Cause of No CLI	presentation indicator	line identity	Cause of No CLI
CLIP not pro-vision-ed	*	*	*	*	*	-	-	-
CLIP provisioned without override category	-	-	-	-	-	not available	-	-
	not available	-	-	-	-	not available	-	-
	allowed	digits	-	-	-	allowed	digits of line identity	-
	allowed	digits	+	digits	-	allowed	digits of additional line identity	-
	restricted	digits	*	*	-	restricted	-	-
	restricted	digits	*	*	unavailable	restricted	-	unavailable
	restricted	digits	*	*	reject by user	restricted	-	reject by user
	restricted	digits	*	*	interaction with other service	restricted	-	interaction with other service
	restricted	digits	*	*	payphone	restricted	-	payphone
	restricted by network	digits	-	-	-	not available	-	-
	restricted by network	digits	allowed	digits	-	allowed	digits of additional line identity	-

	Information received over the NW-NW interface					Information sent to the MS		
	presentation indicator	line identity	additional presentation indicator	additional line identity	Cause of No CLI	presentation indicator	line identity	Cause of No CLI
CLIP provisioned without override category	-	-	-	-	-	not available	-	-
	not available	-	-	-	-	not available	-	-
	allowed	digits	-	-	-	allowed	digits of line identity	-
	allowed	digits	+	digits	-	allowed	digits of additional line identity	-
	restricted	digits	-	-	-	restricted	digits of line identity	-
	restricted	digits	+	digits	-	restricted	NOTE 1	-
	restricted	digits	+	digits	unavailable	restricted	NOTE 1	unavailable
	restricted	digits	+	digits	reject by user	restricted	NOTE 1	reject by user
	restricted	digits	+	digits	interaction with other service	restricted	NOTE 1	interaction with other service
	restricted	digits	+	digits	payphone	restricted	NOTE 1	payphone
	restricted	digits	-	-	unavailable	restricted	digits of line identity	unavailable
	restricted	digits	-	-	reject by user	restricted	digits of line identity	reject by user
	restricted	digits	-	-	interaction with other service	restricted	digits of line identity	interaction with other service
	restricted	digits	-	-	payphone	restricted	digits of line identity	payphone
	restricted by network	digits	-	-	-	restricted	digits of line identity	-
	restricted by network	digits	allowed	digits	-	allowed	digits of additional line identity	-

- parameter not present
* parameter absent or present, if present it may have any value
+ parameter present, it may have any value

NOTE 1: Network Option to send either digits of the line identity or digits of additional line identity applies.

Modification End

3GPP TSG-CN WG4 Meeting #24 N4-041024

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **737** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to CAP SCI for calls with multiple CAP dialogues
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change: ⌘

It is permissible to have an O-CSI dialogue, followed by a (non-EDS) D-CSI dialogue, whilst the O-CSI dialogue is still active. The D-CSI service may use CAP SCI, including e-parameters and Tsw. Section 4.5.7.2 in 3GPP TS 23.078 specifies coordination rules for the case that gsmSSF receives SCI in both the O-CSI dialogue and the D-CSI dialogue.

In CAMEL Phase 4, the handling of SCI is slightly modified, compared to CAMEL Phase 3:

- in CAMEL Phase 3, one of ACH and SCI may contain Tsw, but it is not allowed to have Tsw in both ACH and SCI (refer to 3GPP TS 29.078 (R99), section 11.44.2.1).
- in CAMEL Phase 4, both ACH and SCI may contain Tsw (refer to 3GPP TS 29.078 (Rel-6), section 11.29.2.1).

In CAMEL Phase 4, the following applies:

- Tsw in ACH applies to the leg for which ACH applies; Tsw is used to affect what is reported in ACR;
- Tsw in SCI is used for the sending of e-parameters to the served party.

It is further permissible to have a mix of O-CSI and D-CSI CAMEL dialogues. As an example, there may be a CAMEL Phase 2 O-CSI dialogue (e.g. for pre-paid) and a CAMEL Phase 4 D-CSI dialogue (for User Interaction script).

Practically, when an operator introduces a D-CSI or N-CSI service with CAP v3

	or CAP v4, the operator may want to leave the CAMEL Phase 2 pre-paid service unaffected; i.e. no need to upgrade the operational pre-paid service or VPN service when deploying a Subscribed Dialed Service or a Serving Network based Dialed Service. I presume we all agree with this principle. That should not be a problem, so far. However, when the D-CSI or N-CSI uses SCI, then the handling of this SCI by the gsmSSF may influence also the SCI that is received in the CAMEL Phase 2 (or CAMEL Phase 3) O-CSI dialogue: (1) CAPv3 ACH received with Tsw on an O-CSI dialogue & CAPv4 SCI received with Tsw(SCI) on a D-CSI dialogue; (2) CAPv4 ACH received with Tsw on an O-CSI dialogue & CAPv3 SCI received with Tsw on a D-CSI dialogue. In example (1), the CAP v3 O-CSI dialogue would use the Tsw in ACH for both the ACR and the sending of the second set of e-parameter. When gsmSSF subsequently receives SCI from D-CSI service, the gsmSSF would overwrite the Tsw received in ACH by the Tsw received in SCI. In example (2), similar interaction occurs. There may be other unforeseen interaction cases with ACH and SCI, if O-CSI and D-CSI use different CAP versions. It may not be proper service logic design to have a mix of CAMEL Phase 3 and CAMEL Phase 4 for O-CSI and D-CSI/N-CSI, with multiple services using SCI. Therefore, the operator shall take care when mixing CAMEL Phases for O-CSI and D-CSI/N-CSI, especially when either or both of the services use SCI. If the operator wants to use SCI, then it may be best to use a consistent CAMEL Phase for O-CSI and D-CSI/N-CSI. Otherwise, if the D-CSI service would e.g. send only FCI, followed by CUE/CWA/CON, then there should not be a problem if the O-CSI and D-CSI use different CAP versions.
Summary of change: ⌘	The present CR proposes that a NOTE be included in the table in section 4.5.7.2.1, to indicate that operators should take care when using SCI in the case that the primary and secondary dialogue use different CAP version.
Consequences if not approved: ⌘	Inconsistent behaviour of the gsmSSF, w.r.t. the handling of SCI. This may lead to incorrect Charge Advice information to the user.

Clauses affected:	⌘	4.5.7.2			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
			X Test specifications		
			X O&M Specifications		
Other comments:	⌘				

****** First modification ******

4.5.7.2 The gsmSCF control of e-values

4.5.7.2.1 Procedure Handle_SCI

There are independent Tariff Switch Timers for the control of the call duration Tsw(pty) and for the gsmSCF control of e-values Tsw(SCI). The gsmSCF control of e-values is via the Send Charging Information information flow.

The following terminology has been used for e-parameters:

- Applicable and in use. The set of e-parameters is currently applicable in the MSC and the set has been sent to the MS.
- Applicable but waiting. The set of e-parameters is currently applicable in the MSC but the set has not yet been sent to the MS.
- Applicable but not in use. The set of e-parameters is currently applicable in the MSC but it cannot be sent to the MS, e.g. because the Advice of Charge supplementary service is not subscribed.
- Stored. The set of e-parameters is not yet applicable. The stored set of e-parameters becomes applicable when a tariff switch occurs.

The table below defines the actions of the Procedure Handle_SCI.

Table Error! Reference source not found..**1: Handling of SCI in the gsmSSF**

received Tsw(SCI) and set of e-parameters in the SCI information flow		**Primary dialogue (note 1)**				**Secondary dialogue (note 2, 8)**
		no active call / SRF connection		**active call / SRF connection**		
		Tsw(SCI) not running and no e-parameters stored	**Tsw(SCI) running and e-parameters stored**	**Tsw(SCI) not running and no e-parameters stored**	**Tsw(SCI) running and e-parameters stored**	
Tsw(SCI) not received	1 set	send 1st set to MSC	stop Tsw(SCI); discard stored set; send 1st set to MSC	send 1st set to MSC	stop Tsw(SCI); discard stored set; send 1st set to MSC	send 1st set to MSC
Tsw(SCI) not received	2 sets	**error**	**error**	**error**	**error**	**error**
Tsw(SCI) received	1 set	**error**	**error**	store 1st set; start Tsw(SCI)	stop Tsw(SCI); discard stored set; store 1st set; start new Tsw(SCI)	**error**
Tsw(SCI) received	2 sets	send 1st set to MSC, store 2nd set; start Tsw(SCI)	stop Tsw(SCI); discard stored set; send 1st set to MSC; store 2nd set; start new Tsw(SCI)	**error**	**error**	send 1st set to MSC; store 2nd set; start Tsw(SCI)

received Tsw(SCI) and set of e-parameters in the SCI information flow	Primary dialogue (note 1)				Secondary dialogue (note 2, 8)
	no active call / SRF connection		active call / SRF connection		
	Tsw(SCI) not running and no e-parameters stored	Tsw(SCI) running and e-parameters stored	Tsw(SCI) not running and no e-parameters stored	Tsw(SCI) running and e-parameters stored	

NOTE 1: Primary dialogue: The primary dialogue is initiated due to TDP Collected_Info, TDP Analysed_Information, or TDP Route_Select_Failure, TDP Terminating_Attempt_Authorised, TDP T_Busy or TDP T_No_Answer. A dialogue initiated due to TDP Analysed_Information is only the primary dialogue, if there is no ongoing dialogue due to TDP Collected_Info.

NOTE 2: Secondary dialogue: The secondary dialogue is initiated due to TDP Analysed_Information.

NOTE 3: The condition "active call / SRF connection" is true if there is at least one active leg in this call (CSA) or if an SRF is connected to a Call Segment in this CSA. Incoming legs are active after an answer is sent and before the leg begins to release. Outgoing legs are active after an answer is received and before the leg is begins to release.

NOTE 4: If the gsmSSF sends a set of e-parameters to the MSC this will overwrite the current set of e-parameters in the MSC, if e-parameters are applicable in the MSC.

NOTE 5: The MSC shall store the received e-parameters to be sent subsequently to the MS. The MSC shall send these e-parameters to the MS in a Connect message or in a Facility message.

NOTE 6: Secondary dialogue gsmSCF can only give e-parameter(s)/Tsw(SCI) when they have not previously been provided by the primary dialogue gsmSCF. After secondary dialogue gsmSCF gives e-parameter(s) / Tsw(SCI), Primary dialogue gsmSCF shall not give further on-line charging instructions (i.e. Send Charging Information).
For D-CSI, this is ensured by service subscription restriction by a home network operator. For N-CSI, this is ensured by a roaming agreement between the home network operator and the visited network operator or is only applicable within a home network.

NOTE 7: When a gsmSCF relationship is closed then the *stored* e-parameters given by that dialogue are discarded. Any Tariff Switch timer (Tsw(SCI)) is also stopped when the gsmSCF relationship is closed. If the gsmSCF has given any e-parameters which are not *stored* but which are applicable (regardless of whether they are *applicable and in use*, *applicable but waiting,* or *applicable but not in use*) when the gsmSCF relationship is closed, those e-parameters are also valid after the gsmSCF relationship is closed. If any subsequent CAP dialogues give e-parameters those new e-parameters shall overwrite the applicable e-parameters given by the preceding CAP dialogues.

NOTE 8: The secondary dialogue is not applicable to VT calls.

NOTE 9: Service Logic designers shall take care when using SCI in both primary dialogue and secondary dialogue, if these dialogues use different versions of CAMEL. In such a case it is e.g. possible that a Tariff Switch timer (Tsw(SCI)) information received in the primary dialogue is overwritten by a Tariff Switch timer (Tsw(SCI)) information received in the secondary dialogue.

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041025

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **29.078** **CR** **383** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to usage of ACM for CAP ETC and CAP CTR
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change: ⌘

With the introduction of the VT-CSI CAMEL triggering in the VMSC, the gsmSCF can use CAP Connect to the VMSC as part of terminating call handling. Annex A.3 of TS 29.078 specifies that when the MSC receives CAP Connect, it shall generate an ISUP ACM.

The current wording in Annex A.3 may be interpreted that the generation of ISUP ACM applies only to MT call handling in GMSC. But it applies also to MT call handling in VMSC.

The present CR proposes improved wording to reflect the above.

When gsmSCF sends CAP Connect, it may include “service Interaction Indicators Two”, with “Connected number treatment indicator”. The description of the usage of Connected number treatment indicator in CAP Connect requires improvement.

The present CR proposes improved wording hereto.

Connected To Resource

The current text in Appendix A.5 refers to IP (Intelligent Peripheral). However, Connected To Resource (CTR) is used for connection to a gsmSRF.

CTR may be used for various call cases, not just incoming call. CTR may be used for an individual Call Segment (e.g. held party) in a call.

		The generation of the ISUP ACM for CTR applies to MT call handling in GMSC and to MT call handling in VMSC. <u>Establish Temporary Connection</u> The generation of the ISUP ACM for ETC applies to MT call handling in GMSC and to MT call handling in VMSC.
Summary of change:	⌘	Correct Annexes A.3, A.5 and A.6 as outlined in the Reason for Change.
Consequences if not approved:	⌘	User Interaction at the VMSC, during VT-CSI dialogue may fail.

Clauses affected:	⌘	A.3, A.5, A.6			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***

A.3 Connect operation

On receipt of a Connect operation from the gsmSCF the called party number used for routeing is derived from the destinationRoutingAddress (see Table A.3). If the triggering of the CAMEL service was made for a mobile terminating call in the GMSC or VMSC or for a mobile forwarded call, then an ISUP ACM shall be sent to the preceding exchange. The encoding of the backward call indicators in the ISUP ACM is specified in 3GPP TS 09.12 [1].

Table A.3 illustrates the mapping of parameters received in the Connect operation to parameters sent in the ISUP IAM to the succeeding exchange. Parameters which were received in the ISUP IAM and are not replaced by parameters of the Connect operation are treated according to the normal procedures.

On sending of the ISUP IAM the awaiting address complete timer is started. If the timer expires, then the call is released in both directions and an appropriate indication is returned to the calling subscriber.

Table A.3

CAP Operation Connect (Note 1)	ISUP message IAM
DestinationRoutingAddress	Called party number
OriginalCalledPartyID	Original called number
callingPartysCategory	Calling party's category
redirectingPartyID	Redirecting number
redirectionInformation	Redirection information
GenericNumbers	Generic number (Note 2)
ServiceInteractionIndicatorTwo	See Table A.4
Cug-Interlock	Closed user group interlock code
cug-OutgoingAccess	Optional forward call indicators (Note 3)

NOTE 1: Optional parameters may be absent, i.e. they are mapped only if received.

NOTE 2: The set of generic numbers received in the genericNumbers parameter is mapped to the appropriate number of Generic Number parameters in the ISUP IAM. This shall be performed irrespective of the value of the screening indicator in the ISUP calling party number.

NOTE 3: The cug-OutgoingAccess is mapped to the Closed User Group indicator which is carried in bits A & B of the Optional forward call indicators.

Table A.4 – Mapping of the CAP Connect and ContinueWithArgument operation serviceInteractionIndicatorsTwo to ISUP.

Table A.4

CAP ServiceInteractionIndicators	**ISUP parameter in** ACM/CPG/CON/ANM/REL	IAM
Call to be diverted indicator – call diversion allowed – call diversion not allowed	---	Call diversion treatment indicators parameter Call to be diverted indicator – no indication – call diversion allowed – call diversion not allowed
Conference at DLE accept. ind. – accept conference request – reject conference request	---	Conference treatment indicators parameter Conference acceptance ind. – no indication – accept conference request – reject conference request
Calling party restriction indicator - no IN impact - presentation restricted	---	**Calling party number address presentation restricted indicator** - no impact - presentation restricted
Conference at OLE accept. ind. – accept conference request – reject conference request	**ACM/CPG/CON/ANM: Conference treatment indicators parameter** Conference acceptance ind. – no indication – accept conference request – reject conference request	**---**
Call completion treatment indicator - accept CCBS service request - reject CCBS service request	**REL, busy cause** Diagnostig field – CCBS possible – CCBS not possible	**---**
Connected number treatment indicator – no IN impact – presentation restricted – present called IN number – present called IN number restricted	Note 3	

NOTE 3:

If "no IN impact" was received for Connected number treatment indicator in the ~~CAP~~ serviceInteractionIndicatorsTwo ~~(connected number treatment indicator)~~, then a connected number parameter and a generic number parameter "additional connected number" are passed on unchanged.

If "presentation restricted" was received for Connected number treatment indicator in the ~~CAP~~ serviceInteractionIndicatorsTwo, then:

a) If a connected number parameter has been received in the ISUP ANM or ISUP CON, then the address presentation restricted indicator is set to "presentation restricted".

b) If a generic number parameter "additional connected number" has been received in the ISUP ANM or ISUP CON, then the address presentation restricted indicator is set to "presentation restricted".

c) If a redirection number parameter has been received, then a redirection number restriction parameter is sent in the ISUP ANM with bits AB set to "presentation restricted".

If "present called IN number" was received for Connected number treatment indicator in the ~~CAP~~ serviceInteractionIndicatorsTwo, then:

a) If a connected number parameter has been received in the ISUP ANM or ISUP CON, then the connected number parameter is modified as follows:

nature of address indicator and numbering plan indicator are encoded as received in the called party number of the ISUP IAM,

address presentation restricted indicator: 00 (presentation allowed),

address signals: as received in the called party number and possible subsequent number parameters, until the ISUP ACM was sent.

b) A generic number parameter "additional connected number" is deleted from the message, if applicable,

c) A redirection number parameter is deleted from the relevant messages, if applicable.

If "present called IN number restricted" was received for Connected number treatment indicator in the ~~CAP~~ serviceInteractionIndicatorsTwo, then:

a) If a connected number parameter has been received in the ISUP ANM or ISUP CON, then the connected number parameter is modified as follows:

nature of address indicator and numbering plan indicator are encoded as received in the called party number of the ISUP IAM,

address presentation restricted indicator: 01 (presentation restricted),

address signals: as received in the called party number and possible subsequent number parameters, until the ISUP ACM was sent.

b) A generic number parameter "additional connected number" is deleted from the message, if applicable,

c) A redirection number parameter is deleted from the relevant messages, if applicable.

***** *Next modification* *****

A.5 ConnectToResource operation

On receipt of a ConnectToResource operation from the gsmSCF, the ~~IP~~gsmSRF is connected to the ~~incoming~~ call, to facilitate User Interactive dialogue with the user.

If the User Interactive dialogue is to be performed at a forwarding MSC or at a terminating MSC (GMSC or VMSC), then an ISUP ACM shall be sent to the preceding exchange. The encoding of the backward call indicators in the ISUP ACM is specified in 3GPP TS 09.12 [1], with the Optional Backward Call Indicators indicating "in-band information or an appropriate pattern is now available".

If the User Interactive dialogue is to be performed at a forwarding MSC or at a terminating MSC (GMSC or VMSC), then when the ~~IP~~gsmSRF indicates through-connection and the ConnectToResource operation indicates that a bothway throughconnection is required, an ISUP ANM shall be sent to the preceding exchange if answer has not previously been sent. As a network operator/equipment vendor option an ISUP CPG message may be sent if ISUP ANM has already been sent.

***** *Next modification* *****

A.6 EstablishTemporaryConnection operation

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

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

Table A.5

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

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

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

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

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

a) Nature of connection indicators

Satellite indicator: set as in an Originating MSC,

Continuity check indicator: set as in Originating MSC,

Echo control device indicator: set as in Originating MSC

b) Forward Call Indicators

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

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

Interworking indicator: 0 (no interworking encountered),

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

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

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

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

SCCP method indicator: 00 (no indication)

c) Calling Party's Category

00001010 (ordinary subscriber)

d) Transmission Medium Requirement

00000011 (3.1 kHz audio)

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

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041026

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **738** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change: ⌘

In TS 23.018, Procedure OG_Call_Setup _MSC, the handlings of the result of the procedures CAMEL_OCH_MSC1 and CAMEL_OCH_MSC2 are different. Refer to sheets 6, 7 and 8 of that procedure.

But for the ICA leg, the situation is different.

For the ICA call leg, the call handling is specified in process CAMEL_ICA_MSC in TS 23.078. Call set up failure is specified in the procedures CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2.

The procedures CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 may be called from CAMEL_ICA_MSC and from CAMEL_ICA_MSC_ALERTING.

However, we have the following situation.

- CAMEL_ICA_MSC, sheet 6: when CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2 is called, there is only a check for result=Reconnect or result=other. This “other” covers the result “continue” and the result “release”.

- CAMEL_ICA_MSC_ALERTING, sheet 1: when CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2 is called, there is only a check for result=Reconnect or result=Continue, Release, Fail. Here as well, it does not matter whether the result is Continue, Release or Fail.

Questions resulting from the above are:

- Why do we have the differentiated result from the procedures

	CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2? It would be enough to have results “Reconnect” and “Continue”. - It is in any case wrong in CAMEL_ICA_MSC_ALERTING, sheet 1 to check for result=Fail. Neither CAMEL_ICA_MSC1 nor CAMEL_ICA_MSC2 can return Result=Fail. It is further unclear why there is Int_O_Exception signal in CAMEL_ICA_MSC2. If the NP leg leads to call set up failure (Busy, No_Answer, Route Select Failure), then the SCP will be informed, provided that the associated DP is armed. Pre-arranged end rules and other dialogue rules can ensure that the CAP dialogue is properly terminated. Moreover, the Int_O_Exception in CAMEL_ICA_MSC2 may lead to premature CAMEL dialogue termination; refer e.g. CS_gsmSSF, sheet 31. That would be the case e.g. when the NP leg is active, then moved into Call Segment 1, then the NP leg releases, then SCP creates a follow-on leg on that NP leg. The NP leg is now in Call Segment 1 and when there is No Answer, the SCP may reply with Continue, but leave the Call Segment 1 alive. CS_gsmSSF may now be in state Monitoring. The Int_O_Exception is now received in sheet 31. CS_gsmSSF is now terminated, while there may be other outgoing legs active in the call. To overcome this dilemma, the present CR proposes the following: - reduce the result of CAMEL_ICA_MSC1 and CAMEL_ICA_MSC2 to Reconnect or Continue; these are the only signals that are needed by the respective parent process or procedure; - remove the sending of Int_O_Exception from CAMEL_ICA_MSC2; that will resolve the premature termination of CS_gsmSSF.
Summary of change: ⌘	- correct procedure CAMEL_ICA_MSC_ALERTING - correct procedure CAMEL_ICA_MSC2.
Consequences if not approved: ⌘	Premature CAMEL dialogue termination and call failure, in the case of multi party calls.

Clauses affected:	⌘	4.5.6			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

****** First modification ******

4.5.6 Handling of gsmSCF initiated calls

4.5.6.1 Handling of gsmSCF initiated calls in the MSC

Handling of gsmSCF initiated calls in the MSC involves the following process and procedures:

- Process CAMEL_ICA_MSC;
- Procedure CAMEL_ICA_MSC_ALERTING;
- Procedure CAMEL_ICA_MSC_ANSWER;
- Procedure CAMEL_ICA_MSC1;
- Procedure CAMEL_ICA_MSC2;
- Procedure CAMEL_ICA_Dialled_Services.

The Process CAMEL_ ICA_MSC handles both gsmSCF initiated new calls and gsmSCF initiated new parties.

The following paragraphs give details on the behaviour of the MSC in the process CAMEL_ICA_MSC.

4.5.6.1.1 Actions of the MSC on receipt of Int_Error

The process CAMEL_ICA_MSC returns to idle.

4.5.6.1.2 Actions of the MSC on receipt of Int_Continue

The MSC continues processing without any modification of call parameters.

4.5.6.1.3 Actions of the MSC on receipt of Int_Continue_With_Argument

The MSC continues processing with modification of call parameters.

4.5.6.1.4 Actions of the MSC on receipt of Int_Disconnect_Leg

A Release is sent to the destination exchange if required. The release cause received in the Int_Disconnect_Leg signal is used. The process CAMEL_ICA_MSC returns to idle.

4.5.6.1.5 Actions of the MSC on receipt of Int_Release_Call

A Release is sent to the destination exchange if required. The release cause received in the Int_Release_Call signal is used. The MSC then releases all call resources and the process CAMEL_ ICA_MSC returns to idle.

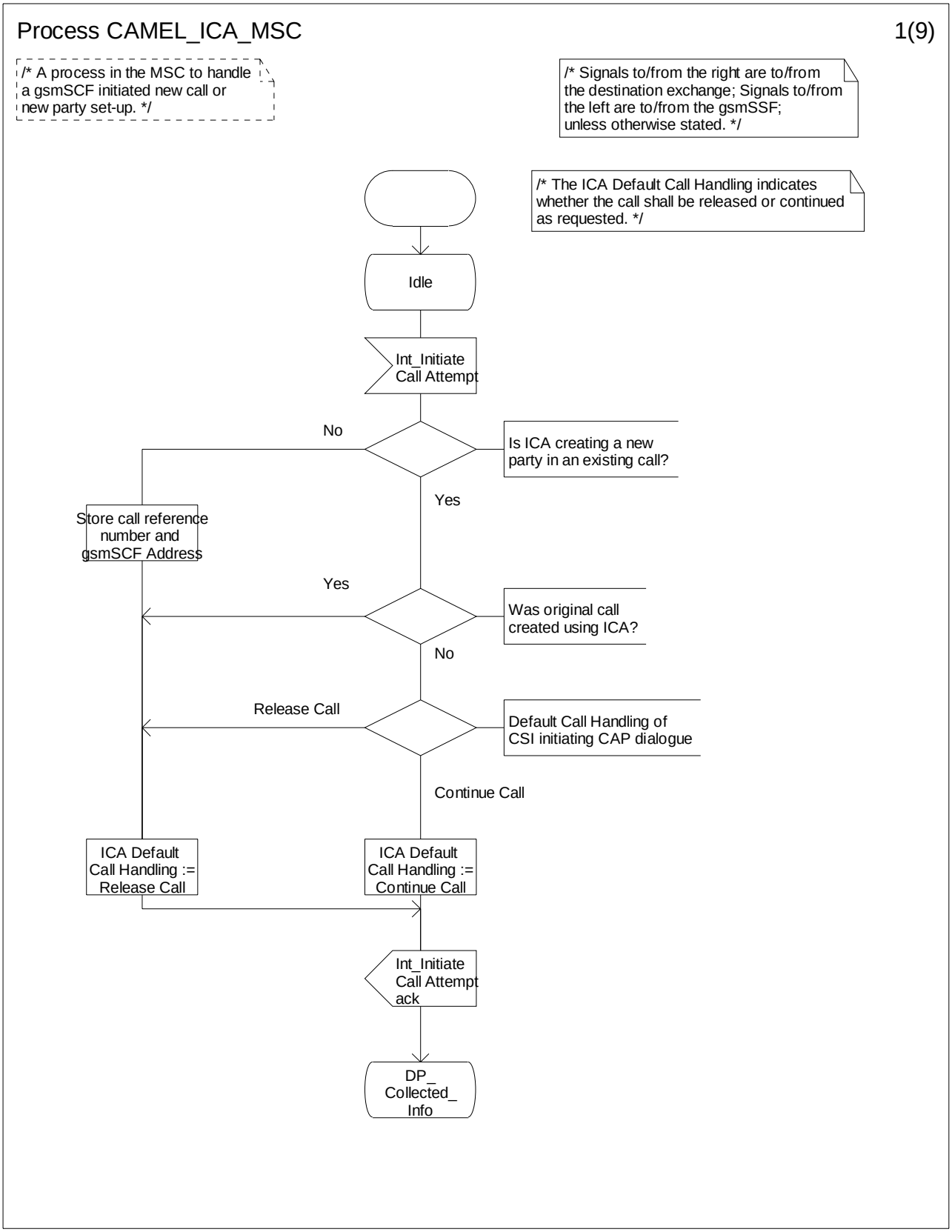


Figure Error! Reference source not found..**1-1: Process CAMEL_ICA_MSC (sheet 1)**

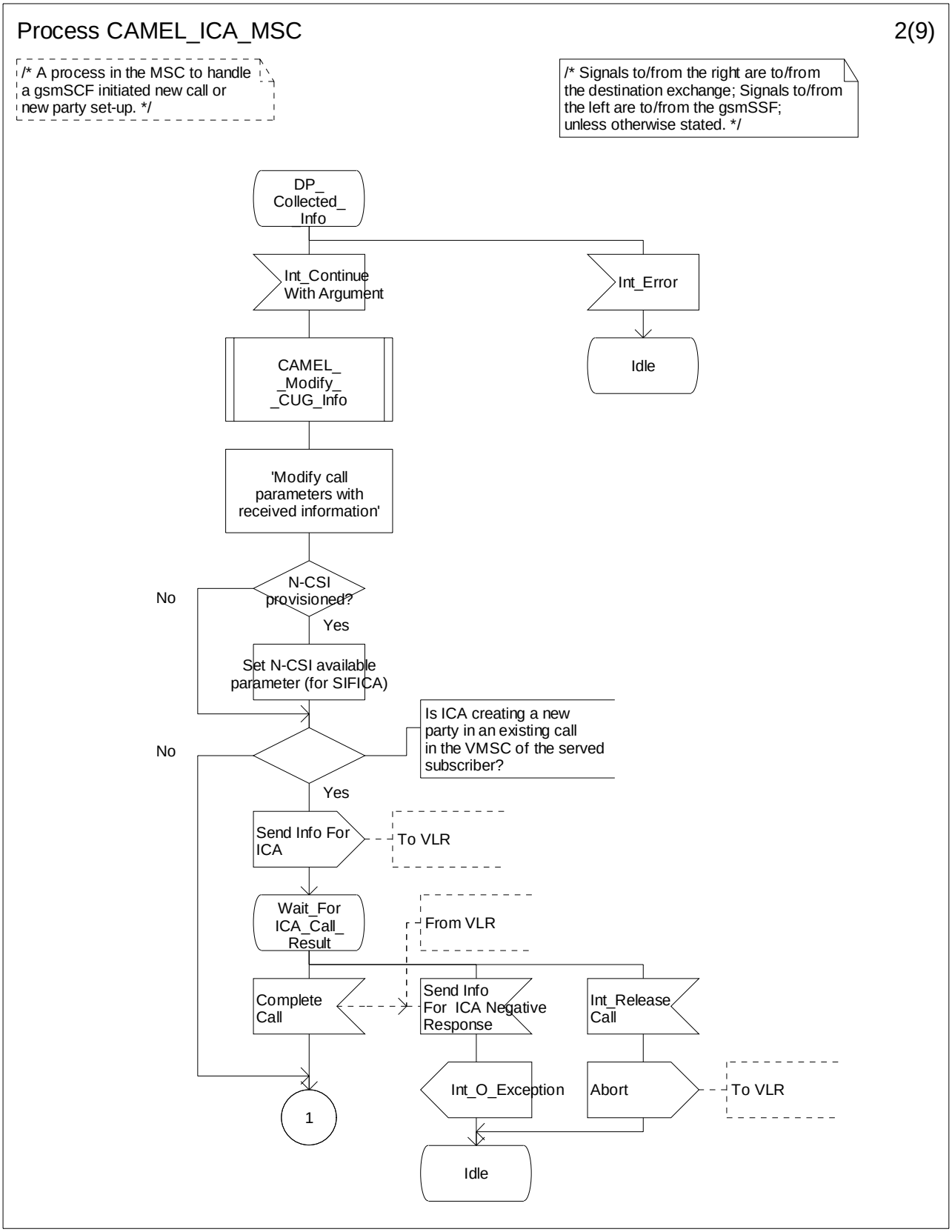


Figure Error! Reference source not found.**.1-2: Process CAMEL_ICA_MSC (sheet 2)**

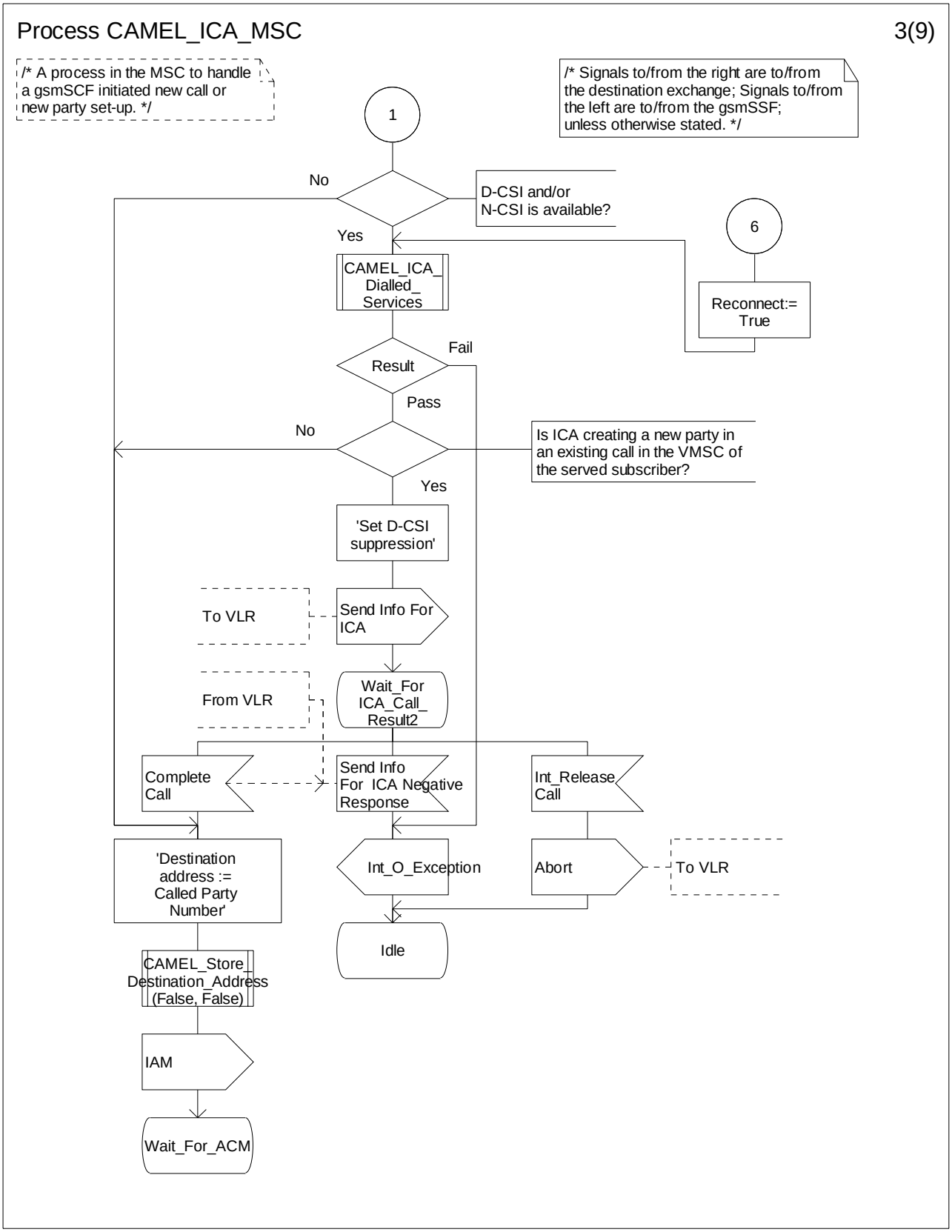


Figure Error! Reference source not found.**.1-3: Process CAMEL_ICA_MSC (sheet 3)**

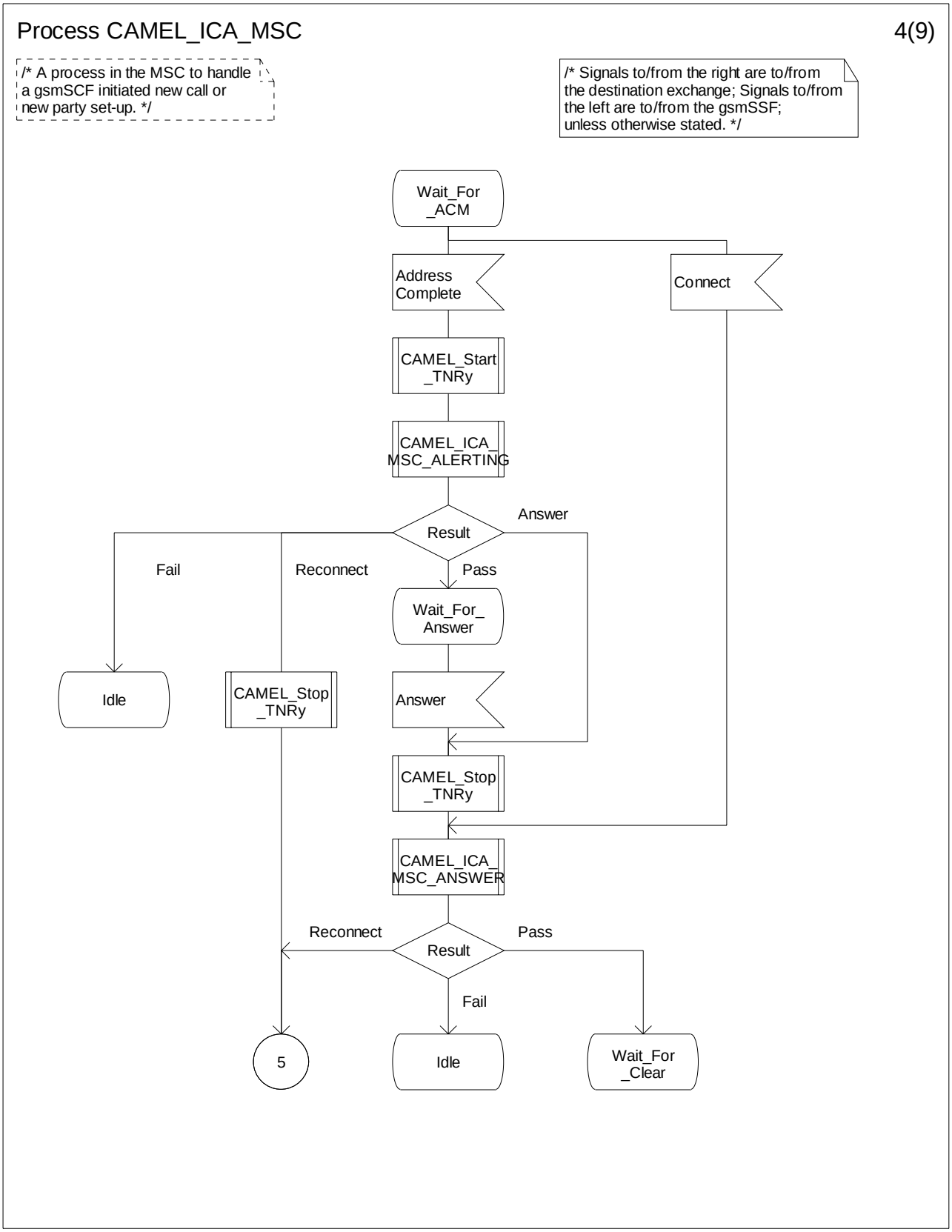


Figure Error! Reference source not found.**.1-4: Process CAMEL_ICA_MSC (sheet 4)**

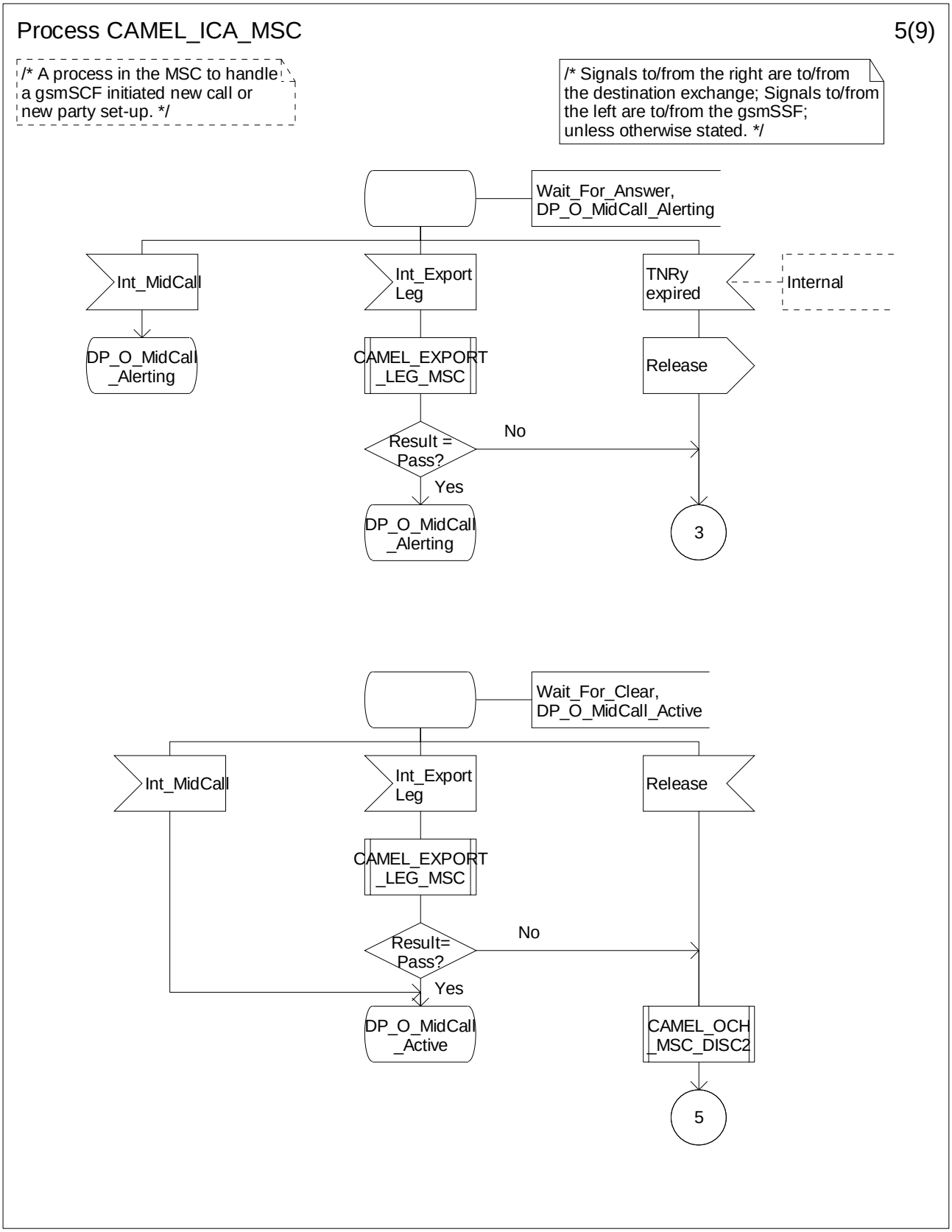


Figure Error! Reference source not found.**.1-5: Process CAMEL_ICA_MSC (sheet 5)**

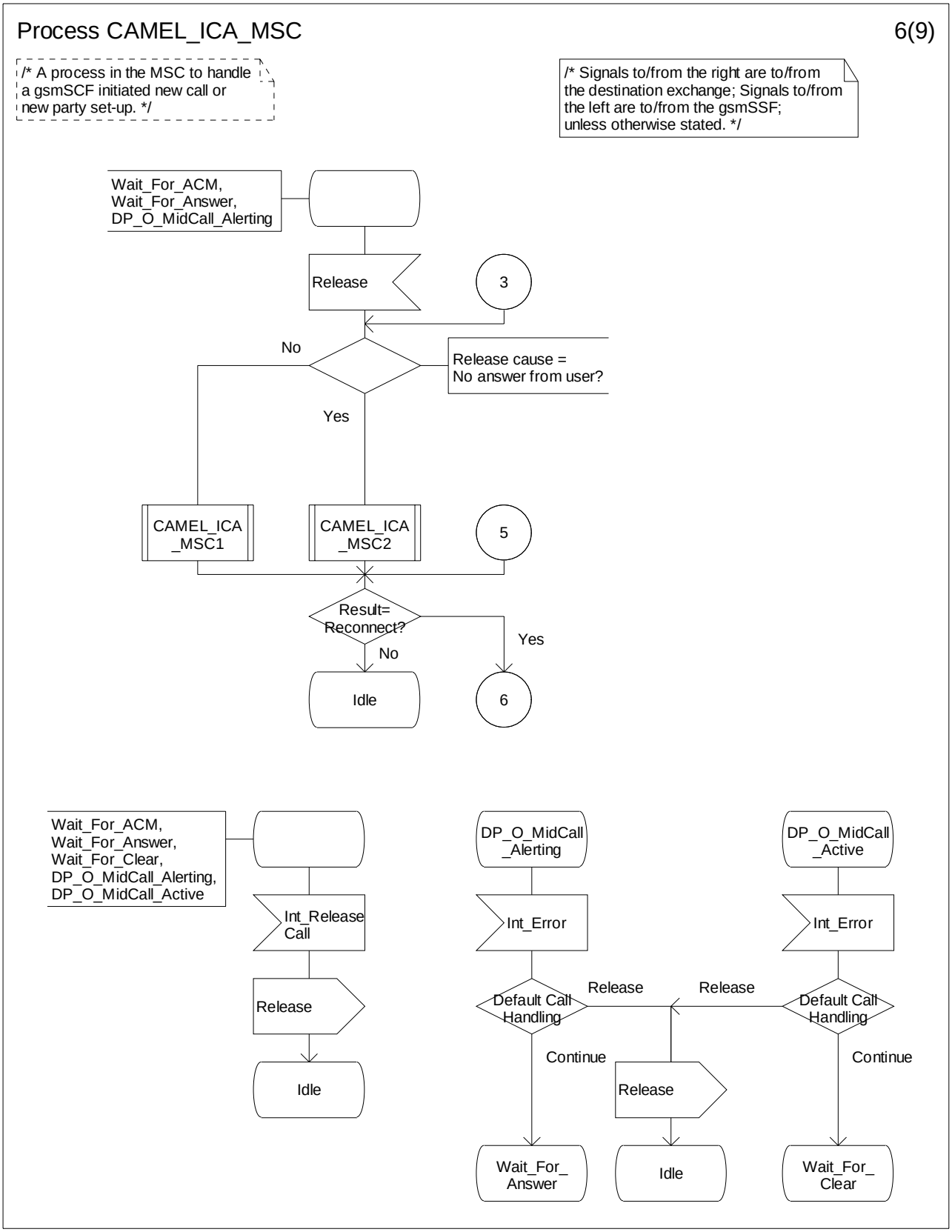


Figure Error! Reference source not found.**.1-6: Process CAMEL_ICA_MSC (sheet 6)**

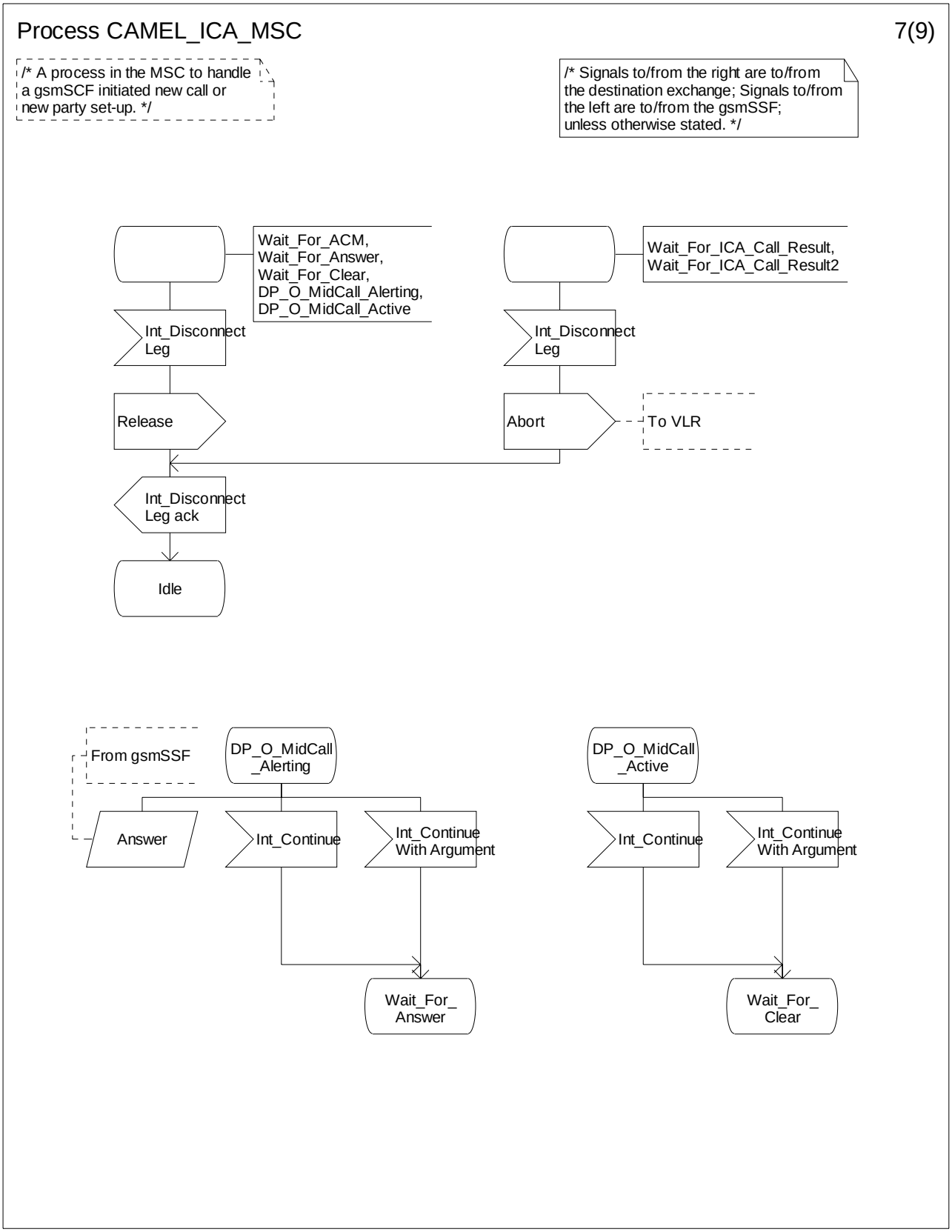


Figure Error! Reference source not found.**.1-7: Process CAMEL_ICA_MSC (sheet 7)**

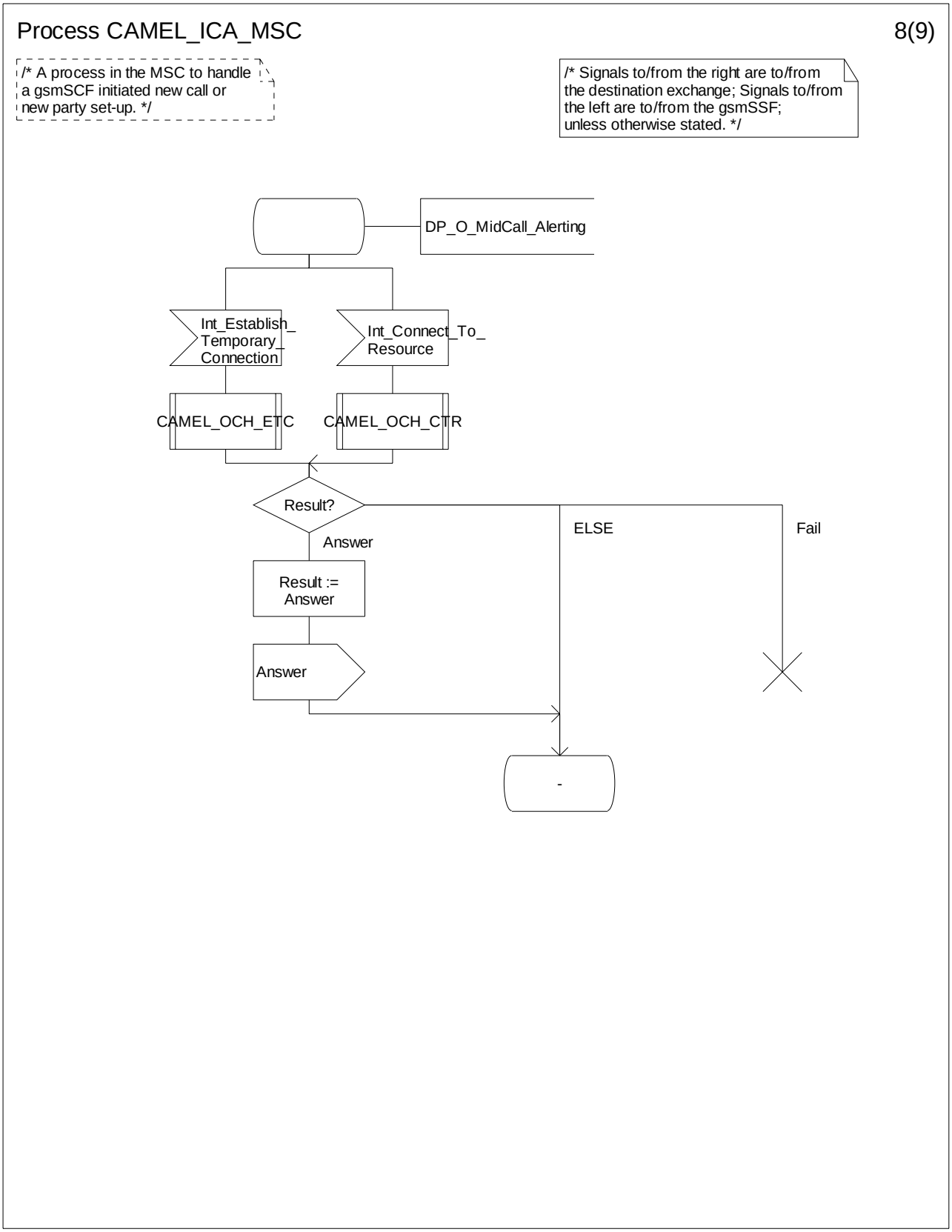


Figure Error! Reference source not found.**.1-8: Process CAMEL_ICA_MSC (sheet 8)**

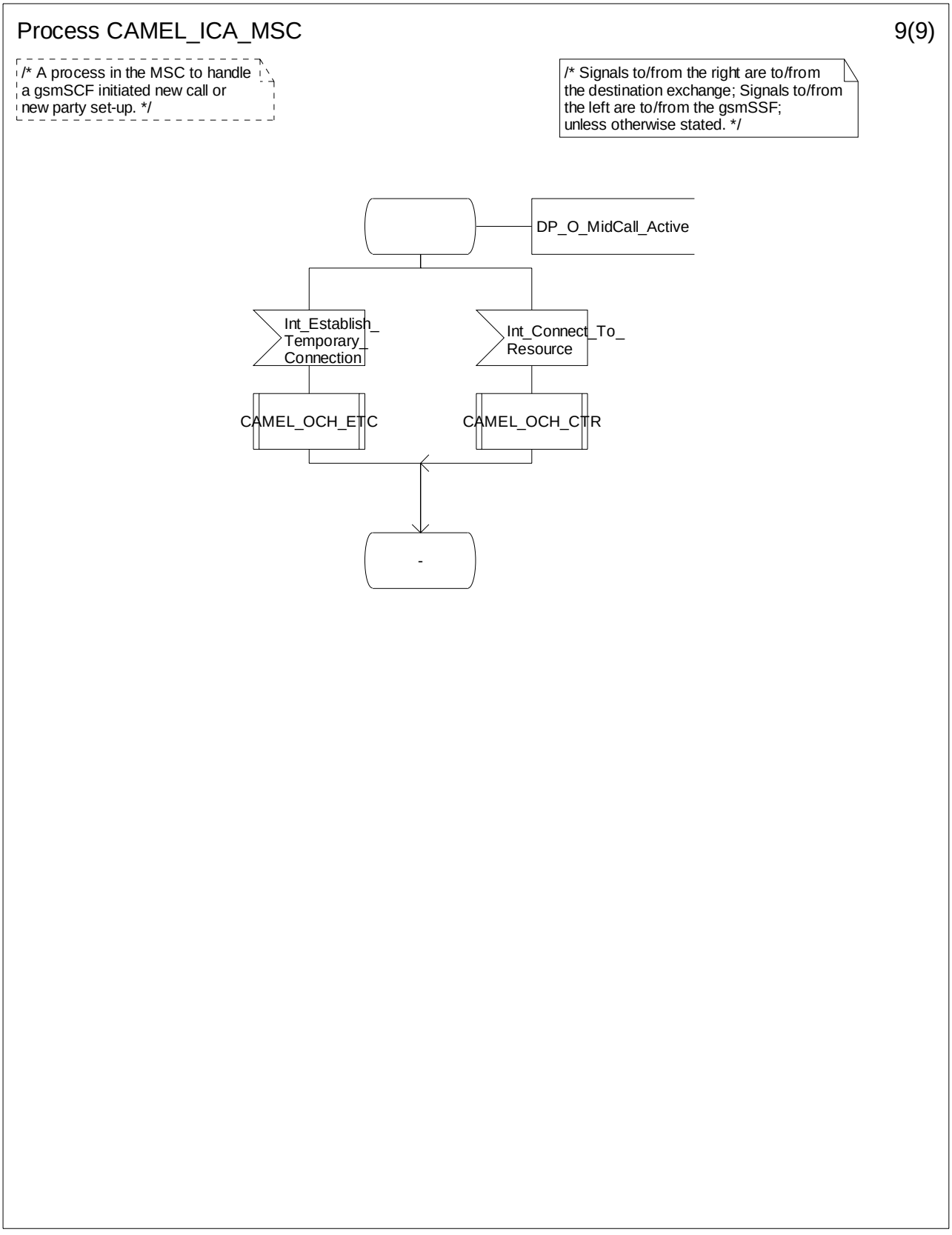
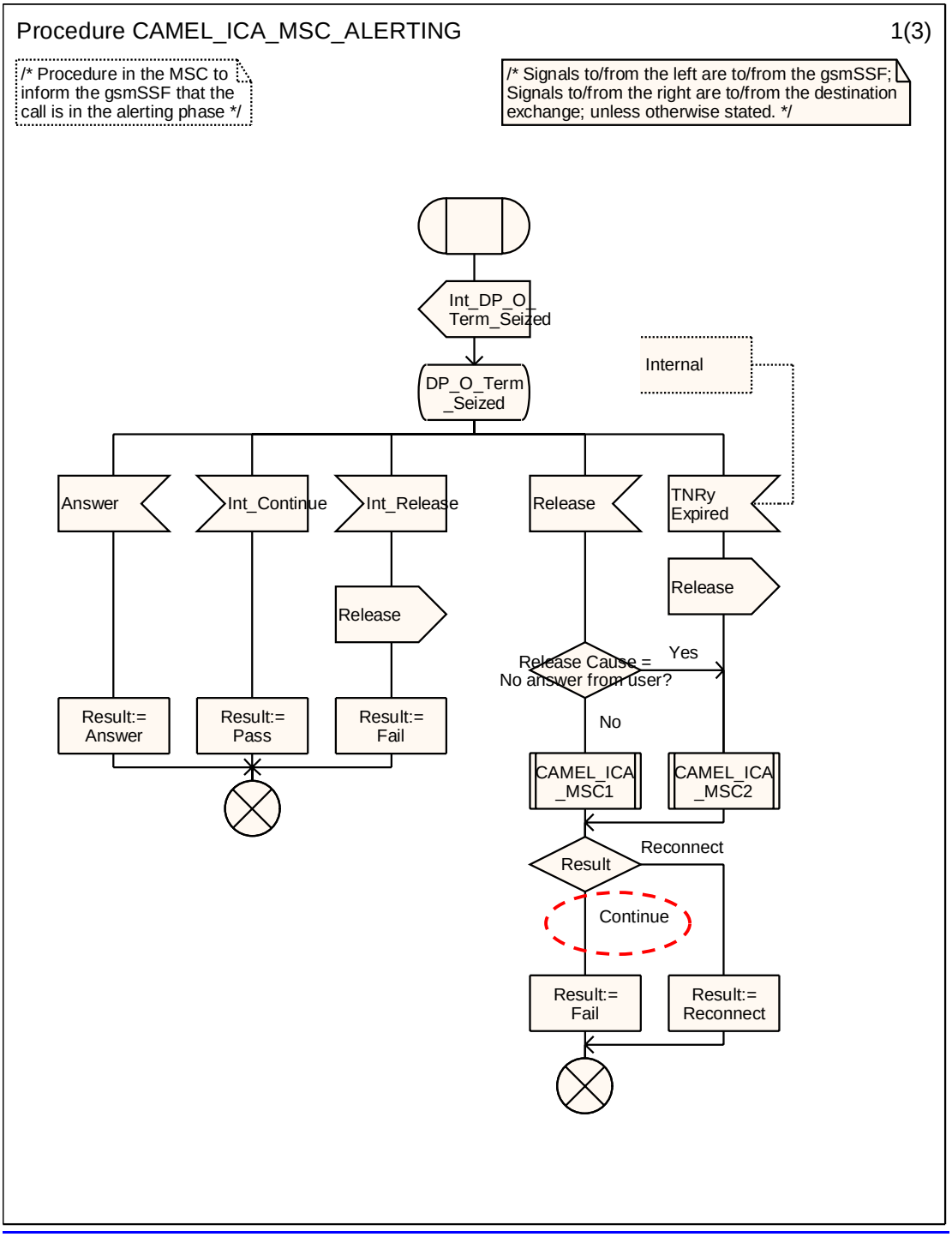


Figure Error! Reference source not found.**.1-9: Process CAMEL_ICA_MSC (sheet 9)**


Procedure CAMEL_ICA_MSC_ALERTING
1(3)
/* Procedure in the MSC to inform the gsmSSF that the call is in the alerting phase */
/* Signals to/from the left are to/from the gsmSSF; Signals to/from the right are to/from the destination exchange; unless otherwise stated. */
Int_DP_O_Term_Seized
DP_O_Term_Seized
Internal
Answer
Int_Continue
Int_Release
Release
TNRy Expired
Release
Release
Release Cause = No answer from user?
Yes
No
Result:= Answer
Result:= Pass
Result:= Fail
CAMEL_ICA_MSC1
CAMEL_ICA_MSC2
Result
Reconnect
Continue
Result:= Fail
Result:= Reconnect

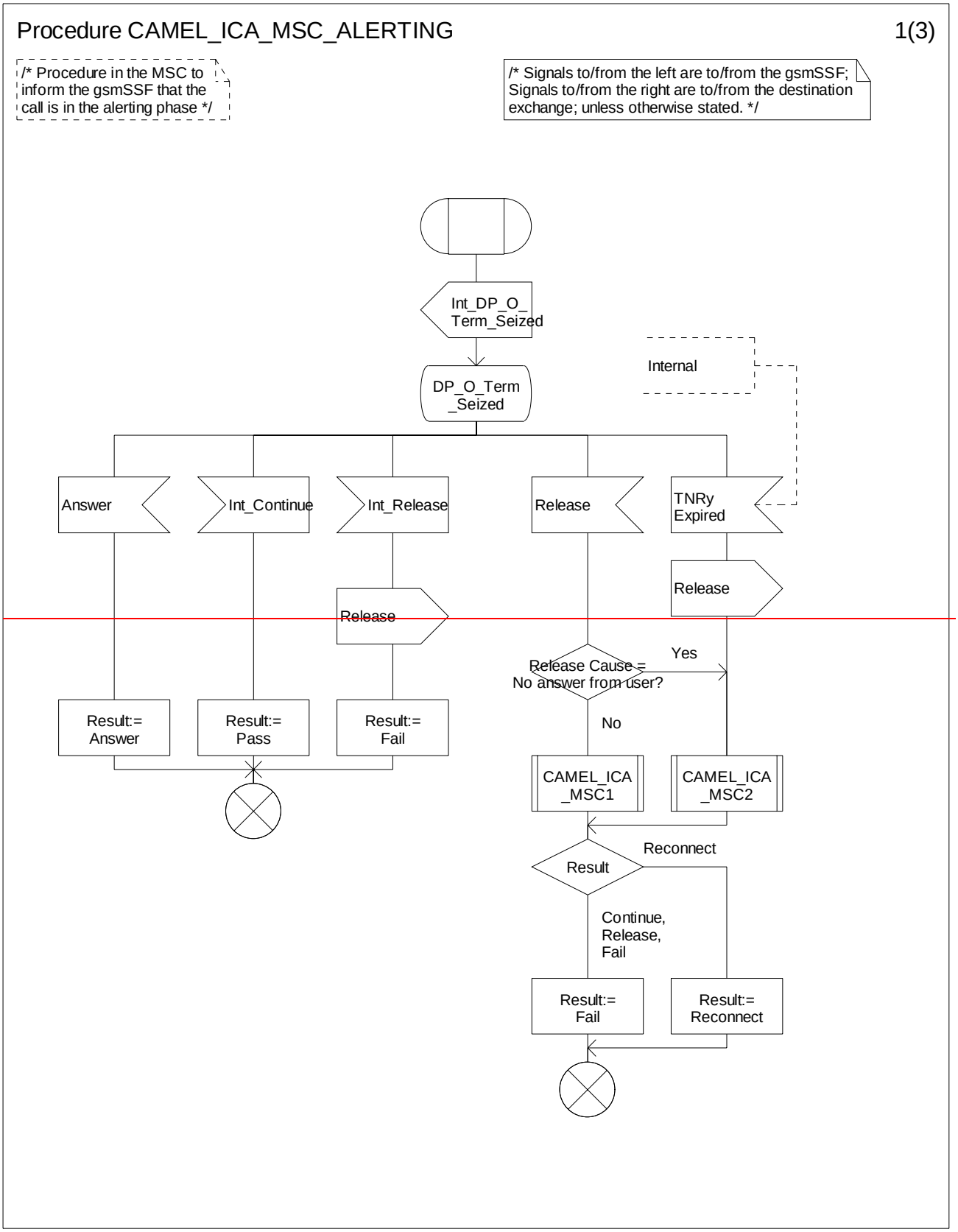
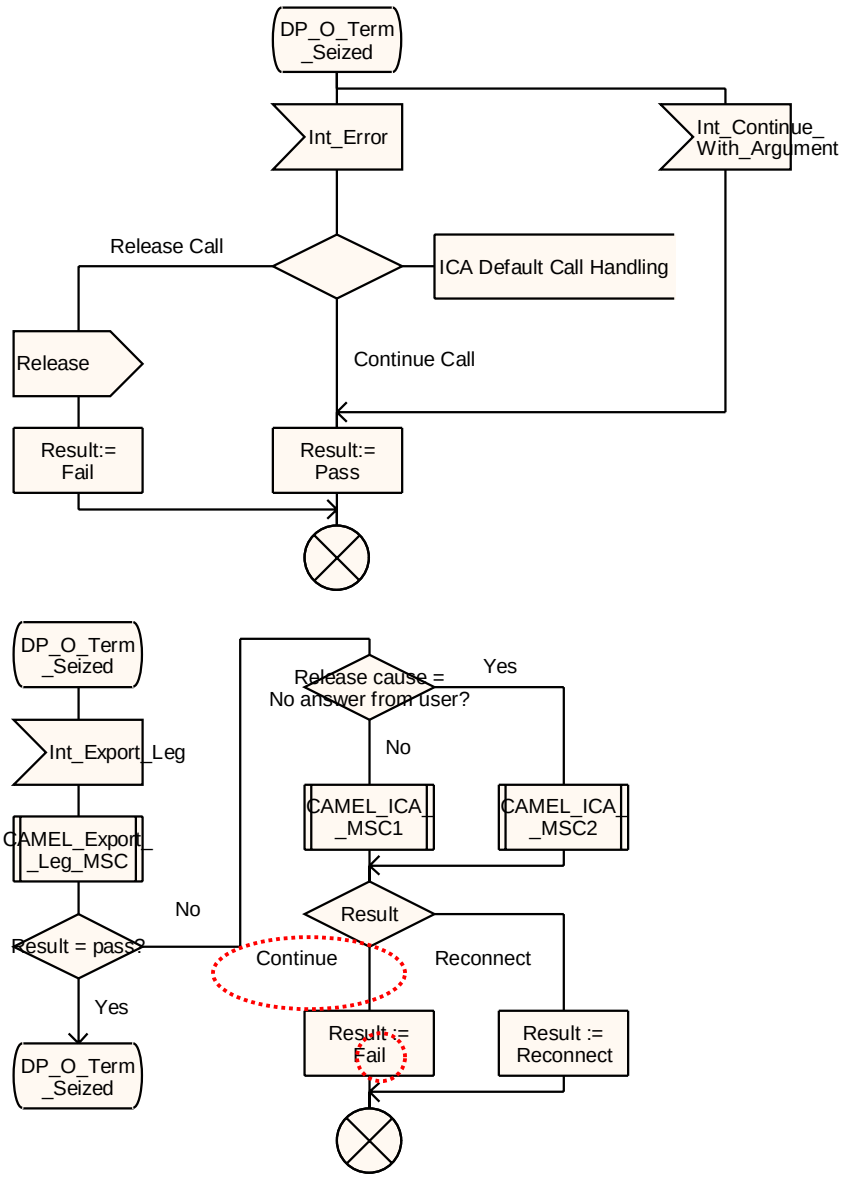


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_ICA_MSC_ALERTING (sheet 1)**

Procedure CAMEL_ICA_MSC_ALERTING 2(3)

/* Procedure in the MSC to inform the gsmSSF that the call is in the alerting phase */

/* Signals to/from the left are to/from the gsmSSF; Signals to/from the right are to/from the destination exchange; unless otherwise stated. */



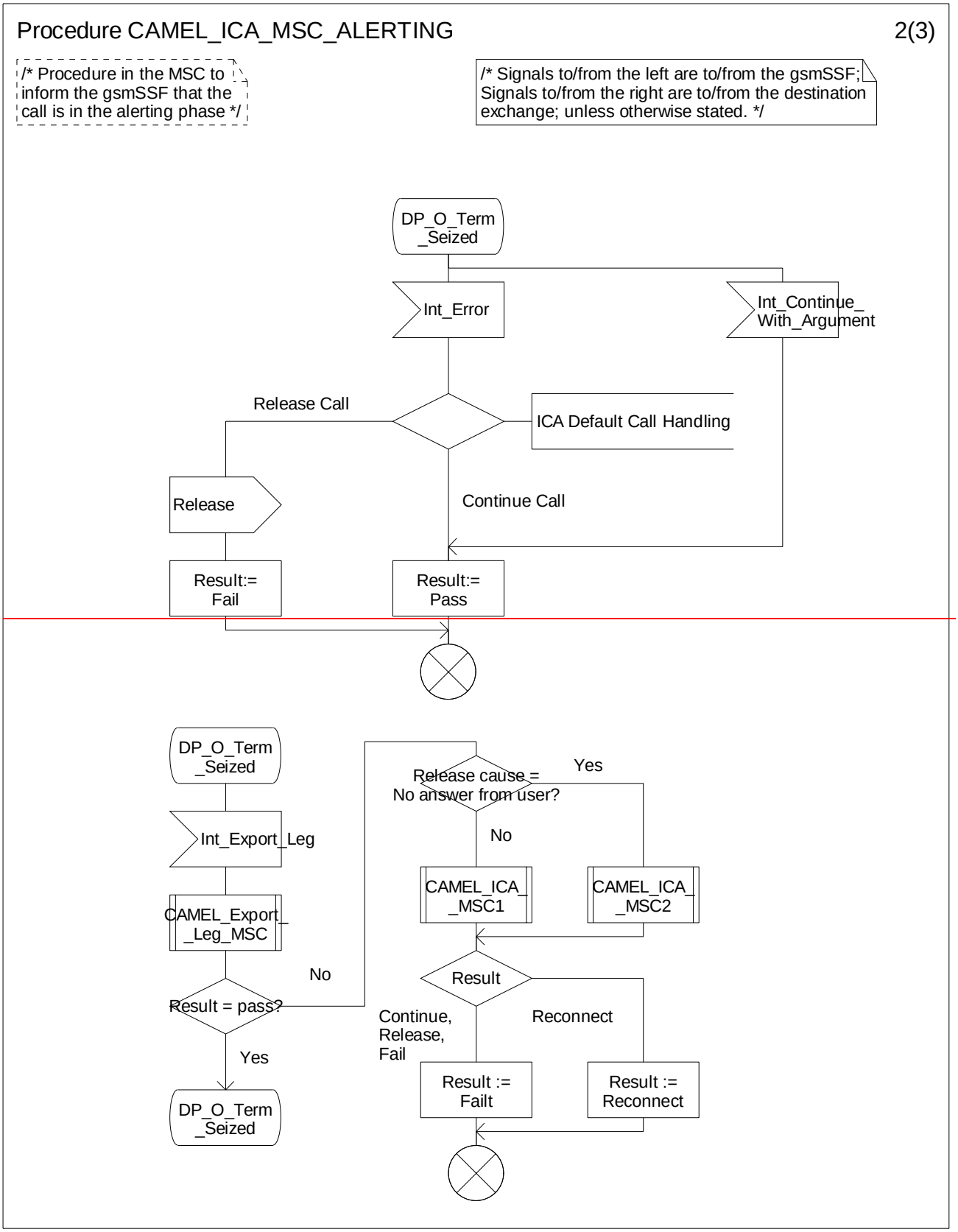


Figure Error! Reference source not found..**2-2: Process CAMEL_ICA_MSC_ALERTING (sheet 2)**

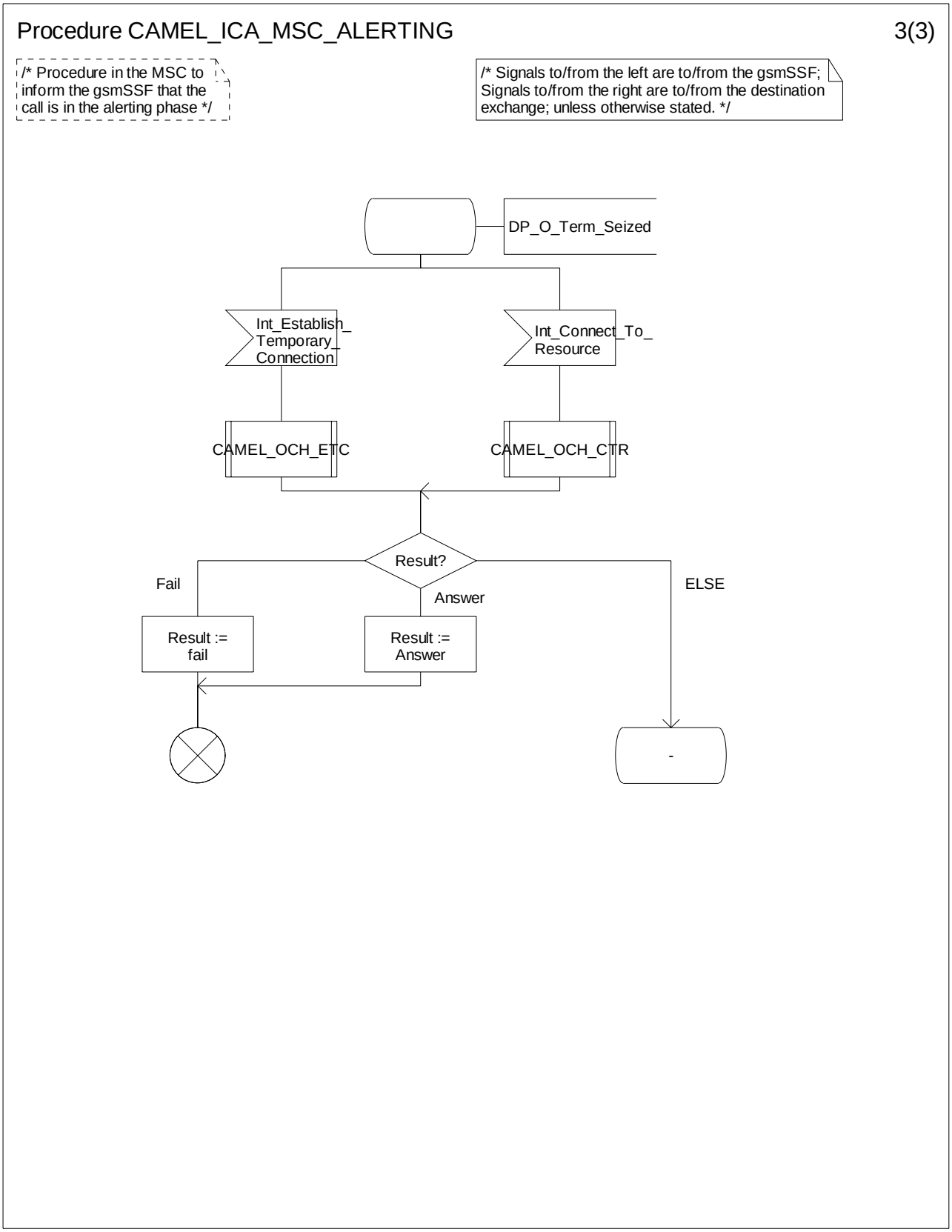


Figure Error! Reference source not found..**2-3: Process CAMEL_ICA_MSC_ALERTING (sheet 3)**

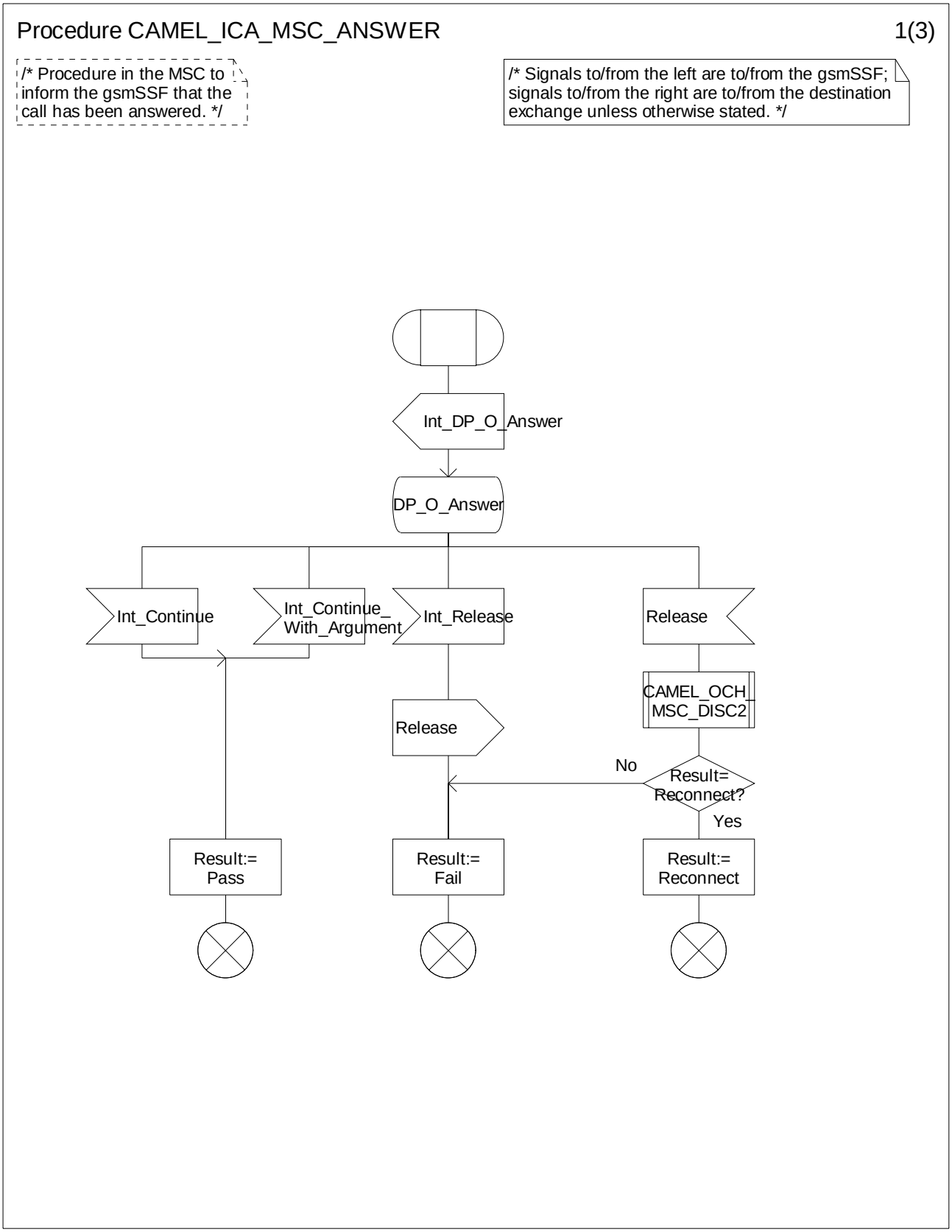


Figure Error! Reference source not found.**.3-1: Procedure CAMEL_ICA_MSC_ANSWER (sheet 1)**

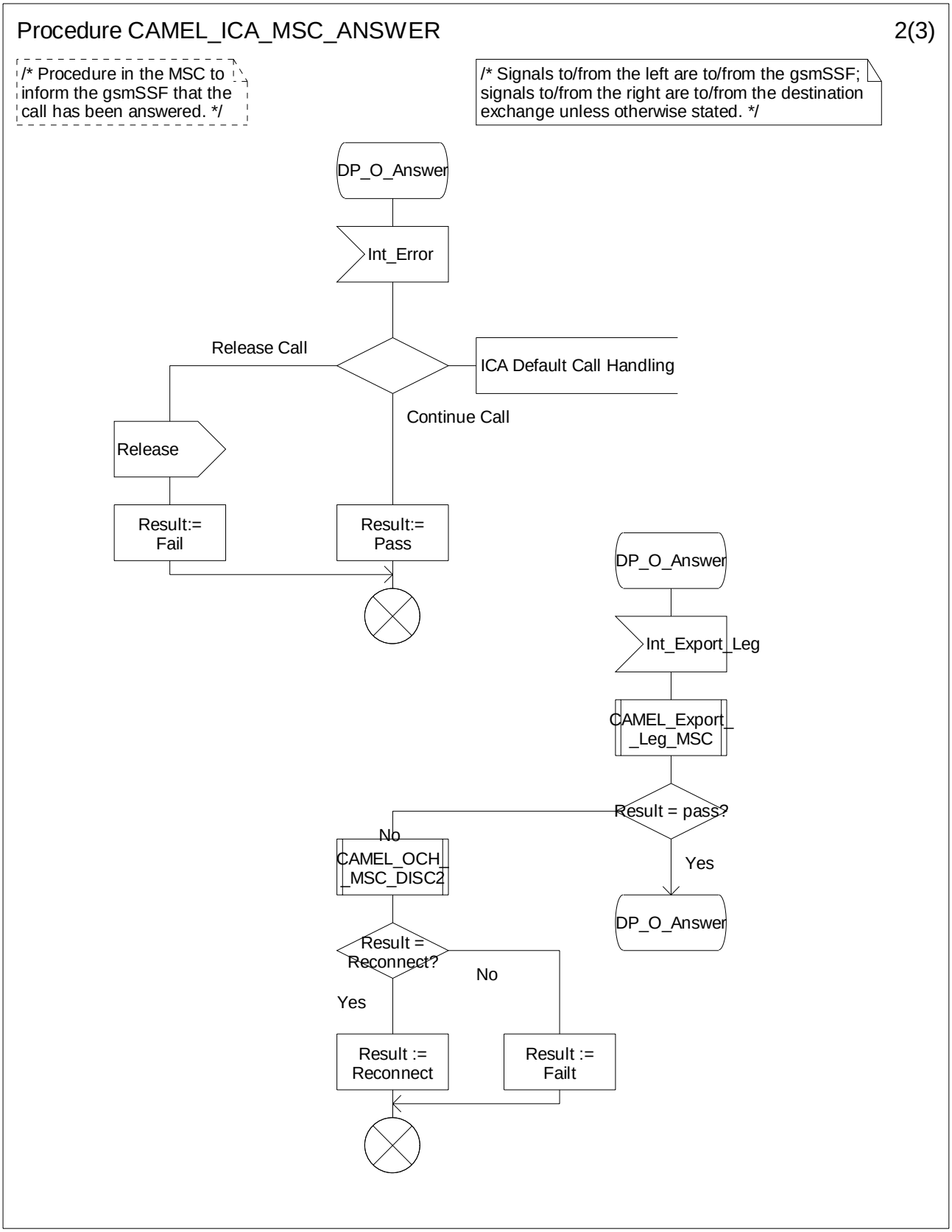


Figure Error! Reference source not found.**.3-2: Process CAMEL_ICA_MSC_ANSWER (sheet 2)**

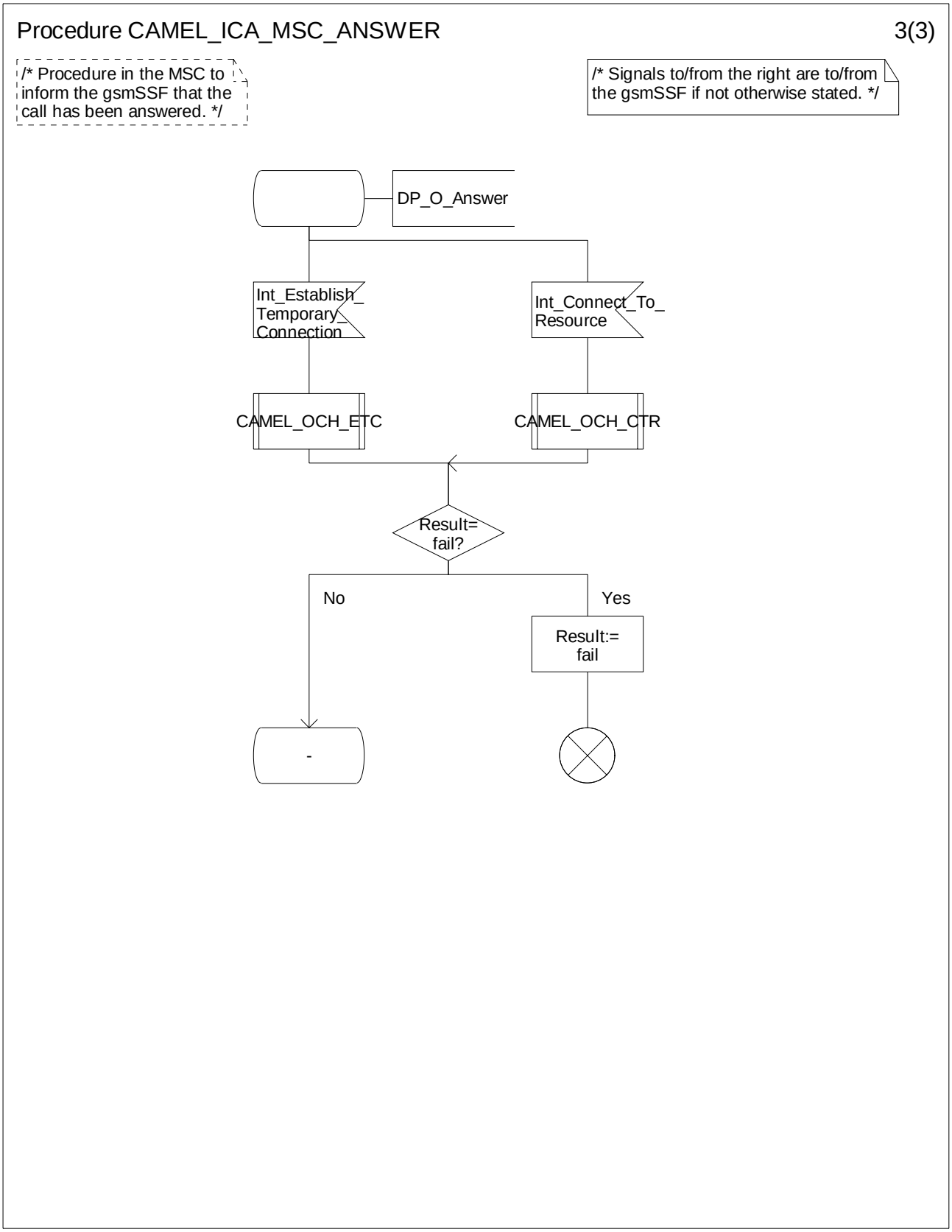


Figure Error! Reference source not found.**.3-3: Process CAMEL_ICA_MSC_ANSWER (sheet 3)**

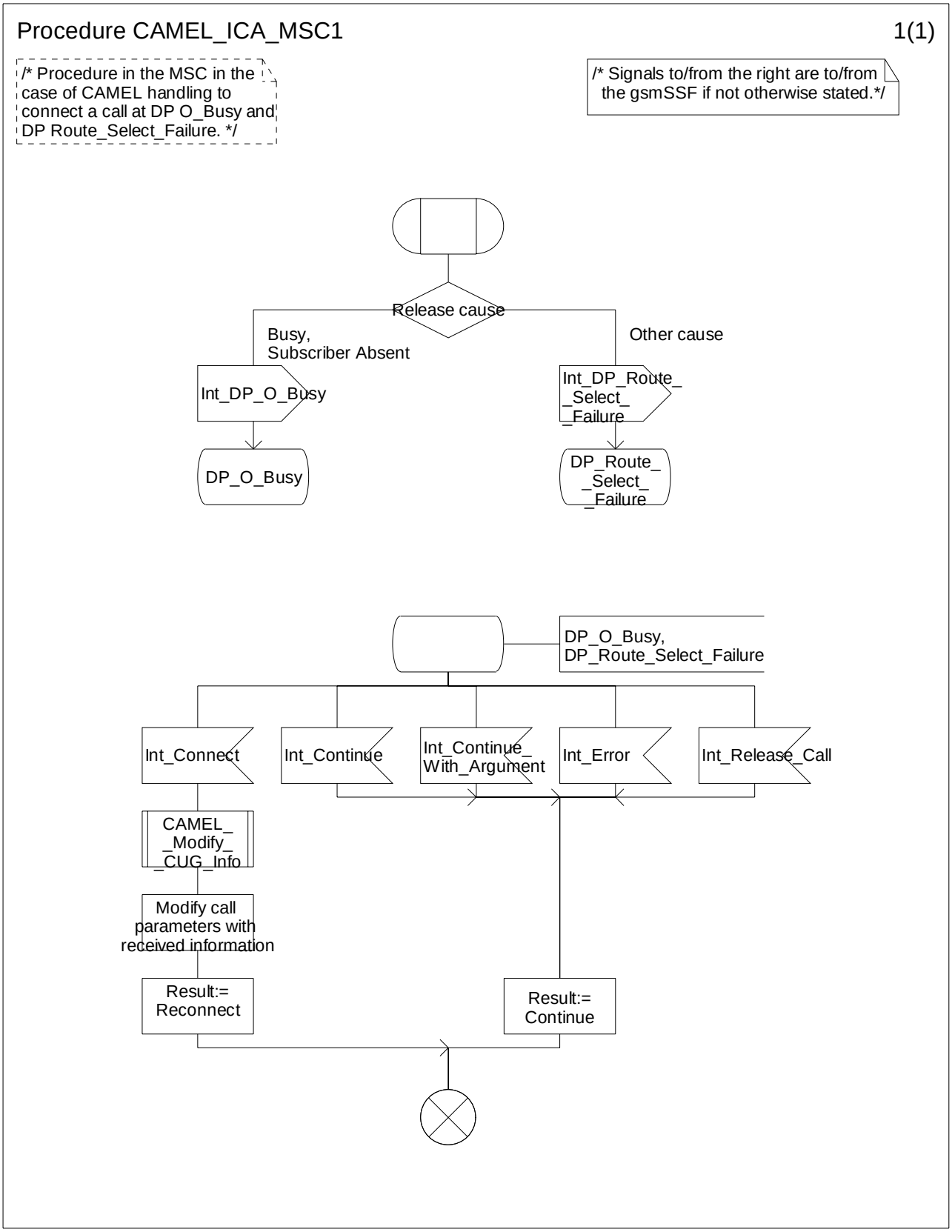
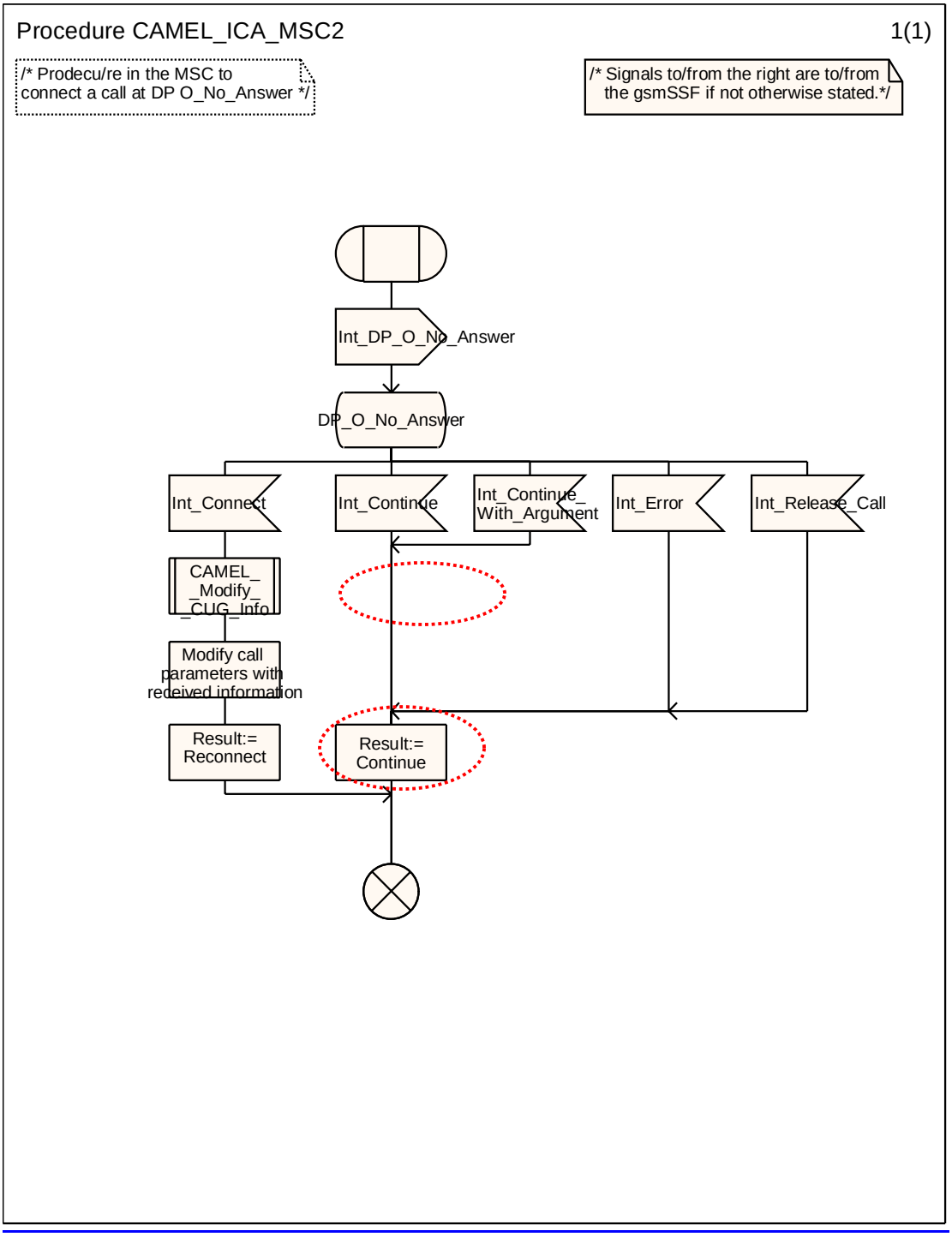


Figure Error! Reference source not found.**.4-1: Procedure CAMEL_ICA_MSC1 (sheet 1)**


Procedure CAMEL_ICA_MSC2
1(1)
/* Prodecu/re in the MSC to connect a call at DP O_No_Answer */
/* Signals to/from the right are to/from the gsmSSF if not otherwise stated.*/
Int_DP_O_No_Answer
DP_O_No_Answer
Int_Connect
Int_Continue
Int_Continue_ With_Argument
Int_Error
Int_Release_Call
CAMEL_ _Modify_ _CUG_Info
Modify call parameters with received information
Result:= Reconnect
Result:= Continue

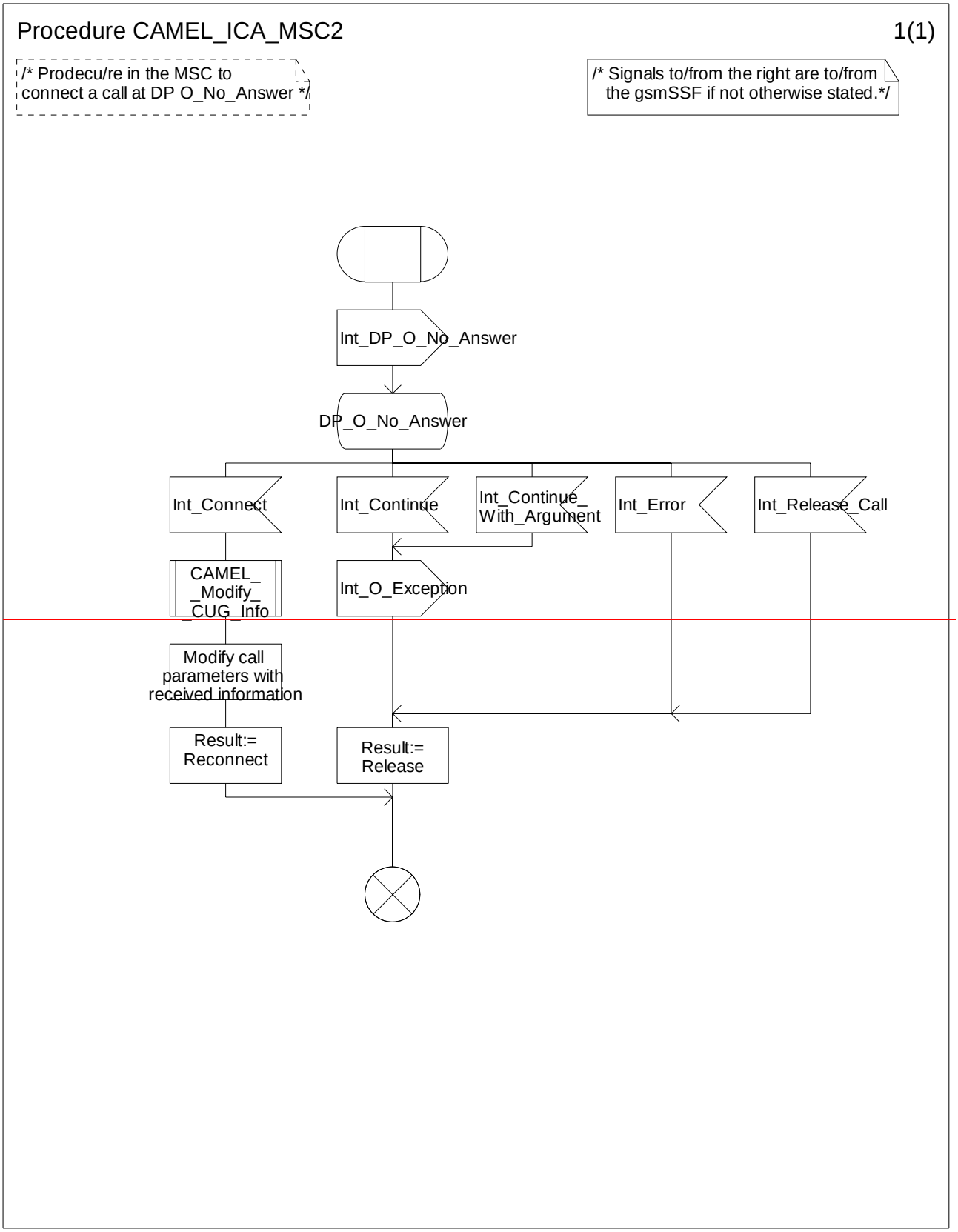


Figure Error! Reference source not found..**5-1: Procedure CAMEL_ICA_MSC2 (sheet 1)**

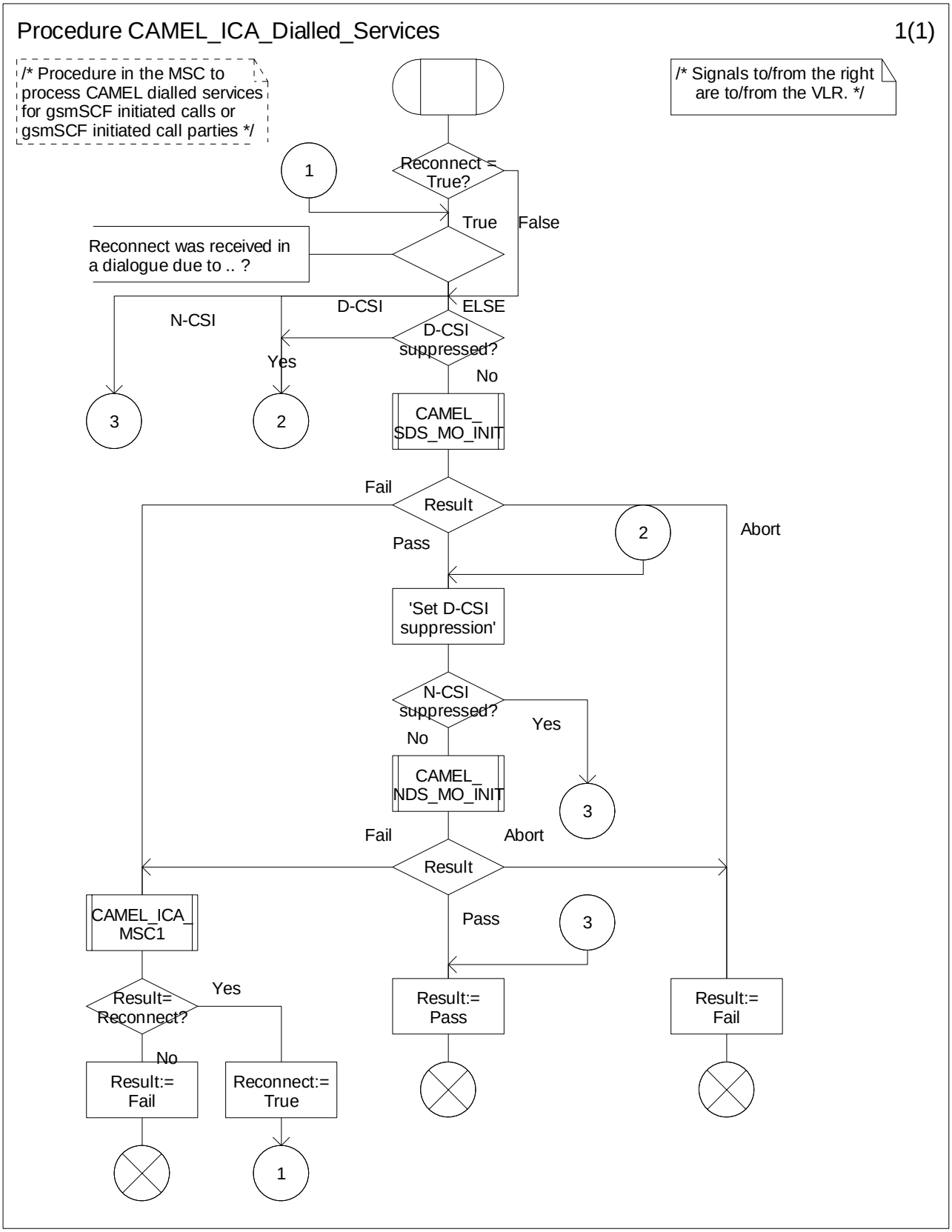


Figure Error! Reference source not found..**6-1: Procedure CAMEL_ICA_Dialled_Services (sheet 1)**

****** End of modification ******

3GPP TSG-CN WG4 Meeting #24 N4-041027

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **739** ⌘**rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Removal of Int_O_Exception from CAMEL_OCH_MSC2 and CAMEL_MT_GMSC_DISC5
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change: ⌘

TS 23.078, figure 4.17 (Procedure CAMEL_OCH_MSC2) specifies that when a No_Answer event is reported to CS_gsmSSF and CS_gsmSSF responds with Continue (CUE) or Continue With Argument CWA), then an Int_O_Exception shall be sent to CS_gsmSSF.

The same applies to figure 4.49 (Procedure CAMEL_MT_GMSC_DISC5) and to figure 4.93 (Procedure CAMEL_ICA_MSC2).

In CAMEL Phase 2 and 3, when No_Answer occurs and the SCP responds with CUE/CWA, the call is in any case released. I.e. the gsmSSF process has gone to Idle already.

In CAMEL Phase 4, there may be multiple outgoing legs in Call Segment 1. In a particular call scenario, these legs may have been moved into Call Segment 1 prior to answer of the respective legs.

If any of these legs would report No_Answer to the SCP and the SCP responds with CUE/CWA for that leg, then according to Process CS_gsmSSF, sheet 31, Call Segment 1 would be released, due to the reception of Int_Continue. However, there may be other legs in CS1 at that moment.

Therefore, the seding of Int_Exception to CS_gsmSSF, after the reporting of the No_Answer event, should be removed.

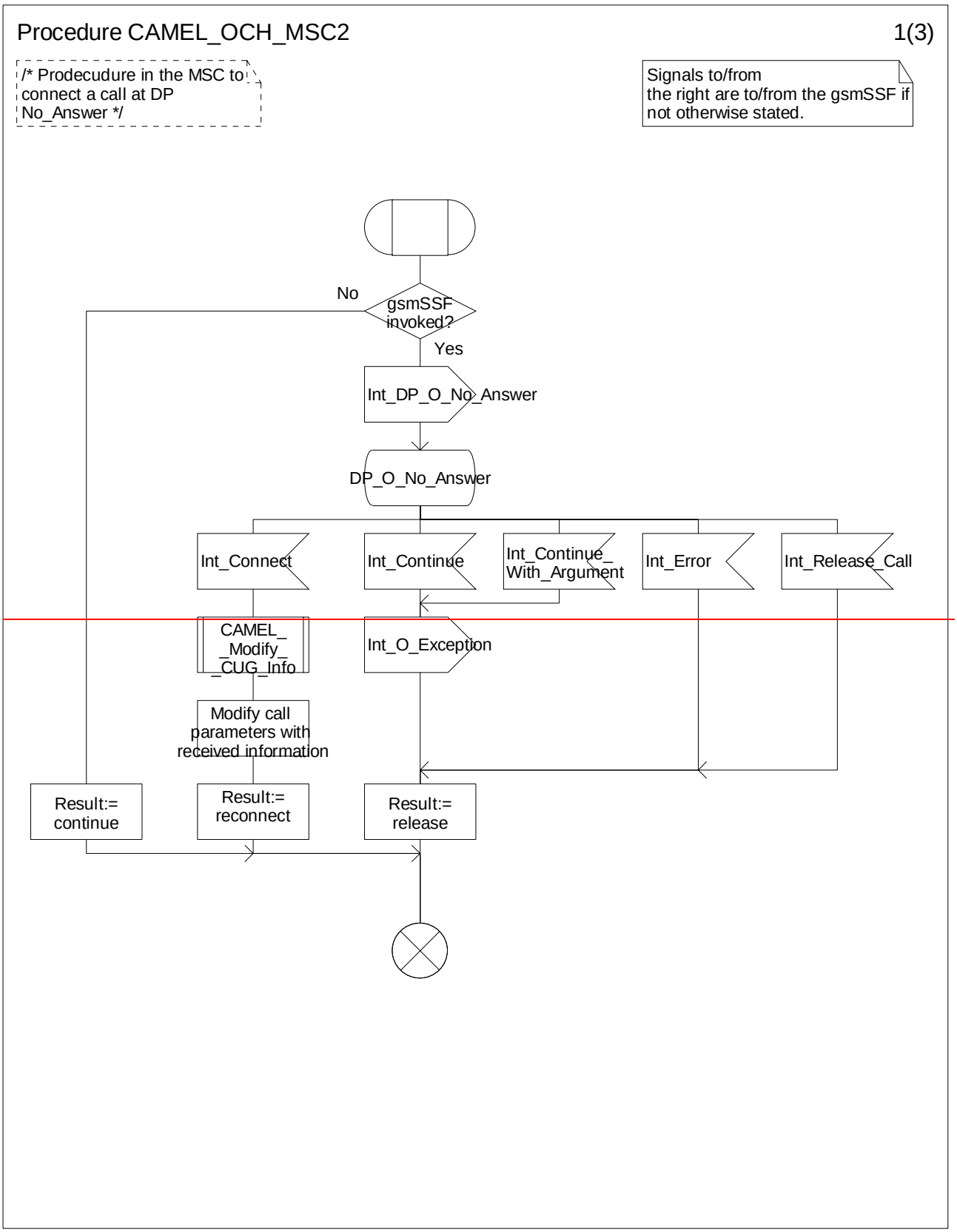
This correction to the No_Answer reporting shall be applied to:

		- CAMEL_OCH_MSC2 (for MO and MF calls); and - CAMEL_MT_GMSC_DISC5 (for MT and VT calls). For CAMEL_ICA_MSC2, a separate CR is issued.
Summary of change:	⌘	Remove the sending of Int_Exception from CAMEL_OCH_MSC2 and CAMEL_MT_GMSC_DISC5.
Consequences if not approved:	⌘	Premature CAMEL dialogue release and call release. When No Answer occurs in a CPH configuration, then the call may be released, whilst the Service Logic might have intended to take further action.

Clauses affected:	⌘	4.5.2, 4.5.3			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

***** First modification *****

4.5.2 Handling of mobile originated calls



~~Figure 4.17-1: Procedure CAMEL_OCH_MSC2 (sheet 1)~~

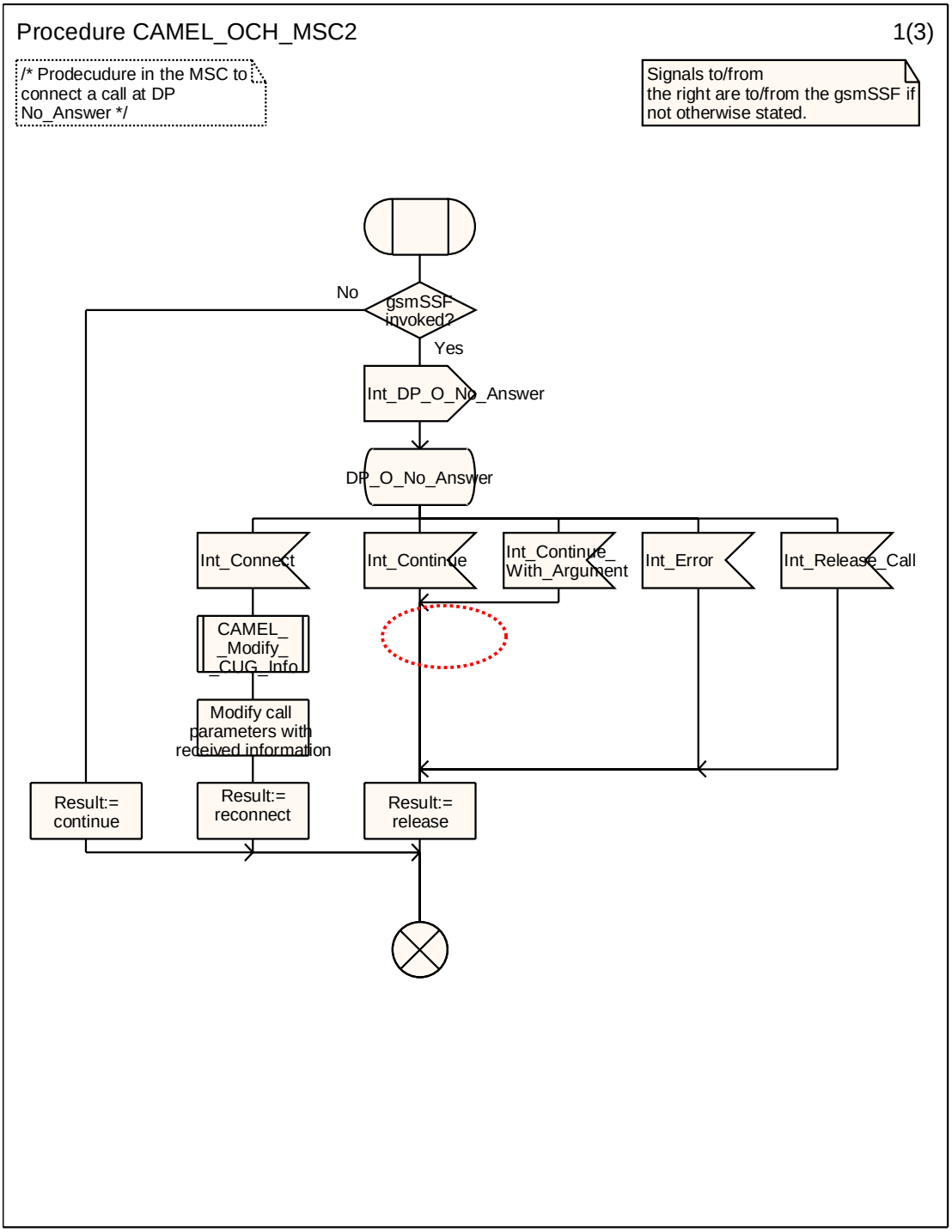


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_OCH_MSC2 (sheet 1)**

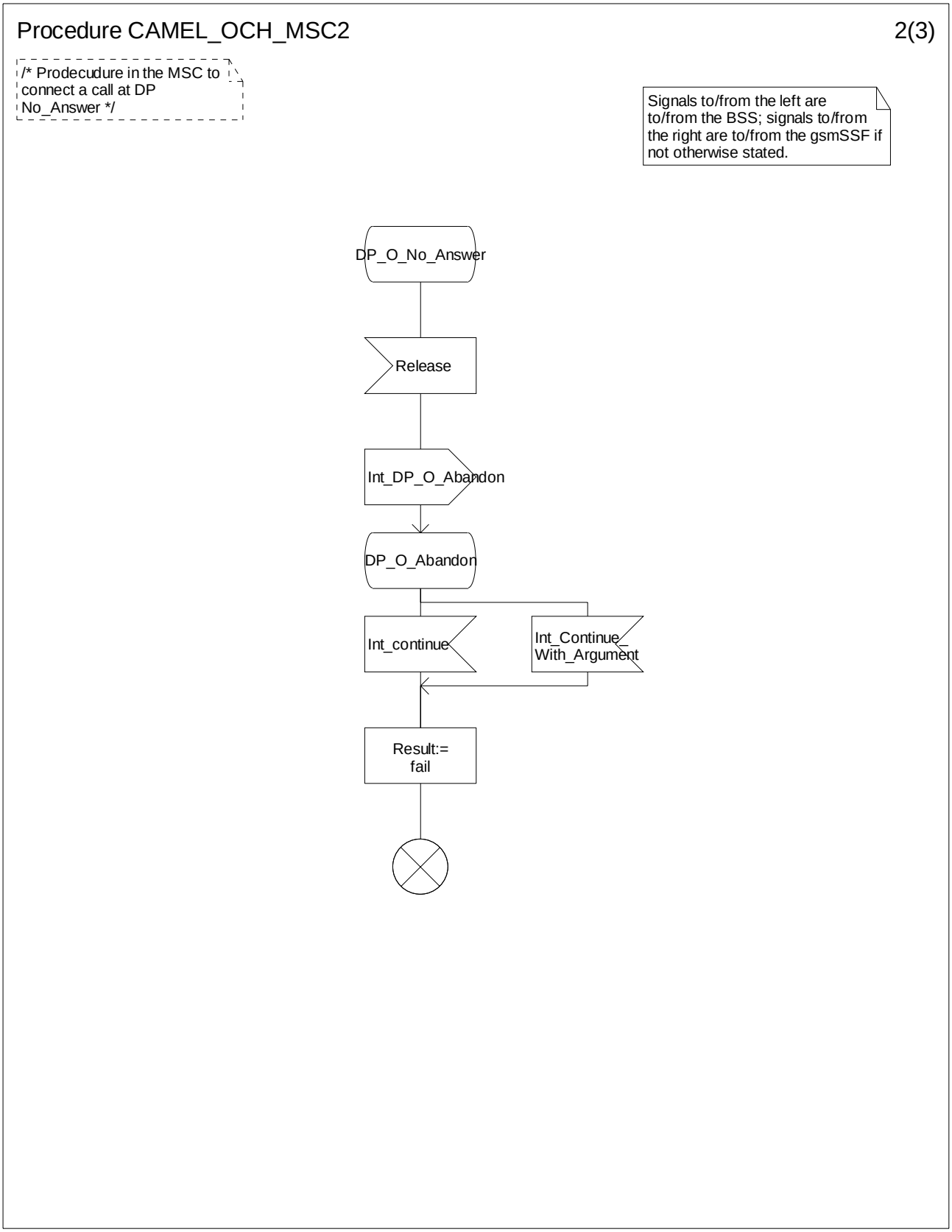


Figure -2: Procedure CAMEL_OCH_MSC2 (sheet 2)

Procedure CAMEL_OCH_MSC2 3(3)

/* Prodecudure in the MSC to connect a call at DP No_Answer */

Signals to/from the right are to/from the gsmSSF if not otherwise stated.

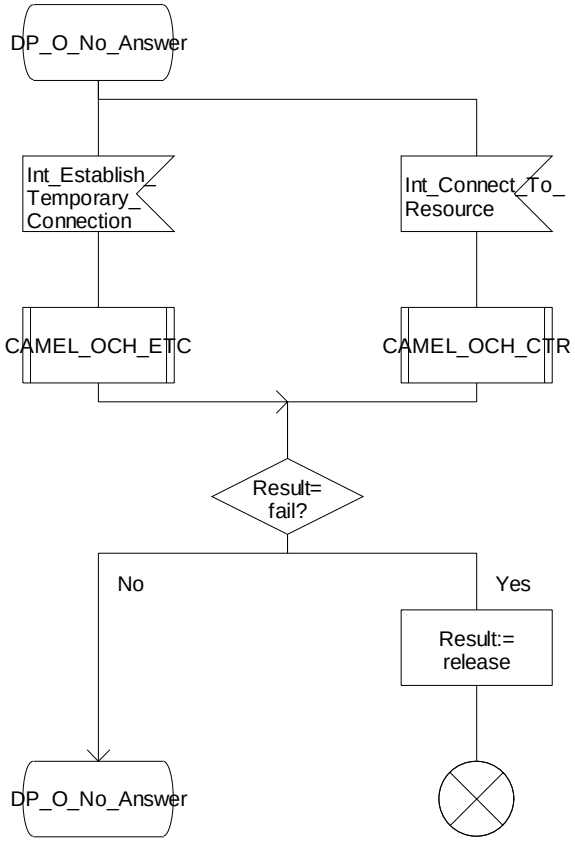


Figure -3: Procedure CAMEL_OCH_MSC2 (sheet 3)

***** *Next modification* *****

4.5.3 Retrieval of routeing information

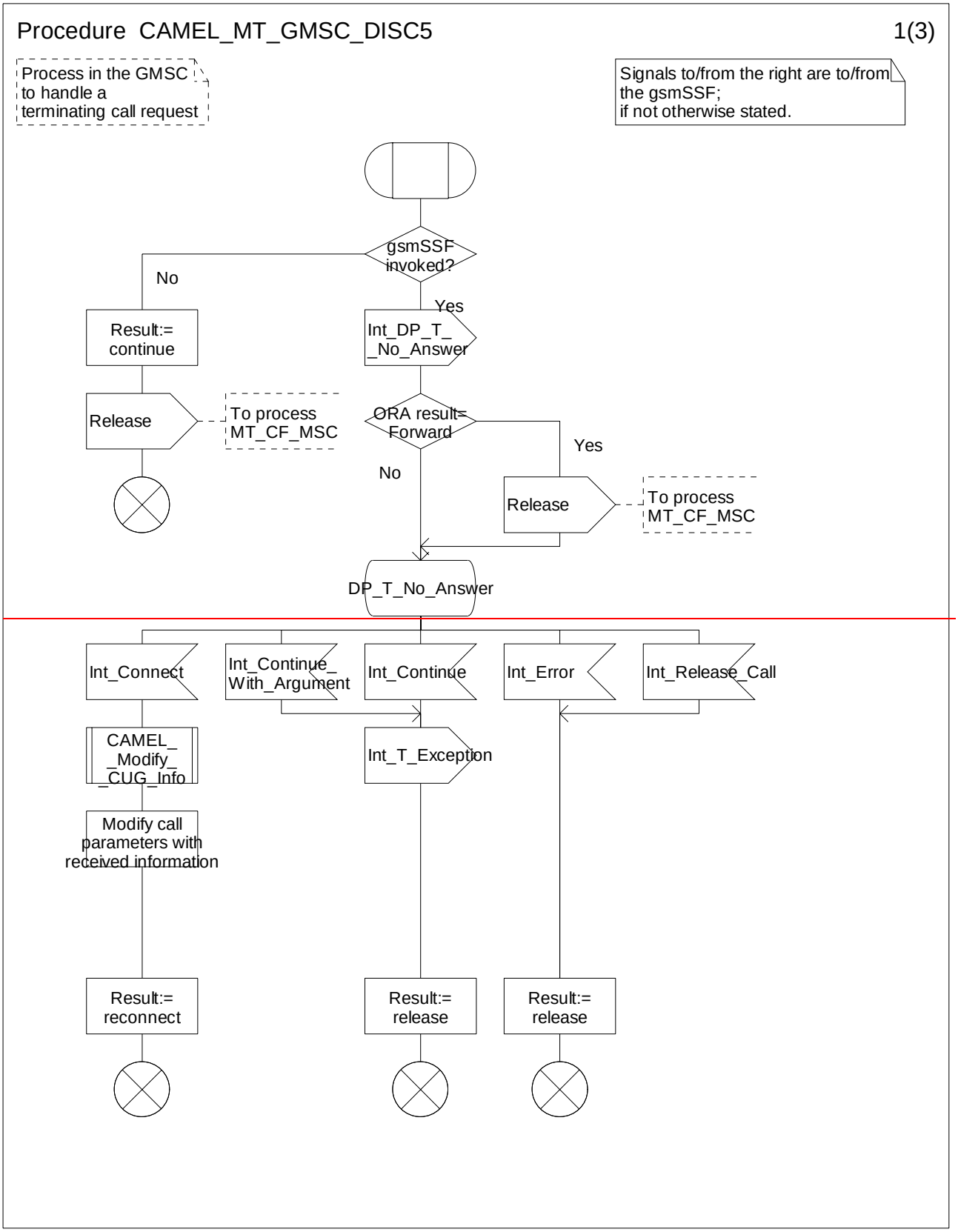


Figure 4.49-1: Procedure CAMEL_MT_GMSC_DISC5 (sheet 1)

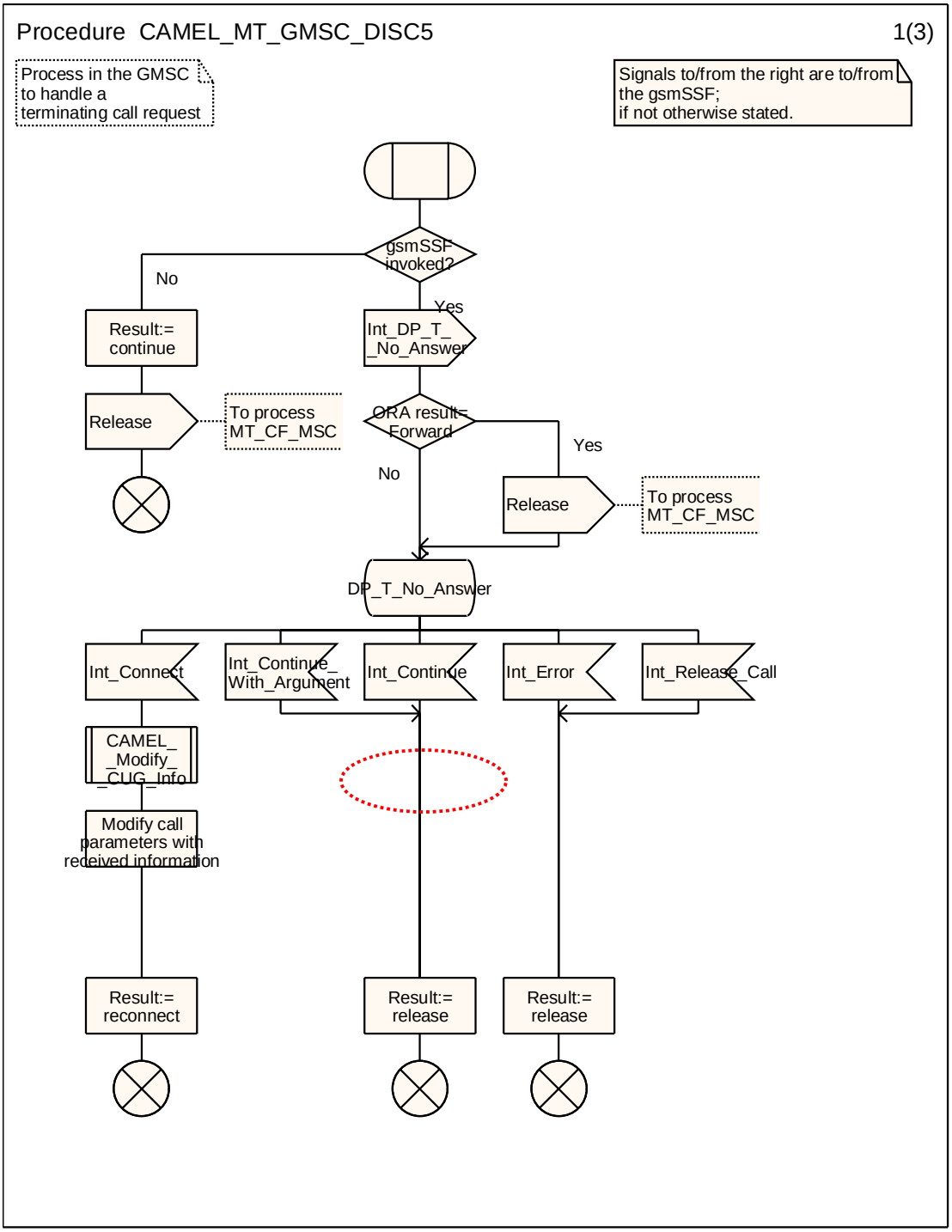


Figure Error! Reference source not found.**-4-1: Procedure CAMEL_MT_GMSC_DISC5 (sheet 1)**

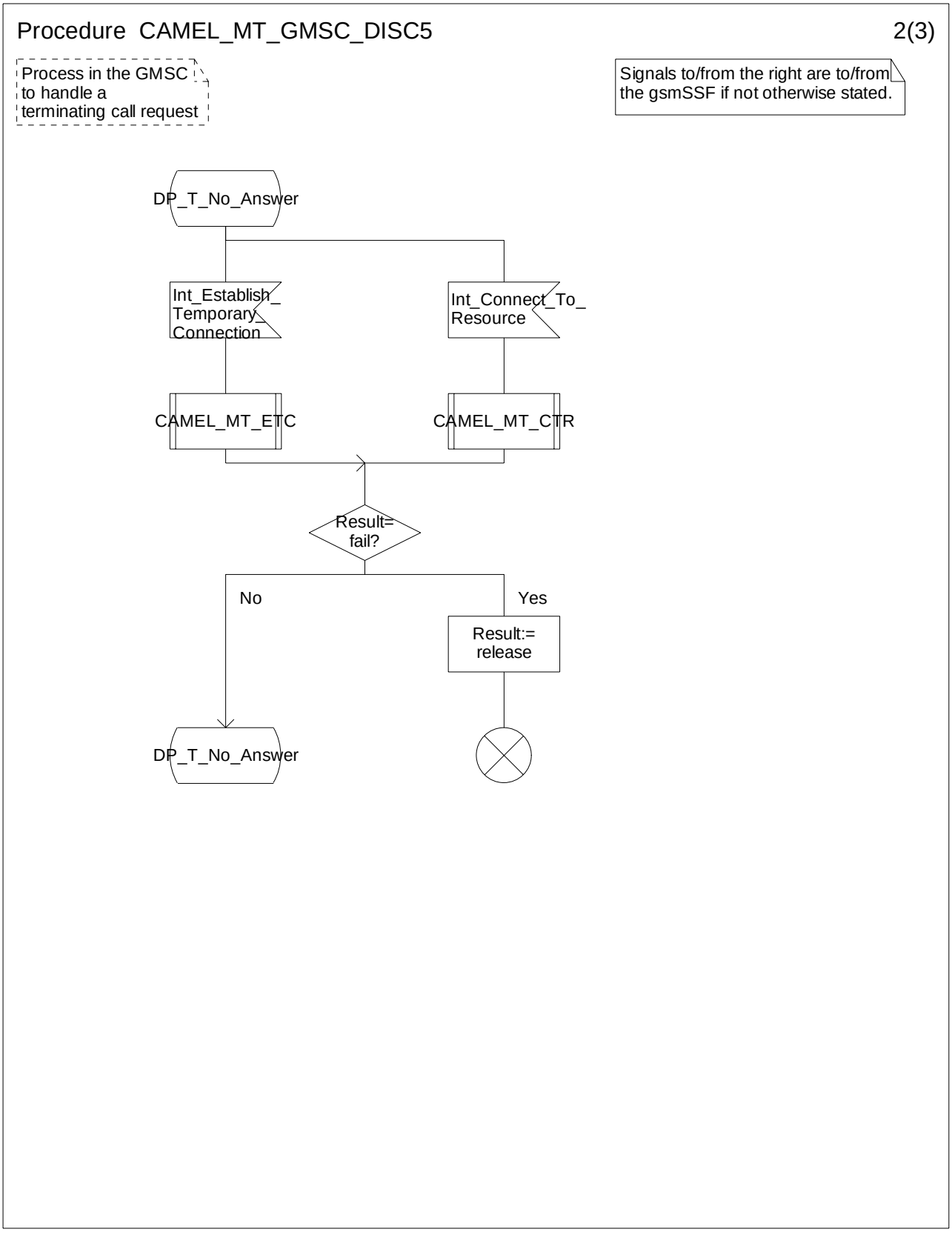


Figure -2: Procedure CAMEL_MT_GMSC_DISC5 (sheet 2)

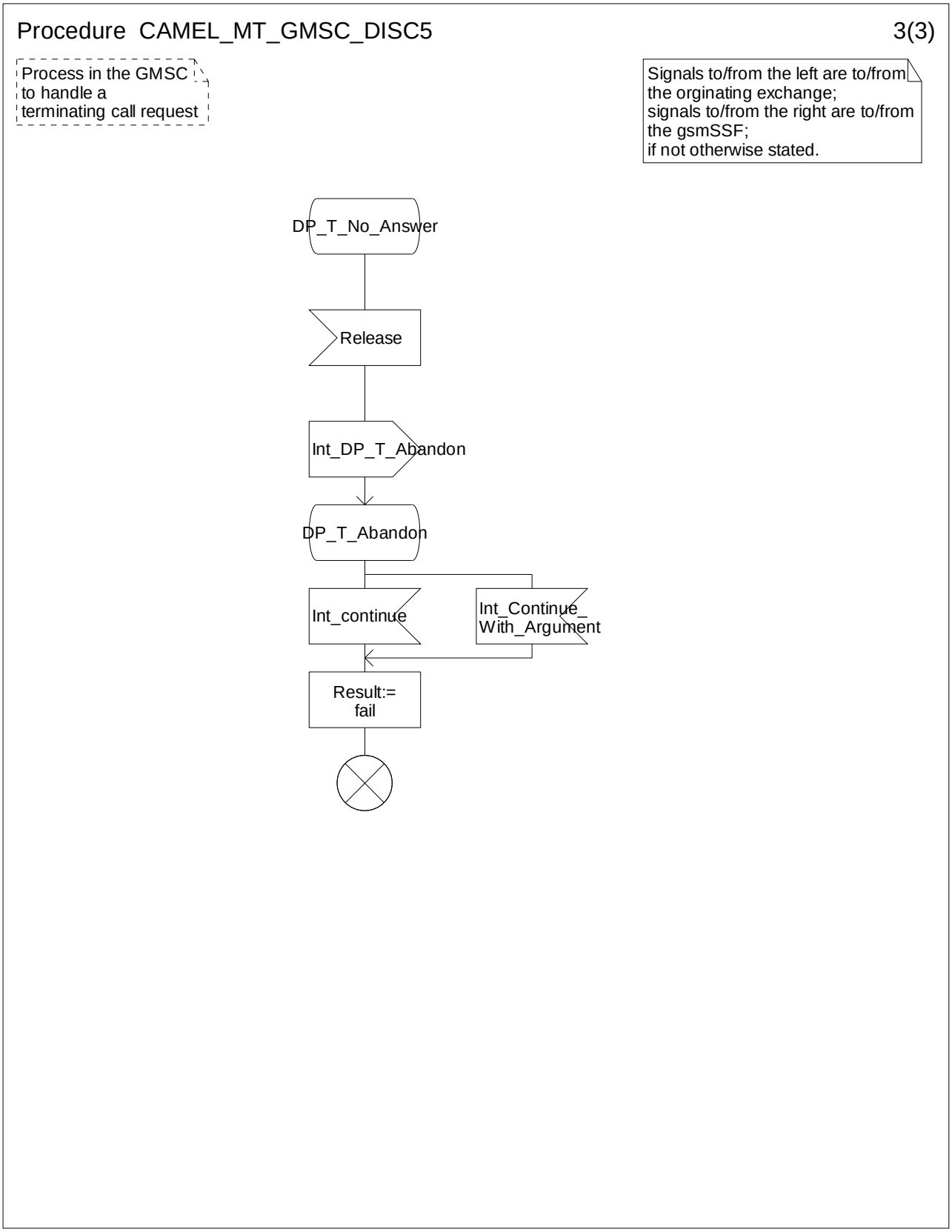


Figure -3: Procedure CAMEL_MT_GMSC_DISC5 (sheet 3)

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041028
Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **740** ⌘**rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to CAMEL_Modify_CUG_Info
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:
Ph2 *(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)*
Rel-7 *(Release 7)*

Reason for change: ⌘

According to the description of "Non-CUG Call" IE in CWA/CON operations, this parameter "shall be absent if one or more of CUG Interlock Code (IC) and Outgoing Access Indicator (OA) is present in the IF".

It is currently not specified how the MSC shall behave when gsmSCF sends "Non-CUG Call" together with IC and OA in above-mentioned CAP operations via gsmSSF.

To guarantee consistent behaviour for different gsmSSF implementations, it is beneficial to specify the MSC behaviour in above described case.

The present CR proposes that when the gsmSCF provides the “Non-CUG Call” IE, then that IE shall take precedence over IC and OA. Rationale is as follows.

If “non-CUG call” is present in CON/CWA, then the gsmSCF must have put that parameter explicitly in the Operation, so the CAMEL Service has taken the decision that the call shall be a non-CUG call. On the other hand, the “CUG Interlock Code” and “Outgoing Access Indicator” may also be present in IDP, so the gsmSCF could have copied it from IDP into CON/CWA.

Procedure CAMEL_Modify_CUG_Info indicates that MSC ***first*** checks for the presence of “CUG Interlock Code” and “Outgoing Access Indicator” and ***then*** for the presence of “non-CUG Call”, so that might give the impression that “CUG Interlock Code” and “Outgoing Access Indicator” take precedence over “non-CUG Call”, but it is otherwise clearly specified that “non-CUG Call” shall not be present if one or both of “CUG Interlock Code” and “Outgoing Access Indicator” is present.

		The present CR proposes, therefore, that the MSC first check for the presence of “non-CUG Call” and then, if “non-CUG Call” is not present, for the presence of “CUG Interlock Code” and “Outgoing Access Indicator”.
Summary of change:	⌘	Correct Figure Figure **Error! Reference source not found.**.1-1: Procedure CAMEL_Modify_CUG_Info.
Consequences if not approved:	⌘	When the gsmSCF inadvertently copies CUG Interlock Code and/or Outgoing Access Indicator in CON or CWA, then the MSC via gsmSSF applies incorrect CUG handling. Although the gsmSCF intended to remove the CUG information from the call, the call continues as a CUG call.

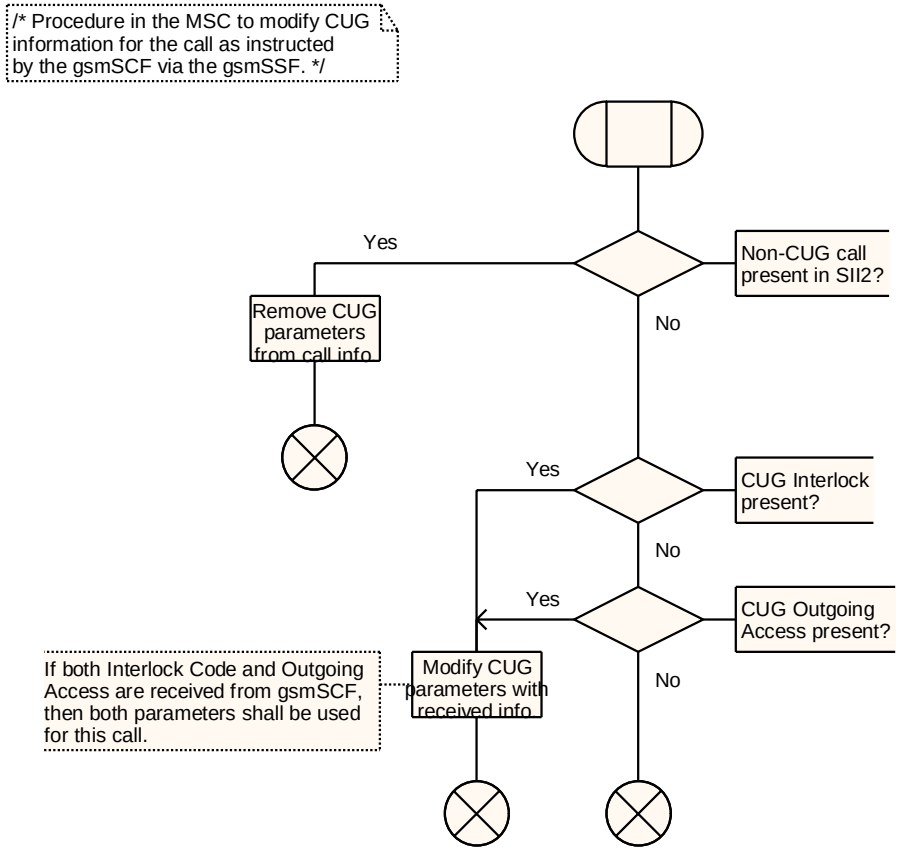
Clauses affected:	⌘	4.5.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

****** First modification ******

4.5.2 Handling of mobile originated calls

….Omitted text….

Procedure CAMEL_Modify_CUG_Info 1(1)



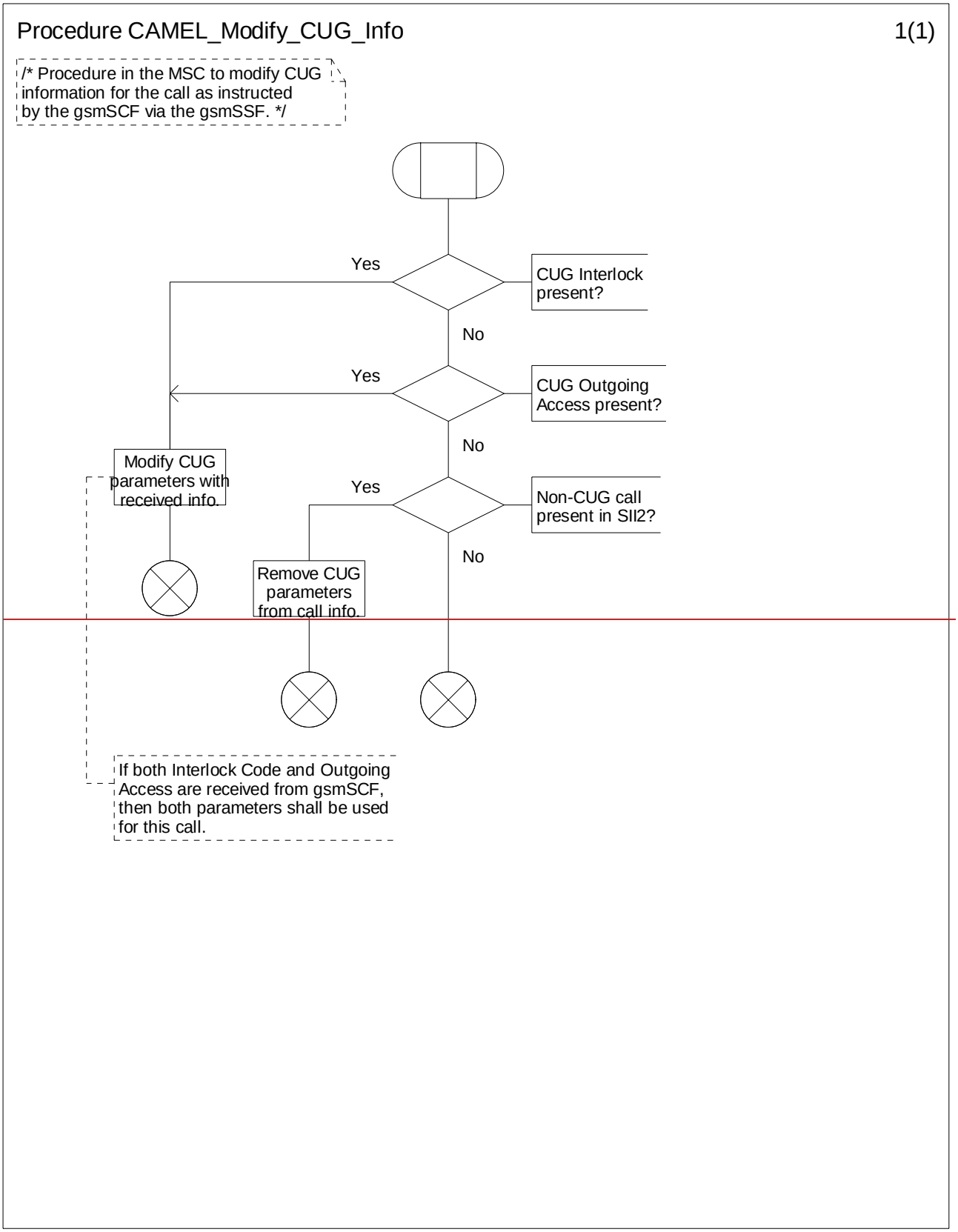


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_Modify_CUG_Info (sheet 1)**

****** End of modification ******

3GPP TSG-CN WG4 Meeting #24 N4-041029

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **29.078** **CR** **384** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to Cancel procedure description
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Section 11.8.1.1 lists the parameters that the Cancel operation may contain. Sections 11.8.2 and 11.8.3 specify the pre- and postconditions for the responding entity. The contents of the Cancel operation determine the responding entity. Section 11.8.2 specifies that when invokeID is present, then gsmSRF shall be the responding entity. Section 11.8.3 specifies that when allRequests is present, then gsmSSF shall be the responsing entity. This leaves designers in doubt w.r.t. the usage of the callSegmentID in the cancel operation. The parameter callSegmentID is associated with Cancel(invokeID). When Cancel contains invokeID, then Cancel may also contain callSegmentID. The responding entity shall in that case remain gsmSRF. The above is not clearly reflected and has led to confusion for implementors. The present CR proposes corrective wording in section 11.8.2 to clarify that when Cancel contains invokeID, Cancel may also contain callSegmentID.
Summary of change:	⌘	Add a corrective sentence in section 11.8.2.
Consequences if not approved:	⌘	Implementation difficulty; gsmSSF designers may apply incorrect and inconsistent handling for callSegmentID.

Clauses affected:	⌘	11.8.2			
		Y	**N**		
Other specs Affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***

11.8 Cancel procedure

11.8.1 General description

The gsmSCF uses this operation to request the gsmSRF or gsmSSF to cancel a correlated previous operation.

The Cancel operation may be used for the following purposes:

(1) Cancel may be sent to the gsmSRF to cancel the "PlayAnnouncement" or the "PromptAndCollectUserInformation" operation. The cancellation of the operation is indicated via a respective error indication, "Canceled", to the invoking entity of the cancelled "PlayAnnouncement" or "PromptAndCollectUserInformation" operation.

(2) Cancel may be sent to the gsmSSF to disarm all armed EDPs and cancel all pending reports. This enables the gsmSSF FSM to transit to the state "Idle". If Cancel is used for this purpose, then the Cancel operation does not specify any specific operation to be cancelled.

11.8.1.1 Parameters

- invokeID:
  This parameter specifies which operation invocation shall be cancelled, i.e. PromptAndCollectUserInformation or PlayAnnouncement.

- callSegmentID:
  This parameter specifies the Call Segment to which the cancellation of the user interaction operation shall apply.

- allRequests:
  This parameter indicates that all armed EDP shall be disarmed and that any pending "ApplyChargingReport" and "CallInformationReport" shall be cancelled.

11.8.2 Responding entity (gsmSRF)

In the case of Cancel(invokeID), the gsmSRF is the responding entity. In this case, the Cancel operation may also contain the callSegmentID parameter.

11.8.2.1 Normal procedure

gsmSRF preconditions:

(1) A PlayAnnouncement or PromptAndCollectUserInformation operation has been received and the gsmSRF FSM is in the state "User Interaction".

gsmSRF postconditions:

(1) The execution of the PlayAnnouncement or PromptAndCollectUserInformation operation has been aborted and the gsmSRF remains in the state "User Interaction".

11.8.2.2 Error handling

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

11.8.3 Responding entity (gsmSSF)

In the case of Cancel(allRequests), the gsmSSF is the responding entity.

11.8.3.1 Normal procedure

gsmSSF preconditions:

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

gsmSSF postconditions:

(1) All armed EDPs are disarmed and all pending reports are cancelled.

(2) If the gsmSSF FSM was in the state "Monitoring", then it shall transit to the state "Idle"; or
If the gsmSSF FSM was in the state "Waiting_for_Instructions", then it shall remain in that state.
A subsequent call-processing operation will result in a gsmSSF FSM state transition to the state "Idle". If the call is in the active state, then the gsmSSF shall treat it autonomously as a normal (non-CAMEL) call.

11.8.3.2 Error handling

Sending of return error on cancel is not applicable in the cancel "allRequests" case. Generic error handling for the operation related errors are described in clause 10 and the TC services which are used for reporting operation errors are described in clause 14.

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041030

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **741** ⌘**rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to CAMEL_EXPORT_LEG_MSC procedure
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	During the processing of procedure CAMEL_EXPORT_LEG_MSC, Answer may be received from the destination exchange. Answer may be received when procedure CAMEL_EXPORT_LEG_MSC is called during the alerting phase of a call. The note in sheet 1 of CAMEL_EXPORT_LEG_MSC indicates that CAMEL_EXPORT_LEG_MSC for an ICA-call may be the result of the Move Leg operation. However, CAMEL_EXPORT_LEG_MSC for an ICA-call may also be the result of the Split Leg procedure. Split Leg is used to move an ICA-call into Call Segment 1, when Call Segment does not exist at that moment. Hence, the note in sheet 1 of CAMEL_EXPORT_LEG_MSC should mention Split Leg as well.
Summary of change:	⌘	Correct the note in sheet 1 of CAMEL_EXPORT_LEG_MSC.
Consequences if not approved:	⌘	The Answer message might be suppressed by the gsmSSF when it occurs during the alerting phase, when Split Leg is applied to an ICA-call. Suppressing the Answer message would have the effect that Answer is not reported to the CAMEL Service, resulting in call failure.

Clauses affected:	⌘	4.5.2

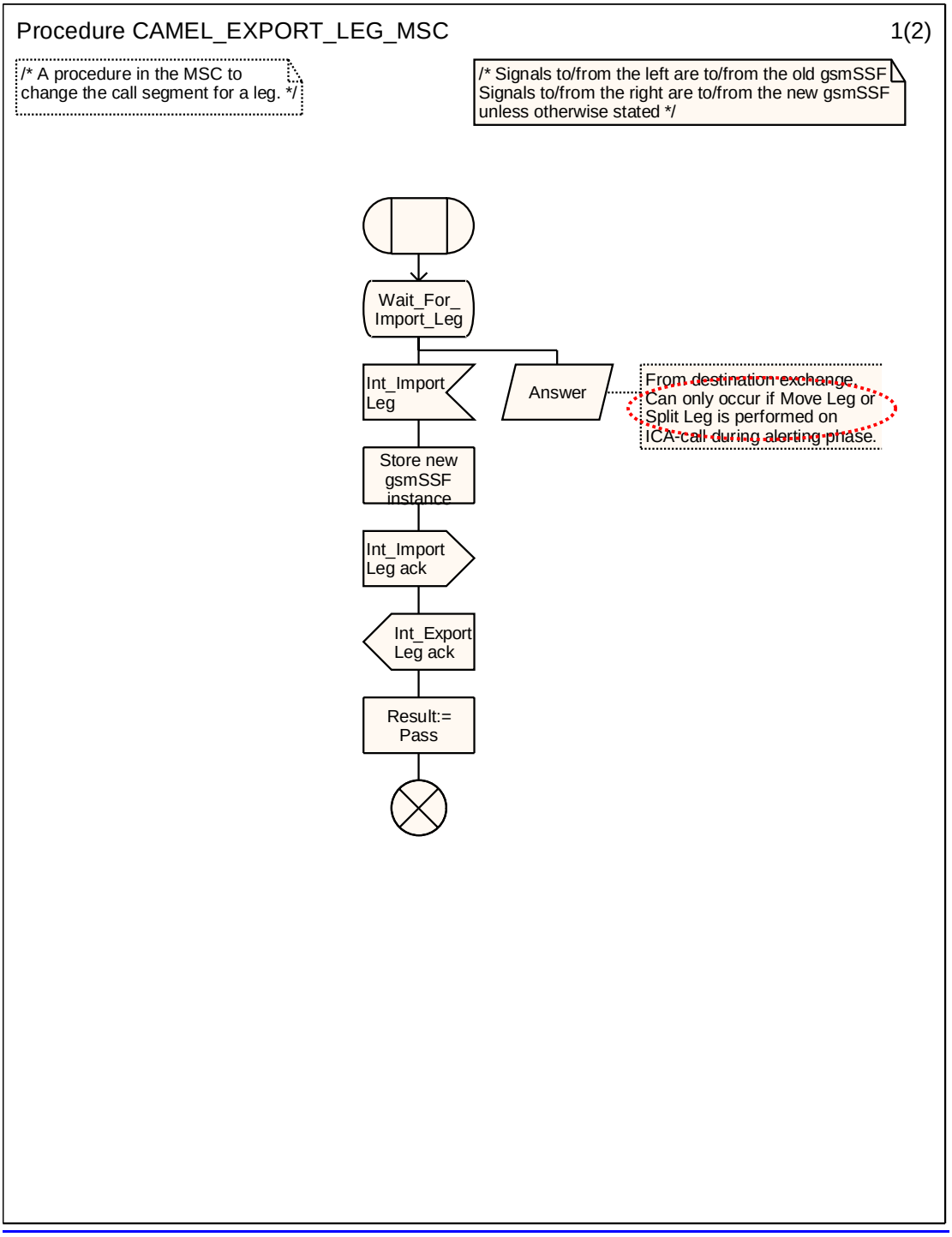
Y **N**

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

****** First modification ******

4.5.2 Handling of mobile originated calls

….omitted text….


Procedure CAMEL_EXPORT_LEG_MSC
1(2)
/* A procedure in the MSC to change the call segment for a leg. */
/* Signals to/from the left are to/from the old gsmSSF
Signals to/from the right are to/from the new gsmSSF
unless otherwise stated */
Wait_For_ Import_Leg
Int_Import Leg
Answer
From destination exchange. Can only occur if Move Leg or Split Leg is performed on ICA call during alerting phase.
Store new gsmSSF instance
Int_Import Leg ack
Int_Export Leg ack
Result:= Pass

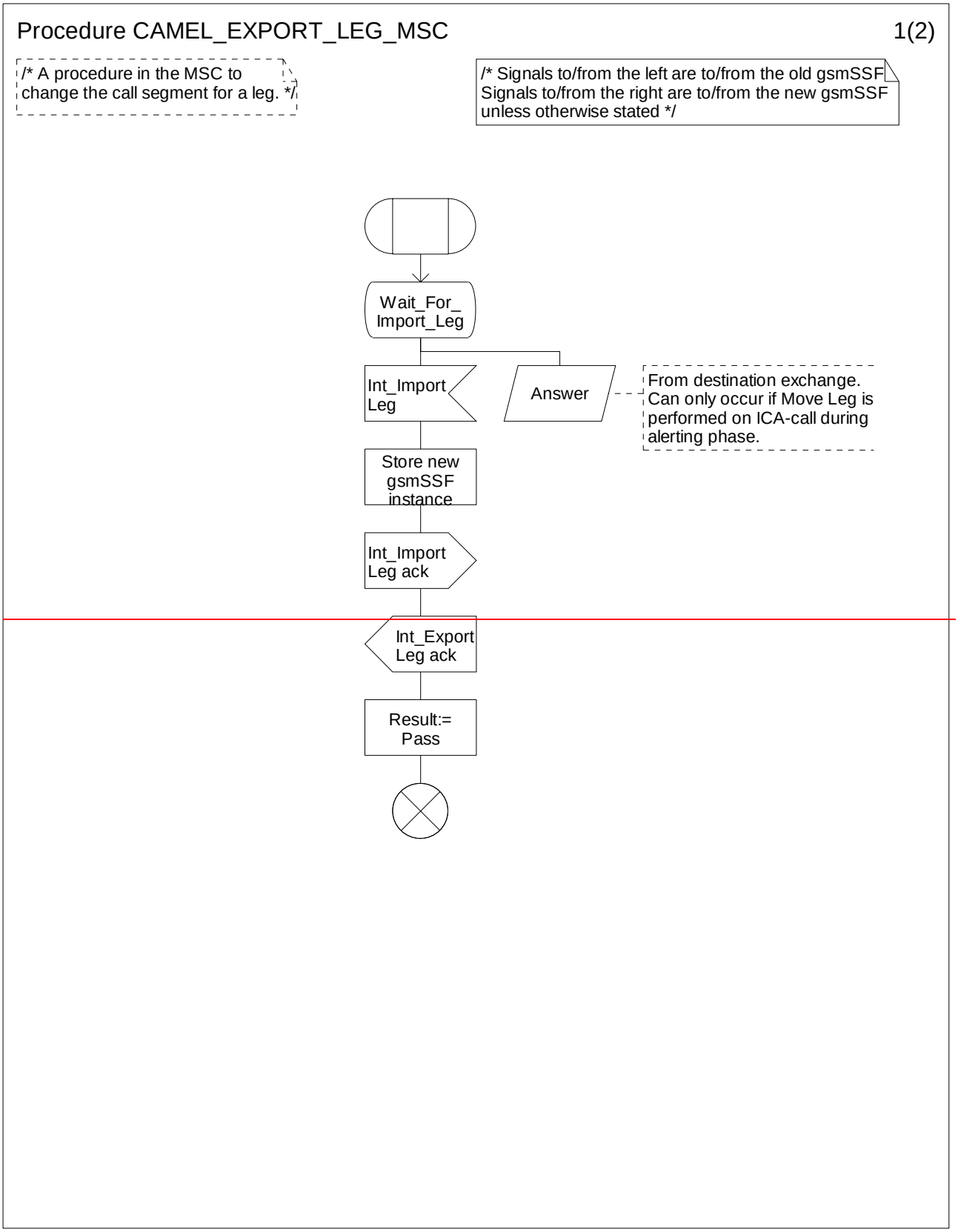


Figure Error! Reference source not found.**.1-1: Procedure CAMEL_EXPORT_LEG_MSC (sheet 1)**

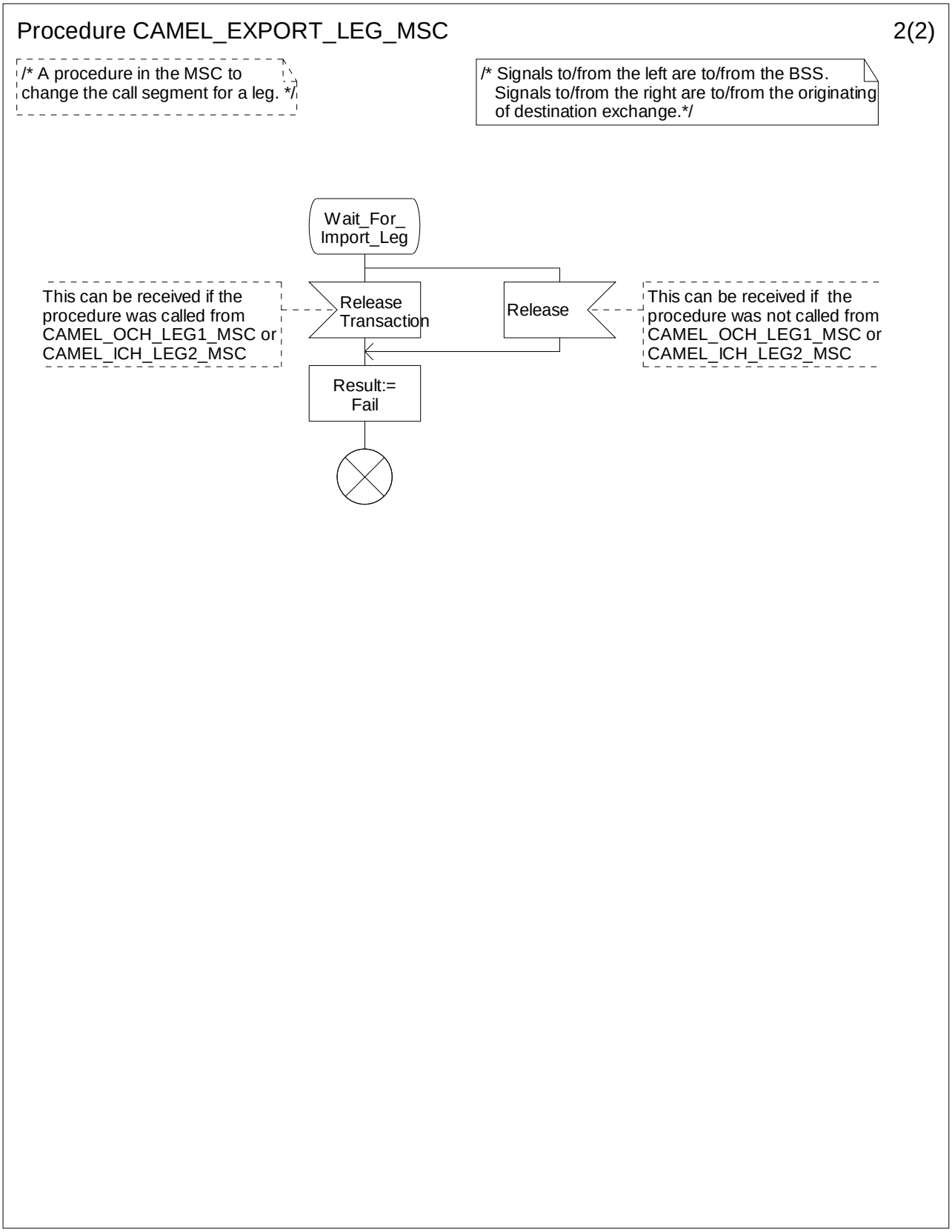


Figure Error! Reference source not found.**-2: Procedure CAMEL_EXPORT_LEG_MSC (sheet 2)**

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041032

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **743** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to CS_gsmSSF for EDS
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

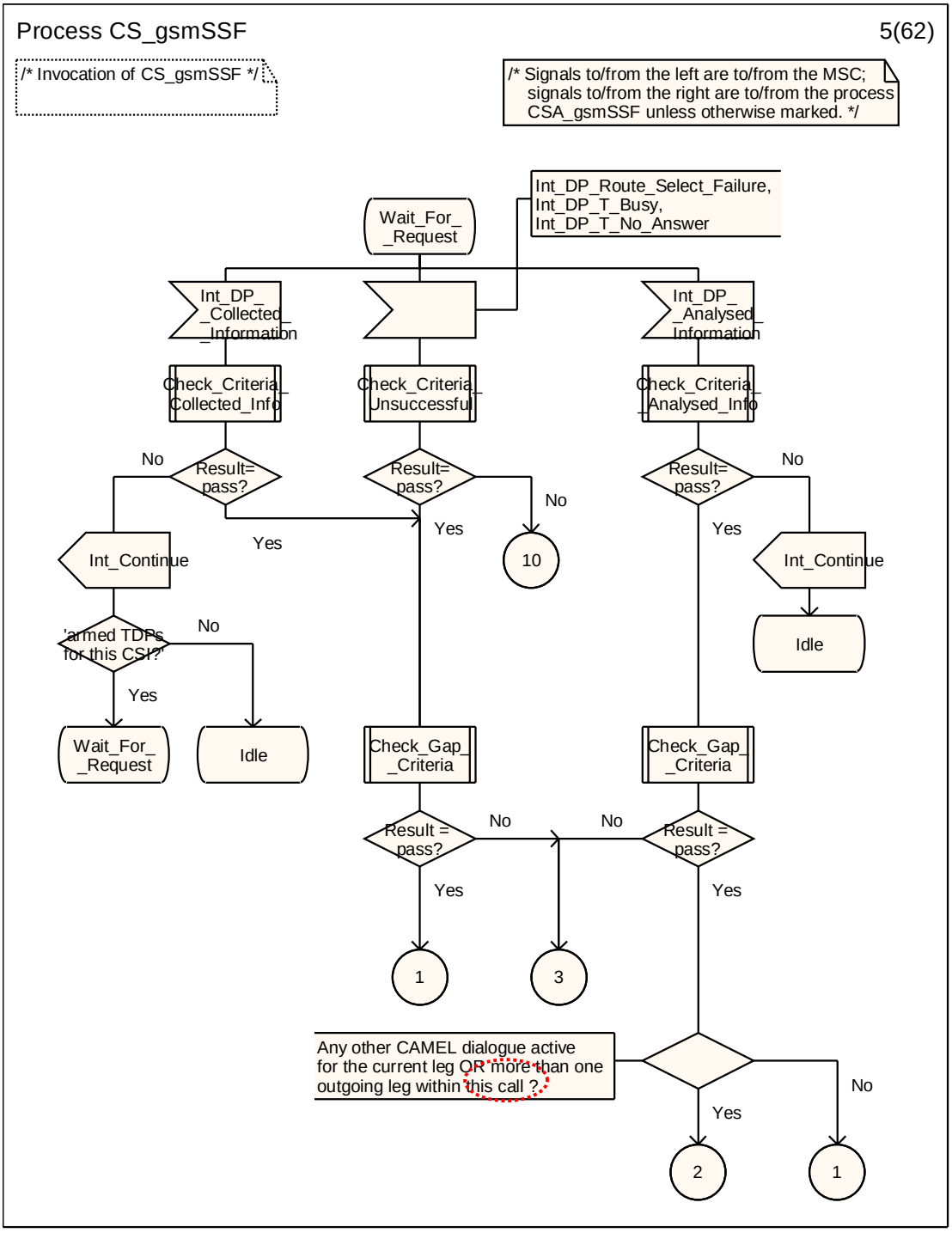
Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Sheet 5 of CS_gsmSSF checks the criteria for Enhanced Dialed Services (EDS). One of the criteria is that there shall not be more than one outgoing leg in the call. The current wording in that sheet, however, is incorrect. Refer to section 4.6.1.8 in 23.078, for the criteria for applying EDS.
Summary of change:	⌘	Correct the wording for the EDS check in sheet 5 of CS_gsmSSF. Replace "…more than one outgoing leg within this leg?" by "…more than one outgoing leg within this call?"
Consequences if not approved:	⌘	This may lead to incorrect and inconsistent implementation of EDS.

Clauses affected:	⌘	4.5.7.5 (process CS_gsmSSF, sheet 5)			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***


Process CS_gsmSSF
5(62)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Int_DP_Route_Select_Failure,
Int_DP_T_Busy,
Int_DP_T_No_Answer
Wait_For_ _Request
Int_DP_ _Collected_ _Information
Int_DP_ _Analysed_ Information
Check_Criteria_ Collected_Info
Check_Criteria_ Unsuccessful
Check_Criteria_ _Analysed_Info
Result= pass?
Result= pass?
Result= pass?
No
Yes
No
Yes
No
Yes
10
Int_Continue
Int_Continue
Idle
'armed TDPs for this CSI?'
No
Yes
Wait_For_ _Request
Idle
Check_Gap_ _Criteria
Check_Gap_ _Criteria
Result = pass?
Result = pass?
No
No
Yes
Yes
1
3
Any other CAMEL dialogue active for the current leg OR more than one outgoing leg within this call ?
No
Yes
2
1

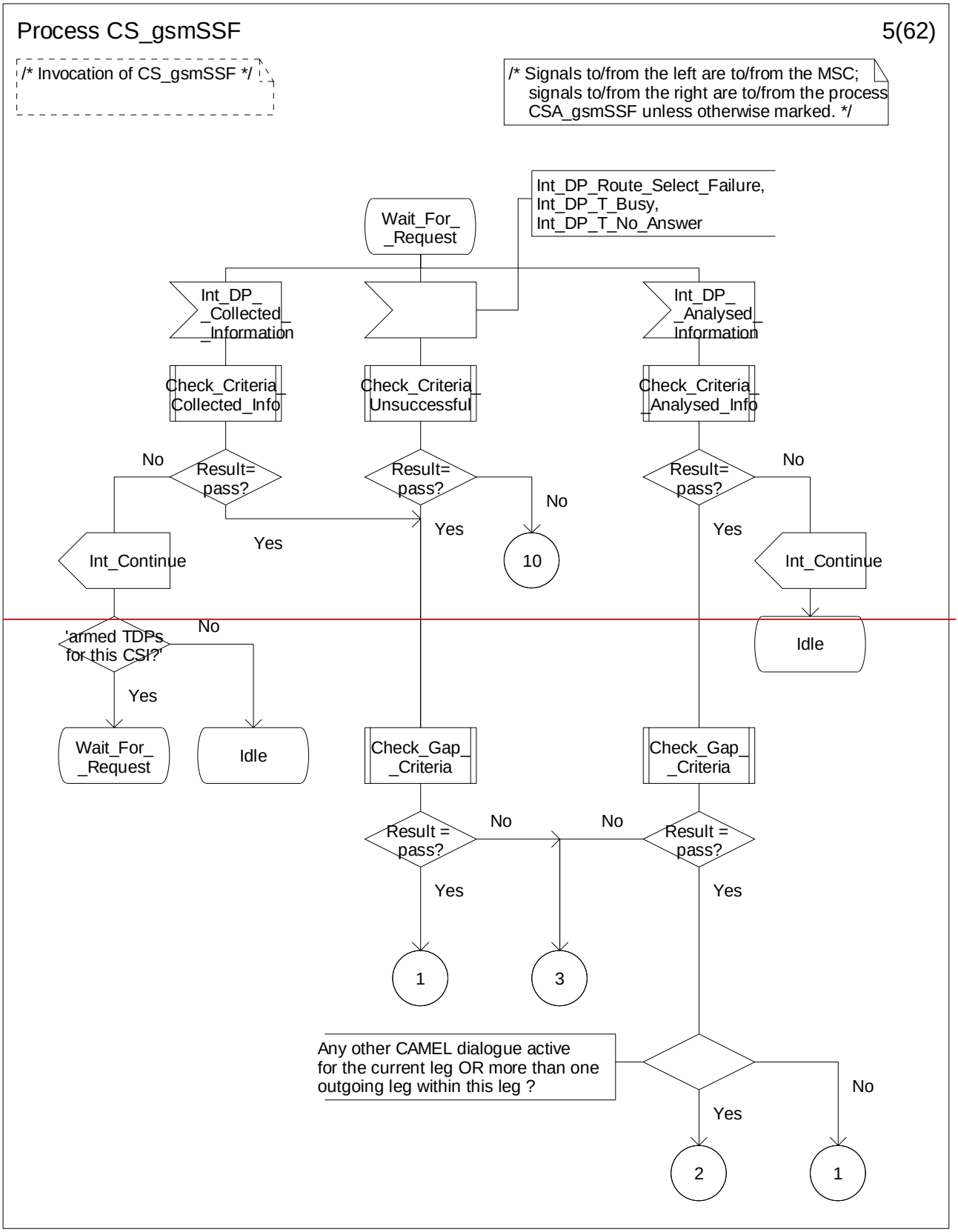


Figure Error! Reference source not found.**-1: Process CS_gsmSSF (sheet 1)**

****** End of modification ******

3GPP TSG-CN WG4 Meeting #24 N4-041033

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **744** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to CS_gsmSSF for Tcp expiry
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:
Ph2 (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)
Rel-7 (Release 7)

Reason for change:	⌘	Tccd timer is used to monitor the reception of Apply Charging (ACH) after the sending of Apply Charging Report (ACR). Tccd is started after the sending of ACR. Tccd timer handling applies per Leg as mentioned in sheet 1 of process CS_gsmSSF. In sheet 0 of CS_gsmSSF, Tccd timer is started, but the applicable leg is not indicated. This is an omission in that sheet. The present CR proposes a correction by adding an identifier for the leg in the SDL.
Summary of change:	⌘	Correct process CS_gsmSSF, sheet 0, by adding “(pty)” to the starting of Tccd.
Consequences if not approved:	⌘	The gsmSSF may set the incorrect Tccd timer. This may result in: - Tccd expires for another leg, resulting in the release of that leg; - Tccd is not started for the appropriate leg, resulting in that there is no supervision of the reception of ACH.

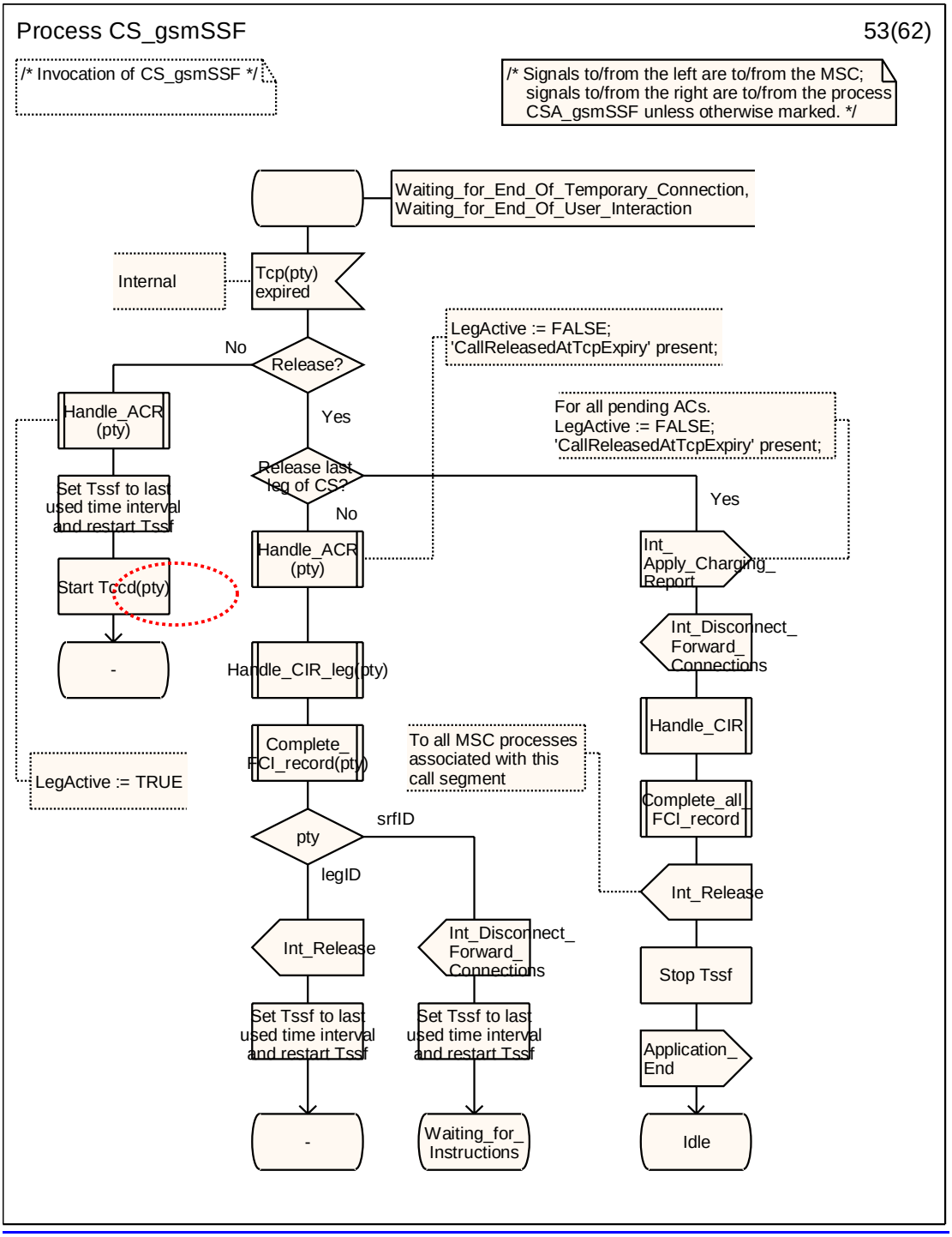
Clauses affected:	⌘	4.5.7.5			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

*** *First modification* ***

4.5.7.5 Process CS_gsmSSF and procedures

….omitted text….


Process CS_gsmSSF
53(62)
/* Invocation of CS_gsmSSF */
/* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA_gsmSSF unless otherwise marked. */
Waiting_for_End_Of_Temporary_Connection, Waiting_for_End_Of_User_Interaction
Internal
Tcp(pty) expired
LegActive := FALSE; 'CallReleasedAtTcpExpiry' present;
No
Release?
Yes
Handle_ACR (pty)
For all pending ACs. LegActive := FALSE; 'CallReleasedAtTcpExpiry' present;
Release last leg of CS?
Yes
No
Set Tssf to last used time interval and restart Tssf
Handle_ACR (pty)
Int_ Apply_Charging_ Report
Start Tccd(pty)
Int_Disconnect_ Forward_ Connections
-
Handle_CIR_leg(pty)
Handle_CIR
Complete_ FCI_record(pty)
To all MSC processes associated with this call segment
LegActive := TRUE
Complete_all_ FCI_record
srfID
pty
legID
Int_Release
Int_Release
Int_Disconnect_ Forward_ Connections
Stop Tssf
Set Tssf to last used time interval and restart Tssf
Set Tssf to last used time interval and restart Tssf
Application_ End
-
Waiting_for_ Instructions
Idle

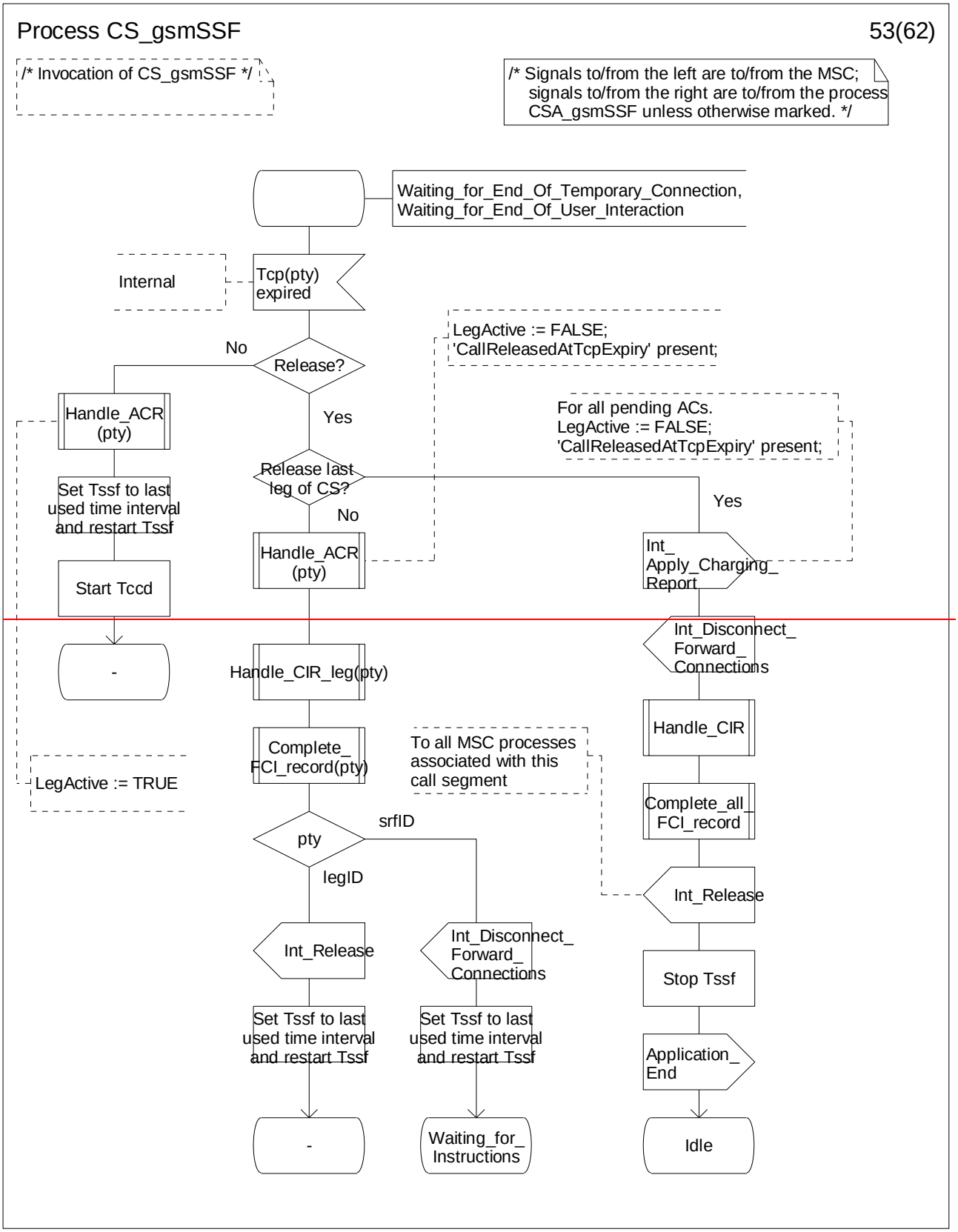


Figure Error! Reference source not found.**-1: Process CS_gsmSSF (sheet 1)**

****** End of modification ******

3GPP TSG-CN WG4 Meeting #24 N4-041034
Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **745** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to Handle_ACR procedure for Tccd timer
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:
Ph2 *(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)*
Rel-7 *(Release 7)*

Reason for change:	⌘	In procedure Handle_ACR, various timers are stopped. Per timer, a check is included to see whether the timer is running. The timer is stopped only when running. This check is currently missing for the Tccd timer. When Handle_ACR is called, Tccd does not have to be running. Tccd is normally running between the sending of CAP ACR and the reception of the following CAP ACH for that leg, provided that the leg is still active after the sending of CAP ACR. Hence, procedure Handle_ACR shall have a check to see whether Tccd is running, before Tccd is stopped. This aligns the handling of Tccd in line with the handling of the other timers. In additon, the check box “Tsw(pty) running?” can be removed. This check is already covered by the box “If running”, to the left of the task box “Stop Tsw(pty)”.
Summary of change:	⌘	Correct Handle_ACR in accordance with the Reason for Change.
Consequences if not approved:	⌘	Confusion for designers; gsmSSF implementors may get the impression that Tccd is always running when Handle_ACR is called. The double check for Tsw may also be confusing for designers.

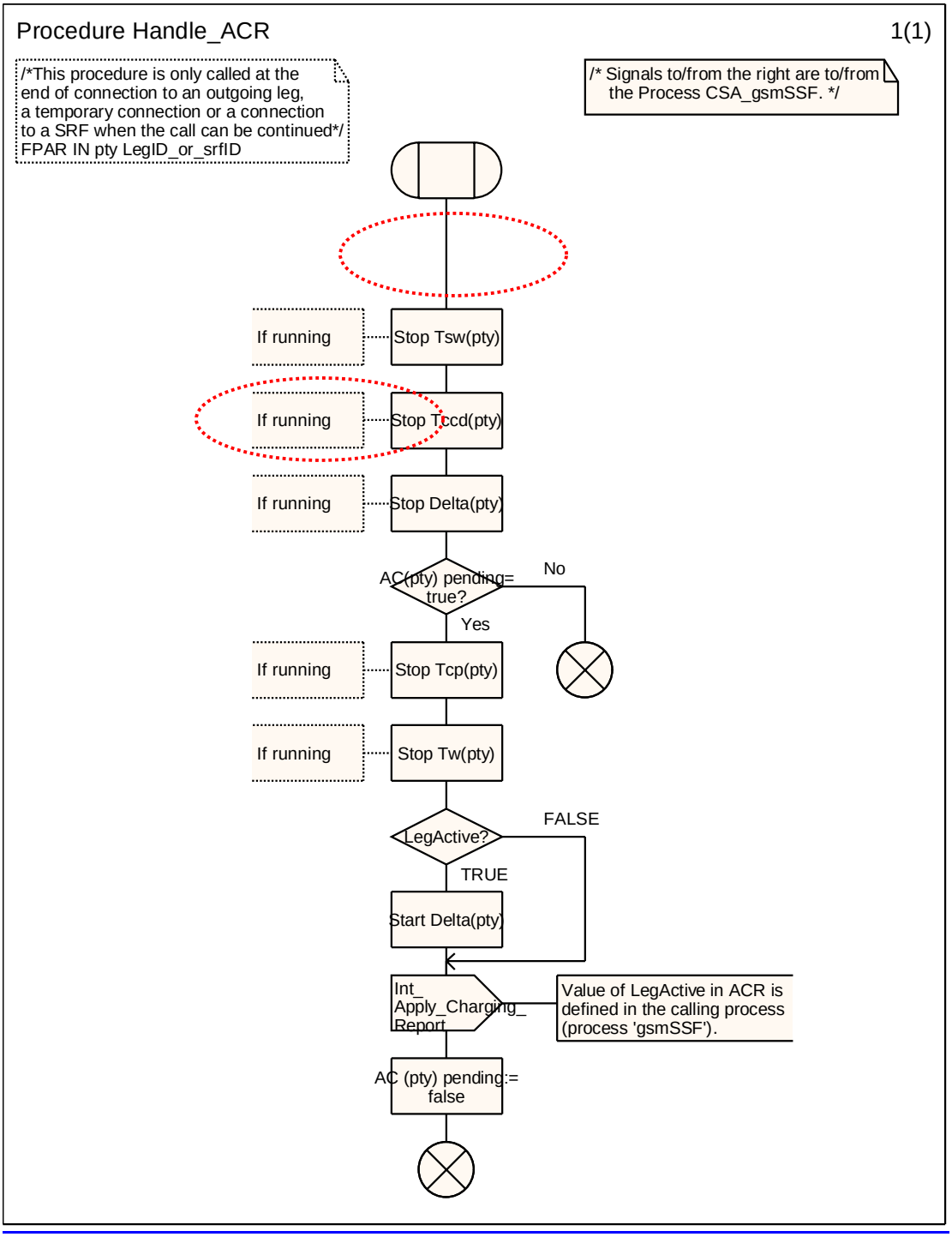
Clauses affected:	⌘	

Y **N**

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

*** *First modification* ***

4.5.7.5 Process CS_gsmSSF and procedures


Procedure Handle_ACR
1(1)
/*This procedure is only called at the end of connection to an outgoing leg, a temporary connection or a connection to a SRF when the call can be continued*/
FPAR IN pty LegID_or_srfID
/* Signals to/from the right are to/from the Process CSA_gsmSSF. */
If running
Stop Tsw(pty)
If running
Stop Tccd(pty)
If running
Stop Delta(pty)
AC(pty) pending= true?
No
Yes
If running
Stop Tcp(pty)
If running
Stop Tw(pty)
LegActive?
FALSE
TRUE
Start Delta(pty)
Int_ Apply_Charging_ Report
Value of LegActive in ACR is defined in the calling process (process 'gsmSSF').
AC (pty) pending:= false

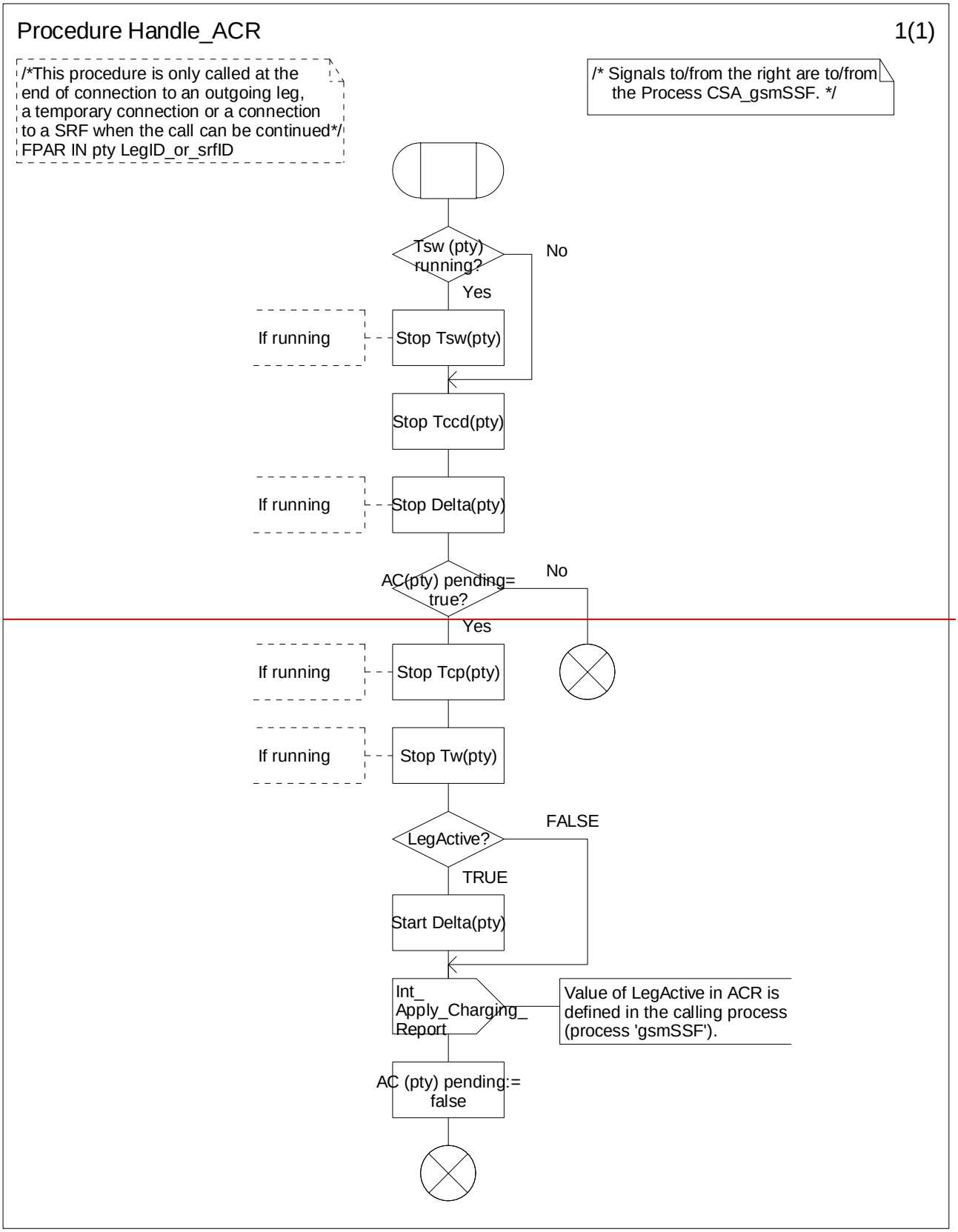


Figure Error! Reference source not found.**.1-1: Procedure Handle_ACR (sheet 1)**

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041036

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **747** ⌘**rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to any Time Interrogation
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	CAMEL Phase 4 specifies the capability for the gsmSCF to request the IMEI and MS Class from the HLR, using MAP Any Time Interrogation (ATI). The gsmSCF indicates whether the information is requested from the CS domain or from the PS domain. The HLR sends MAP Provide Subscriber Info (PSI) to MSC or SGSN. The text in section 11.1.1 does not mention the capability to request IMEI and MS Class; the text mentions only the capability to request Location Information and Subscriber State. The text in this section shall be corrected, by adding IMEI and MS Class to the description. The interface descriptions in sections 11.1.2.4, 11.1.2.5 and 11.1.2.6 have a similar deficiency. These descriptions mention only Location Information and Subscriber State. It is not required, in those sections, to re-iterate the exact information that can be transported over those interfaces, since that is adequately described in the Information Flows. There explicit mentioning of Location Information and Subscriber State can therefore be removed from those sections. Process CAMEL_Provide_Subscriber_Info_SGSN has the following shortcoming. When Active retrieval is required (i.e. “Current Location”, IMEI or GPRS MS Class requested in MAP PSI), then the SGSN retrieves the current location of the subscriber, with procedure CAMEL_Active_Info_Retrieval_SGSN. That procedure also takes care that the IMEI is provided, if requested in MAP PSI, and that the MS Class is provided, if requested in MAP PSI. However, the subscriber state is not provided.

		The present CR proposes a correction, to provide also the subscriber state, if requested.
Summary of change:	⌘	- improve textual description in section 11.1 - correct CAMEL_Provide_Subscriber_Info_SGSN
Consequences if not approved:	⌘	Any Time Interrogation for PS domain may fail. When the gsmSCF requests subscriber state in combination with current location, then the subscriber state is not provided.

Clauses affected:	⌘	11			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***

11 Subscriber Location and State retrieval

Support of the procedures described in this clause in CAMEL Phase 4 is a network operator option.

11.1 Architecture

11.1.1 Functional Entities used for CAMEL

This subclause describes procedures for the retrieval of subscriber location and subscriber state information. Location Services is only supported in CAMEL Phase 3 and higher.

1) The gsmSCF may request location information of a mobile station from the GMLC via Location Services. The information flow of Location Services is described in 3GPP TS 23.271 [**Error! Reference source not found.**] and 25.205 [**Error! Reference source not found.**]. Figure **Error! Reference source not found.** indicates the functional entities involved in the procedures for the retrieval of location information via location services.

2) The gsmSCF may request any of location information, ~~and/or~~ subscriber state information, IMEI and MS Class of a mobile station from the HLR. Any of ~~l~~location information, ~~and/or~~ subscriber state information, IMEI and MS Class may be requested either from the circuit switched or the packet switched domain.

   If any of location information, ~~and/or~~ subscriber state information, IMEI and MS Class is requested by the gsmSCF, then the HLR may retrieve this information via the Provide Subscriber Information procedure from either the MSC/VLR or the SGSN. This procedure is defined in subclause **Error! Reference source not found.** of the present document.

   The interface for the provision of subscriber location and state information between HLR and MSC/VLR is described in 3GPP TS 23.018 [**Error! Reference source not found.**]. The interface for the provision of subscriber location and state information between HLR and SGSN is described in this chapter. Figure **Error! Reference source not found.** indicates the functional entities involved in the procedures for the retrieval of location information and/or subscriber state information from the circuit switched or packet switched domain.

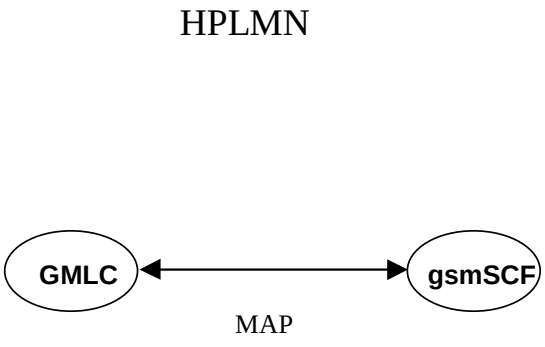


Figure Error! Not a valid bookmark self-reference..**1-1: Functional architecture for CAMEL Support of Location Services**

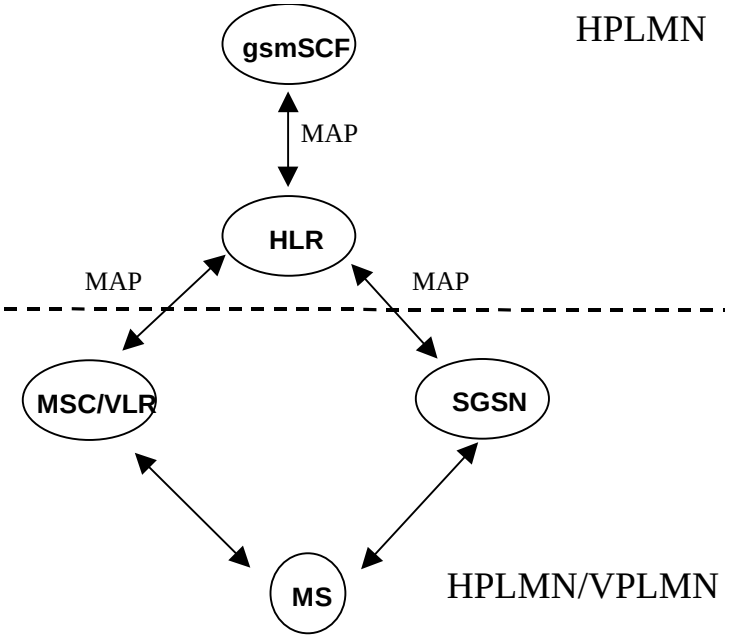


Figure Error! Reference source not found.**-2: Functional architecture for Any Time Interrogation**

gsmSCF: see subclause Error! Reference source not found.**.**

GMLC: A functional entity that allows external LCS Clients to request real-time information about a Mobile Station. The information that can be requested from the GMLC is the location of the mobile station**.**

HLR: see subclause Error! Reference source not found.**.**

MSC/VLR: see subclause Error! Reference source not found.**.**

SGSN: see subclause Error! Reference source not found.**.** The SGSN stores location and state information for each subscriber. Upon request this information is provided to the HLR.

The information flows between the GMLC and functional entities other than the gsmSCF, have not been indicated in the functional architecture shown in figures **Error! Reference source not found.**. These information flows are outside the scope of the present document.

11.1.2 Interfaces defined for CAMEL

This subclause describes the interfaces applicable to CAMEL. It specifies on a high level the functions specific to CAMEL.

11.1.2.1 gsmSCF - GMLC interface

This interface is used by the gsmSCF to request information (Mobile Station location) from the GMLC at any time.

11.1.2.2 GMLC - gsmSCF interface

This interface is used by the GMLC to return the requested information (Mobile Station location) to the gsmSCF as requested by the gsmSCF via the Any Time Interrogation procedure.

11.1.2.3 gsmSCF - HLR

This interface is used by the gsmSCF to interrogate the HLR. As a network operator option, the HLR may refuse to provide the information requested by the gsmSCF.

11.1.2.4 HLR - gsmSCF

This interface is used by the HLR to return the requested information ~~(Mobile Station location and/or Mobile Station state)~~ to the gsmSCF as requested by the gsmSCF via the Any Time Interrogation procedure.

11.1.2.5 HLR - SGSN

This interface is used by the HLR to request information ~~(Mobile station location and/or subscriber state)~~ from the SGSN.

11.1.2.5 SGSN - HLR

This interface is used by the SGSN to return the requested information ~~(Mobile station location and/or subscriber state)~~ to the HLR.

11.2 Procedures for CAMEL

11.2.1 Location Services

Handling of Any Time Interrogation to obtain Location Information involves the following process:

- CAMEL_ATI_GMLC.

If an OSS needs to retrieve the active location of a Mobile Station, the gsmSCF initiates a transaction to the GMLC by sending a Any Time Interrogation Request.

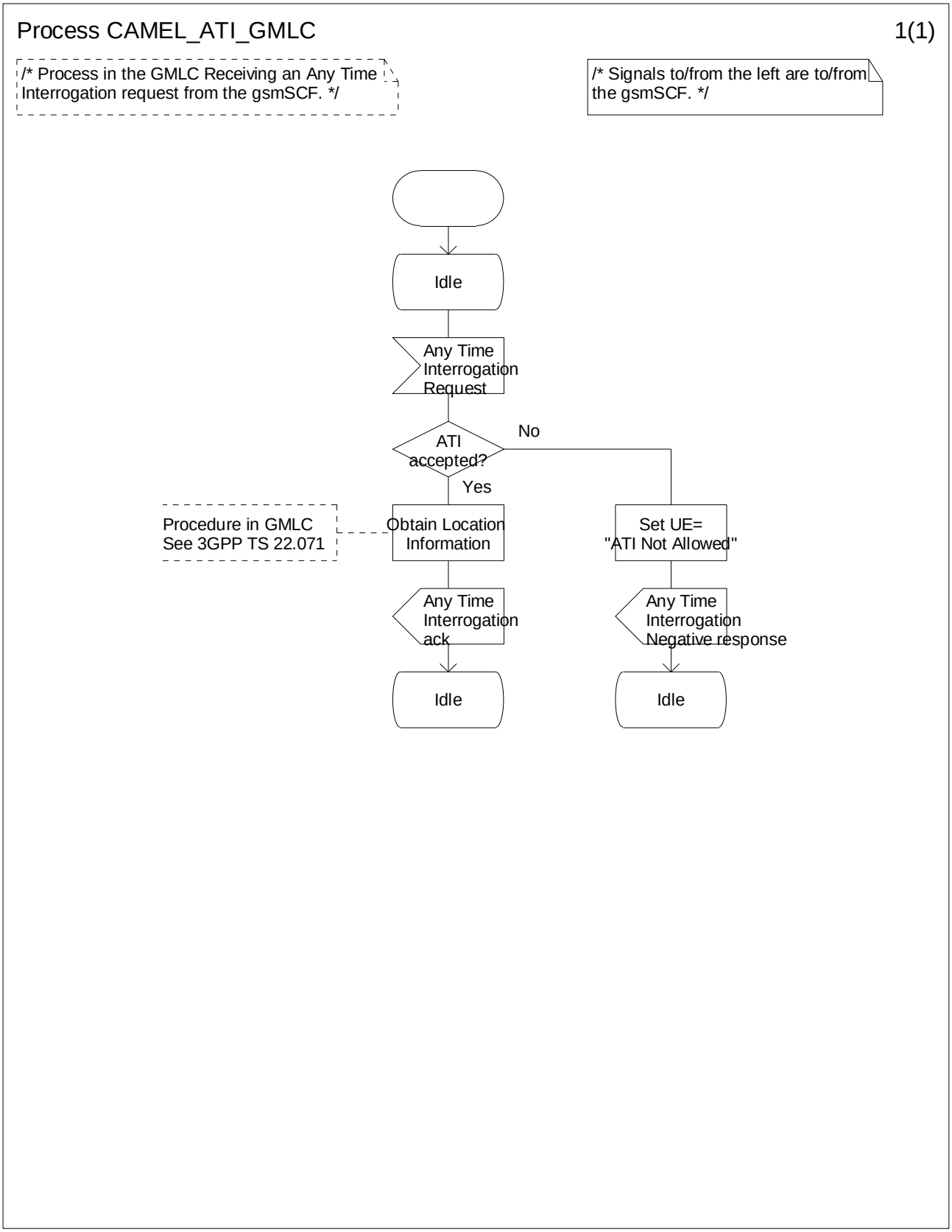


Figure Error! Not a valid bookmark self-reference.**.2-1: Process CAMEL_ATI_GMLC (sheet 1)**

11.2.2 Any Time Interrogation

Handling of Any Time Interrogation to obtain Subscriber State and Location Information involves the following process:

- CAMEL_ATI_HLR.

If an OSS needs the Subscriber State and/or the Location Information, the gsmSCF initiates a transaction to the HLR by sending an Any_Time_Interrogation Request.

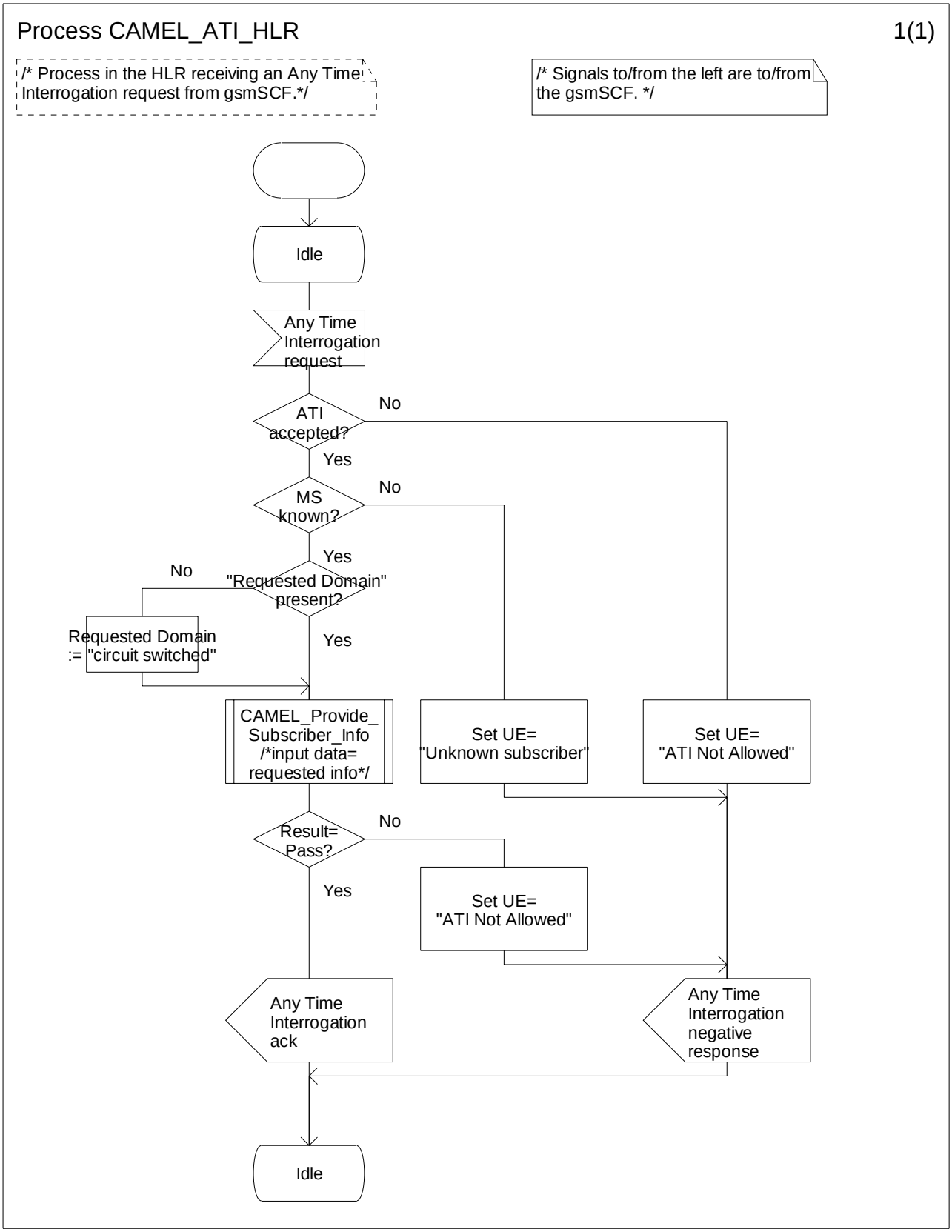


Figure Error! Not a valid bookmark self-reference.**.3-1: Process CAMEL_ATI_HLR (sheet 1)**

11.2.3 Provide Subscriber Information in the SGSN

The provision of Subscriber State and Location Information involves the following process and procedures:

- CAMEL_Provide_Subscriber_Info_SGSN;
- CAMEL_Active_Info_Retrieval_SGSN;
- Retrieve_GPRS_MS_Class_If_Required;
- Retrieve_IMEI_If_Required.

11.2.3.1 Procedure CAMEL_Provide_Subscriber_Info_SGSN

If the SGSN receives a Provide Subscriber Info request, it performs procedures to obtain the requested information.

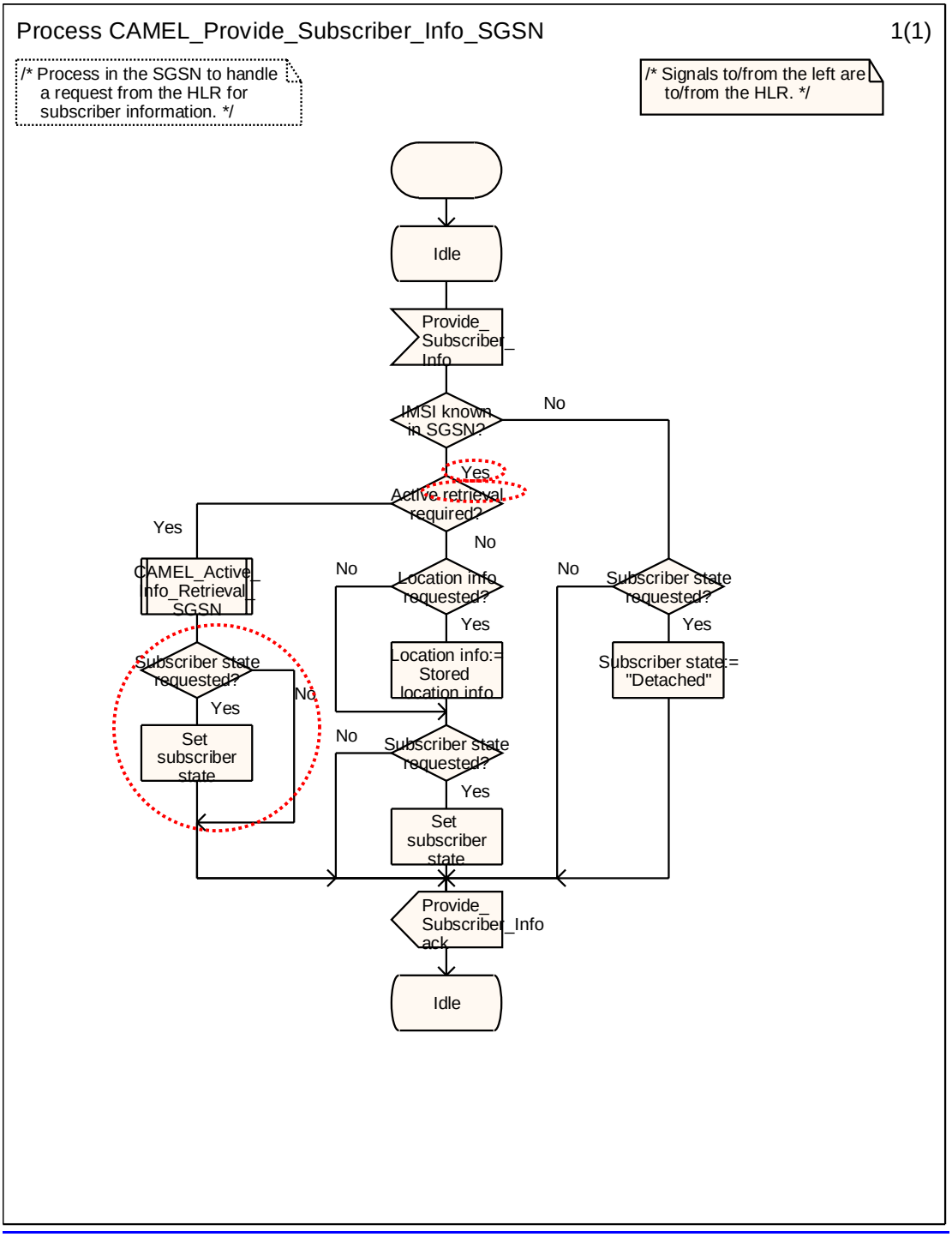
The test "Active retrieval required" takes the "Yes" exit if any one or more of current location, GPRS MS class or IMEI is indicated in the Provide Subscriber Info request.

11.2.3.2 Procedure CAMEL_Active_Info_Retrieval_SGSN

If the SGSN data show that the MS is in the "Iu Connected" state (i.e. it has an Iu connection established), the SGSN performs the Location Reporting Control procedure (Direct report) which is defined in 3GPP TS 25.413 [**Error! Reference source not found.**].

The test "Report on change of service area" takes the "Yes" exit if the SGSN has performed the Location Reporting Control procedure with the Request Type IE set to "Change of service area".

If the SGSN data show that the MS is in the "A/Gb Ready" state (i.e. it is transferring packet data over an A/Gb access connection) then the currently stored location information is up to date, and no further action is required.


Process CAMEL_Provide_Subscriber_Info_SGSN
1(1)
/* Process in the SGSN to handle a request from the HLR for subscriber information. */
/* Signals to/from the left are to/from the HLR. */
Idle
Provide_ Subscriber_ Info
IMSI known in SGSN?
No
Yes
Active retrieval required?
Yes
No
CAMEL_Active_ nfo_Retrieval_ SGSN
No
Location info requested?
No
Subscriber state requested?
Yes
Yes
Yes
Subscriber state requested?
Location info:= Stored location info
Subscriber state:= "Detached"
No
Yes
Set subscriber state
No
Subscriber state requested?
Yes
Set subscriber state
Provide_ Subscriber_Info ack
Idle

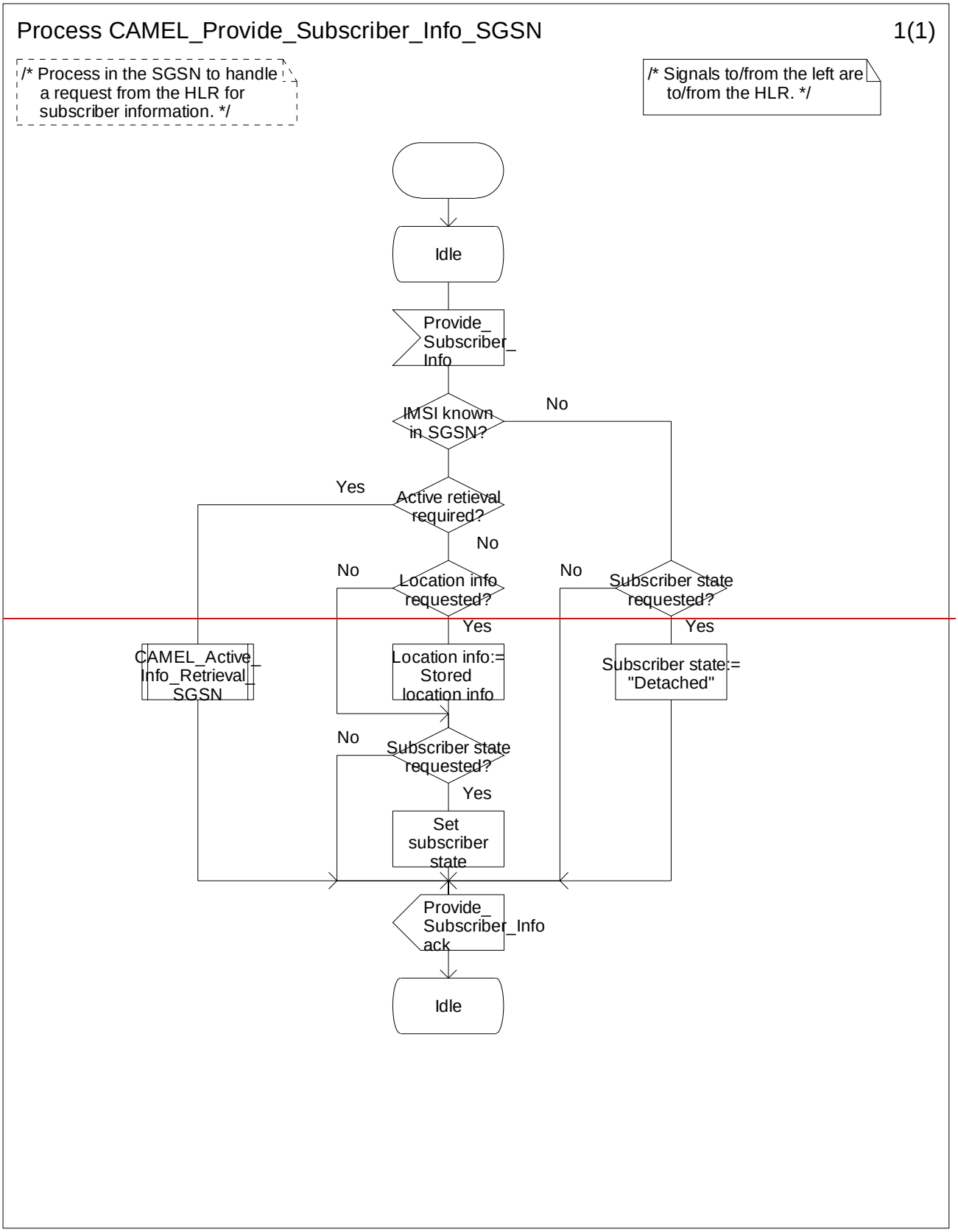


Figure Error! Not a valid bookmark self-reference.**.4-1: Process CAMEL_Provide_Subscriber_Info_SGSN (sheet 1)**

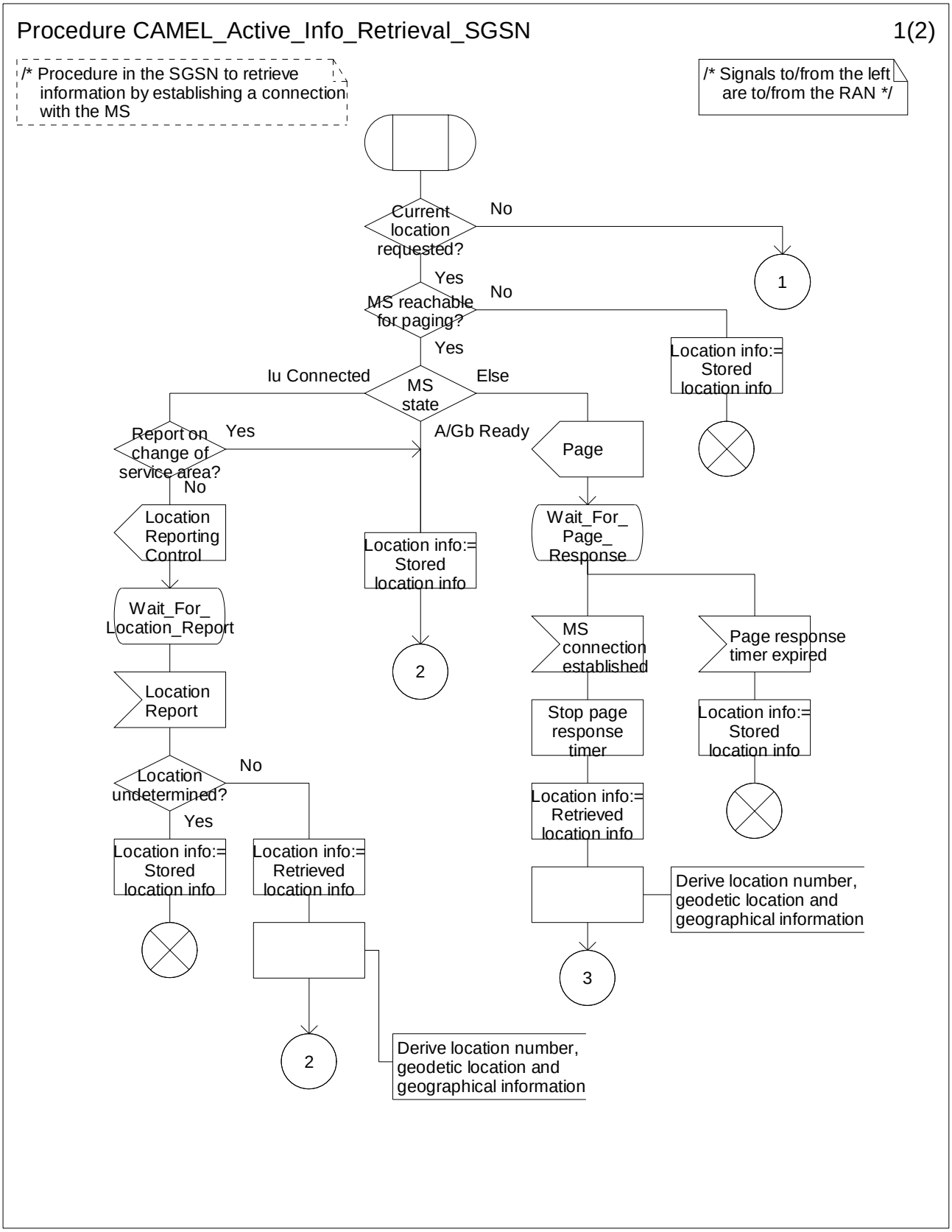


Figure Error! Not a valid bookmark self-reference..**5-1: Procedure CAMEL_Active_Info_Retrieval_SGSN (sheet 1)**

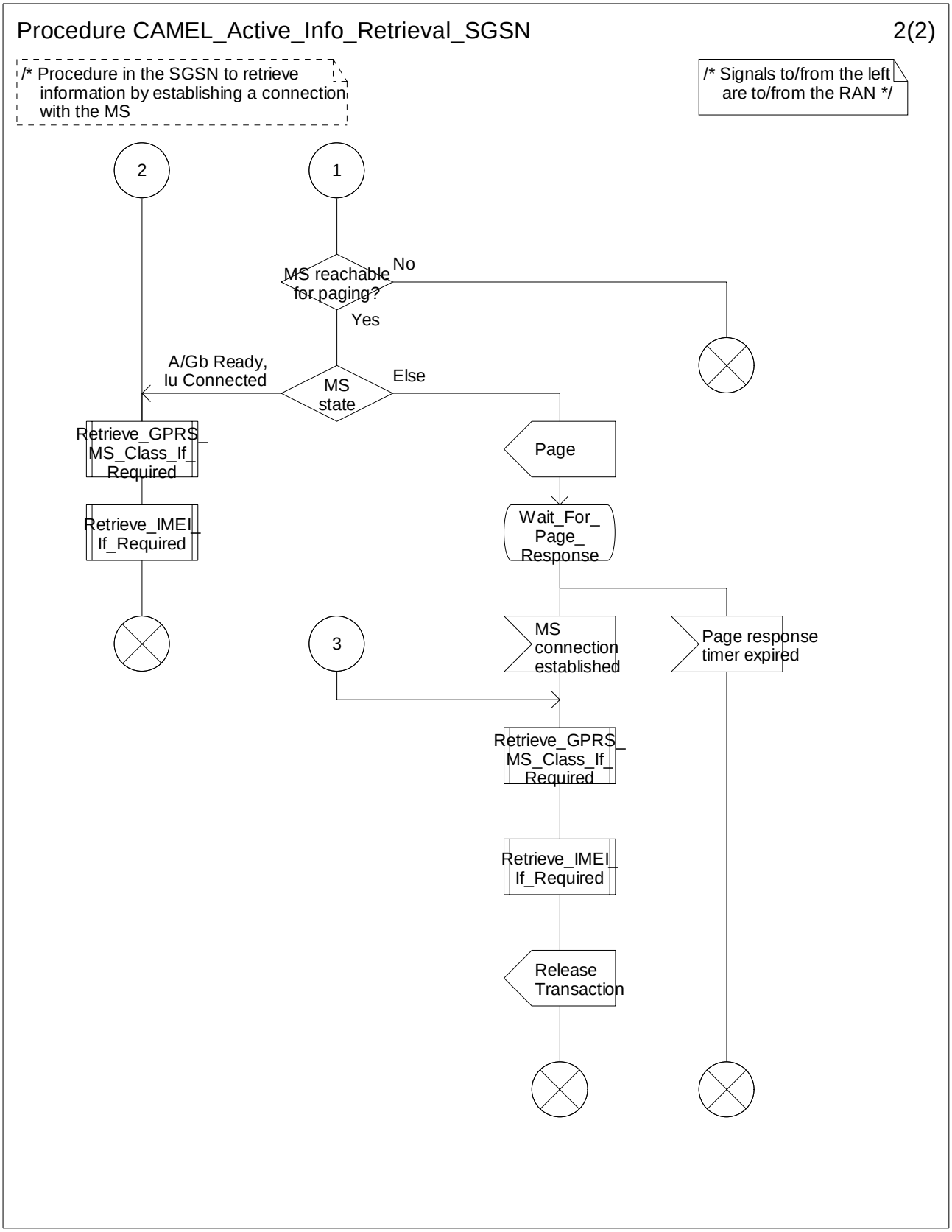


Figure Error! Reference source not found.**-2: Procedure CAMEL_Active_Info_Retrieval_SGSN (sheet 2)**

Procedure Retrieve_GPRS_MS_Class_If_Required 1(1)

Procedure in the SGSN to retrieve GPRS classmark information if required by the HLR

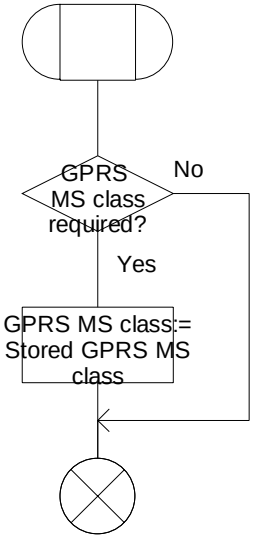


Figure Error! Not a valid bookmark self-reference..**6-1: Procedure Retrieve_GPRS_MS_Class_If_Required (sheet 1)**

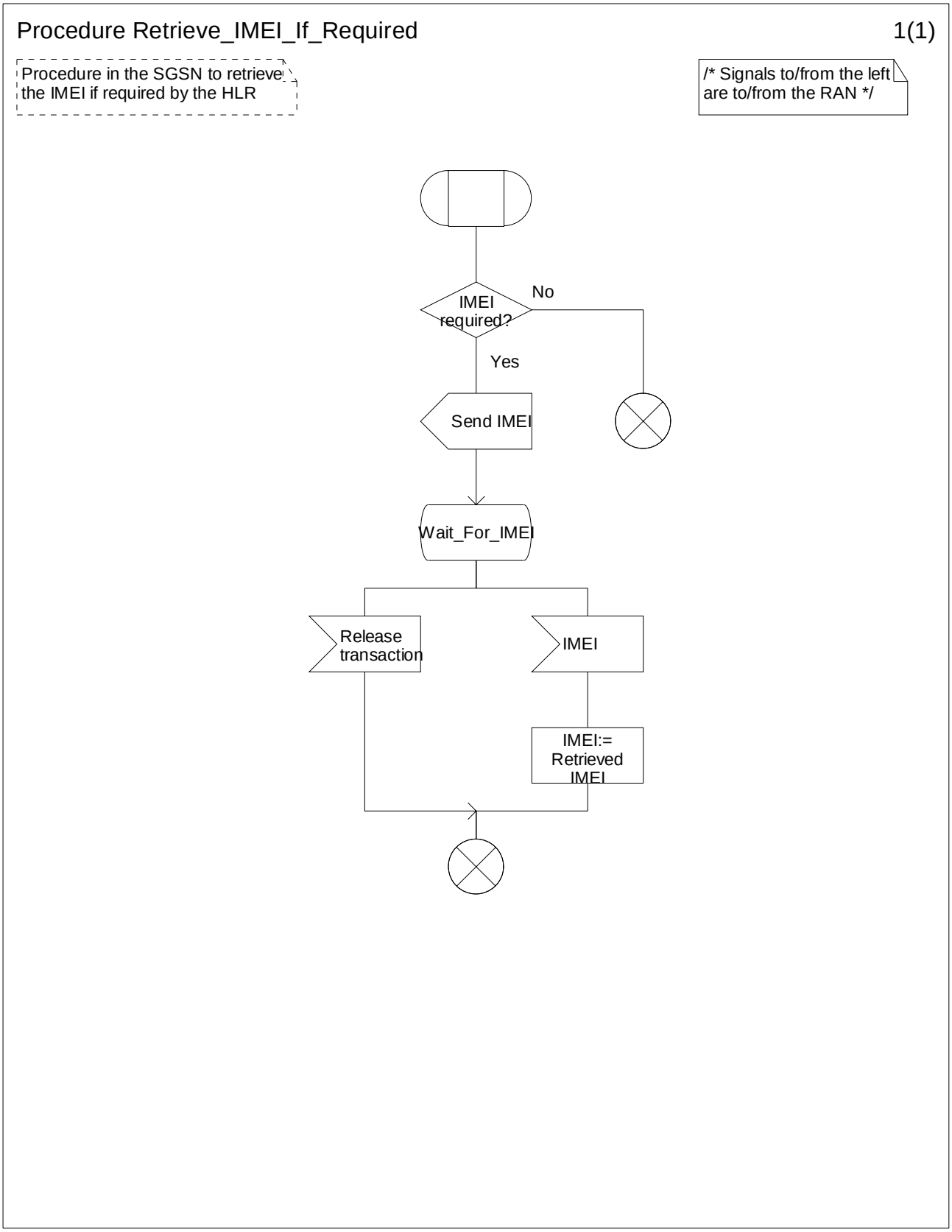


Figure Error! Not a valid bookmark self-reference.**.7-1: Procedure Retrieve_IMEI_If_Required (sheet 1)**

11.3 Description of information flows

This subclause contains the detailed description of the information flows used by CAMEL for the retrieval of information about the location and state of a subscriber.

Each Information Element (IE) is marked as Mandatory (M), Conditional (C), Specific conditions (S), mutually Exclusive (E) or not applicable (-) in the "Status" column.

An 'M' IE shall always be included. A 'C' IE shall be included if the sending entity has the necessary information to populate the IE. The conditions for the inclusion of an 'S' IE are shown in the 'Description' column of the definition table. When a set of 'E' IEs is shown in the definition of an Information Flow or compound IE, only one of those IEs may be included. A '-' IE shall always be omitted. This categorization is a functional classification, i.e. it defines the requirements for the stage 2 information. It is not a stage 3 classification to be used for the ASN.1 syntax of the protocol.

The following principles apply for the handling of the IEs by the receiving entity:

- The gsmSCF may silently discard any IE which it does not functionally support.
- The GMLC shall return an error if it does not functionally support an IE which it receives.

Details of errors and exceptions to these rules are specified in 3GPP TS 29.002 [**Error! Reference source not found.**].

11.3.1 gsmSCF to GMLC information flows

11.3.1.1 Any Time Interrogation Request

11.3.1.1.1 Description

This IF is used to request information (Mobile Station location) from the GMLC.

11.3.1.1.2 Information Elements

Information element name	Status	Description
gsmSCF Address	M	This IE indicates the address of the interrogating gsmSCF.
Requested Info	M	This IE indicates the type of information that is requested. It shall have the following value: - Mobile Station location
Mobile Station Identity	M	This IE identifies the Mobile Station of which the information is requested. The identity shall be either: - IMSI, or - MSISDN

11.3.2 GMLC to gsmSCF information flows

11.3.2.1 Any Time Interrogation ack

11.3.2.1.1 Description

This IF is used by the GMLC to provide the requested information to the gsmSCF.

11.3.2.1.2 Information Elements

Information element name	Status	Description
Location Information	C	This IE indicates the location of the Mobile Station.

Location Information is defined in 3GPP TS 23.018 [**Error! Reference source not found.**]. The following differences apply:

Information element name	Status	Description
Location number	-	Not applicable
Service area ID	-	Not applicable
Cell ID	-	Not applicable
Geographical information	C	See 3GPP TS 23.032 [**Error! Reference source not found.**]. The GMLC receives Extended Geographical Information from the MSC. The Extended Geographical Information shall be converted to the Geographical Information by the GMLC.
VLR number	-	Not applicable
Current Location Retrieved	-	Not applicable
MSC number	C	The GMLC receives the MSC number from the HLR in the SendRoutingInfoForLCS MAP message.
SGSN number	C	The GMLC receives the SGSN number from the HLR in the SendRoutingInfoForLCS MAP message.

11.3.3 gsmSCF to HLR information flows

11.3.3.1 Any Time Interrogation Request

11.3.3.1.1 Description

This IF is used to request information (any one or more of subscriber state, subscriber location, IMEI (with software version) and MS classmark information for the requested domain) from the HLR at any time.

11.3.3.1.2 Information Elements

Information element name	Status	Description
Subscriber Identity	M	This IE identifies the subscriber for which the information is requested. The identity shall be either: - IMSI, or - MSISDN.
Requested Info	M	This IE indicates the type of subscriber information being requested. This IE is described in a table below.
gsmSCF Address	M	This IE indicates the address of the interrogating gsmSCF.

Requested Info contains the following information elements:

Information element name	Status	Description
Location Information	O	This IE indicates that the Location Information is requested.
Subscriber State	O	This IE indicates that the Subscriber State is requested.
Current Location	O,S	This IE indicates that the Current Location is requested. This IE shall not be present if Location Information is not present in Requested Info.
Requested Domain	M	This IE indicates for which domain the subscriber info is requested. It shall be one of the following: - circuit switched domain; - packet switched domain.
IMEI (with software version)	O	This IE indicates that the IMEI (with software version) is requested.
MS class mark information for the requested domain	O	This IE indicates that the MS classmark information for the indicated domain is requested.

Requested Info shall contain one or more of the following information elements:

- Location Information;
- Subscriber State;
- IMEI (with software version);

- MS classmark information for the requested domain.

11.3.4 HLR to gsmSCF information flows

11.3.4.1 Any Time Interrogation ack

11.3.4.1.1 Description

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

11.3.4.1.2 Information Elements

Information element name	Status	Description
Location Information	C, E1	This IE indicates the location of the served subscriber in the MSC/VLR. It shall be present only if requested by the gsmSCF.
Location Information For GPRS	C, E1	This IE indicates the location of the served subscriber in the SGSN. The content is defined in the subclause **Error! Reference source not found.**. It shall be present only if requested by the gsmSCF.
Subscriber State	S, E2	This IE indicates the state of the MS in the CS domain. It shall be present only if requested by the gsmSCF. The possible values of the IE are: - CAMELBusy: The VLR has indicated that the MS is engaged in a transaction for a mobile originating or terminated circuit-switched call. - NetworkDeterminedNotReachable: The HLR or VLR has indicated that the network can determine from its internal data that the MS is not reachable. - AssumedIdle: The VLR has indicated that the state of the MS is neither "CAMELBusy" nor "NetworkDeterminedNotReachable". - NotProvidedFromVLR: The VLR did not provide any information on subscriber state even though it was requested.
PS Domain Subscriber State	S, E2	This IE indicates the state of the MS in the PS Domain. It shall be present only if requested by the gsmSCF. The possible values of the IE are: - Detached (see subclause **Error! Reference source not found.**). - CAMEL attached, MS not reachable for paging (see subclause **Error! Reference source not found.**). - CAMEL attached, MS may be reachable for paging (see subclause **Error! Reference source not found.**). - CAMEL PDP active, MS not reachable for paging (see subclause **Error! Reference source not found.**). - CAMEL PDP active, MS may be reachable for paging (see subclause **Error! Reference source not found.**). - Not provided from SGSN: The SGSN did not provide any information on subscriber state even though it was requested. - NetworkDeterminedNotReachable: The HLR has indicated that the network can determine from its internal data that the MS is not reachable.
PDP Context Information List	C	This IE indicates the PDP context information (see the table in subclause **Error! Reference source not found.**) for each PDP context which is active for the MS. It shall be present if the PS domain Subscriber State has the value "CAMEL PDP active, MS not reachable for paging" or "CAMEL PDP active, MS may be reachable for paging"; otherwise it shall be absent.
IMEI (with software version)	C	This IE contains the IMEISV (as defined in 3GPP TS 23.003 [**Error! Reference source not found.**]) of the ME in use by the served subscriber. It shall be present only if requested by the gsmSCF.
MS Classmark 2	C	This IE contains the MS classmark 2, which is returned by the MS when it responds to paging in the CS domain. It shall be present only if requested by the gsmSCF.
GPRS MS Class	C	This IE contains the MS network and radio access capabilities. It shall be present only if requested by the gsmSCF.

Location Information is defined in 3GPP TS 23.018 [**Error! Reference source not found.**]. The following differences apply:

Information element name	Status	Description
Service area ID	C,E	See 3GPP TS 23.018 [**Error! Reference source not found.**].
Cell ID	C,E	See 3GPP TS 23.018 [**Error! Reference source not found.**].
VLR Number	C	See 3GPP TS 23.018 [**Error! Reference source not found.**]. The HLR shall include the internally stored VLR Number.
Location area ID	C,E	See 3GPP TS 23.003 [**Error! Reference source not found.**].
Selected LSA Identity	C	This IE indicates the LSA identity associated with the current position of the MS. It shall be present if the LSA ID in the subscriber data matches the LSA ID of the current cell. In the case of multiple matches the LSA Id with the highest priority it shall be present. See 3GPP TS 23.073 [**Error! Reference source not found.**].
MSC number	C	E.164 number which identifies the VMSC in whose area the subscriber is currently registered. See 3GPP TS 23.003 [**Error! Reference source not found.**]. If the HLR receives the MSC number from the VLR in the Provide Subscriber Info ack IF then the HLR shall ignore the MSC number.

11.3.5 HLR to SGSN information flows

11.3.5.1 Provide Subscriber Info

11.3.5.1.1 Description

This IF is used by the HLR to request information (subscriber state and/or location) from the SGSN at any time.

11.3.5.1.2 Information Elements

This IF is defined in 3GPP TS 23.018 [**Error! Reference source not found.**]. The following differences apply:

Information element name	Status	Description
LMSI	-	Not applicable.
Requested Info	M	This IE indicates which of the following information the HLR requires: - Subscriber location; - Subscriber state; - Current location; - IMEI & Software version; - GPRS MS classmark information.

11.3.6 SGSN to HLR information flows

11.3.6.1 Provide Subscriber Info ack

11.3.6.1.1 Description

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

11.3.6.1.2 Information Elements

This IF is defined in 3GPP TS 23.018 [**Error! Reference source not found.**]. The following differences apply:

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

PDP Context Information includes the following information elements:

Information element name	Status	Description
PDP Context Identifier	M	Index of the PDP context.
PDP State	C	Packet data protocol state, INACTIVE or ACTIVE.
PDP Type	C	PDP type, e.g., PPP or IP.
PDP Address	C	PDP address, e.g., an IP address.
APN Subscribed	C	The APN received from the HLR.
APN in Use	C	The APN currently used.
NSAPI	C	Network layer Service Access Point Identifier.
TI	C	Transaction Identifier.
TEID for Gn/Gp	C	Tunnel Endpoint Identifier for the Gn and Gp interfaces.
TEID for Iu	C	Tunnel Endpoint Identifier for the Iu interface.
GGSN Address in Use	C	The IP address of the GGSN currently used. The SGSN shall report the GGSN address in the same IP version as in the S-CDR. See 3GPP TS 32.251 [**Error! Reference source not found.**].
Subscribed QoS	C	The quality of service profile subscribed.
Requested QoS	C	The quality of service profile requested.
Negotiated QoS	C	The quality of service profile negotiated.
Charging ID	C	Charging identifier, identifies charging records generated by SGSN and GGSN.
PDP Context Charging Characteristics	C	The charging characteristics of this PDP context, e.g., normal, prepaid, flat-rate, and/or hot billing.
RNC Address In Use	C	The IP address of the RNC currently used.

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

Location Information For GPRS includes the following information elements:

Information element name	Status	Description
Service area ID	C,E	See 3GPP TS 23.018 [**Error! Reference source not found.**].
Cell ID	C,E	See 3GPP TS 23.018 [**Error! Reference source not found.**].
Location area ID	C,E	See 3GPP TS 23.018 [**Error! Reference source not found.**].
Routeing area ID	C	See 3GPP TS 23.003 [**Error! Reference source not found.**].
Geographical information	C	See 3GPP TS 23.032 [**Error! Reference source not found.**].
Geodetic information	C	See ITU-T Q.763 [**Error! Reference source not found.**].
Age of location information	C	See 3GPP TS 23.018 [**Error! Reference source not found.**].
Current Location Retrieved	C	See 3GPP TS 23.018 [**Error! Reference source not found.**].
SGSN number	M	Global Title of the SGSN. See 3GPP TS 23.060 [**Error! Reference source not found.**].
Selected LSA Identity	C	This IE is applicable only if SoLSA is supported by the SGSN. This IE indicates the LSA identity associated with the current position of the MS. It shall be present if the LSA ID in the subscriber data matches the LSA ID of the current cell. In the case of multiple matches the LSA ID with the highest priority it shall be present. See 3GPP TS 23.073 [**Error! Reference source not found.**]

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041037

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **29.078** **CR** **385** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to SplitLeg ASN.1 description
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The current text for the SplitLeg operation in section 6 uses uncommon terminology and may be rather confusing for implementors. The text currently reads: "***This operation is used by the gsmSCF to separate one joined leg from a multi-way connection or a single two party Call Segment***." When the gsmSCF uses SplitLeg, the leg to be split will be placed in a new Call Segment. The present CR proposes improved wording for the SplitLeg description.
Summary of change:	⌘	Correct the description of SplitLeg in the ASN.1 syntax.
Consequences if not approved:	⌘	Misleading text for SplitLeg. This may lead to confusion for designers.

Clauses affected:	⌘	6

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

Other comments: ⌘

***** *First modification* *****

6 Circuit Switched Call Control

6.1 gsmSSF/CCF - gsmSCF Interface

6.1.1 Operations and arguments

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

DEFINITIONS IMPLICIT TAGS ::= BEGIN

...


moveLeg {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        MoveLegArg {bound}
    RETURN RESULT   TRUE
    ERRORS          {missingParameter |
                     systemFailure |
                     taskRefused |
                     unexpectedComponentSequence |
                     unexpectedDataValue |
                     unexpectedParameter |
                     unknownLegID}
    CODE            opcode-moveLeg}
-- Direction: gsmSCF -> gsmSSF, Timer: Tml
-- This operation is used by the gsmSCF to move a leg from one call segment to another call segment
-- within the same call segment association.

MoveLegArg {PARAMETERS-BOUND : bound} ::= SEQUENCE{
    legIDToMove                         [0] LegID,
    extensions                          [2] Extensions {bound}                  OPTIONAL,
    ...
    }

...

splitLeg {PARAMETERS-BOUND : bound} OPERATION ::= {
    ARGUMENT        SplitLegArg {bound}
    RETURN RESULT   TRUE
    ERRORS          {missingParameter |
                     unexpectedComponentSequence |
                     unexpectedParameter |
                     unexpectedDataValue |
                     systemFailure |
                     taskRefused |
                     unknownLegID}
    CODE            opcode-splitLeg}
-- Direction: gsmSCF -> gsmSSF, Timer Tsl
-- This operation is used by the gsmSCF to separate one joined leg from a multi-way connection or
-- a single two party Call Segment.
-- This operation is used by the gsmSCF to separate a leg from its source call segment and
-- place it in a new call segment within the same call segment association.

SplitLegArg {PARAMETERS-BOUND : bound} ::= SEQUENCE {
    legToBeSplit                        [0] LegID,
    newCallSegment                      [1] CallSegmentID {bound}               OPTIONAL,
    extensions                          [2] Extensions {bound}                  OPTIONAL,
    ...
    }
...
```

***** *End of document* *****

CHANGE REQUEST

⌘ **29.078** **CR** **386** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to Apply Charging Report procedure
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:
Ph2 *(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)*
Rel-7 *(Release 7)*

Reason for change: ⌘

The ApplyChargingReport procedure description specifies, amongst others, the gsmSSF postconditions. One of the postconditions reads:

(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".

The wording “if applicable” in the second bullet, implies that there is an additional condition associated with the sending of Call Information Report(s), over and above the condition “pending”.

However, the sending of Call Information Report(s) at that point of the call processing is dependent on whether any reports are “pending”. Hence, the condition “if applicable” is not needed and shall be removed.

Summary of change: ⌘ Correct the post-conditions for ApplyChargingReport procedure.

Consequences if not approved: ⌘ Implementors may implement additional criteria for the sending of Call Information Report when the call is released as a result of call period expiry.

Clauses affected: ⌘ 11.3

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

****** First modification ******

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~~is 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.

- legActive:
  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

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 WG4 Meeting #24 N4-041039

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **29.078** **CR** **387** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to Assist Request Instructions procedure
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	When a CAMEL service establishes a Temporary Connection, then there are two gsmSSF instances involved: initiating gsmSSF and assisting gsmSSF. The assisting gsmSSF sends Assist Request Instructions (ARI) to the gsmSCF. The initiating gsmSSF and assisting gsmSSF have different functions in the temporary connection. The description of the Assist Request Instructions procedure shall therefore make clear distinction between the initiating gsmSSF and the assisting gsmSSF. Currently, the conditions for the assisting gsmSSF are placed under the headers “gsmSSF preconditions“ and “gsmSSF postconditions“. These headers should be replaced by “assisting gsmSSF or gsmSRF preconditions“ and “assisting gsmSSF or gsmSRF postconditions“ respectively. The descriptions of the actual conditions shall also mention the gsmSRF. The description for “iPSSPCapabilities” implies that the assisting gsmSSF shall be located in a VMSC or GMSC. However, the assisting gsmSSF may also be located in an MSC that is neither VMSC nor GMSC. “VMSC or GMSC” shall therefore be replaced by “MSC”.
Summary of change:	⌘	Correct section 11.4 as described in the Reason for Change.
Consequences if not approved:	⌘	Possibility of incorrect implementation of pre- and postconditions for ARI.

	Implementors may e.g. interpret the current pre- and postconditions as not applicable to the gsmSRF. This may lead to failure of the assist procedure.

Clauses affected:	⌘	11.4			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

***** *First modification* *****

11.4 AssistRequestInstructions procedure

11.4.1 General description

This operation may be used by an assist gsmSSF or by a gsmSRF. The operation is sent to the gsmSCF when the assisting gsmSSF or gsmSRF receives an indication from an initiating gsmSSF indicating an assist procedure.

11.4.1.1 Parameters

- correlationID:
  This parameter is used by the gsmSCF to associate the "AssistRequestInstructions" from the assisting gsmSSF or by a gsmSRF with the request from the initiating gsmSSF. The value of the "correlationID" may be extracted from the digits received from the initiating gsmSSF.

- iPSSPCapabilities:
  Indicates which gsmSRF resources are attached, available and supported within:

  - the ~~VMSC or GMSC~~MSC where the assisting gsmSSF resides; or

  - the IP where the gsmSRF resides.

11.4.2 Invoking entity (gsmSSF/gsmSRF)

11.4.2.1 Normal procedure

assisting gsmSSF or gsmSRF preconditions:

(1) An assist indication is detected by the assisting gsmSSF or gsmSRF.

assisting gsmSSF or gsmSRF postconditions:

(1) The assisting gsmSSF FSM is in the state "Waiting_for_Instructions" or the gsmSRF FSM is in the state "Connected".

On receipt of an assist indication from the initiating gsmSSF, the assisting gsmSSF or gsmSRF shall ensure that the required resources are available to invoke an "AssistRequestInstructions" operation in the assist gsmSSF or gsmSRF and shall indicate to the initiating gsmSSF that the call is accepted. The "AssistRequestInstructions" operation is invoked by the assist gsmSSF or gsmSRF after the call, which initiated the assist indication, is accepted.

11.4.2.2 Error handling

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

***** *End of document* *****

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CHANGE REQUEST

⌘ **29.078** **CR** **388** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to Call Information Request and Report
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
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B *(addition of feature),*
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Use one of the following releases:
Ph2 *(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)*
Rel-7 *(Release 7)*

Reason for change: ⌘

The Call Information Report procedure specifies:

> *If an event causing the "CallInformationReport" is also detected by an armed EDP-R, then immediately after "CallInformationReport" the corresponding "EventReportBCSM" shall be sent.*
>
> *If an event causing the "CallInformationReport" is also detected by an armed EDP-N, then immediately before "CallInformationReport" the corresponding "EventReportBCSM" shall be sent.*

This second statement is not correct. In that case, the Call Information Report will be immediately preceded by Apply Charging Report. Refer e.g. to TS 23.078, process CS_gsmSSF, sheets 47 and 48.

The conditions for sending Event Report BCSM before or after Call Information Report is reflected in the stage 2 description TS 23.078, process CS_gsmSSF, and should not be replicated in TS 29.078. This replication serves no purpose and leads to inconsistency.

The current description of the LegID parameter in the Call Information Request (CIRq) procedure implies that when the gsmSCF sends CIRq, then the gsmSSF shall always send Call Information Report (CIRp) at the end of the connection, indicated by LegID. However, when the gsmSCF issues a Cancel operation, then the CIRp shall not be sent for that leg.

Therefore, the description of the LegID parameter in that section shall be simplified. The reference to "*…and at the end of connection of which the report*

	shall be sent." shall be removed. Here as well, the conditions for sending CIRp at the end of a connection, are specified in TS 23.078, process CS_gsmSSF, and shall not be replicated in TS 29.078. In section 11.6.2.1, there is a reference to "indicated or default legs". However, Call Information Report applies per leg. This text shall therefore be replaced by "indicated or default leg".
Summary of change: ⌘	- Remove the last two paragraphs in section 11.6.2.1; - Refine the wording for the LegID parameter description in section 11.7; - Apply editorial correction to section 11.6.2.1, as described in the Reason for Change.
Consequences if not approved: ⌘	A gsmSSF may apply an incorrect & inconsistent sequence of Event Report BCSM and Call Information Report. CAMEL Service Logics may depend on strict sequence of these CAP Operations, as specified in TS 23.078, process CS_gsmSSF. If a gsmSSF deviates from process CS_gsmSSF, as may be the case when an implementor strictly follows TS 29.078, then the CAMEL Service Logic processing may fail.

Clauses affected:	⌘	11.6, 11.7			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***

11.6 CallInformationReport procedure

11.6.1 General description

The gsmSSF uses this operation to send specific call information for a single call party to the gsmSCF as requested by the gsmSCF in previous "CallInformationRequest" operation. The report shall be sent at the end of a call party connection which is indicated by one of the events specified below.

11.6.1.1 Parameters

- requestedInformationList:
  The gsmSSF sends the appropriate types and values to the gsmSCF in accordance with the requested information.

- legID:
  This parameter indicates the party in the call for which the information has been collected.

11.6.2 Invoking entity (gsmSSF)

11.6.2.1 Normal procedure

gsmSSF preconditions:

(1) The indicated or default party is released from the call or call setup towards the indicated or default party is terminated prematurely.

(2) Requested call information has been collected.

(3) "CallInformationReport" is pending due to a previously received "CallInformationRequest" operation.

(4) A control or a monitor relationship exists between the gsmSCF and the gsmSSF.

gsmSSF postconditions:

(1) If there are no armed EDPs or pending reports, then the gsmSSF FSM shall transit to the state "Idle"; otherwise, the gsmSSF FSM shall remain in the same state.

If the gsmSSF FSM executes a state transition caused by one of the following events~~, then~~:

- release for the indicated or default leg;

- abandon for the indicated or default leg;

- Called party Busy or Not Reachable for the indicated or default leg;

- gsmSSF No_Answer timer expiration for the indicated or default leg;

- route select failure for the indicated or default leg;

- release of call initiated by the gsmSCF (ReleaseCall),

and "CallInformationRequest" is pending for the indicated or default leg~~s~~, then one "CallInformationReport" operation shall be sent to the gsmSCF, containing all information requested for that leg.

If a "CallInformationReport" has been sent to the gsmSCF, then no "CallInformationReport" is pending on that leg, i.e. if a further "CallInformationReport" on that leg is required, for example in the case of follow-on call, then this has to be explicitly requested by the gsmSCF.

~~If an event causing the "CallInformationReport" is also detected by an armed EDP-R, then immediately after "CallInformationReport" the corresponding "EventReportBCSM" shall be sent.~~

~~If an event causing the "CallInformationReport" is also detected by an armed EDP-N, then immediately before "CallInformationReport" the corresponding "EventReportBCSM" shall be sent.~~

11.6.2.2 Error handling

Operation related error handling is not applicable, due to class 4 operation.

****** Next modification ******

11.7 CallInformationRequest procedure

11.7.1 General description

The gsmSCF uses this operation to request the gsmSSF to record specific information about a single call party and report it to the gsmSCF using the "CallInformationReport" operation.

11.7.1.1 Parameters

- requestedInformationTypeList:
  This parameter specifies a list of specific items of information which is requested. The list may contain the following parameters:

  - callAttemptElapsedTime:
    This parameter indicates the duration between the end of CAP processing of operations initiating call setup ("Connect","Continue" or "ContinueWithArgument") and the received answer indication from the called party. If the callAttemptElapsedTime is requested for the calling party, then a value of "0" shall be reported by the gsmSSF.

    In the case of unsuccessful call setup, the network event indicating the unsuccessful call setup stops the measurement of "callAttemptElapsedTime".

  - callStopTime:
    This parameter indicates the time stamp when the connection is released.

  - callConnectedElapsedTime:
    This parameter indicates the duration between the received answer indication from the called party and the release of that connection. For the calling party it indicates the duration between the sending of InitialDP and the release of that party.

  - releaseCause:
    This parameter indicates the release cause for the call.

  - legID:
    This parameter indicates the party in the call for which the information shall be collected~~ and at the end of connection of which the report shall be sent~~.

11.7.2 Responding entity (gsmSSF)

11.7.2.1 Normal procedure

gsmSSF preconditions:

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

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

gsmSSF postconditions:

(1) Requested call information is retained by the gsmSSF.

(2) No gsmSSF FSM state transition.

The gsmSSF allocates a record for the indicated or default party and stores the requested information if already available and prepares the recording of information items, that will become available later like for example "callStopTimeValue".

Call information may be requested for any call party (identified by a legID).

11.7.2.2 Error handling

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

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 N4-041041

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CHANGE REQUEST

⌘ **29.078** **CR** **389** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Correction to Tssf timer setting for SMS control
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	6 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

Use one of the following categories:
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R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘

In section 12, the procedure descriptions for CAMEL control of SMS, contain various references to the setting of Tssf as a result of the sending of receiving of a CAP operation.

Some of the references to Tssf in section 12 are incorrect.

The starting and stopping of Tssf is specified in TS 23.078, process SMS_SSF, and should not be replicated in TS 29.078, which may lead to inconsistencies and errors.

The present CR proposes, therefore, that section 12 does not replicate the references to the starting and stopping of Tssf, unless it is required for the procedure description, such as Initial DP SMS or Reset Timer SMS.

Summary of change: ⌘

Remove the references to Tssf in the procedure descriptions in section 12, except for Initial DP SMS or Reset Timer SMS.

- 12.1 (Connect SMS): the stopping of Tssf is specified in SMS_SSF, sheet 3;
- 12.2 (ContinueSMS): the stopping of Tssf is specified in SMS_SSF, sheet 3;
- 12.3 (Event Report SMS): the starting of Tssf is specified in SMS_SSF, sheet 7;
- 12.4 (Furnish Charging Information SMS): the reloading of Tssf is specified in SMS_SSF, sheet 5;

		- 12.5 (Initial DP SMS): for Initial DP SMS, the reference to the starting of Tssf may remain; - 12.6 (Release SMS): the stopping of Tssf is specified in SMS_SSF, sheet 4; - 12.7 (Request Report SMS Event): the reloading of Tssf is specified in SMS_SSF, sheet 4; - 12.8 (Reset Timer SMS): for Reset TimerSMS, the reference to the reloading of Tssf may remain.
Consequences if not approved:	⌘	Tssf may be running with incorrect value, resulting in: - (premature) Tssf expiry, leading to dialogue abort; - unnecessarily long Tssf value, leading to ther situation that resources are seized longer then needed, in the case of CAP dialogue error

Clauses affected:	⌘	12
Other specs affected:	⌘	**Y** / **N** **X** Other core specifications **X** Test specifications **X** O&M Specifications
Other comments:	⌘	

*** *First modification* ***

12 Detailed operation procedures for SMS control

NOTE: For Short Message processing in a Circuit Switched network, the CAMEL interaction with SMS is done through the MSC/smsSSF.
For Short Message processing in a Packet Switched network, the CAMEL interaction with SMS is done through the SGSN/smsSSF.

Any reference to the smsSSF applies to both the smsSSF co-located with the MSC and the smsSSF co-located with the SGSN.

NOTE Where a parameter for an SMS control Operation is marked OPTIONAL in ASN.1, the reader is referred to the conditions for presence for this parameter, specified in the respective Information Flow in 3GPP TS 23.078 [7].

12.1 ConnectSMS procedure

12.1.1 General description

The gsmSCF uses this operation to request the smsSSF to continue Short Message processing, such as routeing a Short Message to a specific destination or delivering a Short Message to the served subscriber, with modified information.

12.1.1.1 Parameters

- callingPartysNumber:
  This parameter allows the gsmSCF to set the Calling Party Number parameter used in the network. It is used for showing the sending party's id (i.e. the originating address) to the receiving party.

- destinationSubscriberNumber:
  This parameter contains the destination address to which the Short Message shall be routed by the SMSC.

- smscAddress:
  This parameter contains the Short Message Service Centre address towards which the Short Message shall be routed.

12.1.2 Responding entity (smsSSF)

12.1.2.1 Normal procedure

smsSSF preconditions:

(1) Mobile originating Short Message submission or Mobile terminating Short Message delivery attempt has been initiated.

(2) Short Message processing has been suspended at the DP SMS_Collected_Info or at DP SMS_Delivery_Requested.

(3) The smsSSF FSM is in the state "Waiting_for_Instructions".

smsSSF postconditions:

(1) The smsSSF performs the Short Message processing actions to route the Short Message to the specified destination or to deliver the Short Message to the served subscriber.

~~(2) Tssf is stopped.~~

On receipt of this operation, the smsSSF performs the following actions:

- if the callingPartysNumber, destinationSubscriberNumber or smscAddress are supplied, then these values shall be used for subsequent processing;
- if no EDPs have been armed, then the smsSSF FSM transits to the state "Idle". Otherwise, the smsSSF FSM transits to the state "Monitoring".

The smsSSF shall not perform any implicit arming or disarming of DPs.

Statistic counter(s) are not affected.

12.1.2.2 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.

12.2 ContinueSMS procedure

12.2.1 General description

The gsmSCF uses this operation to request the smsSSF to proceed with processing at the DP at which it previously suspended processing to await gsmSCF instructions. The smsSSF continues processing without substituting new data from the gsmSCF.

12.2.1.1 Parameters

None.

12.2.2 Responding entity (smsSSF)

12.2.2.1 Normal procedure

smsSSF preconditions:

(1) processing has been suspended at any DP.

(2) The smsSSF FSM is in the state "Waiting_for_Instructions".

smsSSF postconditions:

~~(1) Tssf is stopped.~~

(~~2~~1) processing continues.

(~~3~~2) The smsSSF FSM is in one of the following states:

- State "Monitoring" because at least one EDP was armed; or
- State "Idle" because no EDPs were armed.

12.2.2.2 Error handling

Operation related error handling is not applicable, due to class 4 operation.

12.3 EventReportSMS procedure

12.3.1 General description

The smsSSF uses this operation to notify the gsmSCF of a short message related event previously requested by the gsmSCF in a RequestReporSMSEvent operation.

12.3.1.1 Parameters

- eventTypeSMS:
  This parameter identifies the type of event that is reported.

- eventSpecificInformationSMS:
  This parameter contains the Short Message related information specific to the event.

- For O_SMS_Failure it shall contain the O-SMSCause, if available.

- For T_SMS_Failure it shall contain the T-SMSCause, if available.

- For O_SMS_Submitted and for T_SMS_Delivery it shall be empty.

- miscCallInfo:
  This parameter contains DP related information.

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

12.3.2 Invoking entity (smsSSF)

12.3.2.1 Normal procedure

smsSSF preconditions:

(1) The smsSSF FSM is in the state "Monitoring";

(2) The smsSSF FSM proceeds to an EDP that is armed.

smsSSF postconditions:

(1) The smsSSF has applied implicit disarming of EDPs.

(2) If message type was notification and there are no more EDPs armed, then the smsSSF FSM transits to the state "Idle". Otherwise, the smsSSF FSM transits to the state "Waiting_for_Instructions".

~~(3) If the smsSSF has transitted to the state "Waiting_for_Instructions", then Tssf shall be loaded with the default value and shall be started.~~

12.3.2.2 Error handling

Operation related error handling is not applicable, due to class 4 operation.

12.4 FurnishChargingInformationSMS procedure

12.4.1 General description

The gsmSCF uses this operation to send charging related information to a Logical SMS record. This Logical SMS record is CAMEL specific. The first FurnishChargingInformationSMS operation leads to the generation of a Logical SMS record. Receipt of subsequent FurnishChargingInformationSMS operations shall overwrite or append the contents of the Logical SMS record.

12.4.1.1 Parameters

- fCISMSBillingChargingCharacteristics:
  This parameter contains the following parameters;

  - fCIBCCCAMELsequence1:
    This parameter contains the following parameters;

    - freeFormatData:
      This parameter contains free-format billing and/or charging characteristics.

    - appendFreeFormatData:
      This parameter indicates whether previous free-format data shall be appended or overwritten. See 3GPP TS 23.078 [7] for details.

12.4.2 Responding entity (smsSSF)

12.4.2.1 Normal procedure

smsSSF preconditions:

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

smsSSF postconditions:

~~(1) Tssf is loaded with the default value and is restarted.~~

(~~2~~1) No smsSSF FSM state transition.

On receipt of this operation, the smsSSF performs actions to create the Logical SMS record, if a Logical SMS record does not already exist, and writes the free-format information carried in the operation into the Logical SMS record. Subsequent FurnishChargingInformationSMS operations received, by default, will overwrite the free-format data previously written in the Logical SMS record, as specified in 3GPP TS 23.078 [7]. It is also possible to append free format data with subsequent FurnishChargingInformationSMS operations.

The Logical SMS records will be associated for a given Short Message submission or Short Message delivery with one or more physical CDRs, as specified in 3GPP TS 32.205 [13], 3GPP TS 32.215 [14] and 3GPP TS 22.115 [4].

12.4.2.2 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.

12.5 InitialDPSMS procedure

12.5.1 General description

The smsSSF uses this operation after detection of a TDP-R in the smsSF FSM, to request the gsmSCF for instructions to complete the Short Message submission to the SMSC or the Short Message delivery to the served subscriber.

12.5.1.1 Parameters

- destinationSubscriberNumber:
  This parameter carries the ISDN number of the entity receiving the short message or the destination address of the destination subscriber, in an MO-SMS procedure.

- callingPartyNumber:
  In an MO-SMS procedure, this parameter carries the MSISDN of the subscriber. In an MT-SMS procedure, this parameter carries the address of the submitter of the short message (i.e. the originating address).

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

- iMSI:
  IMSI of the mobile subscriber for whom the CAMEL service is invoked.

- locationInformationInMSC:
  This parameter indicates the location of the MSC of the served subscriber. This parameter shall be included only if the InitialDP operation is sent from the MSC.

- locationInformationInSGSN:
  This parameter indicates the location of the SGSN of the served subscriber. This parameter shall be included only if the InitialDPSMS operation is sent from the SGSN.

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

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

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

- tPShortMessageSpecificInfo:
  This parameter contains the 1st octet of the TPDU. Refer to 3GPP TS 23.040 [6] for a description of the various TPDUs.

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

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

- sMSCAddress:
  This parameter defines the address of the SMSC to which the Short Message is intended to be submitted.

- smsReferenceNumber:
  This parameter contains the SMS Reference Number assigned to the Short Message by the MSC or SGSN.

- mscAddress:
  This parameter contains the E.164 address of the MSC. It shall be present if the SMS processing takes place in the MSC; otherwise shall be absent.

- sgsn-Number:
  This parameter contains the Global Title of the SGSN. It shall be present if the SMS processing takes place in the SGSN; otherwise it shall be absent.

- ms-Classmark2:
  This parameter contains the MS Classmark 2 of the mobile subscriber for which the service is invoked.

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

- iMEI:
  This parameter contains the IMEI (with software version) of the mobile subscriber for which the service is invoked.

- calledPartyNumber:
  This parameter indicates the served subscriber in an MT-SMS procedure.

12.5.2 Invoking entity (smsSSF)

12.5.2.1 Normal procedure

smsSSF preconditions:

(1) A Short Message submission attempt or a Short Message delivery attempt has been initiated.

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

(3) For MT-SMS, the event fulfilled the criteria for the DP being executed.

smsSSF postconditions:

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

The address of the gsmSCF the InitialDPSMS operation shall be sent to, shall be fetched from the MO-SMS-CSI or the MT-SMS-CSI. The smsSSF shall provide all available parameters to the gsmSCF.

A control relationship is established with the gsmSCF. The smsSSF application timer Tssf is laded with the deafult value and is started. It is used to prevent excessive Short Message submission or delivery suspension time.

12.5.2.2 Error handling

If the gsmSCF is not accessible, then the smsSSF instructs the MSC or SGSN to proceed with the Short Message processing in accordance with the Default SMS Handling parameter of the MO-SMS-CSI or MT-SMS-CSI.

If Tssf expires, then the smsSSF aborts the interaction with the gsmSCF by means of an abort to TC and shall instruct the MSC or SGSN to proceed with the Short Message processing in accordance with the Default SMS Handling parameter of the MO-SMS-CSI CSI or MT-SMS-CSI.

In the case of an MO-SMS Service, if the sending mobile party abandons after the sending of InitialDPSMS and before the TC dialogue is established, then the smsSSF shall abort the interaction with the gsmSCF by means of an abort to TC.

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.

12.6 ReleaseSMS procedure

12.6.1 General description

The gsmSCF uses this operation to tear down a Short Message submission attempt or Short Message delivery attempt. The operation may be sent within a control relationship only; it is not allowed in a monitor relationship.

12.6.1.1 Parameters

- rPCause:
  This parameter gives an indication to the smsSSF about the reason of releasing this specific Short Message. For a MO-SMS Service, the rPCause shall be sent to the served subscriber in the RP-ERROR RPDU. For a MT-SMS Service, the rPCause shall be sent to the SMS-GMSC in the RP-ERROR RPDU.

12.6.2 Responding entity (smsSSF)

12.6.2.1 Normal procedure

smsSSF preconditions:

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

(2) The FSM is in DP SMS_Collected_Info or in DP SMS_Delivery_Requested.

smsSSF postconditions:

(1) The smsSSF FSM transits to the state "Idle". All armed EDPs shall be disarmed. All resources in the MSC or SGSN related to the Short Message shall be released.

12.6.2.2 Error handling

Operation related error handling is not applicable, due to class 4 operation.

12.7 RequestReportSMSEvent procedure

12.7.1 General description

The gsmSCF uses this operation to request the smsSSF to monitor for a Short Message related event (FSM events such as failure, delivery or submission) and to send a notification to the gsmSCF when the event is detected.

The monitoring of more than one event may be requested with a single RequestReportSMSEvent operation, but each of these requested events will be reported in a separate EventReportSMS operation.

12.7.1.1 Parameters

- smsEvents:
  This parameter indicates the event or events of which a report is requested.
  - eventTypeSMS:
    This parameter indicates the type of event of which a report is requested. Values SMSCollectedInfo and SMSDeliveryRequested are not valid for the RequestReportSMSEvent operation.

- monitorMode:
  This parameter indicates how the event shall be reported. When the "monitorMode" is "interrupted", the event shall be reported as a request, if the "monitorMode" is "notifyAndContinue", the event shall be reported as a notification, if the "monitorMode" is "transparent", then the event shall not be reported.

12.7.2 Responding entity (smsSSF)

12.7.2.1 Normal procedure

smsSSF preconditions:

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

(2) The smsSSF FSM is in the state "Waiting_for_Instructions".

smsSSF postconditions:

~~(1) Tssf is loaded with the default value and is restarted.~~

(~~2~~1) The requested EDPs have been armed or disarmed as indicated.

(~~3~~2) Armed events are monitored until ended by a transparent monitor mode, until the occurance of the event or until the implicit disarming of the event.

(~~4~~3) No smsSSF FSM state transition.

12.7.2.2 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.

12.8 ResetTimerSMS procedure

12.8.1 General description

The gsmSCF uses this operation to refresh the Tssf application timer, in order to prevent Tssf expiry at the smsSSF.

12.8.1.1 Parameters

- timerID:
  This parameter indicates which timer shall be reset. The only permissible value of this parameter is "tssf".
- timerValue:
  This parameter defines the value to which the timer shall be set.

12.8.2 Responding entity (smsSSF)

12.8.2.1 Normal procedure

smsSSF preconditions:

(1) Short Message processing has been suspended at a DP.

(2) The smsSSF FSM is in the state "Waiting_for_Instructions".

smsSSF postconditions:

(1) The Tssf timer is loaded with the value received from the gsmSCF and is restarted.

(2) No smsSSF FSM state transition.

12.8.2.2 Error handling

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

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 ***N4-041178***

Sophia Antipolis, France. 16th to 20th August 2004.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **730** ⌘ **rev** **1** ⌘ Current version: **6.2.0** ⌘

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

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

Title:	⌘	Editorial correction
Source:	⌘	CN4
Work item code:	⌘	TEI6
Date:	⌘	22/07/2004
Category:	⌘	**D**
Release:	⌘	Rel-6

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

Use one of the following releases:
Ph2 (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)
Rel-7 (Release 7)

Reason for change:	⌘	The following editorial mistakes need to be corrected in the 3GPP 23.078. These mistakes take place in following subclause. 1) 4.6.15.1 2) Figure **Error! Reference source not found.**.1-1: Process CAMEL_CHANGE_OF_POSITION_MSC (sheet 1) 3) Figure **Error! Reference source not found.**.2-1: Procedure CAMEL_OCH_VLR (sheet 1) 4) Figure **Error! Reference source not found.**-2: Procedure CAMEL_MT_GMSC_INIT (sheet 2) 5) 4.4.6.3 6) In Figure 7.7-2: Functional architecture for support of CAMEL control of SGSN switched MO and MT SMS.
Summary of change:	⌘	Editorial correction
Consequences if not approved:	⌘	Making the readers confusing without correcting the spelling mistakes.

Clauses affected:	⌘	1) 4.6.15.1 2) Figure **Error! Reference source not found.**.3-1: Process CAMEL_CHANGE_OF_POSITION_MSC (sheet 1) 3) Figure **Error! Reference source not found.**.4-1: Procedure CAMEL_OCH_VLR (sheet 1) 4) Figure **Error! Reference source not found.**-2: Procedure CAMEL_MT_GMSC_INIT (sheet 2) 5) 4.4.6.3

		6)	Figure 7.7-2: Functional architecture for support of CAMEL control of SGSN switched MO and MT SMS.		
		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

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

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

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

*** First Modification ***

4.6.15.1 Send Routeing Info

4.6.15.1.1 Description

This IF is defined in 3GPP TS 23.018 [**Error! Reference source not found.**] and subclause **Error! Reference source not found.**; it is used to request information from the HLR to route a gsmSCF initiated call.

Refer to 3GPP~~OO~~ TS 29.007 [**Error! Reference source not found.**] for the usage of ISDN BC, ISDN LLC, ISDN HLC and MSISDN for the selection of the PLMN Basic Service

.

*** Second Modification ***

Figure Error! Reference source not found..**5-1: Process CAMEL_CHANGE_OF_POSITION_MSC (sheet 1)**

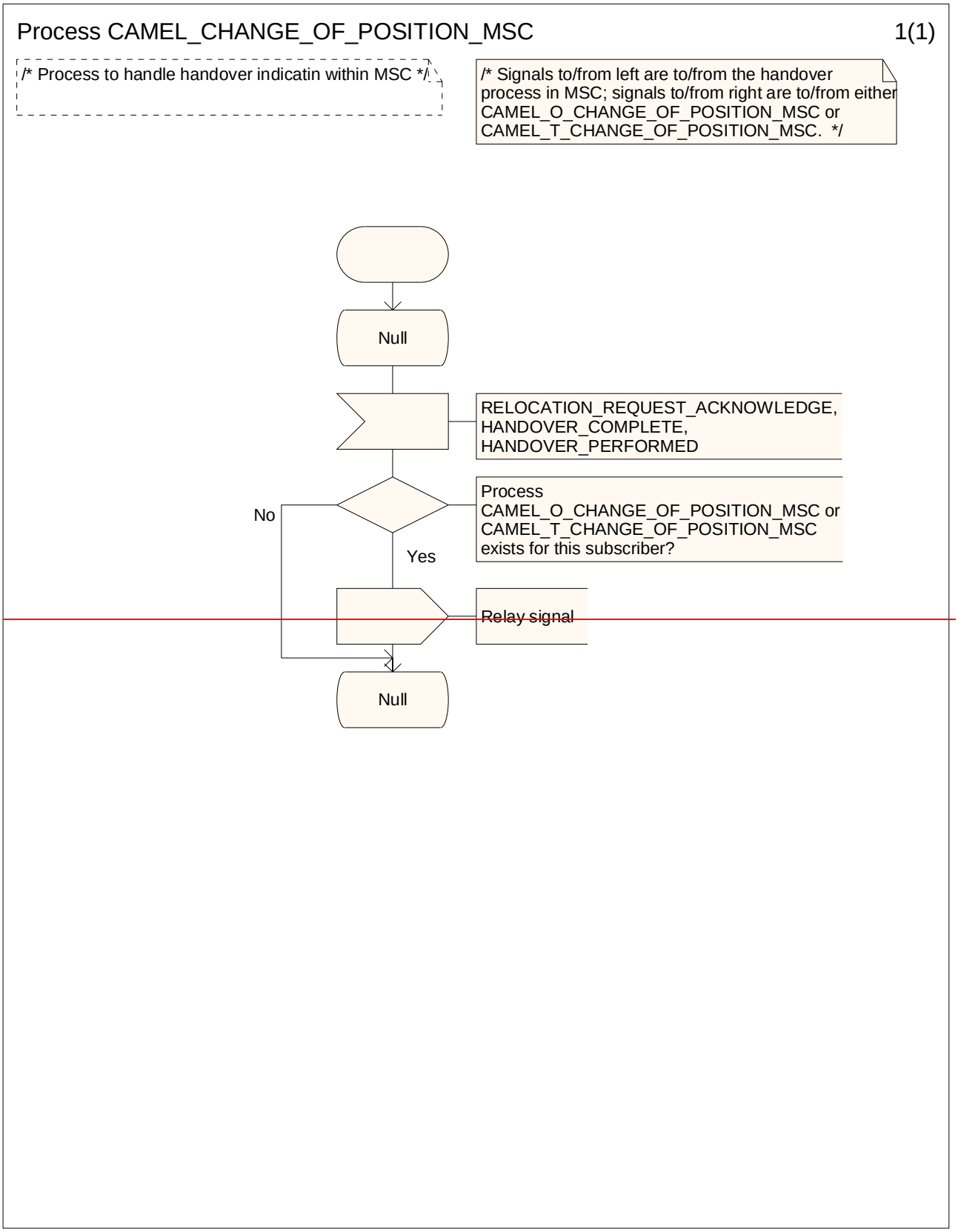


Figure Error! Reference source not found.**.6-1: Process CAMEL_CHANGE_OF_POSITION_MSC (sheet 1)**

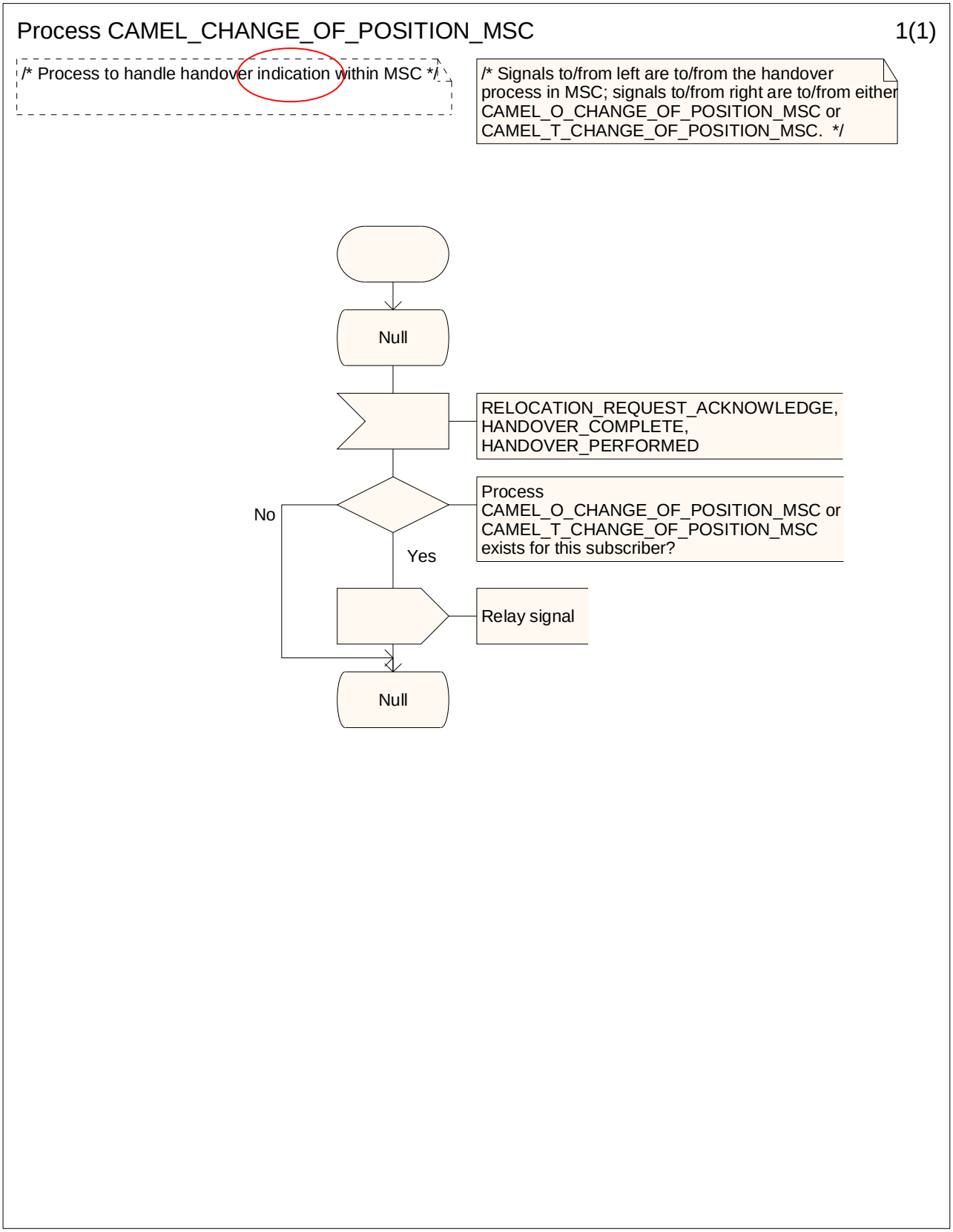
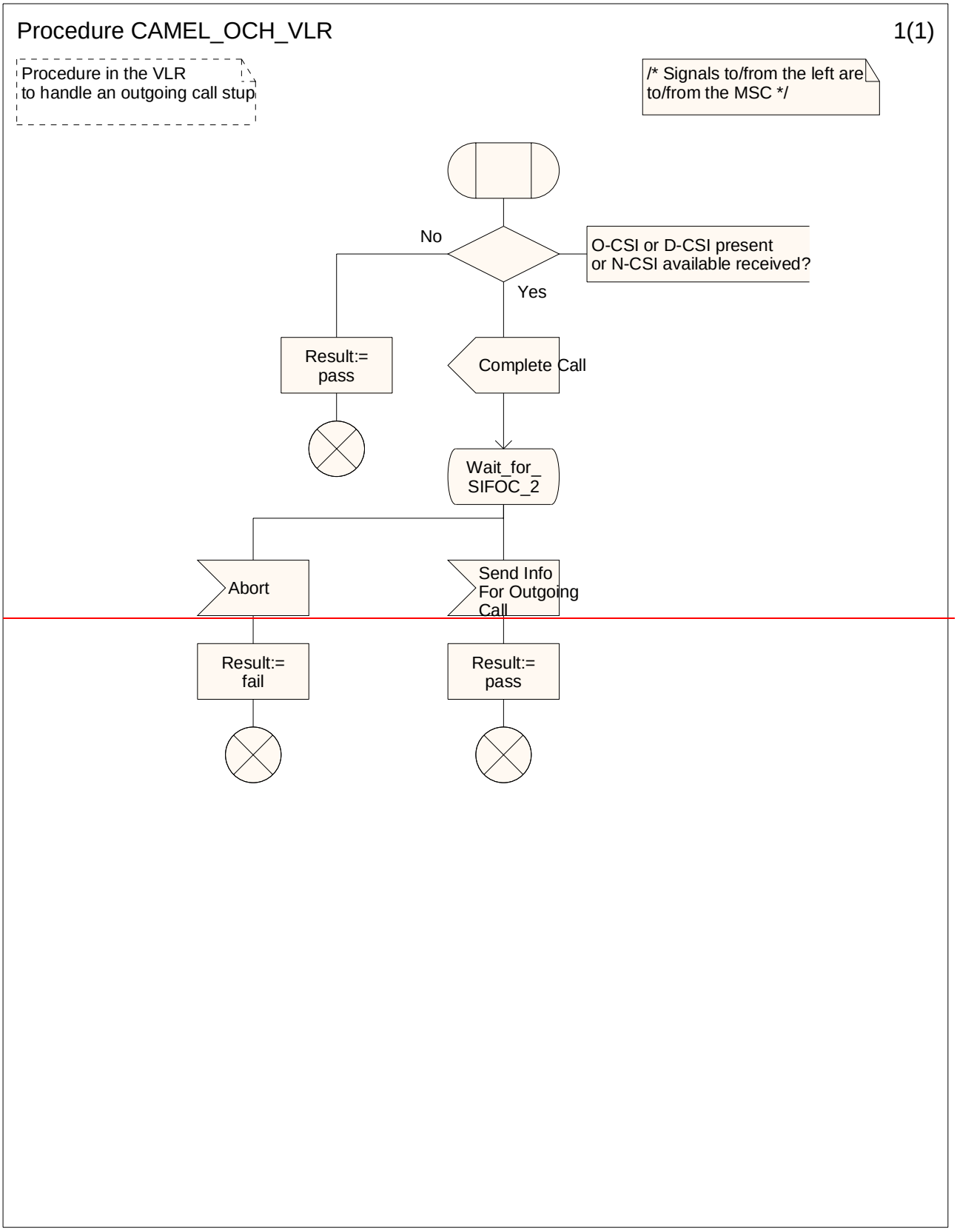
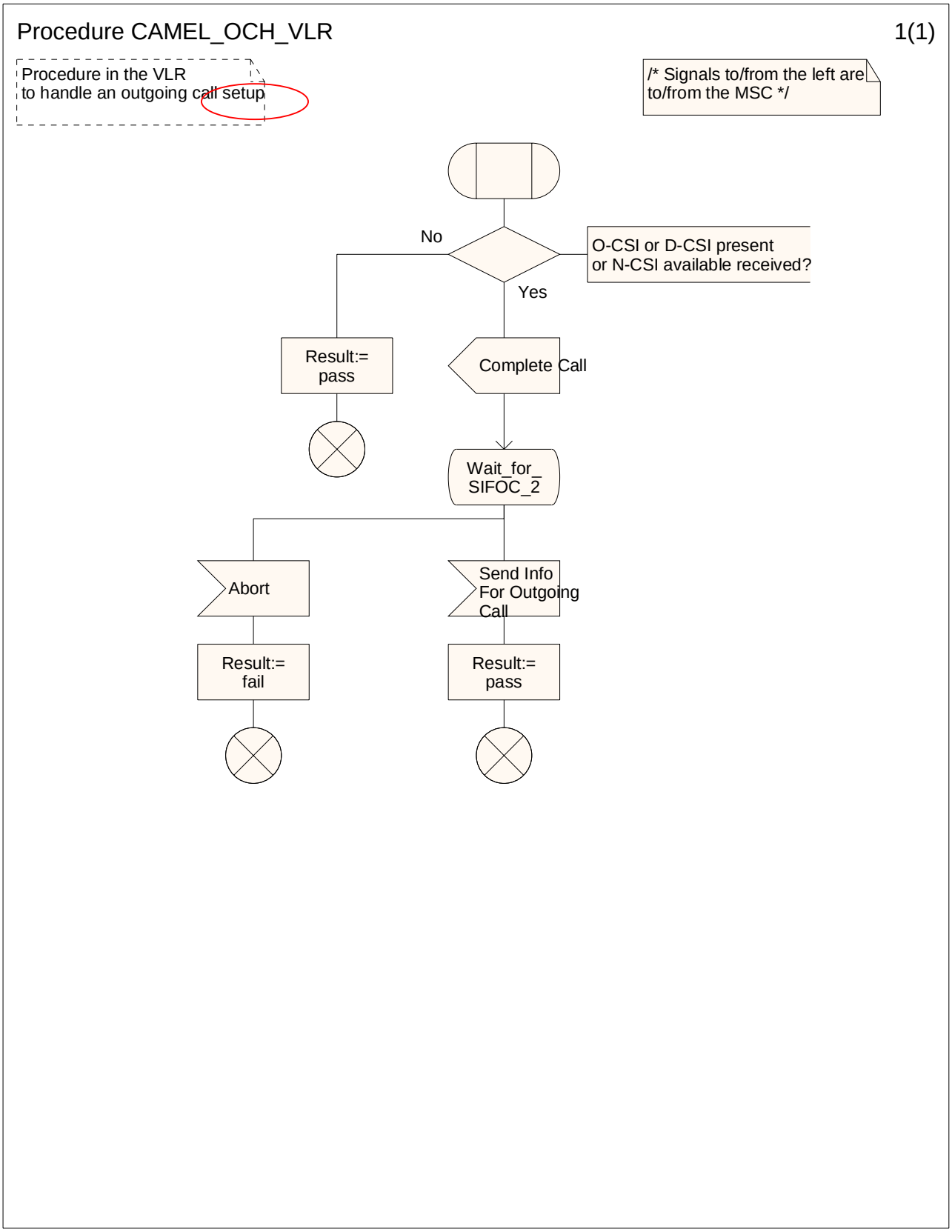


Figure Error! Reference source not found.**.7-1: Process CAMEL_CHANGE_OF_POSITION_MSC (sheet 1)**

*** Third Modification ***

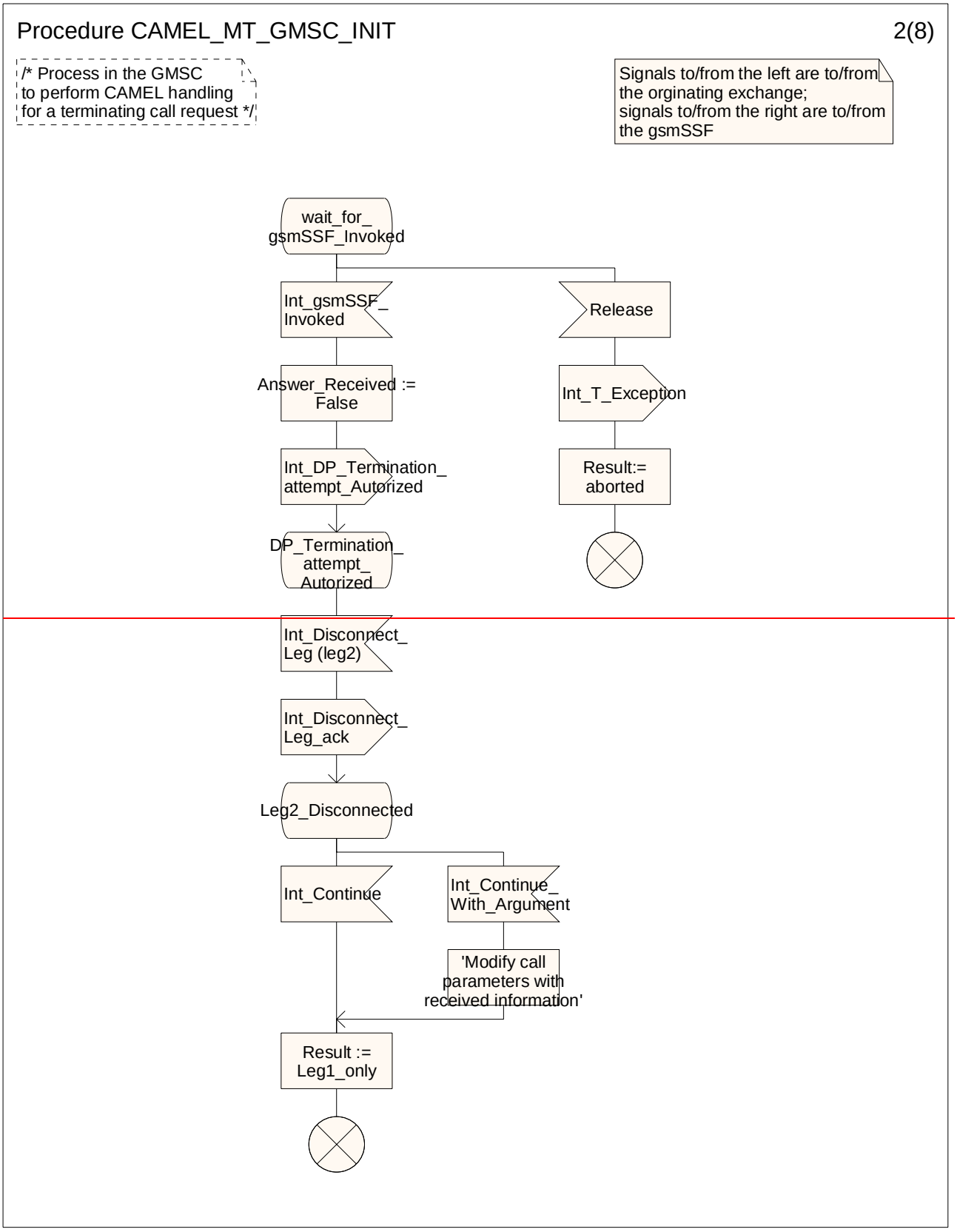
Figure **Error! Reference source not found.**.8-1: Procedure CAMEL_OCH_VLR (sheet 1)





*** 4th Modification ***

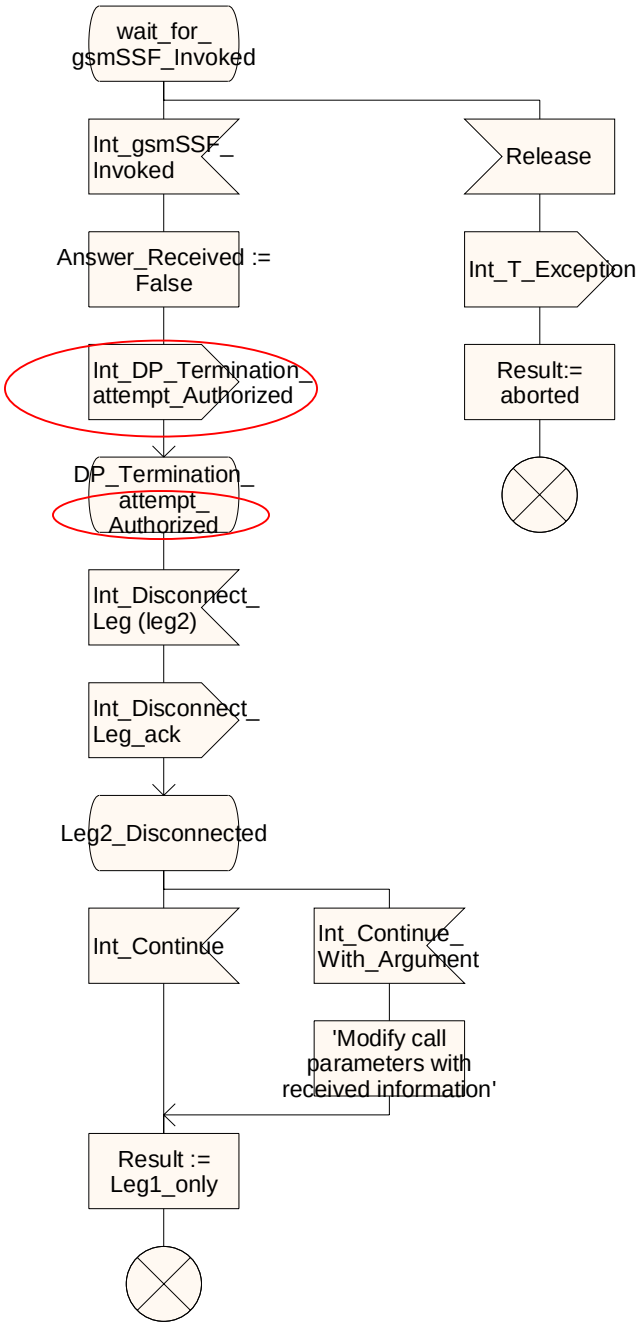
Figure **Error! Reference source not found.**-2: Procedure CAMEL_MT_GMSC_INIT (sheet 2)



Procedure CAMEL_MT_GMSC_INIT 2(8)

/* Process in the GMSC
to perform CAMEL handling
for a terminating call request */

Signals to/from the left are to/from the orginating exchange;
signals to/from the right are to/from the gsmSSF



*** 5th Modification ***

4.4.6.3 Leg is released

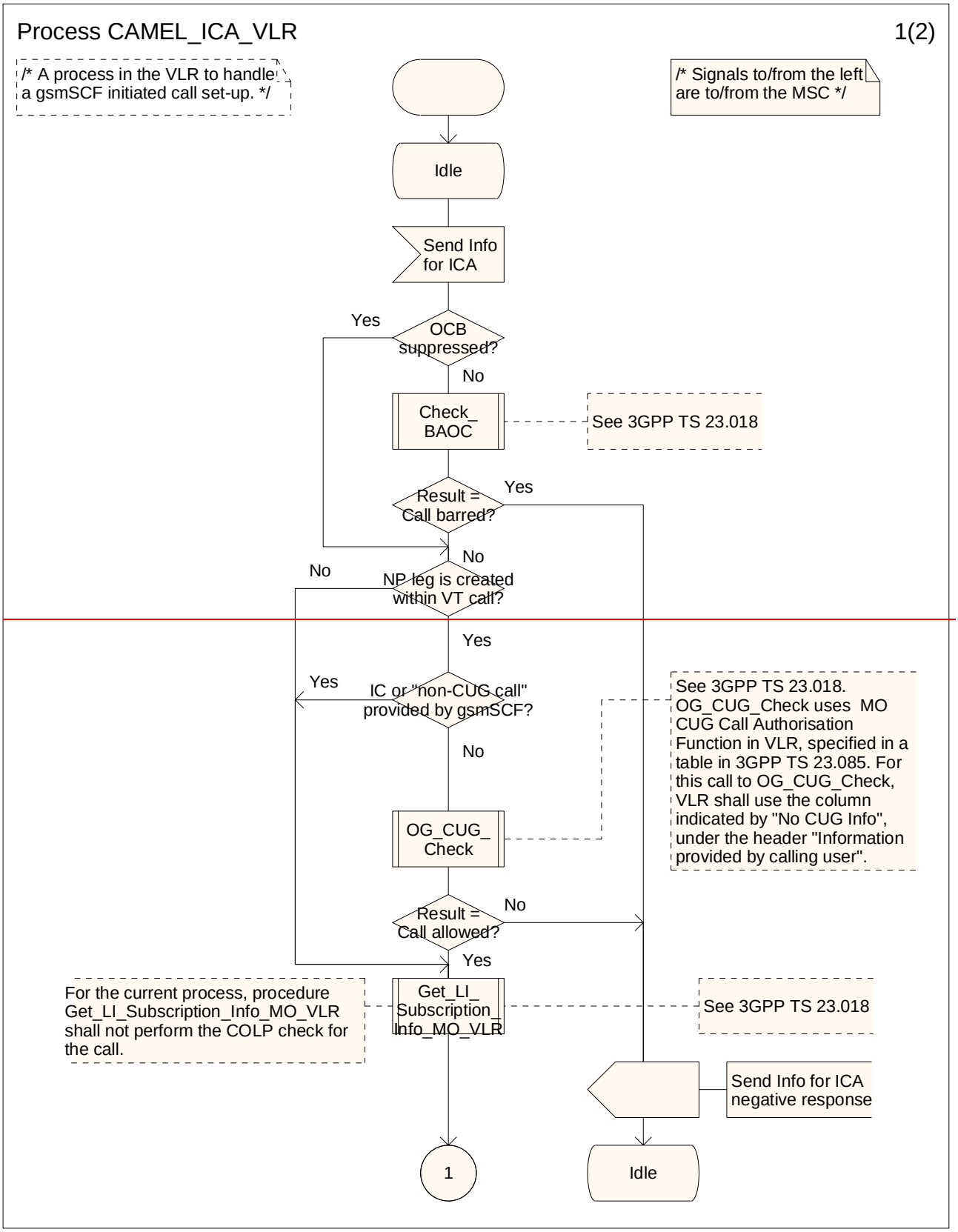
Before a leg is released the corresponding connection is released. All outstanding reports for the leg are sent to the gsmSCF and the corresponding call records are closed.

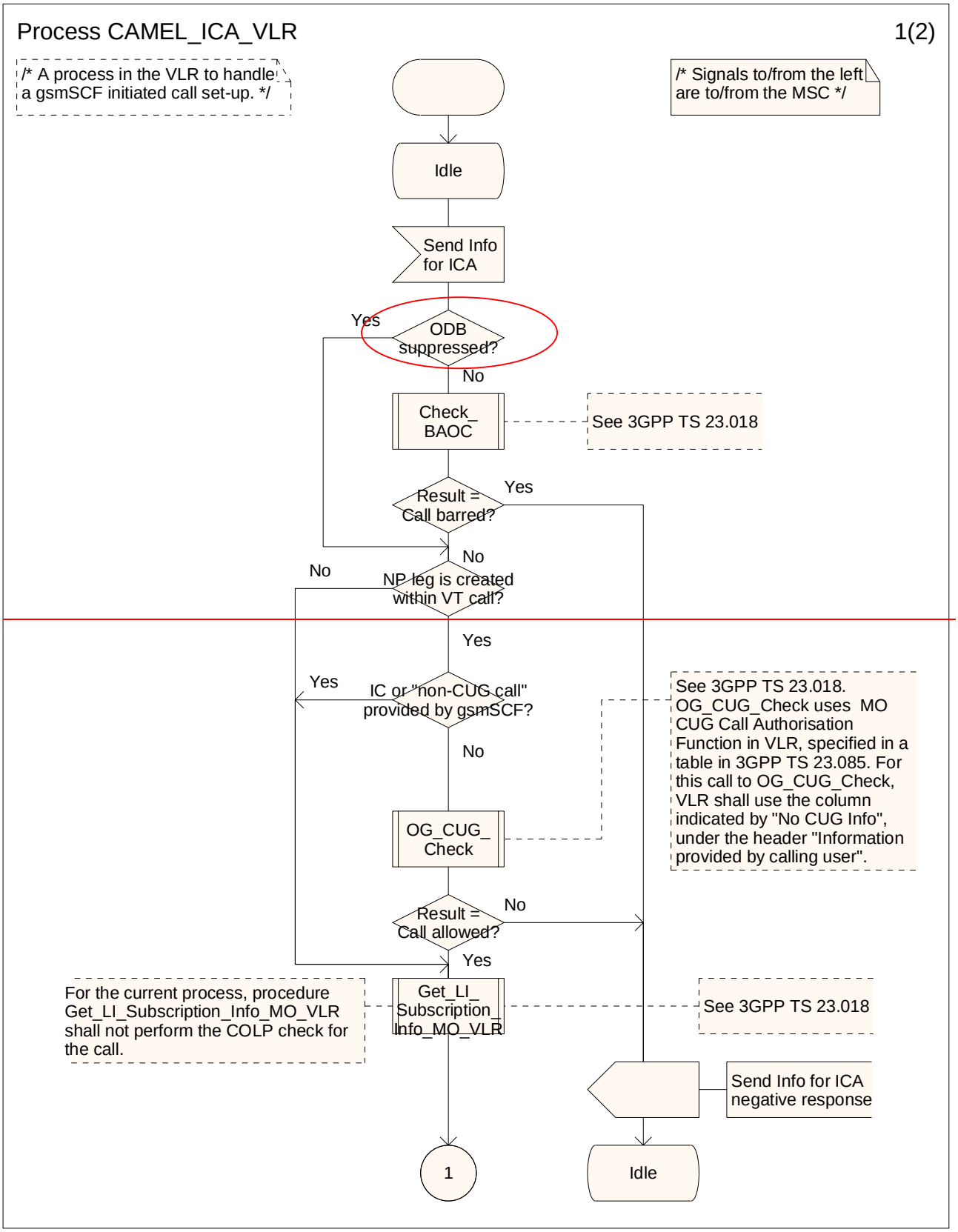
For the purposes of the formal description, a leg ceases to exist when any of the following events occurs:

- The calling party releases the connection, the CCF sends a DP to the CS_gsmSSF and the CCF receives Int_Continue or Int_Continue_With_Argument from the CS_gsmSSF process;
- A connection to a called party is not successful (DPs Route_Select_Failure, O_Busy, O_No_Answer, T_Busy and T_No_Answer), the CCF sends a DP to the CS_gsmSSF and the CCF ~~and the CCF~~ does not receive Int_Connect for that outgoing leg from the CS_gsmSSF;

~~*** 6th Modification ***~~

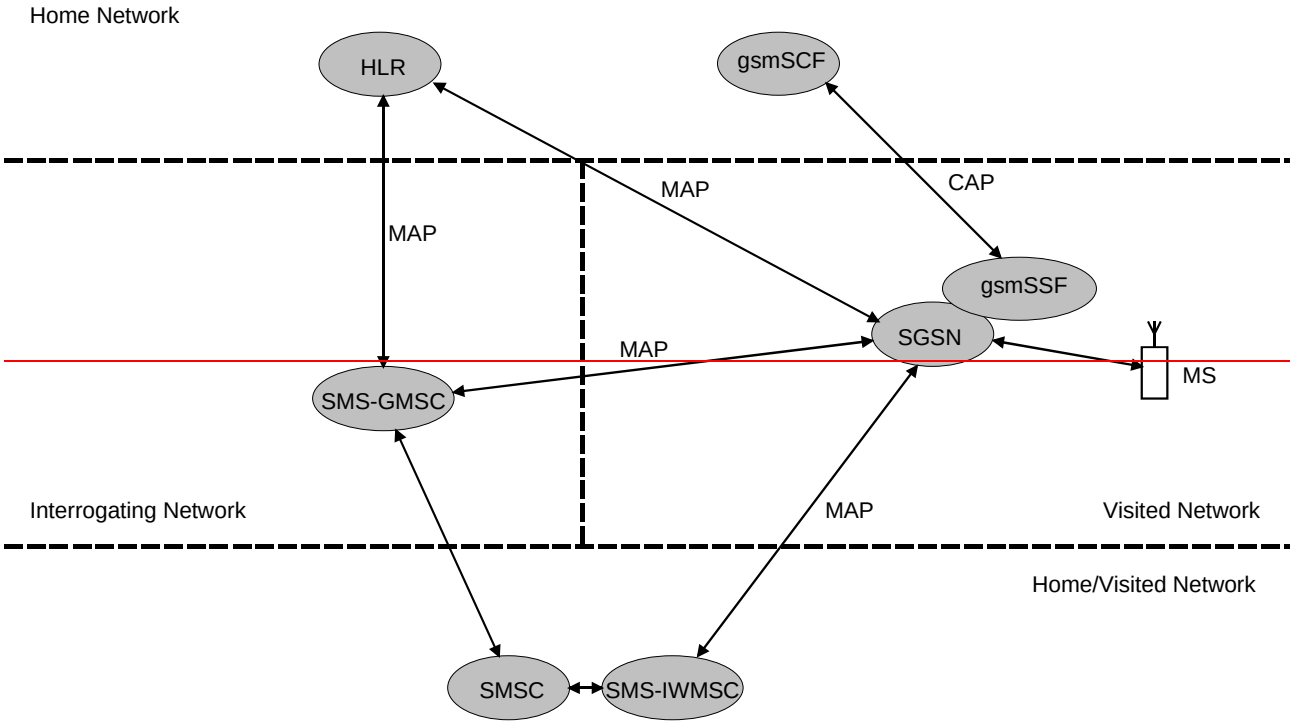
~~Figure 4.95-1: Process CAMEL_ICA_VLR (sheet 1)~~

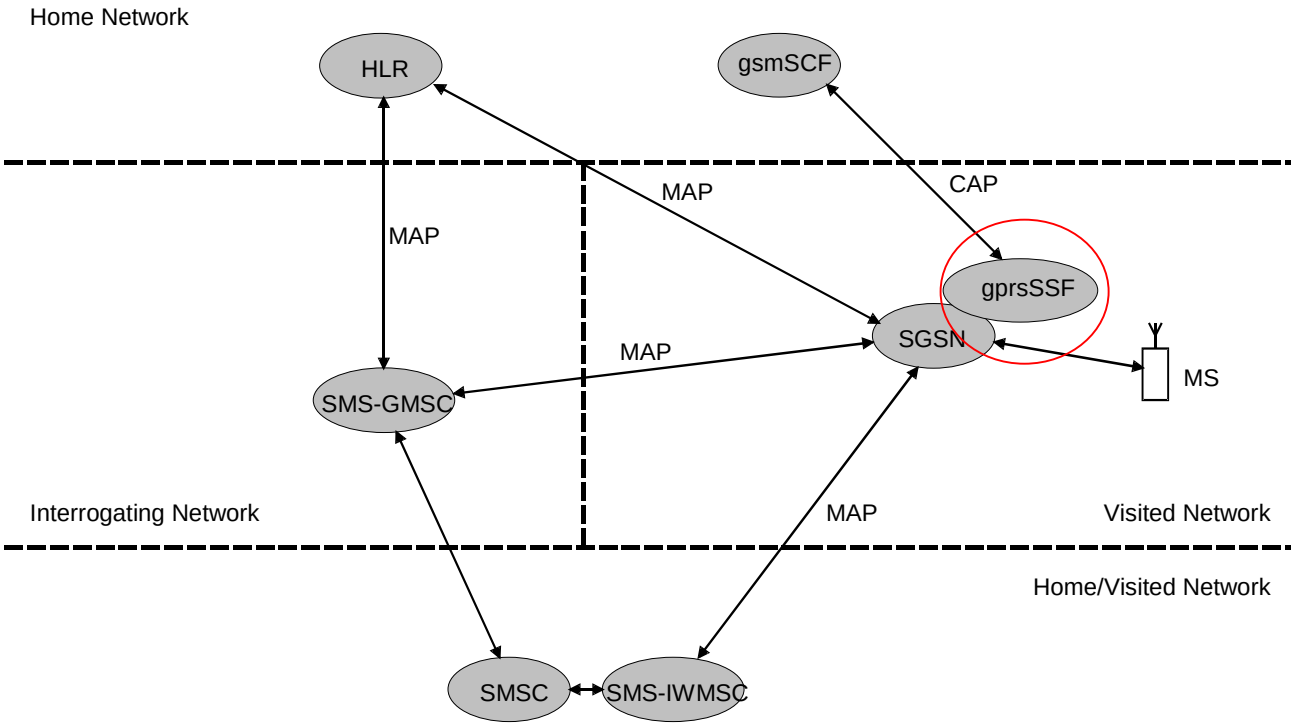

Process CAMEL_ICA_VLR
1(2)
/* A process in the VLR to handle a gsmSCF initiated call set-up. */
/* Signals to/from the left are to/from the MSC */
Idle
Send Info for ICA
Yes
OCB suppressed?
No
Check_ BAOC
See 3GPP TS 23.018
Result = Call barred?
Yes
No
No
NP leg is created within VT call?
Yes
Yes
IC or "non-CUG call" provided by gsmSCF?
No
See 3GPP TS 23.018. OG_CUG_Check uses MO CUG Call Authorisation Function in VLR, specified in a table in 3GPP TS 23.085. For this call to OG_CUG_Check, VLR shall use the column indicated by "No CUG Info", under the header "Information provided by calling user".
OG_CUG_ Check
Result = Call allowed?
No
Yes
For the current process, procedure Get_LI_Subscription_Info_MO_VLR shall not perform the COLP check for the call.
Get_LI_ Subscription_ Info_MO_VLR
See 3GPP TS 23.018
Send Info for ICA negative response
1
Idle



*** 6[7]th Modification ***

Figure Error! Reference source not found.**-1: Functional architecture for support of CAMEL control of SGSN switched MO and MT SMS**





3GPP TSG-CN WG4 Meeting #24 ***N4-041181***

Sophia Antipolis, France. 16th to 20th August 2004. **(Rev. to TDOC N4-040938)**

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.018** **CR** **143** ⌘ **rev** **1** ⌘ Current version: **6.2.0** ⌘

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

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

Title:	⌘	**Add "CAMEL_Stop_TNRy"in Procedure OG_Call_Setup _MSC (sheet 4)**
Source:	⌘	**CN4**
Work item code:	⌘	**TEI6**
Date:	⌘	**21/07/2004**
Category:	⌘	**F**
Release:	⌘	**Rel-6**

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	In Figure 8d: Procedure OG_Call_Setup_MSC(sheet 4), it should be added a process "CAMEL_Stop_TNRy " after receiving a message 'Answer'. Because the timer TNRy need to be stopped as soon as receiving the message 'Answer'.
Summary of change:	⌘	Adding a "CAMEL_Stop_TNRy " after receiving a message "Answer"
Consequences if not approved:	⌘	The expiration of the timer TNRy will take place even if the calling party pick up the phone.

Clauses affected:	⌘	7.4.1.14

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

Other comments:	⌘	

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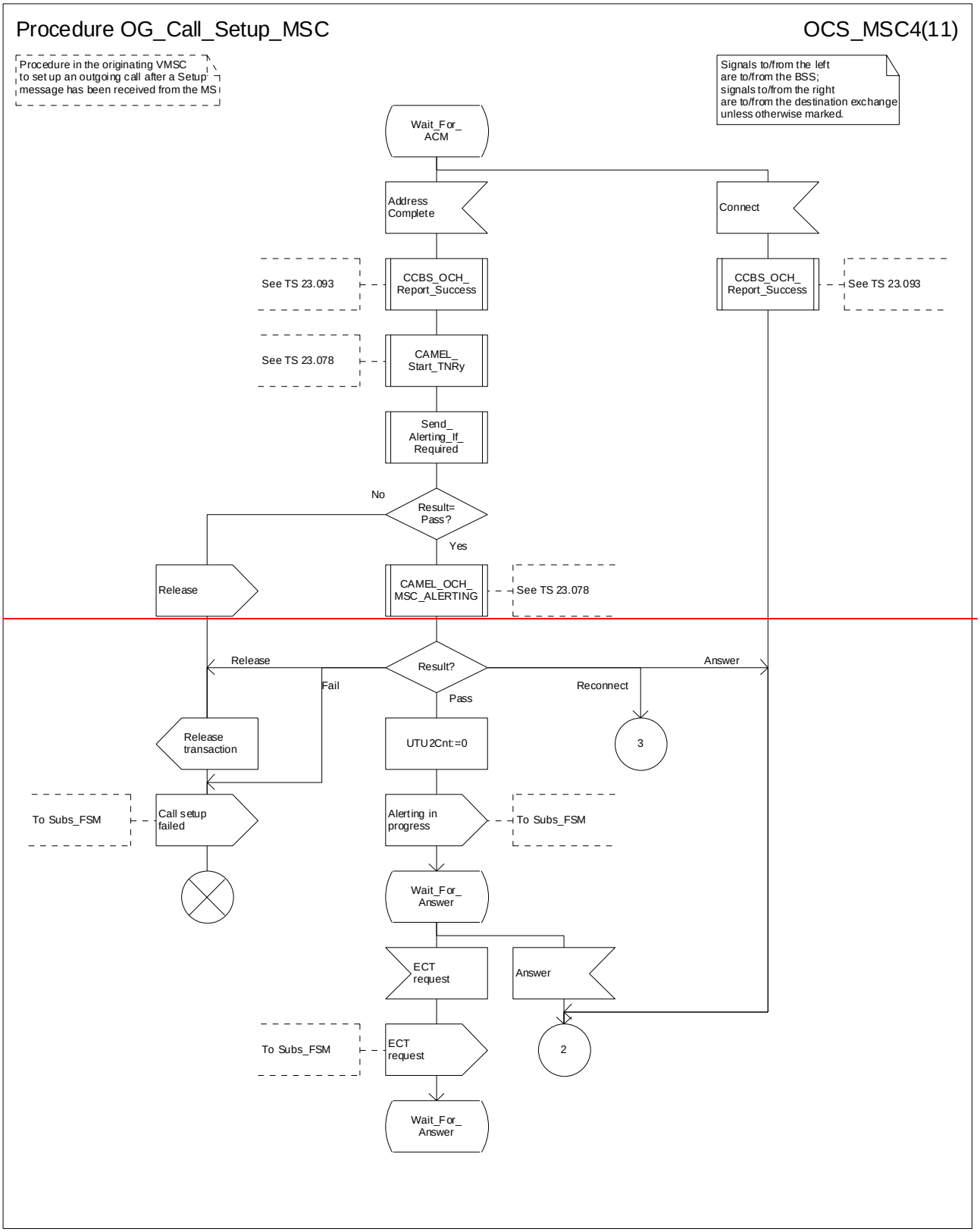
Below is a brief summary:

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

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

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

*** First Modification ***



~~Figure 8d: Procedure OG_Call_Setup _MSC (sheet 4)~~

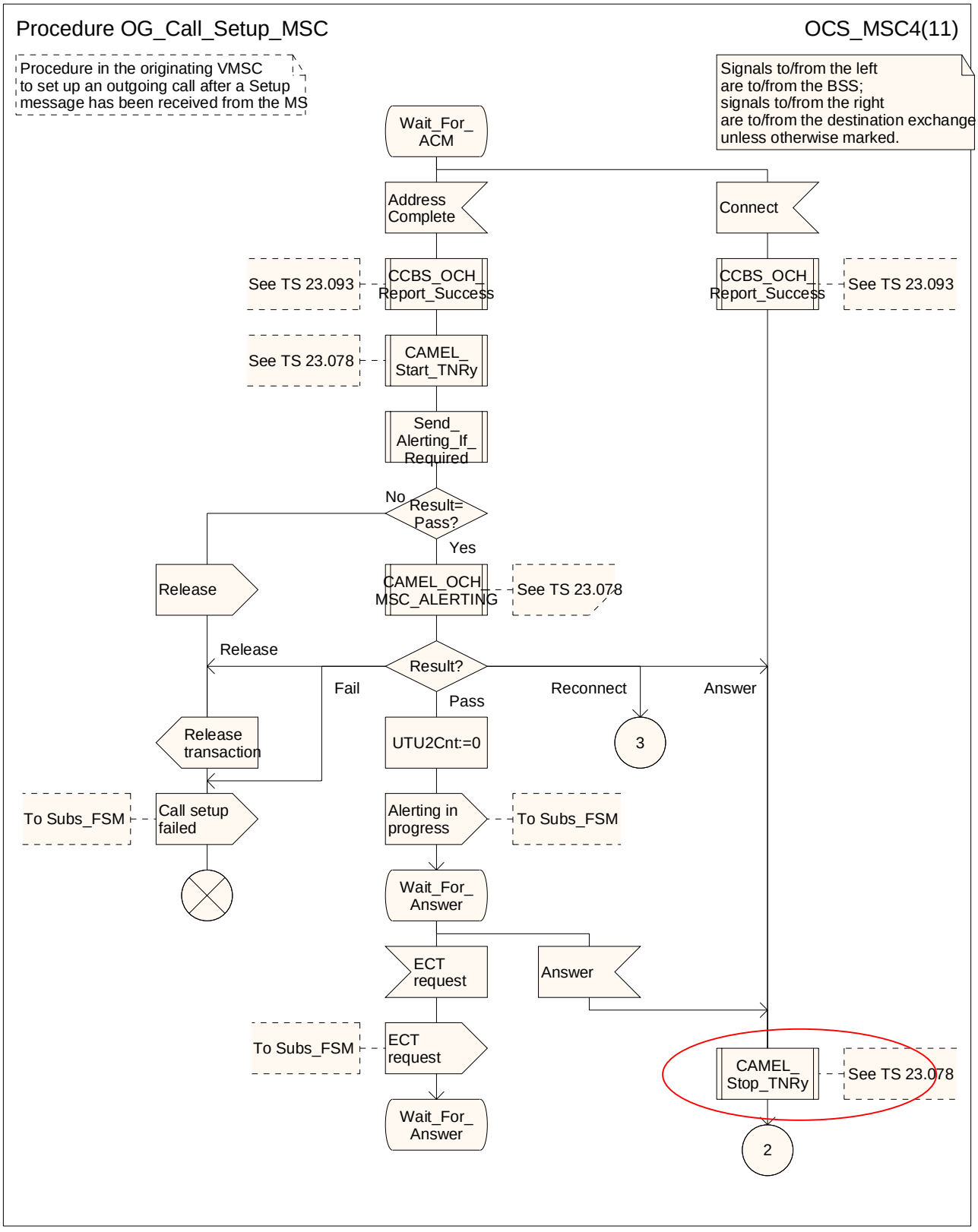


Figure 8d: Procedure OG_Call_Setup_MSC (sheet 4)

3GPP TSG-CN WG4 Meeting #24 N4-041182

Sophia Antipolis, France. 16th to 20th August 2004

CHANGE REQUEST

⌘ **23.078** **CR** **748** ⌘**rev** **2** ⌘ Current version: **6.2.0** ⌘

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

Title:	⌘	Clarification on Outstanding Request Counter (ORC) handling at EDP-R or TDP-R resumption
Source:	⌘	
Work item code:	⌘	TEI6
Date:	⌘	17 August 2004
Category:	⌘	F
Release:	⌘	Rel-6

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

Use one of the following releases:
- *Ph2* *(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)*
- *Rel-7* *(Release 7)*

Reason for change:	⌘	In Section 4.5.7.4, the rules for the outstanding request counter specify that all the counters for the legs in the Call Segment shall be set to 0, when the Continue is received. This shall be applied also in case of multiple reporting. The indicated criteria might fail in case of multiple reporting. As an example, when reporting DP Route Select Failure and DP O_Abandon, in sequence and in request mode, the rules would require that ORC_Leg(Legid1) =1 and ORC_Leg(Legid2) =1. At the next CUE reception, the rule 10) requires that ORC_Leg(Legid1) =0 and ORC_Leg(Legid2) =0 and, if other reports are pending, the CS_gsmSSF enters the Monitoring state. Even worst, if no other report is pending, the dialogue might even be closed. On the other hand, the gsmSCF, when analysing the first reported DP (Route Select Failure), is not aware of the fact that it will receive the reporting for the DP O_Abandon and shall not close the dialogue just after sending the first CUE. When receiving the reporting of the DP O_Abandon, the gsmSCF might choose to send the CUE again, but either the CS_gsmSSF is in state Monitoring or the dialogue might have been already closed.
Summary of change:	⌘	- Correct section 4.5.7.4 and sheets 17 and 18 for the process CS_gsmSSF
Consequences if not approved:	⌘	- Possible hanging dialogues in case of multiple reporting related to the same Call Segment.

Clauses affected:	⌘	4.5.7.4 and 4.5.7.5 (process CS_gsmSSF, sheets 17 and 18)			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First modification* ***

4.5.7.4 Outstanding Request Counter and Rules for CAMEL

In the following the rules on handling of the 'outstanding requests' variables in the process CS_gsmSSF are given. They are storing the number of required resumptions.

1) There shall be one outstanding requests variable ORC_Leg (legID) per leg to handle TDP-R and EDP-R reports and ICA.

2) In addition there shall be one outstanding requests variable ORC_CS (CSID) per call segment to handle the CPH IFs.

3) A leg will only be resumed if the ORC_Leg (legID) variable for this leg and the ORC_CS (CSID) for the call segment containing the leg are 0.

4) Events that cause the suspension of the call processing are signalling events armed as TDP-Rs or EDP-Rs, or the processing of a CPH IF (Disconnect Leg, Split Leg or Move Leg) or Initiate Call Attempt sent by the gsmSCF.

   a) For TDP-R or EDP-R events the number of required resumptions relative to the associated leg will be incremented by 1.

   b) For CPH IFs the number of required resumptions per call segment will be set to one if it is still 0. Otherwise the number of resumptions remains unchanged. For Split Leg the number of required resumptions for each of the source call segment and the target call segment will be set to one if it is still 0

   c) For ICA the number of required resumptions relative to the associated leg will be set to 1.

5) In addition the CS_gsmSSF stores information about the events (DP with the associated leg, CPH) that require resumption and keep track of the order of events for TDP-Rs and EDP-Rs for each leg . The order of resumptions for a leg shall be the order in which the suspension events occured for that leg.

6) For DP event resumption Continue with Argument with legID or Continue are valid. If not otherwise stated below, for each received resumption the number of required resumption for that leg will be decremented by 1 if it was a valid resumption for the event that has to be handled first. Decrementing of the outstanding requests variables does not go below 0.

7) For CPH resumption Continue with Argument with CSID is valid. On receipt of the resumption the number of required resumptions for that call segment will be set to 0.

8) For ICA resumption Continue with Argument with LegId is valid. On receipt of the resumption the number of required resumptions for that Leg will be set to 0.

9) The processing of a Continue with Argument with neither LegID nor CSID causes the number of all required resumptions for the leg~~s~~ to be ~~set to 0~~decremented by 1. If~~n case of~~ reporting is performed on more than~~t~~ one leg, the number of resumptions sha~~wi~~ll be decremented by 1 and~~;~~ the related leg will be selected following the sequence of the reporting.~~All stored resumption events for legs are discarded.~~

10) If a Continue is received to resume a DP ~~for O_Disconnect or for T_Disconnect~~ the number of resumptions required for ~~that~~ the leg that was reported will be decremented by 1. If~~n case of~~ reporting is performed on more than~~t~~ one leg, the number of resumptions sha~~wi~~ll be decremented by 1 and~~;~~ the related leg will be selected following the sequence of the reporting.~~For other DPs the number of resumptions for legs is set to 0 and all stored resumption events for legs are discarded.~~

11) The processing of a Connect with a LegID causes the number of required resumptions for that leg to be set to 0. The processing of a Connect without a LegID causes the number of resumptions required to be set to 0 and all stored resumption events for legs are discarded.

12) The processing of Tssf expiry and of TC Abort causes the number of resumptions required to be set to 0 and the call processing to be resumed. All stored resumption events are discarded.

13) On receipt of a Disconnect Leg the number of resumptions required for the corresponding leg is set to 0.

14) If Release Call is used, nothing needs to be resumed.

***** *Next modification* *****

4.5.7.5 Process CS_gsmSSF and procedures

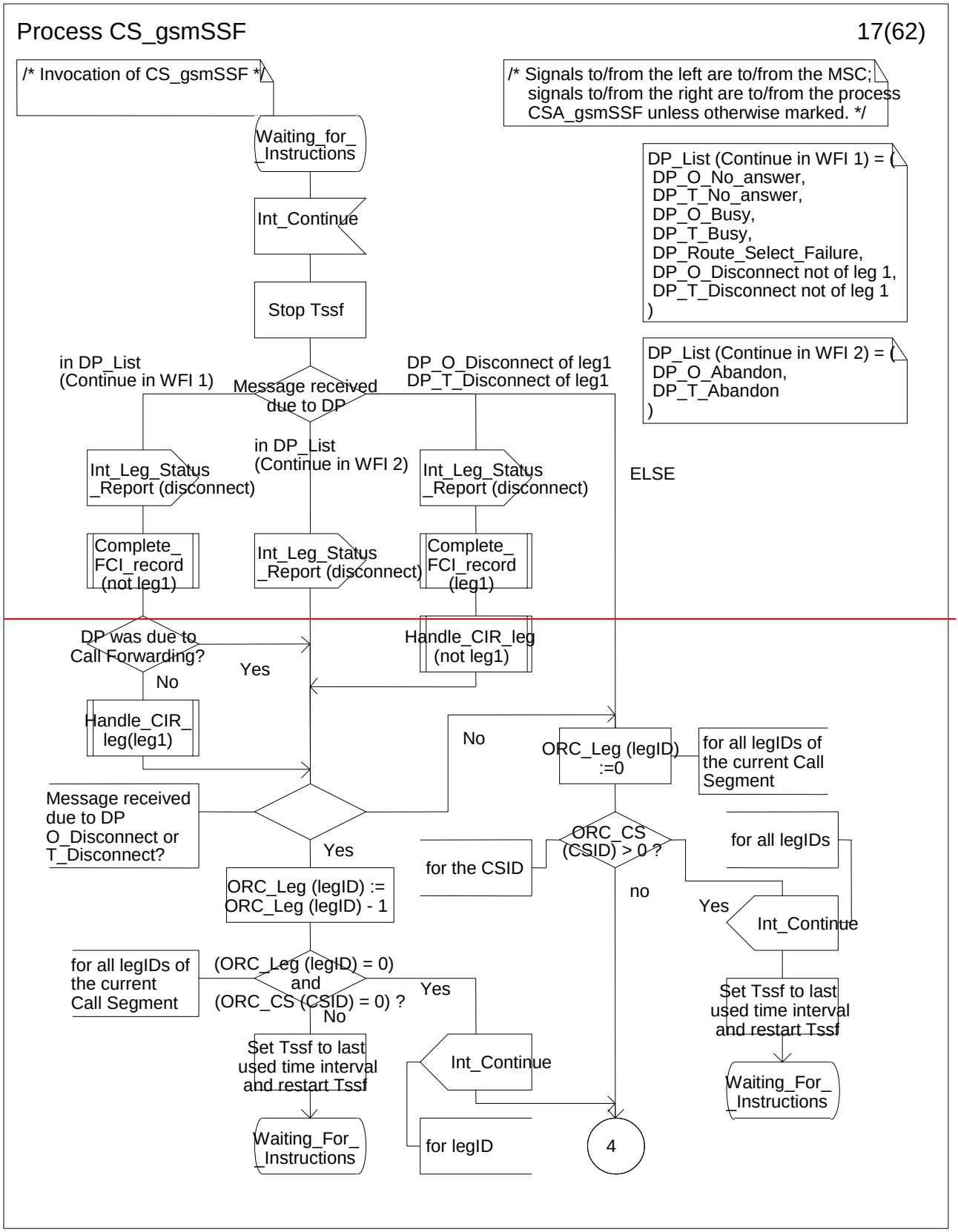


Figure Error! Reference source not found.**-1: Process CS_gsmSSF (sheet 17)**

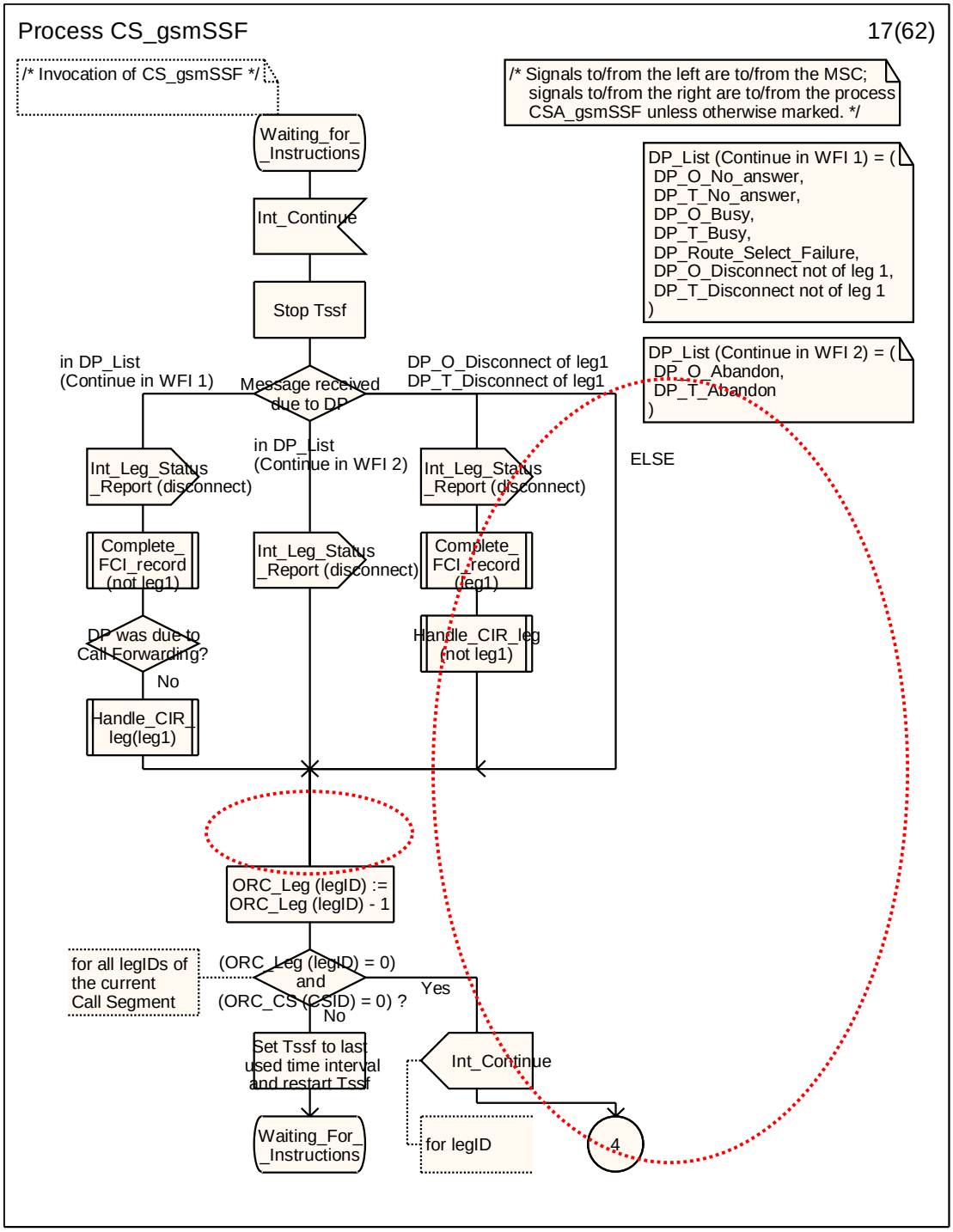


Figure Error! Reference source not found.**-2: Process CS_gsmSSF (sheet 17)**

****** Next modification ******

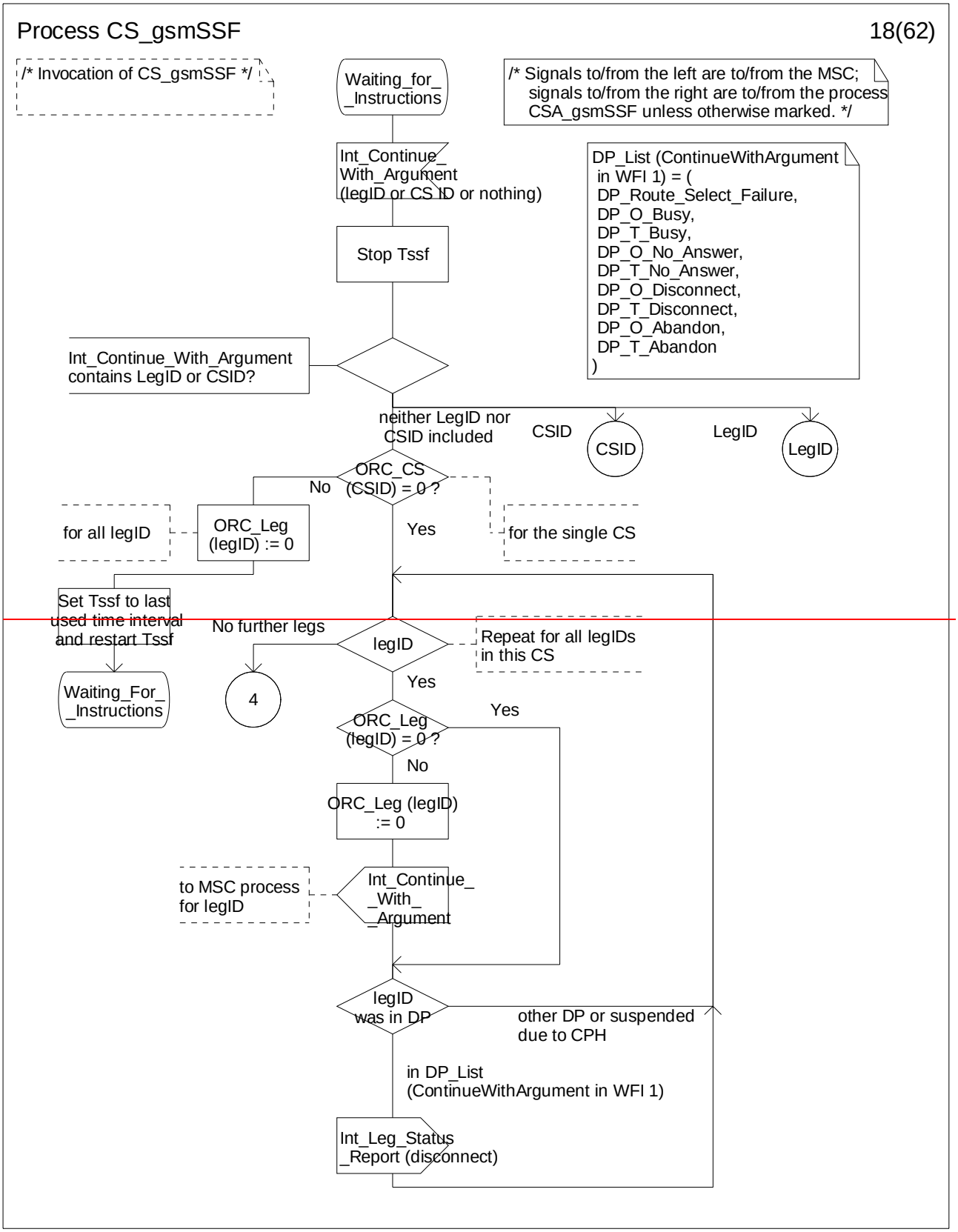


Figure Error! Reference source not found.**-3: Process CS_gsmSSF (sheet 3)**

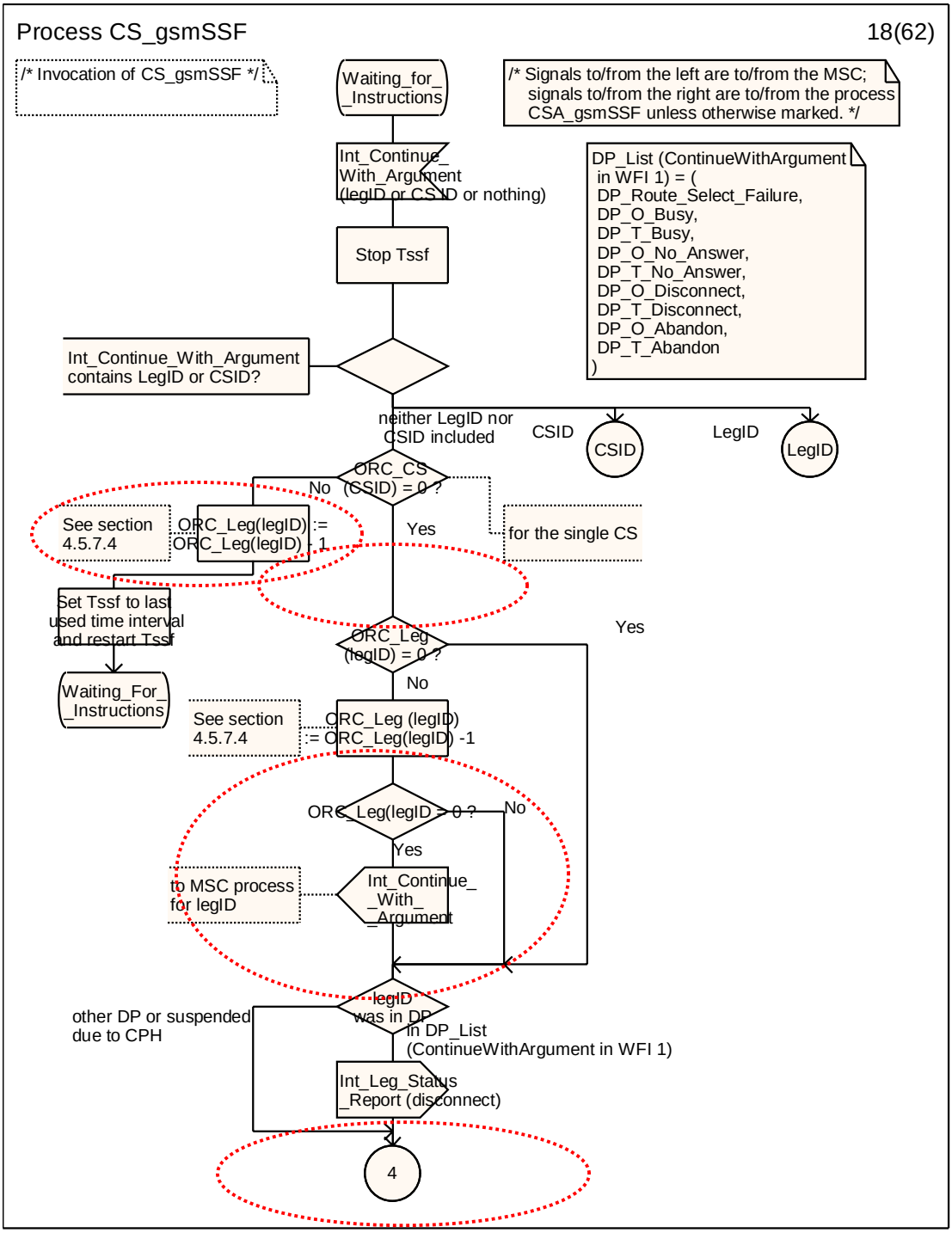


Figure Error! Reference source not found.**-4: Process CS_gsmSSF (sheet 4)**

****** End of document ******

3GPP TSG-CN WG4 Meeting #24 ***N4-041186)***

Sophia Antipolis, France. 16th to 20th August 2004 **(Rev. to N4-041179)**

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.078** **CR** **735** ⌘ **rev** **2** ⌘ Current version: **6.2.0** ⌘

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

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

Title:	⌘	**Appended a note in Process CAMEL_ICA_MSC**
Source:	⌘	**CN4**
Work item code:	⌘	**TEI6**
Date:	⌘	**22/07/2004**
Category:	⌘	**F**
Release:	⌘	**Rel-6**

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

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	In SDL process CAMEL_ICA_MSC (sheet 8), it describes if the result of process CAMEL_OCH_ETC or CAMEL_OCH_CTR is answer, the process CAMEL_ICA_MSC sends an answer message to destination exchange. But in fact, the answer message couldn't be sent to the called party. So it is not correct that the answer message is sent to the destination exchange. It should be sent to CAMEL_ICA_MSC self .
Summary of change:	⌘	The answer message should be appended a note that indicates this message should be sent to self.
Consequences if not approved:	⌘	If the answer message is sent to destination exchange, it would cause some unexpected errors.

Clauses affected:	⌘	4.5.6.1.5

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

Other comments:	⌘	

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

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

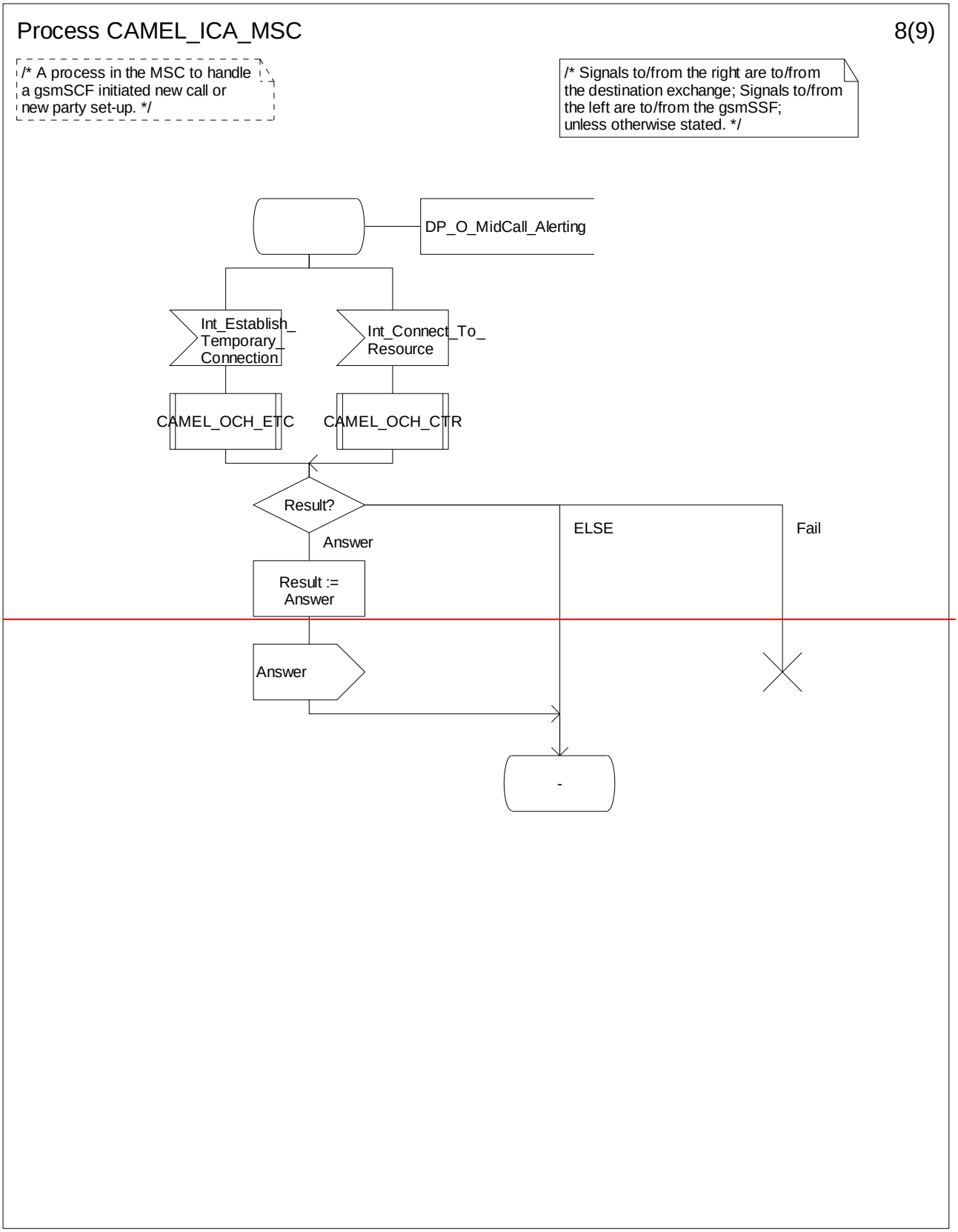
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest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

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

*** First Modification ***

4.5.6.1.5 Actions of the MSC on receipt of Int_Release_Call

A Release is sent to the destination exchange if required. The release cause received in the Int_Release_Call signal is used. The MSC then releases all call resources and the process CAMEL_ ICA_MSC returns to idle.



~~Figure 4.89-8: Process CAMEL_ICA_MSC (sheet 8)~~

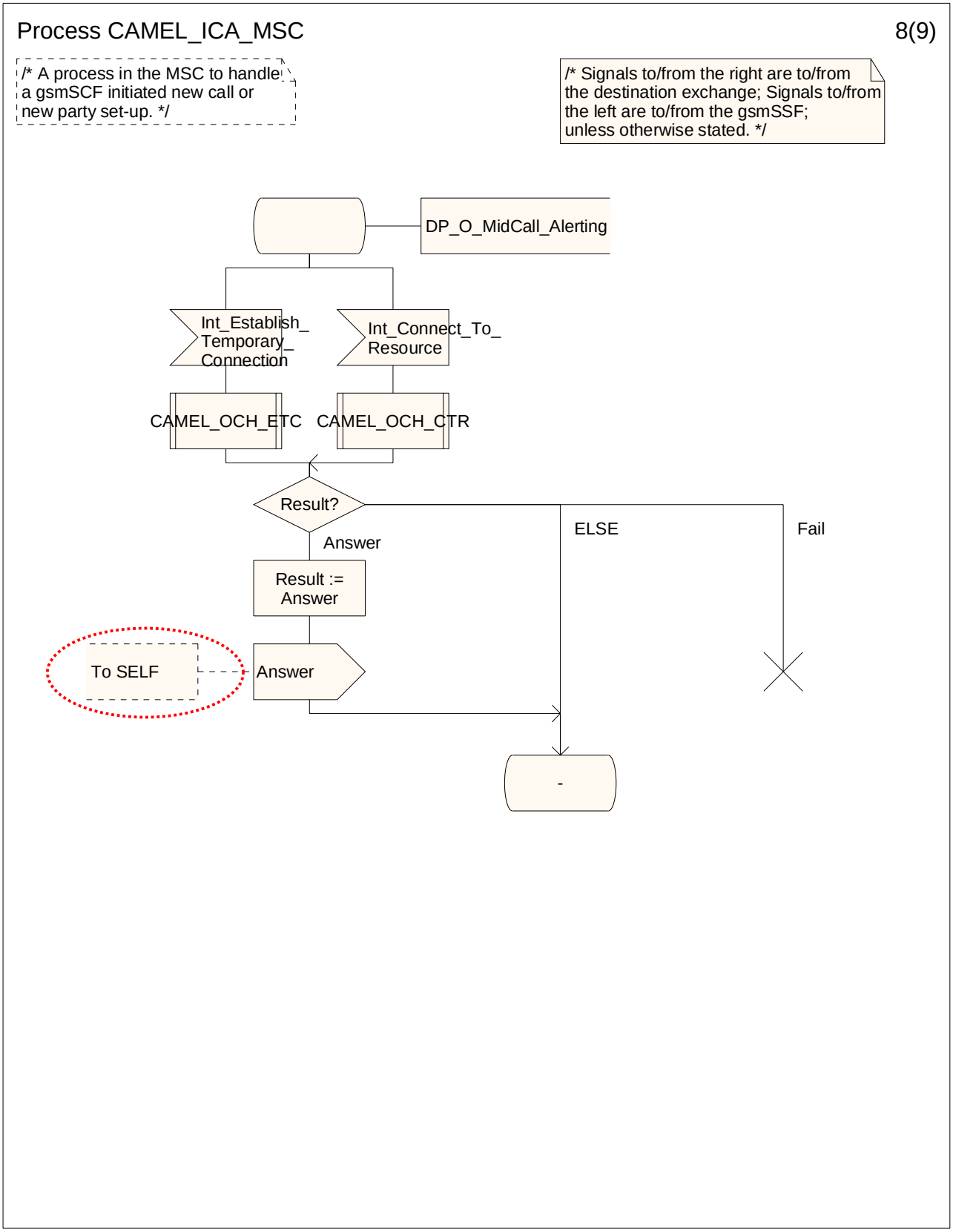


Figure 4.89-8: Process CAMEL_ICA_MSC (sheet 8)