3GPP TSG-CN Meeting #23 **NP-040137**

10th - 12th March 2004, Phoenix, USA

Source: **3GPP TSG CN2**

Title: **CRs for Rel-5 WI CAMEL4**

Agenda item: **8.3**

Document for: **APPROVAL**

This document contains following CRs for Rel-5 WI CAMEL4 that are approved by CN2 and are forwarded to TSG CN#23 for approval:

TDoc #	Title	Spec	CR #	Rev	Cat	Rel	Versi	WI
N2-040119	Correction to Tssf timer at Apply Charging	23.078	679	2	F	Rel-5	5.6.0	CAMEL4
N2-040175	Correction to Tssf timer at Apply Charging	23.078	711		A	Rel-6	6.0.0	CAMEL4
N2-040122	Missing DisconnectLeg Result to the	23.078	648	1	F	Rel-5	5.6.0	CAMEL4
N2-040123	Missing DisconnectLeg Result to the gsmSCF	23.078	649	1	A	Rel-6	6.0.0	CAMEL4
N2-040125	Correction to CUG handling for NP calls	23.078	667	1	F	Rel-5	5.6.0	CAMEL4
N2-040126	Correction to CUG handling for NP calls	23.078	701		A	Rel-6	6.0.0	CAMEL4
N2-040127	Correction to CAMEL_ICA_MSC (hanging connector)	23.078	668	1	F	Rel-5	5.6.0	CAMEL4
N2-040128	Correction to CAMEL_ICA_MSC (hanging connector)	23.078	702		A	Rel-6	6.0.0	CAMEL4
N2-040134	Correction to DP description tables	23.078	662	1	F	Rel-5	5.6.0	CAMEL4
N2-040135	Correction to DP description tables	23.078	651	1	A	Rel-6	6.0.0	CAMEL4
N2-040136	Allowing Export_leg at DP Alerting and DP Answer	23.078	669	1	F	Rel-5	5.6.0	CAMEL4
N2-040176	Allowing Export_leg at DP Alerting and DP Answer	23.078	712		A	Rel-6	6.0.0	CAMEL4
N2-040137	Correction to Request Report BCSM Event handling in CSA_gsmSSF	23.078	671	2	F	Rel-5	5.6.0	CAMEL4
N2-040138	Correction to Request Report BCSM Event handling in CSA_gsmSSF	23.078	703		A	Rel-6	6.0.0	CAMEL4
N2-040139	Correction to Split Leg handling in CSA_gsmSSF	23.078	673	2	F	Rel-5	5.6.0	CAMEL4
N2-040140	Correction to Split Leg handling in CSA_gsmSSF	23.078	704		A	Rel-6	6.0.0	CAMEL4
N2-040141	Correction to CS ID Prompt & Collect User Information	23.078	675	1	F	Rel-5	5.6.0	CAMEL4
N2-040142	Correction to CS ID Prompt & Collect User	23.078	705		A	Rel-6	6.0.0	CAMEL4
N2-040143	Correction to SplitLeg preconditions	23.078	680	1	F	Rel-5	5.6.0	CAMEL4
N2-040144	Correction to SplitLeg preconditions	23.078	706		A	Rel-6	6.0.0	CAMEL4
N2-040145	Correction to SplitLeg and MoveLeg preconditions	29.078	348	1	F	Rel-5	5.6.1	CAMEL4
N2-040146	Correction to SplitLeg and MoveLeg preconditions	29.078	362		A	Rel-6	6.0.0	CAMEL4

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040119
revision of N2-040095

CHANGE REQUEST

⌘ **23.078** **CR** **679** ⌘ **rev** **2** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to Tssf timer at Apply Charging
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

Refer to figure 4.96-15, CS_gsmSSF. When gsmSSF receives Apply Charging, it should set Tssf to "last used time interval" and not to "Int_Reset_Timer time interval" as currently reflected in the SDL.
The setting of Tssf to the value "Int_Reset_Timer time interval" is done in reaction to the Reset Timer CAP operation.

In figure **Error! Reference source not found.**.1-1, Handle_AC, there is a task box to set the Tssf timer. That task box should not be in that procedure. Procedure Handle_AC may be called from process CS_gsmSSF in various places. Process CS_gsmSSF is in control of the Tssf timer. The setting of the Tssf timer, when calling Handle_AC, depends on the gsmSSF FSM state in which Handle_AC is called.

As an example, if Handle_AC is called du to receiving CAP Apply Charging when the gsmSSF FSM is in monitoring state, then Tssf shall not be started. Therefore, the setting of Tssf shall be controlled by CS_gsmSSF and not by sub-procedures.

Summary of change: ⌘

- Correct figure 4.96-15: correct the text in the task box following the Apply Charging operation.
- Correct figure 4.101-1: remove the task box for the timer setting.

Consequences if not approved: ⌘

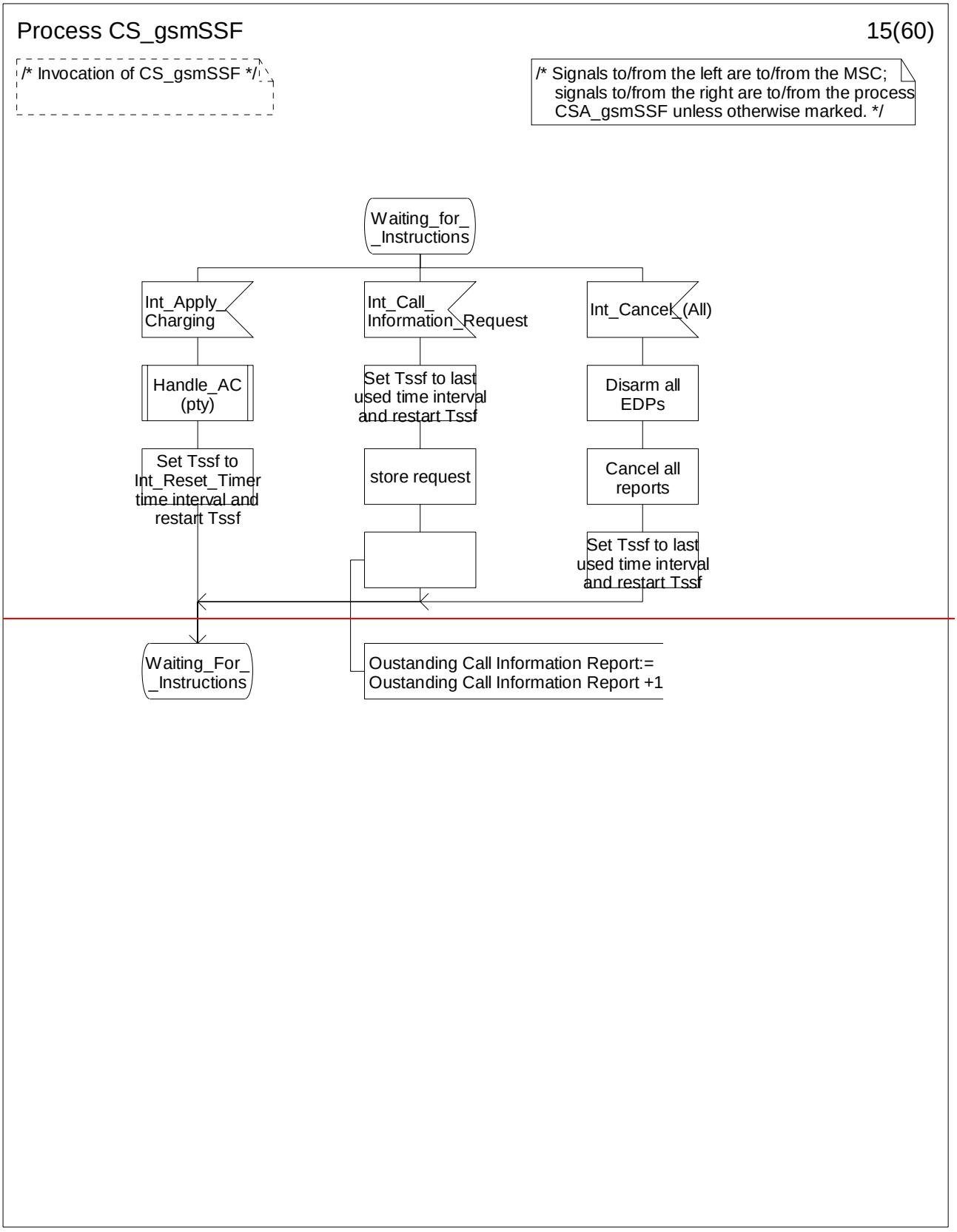
Incorrect Tssf timer setting. The result may be that Tssf is set to a too large timer value, which reduces the usefulness of Tssf. This may further result in that gsmSSF would wait a too long period for further instructions from gsmSCF, before timing out, and that MSC resources are unnecessarily seized.

A further consequence if not approved is that Tssf may be started when the

	gsmSSF FSM is in monitoring state. As a result, Tssf may expire unexpectedly, resulting in call failure.

Clauses affected:	⌘	4.5.7.5			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	A spelling mistake is corrected in figure 4.96-15.			

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



~~**Figure 4.96-15: Process CS_gsmSSF (sheet 15)**~~

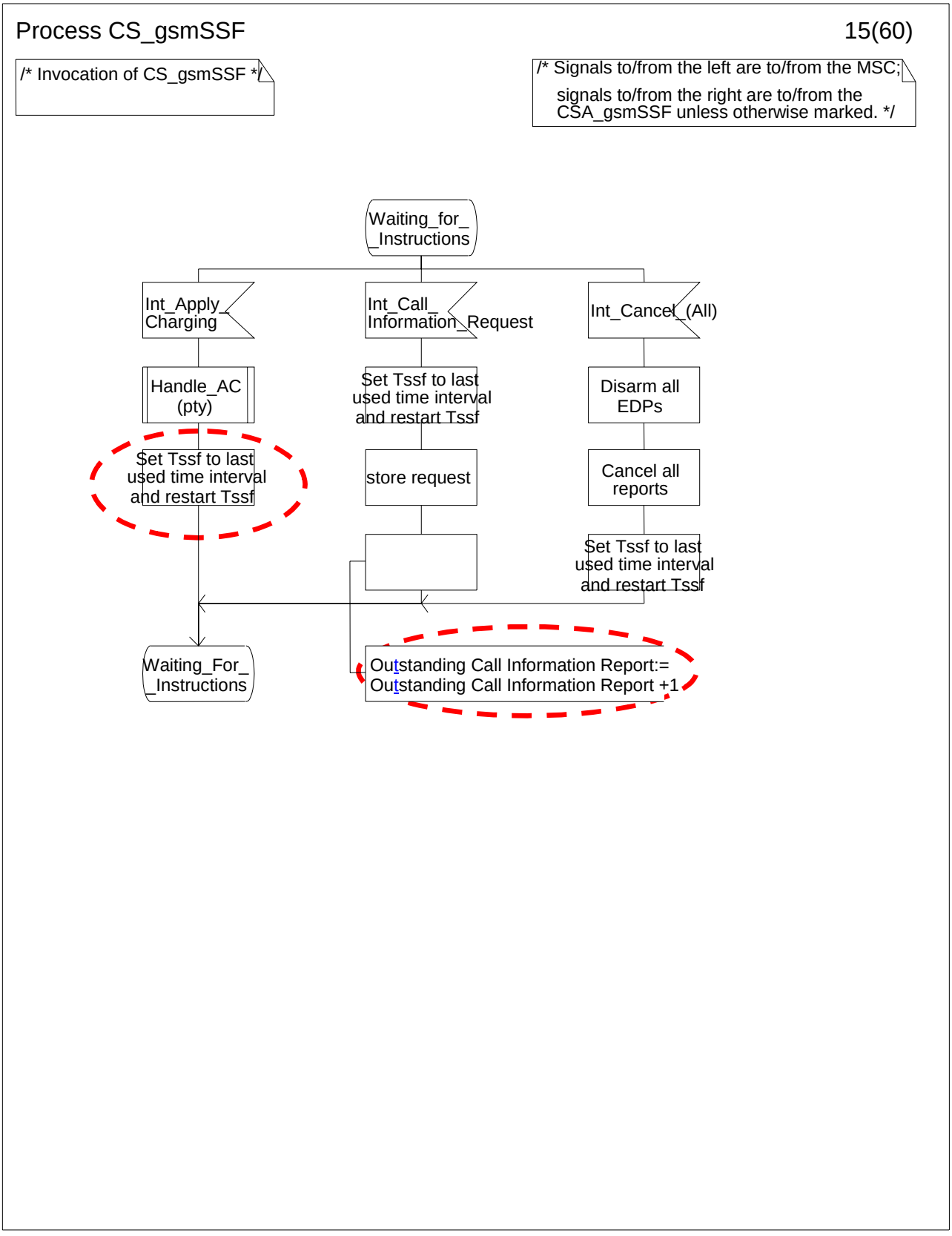
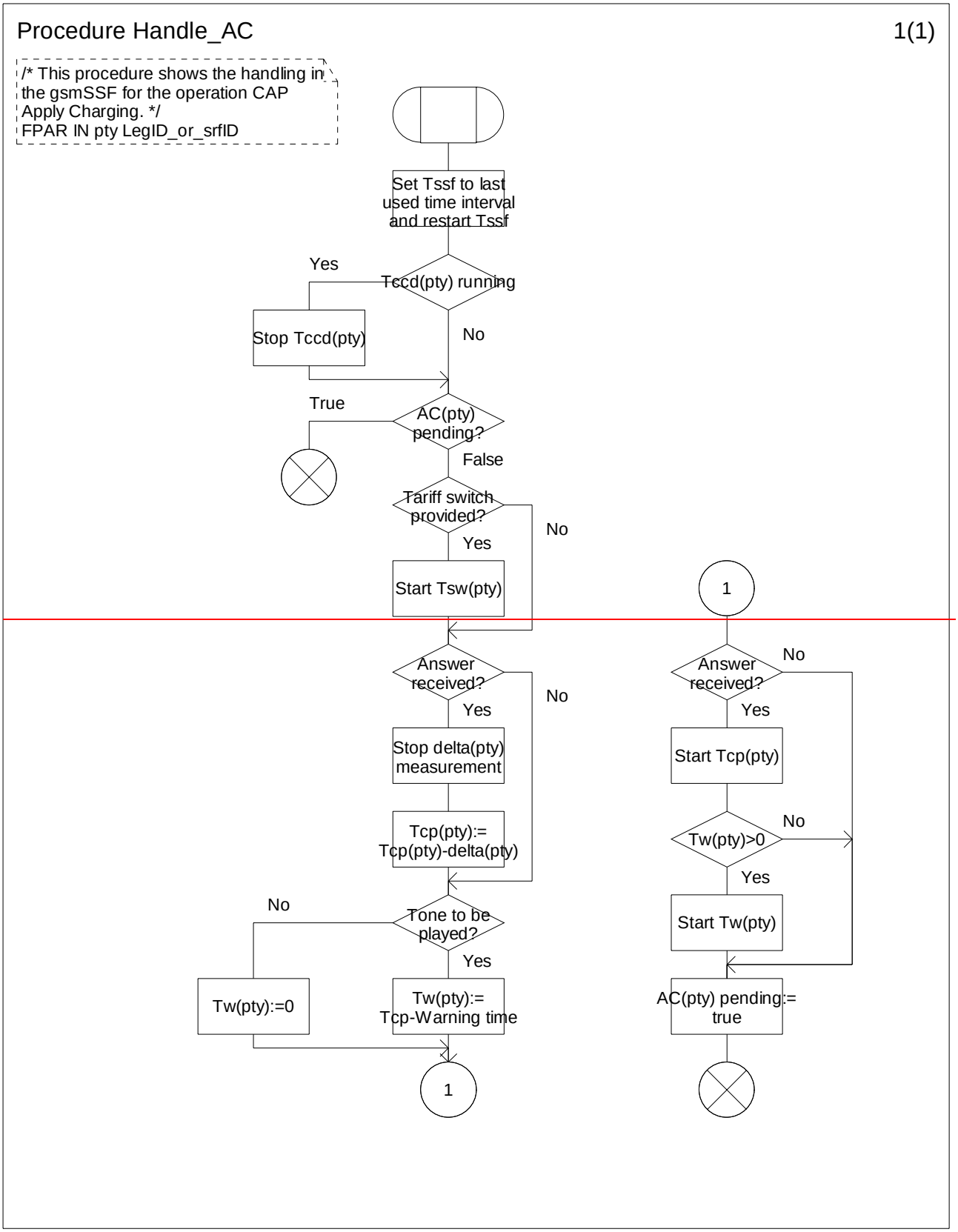


Figure Error! Reference source not found.**-3: Process CS_gsmSSF (sheet 3)**



~~Figure 4.101-1: Procedure Handle_AC (sheet 1)~~

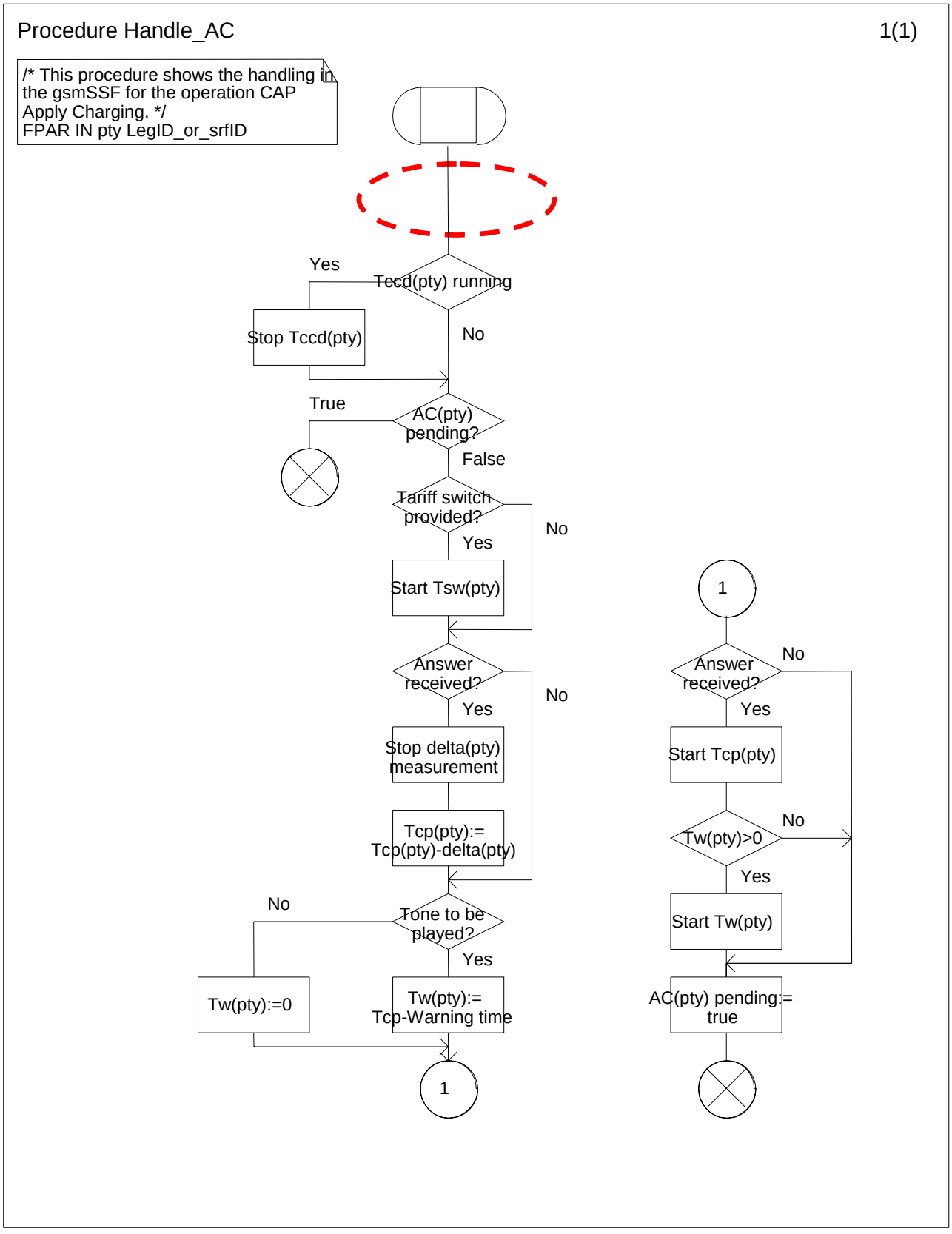


Figure Error! Reference source not found.**-3-1: Procedure Handle_AC (sheet 1)**

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3GPP TSG CN WG2 Meeting #32 N2-040126
Atlanta, USA, 16th – 20st February 2004

CHANGE REQUEST

⌘ **23.078** **CR** **701** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to CUG handling for NP calls		
Source:	⌘	Ericsson		
Work item code:	⌘	CAMEL4	***Date:*** ⌘	2004-02-18
Category:	⌘	A	***Release:*** ⌘	Rel-6

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

Correction 1: MO_CUG_Check

Process CAMEL_ICA_VLR (fig. 4.93) specifies behaviour in the VLR for the creation of NP legs that are created within an MO call or VT call. This process calls procedure OG_CUG_Check. However, OG_CUG_Check should not be called for NP legs within MO calls. For NP legs within VT calls, the calling for OG_CUG_Check should be conditional. The execution of OG_CUG_Check involves checking the table 1.3 from TS 23.085; see the “for information” section of the present CR.

MO calls
OG_CUG_Check is called during MO call establishment; it is called prior to CAMEL invocation; that is existing Basic Call handling, specified in TS 23.018. If MO CUG check yields result “reject”, then CAMEL triggering will not take place. When gsmSCF creates an NP leg within the MO call, it is not possible that for that NP leg the MO_CUG_Check fails (i.e. results in “reject”). The NP leg shall continue with the CUG subscription information from VLR, possibly modified by the gsmSCF (in CWA) or amended by the gsmSCF.

Initial DP for an MO call contains CUG Index, CUG Interlock Code and Outgoing Access Indicator. Hence, gsmSCF has adequate indication about the CUG status of the subscriber.

Hence, for NP legs created within MO call, VLR does not need to perform CUG check.

VT calls
For VT calls, OG_CUG_Check is not executed as part of Basic Call handling.

When gsmSCF creates an NP leg within the VT call, then MO_CUG_Check shall be called conditionally. The gsmSCF may supply CUG information in CWA following ICA.

- If gsmSCF supplies “non-CUG call” in CWA, then the NP call shall continue as non-CUG call and in that case, MO_CUG_Check shall not be executed. The presence of “non-CUG call” serves as indication that gsmSCF has determined that the NP call sall be non-CUG call.

- If gsmSCF supplies Interlock Code (IC) or IC + Outgoing Access (OA) in CWA, then the NP call shall continue as CUG call and in that case, MO_CUG_Check shall not be executed. The presence of IC or IC + OA in CWA serves as an indication that gsmSCF has determined that the NP call shall be a CUG call.

- If gsmSCF supplies OA in CWA, but not IC, then MO_CUG_Check shall be executed. In this case, VLR shall check the subscriber’s CUG subscription data. The VLR shall act as specified in table 1.3 in TS 23.085.
  In this case, MO_CUG_Check shall consider only the leftmost column of table 1.3, underneath the header “Information provided by calling user”, from TS 23.085. Reason is that the four rightmost columns under that header apply when information is supplied by a calling user, over the Access Network. That is not applicable in a VT call case.

- If gsmSCF does not supply CUG information in CWA, then MO_CUG_Check shall be executed. Rationale is that the CUG information in VLR determines in that case whether the NP call shall be a CUG call. In that case, MO_CUG_Check shall consider only the leftmost column of table 1.3, underneath the header “Information provided by calling user”, from TS 23.085. For reason, see above.

The above behaviour shall be reflected in the SDL.

Correction 2: Send Info for ICA

Considering what is explained for correction 1, and bearing in mind that process CAMEL_ICA_VLR resised in VLR, the VLR needs to have the CUG-related information contained in CWA, to determine whether MO_CUG_Check shall be executed for an NP leg in the VT call. Hereto, the following elements shall be added to Send Info for ICA: non-CUG call, Interlock Code and Outgoing Access.

Correction 3: OCB Suppressed

CAP CWA that follows CAP ICA may contain the IE “Suppress Outgoing Call Barring”; see extract from Continue With Argument IF in the “For Information” section of the present CR. When Suppress Outgoing Call Barring is present in CWA, then both the ***unconditional*** call barrings shall be suppressed for the NP call and the ***conditional*** call barrings. Hence, both the procedures Check_BAOC and Check_OG_Barring shall be suppressed in that case. Currently, only Check_BAOC is suppressed when Outgoing Call Barring is present in CWA.

Suppress Outgoing Call Barring might also be received in the CWA from the D-CSI or N-CSI service. Hence, both SIFICA IFs may contain Suppress Outgoing Call Barring.

Correction 4: Applicability of Get_AoC_Subscription_Info_VLR

Procedure Get_AoC_Subscription_Info_VLR, shall not be called from CAMEL_ICA_VLR, since Advice of Charge does not apply to NP call leg. Refer to section 4.6.2.21, Send Charging Information, in TS 23.078.

Get_AoC_Subscription_Info_VLR returns the status of the AoC service. Since the SCI operation is not applicable to an ICA NP leg (see TS 29.078, subclause 11.29), there is no need to retrieve the AoC subscription info. Therefore, it is proposed to remove this procedure.

Correction 5: Applicability of Get_LI_Subscription_Info_MO_VLR

Get_LI_Subscription_Info_MO_VLR retrieves info related to both CLIR and COLP services (defined in 23.018, figure 7.1.2.14).

For an NP leg in an MO call, the following applies:
- COLP: there is no need to check the COLP supplementary service data for the subscriber. COLP indicates whether the Connected Number, received in ISUP ANM/CON, shall be sent to the MS. The COLP subscription is already checked during MO call set up; Continue With Argument for the NP leg does not have the ability to affect the COLP setting for a call.
- CLIR: CLIR may be applied for an NP leg in an MO call; Continue With Argument for the NP leg has the ability to affect the CLIR setting for a call.

For an NP leg in an VT call, the following applies:
- COLP: COLP is not applicable for an NP leg in a VT call. There is no MS connected to the MSC in the backwards direction. COLP applies only to a MO call case.
- CLIR: CLIR may be applied for an NP leg in a VT call. Continue With Argument for the NP leg has the ability to affect the CLIR setting for a call.

The above shall be reflected in the SDL.

For the CLIR handling in the VLR, refer figure 2.4 in TS 23.081; for the COLP handling in the VLR, refer figure 3.2 in TS 23.081.

Correction 6: CAMEL_Modify_CUG_Info

It is ambiguous for designers how to interpret procedure CAMEL_Modify_CUG_Info. The gsmSCF may provide IC, OA or both for a call. If both are received, then both parameters shall be used for that call. The current SDL, however, gives the impression that when IC is received, then IC shall be used for the call and that OA is then ignored.

This requires a refinement in the SDL.

Summary of change:	⌘	- Process CAMEL_ICA_VLR shall be corrected as outlined above; - Send Info for ICA shall be corrected as outlined above; - Procedure CAMEL_Modify_CUG_Info shall be refined as outlined above.
Consequences if not approved:	⌘	Mailfunctioning CUG interworking for gsmSCF-initiated call establishment. As an example, the Outgoing Access information elemen, when provided by the gsmSCF for a new call leg, may be discarded. Furthermore, the gsmSCF would not be able to instruct the gsmSSF to suppress conditional barring for a new call leg.

Clauses affected:	⌘	4.5.2.1 , 4.6.12.1			
Other specs Affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

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

Extract from 3GPP TS 23.078

4.6.2.9 Continue With Argument

4.6.2.9.1 Description

…

4.6.2.9.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
…							
Service Interaction Indicators Two	O	O	O	O	O	O	This IE is described in a table below.
CUG Interlock Code	O	O	-	-	O	O	See 3GPP TS 23.085 [22] for details of this IE.
Outgoing Access Indicator	O	O	-	-	O	O	See 3GPP TS 23.085 [22] for details of this IE.
…							
Suppress Outgoing Call Barring	-	-	-	-	-	O	This IE indicates that Outgoing Call Barrings for the created leg shall be suppressed. This IE can only be included if the Initiate Call Attempt IF is sent to the VMSC of the CAMEL subscriber.

Service Interaction Indicators Two contains the following information elements:

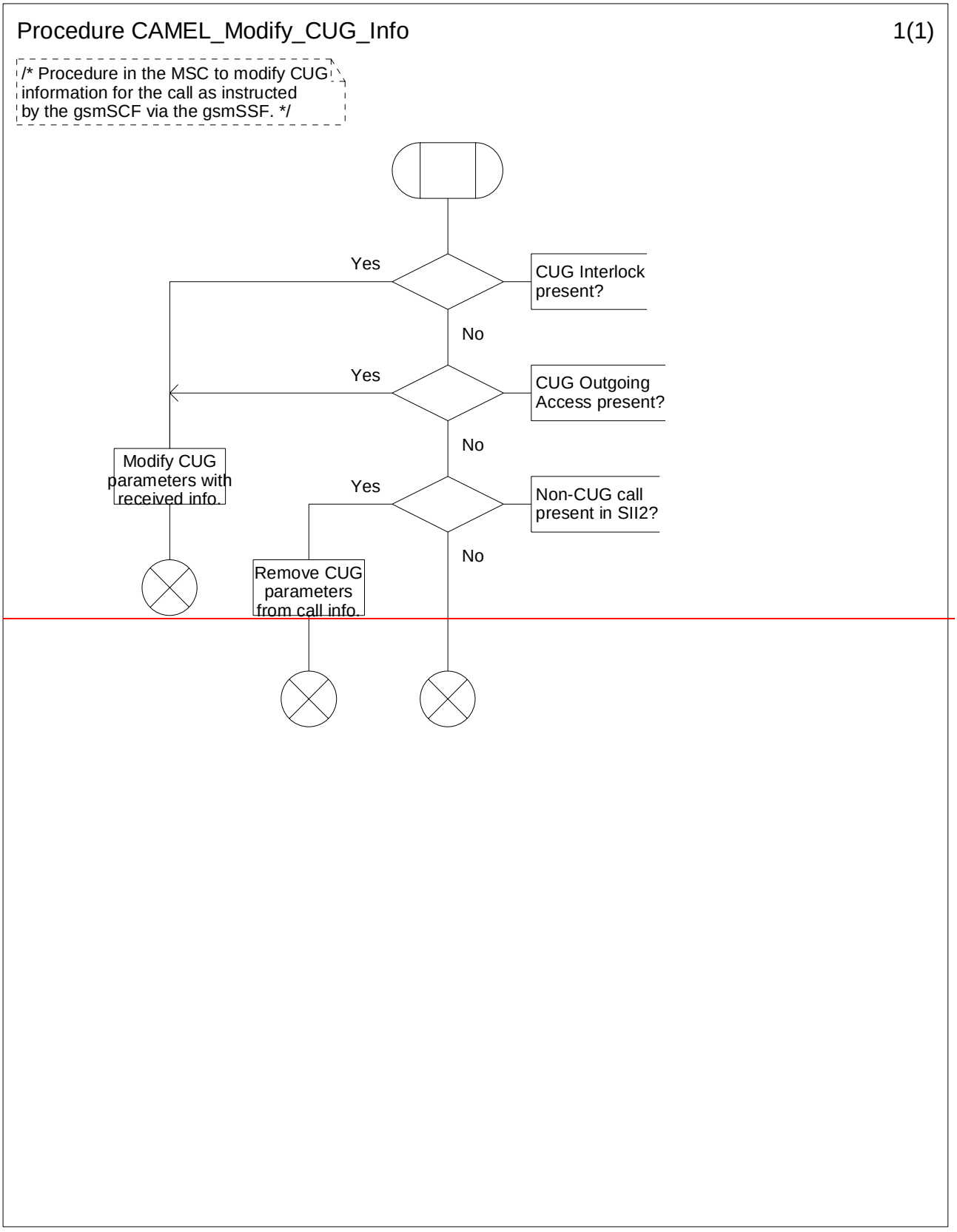
Information element name	MO	MF	MT	VT	NC	NP	Description
Forward Service Interaction Indicator	O	O	O	O	O	O	This IE is described in a table below.
Backward Service Interaction Indicator	O	O	O	O	-	-	This IE is described in a table below.
HOLD Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the invocation of HOLD by the CAMEL subscriber.
CW Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the invocation of CW for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the call leg to become part of an ECT call initiated by the CAMEL subscriber.
Connected Number Treatment Indicator	O	O	O	O	-	-	This IE indicates the treatment of the connected number at the originating side.
Non-CUG Call	O	O	-	-	-	O	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). This IE shall be absent if one or more of CUG Interlock Code and Outgoing Access Indicator are present in the IF.

Forward Service Interaction Indicator contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Conference Treatment Indicator	O	O	O	O	O	O	This IE indicates whether the call leg can become part of a MPTY call initiated by the called subscriber.
Call Diversion Treatment Indicator	O	O	O	O	O	O	This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection supplementary services.
Calling Party Restriction	O	O	O	O	O	O	This IE allows the gsmSCF to mark the CLI

Information element name	MO	MF	MT	VT	NC	NP	Description
Indicator							as Restricted for the call.

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



~~**Figure 4.28-1: Procedure CAMEL_Modify_CUG_Info (sheet 1)**~~

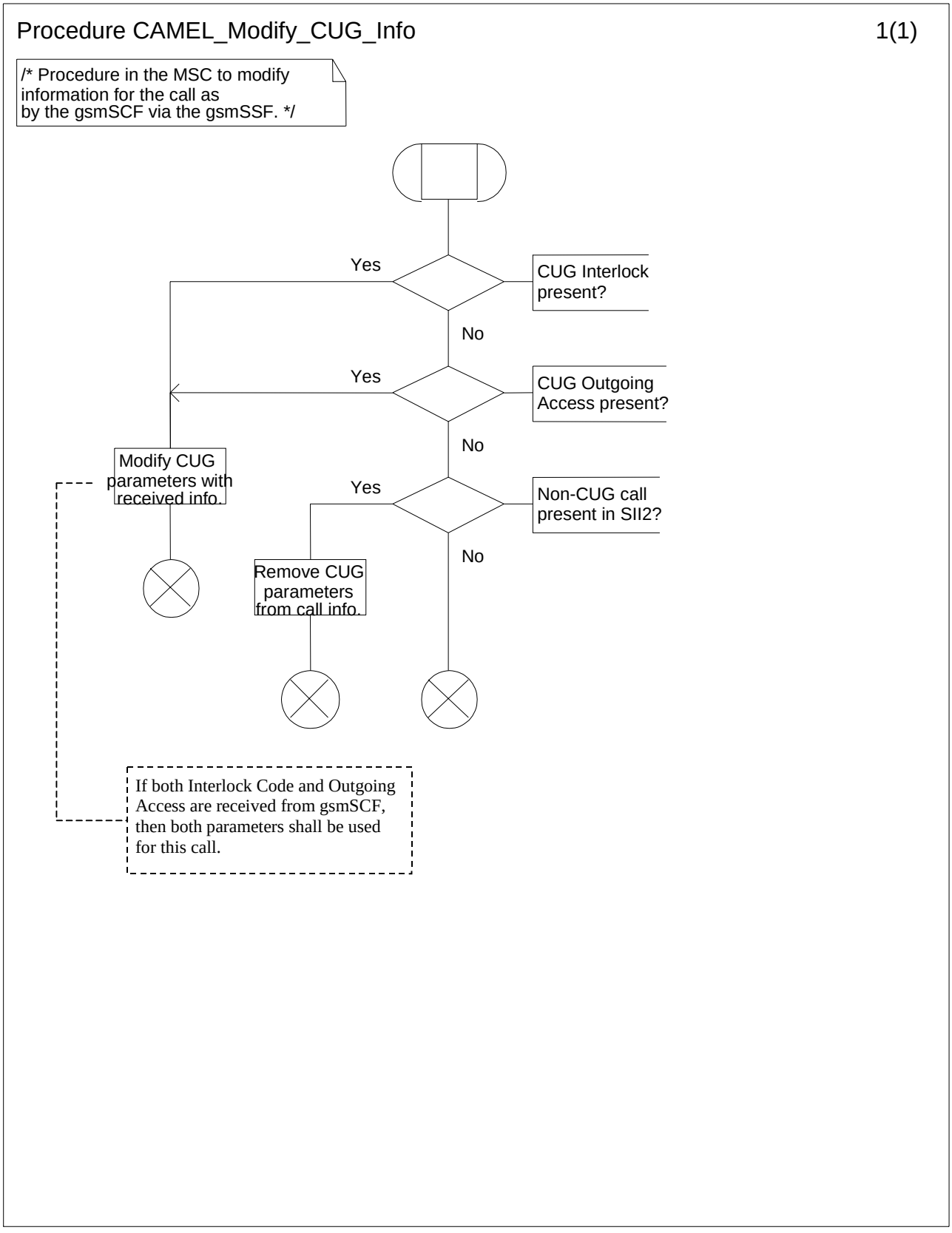
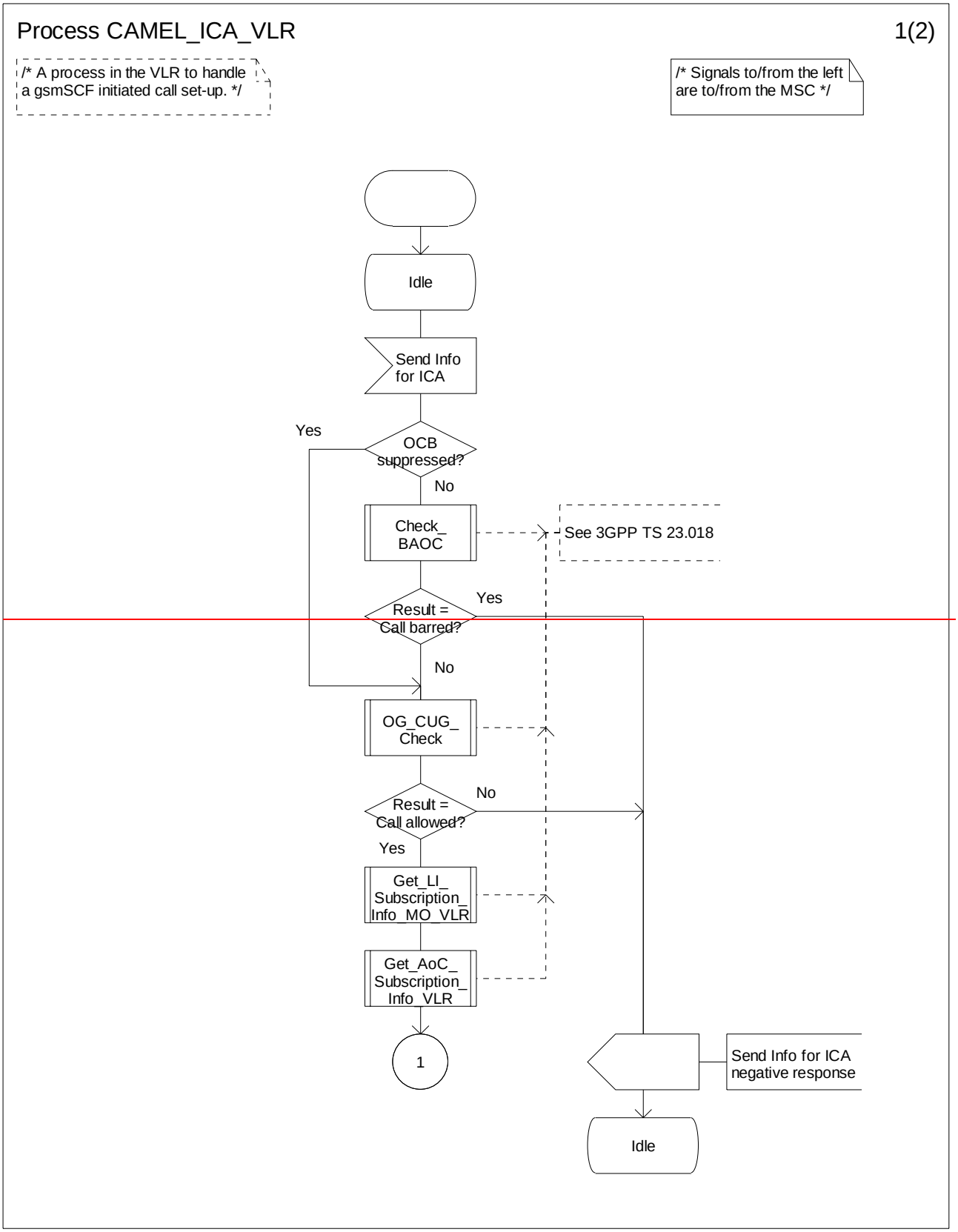
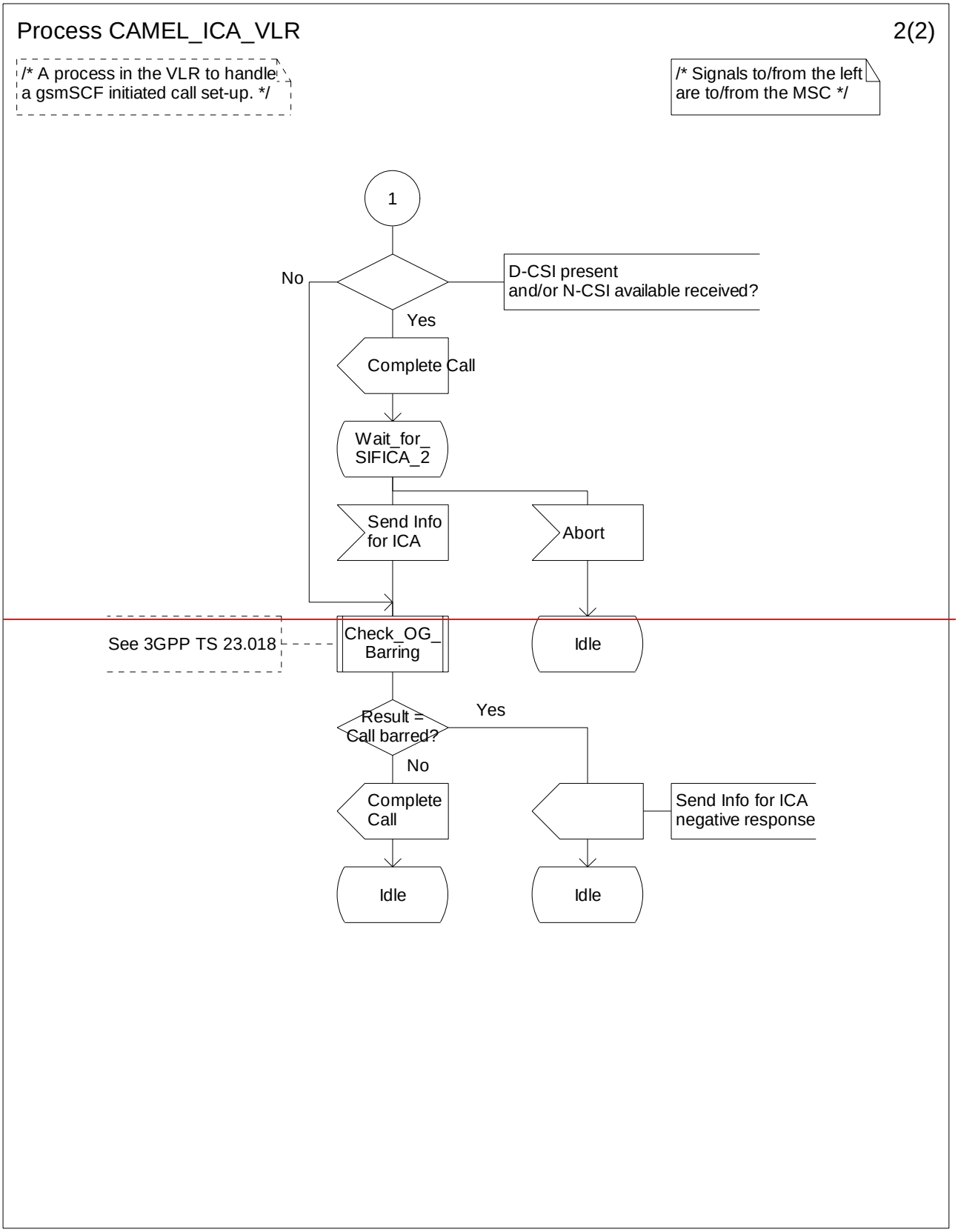


Figure 4.28-1: Procedure CAMEL_Modify_CUG_Info (sheet 1)

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



~~**Figure 4.93-1: Process CAMEL_ICA_VLR (sheet 1)**~~



~~Figure 4.93-2: Process CAMEL_ICA_VLR (sheet 2)~~

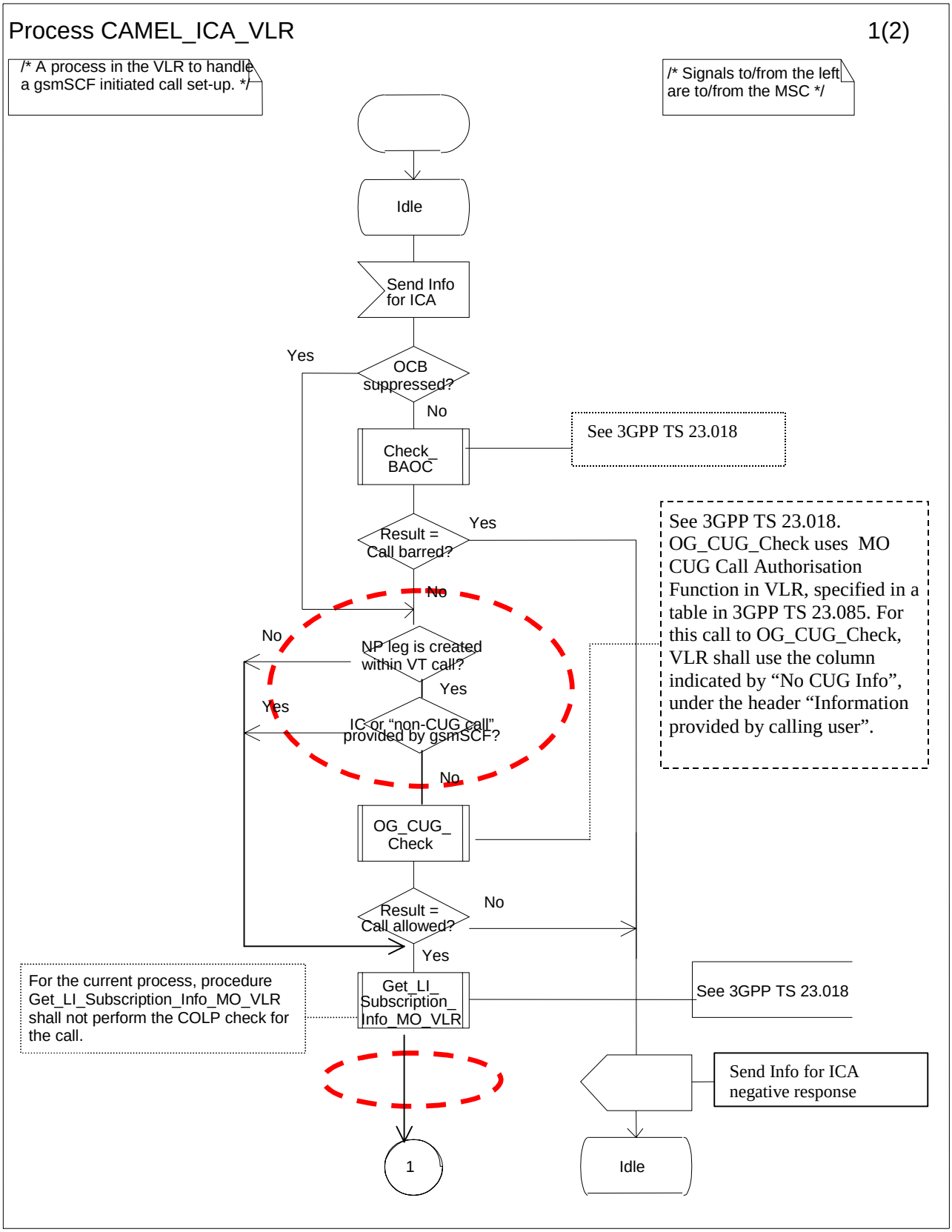


Figure 4.93-1: Process CAMEL_ICA_VLR (sheet 1)

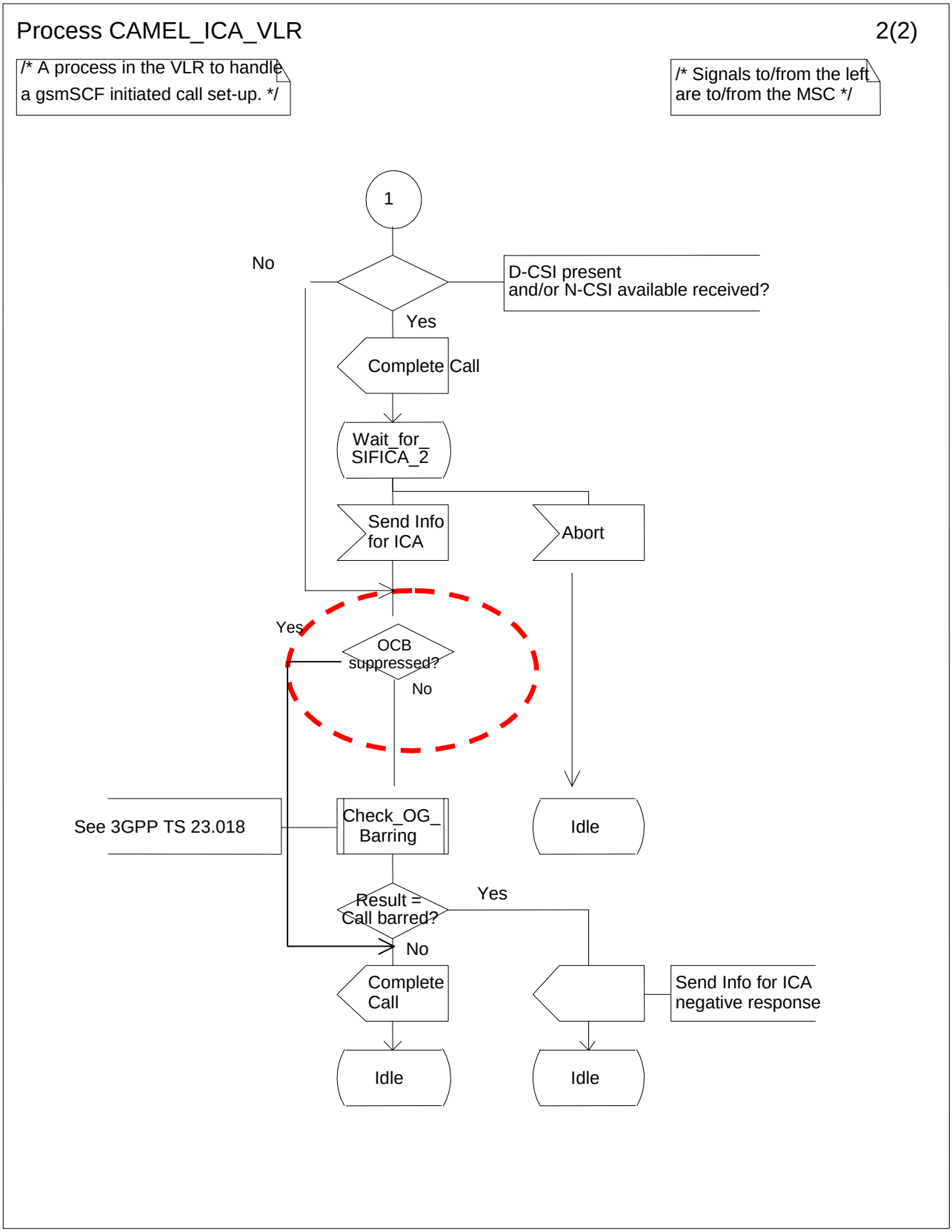


Figure 4.93-2: Process CAMEL_ICA_VLR (sheet 2)

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

4.6 Description of information flows

…

4.6.12 MSC to VLR information flows

4.6.12.1 Send Info For ICA

4.6.12.1.1 Description

This IF is used to request the VLR to provide information to handle an outgoing call leg created by the gsmSCF.

4.6.12.1.2 Information Elements

Information element name	NP	Description
Called Number	M	This IE indicates the E.164 number of the call leg destination.
IMSI	M	This IE is the IMSI of the served CAMEL subscriber.
CUG Index	C	For the definition of this IE, see 3GPP TS 23.085 [22].
Suppress Preferential CUG	C	For the definition of this IE, see 3GPP TS 23.085 [22].
Suppress CUG Outgoing Access	C	For the definition of this IE, see 3GPP TS 23.085 [22].
Suppress Outgoing Call Barring	C	This IE indicates that outgoing call barrings shall be suppressed for the call leg.
Suppress D-CSI	S	This IE indicates that D-CSI shall be suppressed. It shall always be present in the second interrogation.
N-CSI Available	S	This IE indicates that N-CSI is available in MSC. It shall be present in the first interrogation if N-CSI is available in the MSC.
Non-CUG Call	S	This IE indicates that no parameters for CUG should be used for the call. It shall be present if received from gsmSCF.
CUG Interlock Code	S	For the definition of this IE, see 3GPP TS 23.085 [22]. It shall be present if received from gsmSCF.
Outgoing Access	S	For the definition of this IE, see 3GPP TS 23.085 [22]. It shall be present if received from gsmSCF.

…

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

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040127
revision of N2-040032

CHANGE REQUEST

⌘	23.078	CR	668	⌘ rev	1	⌘	Current version:	5.6.0	⌘

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

Title:	⌘	Correction to CAMEL_ICA_MSC (hanging connector)
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Refer to fig. 4.86-5, CAMEL_ICA_MSC. Output connector "2" has no corresponding input connector. It should be connected to connector 3 on sheet 6. Connector 3 on sheet 6 results in a check on the release cause; the release cause may indicate (1) No Answer or (2) Busy, Route Select Failure or other. The No_Answer handling is done in CAMEL_ICA_MSC2; the Busy handling etc. is done in CAMEL_ICA_MSC1.
Summary of change:	⌘	Correct figure **Error! Reference source not found.**.1-1: Process CAMEL_ICA_MSC
Consequences if not approved:	⌘	Unspecified behaviour for when Export Leg fails due to ISUP release from the destination exchange.

Clauses affected:	⌘	4.5.6.1 (Process CAMEL_ICA_MSC)

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

⌘

Other comments:	⌘	

*** *For Information* ***

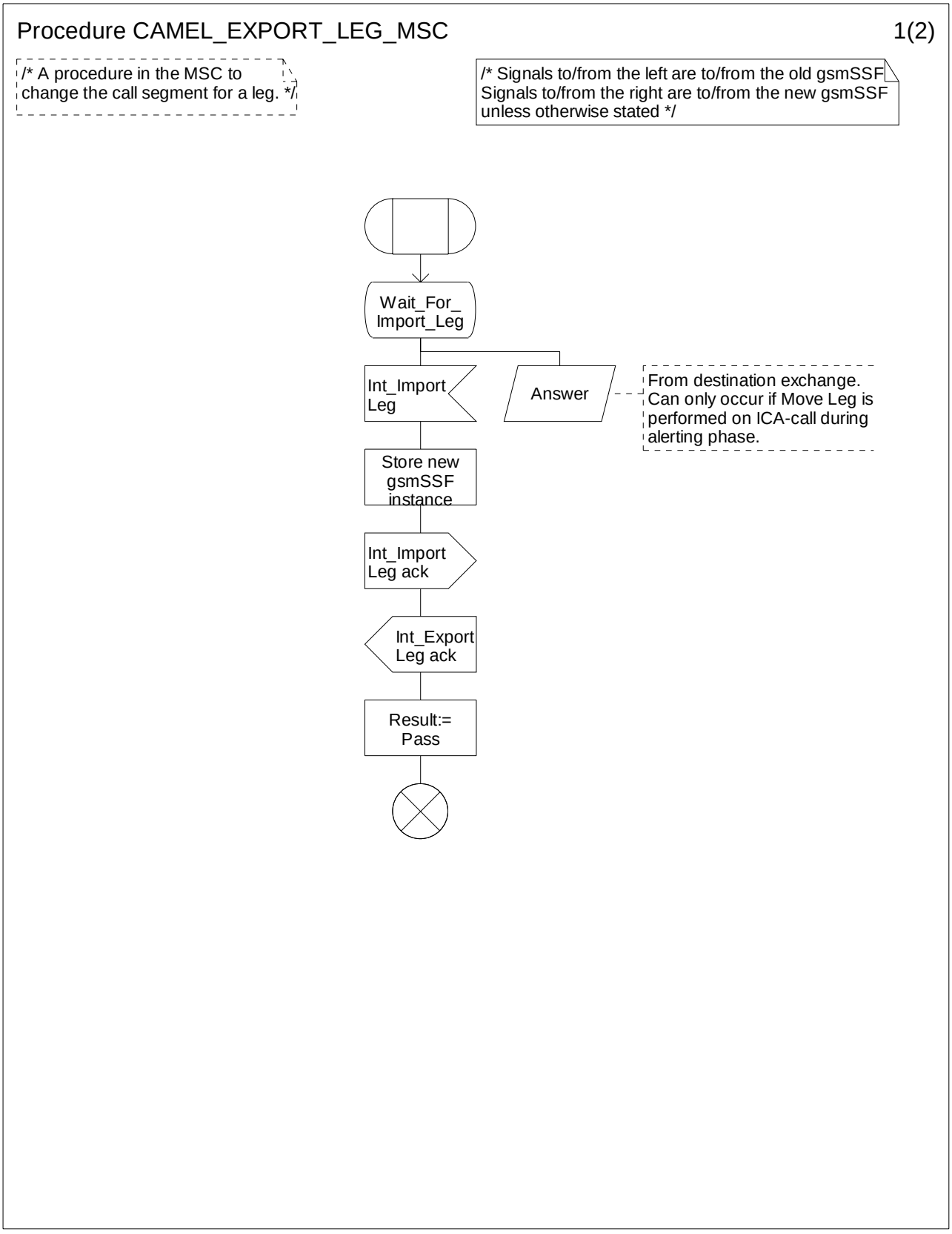


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_EXPORT_LEG_MSC (sheet 1)**

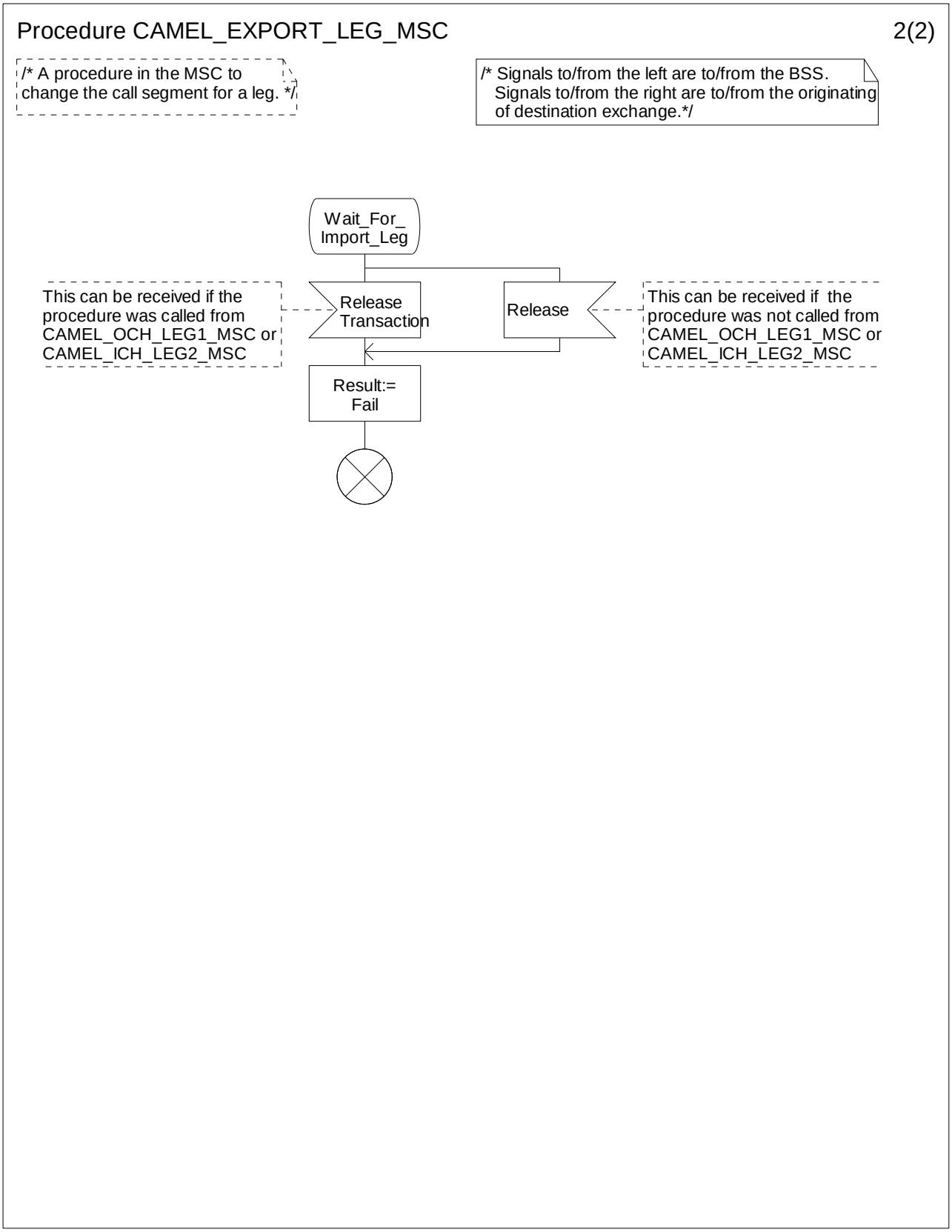


Figure Error! Reference source not found.**.2-2: Procedure CAMEL_EXPORT_LEG_MSC (sheet 2)**

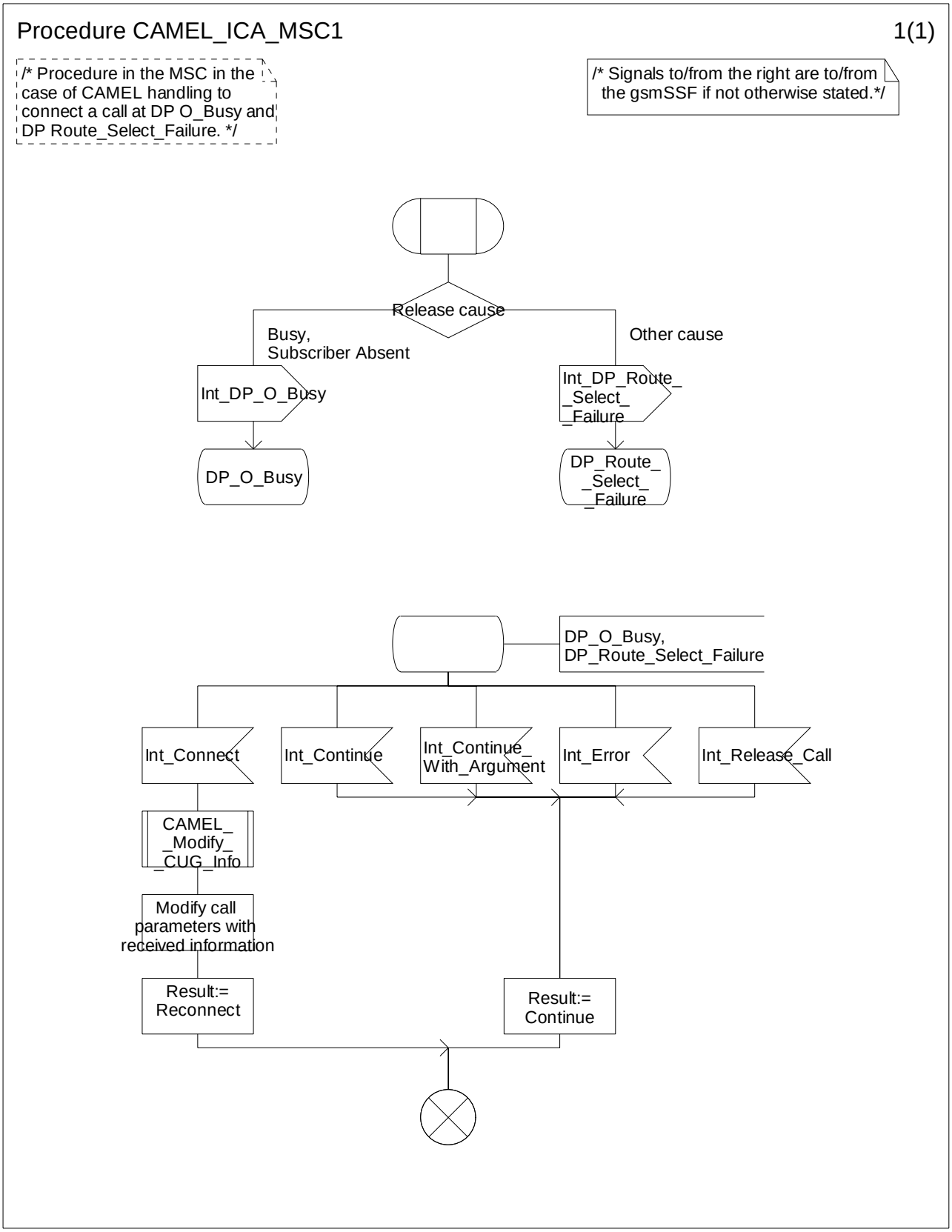


Figure Error! Reference source not found.**.3-1: Procedure CAMEL_ICA_MSC1 (sheet 1)**

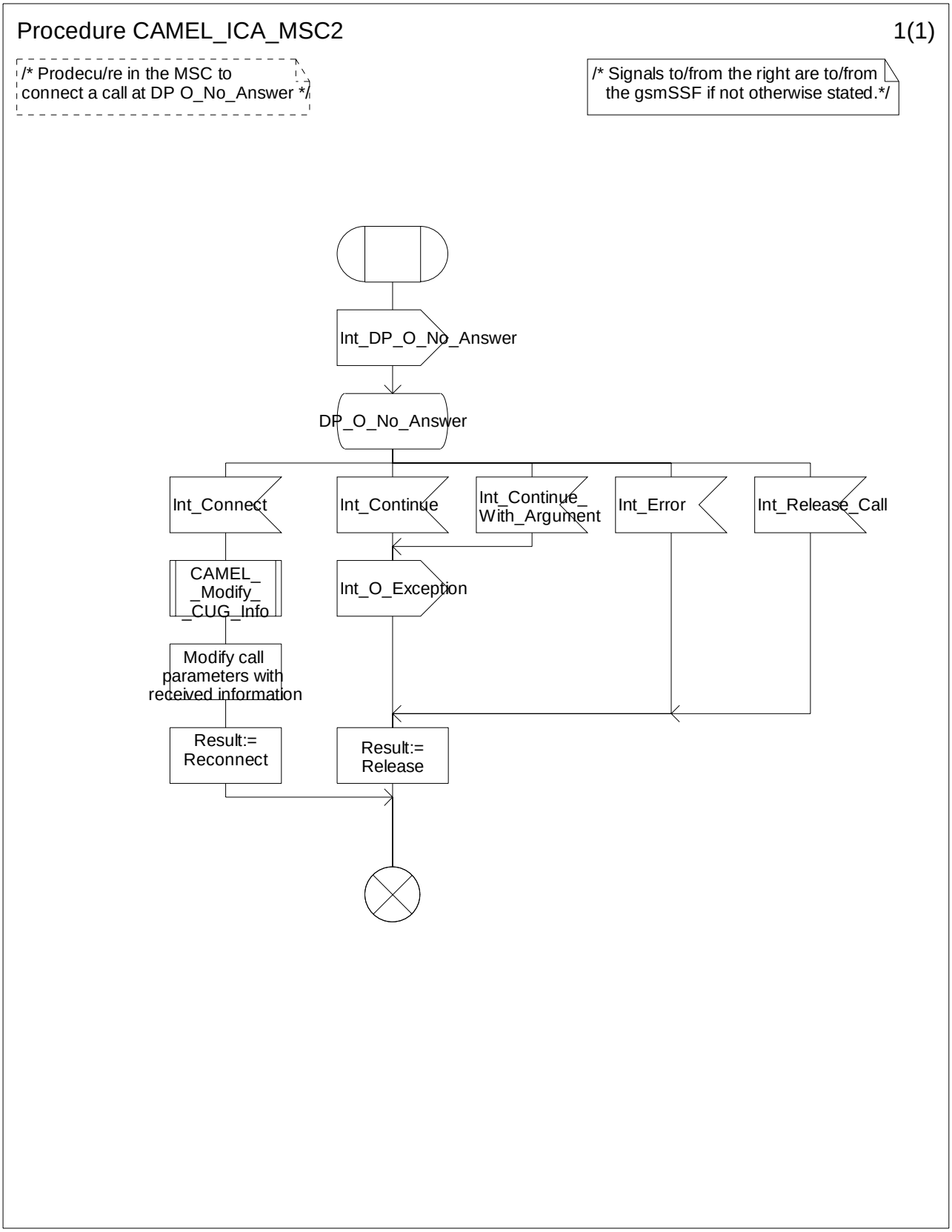


Figure Error! Reference source not found.**.4-1: Procedure CAMEL_ICA_MSC2 (sheet 1)**

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

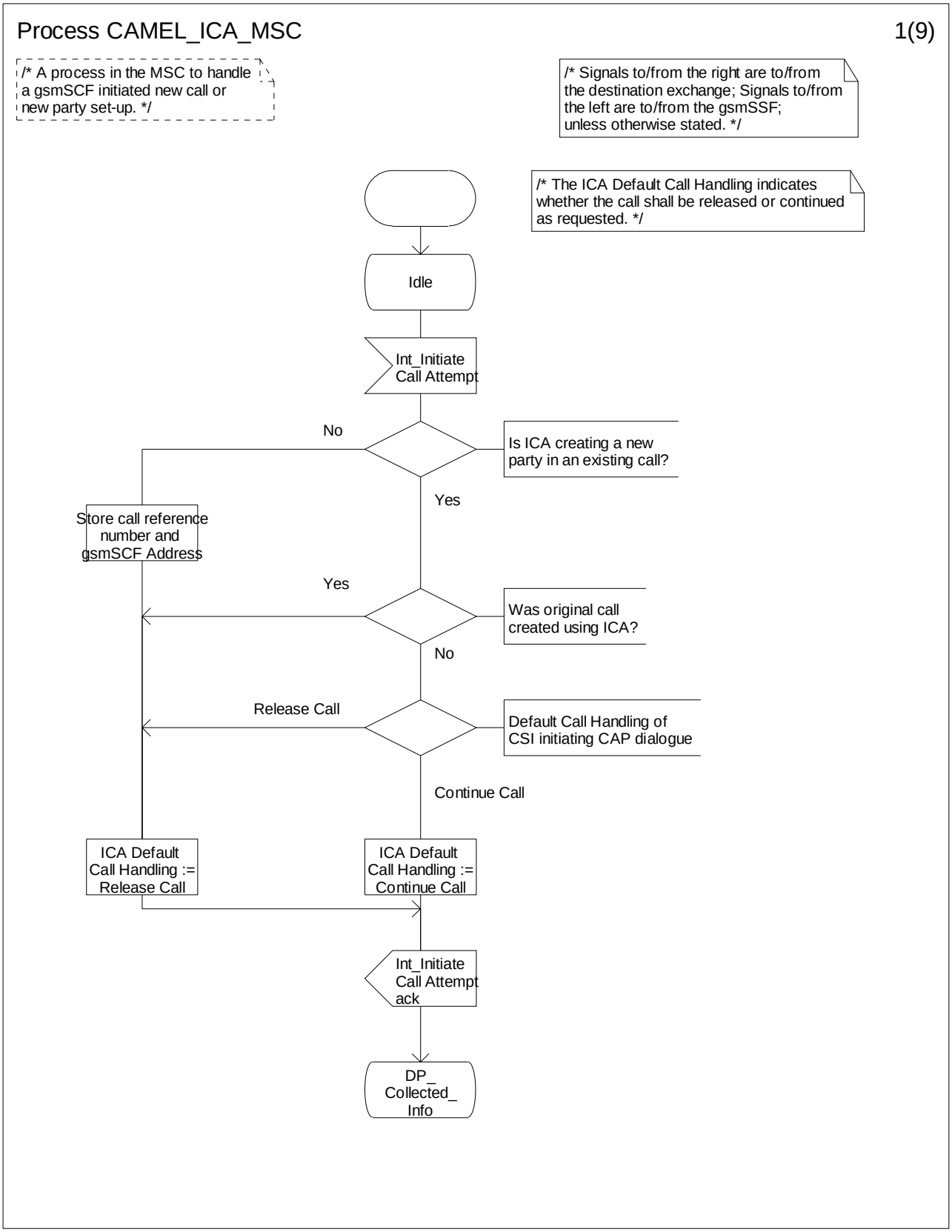


Figure Error! Reference source not found..**5-1: Process CAMEL_ICA_MSC (sheet 1)**

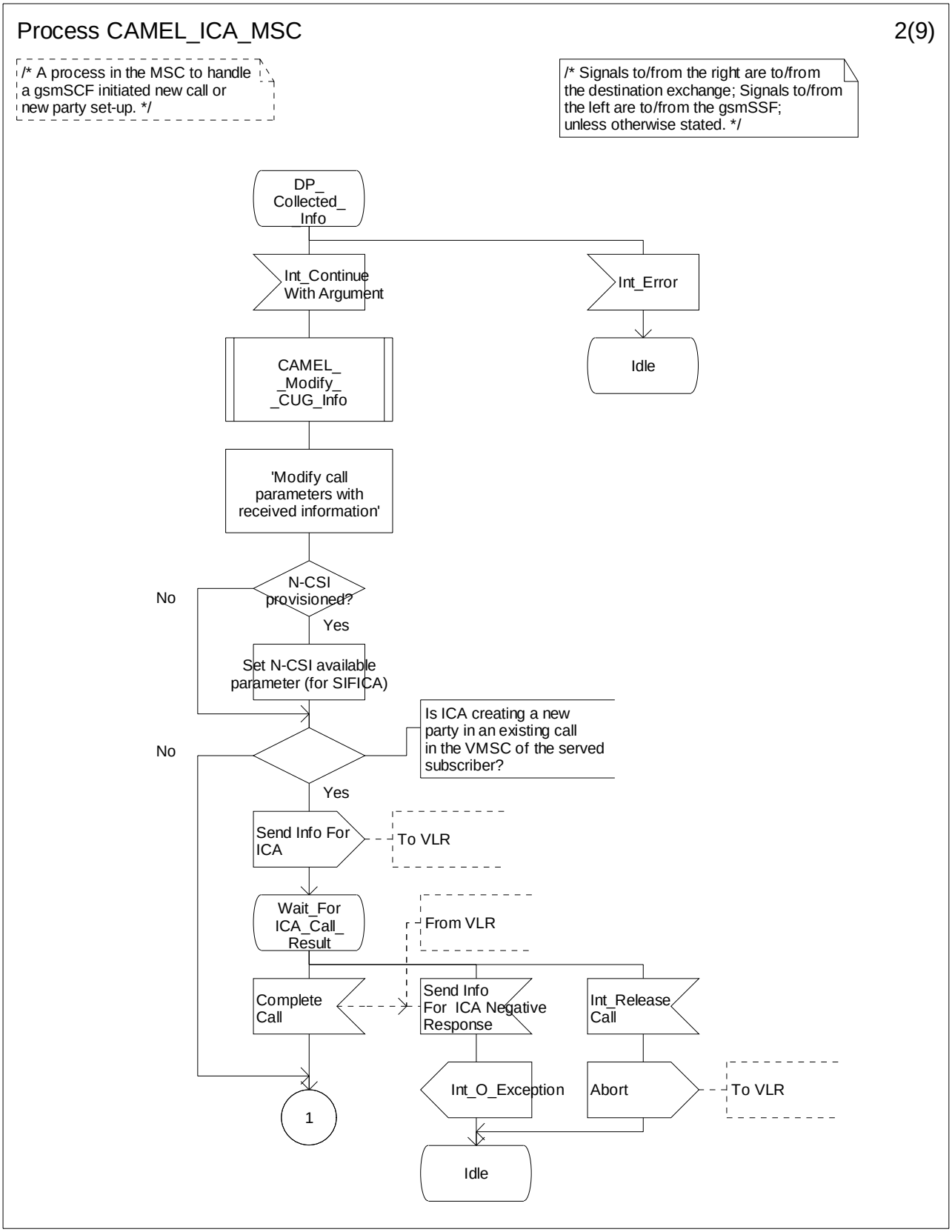


Figure Error! Reference source not found.**.5-2: Process CAMEL_ICA_MSC (sheet 2)**

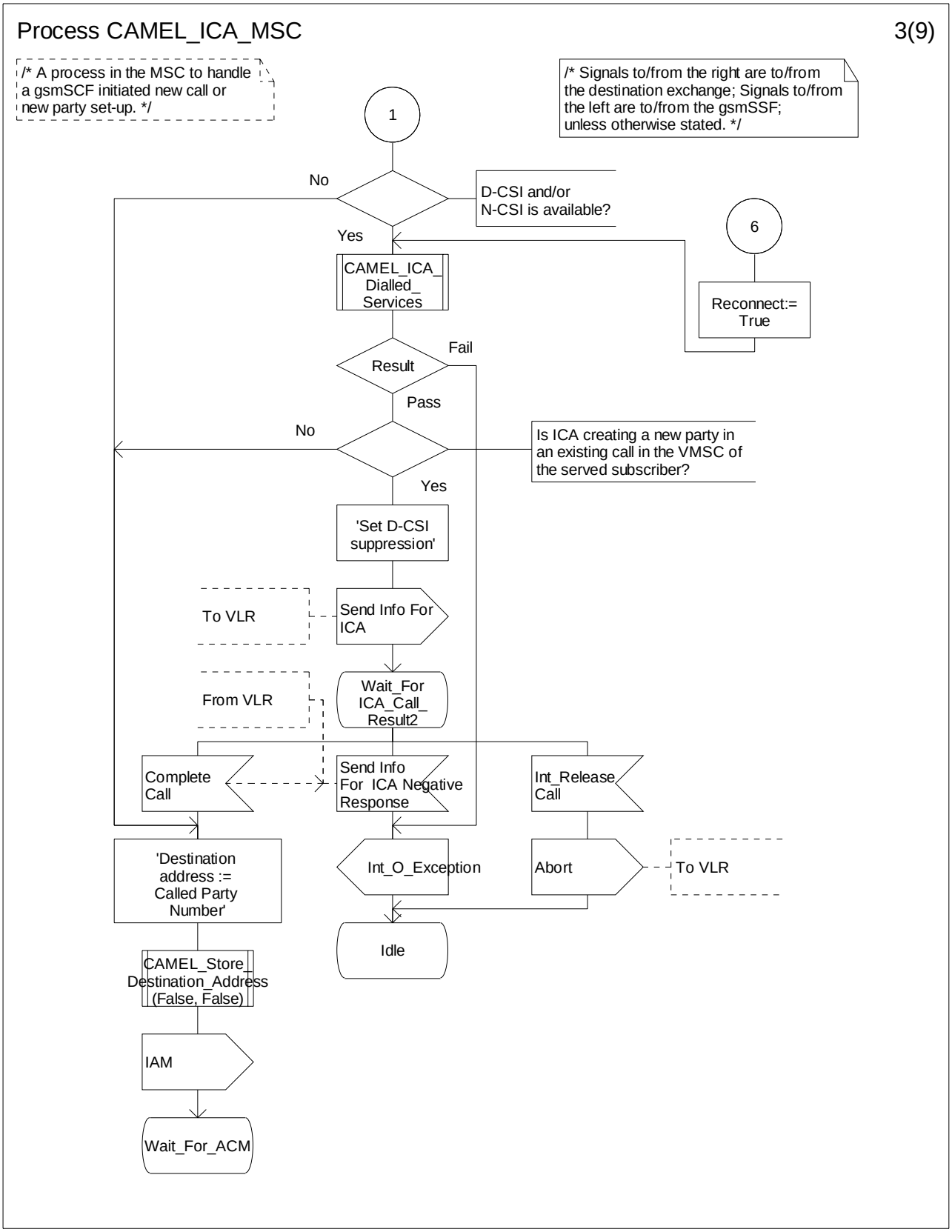


Figure Error! Reference source not found..**5-3: Process CAMEL_ICA_MSC (sheet 3)**

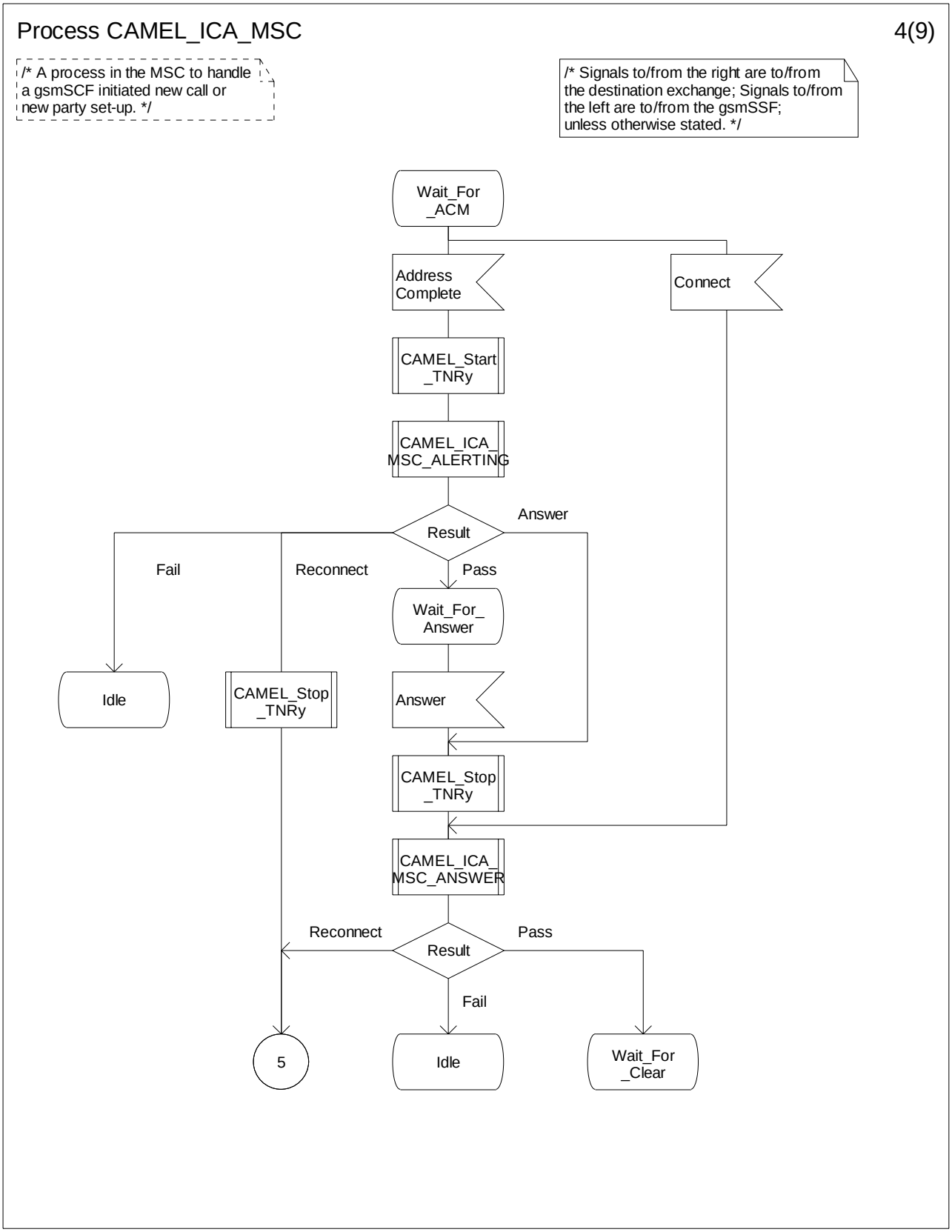
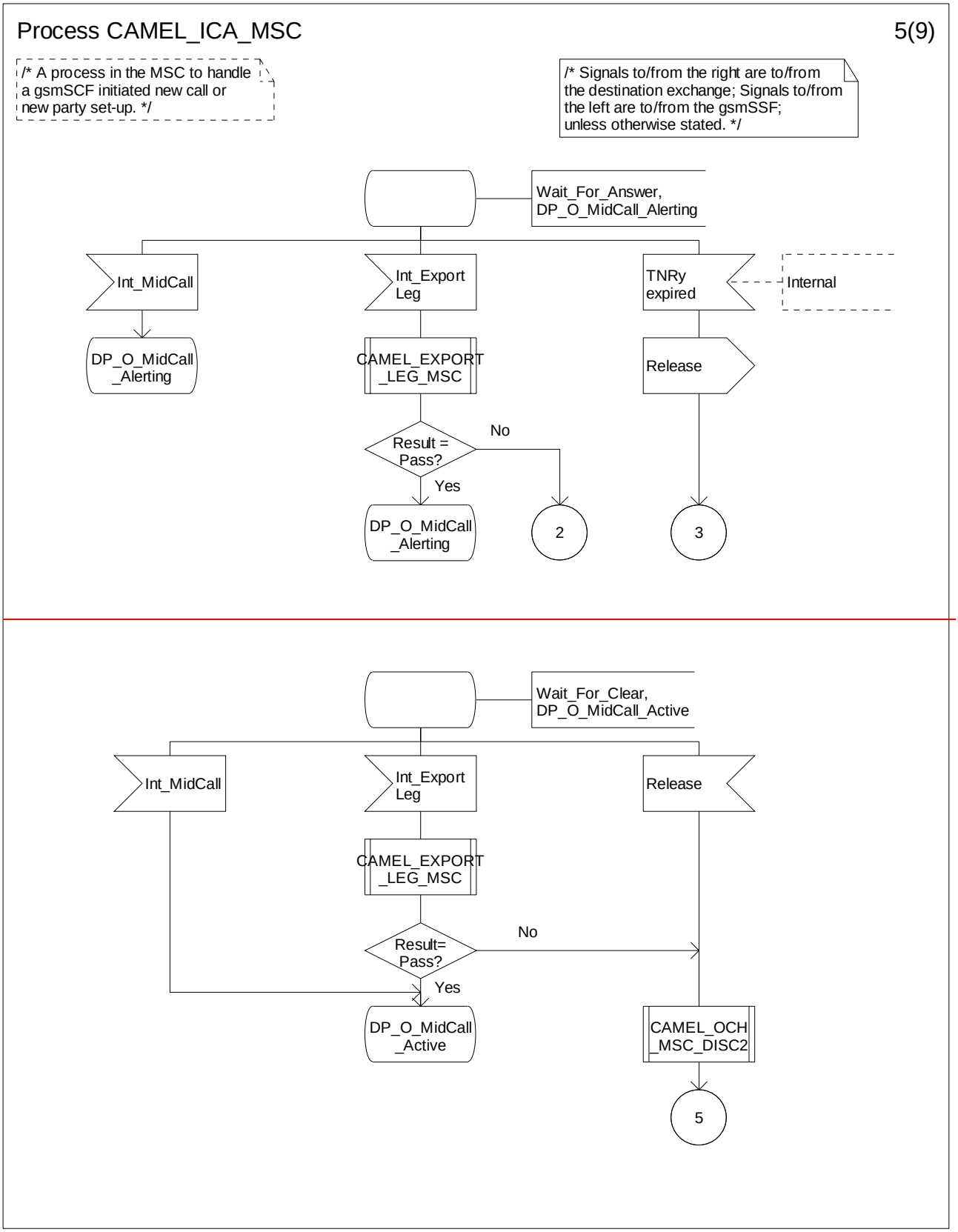


Figure Error! Reference source not found.**.5-4: Process CAMEL_ICA_MSC (sheet 4)**



~~Figure 4.86-5: Process CAMEL_ICA_MSC (sheet 5)~~

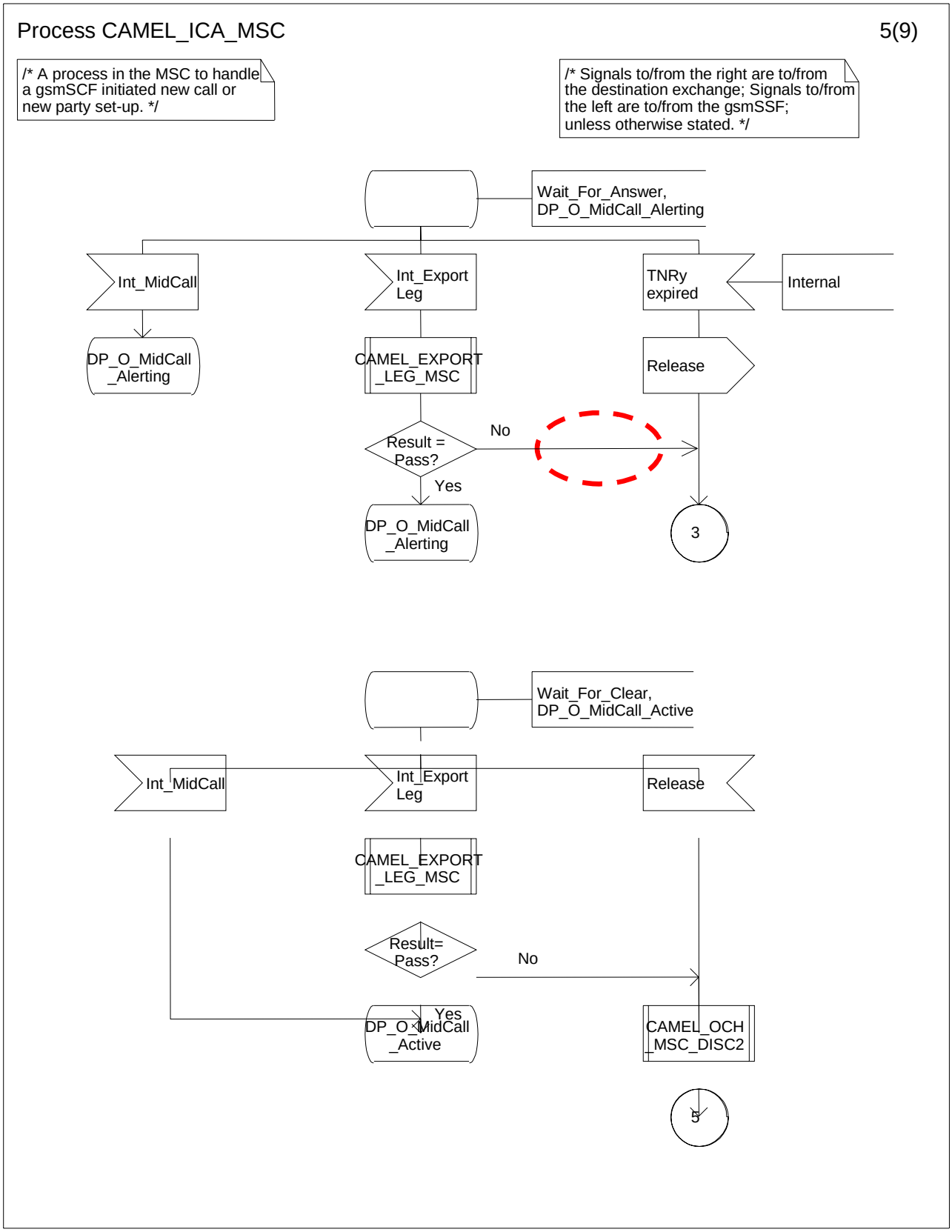


Figure Error! Reference source not found..**5-6: Process CAMEL_ICA_MSC (sheet 6)**

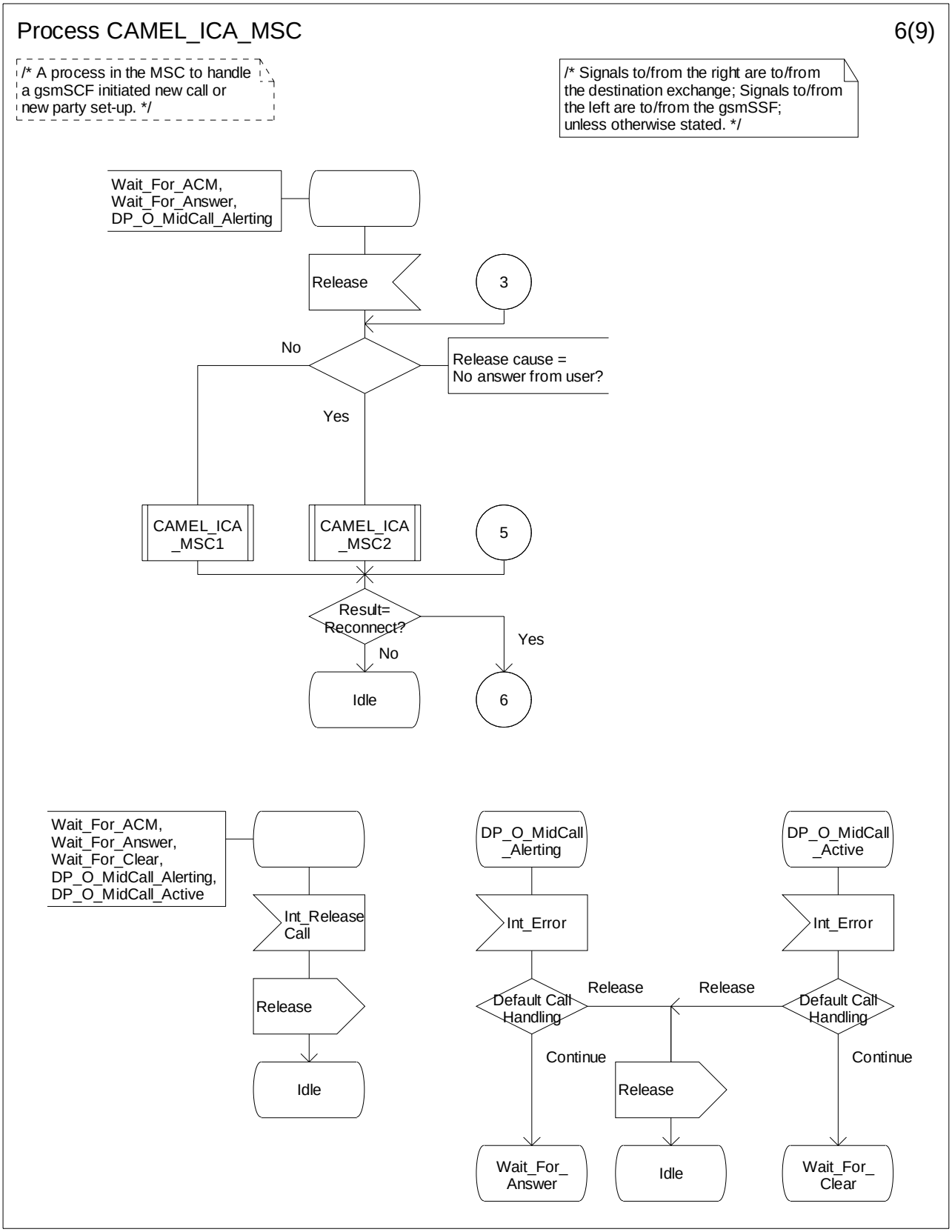


Figure Error! Reference source not found.**.5-7: Process CAMEL_ICA_MSC (sheet 7)**

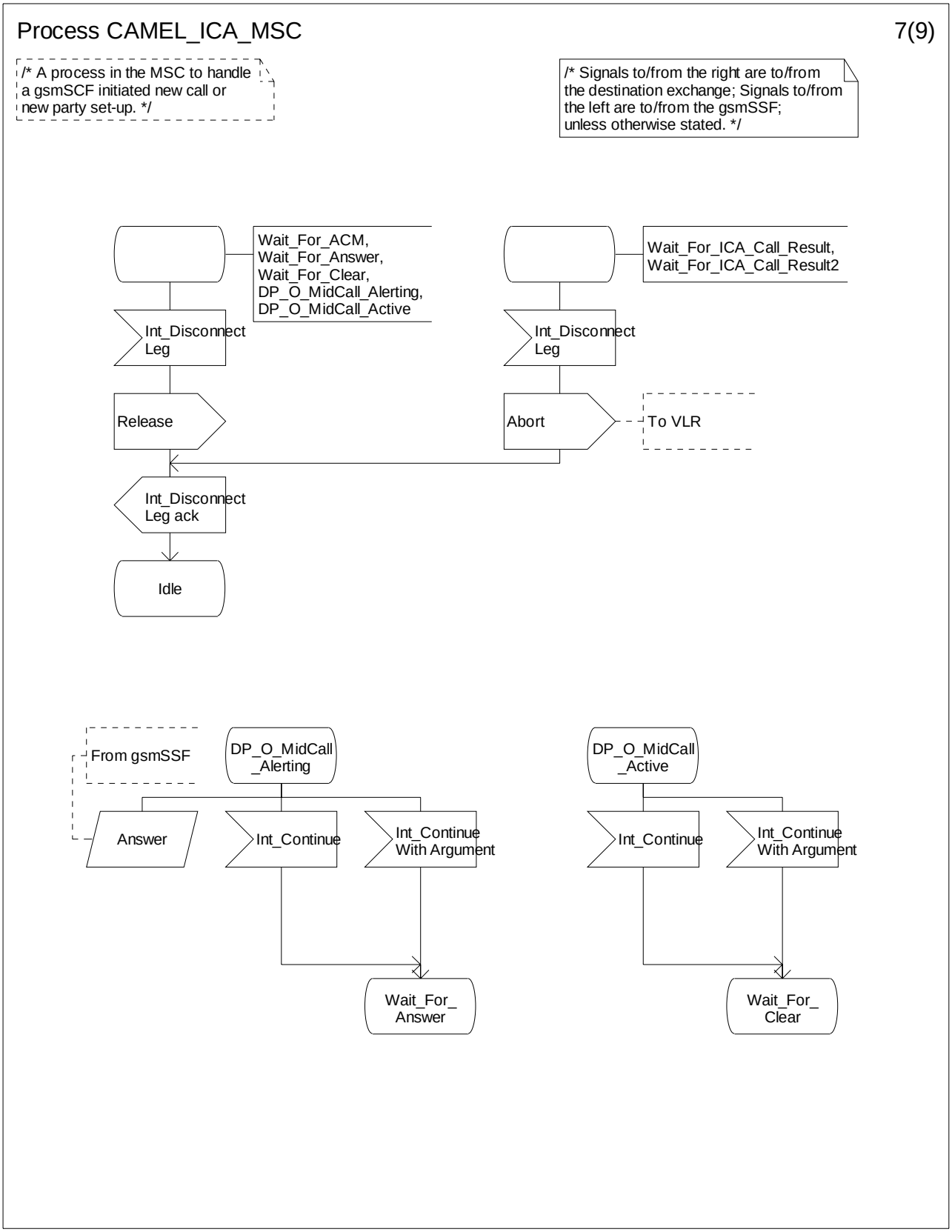


Figure Error! Reference source not found.**.5-8: Process CAMEL_ICA_MSC (sheet 8)**

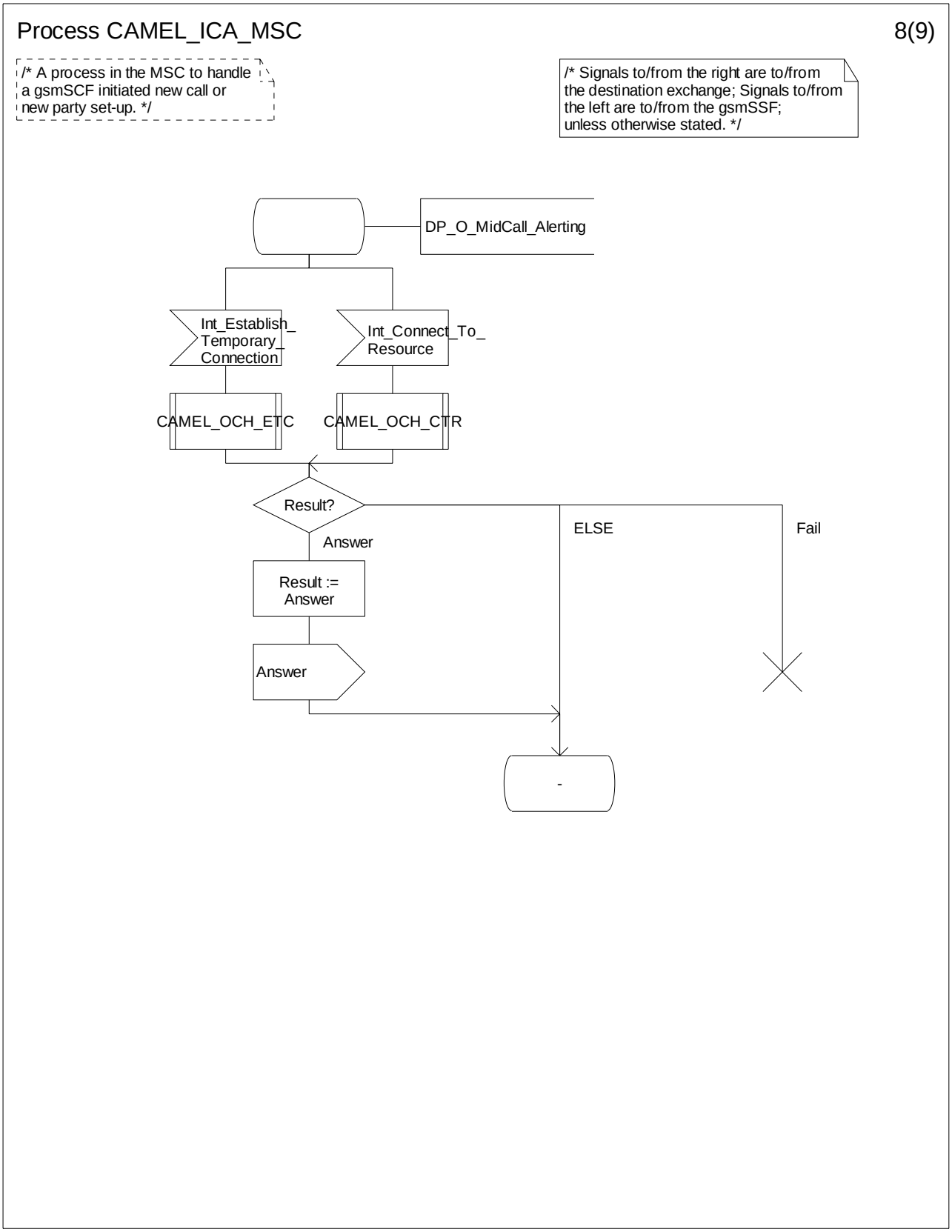


Figure Error! Reference source not found.**.5-9: Process CAMEL_ICA_MSC (sheet 9)**

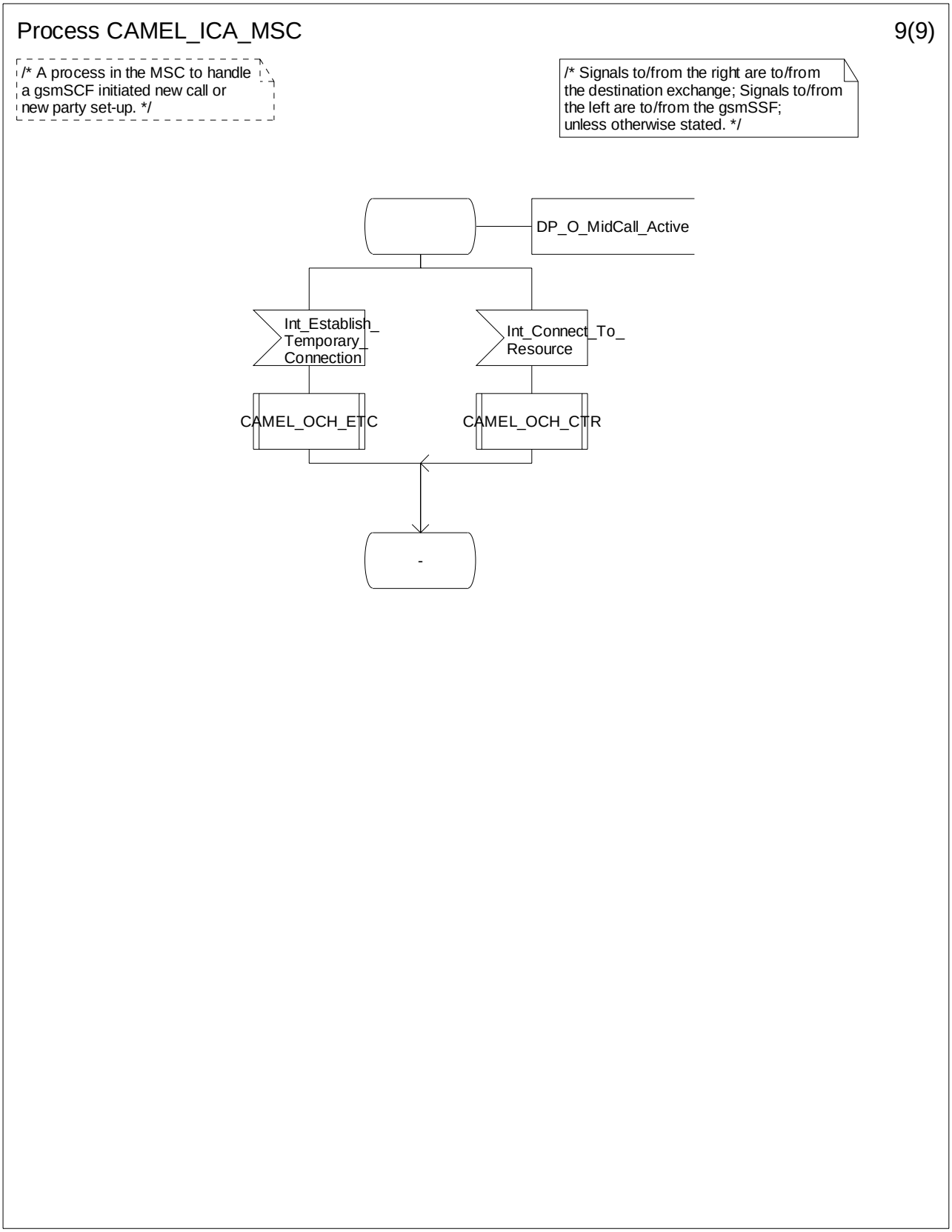


Figure Error! Reference source not found..**5-10: Process CAMEL_ICA_MSC (sheet 10)**

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

CHANGE REQUEST

⌘ **23.078** **CR** **702** ⌘ **rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to CAMEL_ICA_MSC (hanging connector)
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Refer to fig. 4.87-5, CAMEL_ICA_MSC. Output connector "2" has no corresponding input connector. It should be connected to connector 3 on sheet 6. Connector 3 on sheet 6 results in a check on the release cause; the release cause may indicate (1) No Answer or (2) Busy, Route Select Failure or other. The No_Answer handling is done in CAMEL_ICA_MSC2; the Busy handling etc. is done in CAMEL_ICA_MSC1.
Summary of change:	⌘	Correct figure 4.87-5: Process CAMEL_ICA_MSC
Consequences if not approved:	⌘	Unspecified behaviour for when Export Leg fails due to ISUP release from the destination exchange.

Clauses affected:	⌘	4.5.6.1: Figure 4.87 (Process CAMEL_ICA_MSC)

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

⌘

Other comments:	⌘	

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

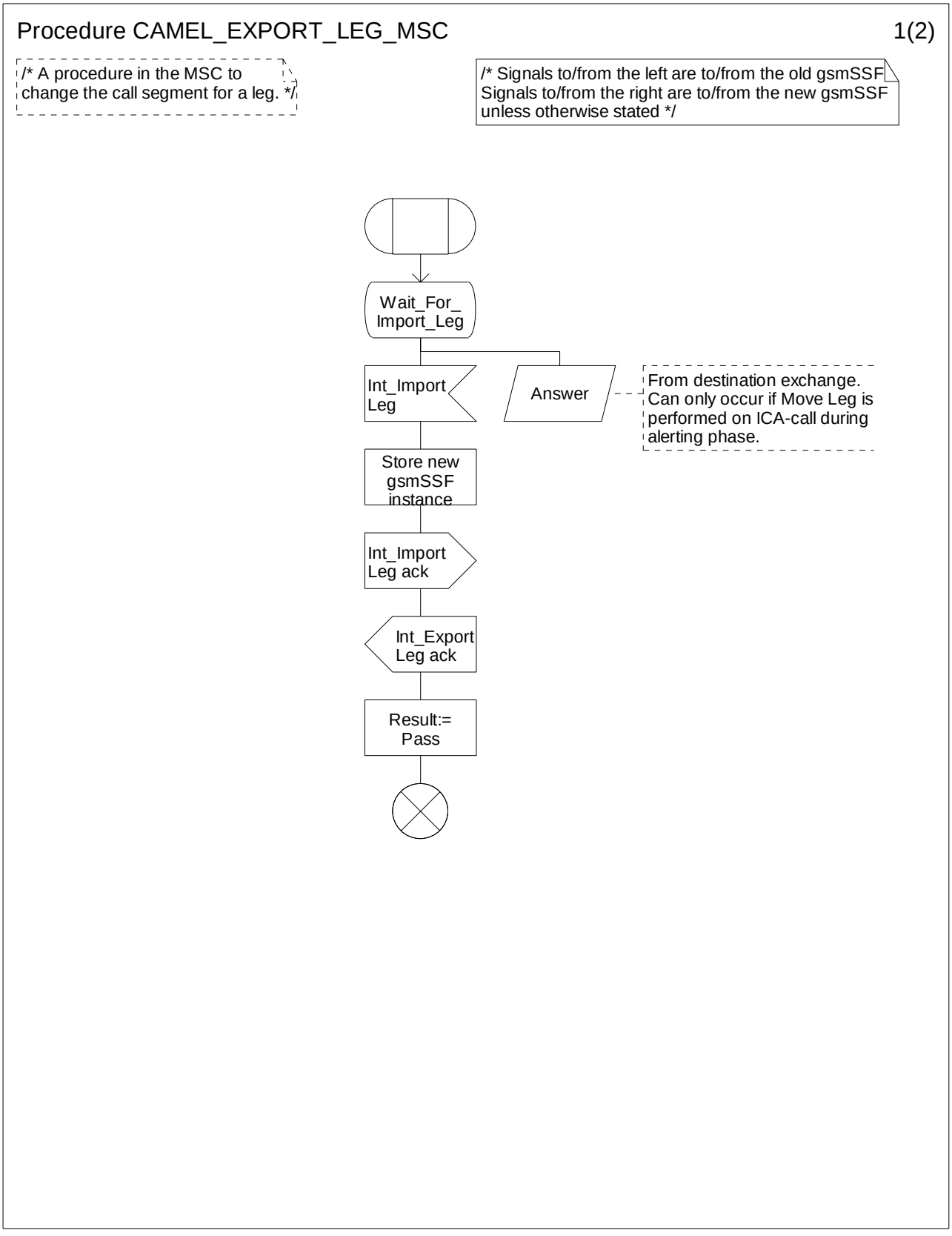


Figure 4.34-1: Procedure CAMEL_EXPORT_LEG_MSC (sheet 1)

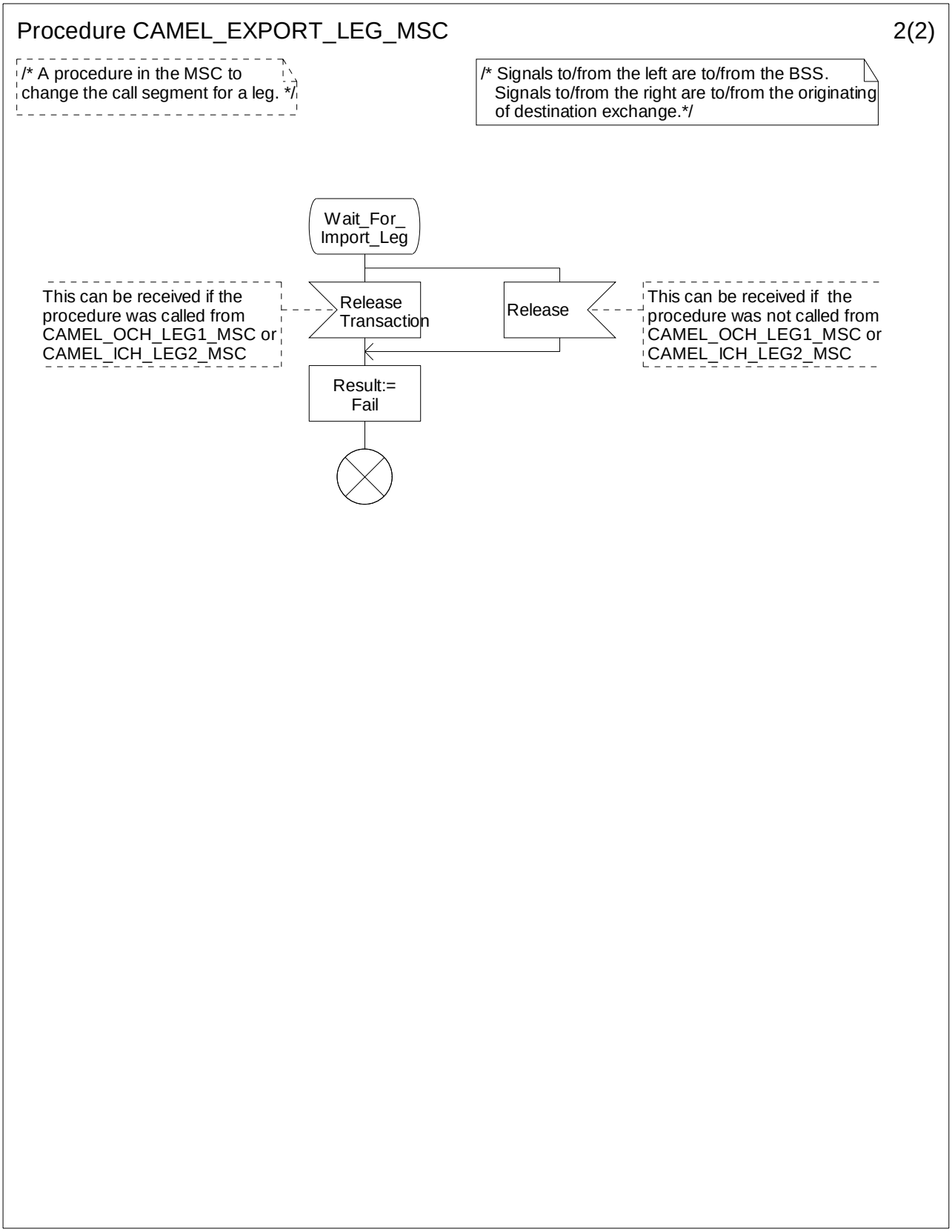


Figure 4.34-2: Procedure CAMEL_EXPORT_LEG_MSC (sheet 2)

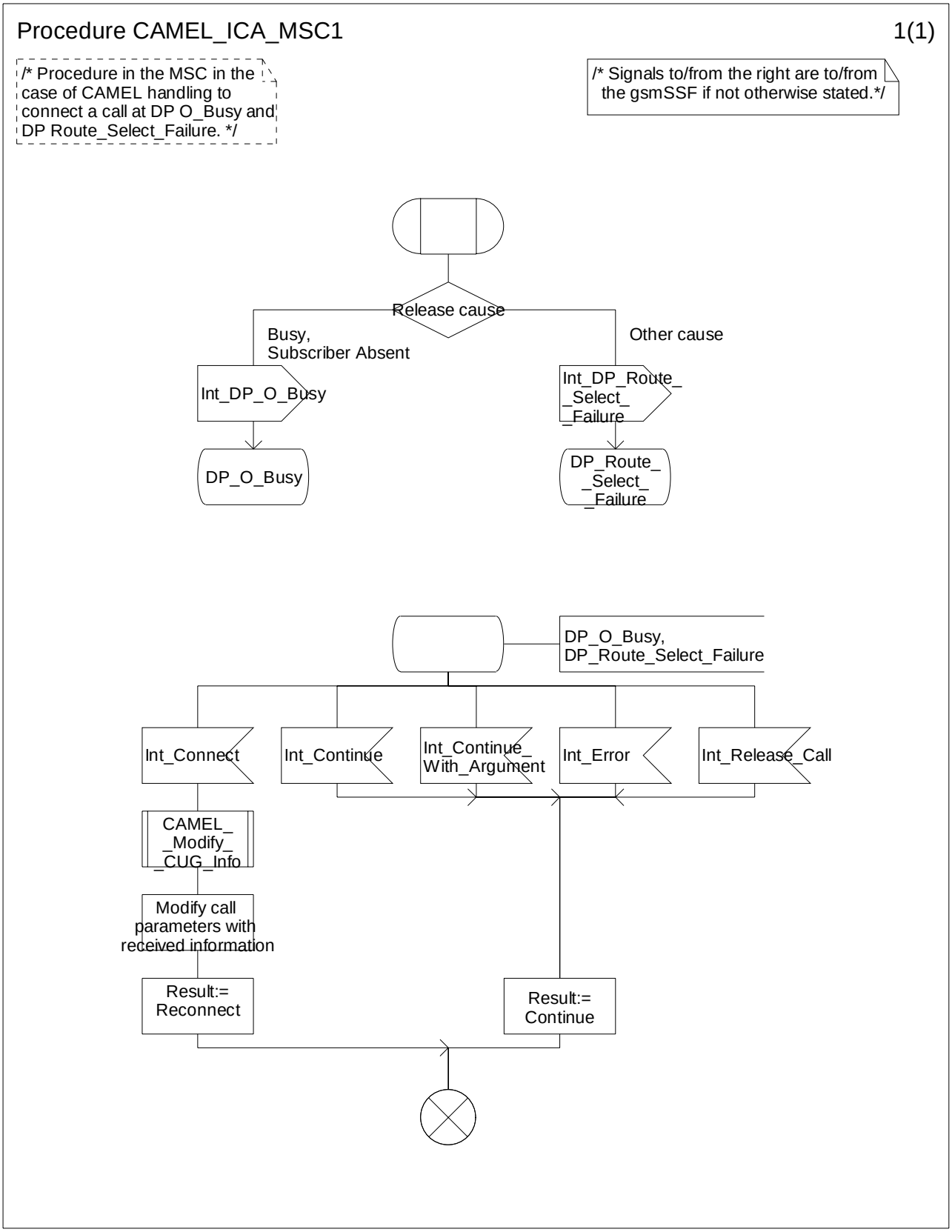


Figure 4.90-1: Procedure CAMEL_ICA_MSC1 (sheet 1)

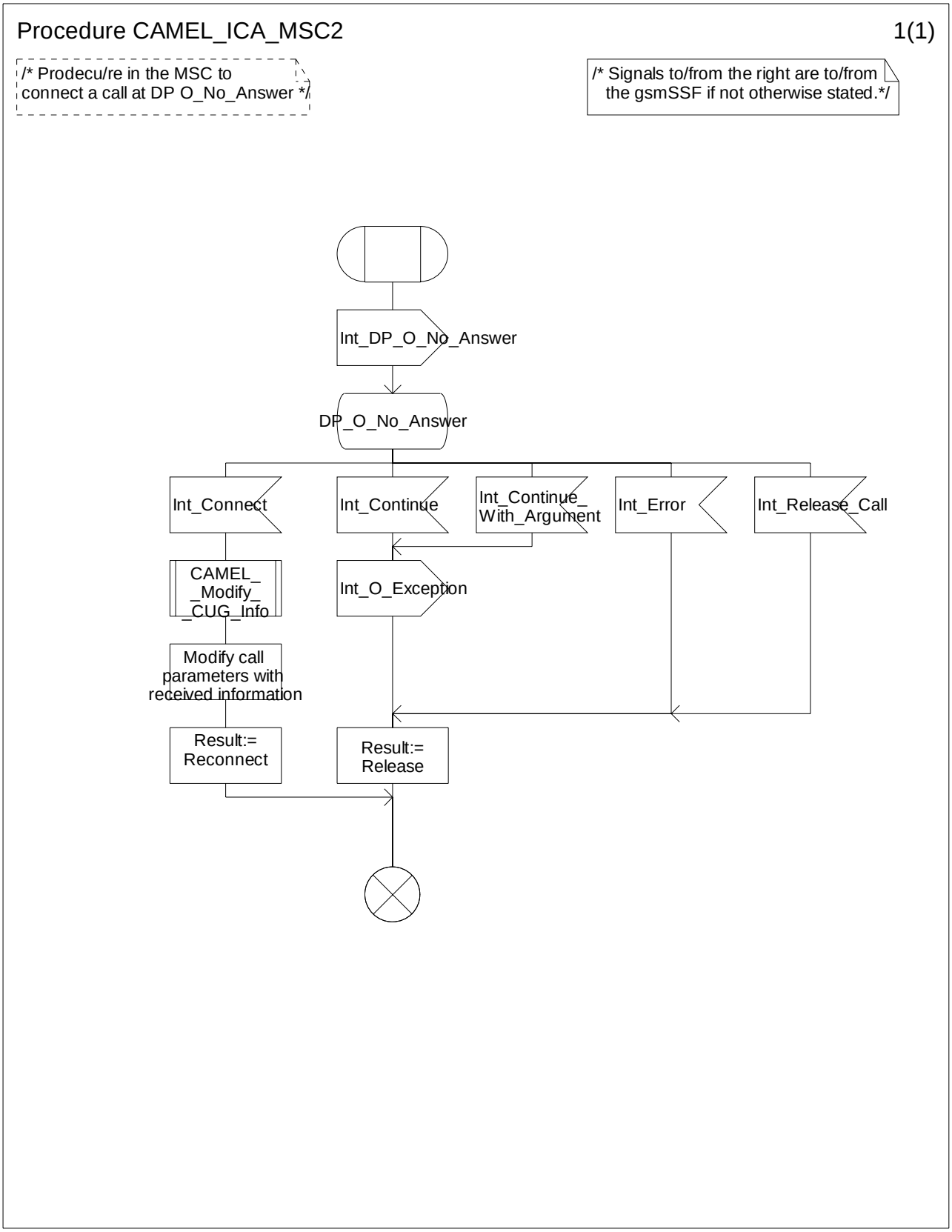


Figure 4.91-1: Procedure CAMEL_ICA_MSC2 (sheet 1)

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

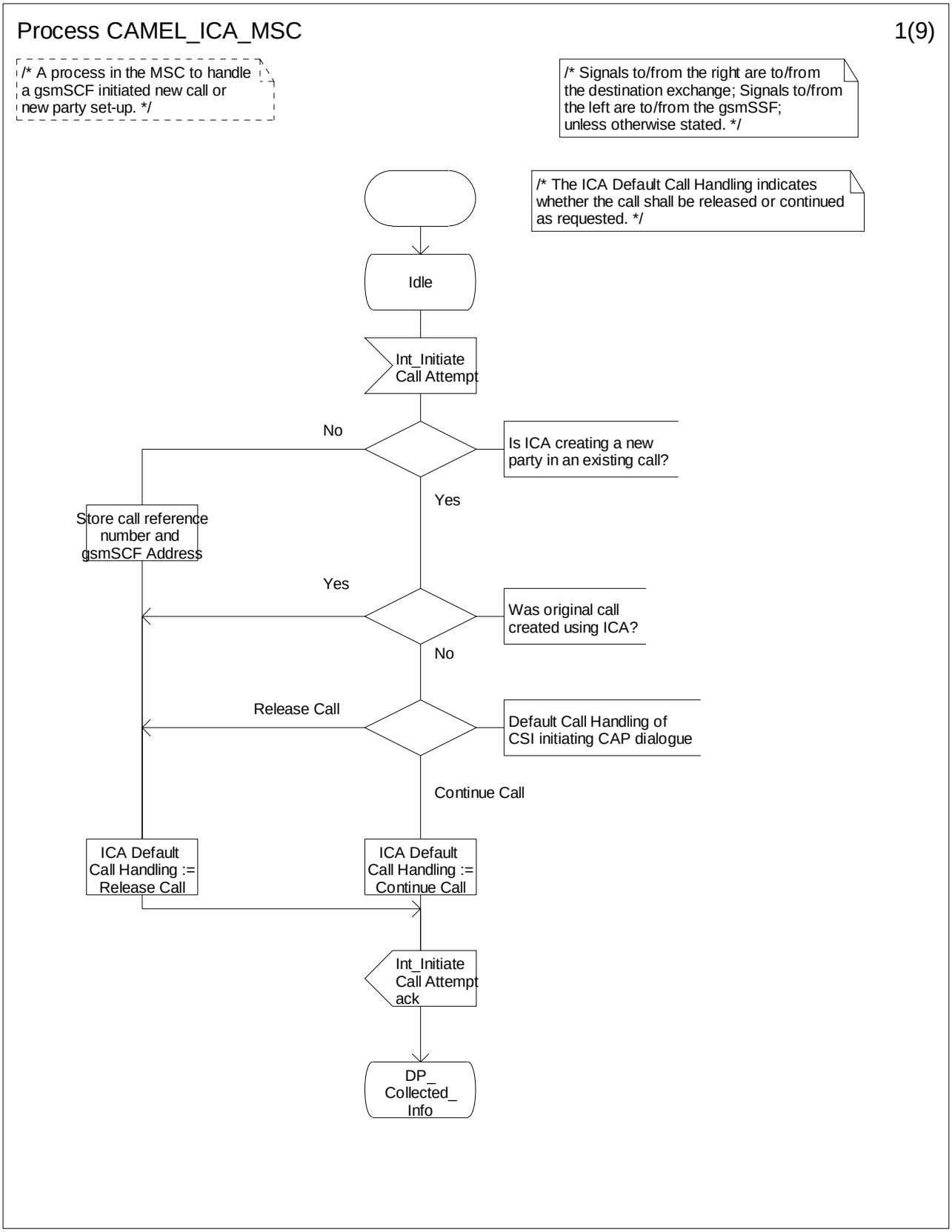


Figure 4.87-1: Process CAMEL_ICA_MSC (sheet 1)

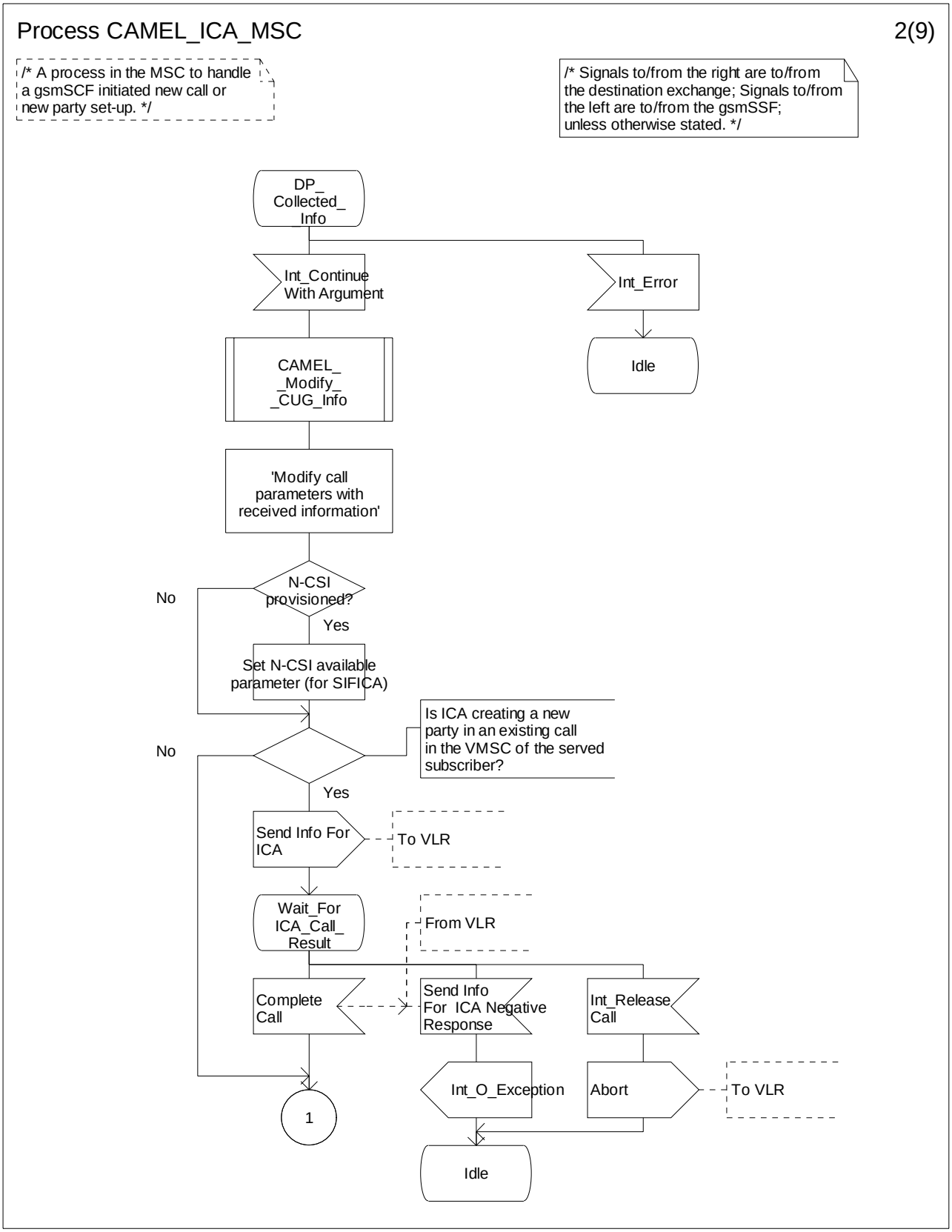


Figure 4.87-2: Process CAMEL_ICA_MSC (sheet 2)

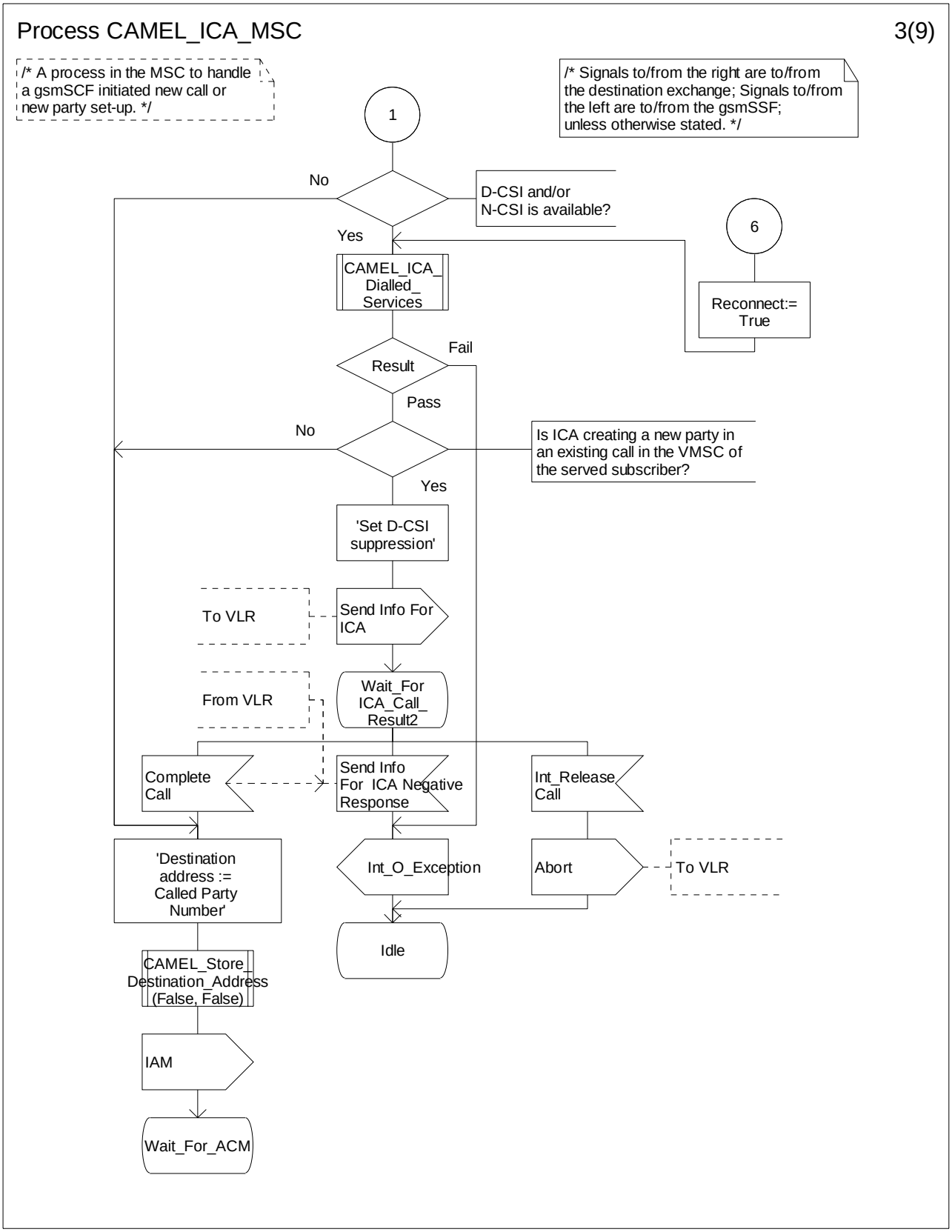


Figure 4.87-3: Process CAMEL_ICA_MSC (sheet 3)

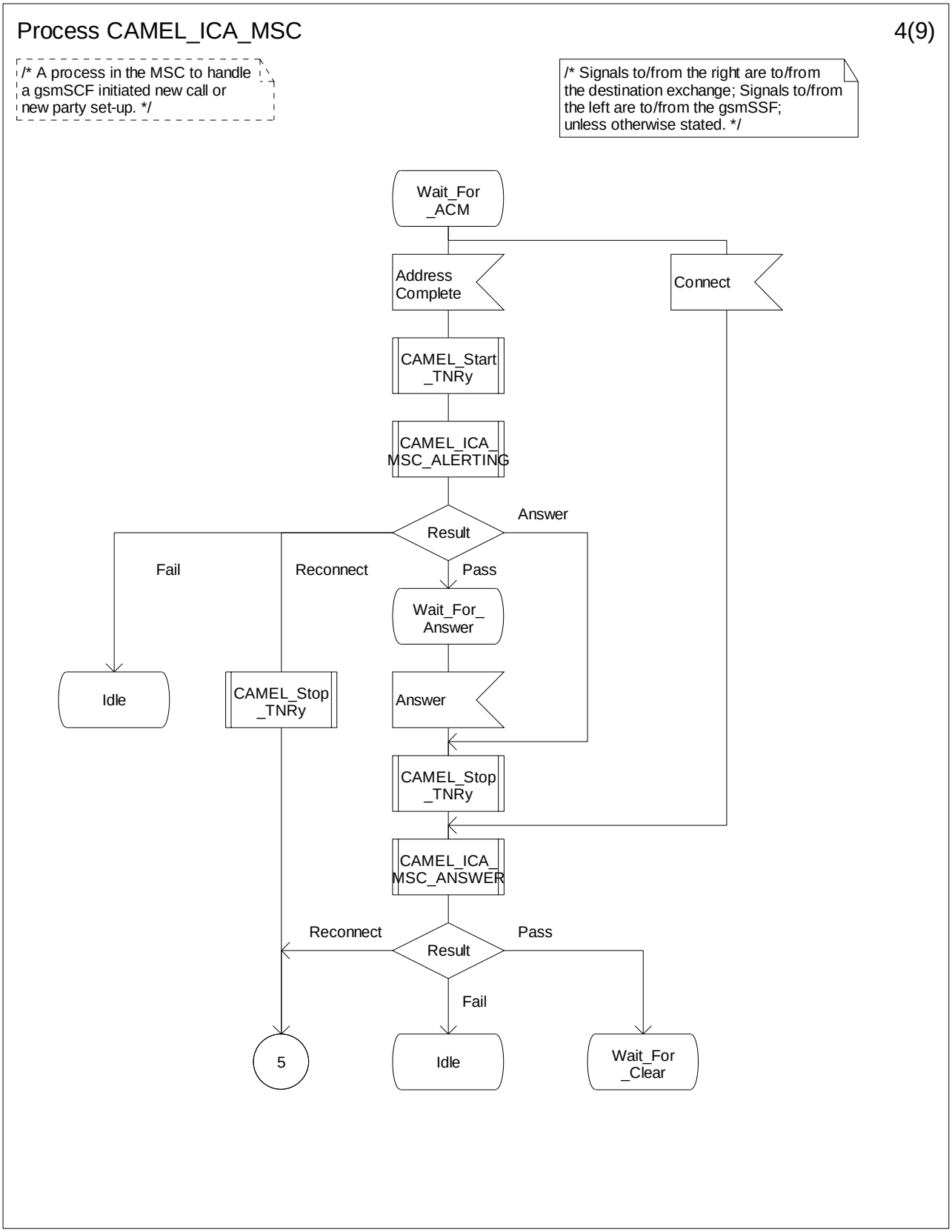
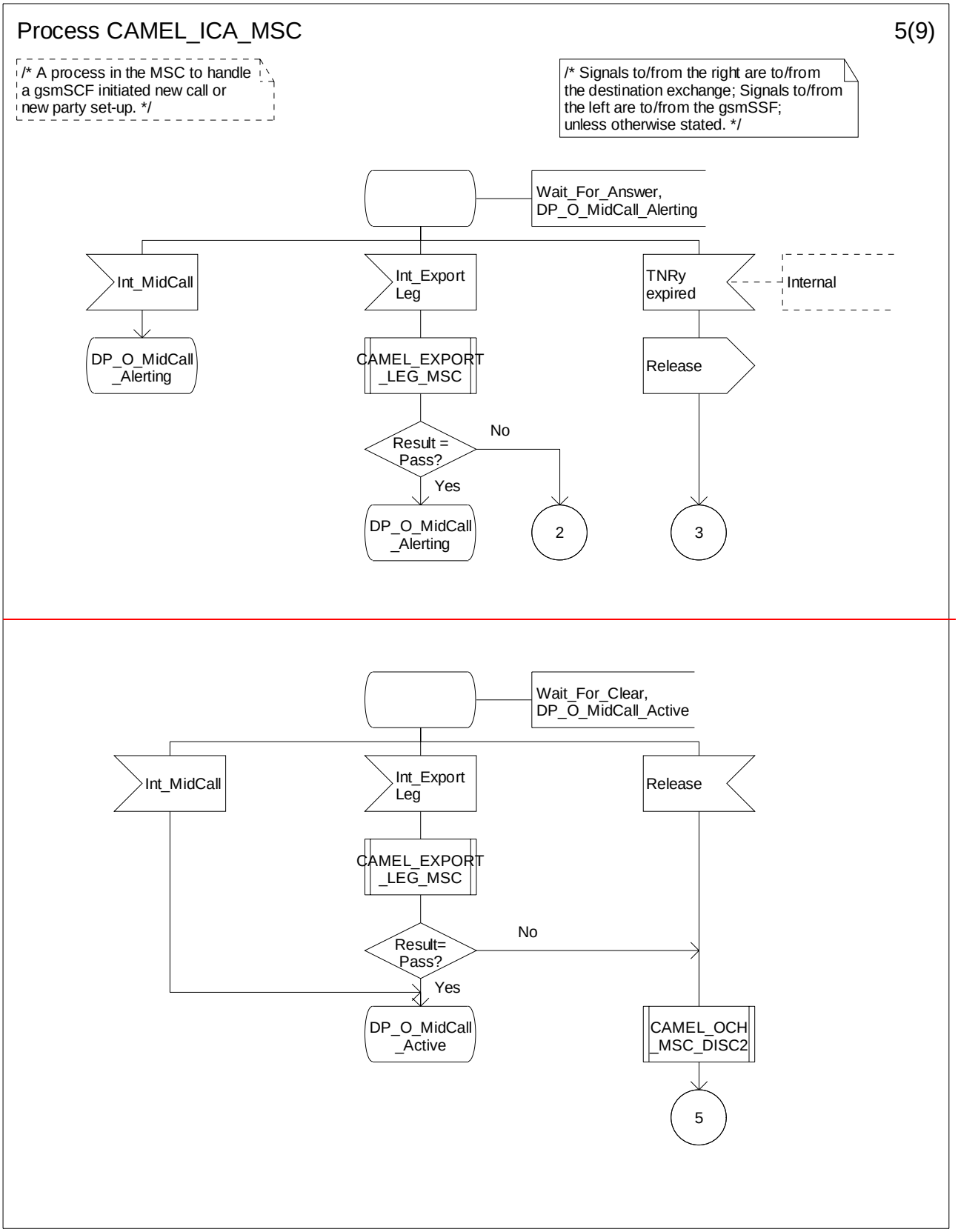


Figure 4.87-4: Process CAMEL_ICA_MSC (sheet 4)



~~Figure 4.87-5: Process CAMEL_ICA_MSC (sheet 5)~~

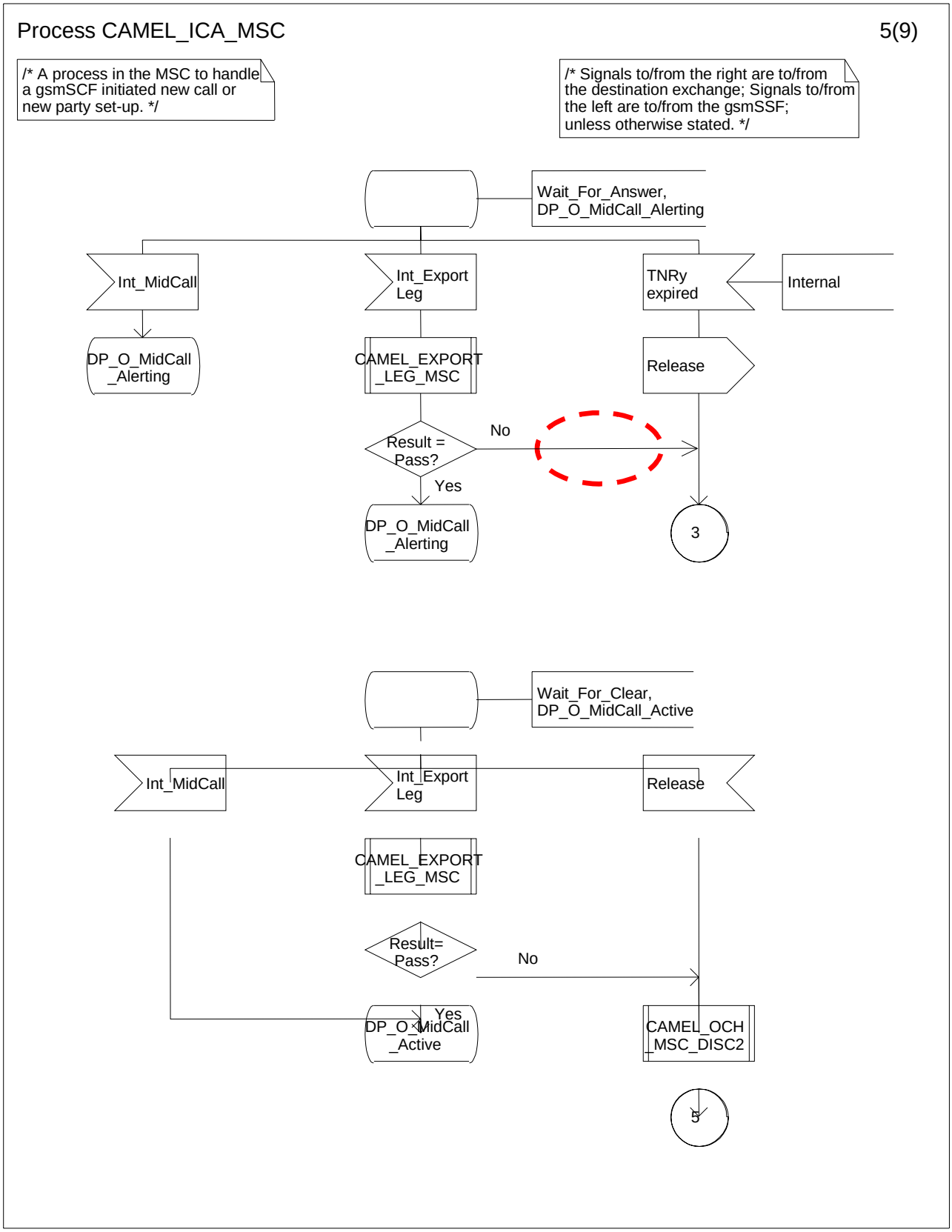


Figure 4.87-5: Process CAMEL_ICA_MSC (sheet 5)

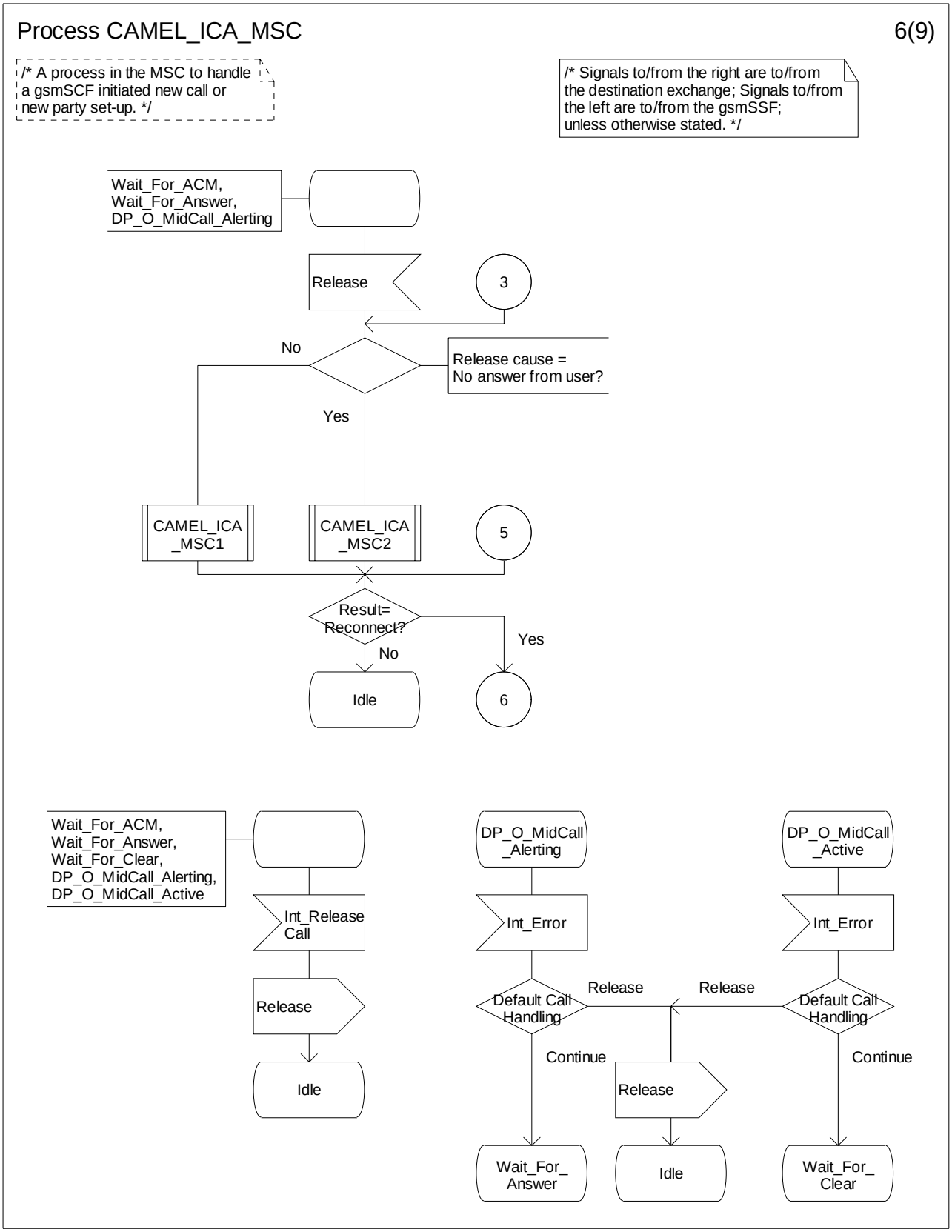


Figure 4.87-6: Process CAMEL_ICA_MSC (sheet 6)

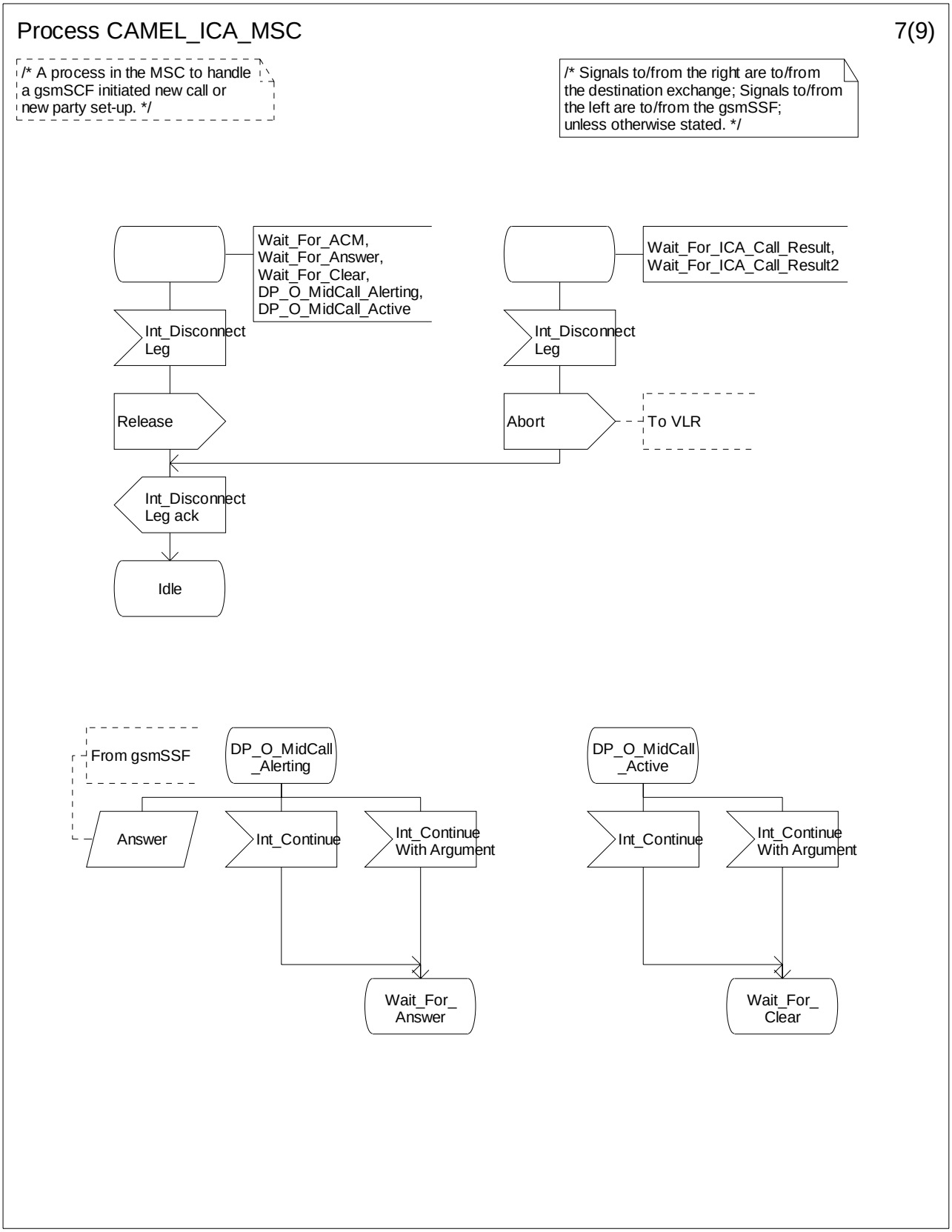


Figure 4.87-7: Process CAMEL_ICA_MSC (sheet 7)

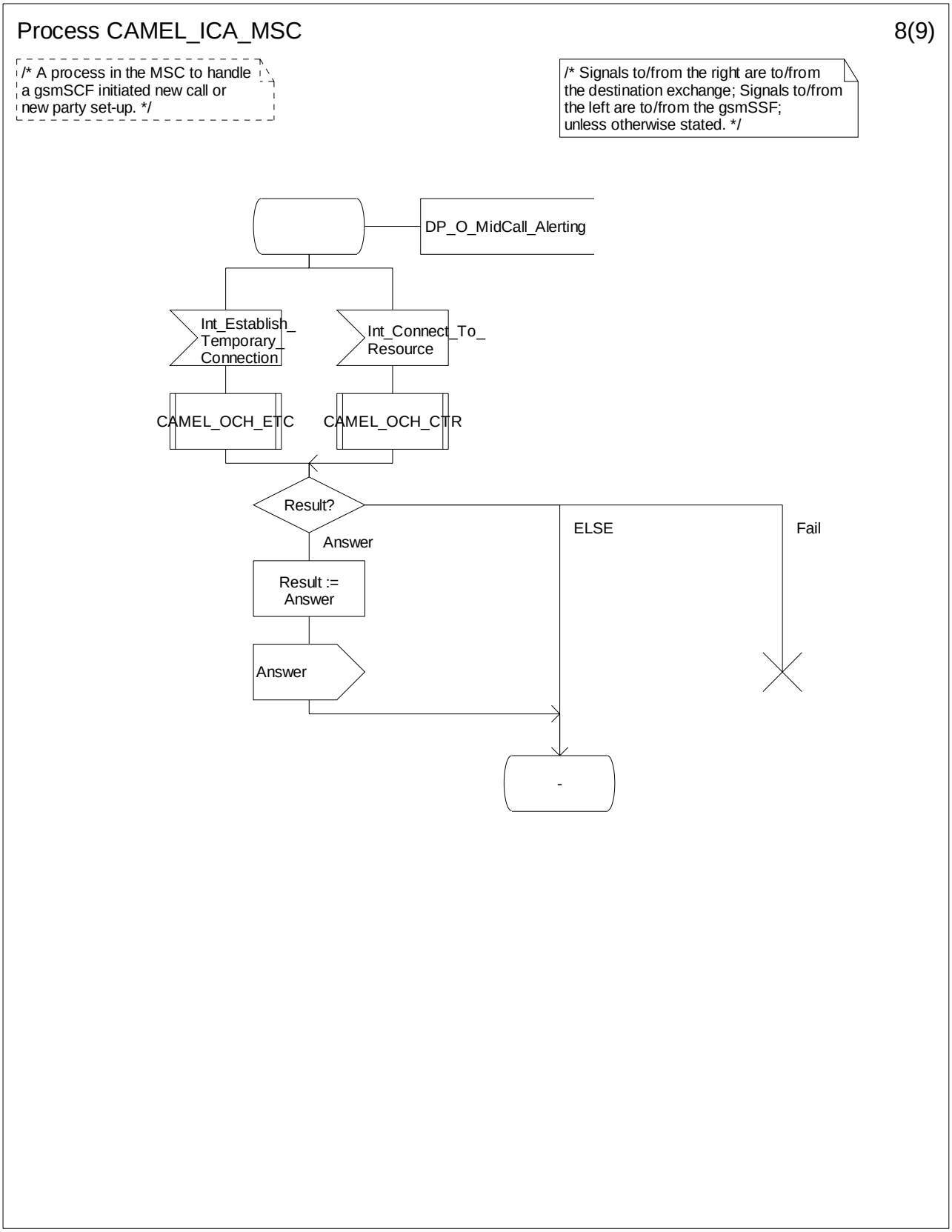


Figure 4.87-8: Process CAMEL_ICA_MSC (sheet 8)

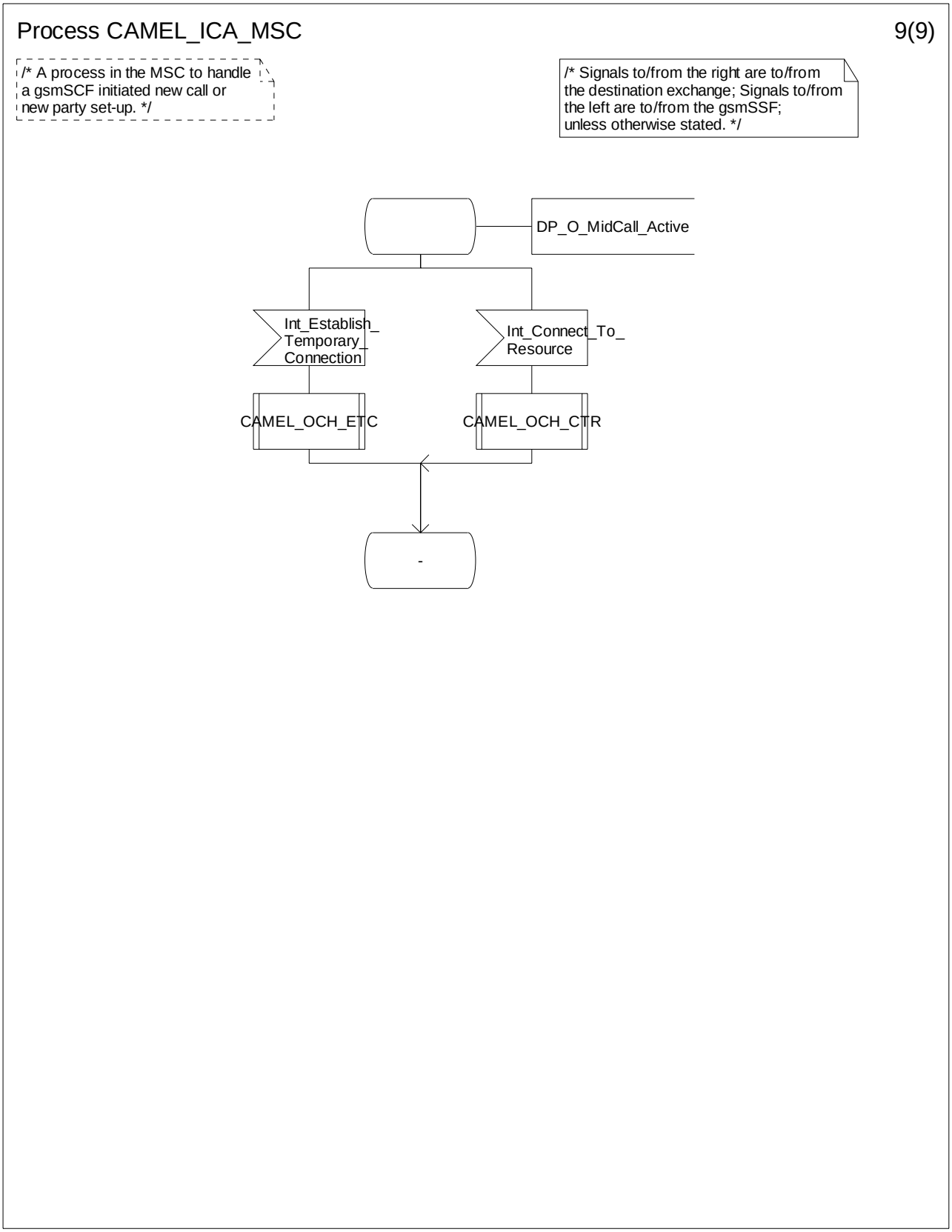


Figure 4.87-9: Process CAMEL_ICA_MSC (sheet 9)

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

3GPP TSG CN WG2 Meeting #32 N2-040134
Atlanta, USA, 16th – 20st February 2004

CHANGE REQUEST

⌘ **23.078** **CR** **662** ⌘ **rev** **1** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to DP description tables
Source:	⌘	Alcatel,Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-17
Category:	⌘	F (essential corection)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

The DP description tables, table 4.2 and table 4.3, do not specify that the DPs O_Change_of_Position and T_Change_of_Position are applicable in the VMSC of the served subscriber only.

For the DPs O_Mid_Call and T_Mid_Call, this is specified explicitly, by means of a note underneath the table.

The present CR proposes that a similar note be included for the DPs O_Change_of_Position and T_Change_of_Position.

It shall be borne in mind that the information flow Event Report BCSM does not provide an explicit indication that O_Change_of_Position and T_Change_of_Position are not applicable in other calls than MO and VT. Refer to the highlighted text in the “for information” section of the present CR.

- the DPs Call_Accepted and O_Term_Seized may be armed and reported in all call cases. However, the inclusion of Location Information in the event report of these DPs is applicable only for MO and VT call, as indicated in the table;
- the DPs O_Change_Of_Position and T_Change_Of_Position are not applicable to other call cases than MO and VT.

Therefore, the above proposed explicit indication in the DP tables is required.

Summary of change: ⌘ Include an additional note in table 4.2 and 4.3, as described above.

Consequences if not approved: ⌘ As these tables do not clearly speficy the conditions of DP O/T_Change_of_Position triggering , this may induce misinterpretations and

	leads to interworking problems.

Clauses affected:	⌘	4.4.2, 4.4.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *For Information* ***

4.6.1.6 Event Report BCSM

4.6.1.6.1 Description

This IF is used to notify the gsmSCF of a call-related event (i.e. BCSM events as answer and disconnect) previously requested by the gsmSCF in a Request Report BCSM Event IF.

4.6.1.6.2 Information Elements

4.6.1.6 Event Report BCSM

4.6.1.6.1 Description

This IF is used to notify the gsmSCF of a call-related event (i.e. BCSM events as answer and disconnect) previously requested by the gsmSCF in a Request Report BCSM Event IF.

4.6.1.6.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
Event Type BCSM	M	M	M	M	M	M	This IE specifies the type of event that is reported.
Event Specific Information BCSM	C	C	C	C	C	C	This IE indicates the call related information specific to the event.
Leg ID	M	M	M	M	M	M	This IE indicates the party in the call for which the event is reported.
Misc Call Info	M	M	M	M	M	M	This IE indicates the DP type.

If the Event Type BCSM IE contains either O_Answer or T_Answer, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Destination Address	M	M	M	M	M	M	This IE specifies the destination address for the call leg. The *NatureOfAddress indicator* may contain a national-specific value. For some national-specific *NatureOfAddress indicator* values the length of the digit part of destination address may be zero.
OR	-	C	C	-	-	-	This IE indicates that the call was subject to basic Optimal Routeing as specified in 3GPP TS 23.079 [**Error! Reference source not found.**].
Forwarded Call	-	M	C	C	-	-	This IE indicates that the call has been subject to a Call Forwarding supplementary service.
Charge Indicator	S	S	S	S	S	S	This IE specifies the value which will be stored in the Call Data Record. See ITU-T Recommendation Q.763 [**Error! Reference source not found.**].
Ext-Basic Service Code	S	S	S	S	-	-	This IE is used for SCUDIF calls. It indicates the type of basic service, i.e. teleservice or bearer service. It indicates the service active at answer for the SCUDIF call (as defined in 3GPP TS 23.172 [**Error! Reference source not found.**]).
Ext-Basic Service Code 2	S	S	S	S	-	-	This IE is used for SCUDIF calls. It indicates the type of basic service, i.e. teleservice or bearer service. It indicates the service which is not active at answer for the

Information element name	MO	MF	MT	VT	NC	NP	Description
							SCUDIF call (as defined in 3GPP TS 23.172 [**Error! Reference source not found.**]). It shall be present if the negotiation of the SCUDIF services resulted in both basic services for the SCUDIF call. Otherwise shall be absent.

If the Event Type BCSM IE contains either O_Mid_Call or T_Mid_Call, then the Event Specific Information BCSM IE contains the following information element:

Information element name	MO	MF	MT	VT	NC	NP	Description
Midcall Info	M	-	-	M	-	-	This IE is described in a table below.

MidCall Info contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
DTMF Digits Completed	S,E	-	-	S,E	-	-	This IE contains the detected mid-call digits. This IE shall be present when triggering takes place after the minimum number of digits has been detected.
DTMF Digits Timeout	S,E	-	-	S,E	-	-	This IE contains the detected mid-call digits. This IE shall be present when triggering takes place before the minimum number of digits has been detected.

If the Event Type BCSM IE contains one of Route_Select_Failure, O_Busy, O_Disconnect or T_Disconnect, then the Event Specific Information BCSM IE contains the following information element:

Information element name	MO	MF	MT	VT	NC	NP	Description
Cause	C	C	C	C	C	C	This IE indicates the cause.

If the Event Type BCSM IE contains T_Busy, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Cause	C	C	C	C	-	-	This IE indicates the cause.
Call forwarded	-	-	C	C	-	-	This IE indicates that the call may be forwarded by the appropriate Call Forwarding supplementary service or Call Deflection supplementary service. If T_Busy is reported from the GMSC, then this IE shall be present in the following cases: - The event is triggered by the reception of an FTN in the 2nd Send Routeing Info ack from the HLR; - The event is triggered by the reception of the Resume Call Handling information flow from the VMSC. If T_Busy is reported from the VMSC, then this IE shall be present in the following cases: - The event is triggered by the invocation of conditional call forwarding (Busy or Not_Reachable); - The event notification is triggered by the invocation of Call Deflection.
Route Not permitted	-	-	S	-	-	-	This IE indicates that the further call setup will not take place in this GMSC due to the rules of basic optimal routeing. See 3GPP TS 23.079 [**Error! Reference source not**

Information element name	MO	MF	MT	VT	NC	NP	Description
							found.].
Forwarding Destination Number	-	-	C	C	-	-	This IE contains the Forwarded-to-Number or the Deflected-to-Number. It shall be present if the Call Forwarded IE is present. Otherwise, it shall be absent.

If the Event Type BCSM IE contains T_No_Answer, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Call Forwarded	-	-	C	C	-	-	This IE indicates that the call may be forwarded by the appropriate Call Forwarding supplementary service. If T_No_Answer is reported from the GMSC, then this IE shall be present in the following cases: - The event is triggered by the reception of the Resume Call Handling information flow from the VMSC. If the T_No_Answer is reported from the VMSC, then this IE shall be present in the following cases: - The event is triggered by the invocation of conditional call forwarding (No_Answer).
Forwarding Destination Number	-	-	C	C	-	-	This IE contains the Forwarded-to-Number or the Deflected-to-Number. It shall be present if the Call Forwarded IE is present. Otherwise, it shall be absent.

If the Event Type BCSM IE contains Call_Accepted, O_Term_Seized, O_Change_Of_Position or T_Change_Of_Position, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Location Information	C	-	-	C	-	-	See subclause **Error! Reference source not found.** with VLR Number IE as "- (not applicable)".

If the Event Type BCSM IE contains O_Abandon, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Route Not Permitted	-	S	-	-	-	-	This IE indicates that the further call setup will not take place in this MSC due to the rules of basic optimal routeing. See 3GPP TS 23.079 [**Error! Reference source not found.**].

If the Event Type BCSM IE contains O_No_Answer, then the Event Specific Information BCSM IE is not included.

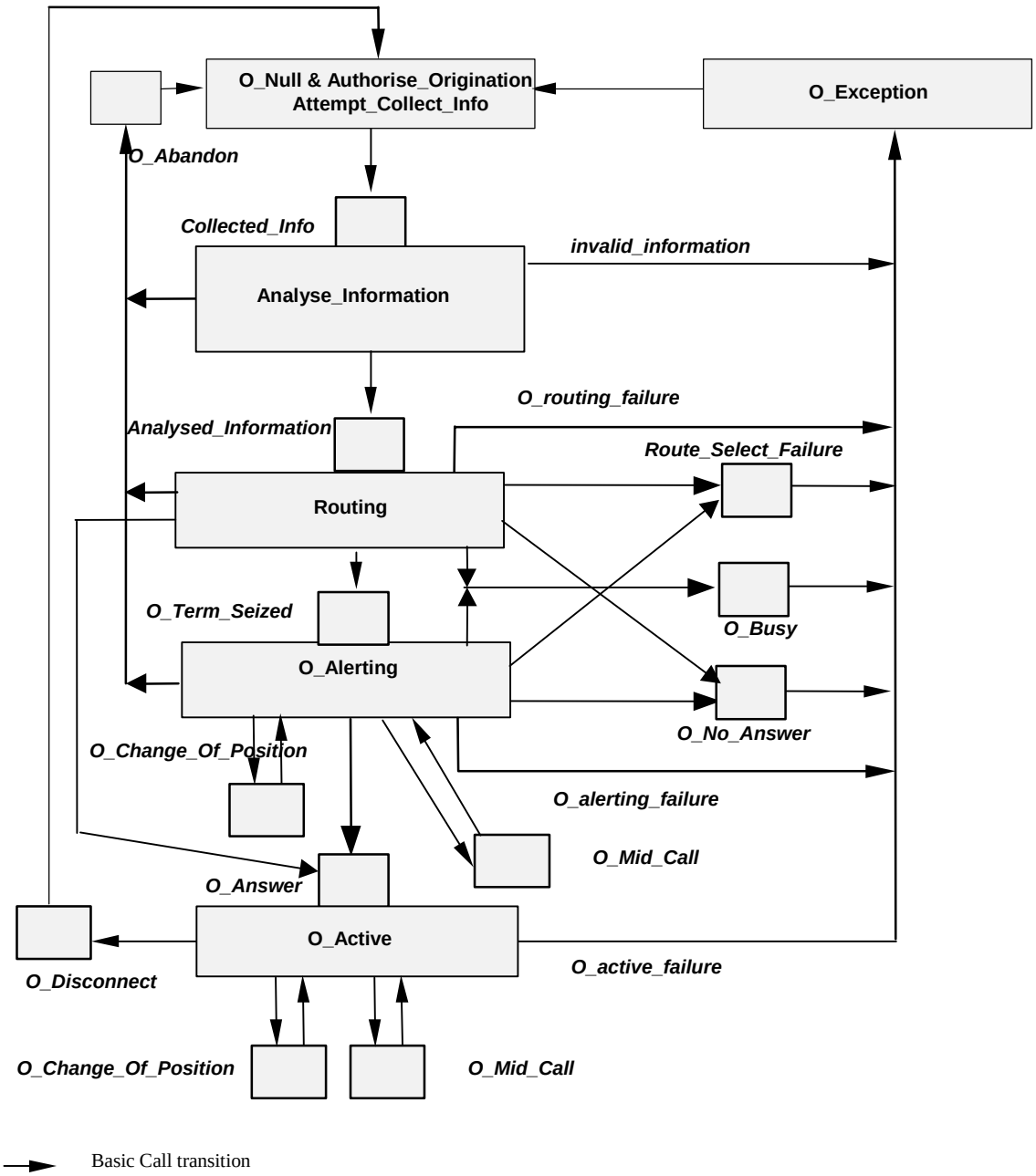
****** First Modification ******

4.4.2 Originating Basic Call State Model (O-BCSM)

4.4.2.1 Description of O-BCSM

The O-BCSM is used to describe the actions in an MSC during originating (MSC) or forwarded (MSC or GMSC) calls.

When encountering a DP the O-BCSM processing is suspended at the DP and the MSC or GMSC indicates this to the gsmSSF which determines what action, if any, shall be taken if the DP is armed. For gsmSCF initiated new calls the O-BCSM is initially suspended at DP Collected_Info.



NOTE: The DP O_Busy also includes the 'not reachable' case.

Figure Error! Reference source not found..**1: Originating BCSM for CAMEL**

The table below defines the different DPs which apply to mobile originating and forwarded calls.

Table Error! Reference source not found..**1: Description of O-BCSM DPs in the MSC**

CAMEL Detection Point:	DP Type	Description:
DP Collected_Info	TDP-R	Indication that the O-CSI is analysed or the gsmSCF has initiated a call attempt. In the later case the DP is neither triggered nor reported.
DP Analysed_Information	TDP-R (note 2)	Availability of routeing address and nature of address.
DP Route_Select_Failure	TDP-R (note 3), EDP-N, EDP-R	Indication that the call establishment failed.
DP O_Busy	EDP-N, EDP-R	Indication that: - a busy indication is received from the terminating party, - a not reachable event is determined from a cause IE in the ISUP Release message.
DP O_No_Answer	EDP-N, EDP-R	Indication that: - an application timer associated with the O_No_Answer DP expires, - a no answer event is determined from a cause IE in the ISUP Release message.
DP O_Term_Seized	EDP-N, EDP-R	Indication that the called party is being alerted.
DP O_Answer	EDP-N, EDP-R	Indication that the call is accepted and answered by the terminating party.
DP O_Mid_Call	EDP-N, EDP-R	Indication that a service/service feature indication is received from the originating party (DTMF - note 4, note 5).
DP O_Change_Of_Position	EDP-N	Indication that the originating party has changed position (note 6).
DP O_Disconnect	EDP-N, EDP-R	A disconnect indication is received from the originating party or from the terminating party.
DP O_Abandon	EDP-N, EDP-R	Indication that a disconnect indication is received from the originating party during the call establishment procedure.
NOTE 1: The DPs are defined in ITU-T Recommendation Q.1224 [**Error! Reference source not found.**]. NOTE 2: For TDP-R Analysed_Information new relationship to gsmSCF is opened. NOTE 3: DP Route_Select_Failure shall be reported as TDP-R when there is no relationship to gsmSCF. If a relationship to gsmSCF is already open, it shall be reported as EDP-R or EDP-N if armed so. NOTE 4: DTMF is only applicable for the Mobile Originating Call in the VMSC. NOTE 5: Call Processing is suspended at DP O_Mid_Call if a Call Party Handling information flow is handled. However, the DP is not reported. NOTE 6: DP O_Change_Of_Position is applicable only for the Mobile Originating Call in the VMSC.		

…

4.4.3 Terminating Basic Call State Model (T-BCSM)

4.4.3.1 Description of T-BCSM

The T-BCSM is used to describe the actions in a GMSC and in a VMSC during terminating calls.

When encountering a DP the T-BCSM processing is suspended at the DP and the GMSC or VMSC indicates this to the gsmSSF which determines what action, if any, shall be taken if the DP is armed.

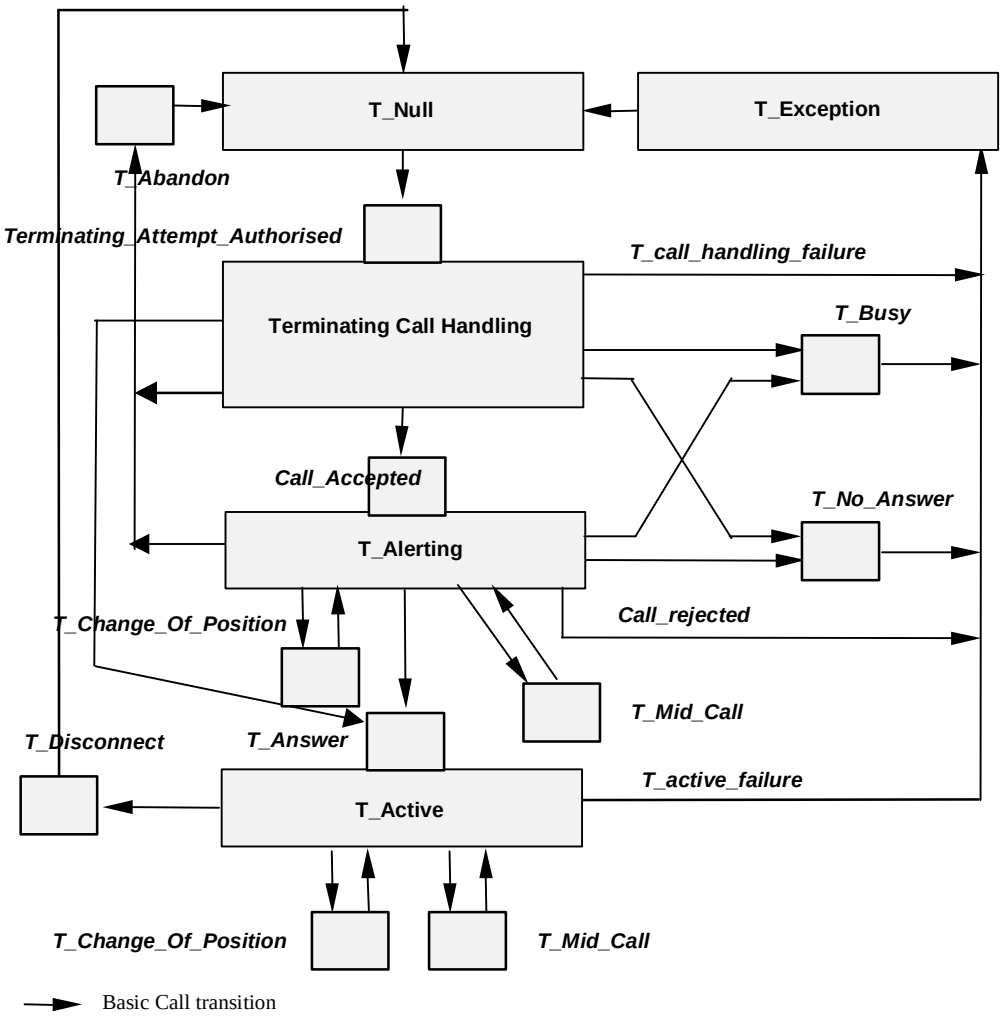


Figure Error! Reference source not found.**.2: T-BCSM in the GMSC or VMSC**

In the table below the different DPs (in the T-BCSM) are described.

Table Error! Reference source not found..**2: Description of T-BCSM DPs in the GMSC or VMSC**

CAMEL Detection Point:	DP Type	Description:
DP Terminating_Attempt_ Authorised	TDP-R	Indication that the T-CSI / VT-CSI is analysed.
DP T_Busy	TDP-R (note 2), EDP-N, EDP-R	Indication that: - a busy indication is received from the destination exchange, - Busy event is determined in the visited MSC, - Not reachable or call establishment failure event is determined from the HLR response or upon a cause IE in the ISUP Release message.
DP T_No_Answer	TDP-R (note 2), EDP-N, EDP-R	Indication that an application timer associated with the T_No_Answer DP expires.
DP Call_Accepted	EDP-N, EDP-R	Indication that the called party is being alerted.
DP T_Answer	EDP-N, EDP-R	Call is accepted and answered by terminating party.
DP T_Mid_Call	EDP-N, EDP-R	Indication that a service/service feature is received from the terminating party (DTMF - note 3, note 4).
DP T_Change_Of_Position	EDP-N	Indication that the terminating party has changed position (note 5).
DP T_Disconnect	EDP-N, EDP-R	A disconnect indication is received from the terminating party or from the originating party.
DP T_Abandon	EDP-N, EDP-R	A disconnect indication is received from the originating party during the call establishment procedure.
NOTE 1: The DPs are defined in ITU-T Recommendation Q.1224 [**Error! Reference source not found.**]. NOTE 2: DP T_No_Answer and DP T_Busy shall be reported as TDP-R when there is no relationship to gsmSCF. If a relationship to gsmSCF is already open, it shall be reported as EDP-R or EDP-N if armed so. NOTE 3: DTMF is only applicable for the VMSC but not for the GMSC. DTMF is not applicable at the T_Alerting PIC. NOTE 4: Call Processing is suspended at DP T_Mid_Call if a Call Party Handling information flow is handled. However, the DP is not reported. NOTE 5: DP T_Change_Of_Position is applicable only for the Mobile Terminating Call in the VMSC.		

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

3GPP TSG CN WG2 Meeting #32 N2-040135
Atlanta, USA, 16th – 20st February 2004

CHANGE REQUEST

⌘ **23.078** **CR** **651** ⌘ **rev** **1** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to DP description tables
Source:	⌘	Alcatel,Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-17
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

The DP description tables, table 4.2 and table 4.3, do not specify that the DPs O_Change_of_Position and T_Change_of_Position are applicable in the VMSC of the served subscriber only.

For the DPs O_Mid_Call and T_Mid_Call, this is specified explicitly, by means of a note underneath the table.

The present CR proposes that a similar note be included for the DPs O_Change_of_Position and T_Change_of_Position.

It shall be borne in mind that the information flow Event Report BCSM does not provide an explicit indication that O_Change_of_Position and T_Change_of_Position are not applicable in other calls than MO and VT. Refer to the highlighted text in the “for information” section of the present CR.

- the DPs Call_Accepted and O_Term_Seized may be armed and reported in all call cases. However, the inclusion of Location Information in the event report of these DPs is applicable only for MO and VT call, as indicated in the table;
- the DPs O_Change_Of_Position and T_Change_Of_Position are not applicable to other call cases than MO and VT.

Therefore, the above proposed explicit indication in the DP tables is required.

Summary of change: ⌘ Include an additional note in table 4.2 and 4.3, as described above.

Consequences if not approved: ⌘ As these tables do not clearly speficy the conditions of DP O/T_Change_of_Position triggering , this may induce misinterpretations and

	leads to interworking problems.

Clauses affected:	⌘	4.4.2, 4.4.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *For Information* ***

4.6.1.6 Event Report BCSM

4.6.1.6.1 Description

This IF is used to notify the gsmSCF of a call-related event (i.e. BCSM events as answer and disconnect) previously requested by the gsmSCF in a Request Report BCSM Event IF.

4.6.1.6.2 Information Elements

4.6.1.6 Event Report BCSM

4.6.1.6.1 Description

This IF is used to notify the gsmSCF of a call-related event (i.e. BCSM events as answer and disconnect) previously requested by the gsmSCF in a Request Report BCSM Event IF.

4.6.1.6.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
Event Type BCSM	M	M	M	M	M	M	This IE specifies the type of event that is reported.
Event Specific Information BCSM	C	C	C	C	C	C	This IE indicates the call related information specific to the event.
Leg ID	M	M	M	M	M	M	This IE indicates the party in the call for which the event is reported.
Misc Call Info	M	M	M	M	M	M	This IE indicates the DP type.

If the Event Type BCSM IE contains either O_Answer or T_Answer, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Destination Address	M	M	M	M	M	M	This IE specifies the destination address for the call leg. The *NatureOfAddress indicator* may contain a national-specific value. For some national-specific *NatureOfAddress indicator* values the length of the digit part of destination address may be zero.
OR	-	C	C	-	-	-	This IE indicates that the call was subject to basic Optimal Routeing as specified in 3GPP TS 23.079 [**Error! Reference source not found.**].
Forwarded Call	-	M	C	C	-	-	This IE indicates that the call has been subject to a Call Forwarding supplementary service.
Charge Indicator	S	S	S	S	S	S	This IE specifies the value which will be stored in the Call Data Record. See ITU-T Recommendation Q.763 [**Error! Reference source not found.**].
Ext-Basic Service Code	S	S	S	S	-	-	This IE is used for SCUDIF calls. It indicates the type of basic service, i.e. teleservice or bearer service. It indicates the service active at answer for the SCUDIF call (as defined in 3GPP TS 23.172 [**Error! Reference source not found.**]).
Ext-Basic Service Code 2	S	S	S	S	-	-	This IE is used for SCUDIF calls. It indicates the type of basic service, i.e. teleservice or bearer service. It indicates the service which is not active at answer for the

Information element name	MO	MF	MT	VT	NC	NP	Description
							SCUDIF call (as defined in 3GPP TS 23.172 [**Error! Reference source not found.**]). It shall be present if the negotiation of the SCUDIF services resulted in both basic services for the SCUDIF call. Otherwise shall be absent.

If the Event Type BCSM IE contains either O_Mid_Call or T_Mid_Call, then the Event Specific Information BCSM IE contains the following information element:

Information element name	MO	MF	MT	VT	NC	NP	Description
Midcall Info	M	-	-	M	-	-	This IE is described in a table below.

MidCall Info contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
DTMF Digits Completed	S,E	-	-	S,E	-	-	This IE contains the detected mid-call digits. This IE shall be present when triggering takes place after the minimum number of digits has been detected.
DTMF Digits Timeout	S,E	-	-	S,E	-	-	This IE contains the detected mid-call digits. This IE shall be present when triggering takes place before the minimum number of digits has been detected.

If the Event Type BCSM IE contains one of Route_Select_Failure, O_Busy, O_Disconnect or T_Disconnect, then the Event Specific Information BCSM IE contains the following information element:

Information element name	MO	MF	MT	VT	NC	NP	Description
Cause	C	C	C	C	C	C	This IE indicates the cause.

If the Event Type BCSM IE contains T_Busy, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Cause	C	C	C	C	-	-	This IE indicates the cause.
Call forwarded	-	-	C	C	-	-	This IE indicates that the call may be forwarded by the appropriate Call Forwarding supplementary service or Call Deflection supplementary service. If T_Busy is reported from the GMSC, then this IE shall be present in the following cases: - The event is triggered by the reception of an FTN in the 2nd Send Routeing Info ack from the HLR; - The event is triggered by the reception of the Resume Call Handling information flow from the VMSC. If T_Busy is reported from the VMSC, then this IE shall be present in the following cases: - The event is triggered by the invocation of conditional call forwarding (Busy or Not_Reachable); - The event notification is triggered by the invocation of Call Deflection.
Route Not permitted	-	-	S	-	-	-	This IE indicates that the further call setup will not take place in this GMSC due to the rules of basic optimal routeing. See 3GPP TS 23.079 [**Error! Reference source not**

Information element name	MO	MF	MT	VT	NC	NP	Description
							found.].
Forwarding Destination Number	-	-	C	C	-	-	This IE contains the Forwarded-to-Number or the Deflected-to-Number. It shall be present if the Call Forwarded IE is present. Otherwise, it shall be absent.

If the Event Type BCSM IE contains T_No_Answer, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Call Forwarded	-	-	C	C	-	-	This IE indicates that the call may be forwarded by the appropriate Call Forwarding supplementary service. If T_No_Answer is reported from the GMSC, then this IE shall be present in the following cases: - The event is triggered by the reception of the Resume Call Handling information flow from the VMSC. If the T_No_Answer is reported from the VMSC, then this IE shall be present in the following cases: - The event is triggered by the invocation of conditional call forwarding (No_Answer).
Forwarding Destination Number	-	-	C	C	-	-	This IE contains the Forwarded-to-Number or the Deflected-to-Number. It shall be present if the Call Forwarded IE is present. Otherwise, it shall be absent.

If the Event Type BCSM IE contains Call_Accepted, O_Term_Seized, O_Change_Of_Position or T_Change_Of_Position, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Location Information	C	-	-	C	-	-	See subclause **Error! Reference source not found.** with VLR Number IE as "- (not applicable)".

If the Event Type BCSM IE contains O_Abandon, then the Event Specific Information BCSM IE contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Route Not Permitted	-	S	-	-	-	-	This IE indicates that the further call setup will not take place in this MSC due to the rules of basic optimal routeing. See 3GPP TS 23.079 [**Error! Reference source not found.**].

If the Event Type BCSM IE contains O_No_Answer, then the Event Specific Information BCSM IE is not included.

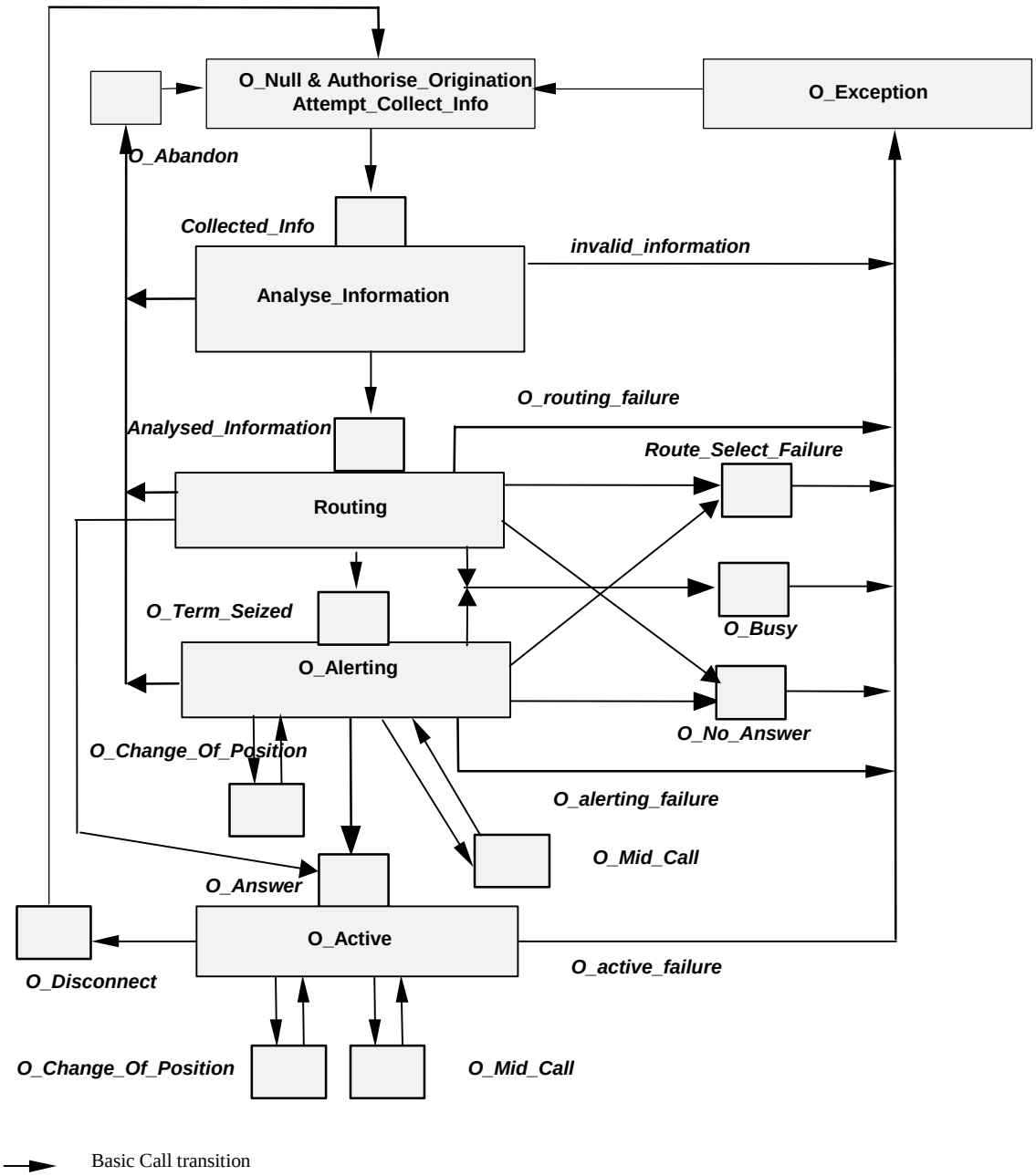
****** First Modification ******

4.4.2 Originating Basic Call State Model (O-BCSM)

4.4.2.1 Description of O-BCSM

The O-BCSM is used to describe the actions in an MSC during originating (MSC) or forwarded (MSC or GMSC) calls.

When encountering a DP the O-BCSM processing is suspended at the DP and the MSC or GMSC indicates this to the gsmSSF which determines what action, if any, shall be taken if the DP is armed. For gsmSCF initiated new calls the O-BCSM is initially suspended at DP Collected_Info.



NOTE: The DP O_Busy also includes the 'not reachable' case.

Figure Error! Reference source not found..**1: Originating BCSM for CAMEL**

The table below defines the different DPs which apply to mobile originating and forwarded calls.

Table Error! Reference source not found..**1: Description of O-BCSM DPs in the MSC**

CAMEL Detection Point:	DP Type	Description:
DP Collected_Info	TDP-R	Indication that the O-CSI is analysed or the gsmSCF has initiated a call attempt. In the later case the DP is neither triggered nor reported.
DP Analysed_Information	TDP-R (note 2)	Availability of routeing address and nature of address.
DP Route_Select_Failure	TDP-R (note 3), EDP-N, EDP-R	Indication that the call establishment failed.
DP O_Busy	EDP-N, EDP-R	Indication that: - a busy indication is received from the terminating party, - a not reachable event is determined from a cause IE in the ISUP Release message.
DP O_No_Answer	EDP-N, EDP-R	Indication that: - an application timer associated with the O_No_Answer DP expires, - a no answer event is determined from a cause IE in the ISUP Release message.
DP O_Term_Seized	EDP-N, EDP-R	Indication that the called party is being alerted.
DP O_Answer	EDP-N, EDP-R	Indication that the call is accepted and answered by the terminating party.
DP O_Mid_Call	EDP-N, EDP-R	Indication that a service/service feature indication is received from the originating party (DTMF - note 4, note 5).
DP O_Change_Of_Position	EDP-N	Indication that the originating party has changed position (note 6).
DP O_Disconnect	EDP-N, EDP-R	A disconnect indication is received from the originating party or from the terminating party.
DP O_Abandon	EDP-N, EDP-R	Indication that a disconnect indication is received from the originating party during the call establishment procedure.
NOTE 1: The DPs are defined in ITU-T Recommendation Q.1224 [**Error! Reference source not found.**]. NOTE 2: For TDP-R Analysed_Information new relationship to gsmSCF is opened. NOTE 3: DP Route_Select_Failure shall be reported as TDP-R when there is no relationship to gsmSCF. If a relationship to gsmSCF is already open, it shall be reported as EDP-R or EDP-N if armed so. NOTE 4: DTMF is only applicable for the Mobile Originating Call in the VMSC. NOTE 5: Call Processing is suspended at DP O_Mid_Call if a Call Party Handling information flow is handled. However, the DP is not reported. NOTE 6: DP O_Change_Of_Position is applicable only for the Mobile Originating Call in the VMSC.		

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4.4.3 Terminating Basic Call State Model (T-BCSM)

4.4.3.1 Description of T-BCSM

The T-BCSM is used to describe the actions in a GMSC and in a VMSC during terminating calls.

When encountering a DP the T-BCSM processing is suspended at the DP and the GMSC or VMSC indicates this to the gsmSSF which determines what action, if any, shall be taken if the DP is armed.

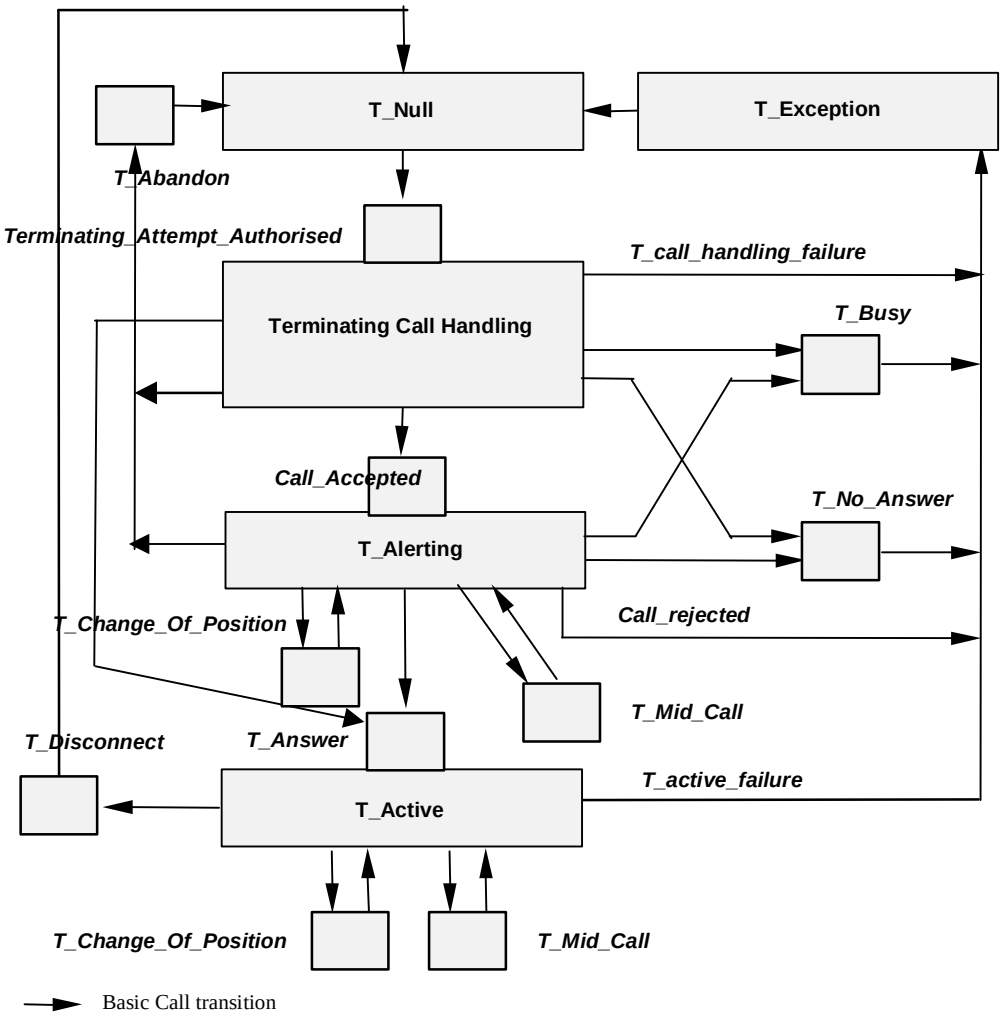


Figure Error! Reference source not found.**.2: T-BCSM in the GMSC or VMSC**

In the table below the different DPs (in the T-BCSM) are described.

Table Error! Reference source not found..**2: Description of T-BCSM DPs in the GMSC or VMSC**

CAMEL Detection Point:	DP Type	Description:
DP Terminating_Attempt_ Authorised	TDP-R	Indication that the T-CSI / VT-CSI is analysed.
DP T_Busy	TDP-R (note 2), EDP-N, EDP-R	Indication that: - a busy indication is received from the destination exchange, - Busy event is determined in the visited MSC, - Not reachable or call establishment failure event is determined from the HLR response or upon a cause IE in the ISUP Release message.
DP T_No_Answer	TDP-R (note 2), EDP-N, EDP-R	Indication that an application timer associated with the T_No_Answer DP expires.
DP Call_Accepted	EDP-N, EDP-R	Indication that the called party is being alerted.
DP T_Answer	EDP-N, EDP-R	Call is accepted and answered by terminating party.
DP T_Mid_Call	EDP-N, EDP-R	Indication that a service/service feature is received from the terminating party (DTMF - note 3, note 4).
DP T_Change_Of_Position	EDP-N	Indication that the terminating party has changed position (note 5).
DP T_Disconnect	EDP-N, EDP-R	A disconnect indication is received from the terminating party or from the originating party.
DP T_Abandon	EDP-N, EDP-R	A disconnect indication is received from the originating party during the call establishment procedure.
NOTE 1: The DPs are defined in ITU-T Recommendation Q.1224 [**Error! Reference source not found.**]. NOTE 2: DP T_No_Answer and DP T_Busy shall be reported as TDP-R when there is no relationship to gsmSCF. If a relationship to gsmSCF is already open, it shall be reported as EDP-R or EDP-N if armed so. NOTE 3: DTMF is only applicable for the VMSC but not for the GMSC. DTMF is not applicable at the T_Alerting PIC. NOTE 4: Call Processing is suspended at DP T_Mid_Call if a Call Party Handling information flow is handled. However, the DP is not reported. NOTE 5: DP T_Change_Of_Position is applicable only for the Mobile Terminating Call in the VMSC.		

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

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040136
revision of N2-040033

CHANGE REQUEST

⌘ **23.078** **CR** **669** ⌘**rev** **1** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Allowing Export_leg at DP Alerting and DP Answer
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

Currently, it is not possible to move an ICA leg from its source CS to a target CS, using Move Leg or Split Leg, during the Alerting DP or during the Answer DP.

Refer to figure 4.87, CAMEL_ICA_MSC_Alerting. In state DP_O_Term_Seized, the input signal Int_Export_leg may be received from CS_gsmSSF. Likewise, refer to figure 4.88, CAMEL_ICA_MSC_Answer. In state DP_O_Answer, the input signal Int_Export_leg may be received.

Figure 4.86, CAMEL_ICA_MSC, allows for signal Int_Export_leg. However, these Int_Export_leg signals do not cater for the Move Leg and Split Leg during the handling of DP Alerting or DP Answer.

Refer to TS 22.078, section 8.1.4, where the requirements for SplitLeg and MoveLeg are specified.

The proposed changes to CAMEL_ICA_MSC_Alerting and CAMEL_ICA_MSC_Answer are the following.

CAMEL_ICA_MSC_Alerting

In sheet 2, CAMEL_ICA_MSC_ALERTING is in state DP_O_Term_Seized; the gsmSCF may send SplitLeg or MoveLeg, depending on the call scenario. CAMEL_ICA_MSC_ALERTING will export the leg. If leg export fails, then this is reported through CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2, depending on the cause of the release; this handling is the same as in CAMEL_ICA_MSC.
If the leg export succeeds, then CAMEL_ICA_MSC_ALERTING remains in the state DP_O_Term_Seized. The next Int_Continue or Int_Continue_With_Argument signals results in a return to CAMEL_ICA_MSC,

	as is currently the case. Since the gsmSCF has applied a CPH operation for the ICA leg, process CS_gsmSSF receives both a CWA[CS Id] and a CWA[Leg Id]. CS_gsmSSF passes only a single Int_Continue_With_Argiment on to CAMEL_ICA_MSC_ALERTING. CAMEL_ICA_MSC_Answer Same as for CAMEL_ICA_MSC_Alerting, except that failure to export a leg is reported in CAMEL_OCH_MSC_DISC2.
Summary of change: ⌘	- Correct figure 4.87; allow for the Int_Export_leg signal in state DP_O_Term_Seized; - Correct figure 4.88; allow for the Int_Export_leg signal in state DP_O_Answer.
Consequences if not approved: ⌘	It will not be possible for a CAMEL Service to move a newly created call party (i.e. ICA leg) into the group (i.e. Call Segment 1) at the Alerting DP or the Answer DP.

Clauses affected:	⌘	4.5.6.1			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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

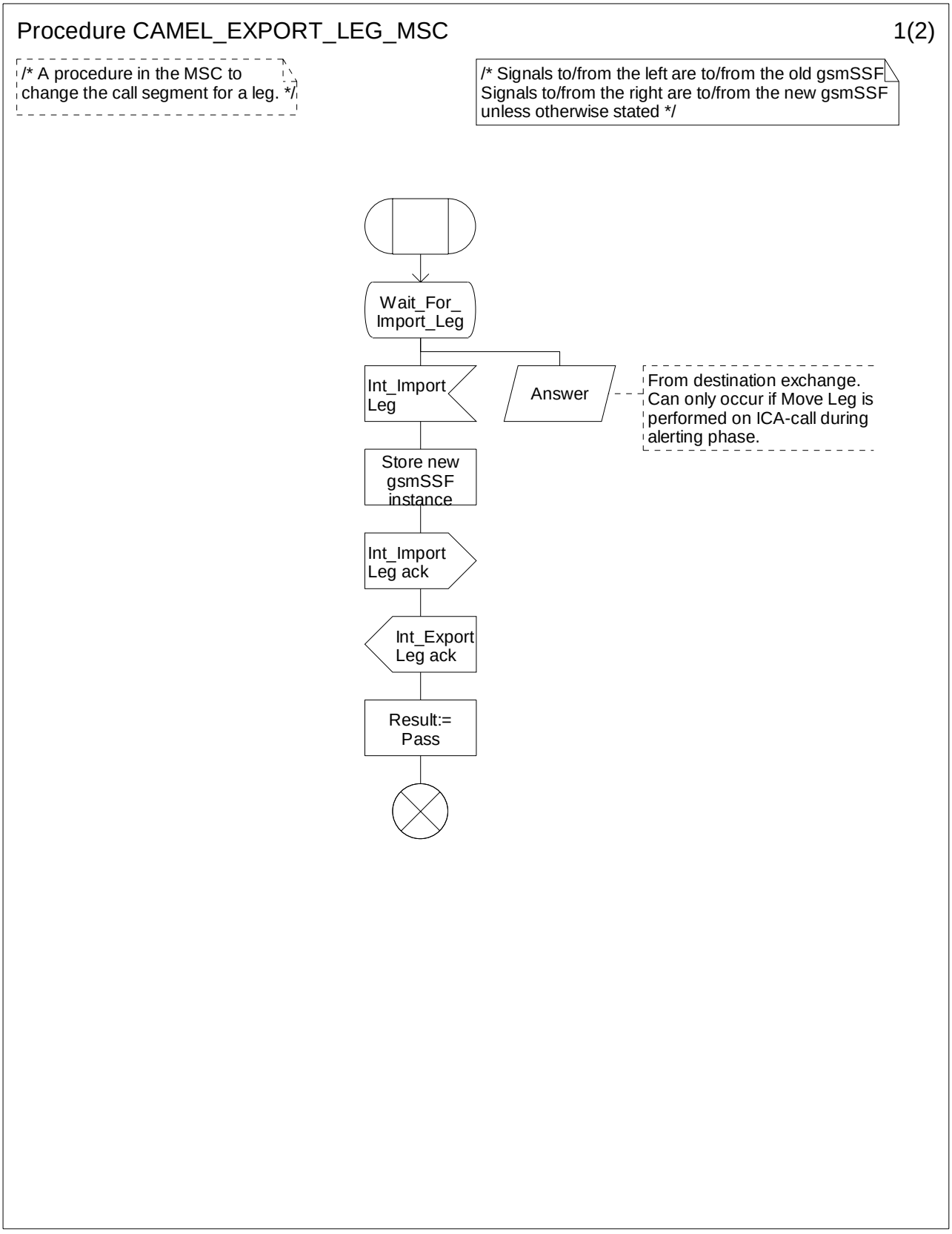


Figure Error! Reference source not found.**.1-1: Procedure CAMEL_EXPORT_LEG_MSC (sheet 1)**

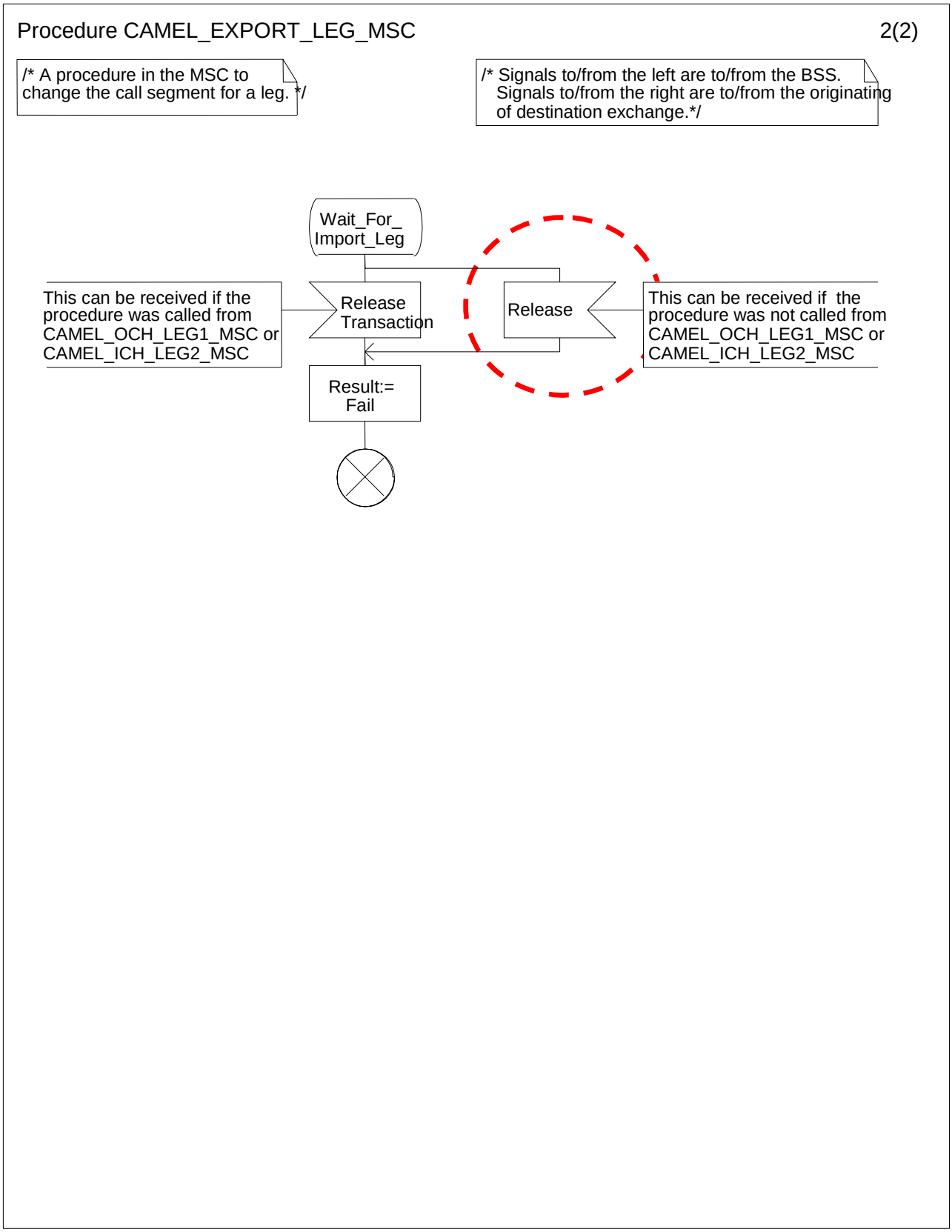


Figure Error! Reference source not found.**.1-2: Procedure CAMEL_EXPORT_LEG_MSC (sheet 2)**

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

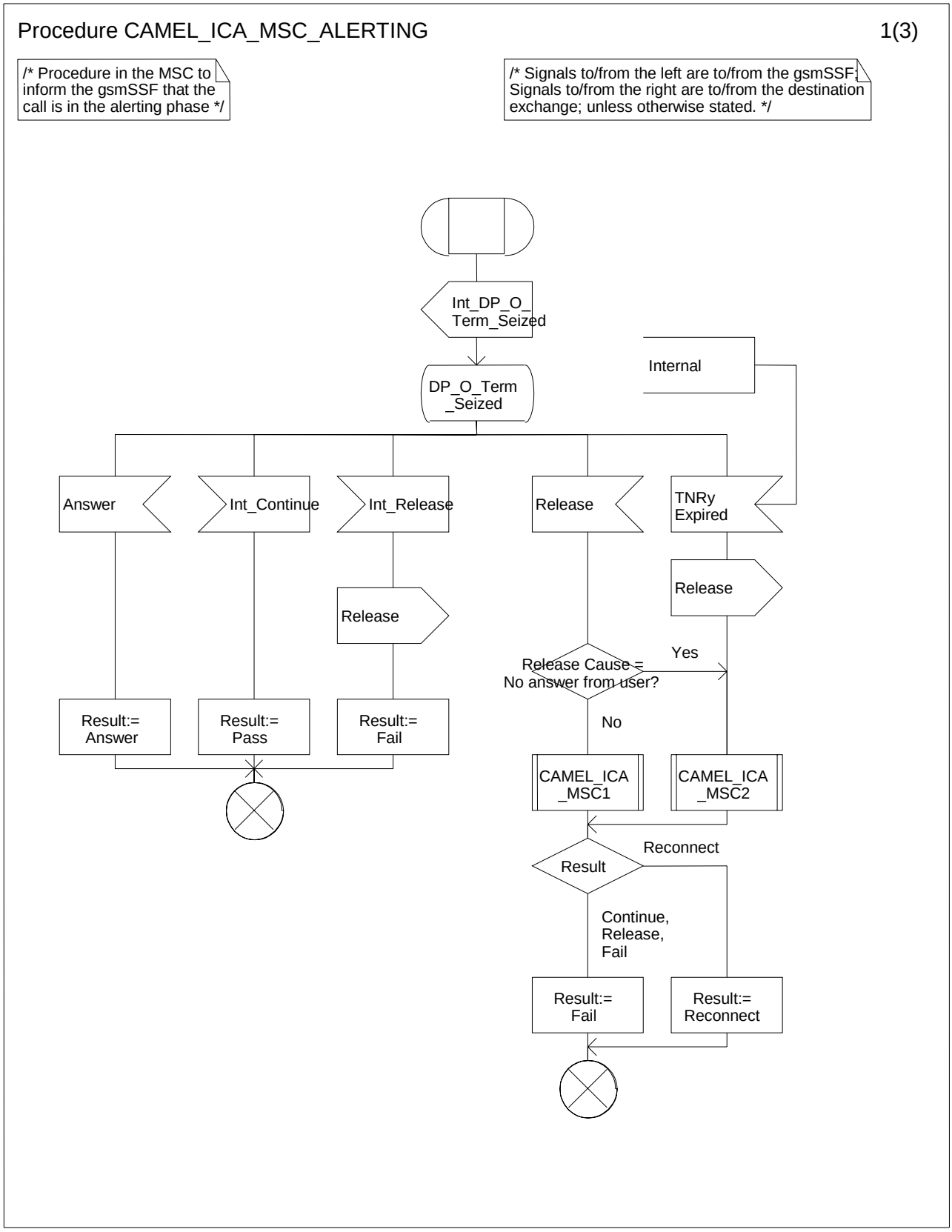
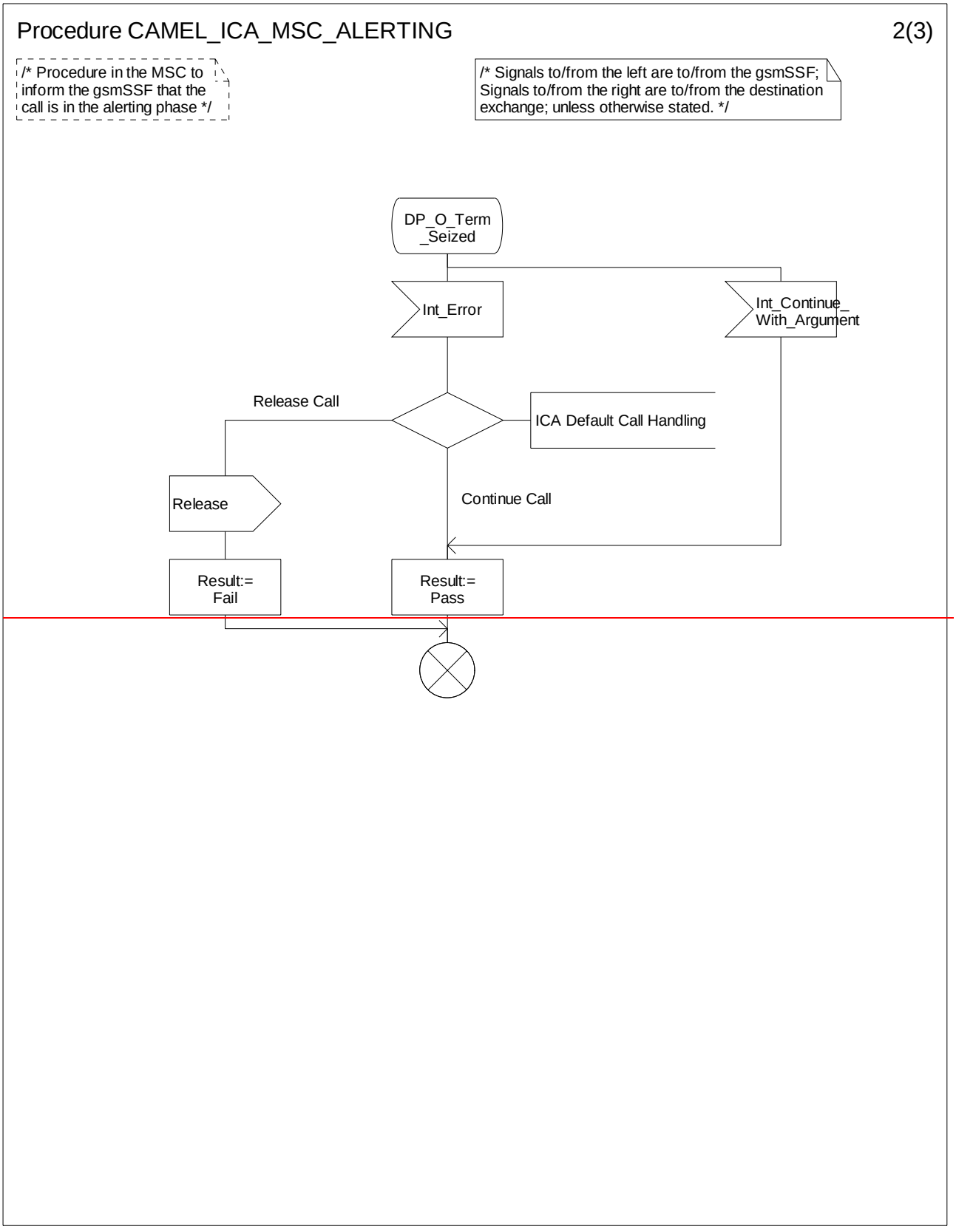


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_ICA_MSC_ALERTING (sheet 1)**



~~Figure 4.87-2: Process CAMEL_ICA_MSC_ALERTING (sheet 2)~~

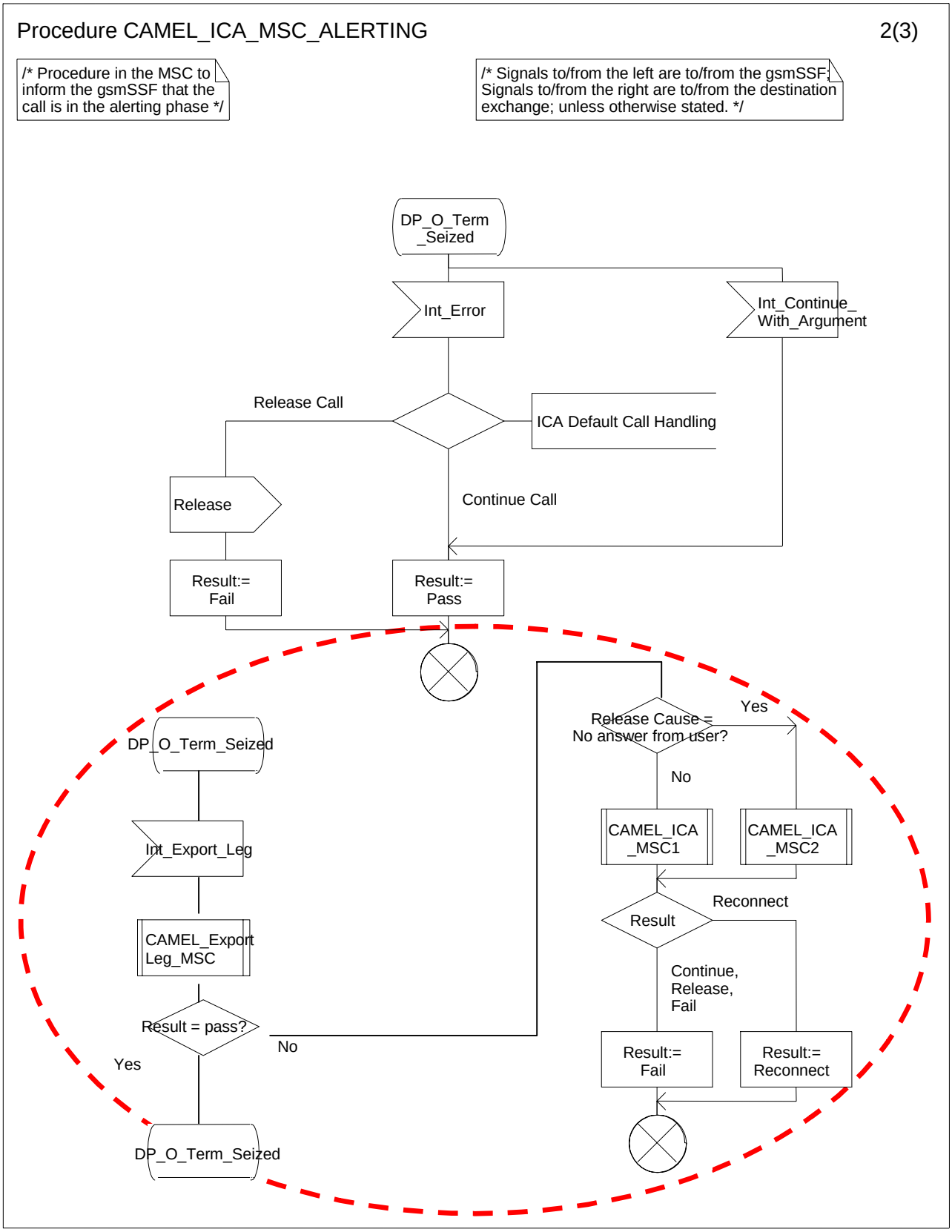


Figure Error! Reference source not found..**2-3: Process CAMEL_ICA_MSC_ALERTING (sheet 3)**

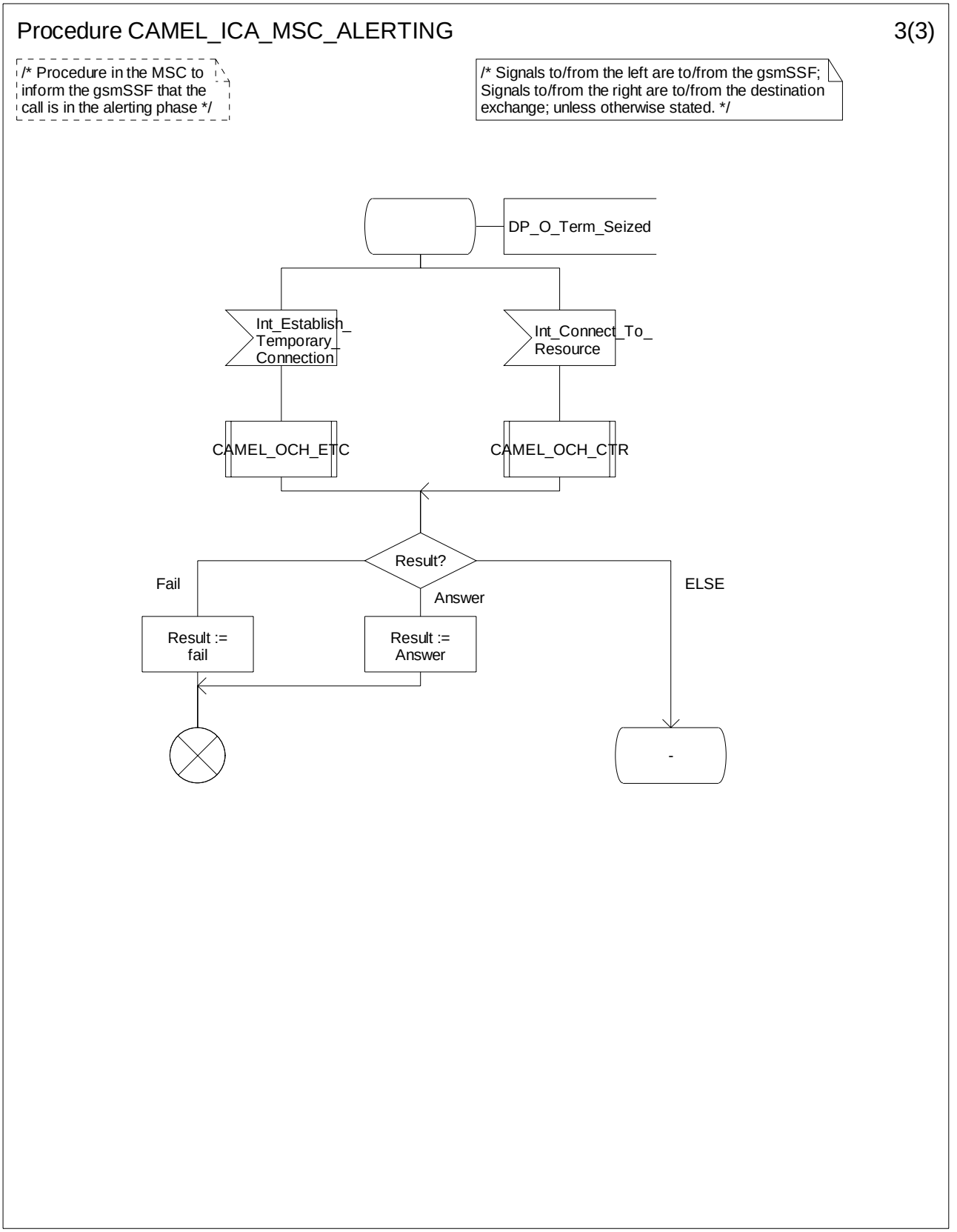


Figure Error! Reference source not found..**2-4: Process CAMEL_ICA_MSC_ALERTING (sheet 4)**

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

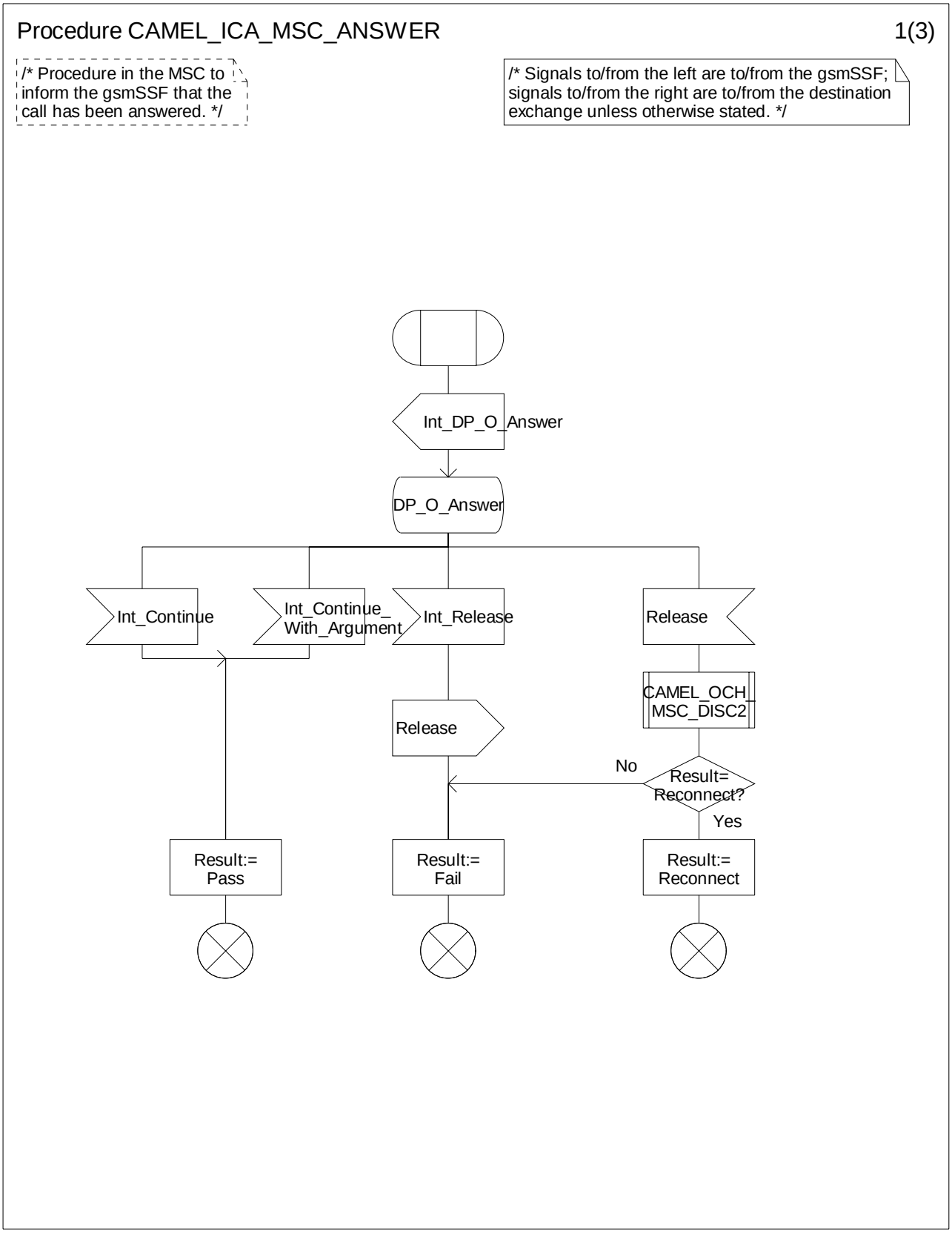
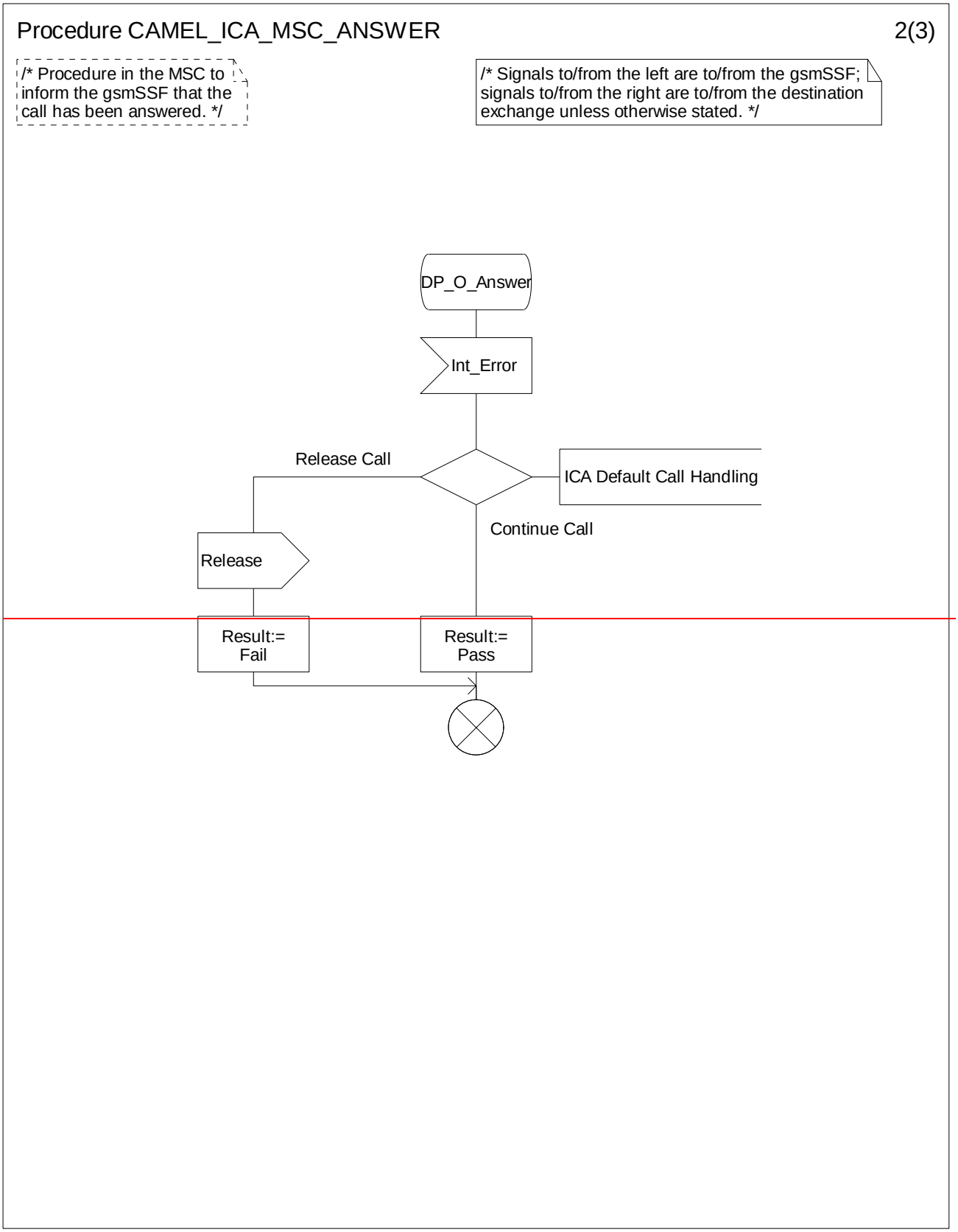


Figure Error! Reference source not found.**.3-1: Procedure CAMEL_ICA_MSC_ANSWER (sheet 1)**



~~Figure 4.88-2: Process CAMEL_ICA_MSC_ANSWER (sheet 2)~~

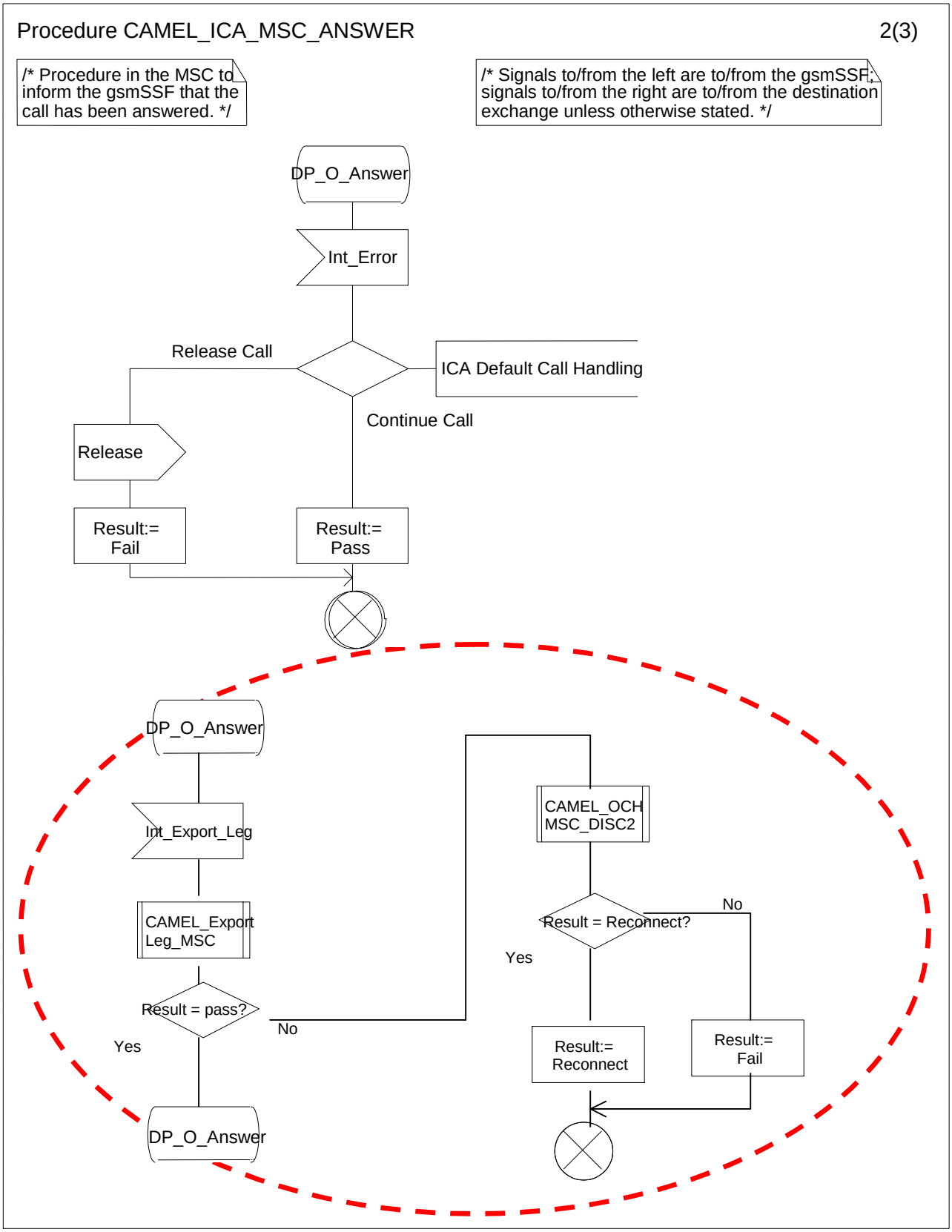


Figure Error! Reference source not found.**.3-3: Process CAMEL_ICA_MSC_ANSWER (sheet 3)**

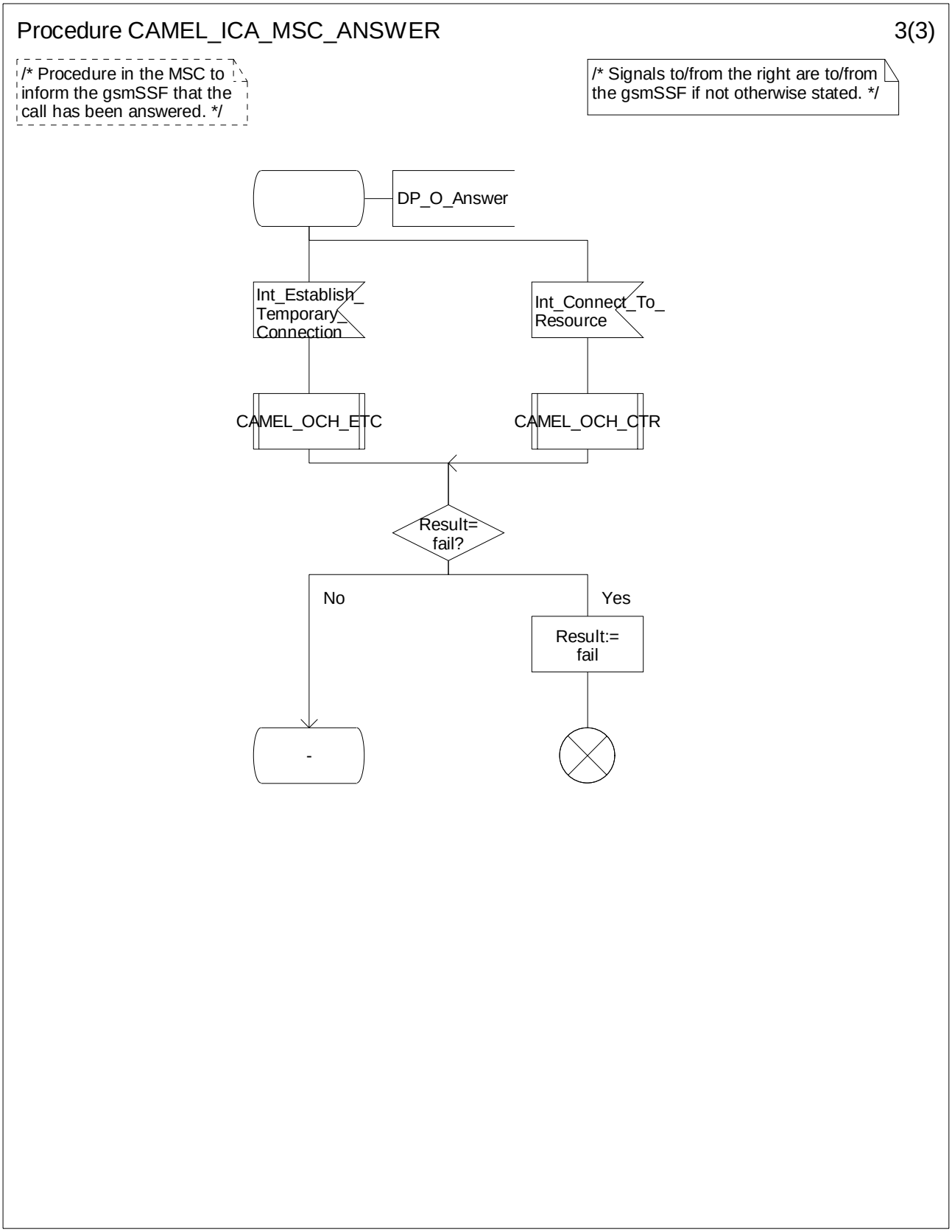


Figure Error! Reference source not found.**.3-4: Process CAMEL_ICA_MSC_ANSWER (sheet 4)**

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

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040137
revision of N2-040093

CHANGE REQUEST

⌘ **23.078** **CR** **671** ⌘ **rev** **2** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to Request Report BCSM Event handling in CSA_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Refer to figure 4.113-5, CSA_gsmSSF. CSA_gsmSSF may receive the CAP Operations ***Call Information Request***, ***Furnish Charging Information***, ***Send Charging Information*** and ***Request Report BCSM Event***. The current SDL implies that all of these Operations shall always be sent with Leg Id or Party to Charge. However, Request Report BCSM Event may be sent without Leg Id. Refer to the "for information" section of the present CR. Therefore, the SDL for CSA_gsmSSF shall allow for the case that Request Report BCSM Event is sent without Leg Id. The present CR proposes that when Request Report BCSM Event is sent without Leg Id, CSA_gsmSSF shall apply a default Leg Id. The default LegId is specified in TS 29.078.
Summary of change:	⌘	Correct Process CSA_gsmSSF, sheet 0, as described above.
Consequences if not approved:	⌘	Unclear how to design gsmSSF for the case that Request Report BCSM Event is sent without Leg Id. As a result, Service Logic execution may fail. When the Service Logic sends Request Report BCSM Event (RRB) without Leg Id, then it is unspecified (in SDL) for which call leg the RRB shall be used and hence, to which CS_gsmSSF process the RRB shall be relayed.

Clauses affected:	⌘	4.5.7.7
Other specs	⌘	Y: ☐ N: X — Other core specifications ⌘

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

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

Extracts from 3GPP TS 23.078 V5.6.0

4.6.2 gsmSCF to gsmSSF information flows

...

4.6.2.4 Call Information Request

4.6.2.4.1 Description

…

4.6.2.4.2 Information Elements

Information element name	Status	Description
Requested Information Type List	M	This IE is described in a table below. This IE specifies a list of specific items of information which are requested.
Leg ID	M	This IE indicates the party in the call for which the information shall be collected.

…

4.6.2.14 Furnish Charging Information

4.6.2.14.1 Description

…

4.6.2.14.2 Information Elements

Information element name	Status	Description
FCI Billing Charging Characteristics	M	This IE is described in a table below.

FCI Billing Charging Characteristics contains the following information element:

Information element name	Status	Description
FCIBCCCAMEL Sequence 1	M	This IE is described in a table below.

FCIBCCCAMEL Sequence 1 contains the following information elements:

Information element name	Status	Description
Free Format Data	M	This IE contains the free format data to be inserted in the CAMEL logical call record.
Party To Charge	M	This IE indicates the party for whom a CAMEL logical call record will be created.
...		

…

4.6.2.21 Send Charging Information

4.6.2.21.1 Description

…

4.6.2.21.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
SCI Billing Charging Characteristics	M	-	-	M	-	-	This IE defines the Advice Of Charge related information to be provided to the Mobile Station.
Leg ID	M	-	-	M	-	-	This IE indicates the leg to which the charging information shall be sent.

…

4.6.2.19 Request Report BCSM Event

4.6.2.19.1 Description

…

4.6.2.19.2 Information Elements

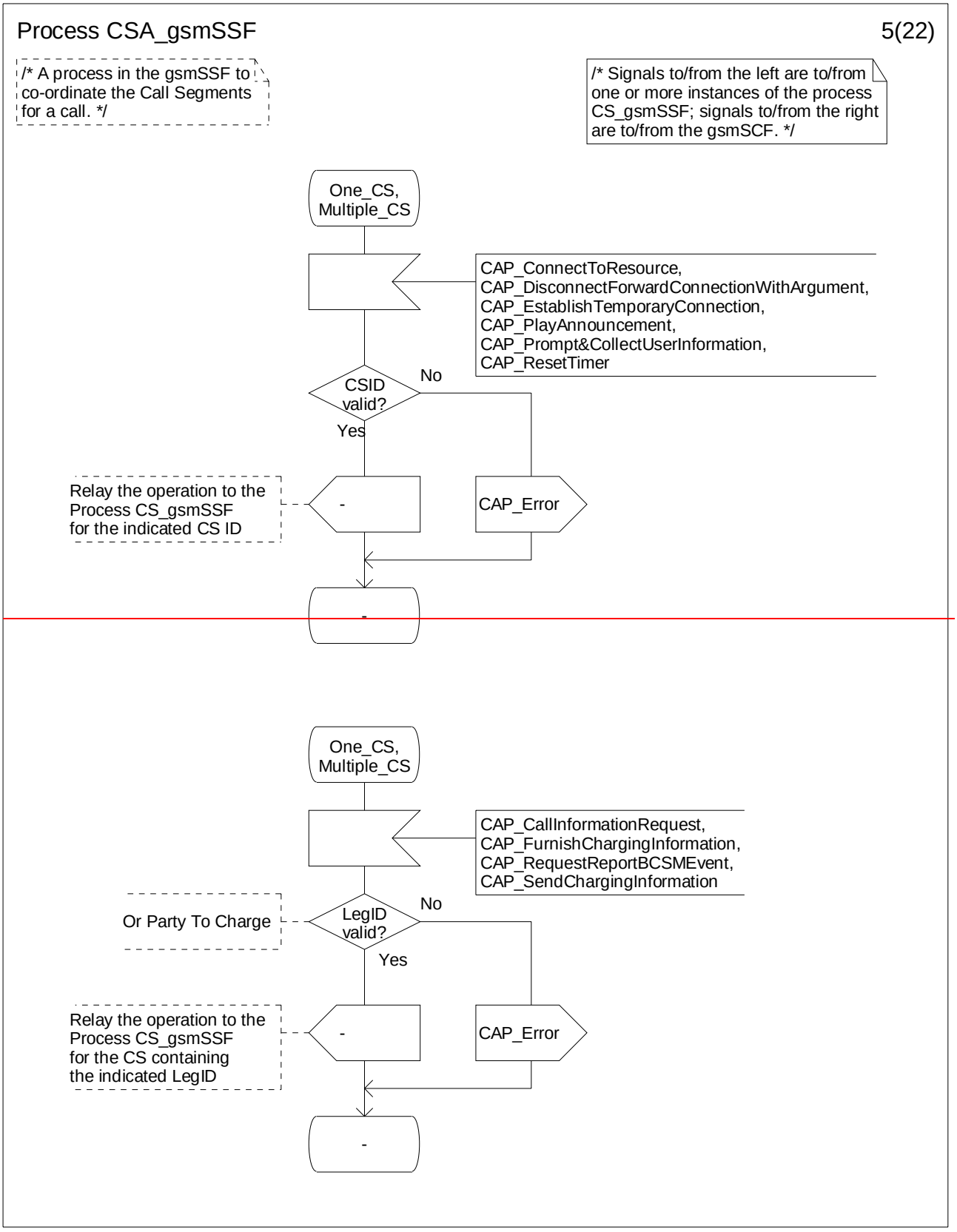
Information element name	MO	MF	MT	VT	NC	NP	Description
BCSM Event	M	M	M	M	M	M	This IE specifies the event or events for which a report is requested.

BCSM Event contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Event type	M	M	M	M	M	M	This IE specifies the type of event for which a report is requested.
Leg ID	C	C	C	C	C	M	This IE indicates the party in the call for which the event shall be armed or disarmed.
...							

…

*** First Modification ***



~~Figure 4.113-5: Process CSA_gsmSSF (sheet 5)~~

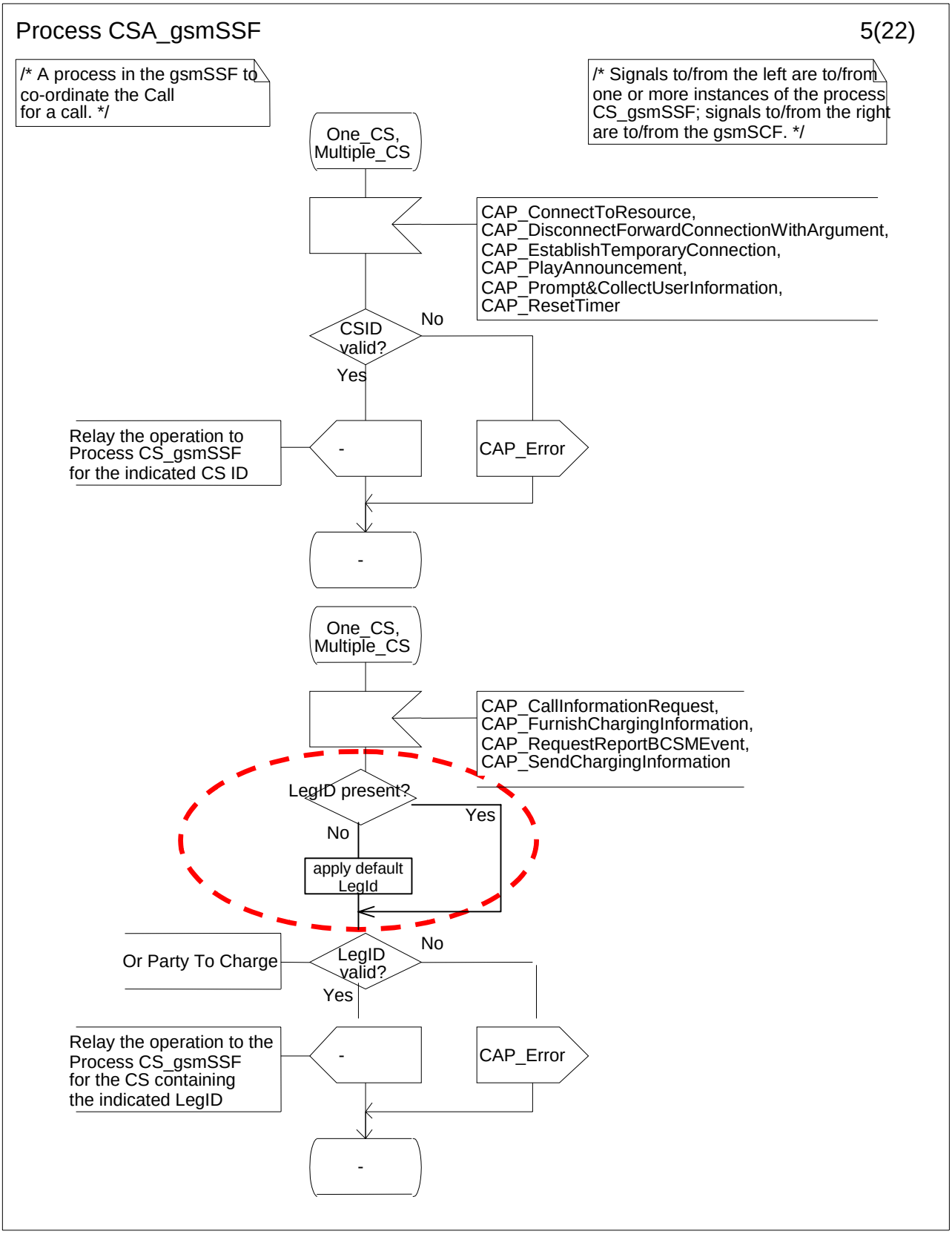


Figure Error! Reference source not found.-2: Process CSA_gsmSSF (sheet 2)

*** End of Document***

3GPP TSG CN WG2 Meeting #32 N2-040138
Atlanta, USA, 16th – 20st February 2004

CHANGE REQUEST

⌘ **23.078** **CR** **703** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to Request Report BCSM Event handling in CSA_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Refer to figure 4.114-5, CSA_gsmSSF. CSA_gsmSSF may receive the CAP Operations ***Call Information Request***, ***Furnish Charging Information***, ***Send Charging Information*** and ***Request Report BCSM Event***. The current SDL implies that all of these Operations shall always be sent with Leg Id or Party to Charge. However, Request Report BCSM Event may be sent without Leg Id. Refer to the “for information” section of the present CR. Therefore, the SDL for CSA_gsmSSF shall allow for the case that Request Report BCSM Event is sent without Leg Id. The present CR proposes that when Request Report BCSM Event is sent without Leg Id, CSA_gsmSSF shall apply a default Leg Id. The default LegId is specified in TS 29.078.
Summary of change:	⌘	Correct Process CSA_gsmSSF, sheet 5, as described above.
Consequences if not approved:	⌘	Unclear how to design gsmSSF for the case that Request Report BCSM Event is sent without Leg Id. As a result, Service Logic execution may fail. When the Service Logic sends Request Report BCSM Event (RRB) without Leg Id, then it is unspecified (in SDL) for which call leg the RRB shall be used and hence, to which CS_gsmSSF process the RRB shall be relayed.

Clauses affected:	⌘	4.5.7.7

		Y	N		
Other specs	⌘		X	Other core specifications	⌘

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

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

Extracts from 3GPP TS 23.078

4.6.2 smSCF to gsmSSF information flows

...

4.6.2.4 Call Information Request

4.6.2.4.1 Description

…

4.6.2.4.2 Information Elements

Information element name	Status	Description
Requested Information Type List	M	This IE is described in a table below. This IE specifies a list of specific items of information which are requested.
Leg ID	M	This IE indicates the party in the call for which the information shall be collected.

…

4.6.2.14 Furnish Charging Information

4.6.2.14.1 Description

…

4.6.2.14.2 Information Elements

Information element name	Status	Description
FCI Billing Charging Characteristics	M	This IE is described in a table below.

FCI Billing Charging Characteristics contains the following information element:

Information element name	Status	Description
FCIBCCCAMEL Sequence 1	M	This IE is described in a table below.

FCIBCCCAMEL Sequence 1 contains the following information elements:

Information element name	Status	Description
Free Format Data	M	This IE contains the free format data to be inserted in the CAMEL logical call record.
Party To Charge	M	This IE indicates the party for whom a CAMEL logical call record will be created.
…		

…

4.6.2.21 Send Charging Information

4.6.2.21.1 Description

…

4.6.2.21.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
SCI Billing Charging Characteristics	M	-	-	M	-	-	This IE defines the Advice Of Charge related information to be provided to the Mobile Station.
Leg ID	M	-	-	M	-	-	This IE indicates the leg to which the charging information shall be sent.

…

4.6.2.19 Request Report BCSM Event

4.6.2.19.1 Description

…

4.6.2.19.2 Information Elements

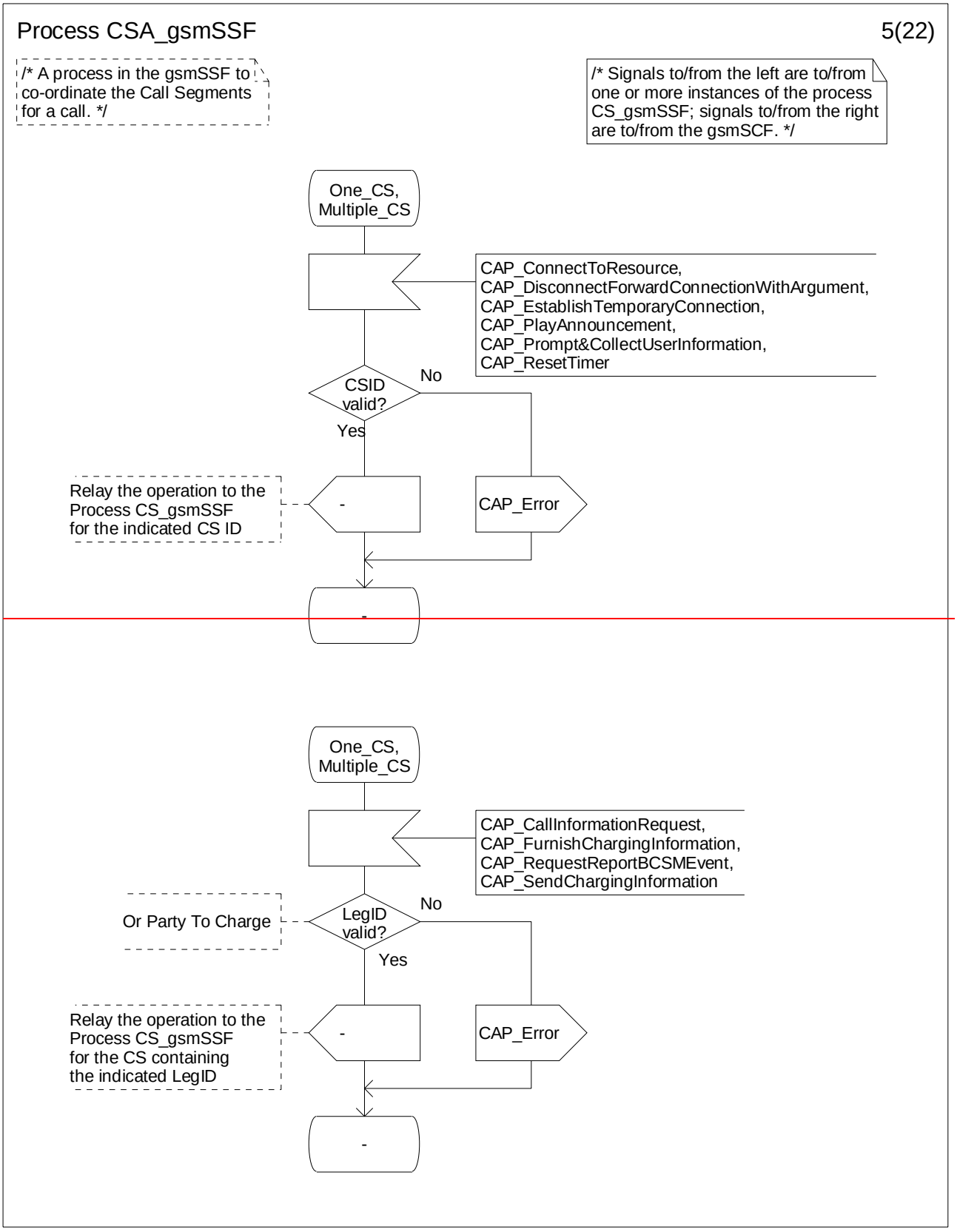
Information element name	MO	MF	MT	VT	NC	NP	Description
BCSM Event	M	M	M	M	M	M	This IE specifies the event or events for which a report is requested.

BCSM Event contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Event type	M	M	M	M	M	M	This IE specifies the type of event for which a report is requested.
Leg ID	C	C	C	C	C	M	This IE indicates the party in the call for which the event shall be armed or disarmed.
...							

…

*** First Modification ***



~~Figure 4.114-5: Process CSA_gsmSSF (sheet 5)~~

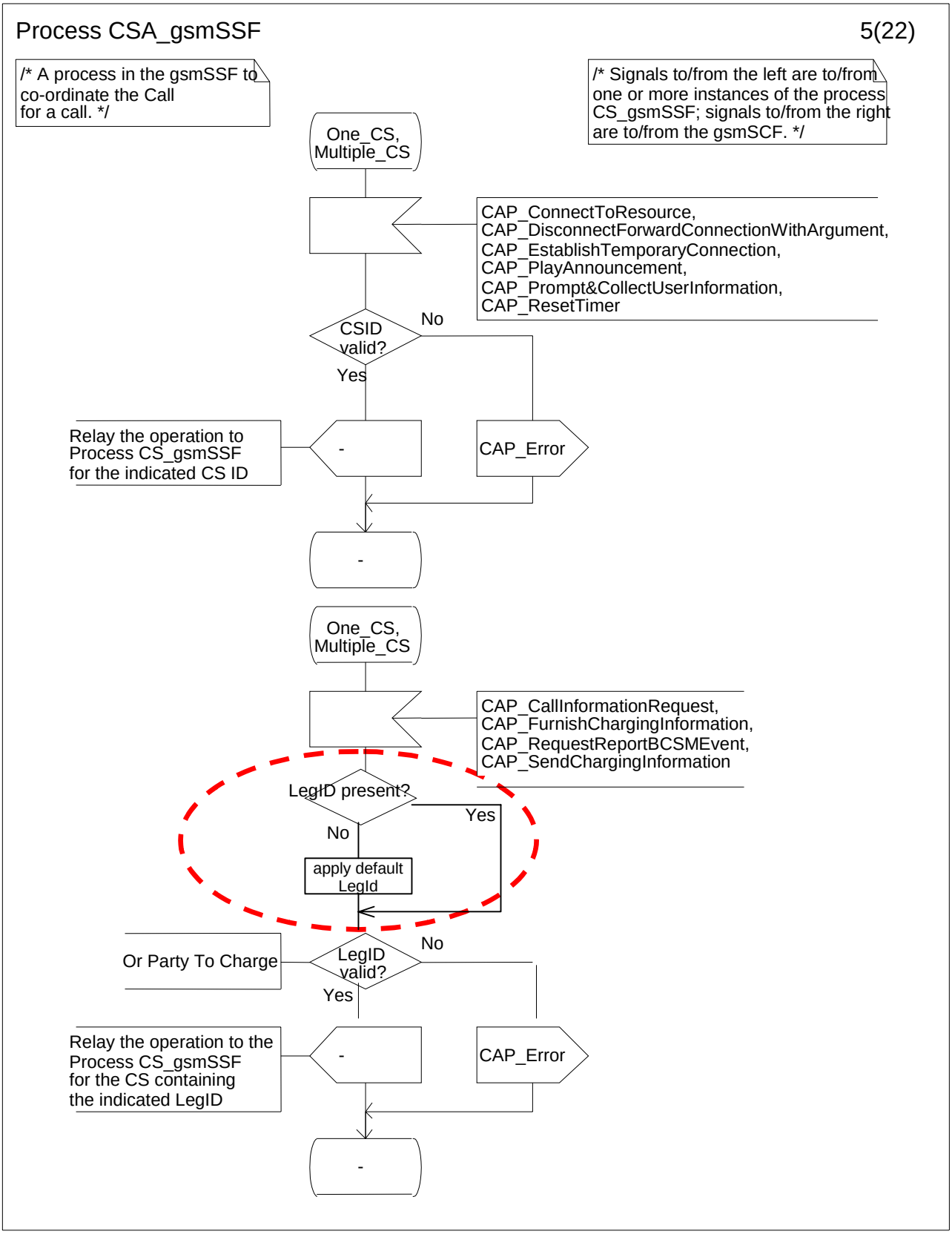


Figure 4.114-5: Process CSA_gsmSSF (sheet 5)

*** End of Document***

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040139
revision of N2-040094

CHANGE REQUEST

⌘ **23.078** **CR** **673** ⌘ **rev** **2** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to Split Leg handling in CSA_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ In figure 4.113, CSA_gsmSSF, the following corrections, related to SplitLeg are needed:

- sheet 12: it shall be indicated that Int_Request_SL is sent to Source CS. There may be multiple Call Segments. Hence, without the additional indication, it would not be clear to which Call Segment the Int_Request_SL shall be sent.
- sheet 13: the Int_Export_Leg signal shall be sent to “Source CS”; reason is that a leg may be exported form a CS other than CS1.
- Sheet 22: the Int_Export_Leg ack signal shall be received from “Source CS”. Same reason as for the correction to sheet 13;
- Sheet 22: the end state (i.e. when processing of Split Leg is completed) may be “Multiple_CS” or “One_CS”. A check box is needed to check how many CS’s exist.

Summary of change: ⌘ Correct figure 4.113 as described above.

Consequences if not approved: ⌘ Implementation difficulties for SplitLeg, resulting in interworking problems between gsmSSF and gsmSCF.
As an example, the Split Leg operation could be executed whilst User Interactrion is ongoing, due to the fact that the Int_Request_SL is sent to the wrong call segment.
Another example of a consequence if not approved is that moving a leg to call segment 1, when call segment 1 does not exist, would fail.

Clauses affected: ⌘ 4.5.7.7

		Y	N		
Other specs	⌘		**X**	Other core specifications	⌘

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

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

4.5.7.7 Process CSA_gsmSSF and procedures

The call gap information flow can only be received for an opened transaction between the CSA_gsmSSF and the gsmSCF.

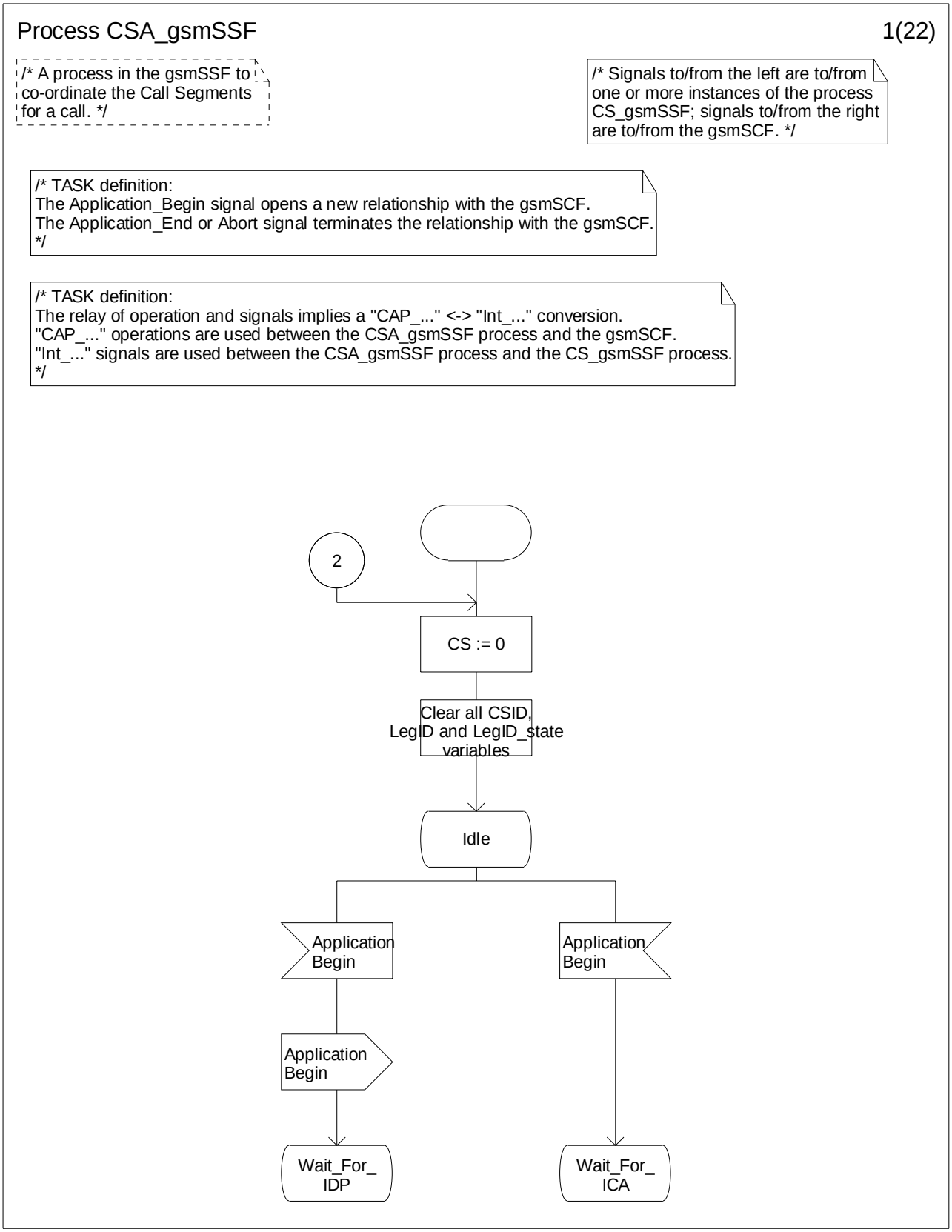


Figure Error! Reference source not found..**1-1: Process CSA_gsmSSF (sheet 1)**

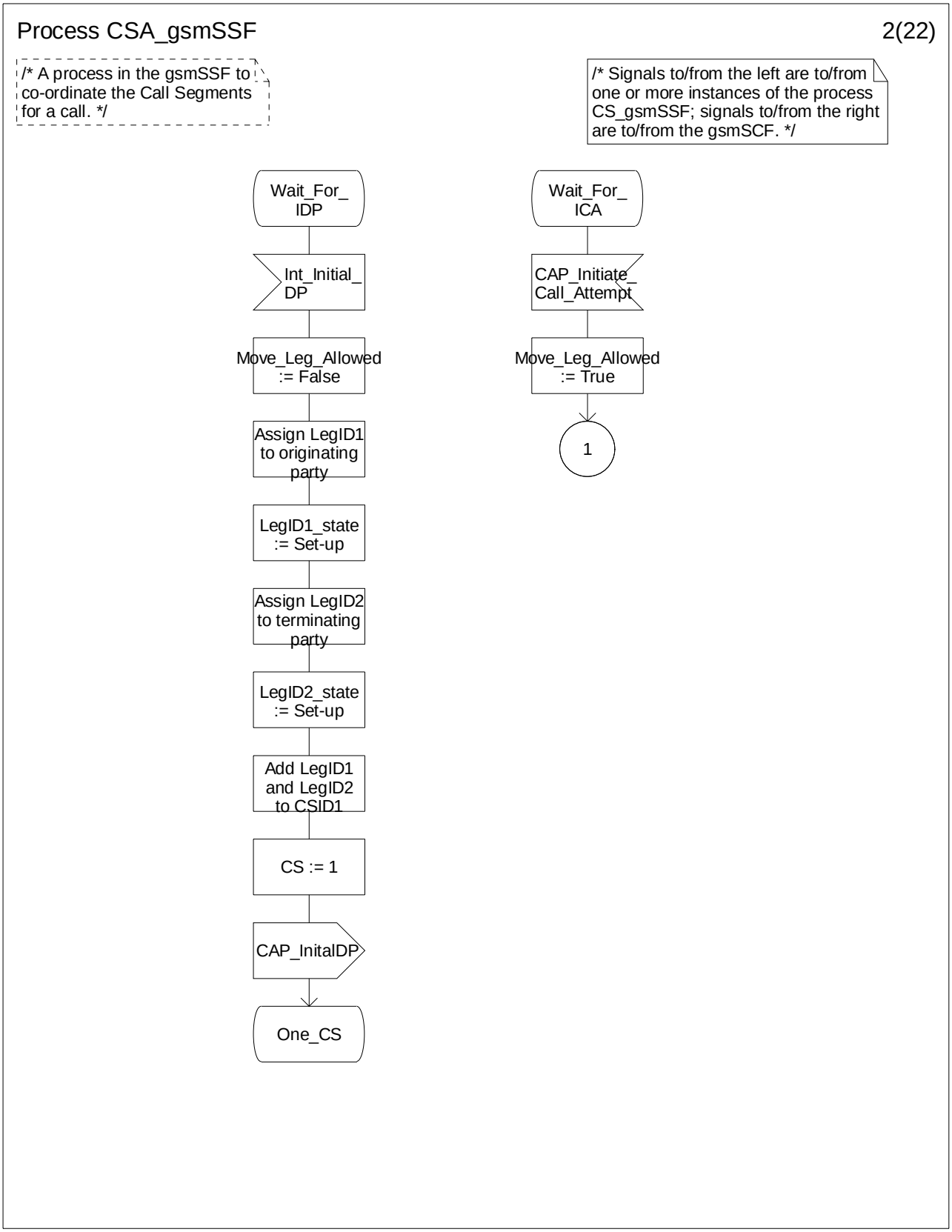


Figure Error! Reference source not found..1**-2: Process CSA_gsmSSF (sheet 2)**

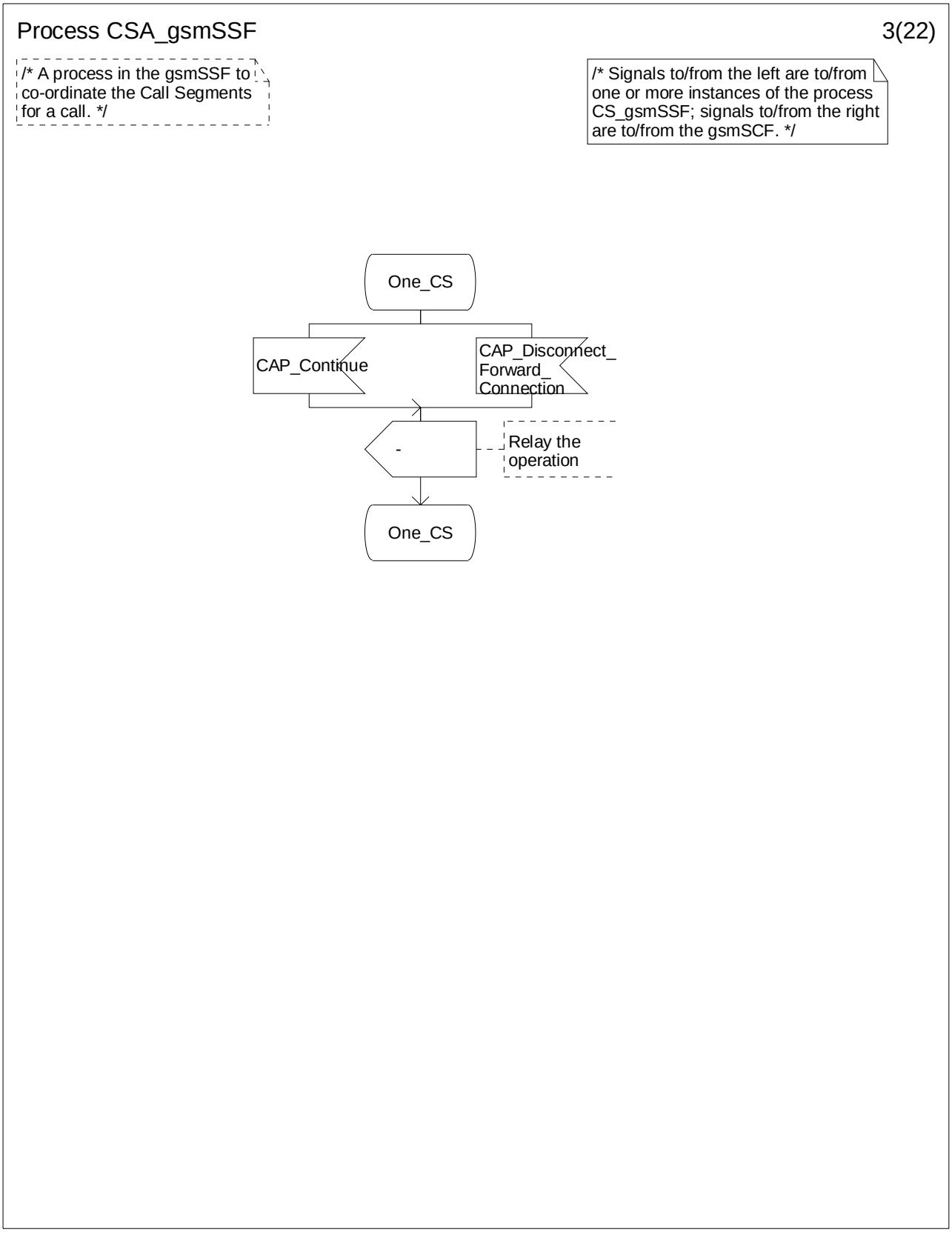


Figure Error! Reference source not found..1**-3: Process CSA_gsmSSF (sheet 3)**

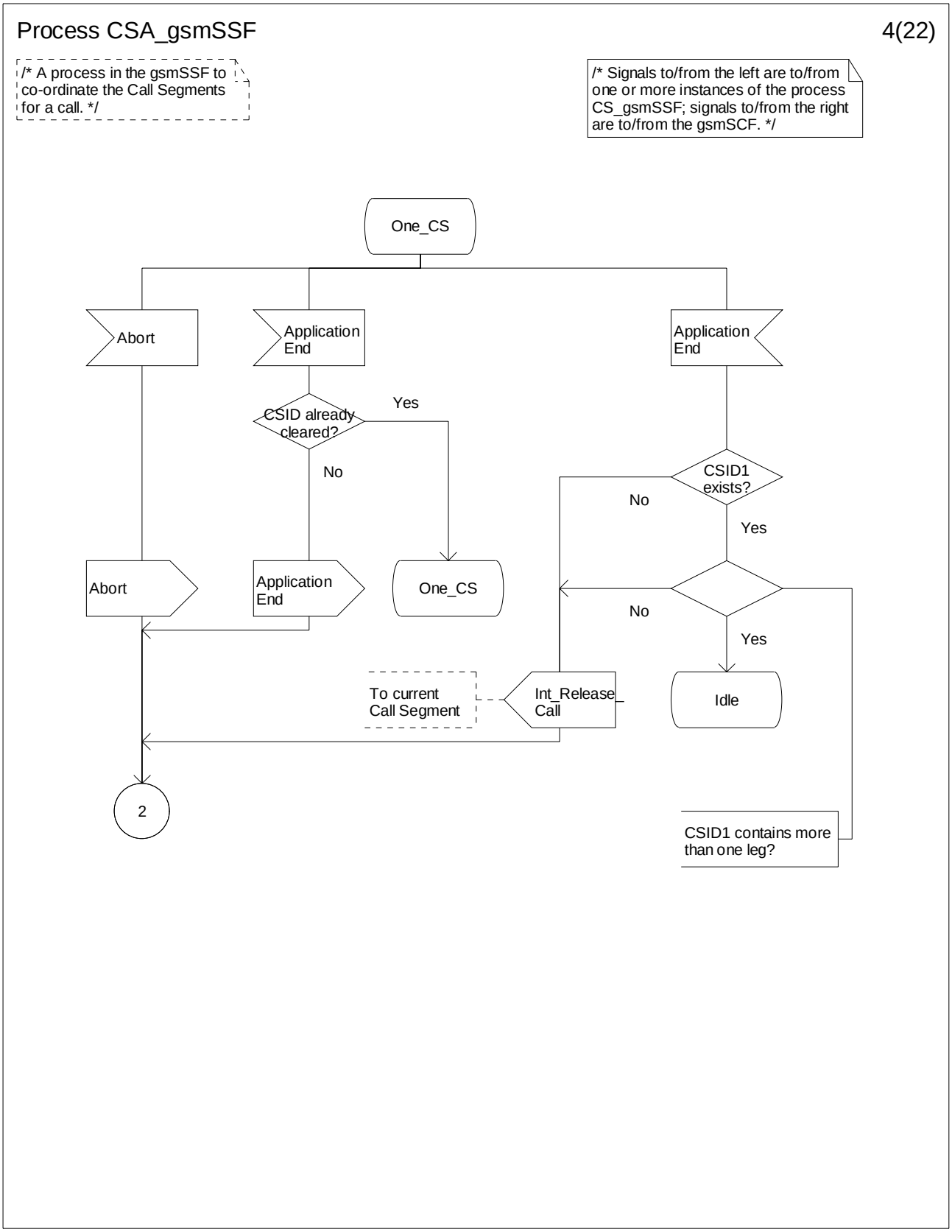


Figure Error! Reference source not found..1**-4: Process CSA_gsmSSF (sheet 4)**

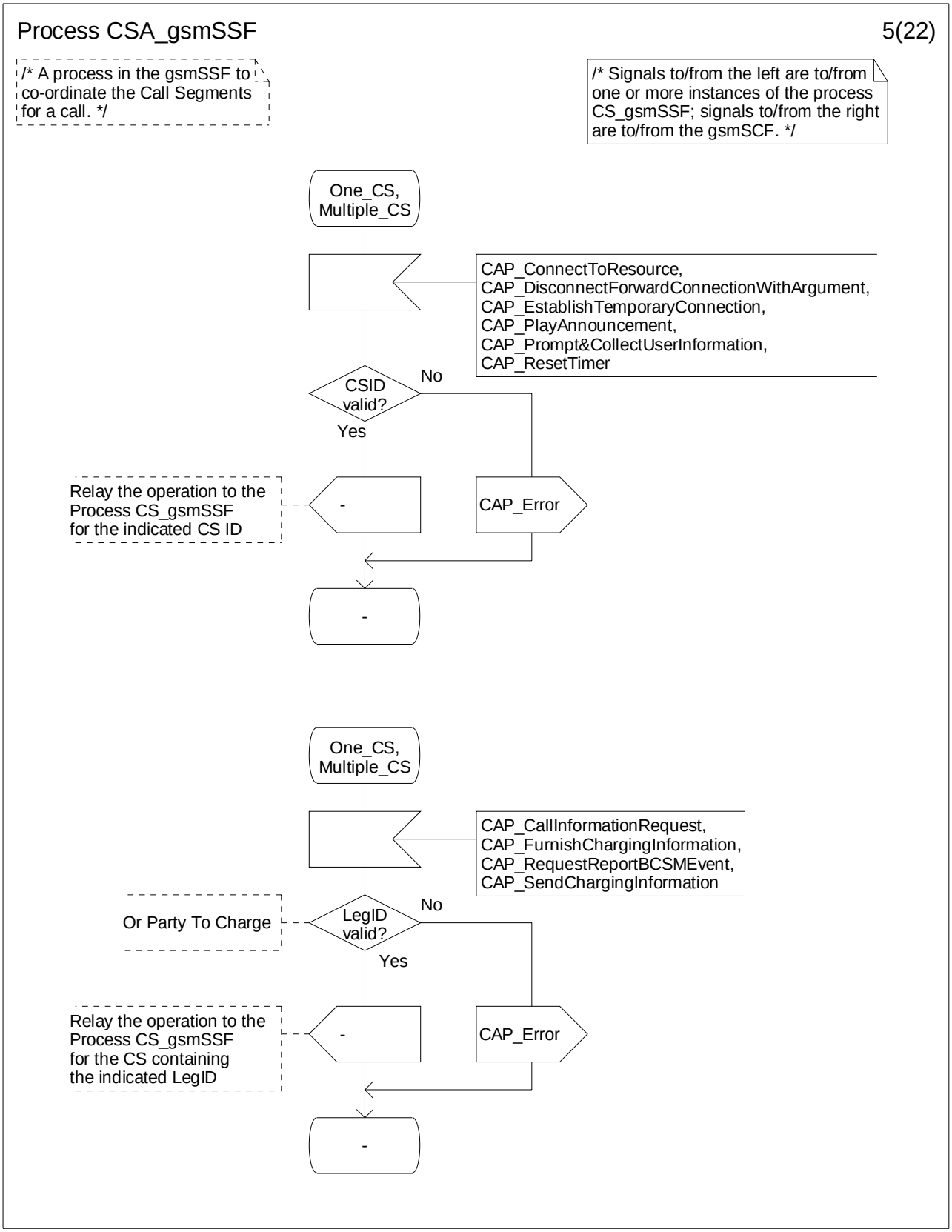


Figure Error! Reference source not found..1**-5: Process CSA_gsmSSF (sheet 5)**

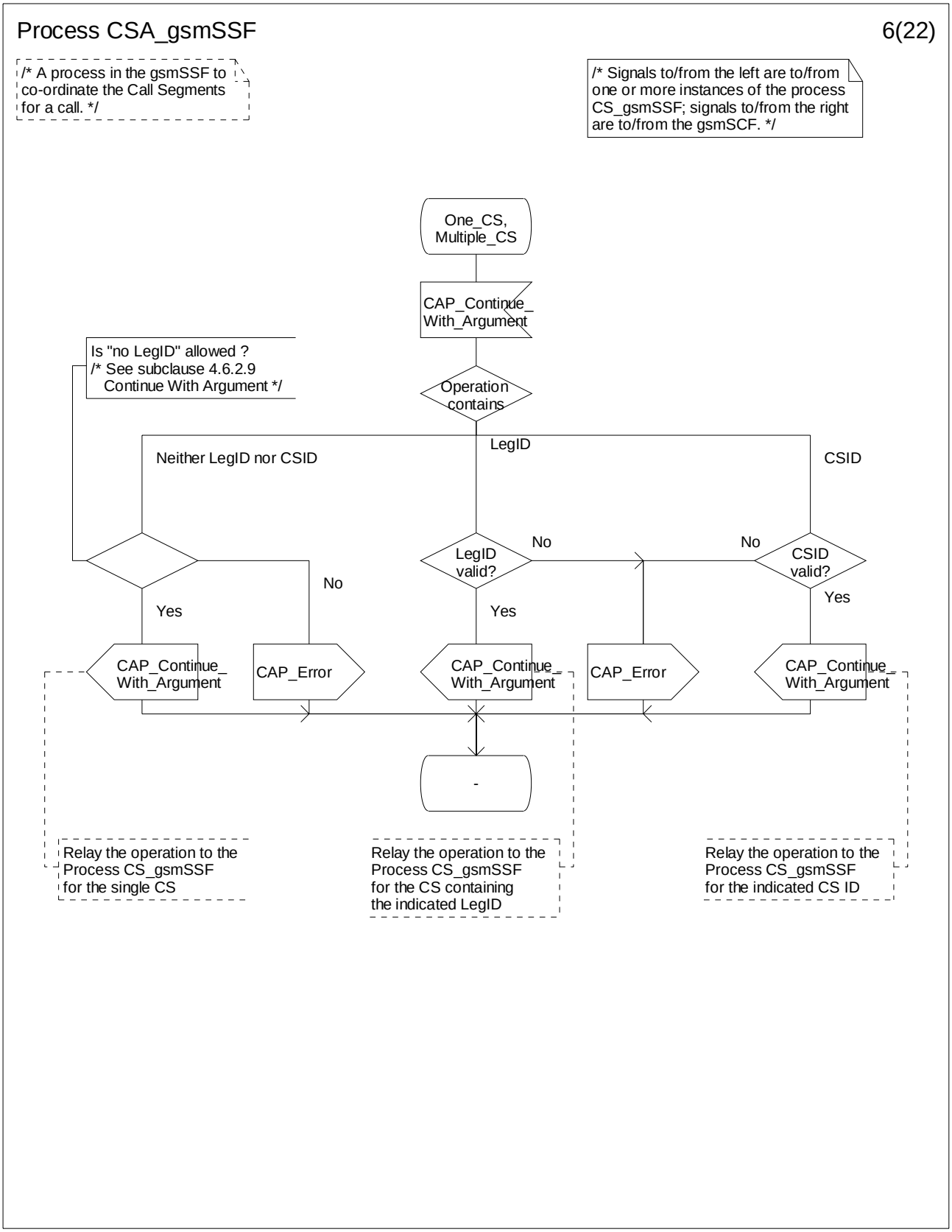


Figure Error! Reference source not found..1**-6: Process CSA_gsmSSF (sheet 6)**

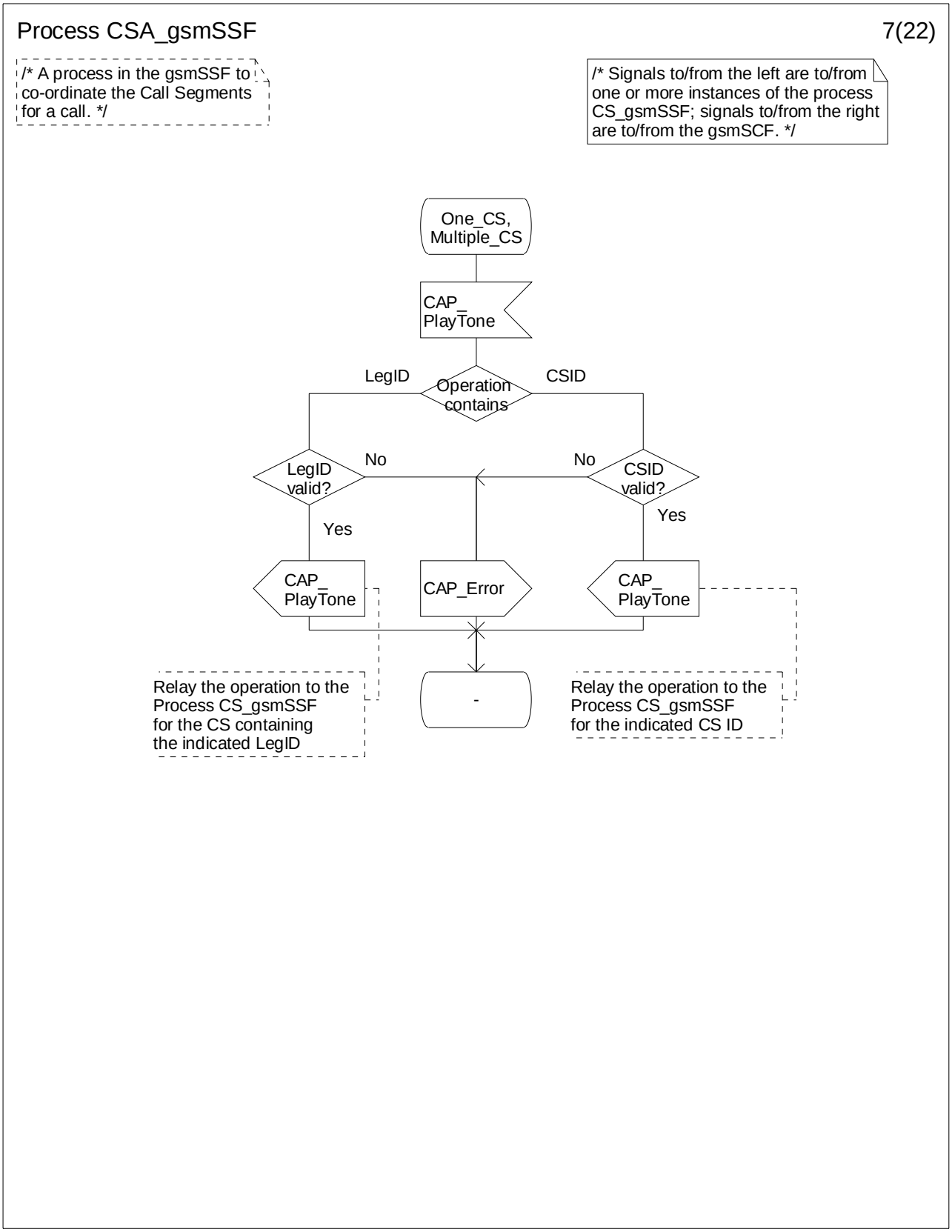


Figure Error! Reference source not found..1**-7: Process CSA_gsmSSF (sheet 7)**

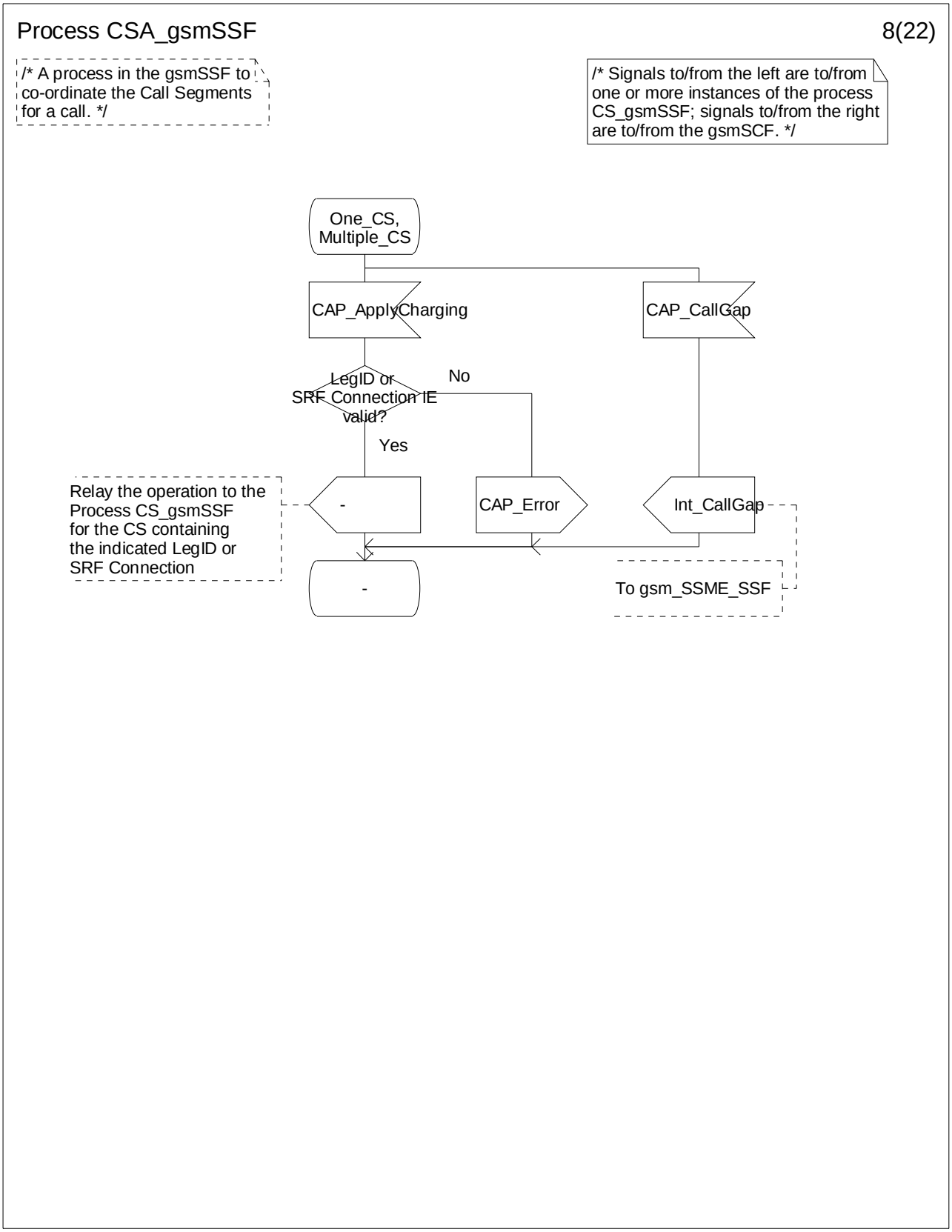


Figure Error! Reference source not found..1**-8: Process CSA_gsmSSF (sheet 8)**

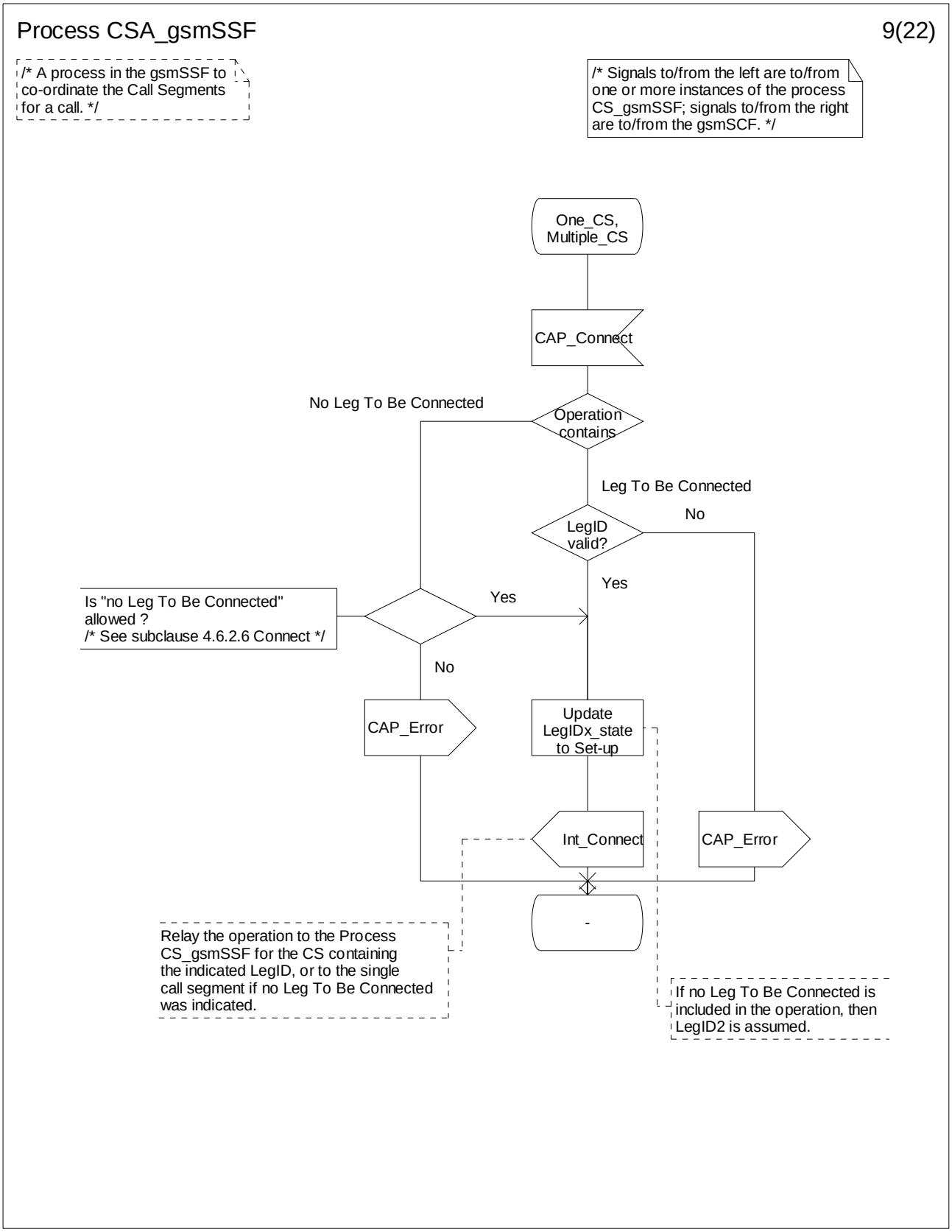


Figure Error! Reference source not found..1**-9: Process CSA_gsmSSF (sheet 9)**

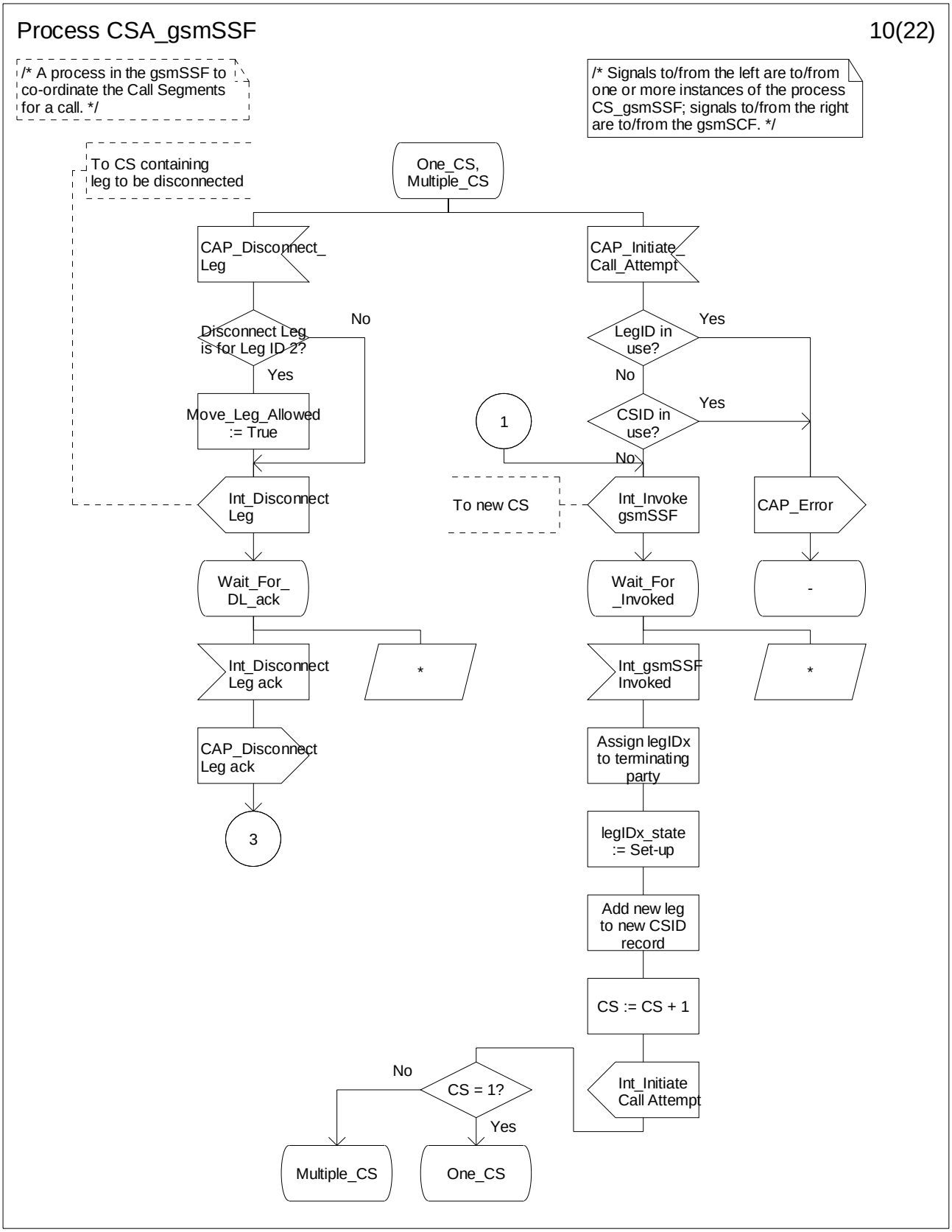


Figure Error! Reference source not found..1**-10: Process CSA_gsmSSF (sheet 10)**

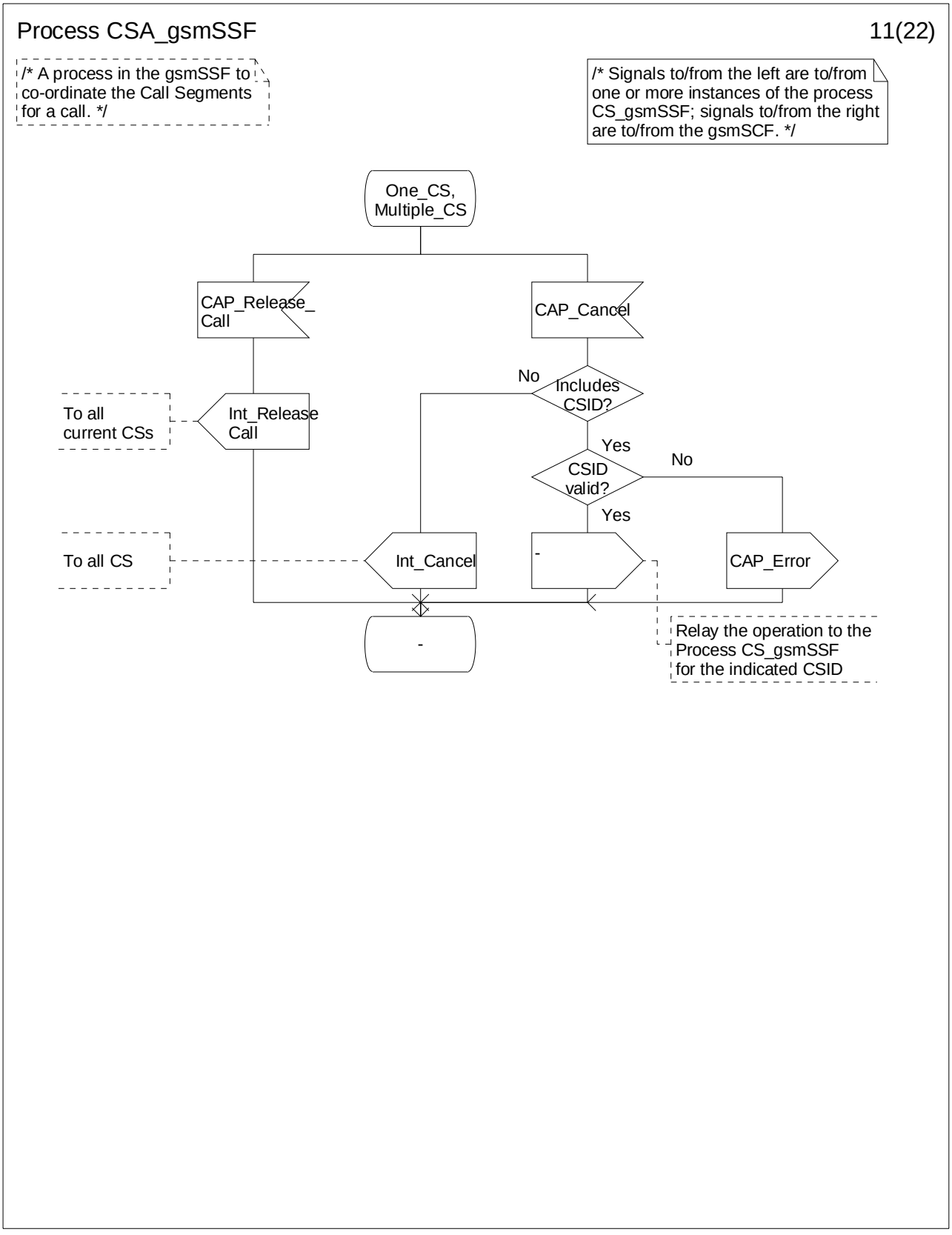
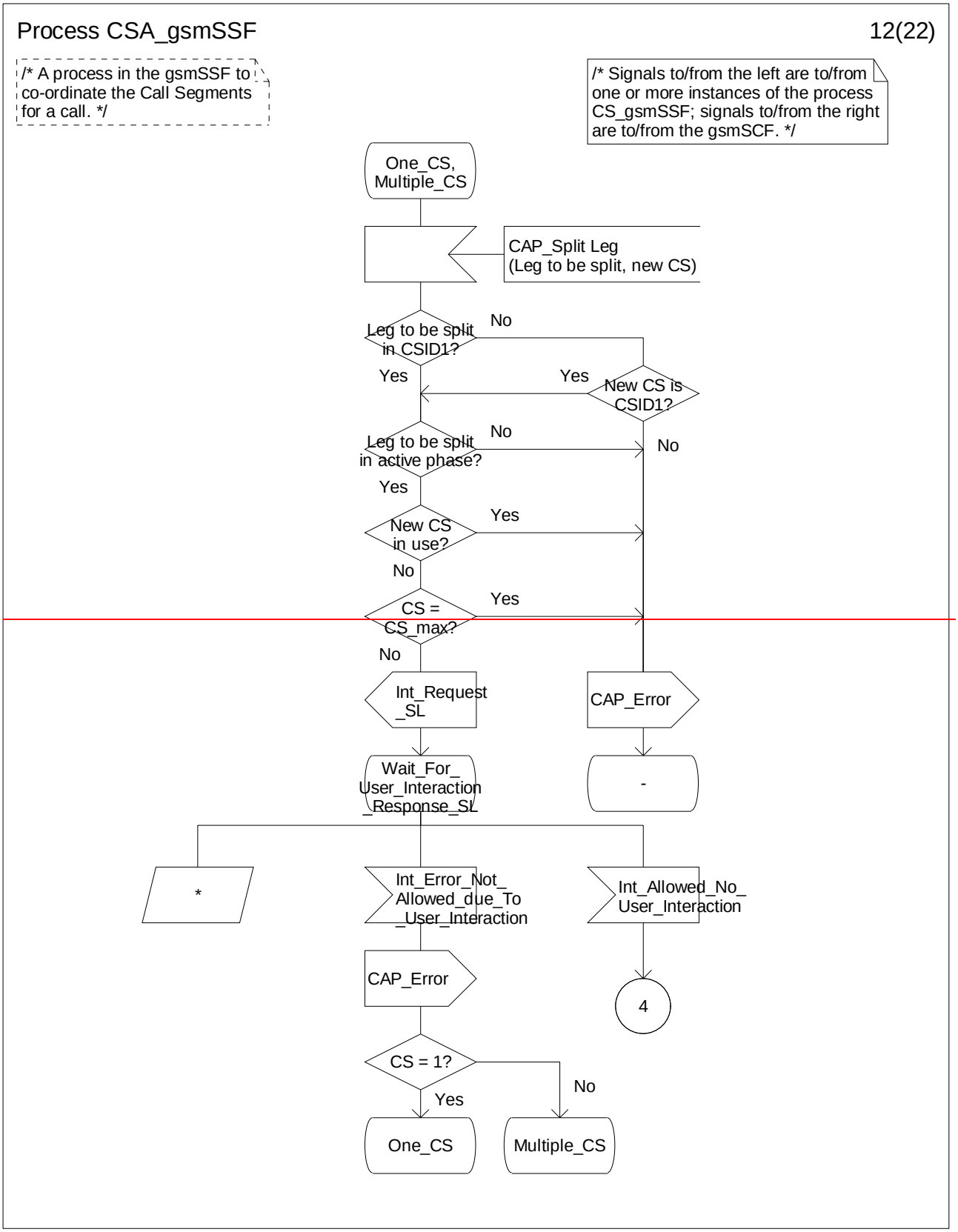


Figure Error! Reference source not found..1**-11: Process CSA_gsmSSF (sheet 11)**



~~Figure 4.113-12: Process CSA_gsmSSF (sheet 12)~~

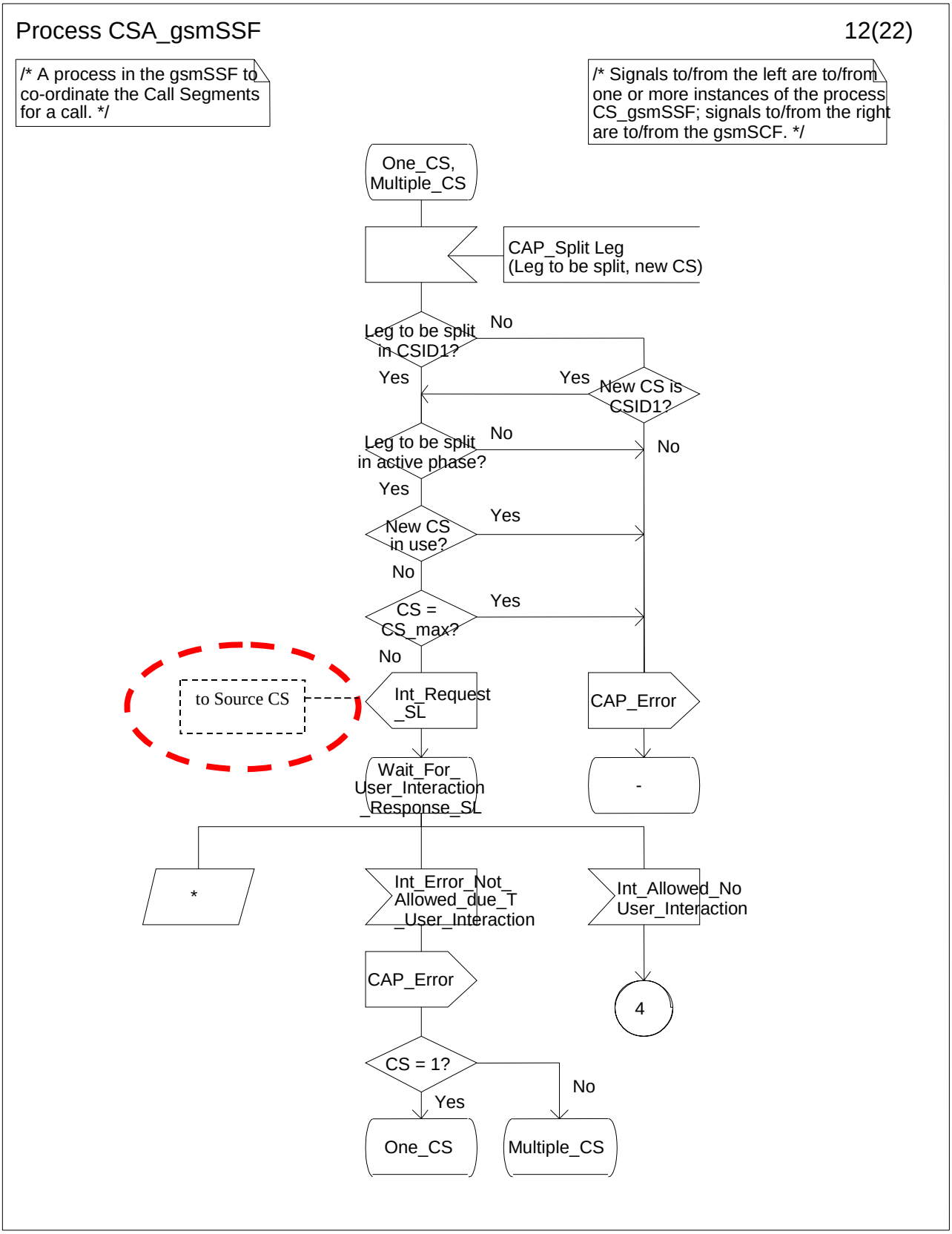
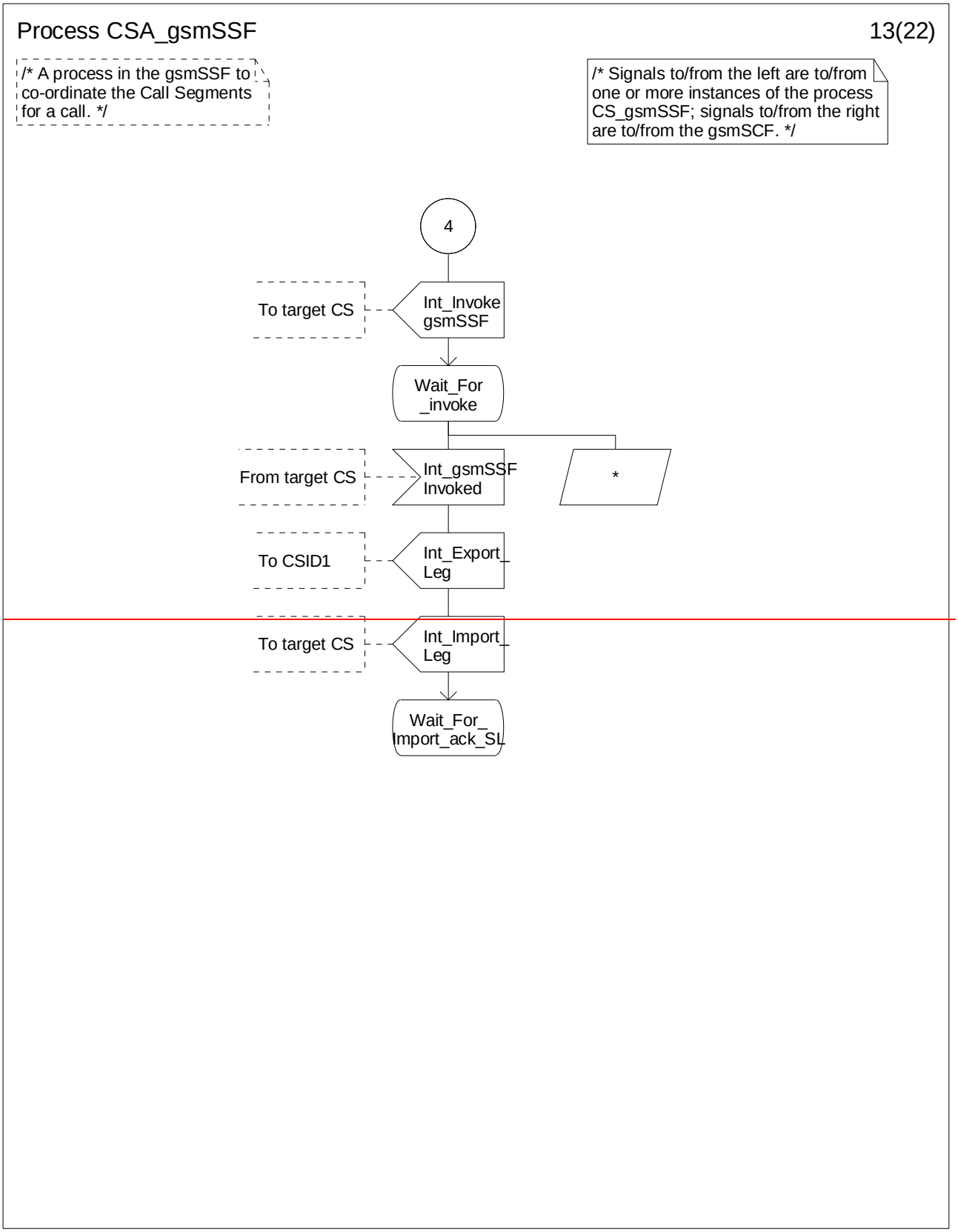


Figure 4.113-12: Process CSA_gsmSSF (sheet 12)



~~Figure 4.113-13: Process CSA_gsmSSF (sheet 13)~~

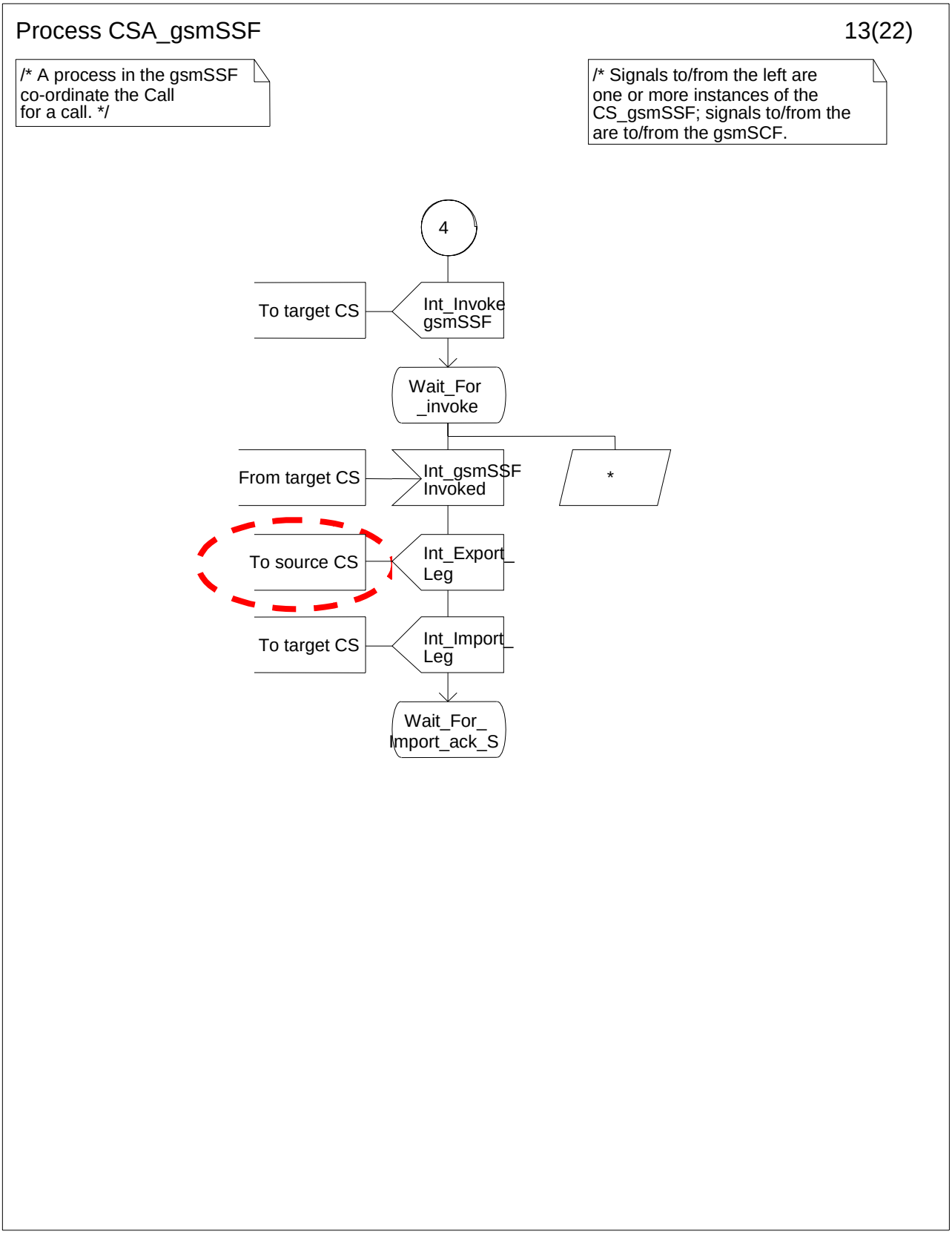


Figure 4.113-13: Process CSA_gsmSSF (sheet 13)

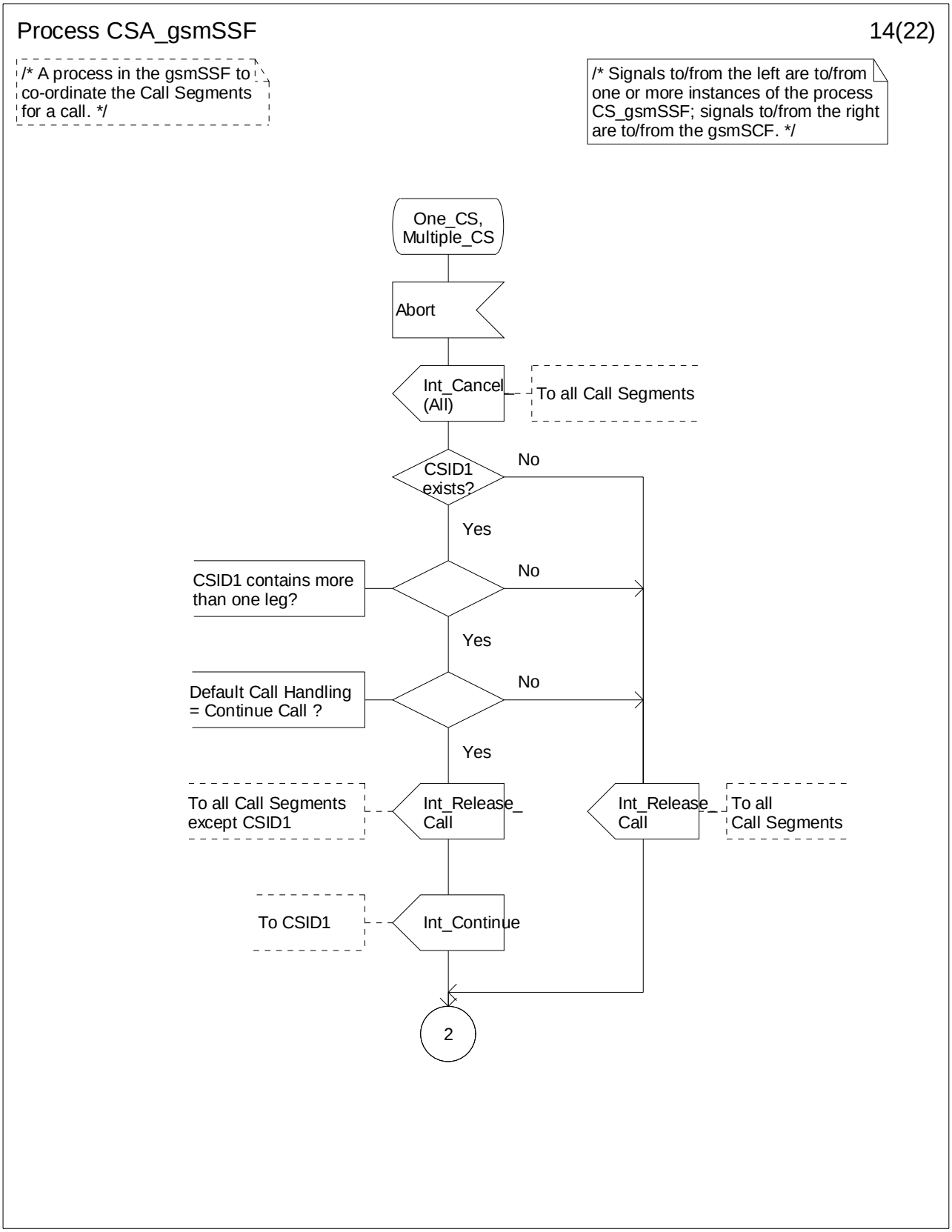


Figure 4.113-14: Process CSA_gsmSSF (sheet 13)

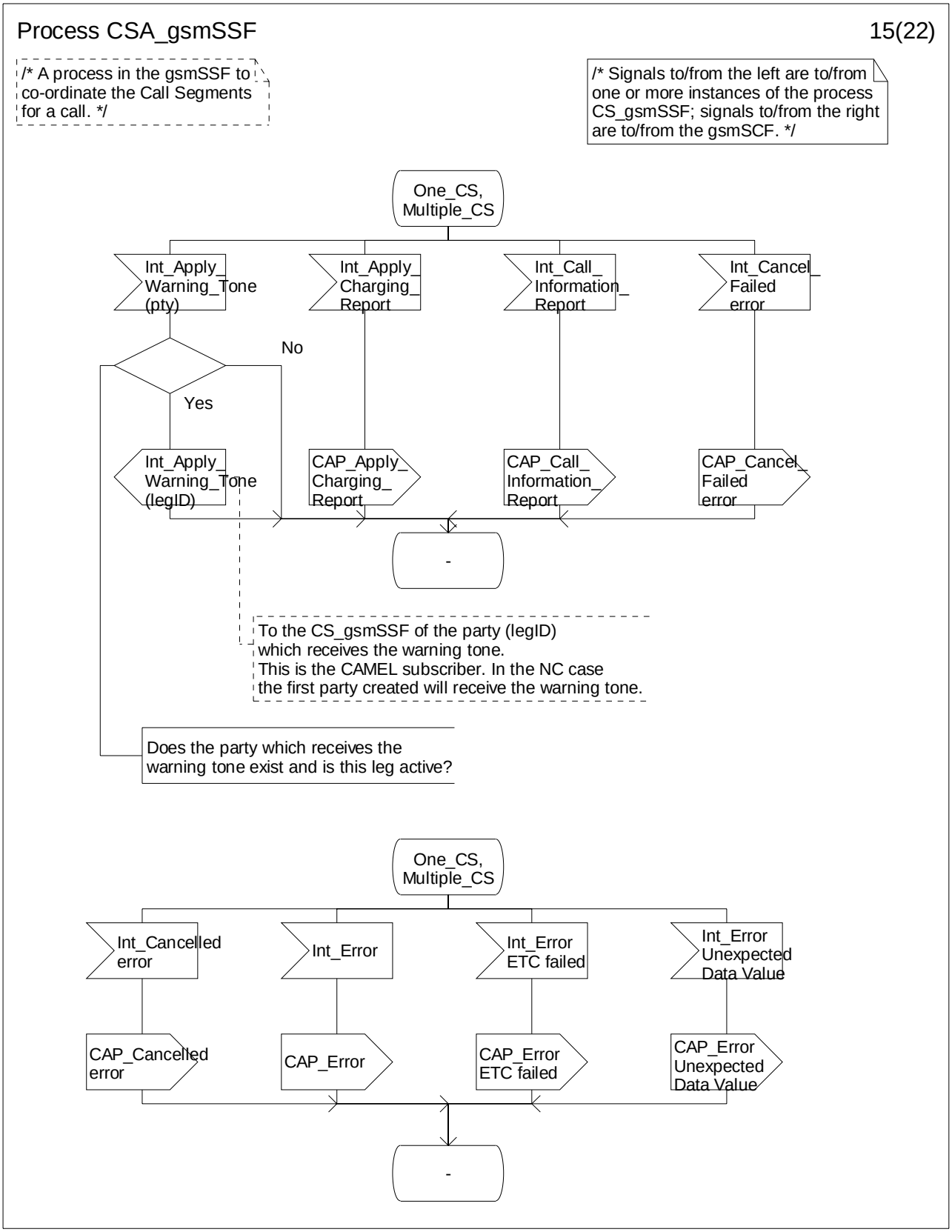


Figure 4.113-15: Process CSA_gsmSSF (sheet 135)

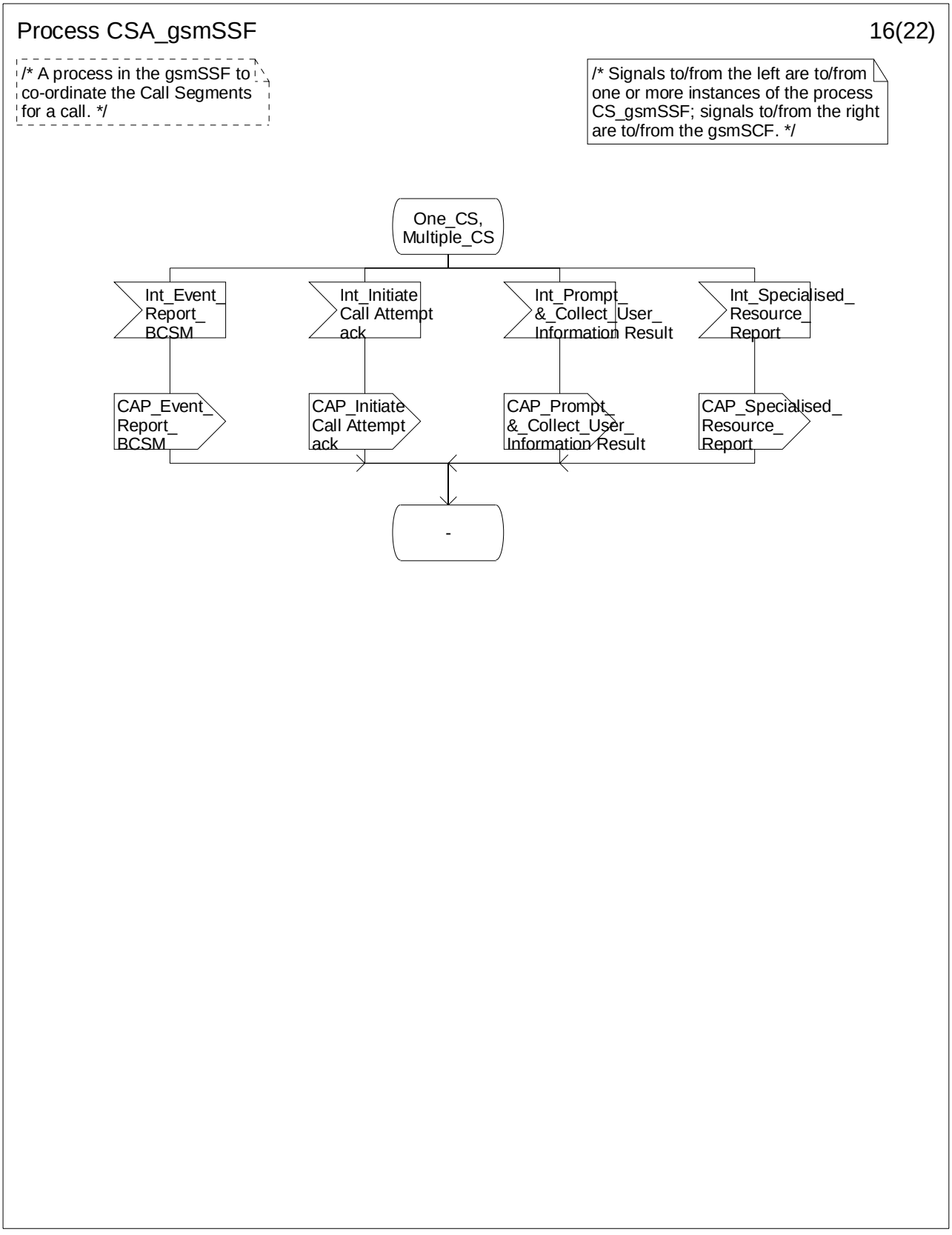


Figure 4.113-16: Process CSA_gsmSSF (sheet 136)

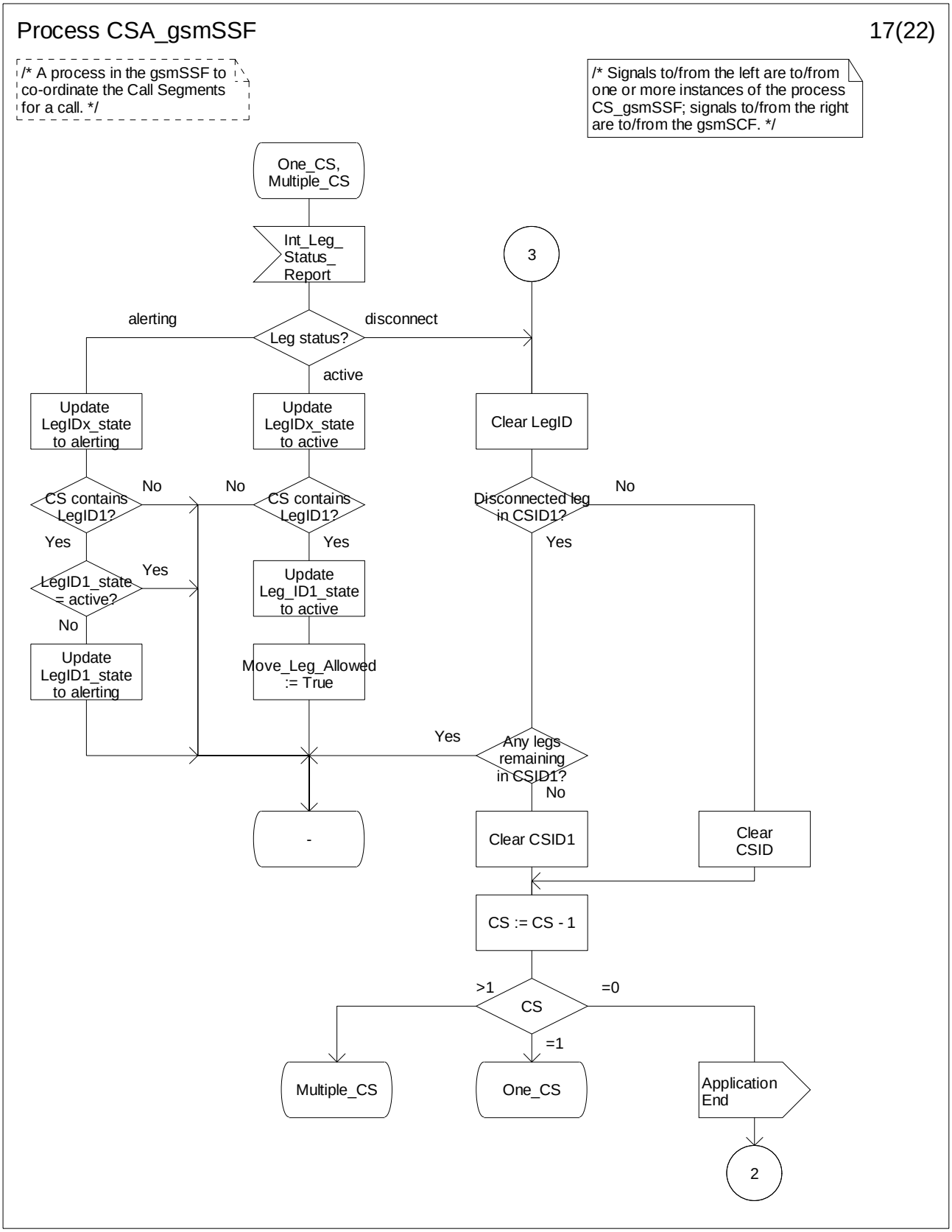


Figure 4.113-17: Process CSA_gsmSSF (sheet 137)

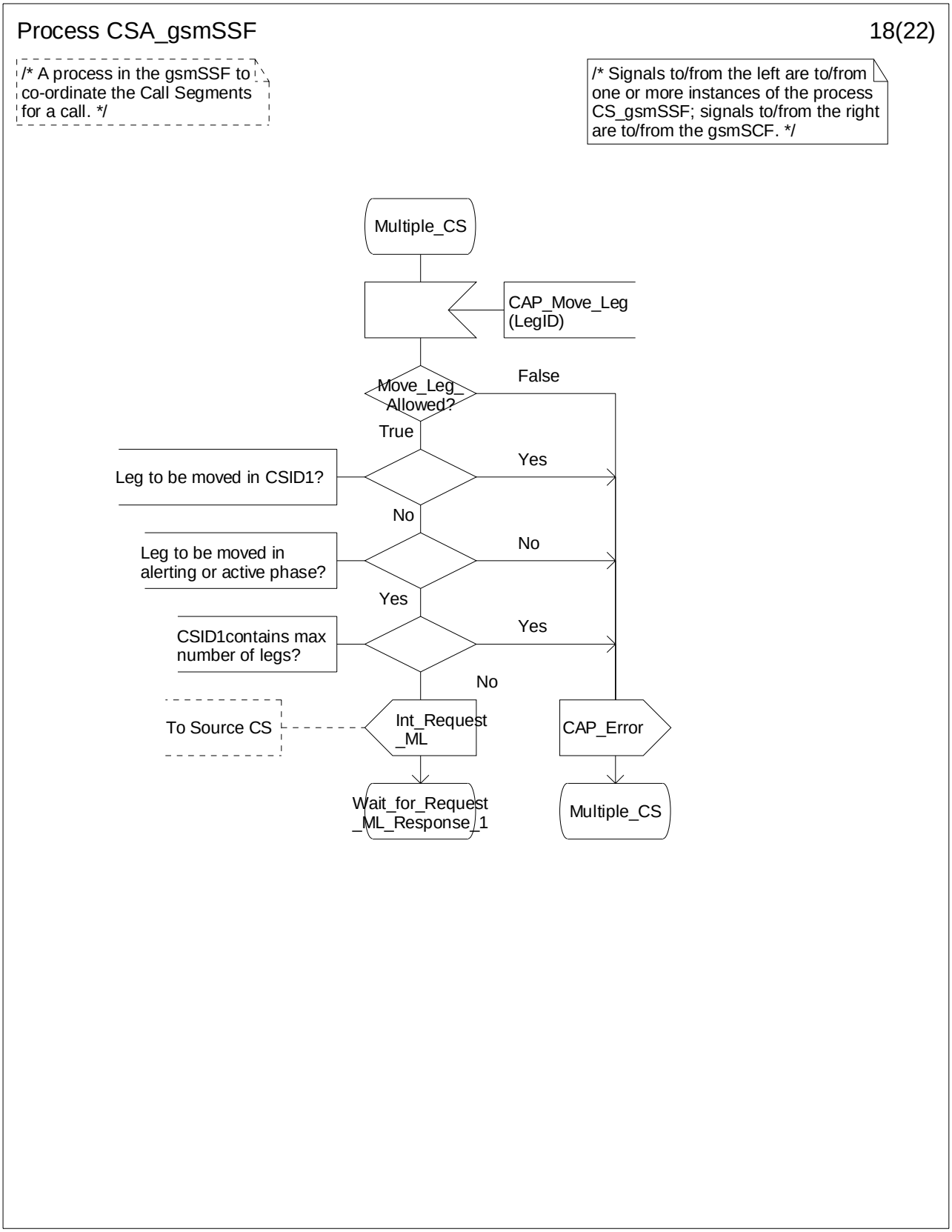


Figure 4.113-18: Process CSA_gsmSSF (sheet 18)

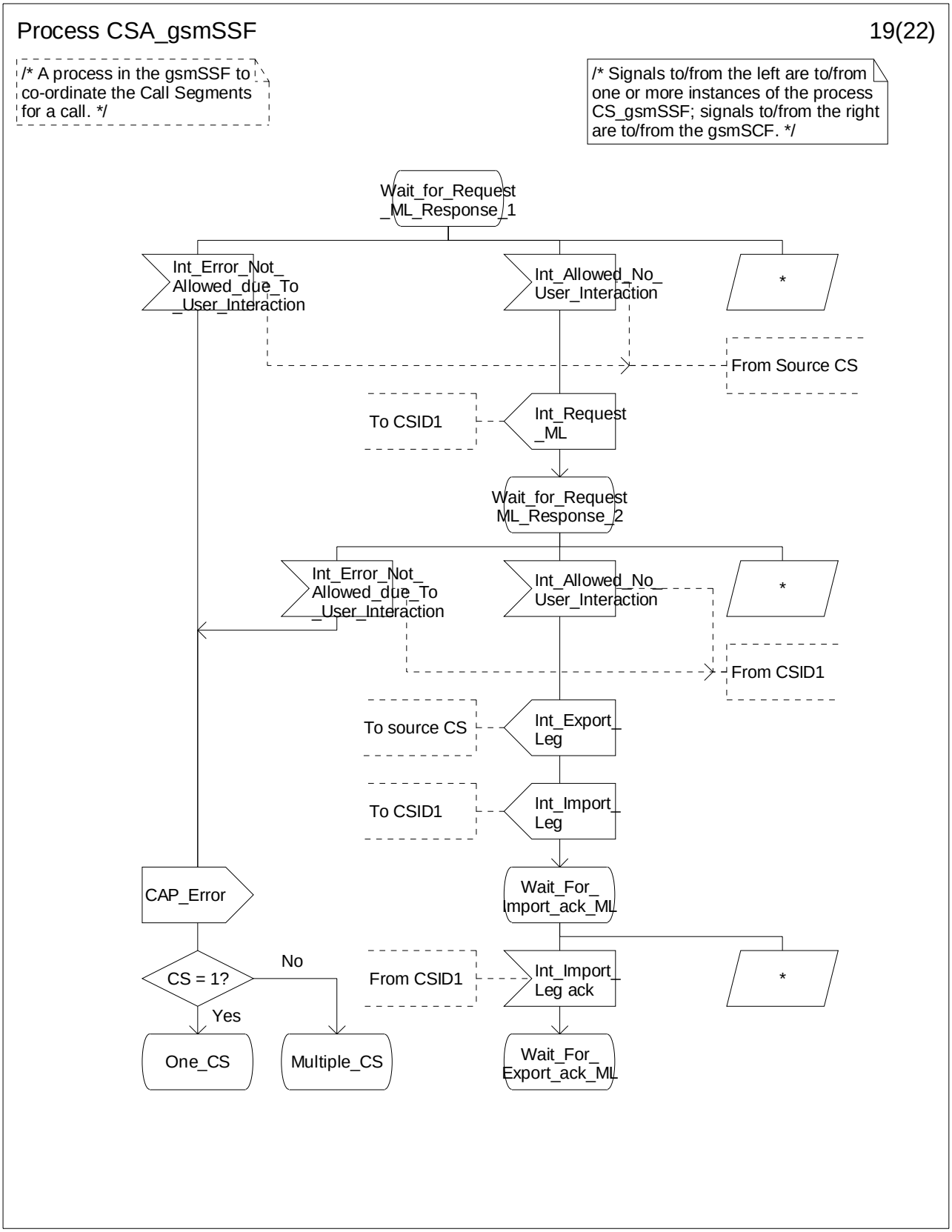


Figure 4.113-19: Process CSA_gsmSSF (sheet 19)

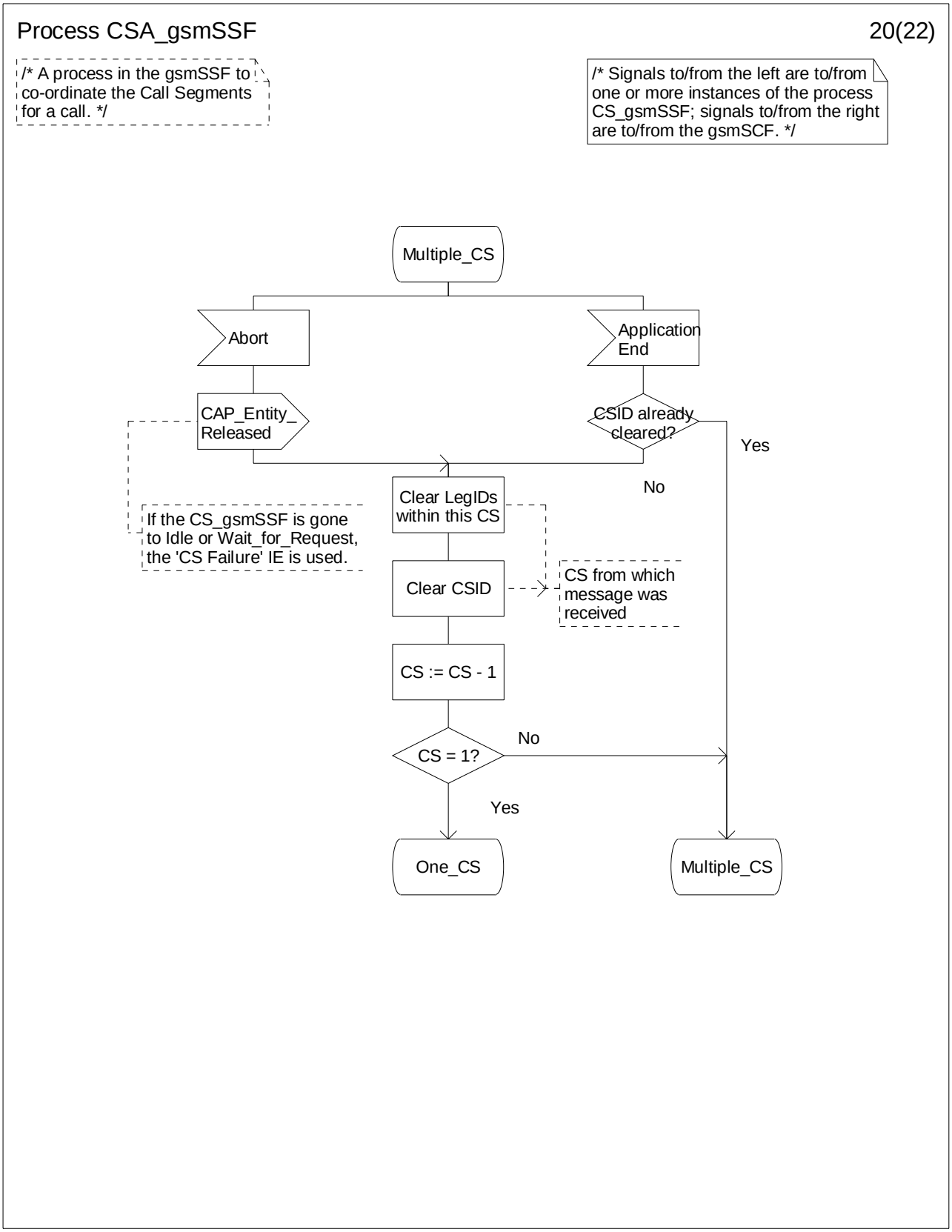


Figure 4.113-20: Process CSA_gsmSSF (sheet 20)

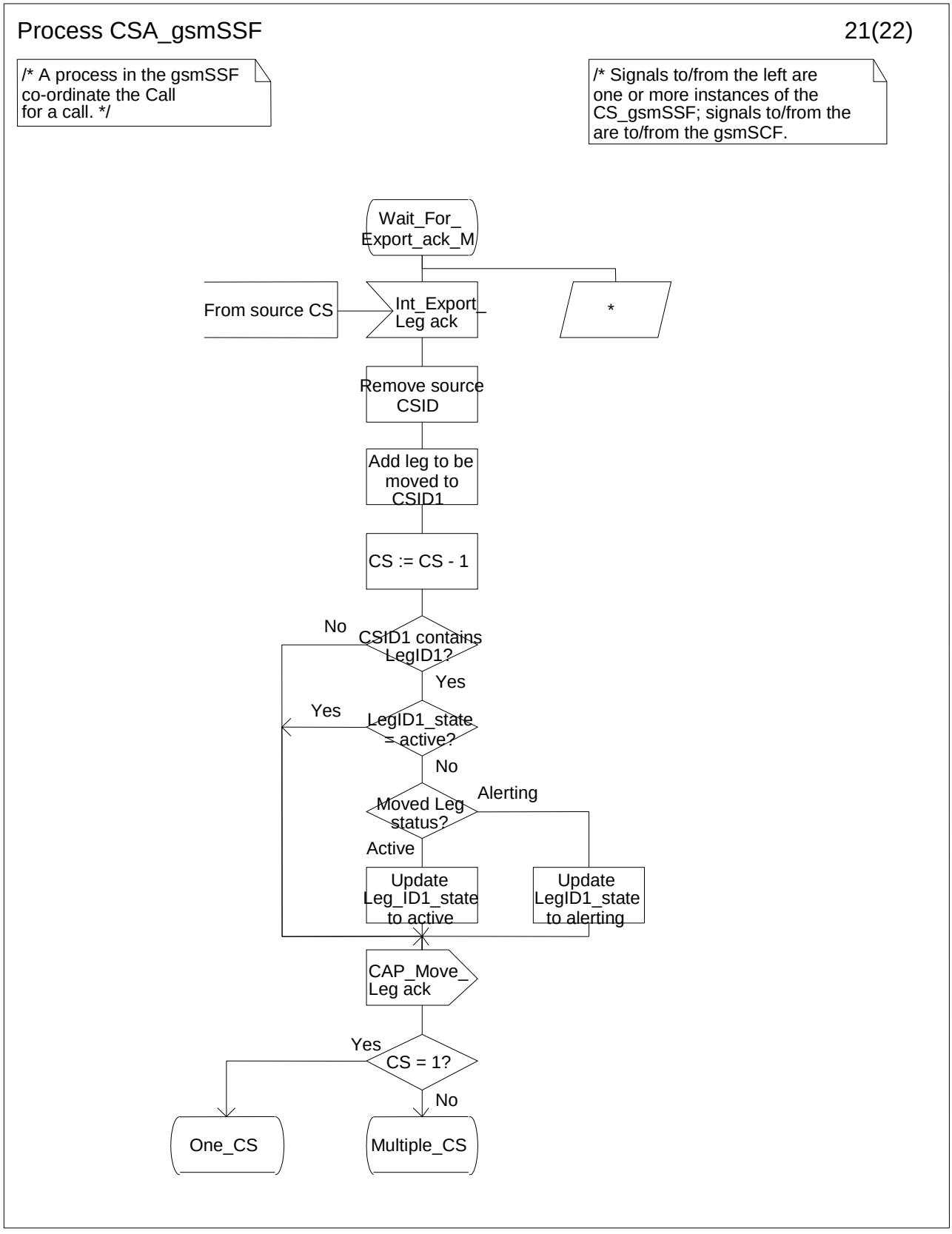
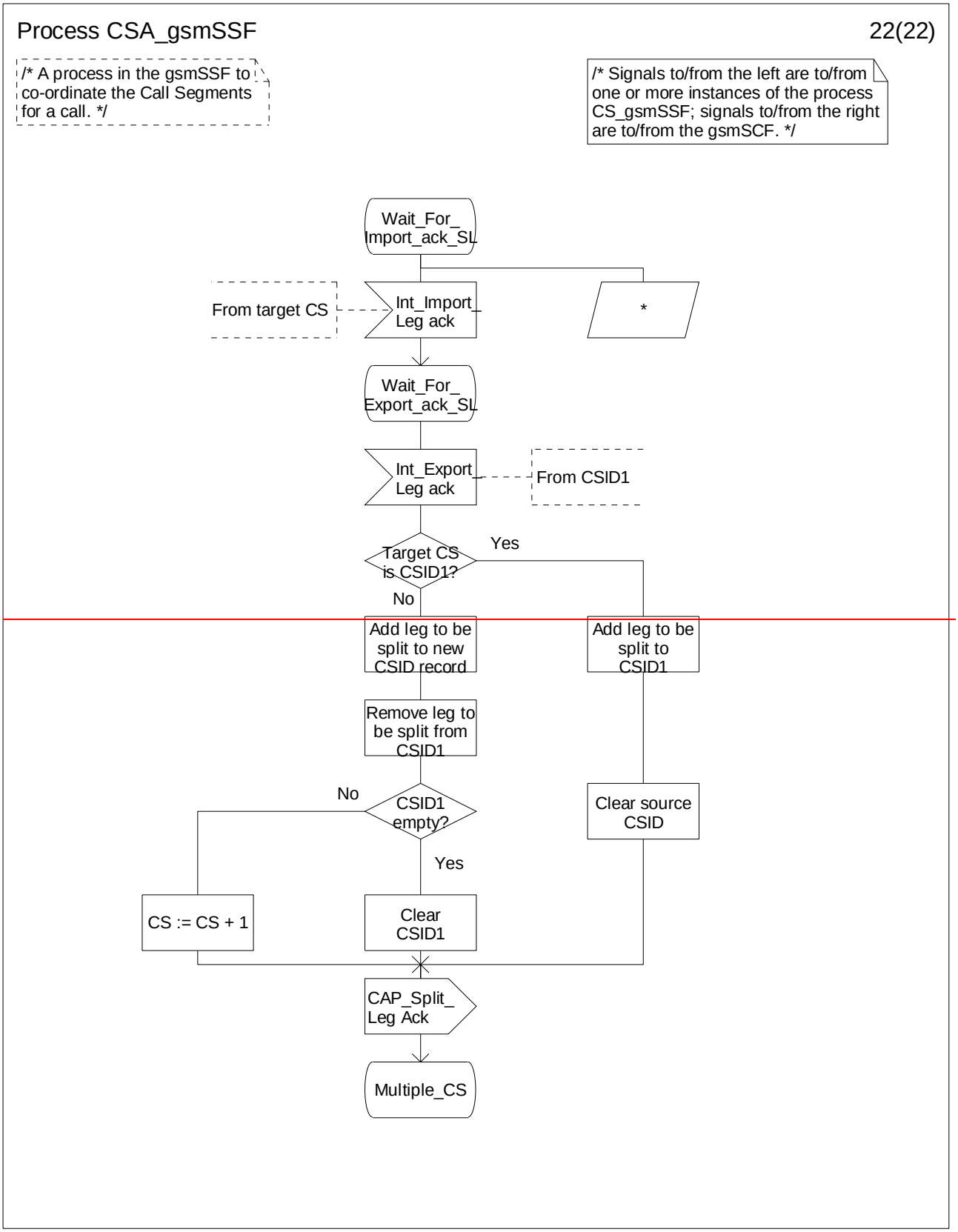


Figure 4.113-21: Process CSA_gsmSSF (sheet 21)



~~Figure 4.113-22: Process CSA_gsmSSF (sheet 22)~~

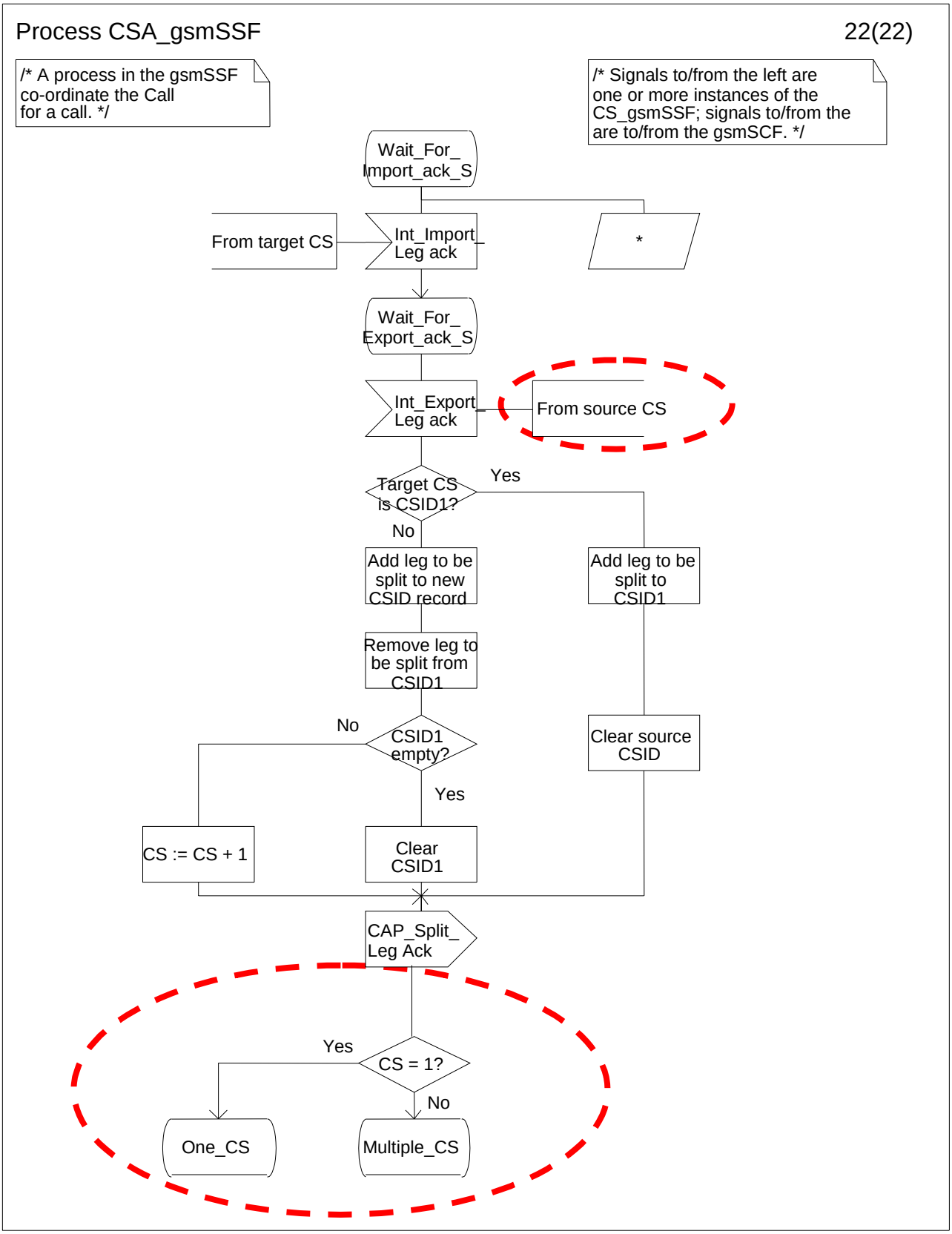


Figure 4.113-22: Process CSA_gsmSSF (sheet 22)

*** End of Document***

3GPP TSG CN WG2 Meeting #32 N2-040140
Atlanta, USA, 16th – 20st February 2004

CHANGE REQUEST

⌘ **23.078** **CR** **704** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to Split Leg handling in CSA_gsmSSF
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ In figure 4.114, CSA_gsmSSF, the following corrections, related to SplitLeg are needed:

- sheet 12: it shall be indicated that Int_Request_SL is sent to Source CS. There may be multiple Call Segments. Hence, without the additional indication, it would not be clear to which Call Segment the Int_Request_SL shall be sent.
- sheet 13: the Int_Export_Leg signal shall be sent to “Source CS”; reason is that a leg may be exported form a CS other than CS1.
- Sheet 22: the Int_Export_Leg ack signal shall be received from “Source CS”. Same reason as for the correction to sheet 13;
- Sheet 22: the end state (i.e. when processing of Split Leg is completed) may be “Multiple_CS” or “One_CS”. A check box is needed to check how many CS’s exist.

Summary of change: ⌘ Correct figure 4.114 as described above.

Consequences if not approved: ⌘ Implementation difficulties for SplitLeg, resulting in interworking problems between gsmSSF and gsmSCF.
As an example, the Split Leg operation could be executed whilst User Interactrion is ongoing, due to the fact that the Int_Request_SL is sent to the wrong call segment.
Another example of a consequence if not approved is that moving a leg to call segment 1, when call segment 1 does not exist, would fail.

Clauses affected: ⌘ 4.5.7.7

		Y	N		
Other specs	⌘		**X**	Other core specifications	⌘

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

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

4.5.7.7 Process CSA_gsmSSF and procedures

The call gap information flow can only be received for an opened transaction between the CSA_gsmSSF and the gsmSCF.

Process CSA_gsmSSF 1(22)

/* A process in the gsmSSF to co-ordinate the Call Segments for a call. */

/* Signals to/from the left are to/from one or more instances of the process CS_gsmSSF; signals to/from the right are to/from the gsmSCF. */

/* TASK definition:
The Application_Begin signal opens a new relationship with the gsmSCF.
The Application_End or Abort signal terminates the relationship with the gsmSCF.
*/

/* TASK definition:
The relay of operation and signals implies a "CAP_..." <-> "Int_..." conversion.
"CAP_..." operations are used between the CSA_gsmSSF process and the gsmSCF.
"Int_..." signals are used between the CSA_gsmSSF process and the CS_gsmSSF process.
*/

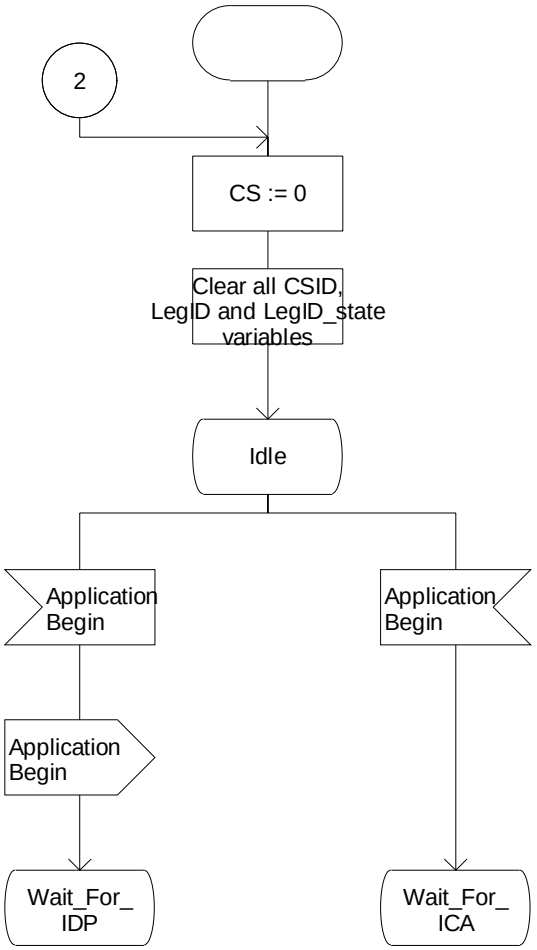


Figure 4.114-1: Process CSA_gsmSSF (sheet 1)

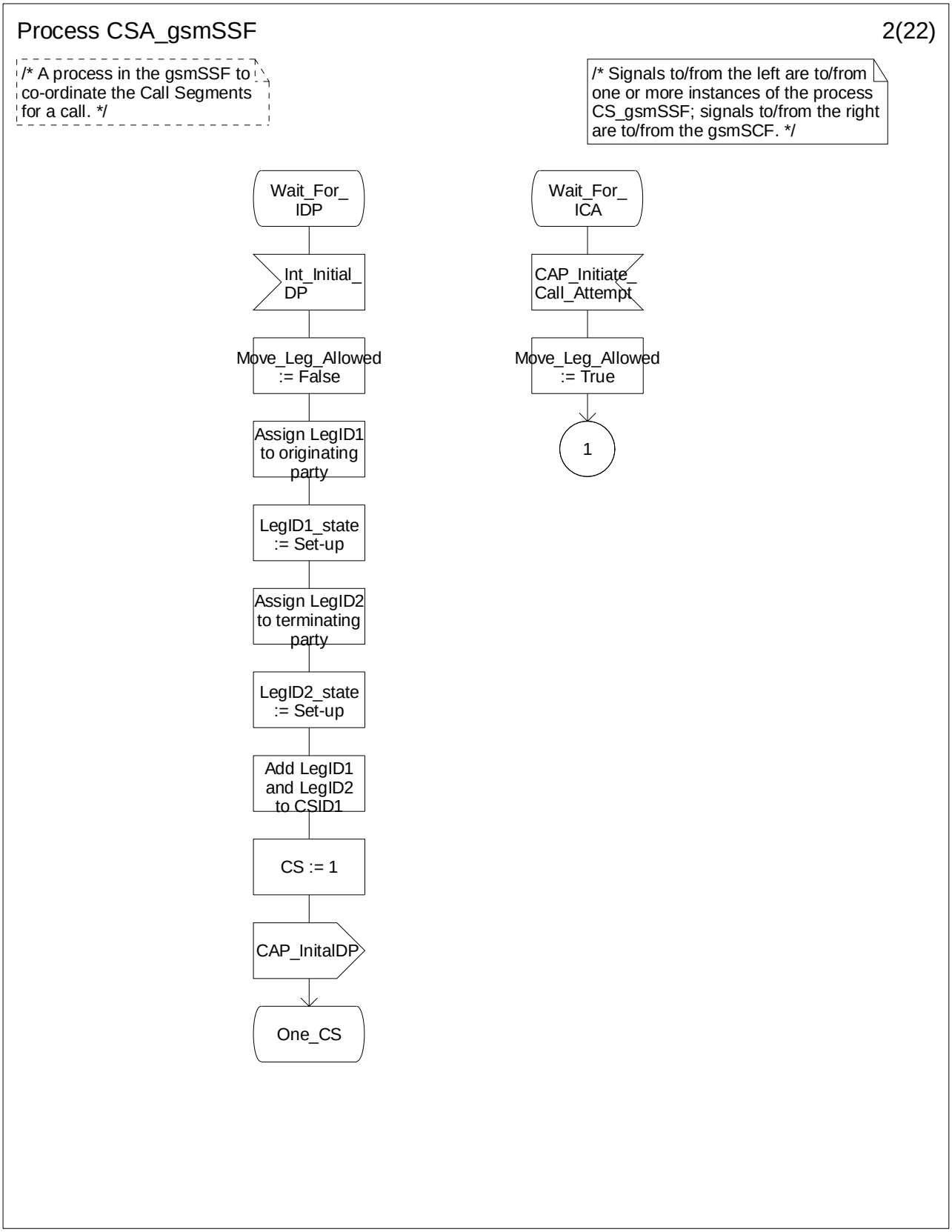


Figure 4.114-2: Process CSA_gsmSSF (sheet 2)

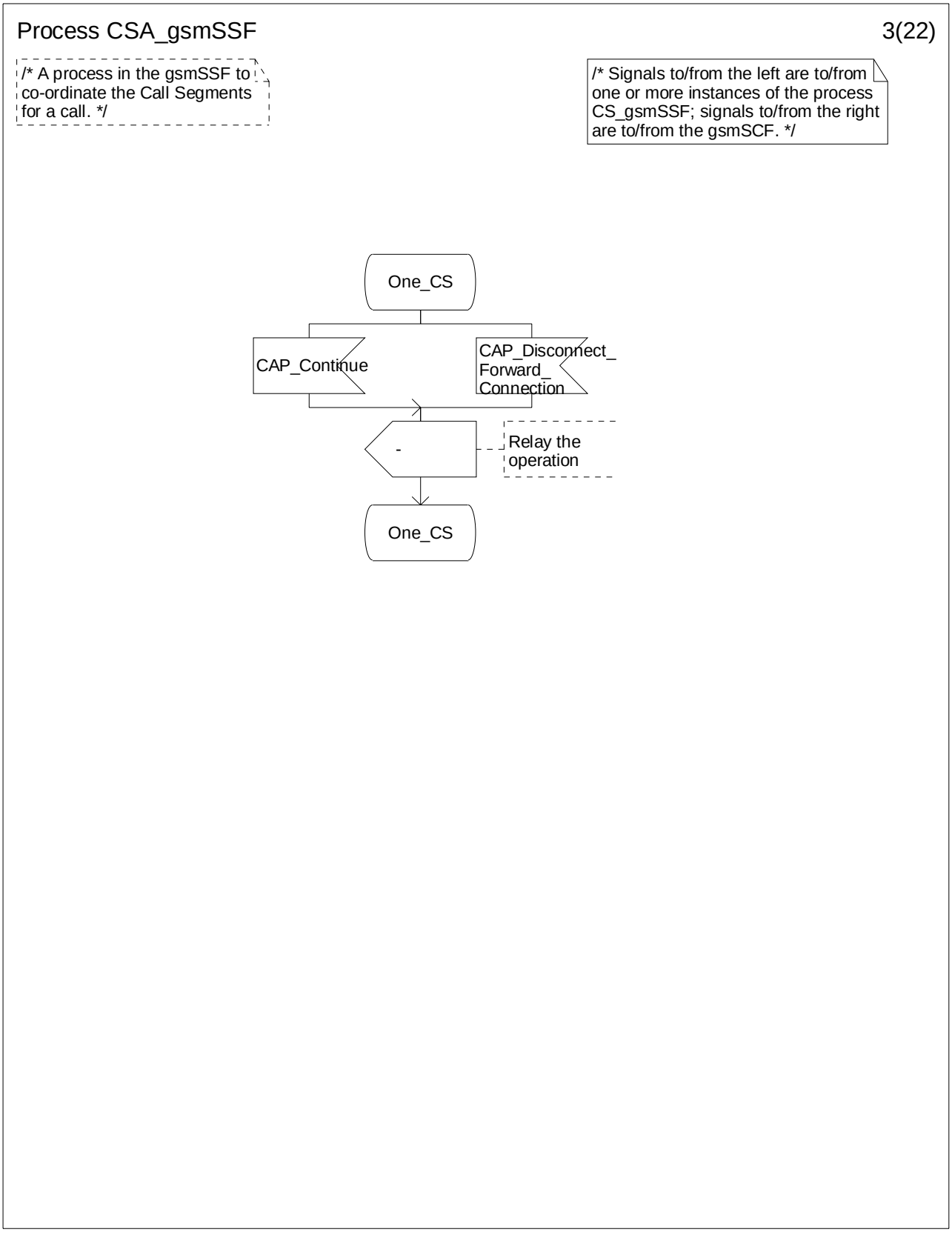


Figure 4.114-3: Process CSA_gsmSSF (sheet 3)

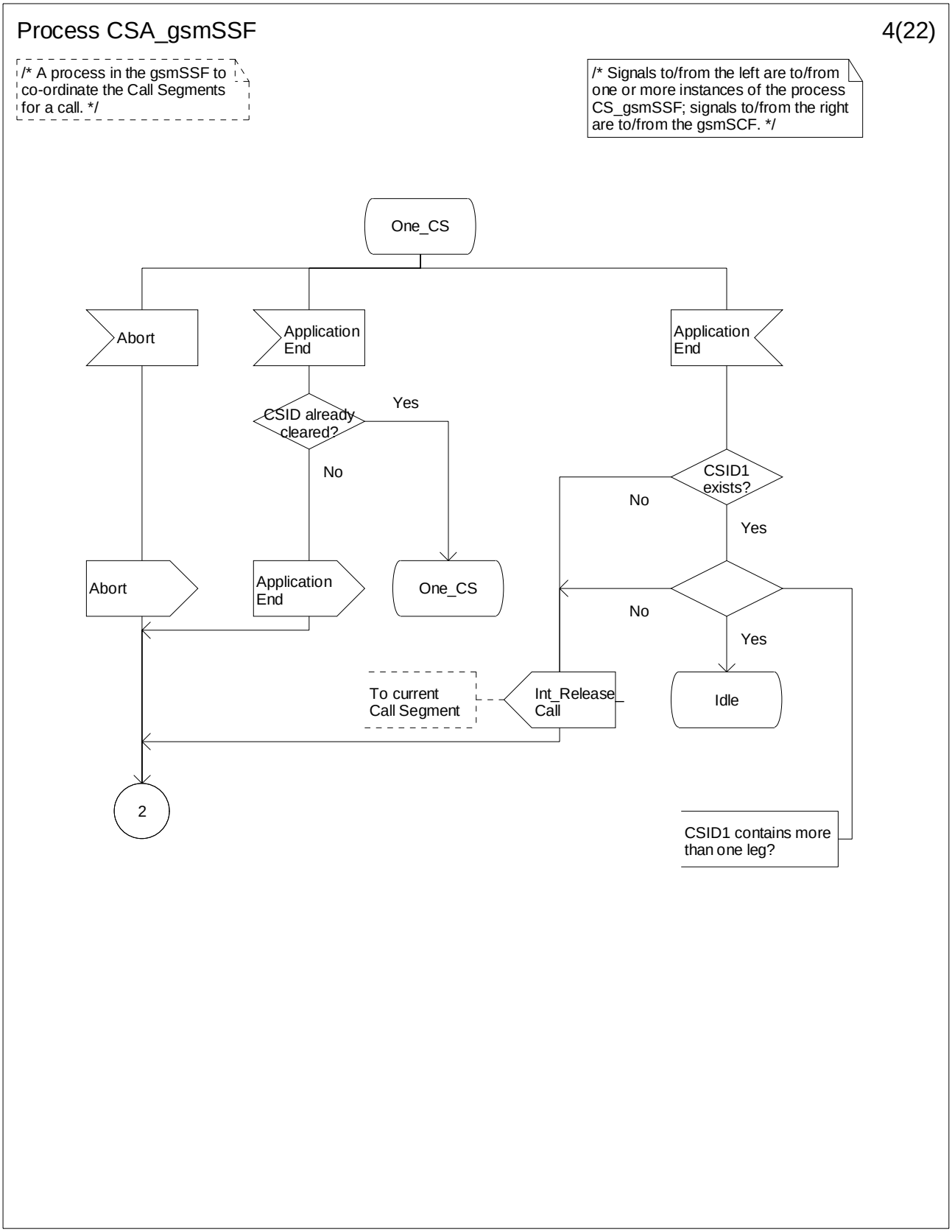


Figure 4.114-4: Process CSA_gsmSSF (sheet 4)

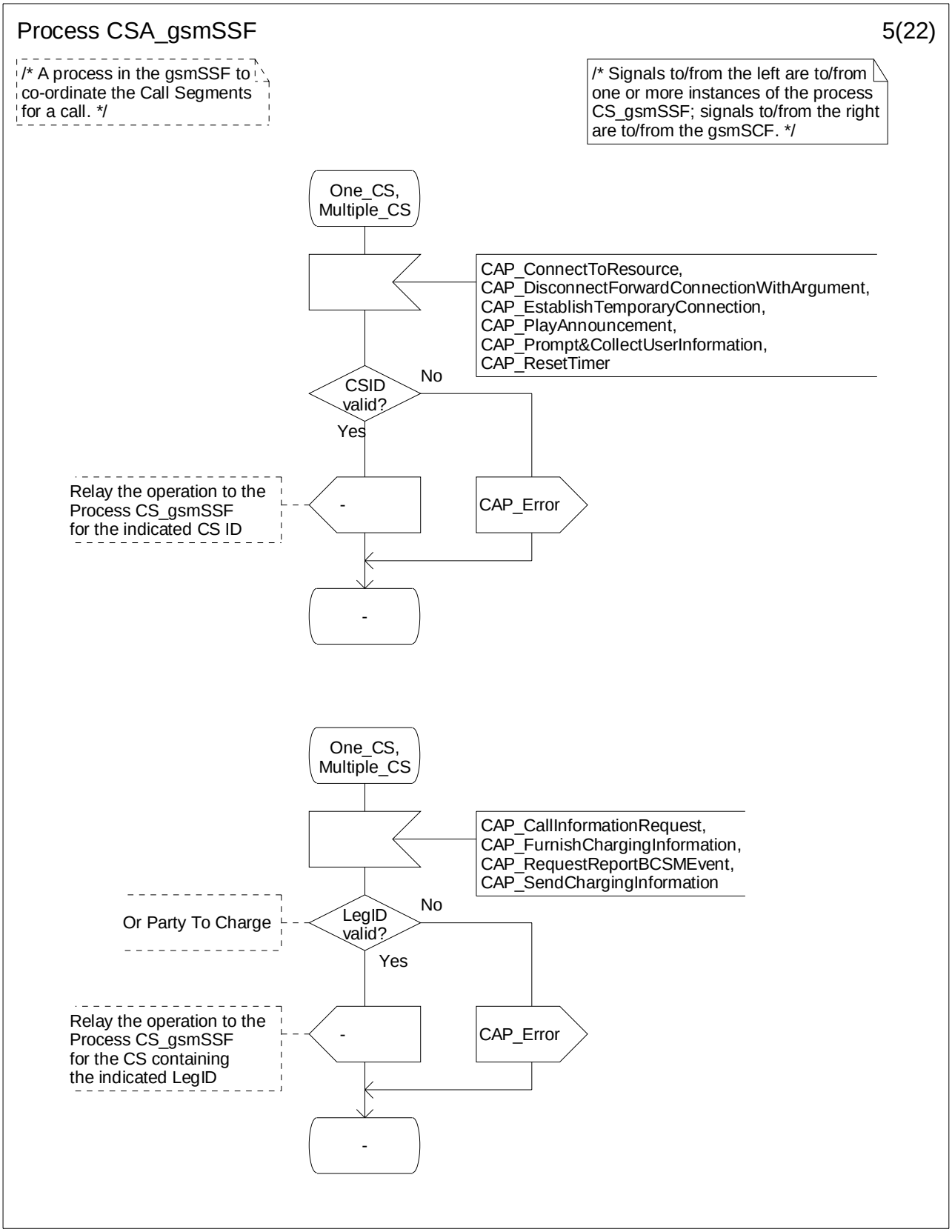


Figure 4.114-5: Process CSA_gsmSSF (sheet 5)

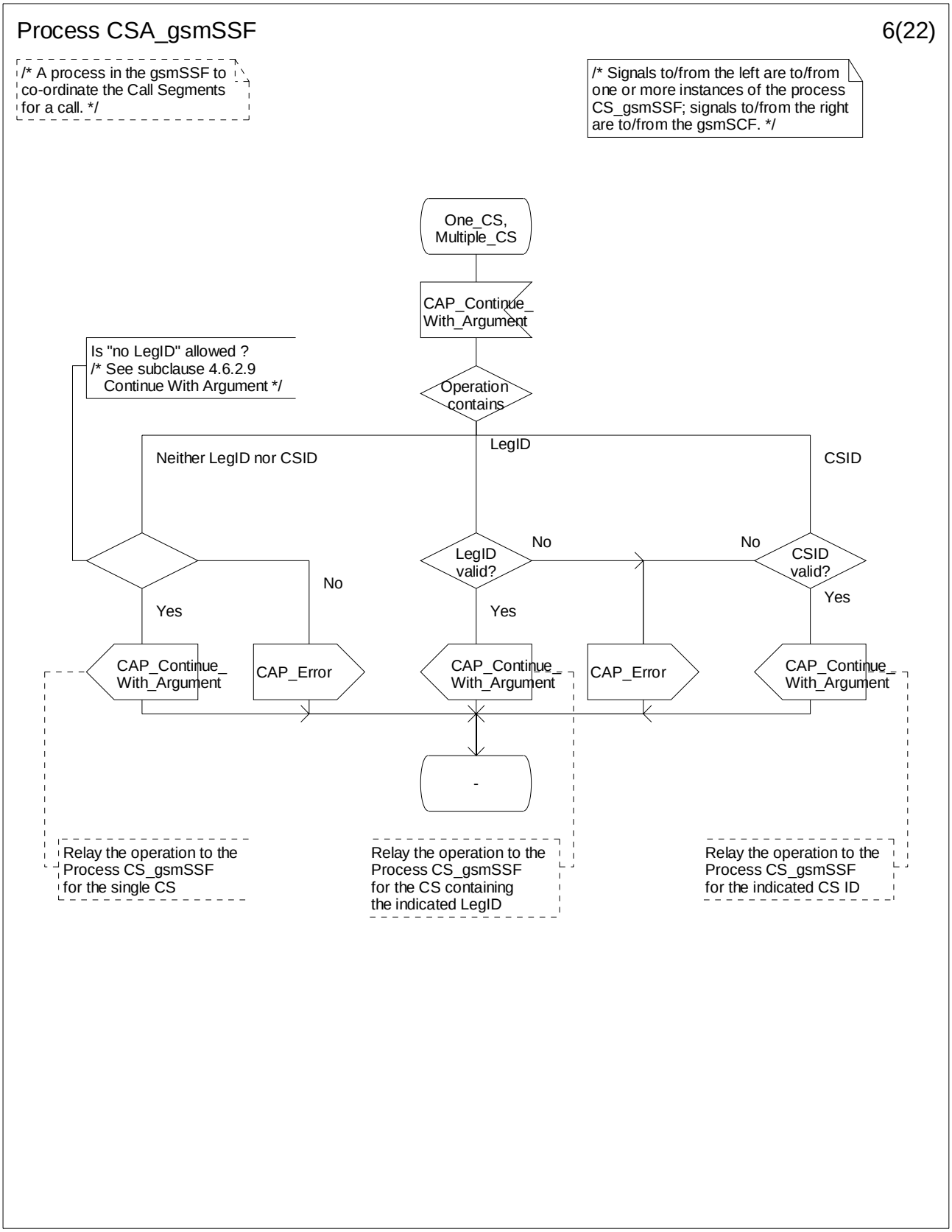


Figure 4.114-6: Process CSA_gsmSSF (sheet 6)

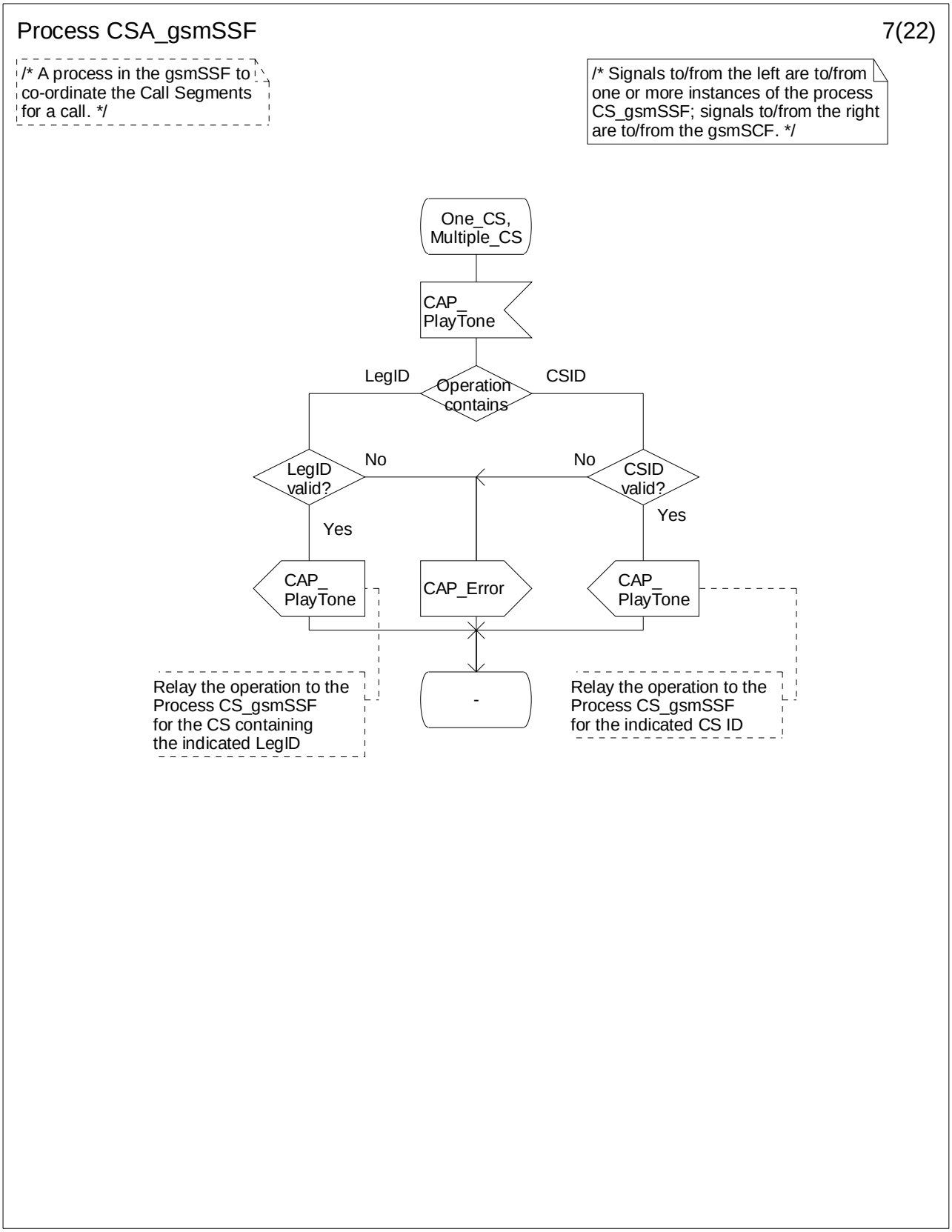


Figure 4.114-7: Process CSA_gsmSSF (sheet 7)

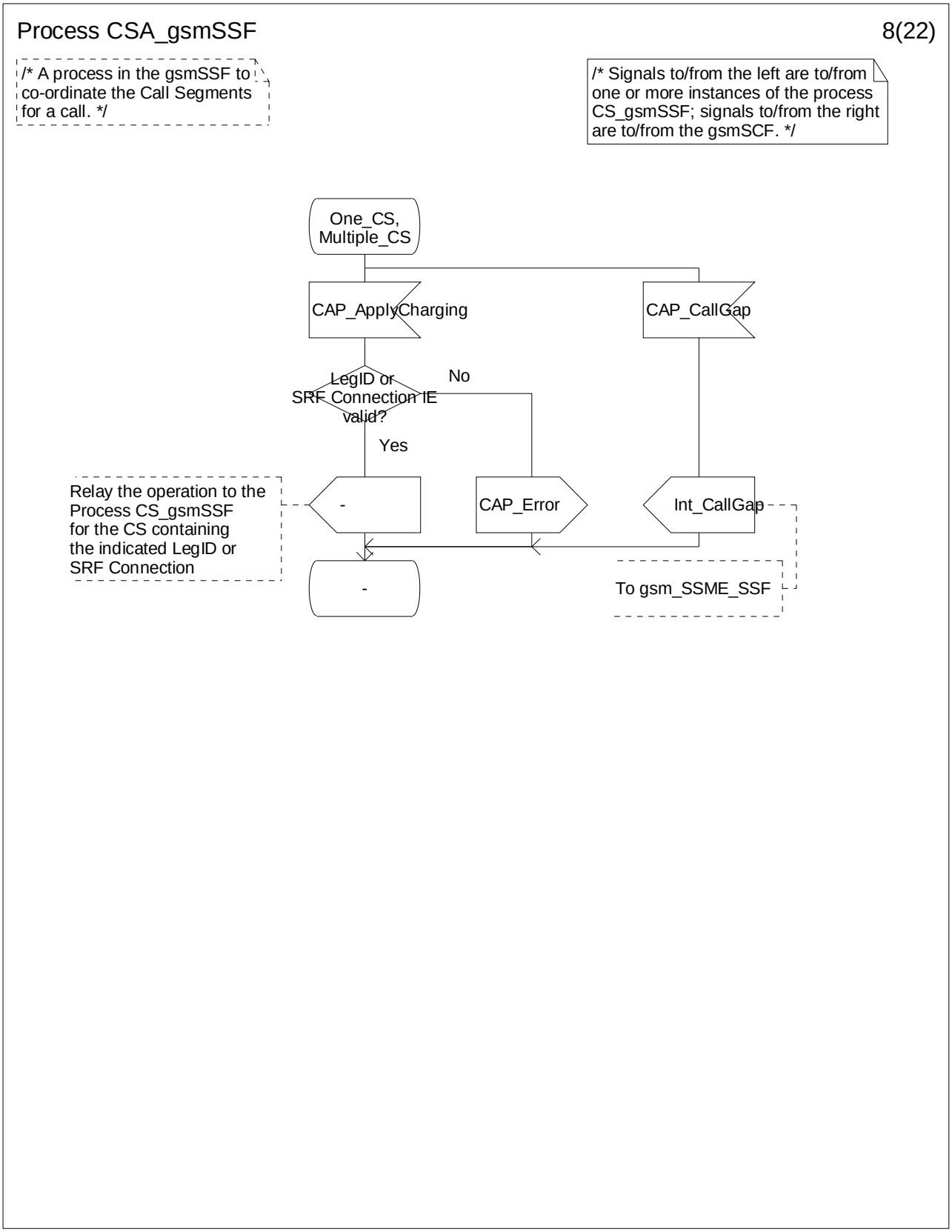


Figure 4.114-8: Process CSA_gsmSSF (sheet 8)

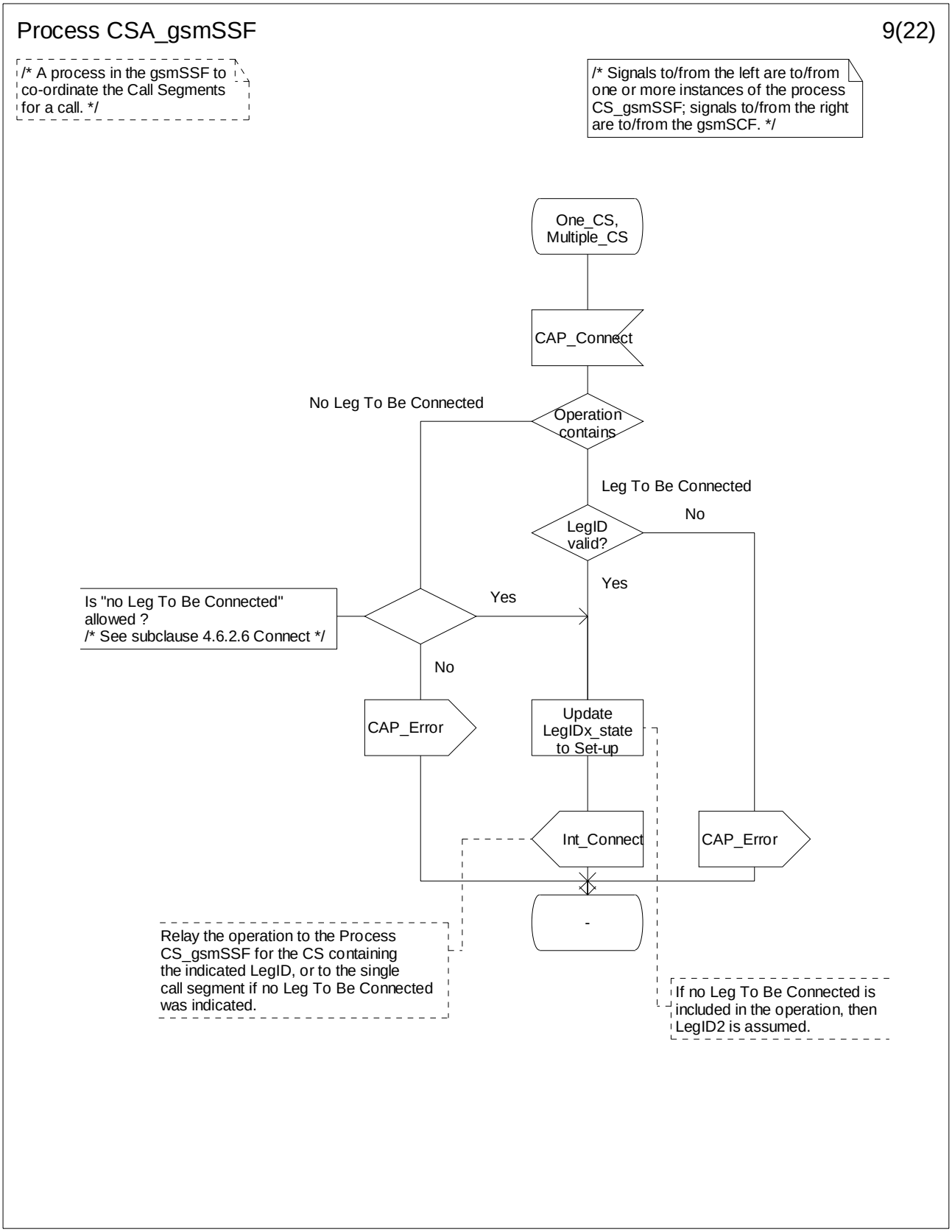


Figure 4.114-9: Process CSA_gsmSSF (sheet 9)

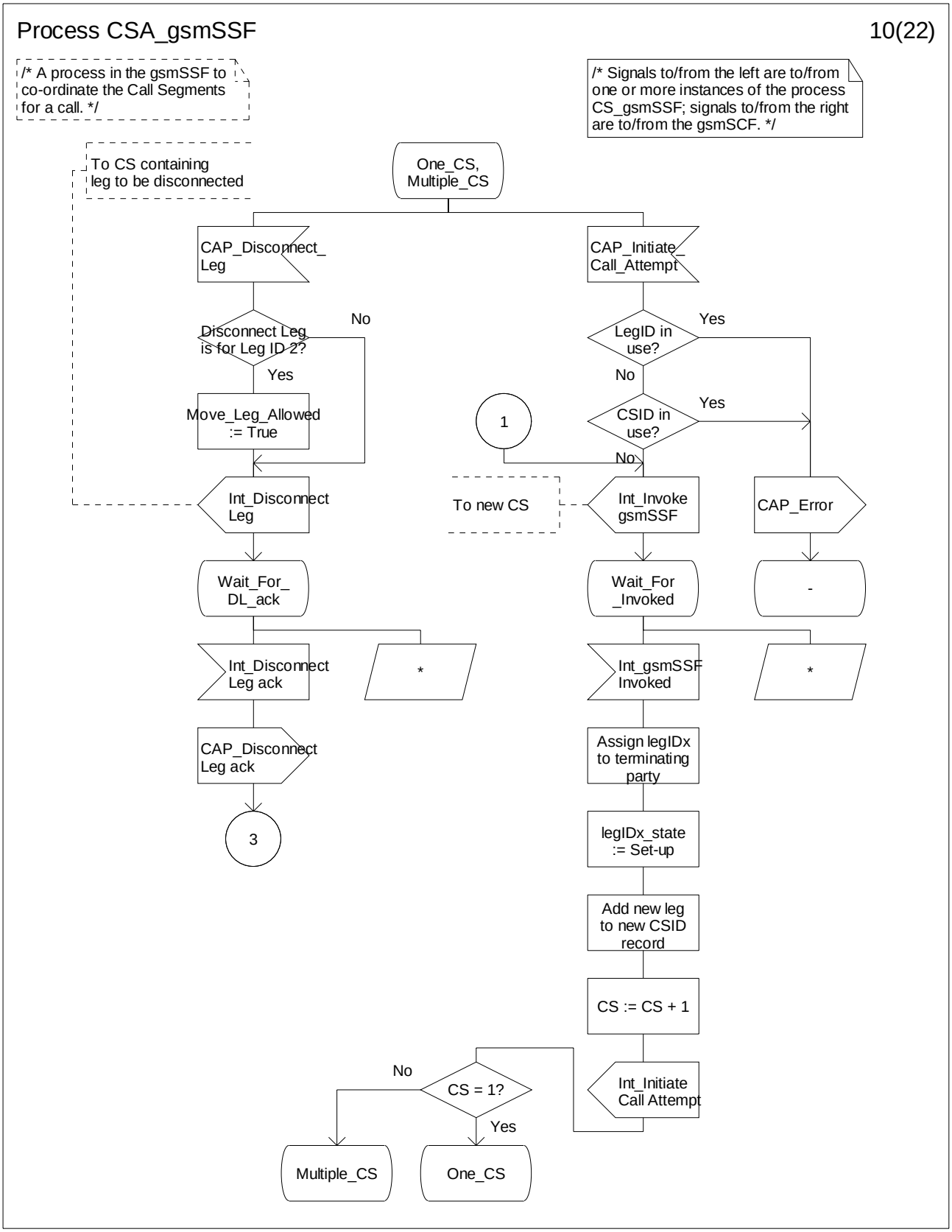


Figure 4.114-10: Process CSA_gsmSSF (sheet 10)

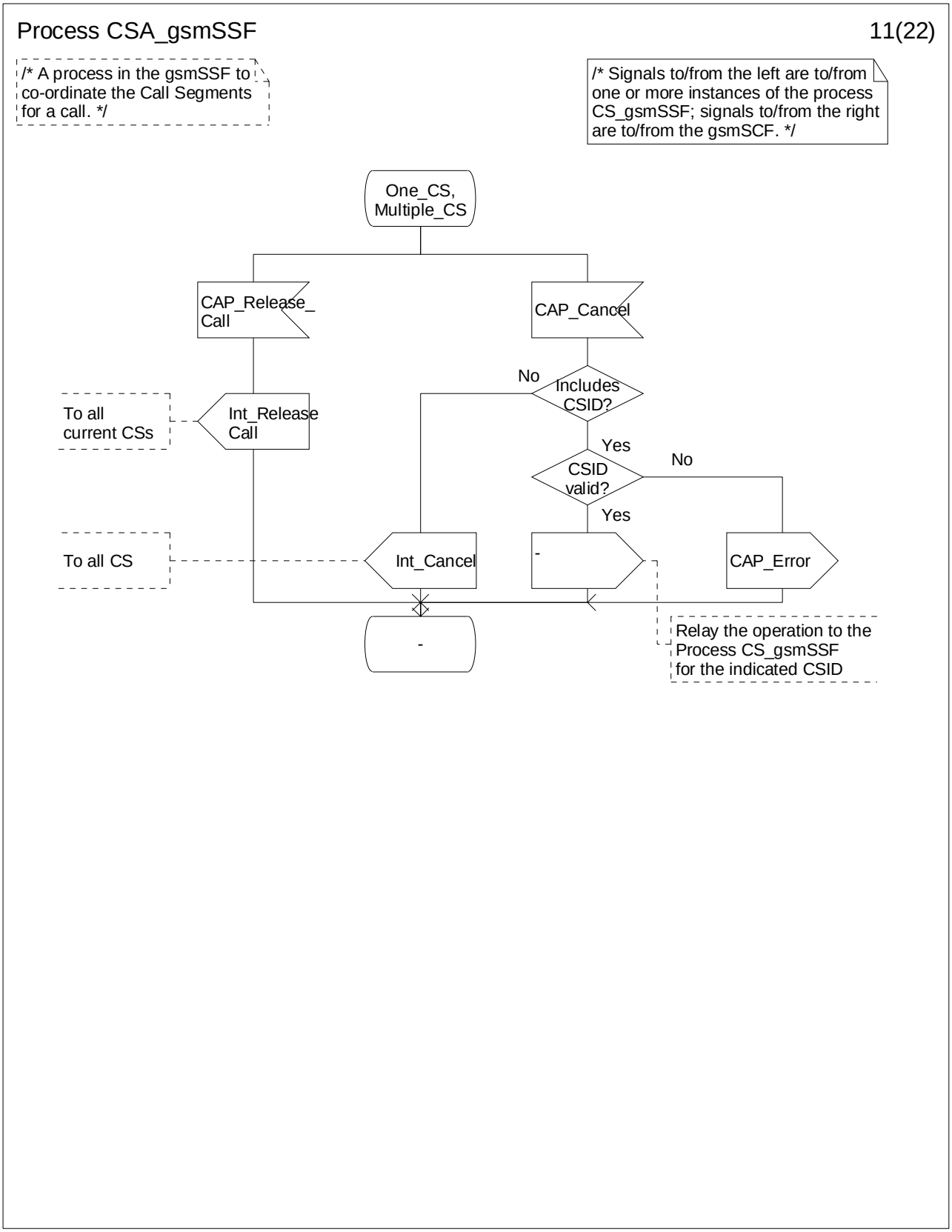
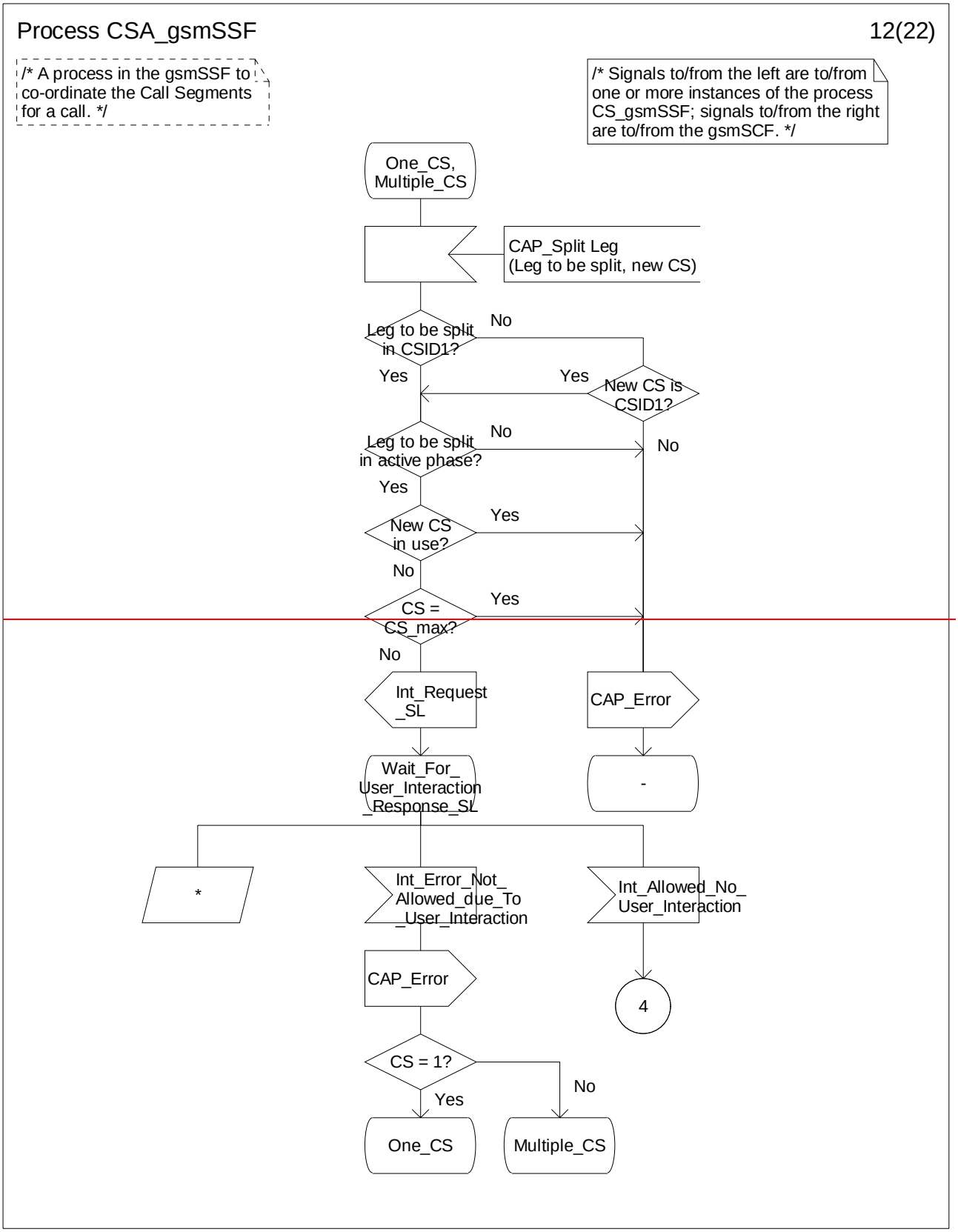


Figure 4.114-11: Process CSA_gsmSSF (sheet 11)



~~Figure 4.114-12: Process CSA_gsmSSF (sheet 12)~~

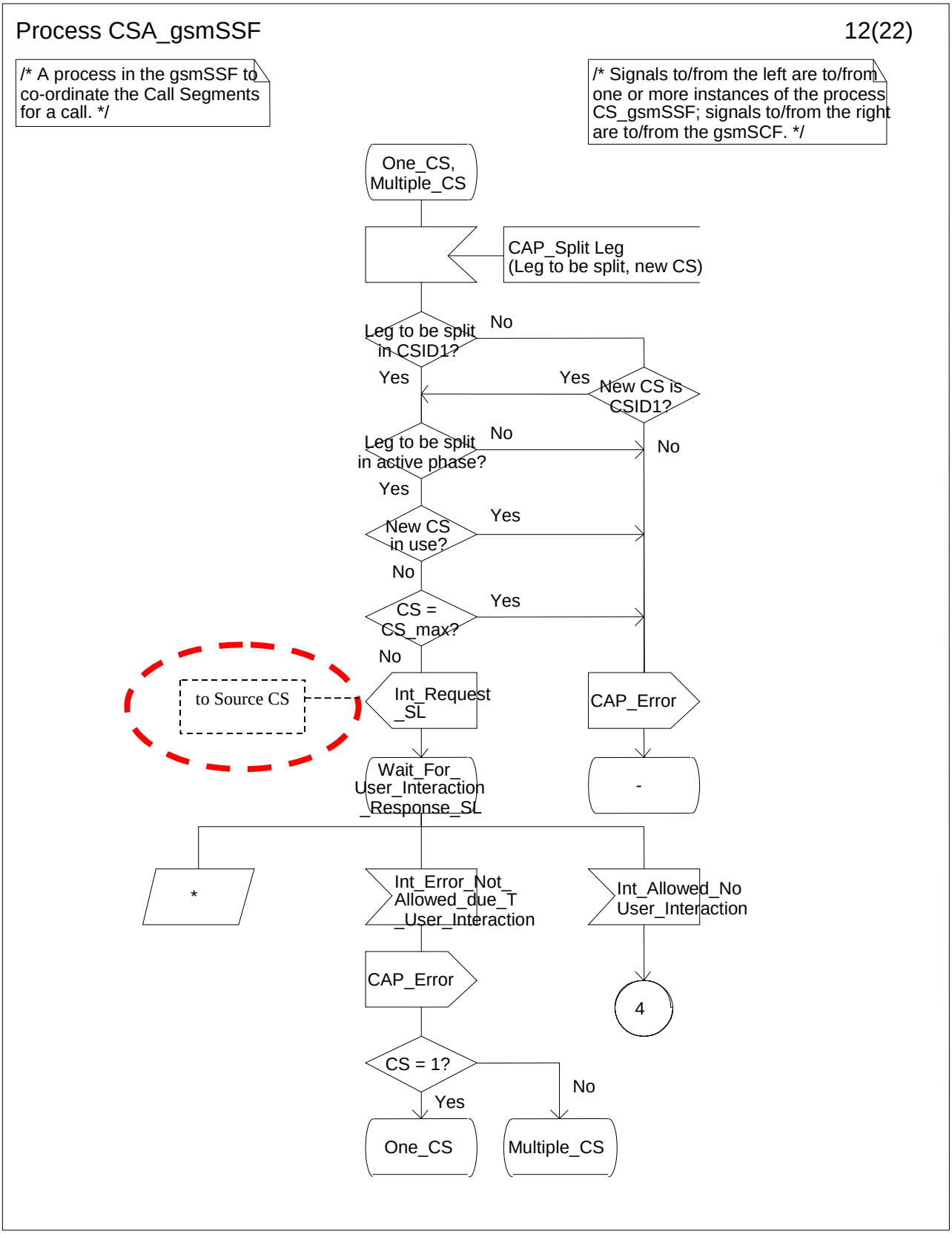
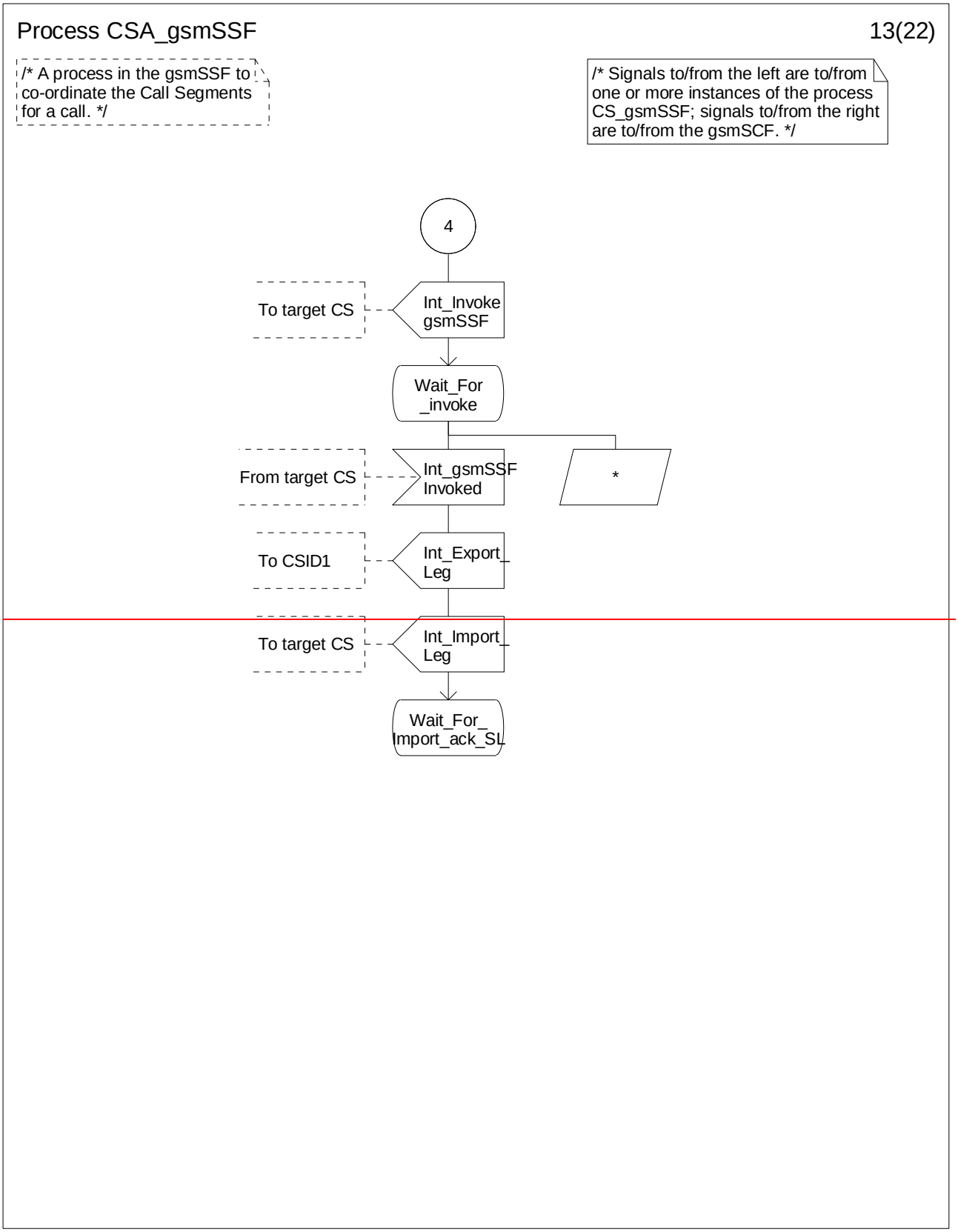


Figure 4.114-12: Process CSA_gsmSSF (sheet 12)



~~Figure 4.114-13: Process CSA_gsmSSF (sheet 13)~~

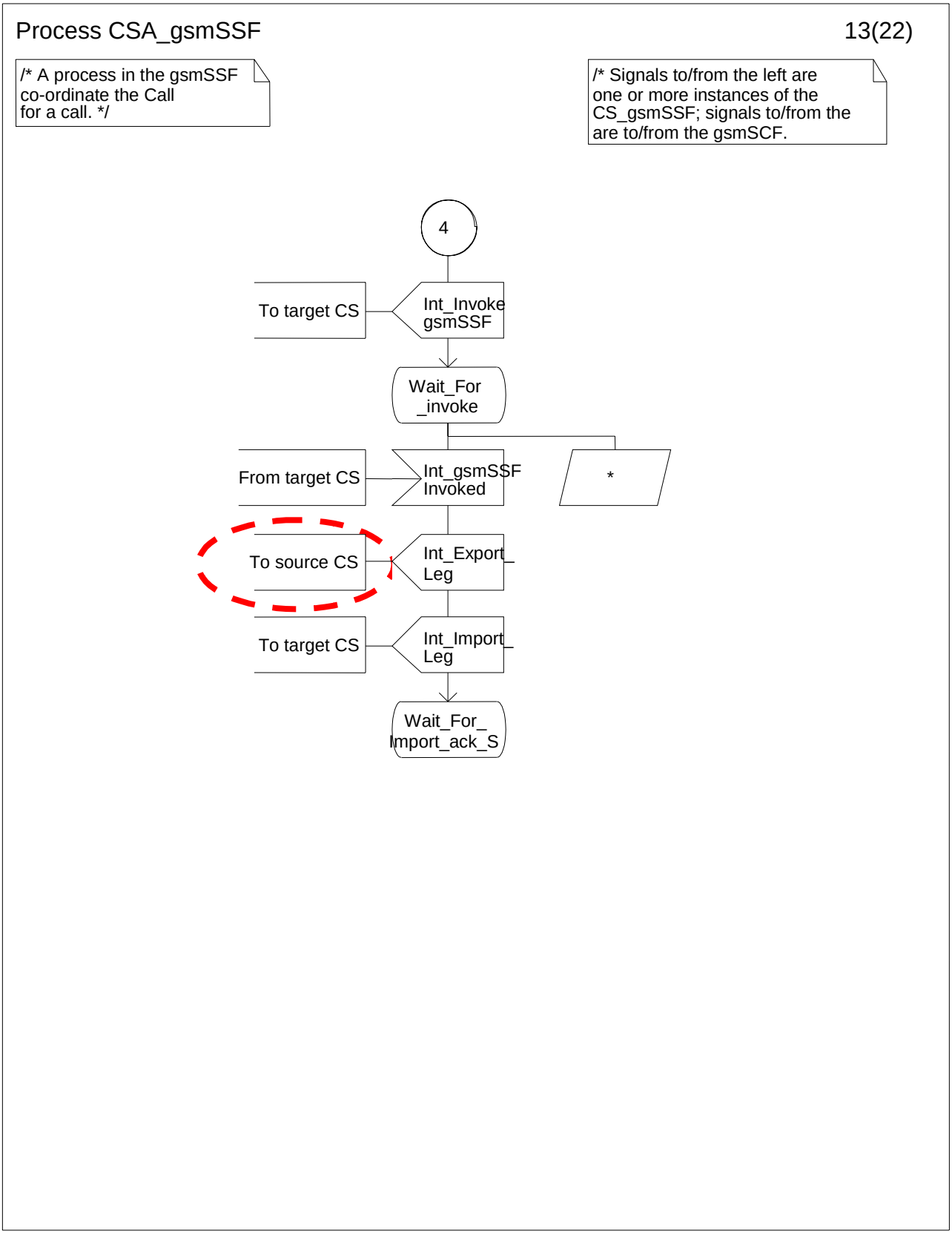


Figure 4.114-13: Process CSA_gsmSSF (sheet 13)

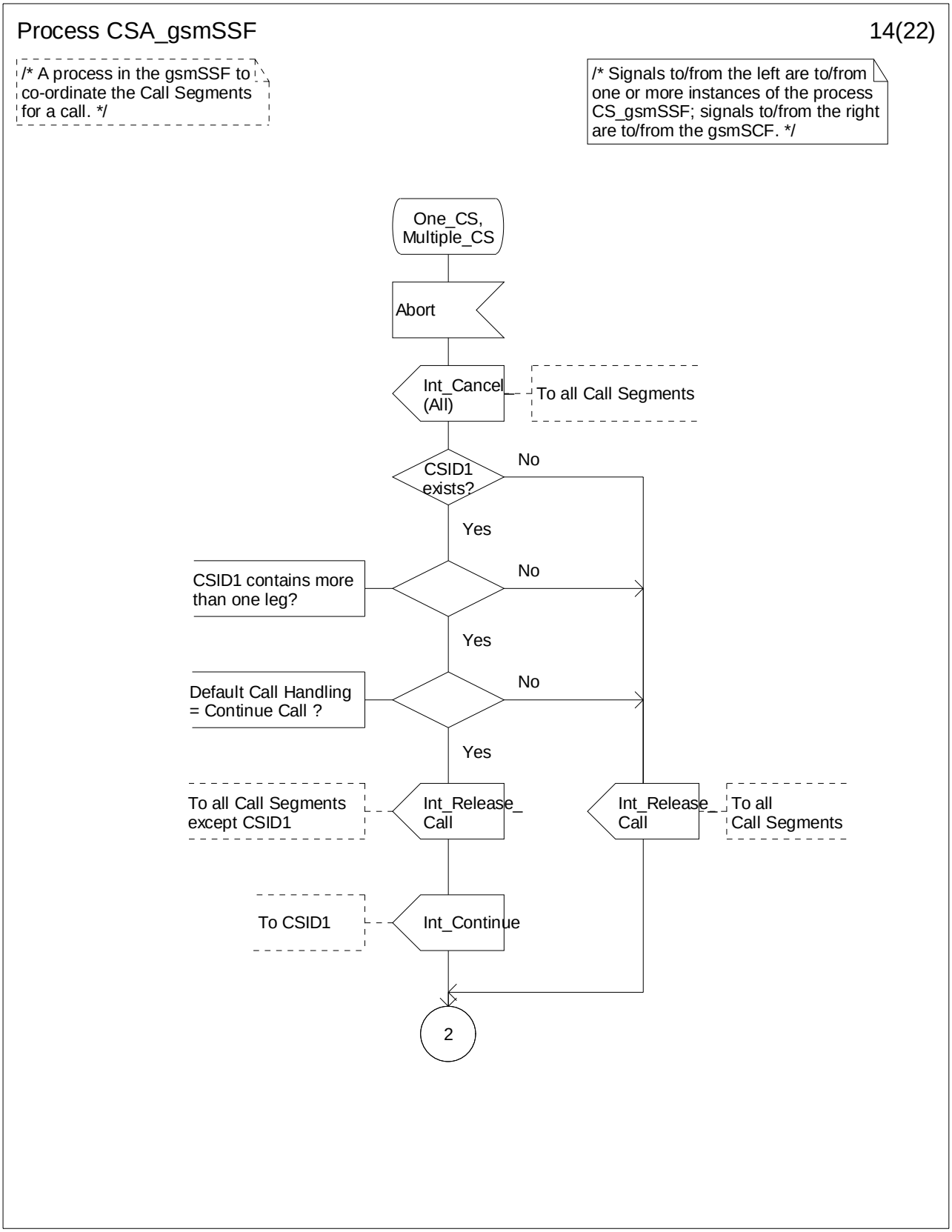


Figure 4.114-14: Process CSA_gsmSSF (sheet 14)

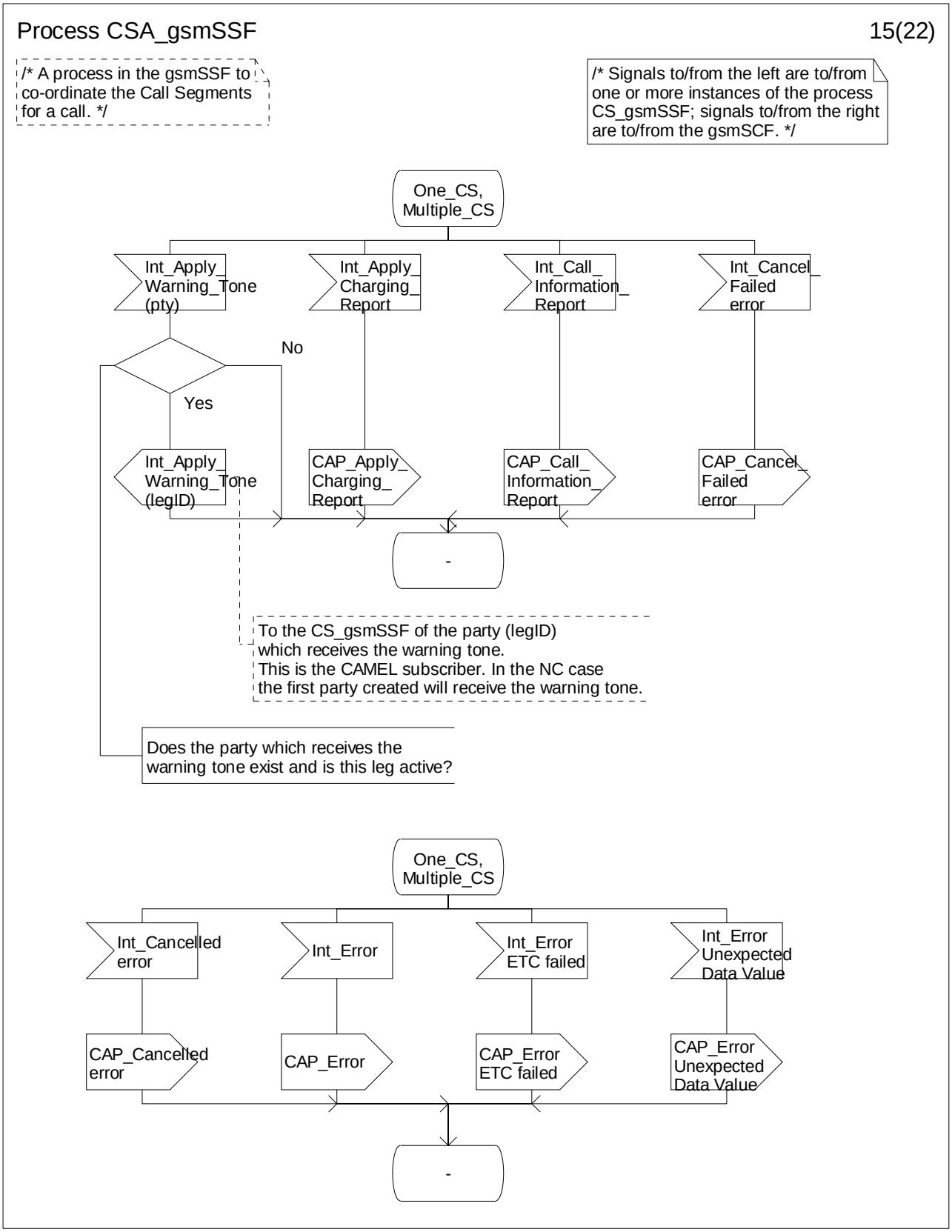


Figure 4.114-15: Process CSA_gsmSSF (sheet 15)

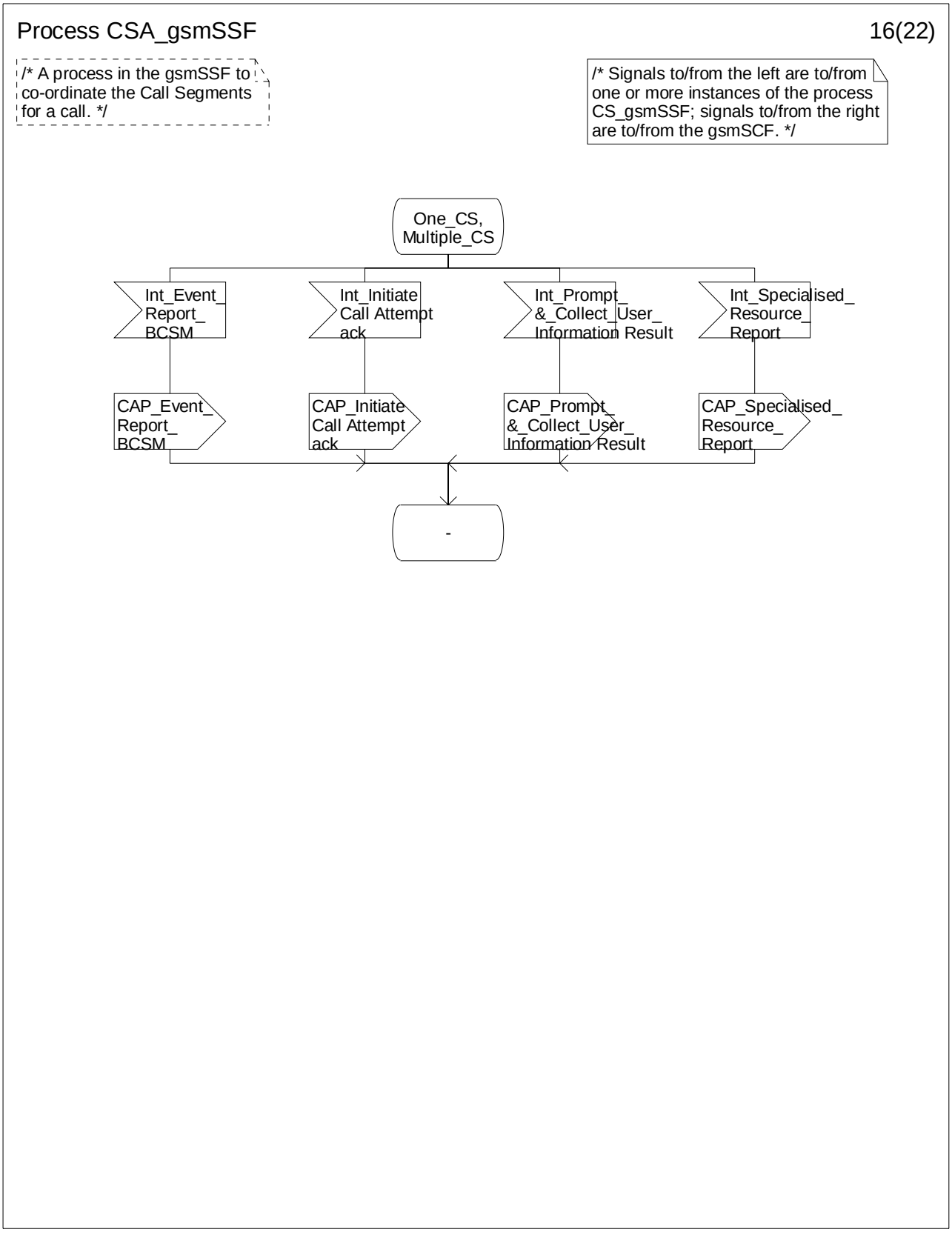


Figure 4.114-16: Process CSA_gsmSSF (sheet 16)

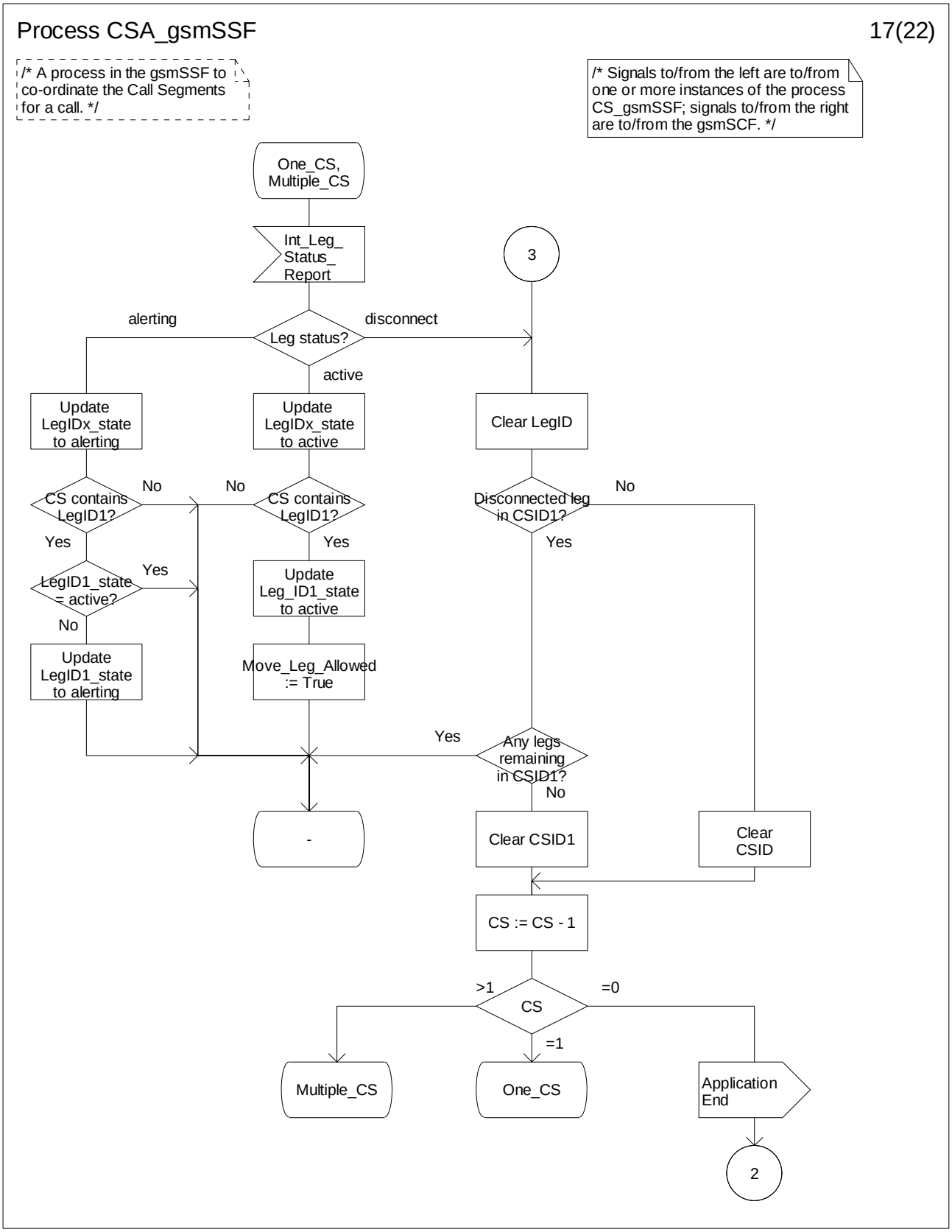


Figure 4.114-17: Process CSA_gsmSSF (sheet 17)

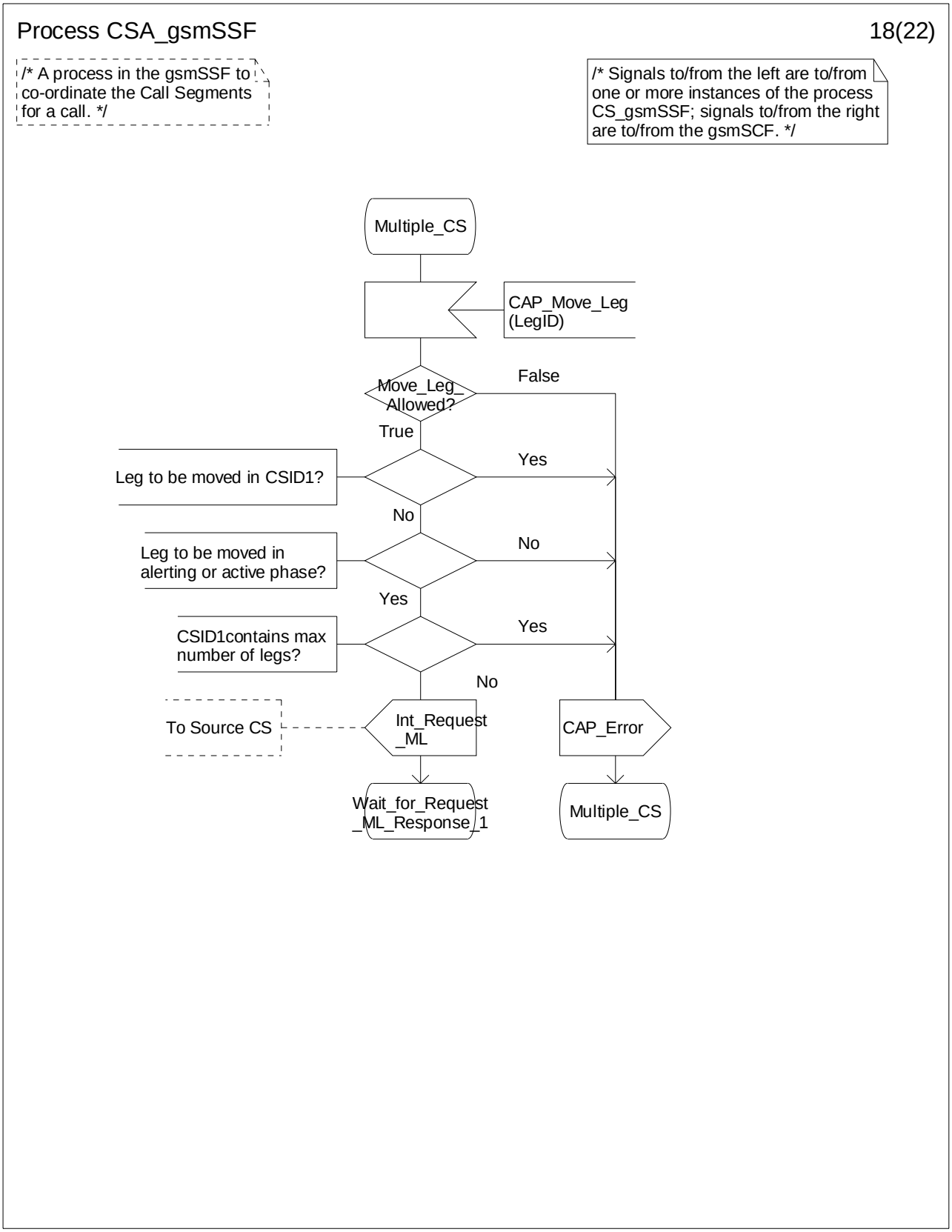


Figure 4.114-18: Process CSA_gsmSSF (sheet 18)

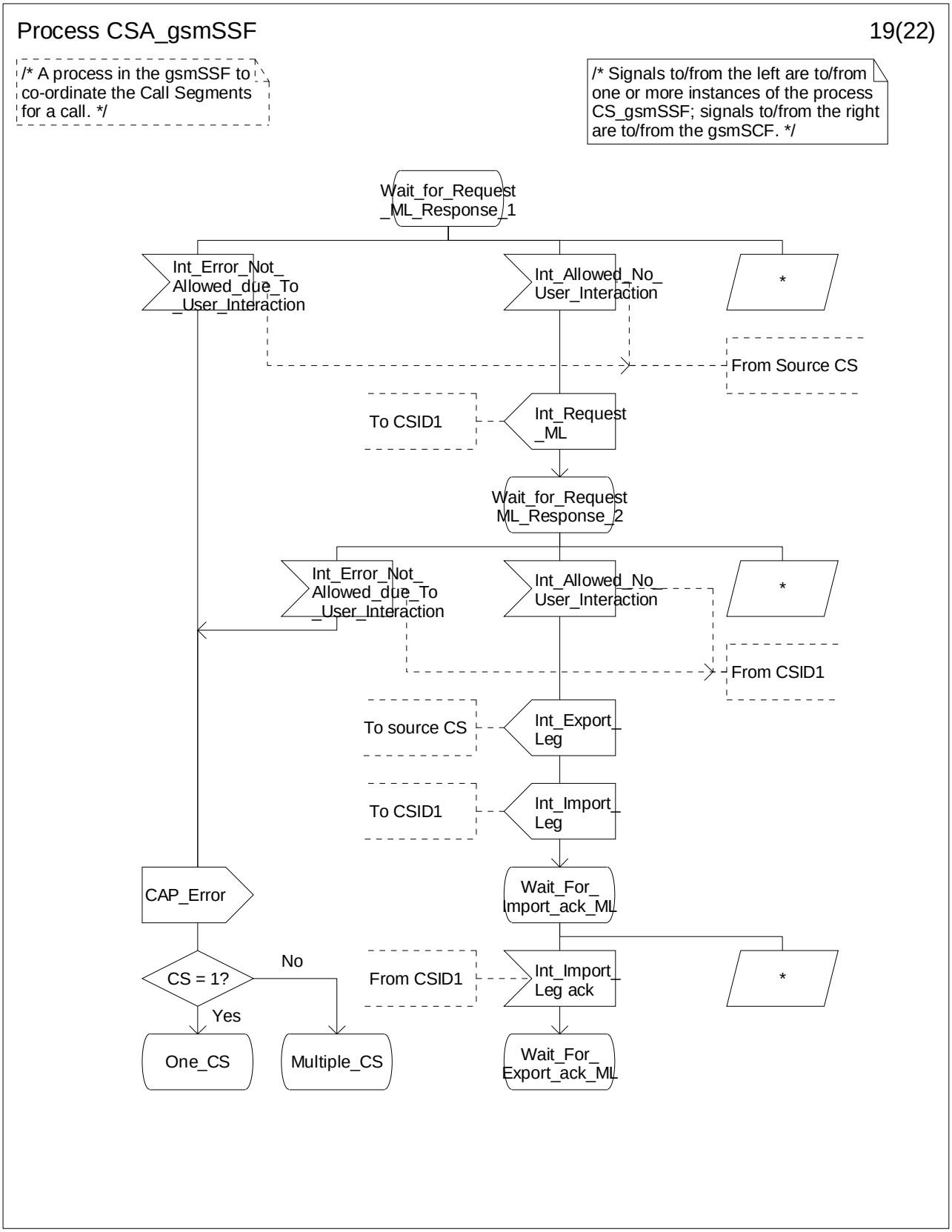


Figure 4.114-19: Process CSA_gsmSSF (sheet 19)

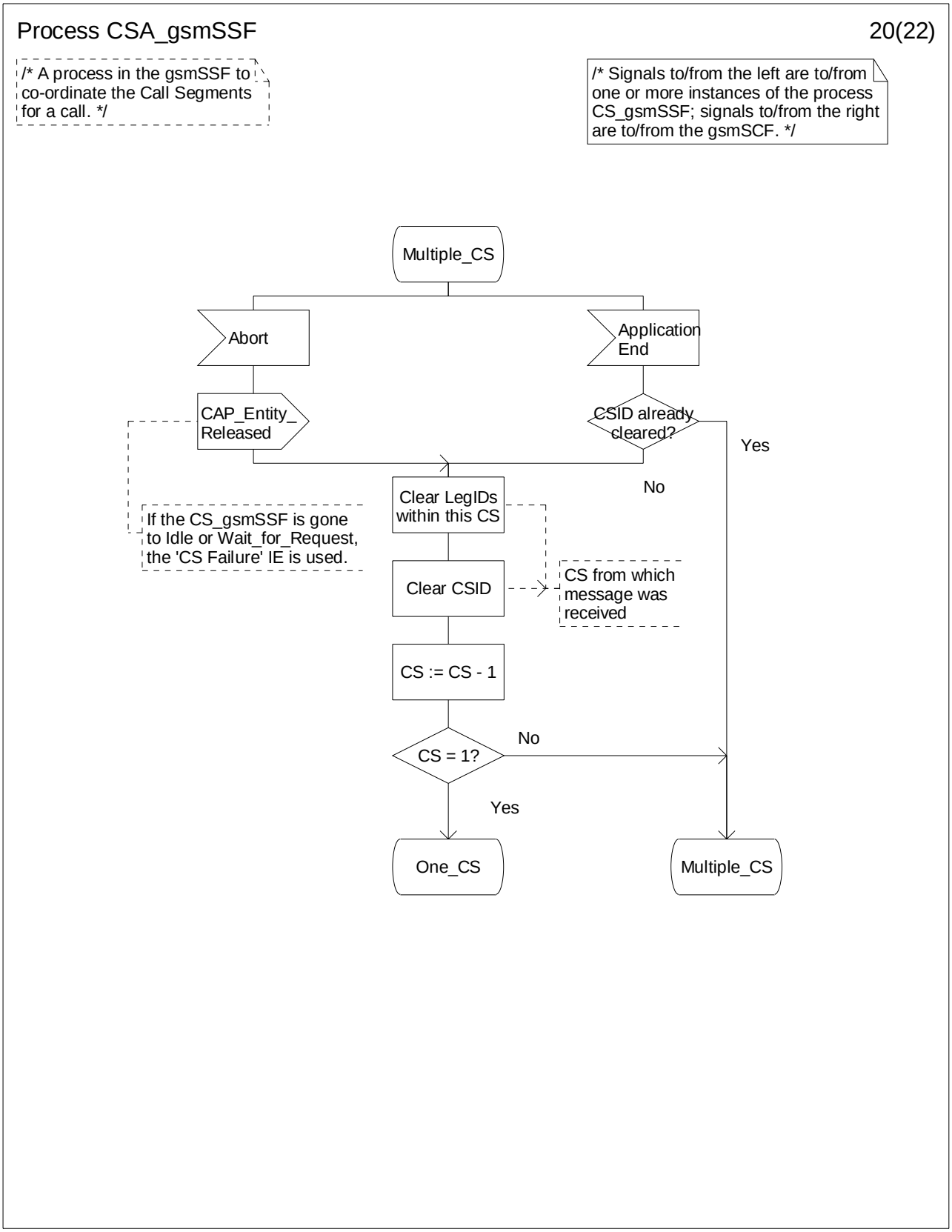


Figure 4.114-20: Process CSA_gsmSSF (sheet 20)

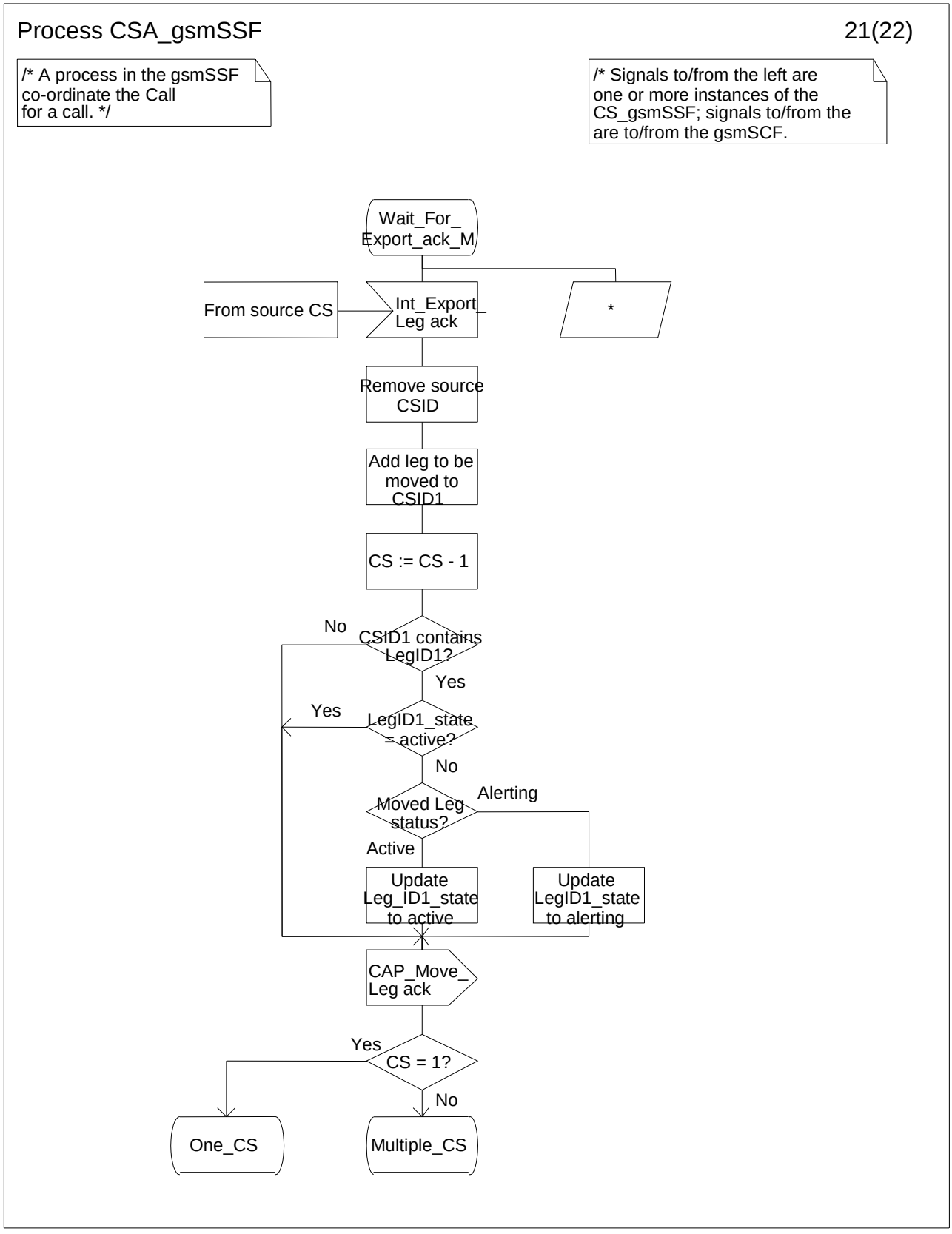
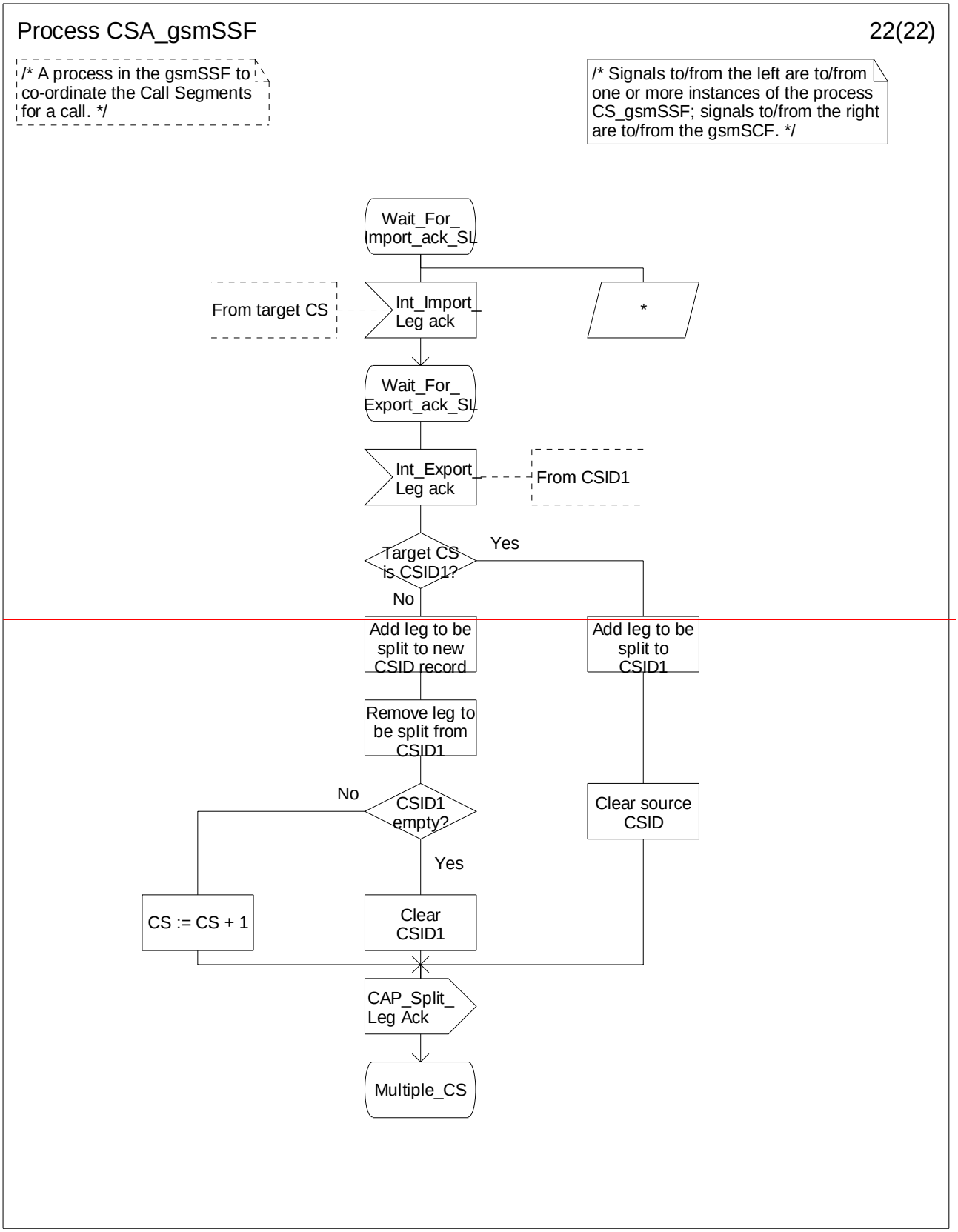


Figure 4.114-21: Process CSA_gsmSSF (sheet 21)



~~Figure 4.114-22: Process CSA_gsmSSF (sheet 22)~~

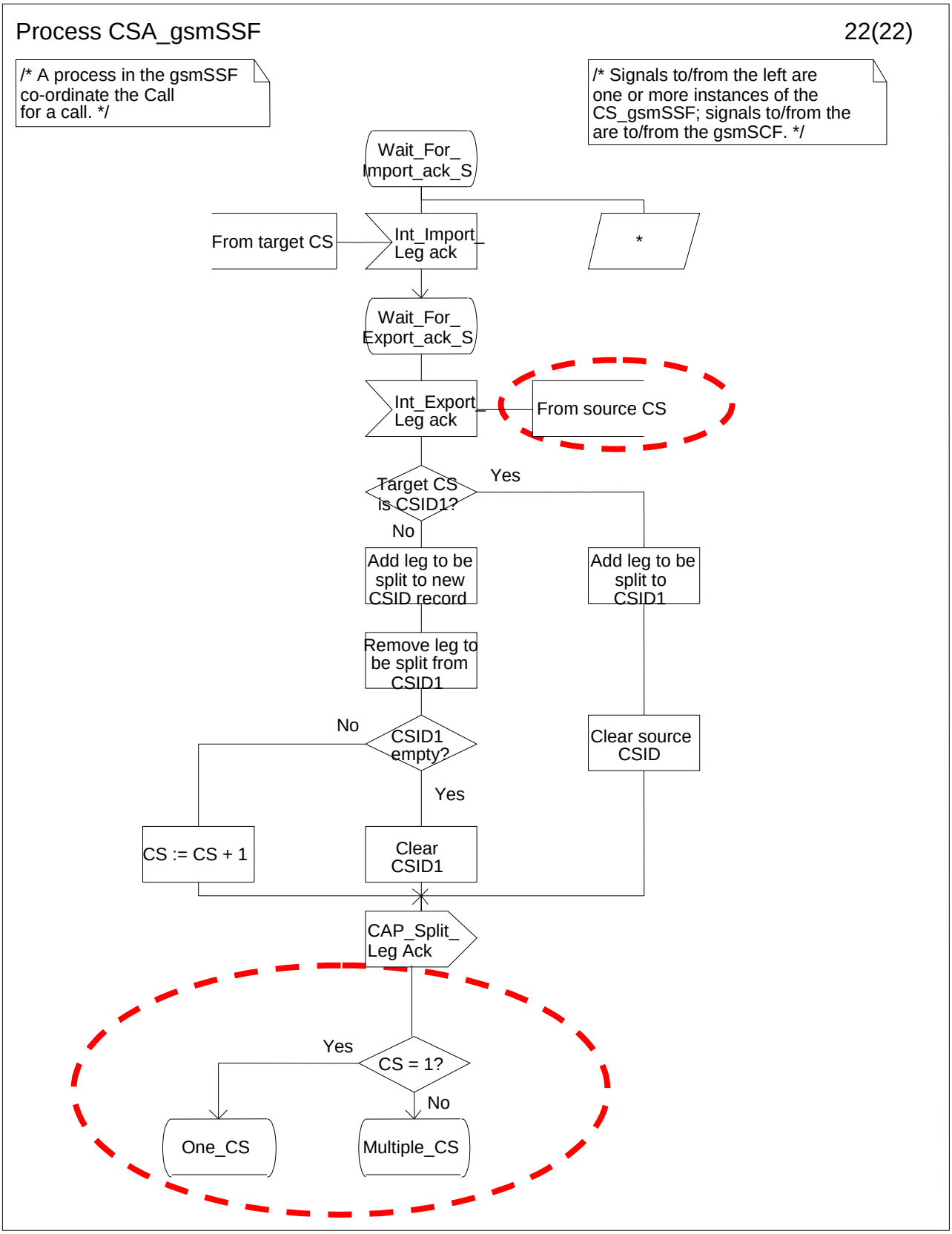


Figure 4.114-22: Process CSA_gsmSSF (sheet 22)

*** End of Document***

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040141
revision of N2-040039

CHANGE REQUEST

⌘ **23.078** **CR** **675** ⌘ **rev** **1** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to CS ID in Prompt & Collect User Information
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change:	⌘	The description of the Call Segment Id for the Prompt and Collect User Information indicates that the inclusion of the Call Segment Id is subject to specific conditions. Therefore, the element shall not be marked "M" (Mandatory), but as "S" (Special condition).
Summary of change:	⌘	Mark Call Segment ID as “S” in the Prompt and Collect information flow.
Consequences if not approved:	⌘	Incorrect interworking between gsmSCF and assisting gsmSSF or Intelligent Peripheral. Example failure cases include: - a gsmSCF sends Prompt & Collect User Information, ***including*** the Call Segment Id information element, to an Intelligent Peripheral (IP). The IP would not be able to process the Call Segment Id and may therefore reject the instruction. - a gsmSCF sends Prompt & Collect User Information, *not including* the Call Segment Id information element, to an IP. The IP expects to receive the Call Segment Id and may therefore reject the instruction.
Clauses affected:	⌘	4.6.3.3, 4.6.3.4

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

⌘

Other comments: ⌘

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

< extract from 3GPP TS 23.078 >

4.6.3.3 Play Announcement

4.6.3.3.1 Description

This IF is used for inband interaction.

4.6.3.3.2 Information Elements

Information element name	Status	Description
Information To Send	M	This IE is described in a table below.
Disconnect From IP Forbidden	M	This IE indicates whether or not the gsmSRF may be disconnected from the user when all information has been sent.
Request Announcement Complete Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when all information has been sent.
Request Announcement Started Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when the first announcement or tone starts.
Call Segment ID	S	This IE indicates the call segment to which the user interaction shall apply. This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.

*** *First Modification* ***

4.6.3.4 Prompt And Collect User Information

4.6.3.4.1 Description

This IF is used to interact with a call party in order to collect information.

4.6.3.4.2 Information Elements

Information element name	Status	Description
Collected Info	M	This IE is described in a table below.
Information To Send	O	This IE is described in subclause 4.6.3.3.2. This IE indicates an announcement or a tone to be sent to the end user by the gsmSRF.
Disconnect From IP Forbidden	M	This IE indicates whether the gsmSRF may be disconnected from the user when all information has been sent.
Request Announcement Started Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when the first announcement or tone starts.
Call Segment ID	~~M~~S	This IE indicates the call segment to which the user interaction shall apply. This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.

Collected Info contains the following information element:

Information element name	Status	Description
Collected Digits	M	This IE is described in a table below.

Collected Digits contains the following information elements:

Information element name	Status	Description
Minimum Number Of Digits	M	This IE indicates the minimum number of valid digits to be collected. The value of this IE includes the length of the Start digit string, if present, and the length of the End of reply digit string, if present.
Maximum Number Of Digits	M	This IE specifies the maximum number of valid digits to be collected. The value of this IE includes the length of the Start digit string, if present, and the length of the End of reply digit string, if present.
End Of Reply Digit	O	This IE indicates the digit(s) used to signal the end of input.
Cancel Digit	O	If this IE is present then the cancel digit can be entered by the user to request a possible retry.
Start Digit	O	If this IE is present then the start digit(s) indicates the start of the valid digits to be collected.
First Digit Time Out	O	If this IE is present then the first digit shall be received before the expiration of the first digit timer expiration.
Inter Digit Time Out	O	If this IE is present then any subsequent valid or invalid digit shall be received by the gsmSRF before the inter digit timer expires.
Error Treatment	O	This IE indicates what specific action shall be taken by the gsmSRF in the event of error conditions occurring.
Interruptable Ann Ind	O	If this IE is set to TRUE (default value) then the announcement is interrupted after the first valid or invalid digit received by the gsmSRF. If this IE is present and explicitly set to FALSE then the announcement will not be interrupted after the first digit is received by the gsmSRF.
Voice Information	O	If this IE is set to FALSE (default value) then all valid or invalid digits are entered by DTMF. If this IE is set to TRUE then the calling user is required to provide all valid or invalid information by speech.
Voice Back	O	If this IE is set to FALSE (default value) then no voice back information is given by the gsmSRF. If this IE is set to TRUE then the valid input digits received by the gsmSRF will be announced back to the calling user immediately after the end of input is received.

*** *End of Document****

CHANGE REQUEST

⌘ **23.078** **CR** **705** ⌘ **rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to CS ID in Prompt & Collect User Information
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The description of the Call Segment Id for the Prompt and Collect User Information indicates that the inclusion of the Call Segment Id is subject to specific conditions. Therefore, the element shall not be marked "M" (Mandatory), but as "S" (Special condition).
Summary of change:	⌘	Mark Call Segment ID as “S” in the Prompt and Collect information flow.
Consequences if not approved:	⌘	Incorrect interworking between gsmSCF and assisting gsmSSF or Intelligent Peripheral. Example failure cases include: - a gsmSCF sends Prompt & Collect User Information, ***including*** the Call Segment Id information element, to an Intelligent Peripheral (IP). The IP would not be able to process the Call Segment Id and may therefore reject the instruction. - a gsmSCF sends Prompt & Collect User Information, *not including* the Call Segment Id information element, to an IP. The IP expects to receive the Call Segment Id and may therefore reject the instruction.
Clauses affected:	⌘	4.6.3.3, 4.6.3.4

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

Other comments: ⌘

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

< extract from 3GPP TS 23.078 >

4.6.3.3 Play Announcement

4.6.3.3.1 Description

This IF is used for inband interaction.

4.6.3.3.2 Information Elements

Information element name	Status	Description
Information To Send	M	This IE is described in a table below.
Disconnect From IP Forbidden	M	This IE indicates whether or not the gsmSRF may be disconnected from the user when all information has been sent.
Request Announcement Complete Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when all information has been sent.
Request Announcement Started Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when the first announcement or tone starts.
Call Segment ID	S	This IE indicates the call segment to which the user interaction shall apply. This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.

*** *First Modification* ***

4.6.3.4 Prompt And Collect User Information

4.6.3.4.1 Description

This IF is used to interact with a call party in order to collect information.

4.6.3.4.2 Information Elements

Information element name	Status	Description
Collected Info	M	This IE is described in a table below.
Information To Send	O	This IE is described in subclause 4.6.3.3.2. This IE indicates an announcement or a tone to be sent to the end user by the gsmSRF.
Disconnect From IP Forbidden	M	This IE indicates whether the gsmSRF may be disconnected from the user when all information has been sent.
Request Announcement Started Notification	M	This IE indicates whether or not a Specialized Resource Report shall be sent to the gsmSCF when the first announcement or tone starts.
Call Segment ID	~~M~~S	This IE indicates the call segment to which the user interaction shall apply. This IE shall be absent if this IF is sent by the gsmSCF to an Intelligent Peripheral.

Collected Info contains the following information element:

Information element name	Status	Description
Collected Digits	M	This IE is described in a table below.

Collected Digits contains the following information elements:

Information element name	Status	Description
Minimum Number Of Digits	M	This IE indicates the minimum number of valid digits to be collected. The value of this IE includes the length of the Start digit string, if present, and the length of the End of reply digit string, if present.
Maximum Number Of Digits	M	This IE specifies the maximum number of valid digits to be collected. The value of this IE includes the length of the Start digit string, if present, and the length of the End of reply digit string, if present.
End Of Reply Digit	O	This IE indicates the digit(s) used to signal the end of input.
Cancel Digit	O	If this IE is present then the cancel digit can be entered by the user to request a possible retry.
Start Digit	O	If this IE is present then the start digit(s) indicates the start of the valid digits to be collected.
First Digit Time Out	O	If this IE is present then the first digit shall be received before the expiration of the first digit timer expiration.
Inter Digit Time Out	O	If this IE is present then any subsequent valid or invalid digit shall be received by the gsmSRF before the inter digit timer expires.
Error Treatment	O	This IE indicates what specific action shall be taken by the gsmSRF in the event of error conditions occurring.
Interruptable Ann Ind	O	If this IE is set to TRUE (default value) then the announcement is interrupted after the first valid or invalid digit received by the gsmSRF. If this IE is present and explicitly set to FALSE then the announcement will not be interrupted after the first digit is received by the gsmSRF.
Voice Information	O	If this IE is set to FALSE (default value) then all valid or invalid digits are entered by DTMF. If this IE is set to TRUE then the calling user is required to provide all valid or invalid information by speech.
Voice Back	O	If this IE is set to FALSE (default value) then no voice back information is given by the gsmSRF. If this IE is set to TRUE then the valid input digits received by the gsmSRF will be announced back to the calling user immediately after the end of input is received.

*** *End of Document****

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040143
revision of N2-040044

CHANGE REQUEST

⌘ **23.078** **CR** **680** ⌘**rev** **1** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to SplitLeg preconditions
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ TS 23.078 and TS 29.078 are not consistent w.r.t. the pre-conditions for SplitLeg and MoveLeg. Furthermore, the current description of these conditions is somewhat ambiguous.

Section 11.31 of TS 29.078 specifies the following pre-conditions for SplitLeg:

(1) When SplitLeg is used to move a leg into CSID1 (when CSID1 does not exist), then the BCSM for the leg to be split shall be in the ***alerting***, active or mid-call phase.
(2) When SplitLeg is used to split a leg off from CSID1 into a new Call Segment, then the BCSM for the leg to be split shall be in the state O_Active, T_Active, O_Mid_Call or T_Mid_Call.

Refer to figure 4.113, process CSA_gsmSSF, sheet 12. The precondition for SplitLeg is "call is in active phase". However, when SplitLeg is used to move a leg from a CS other than CS1, into CS1 (when CS1 does not exist), then SplitLeg may also be executed when the call leg is in the Alerting phase.

This shall be corrected.

Summary of change: ⌘ Correct figure 4.113-12 as described above; the pre-condition of SplitLeg depends on the call scenario.

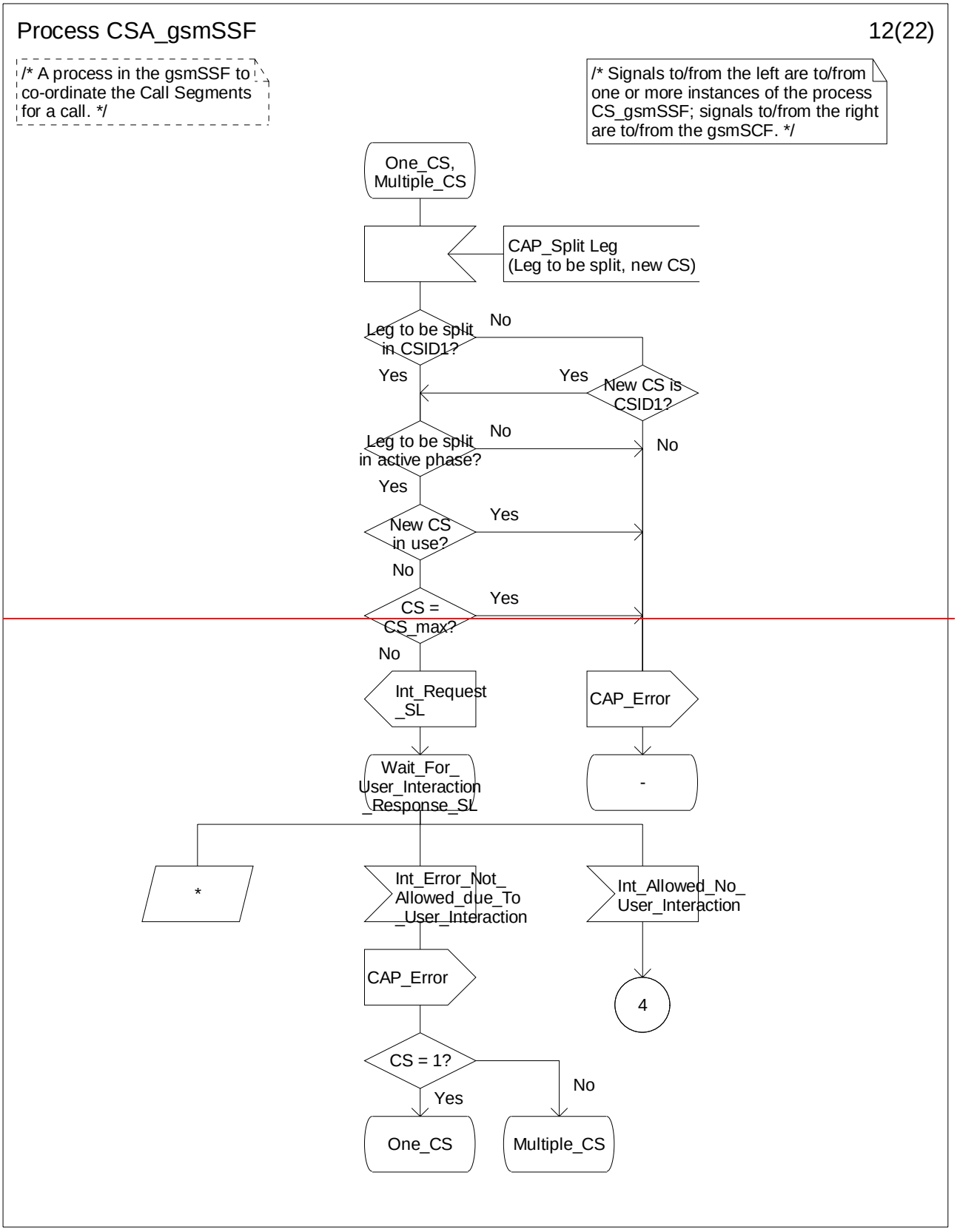
Consequences if not approved: ⌘ Incorrect implementation of SplitLeg, resulting in non-functioning gsmSSF – gsmSCF interworking.

As an example, a Service Logic may attempt to move a newly created call party into Call Segment 1, once the new call party has reached the alerting phase. The

	gsmSSF may however reject the instruction, resulting in Service Logic failure.

Clauses affected:	⌘	4.5.7.7: Figure 4.113-12				
		Y	**N**			
Other specs affected:	⌘	**X**		Other core specifications	⌘	TS 29.078-CR348
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

*** First Modification ***



~~Figure 4.113-12: Process CSA_gsmSSF (sheet 12)~~

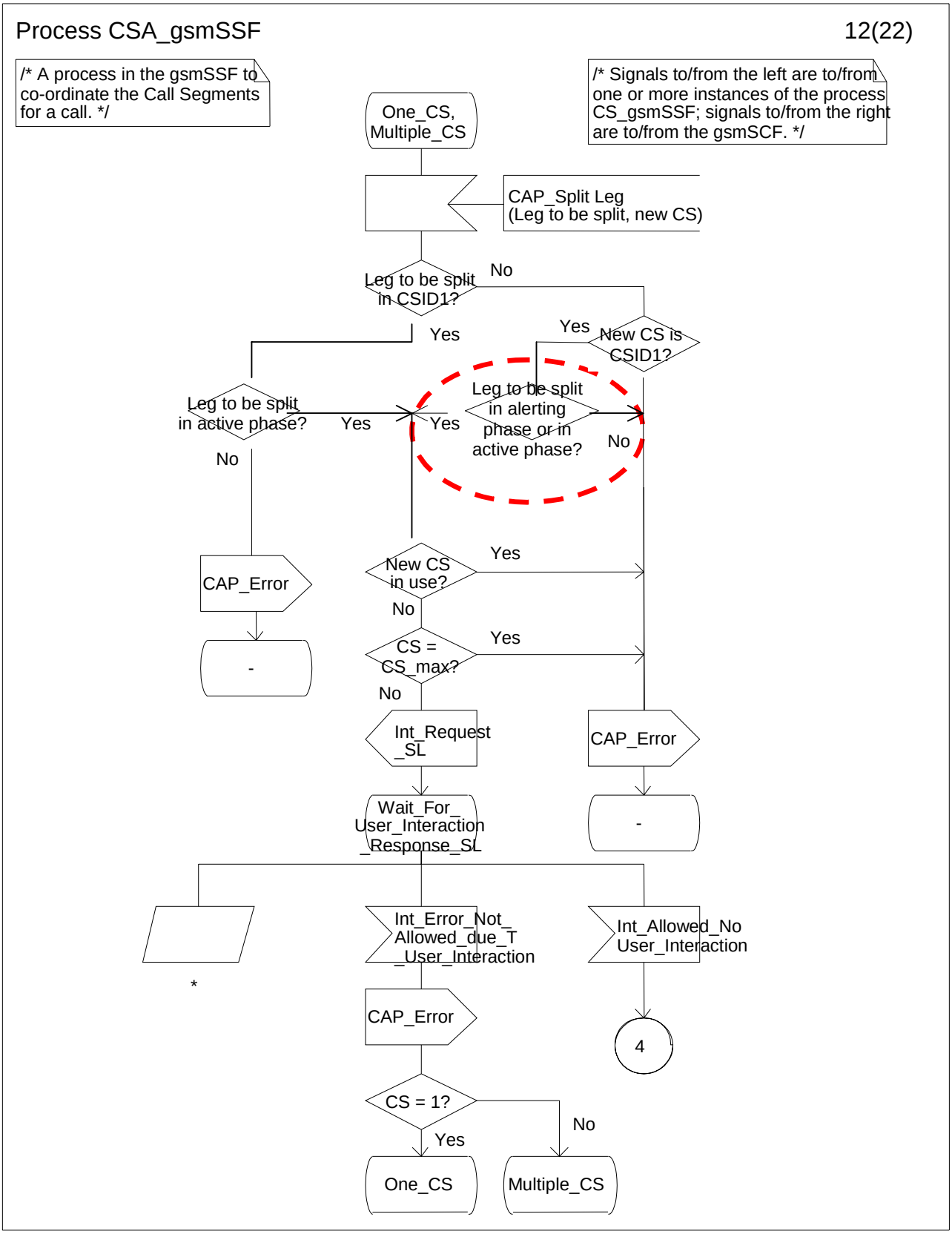


Figure Error! Reference source not found.-2: Process CSA_gsmSSF (sheet 2)

*** End of Document***

CHANGE REQUEST

⌘ **23.078** **CR** **706** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to SplitLeg preconditions
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ TS 23.078 and TS 29.078 are not consistent w.r.t. the pre-conditions for SplitLeg and MoveLeg. Furthermore, the current description of these conditions is somewhat ambiguous.

Section 11.31 of TS 29.078 specifies the following pre-conditions for SplitLeg:

(1) When SplitLeg is used to move a leg into CSID1 (when CSID1 does not exist), then the BCSM for the leg to be split shall be in the ***alerting***, active or mid-call phase.
(2) When SplitLeg is used to split a leg off from CSID1 into a new Call Segment, then the BCSM for the leg to be split shall be in the state O_Active, T_Active, O_Mid_Call or T_Mid_Call.

Refer to figure 4.114, process CSA_gsmSSF, sheet 12. The precondition for SplitLeg is "call is in active phase". However, when SplitLeg is used to move a leg from a CS other than CS1, into CS1 (when CS1 does not exist), then SplitLeg may also be executed when the call leg is in the Alerting phase.

This shall be corrected.

Summary of change: ⌘ Correct figure 4.114-12 as described above; the pre-condition of SplitLeg depends on the call scenario.

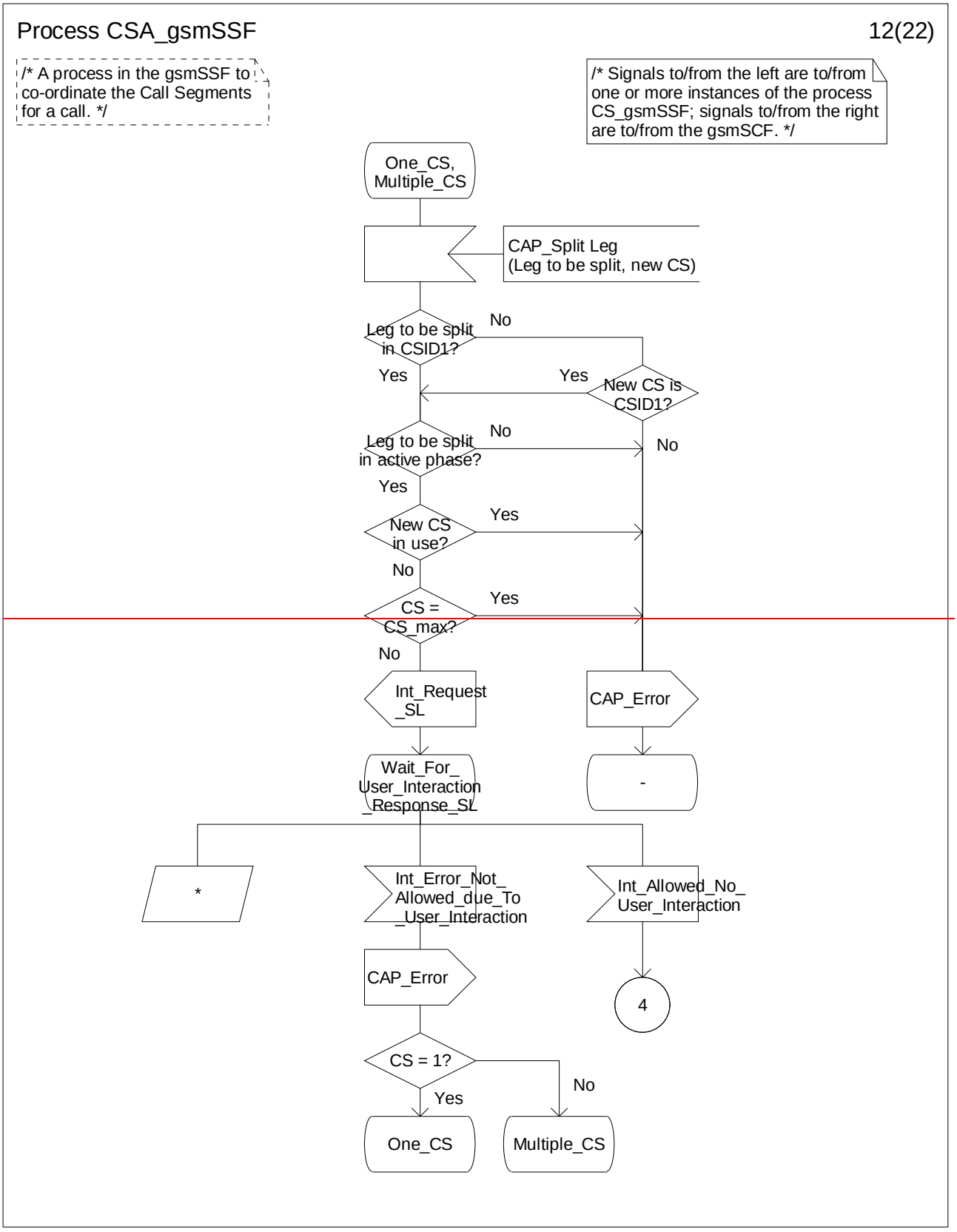
Consequences if not approved: ⌘ Incorrect implementation of SplitLeg, resulting in non-functioning gsmSSF – gsmSCF interworking.

As an example, a Service Logic may attempt to move a newly created call party into Call Segment 1, once the new call party has reached the alerting phase. The

	gsmSSF may however reject the instruction, resulting in Service Logic failure.

Clauses affected:	⌘	4.5.7.7: Figure 4.114-12				
		Y	**N**			
Other specs affected:	⌘	**X**		Other core specifications	⌘	TS 29.078-CR348
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

*** First Modification ***



~~Figure 4.114-12: Process CSA_gsmSSF (sheet 12)~~

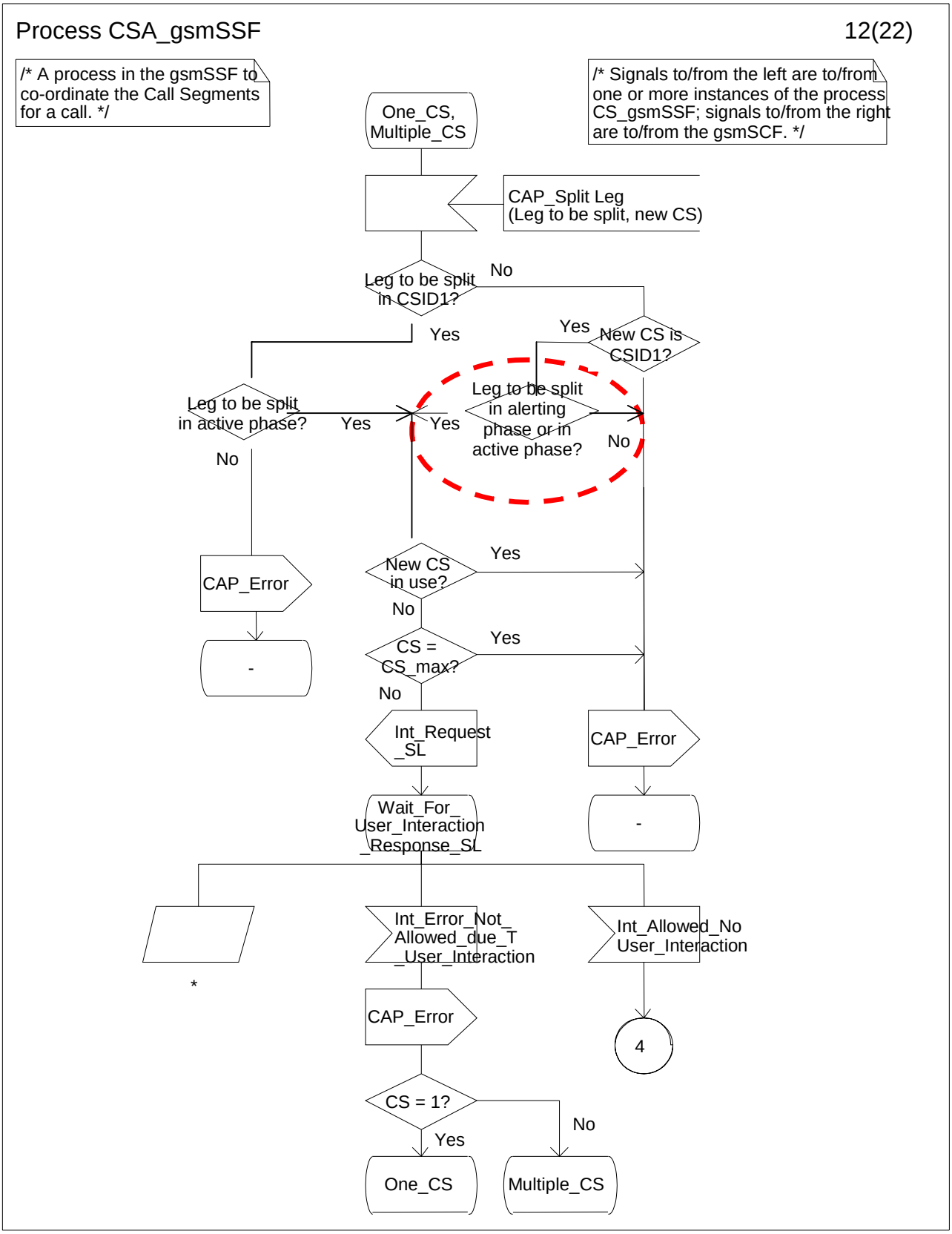


Figure 114-2: Process CSA_gsmSSF (sheet 12)

*** End of Document***

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040145
revision of N2-040048

CHANGE REQUEST

⌘ **29.078** **CR** **348** ⌘ **rev** **1** ⌘ Current version: **5.6.1** ⌘

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

Title:	⌘	Correction to SplitLeg and MoveLeg preconditions
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ The pre-conditions for SplitLeg and MoveLeg need correction.

(1) The pre-conditions for MoveLeg, to move a leg into CS1, shall specify that the leg to be moved shall be in the Alerting phase or in the Active phase. It is not correct to refer to a "mid-call phase". Mid-call is not a phase of the call; furthermore, mid-call may refer to mid-call during alerting and mid-call during active state.

The pre-condition "alerting phase" includes also the DP Alerting handling as well as mid-call handling during alerting phase. The pre-condition "active phase" includes also the DP Answer handling as well as mid-call handling during the active phase.

(2) The pre-conditions for SplitLeg, to move a leg into CS1 when CS1 does not exist, are the same as the pre-conditions for MoveLeg.

(3) The pre-conditions for SplitLeg, to move a leg from CS1 to another CS, shall specify that the leg to be moved shall be in active phase. The active phase includes the handling of DP Answer and the handling of mid-call DP during the active phase.

Summary of change: ⌘ Correct the pre-conditions for MoveLeg and SplitLeg.

Consequences if not approved: ⌘ Incorrect and inconsistent preconditions, resulting in interworking problems between gsmSCF and gsmSSF. As an example, a CAMEL Service may attempt to put the called party on hold prior to that called party reaching the active phase. The gsmSSF would, however, reject such attempt.

	The stage 1 requirement specifies that putting the called party on hold is allowed as from the active phase onwards, but the current pre-condition for Split Leg, when used for the called party on hold, may be interpreted in that this action is also allowed in the mid-call state before the answer event.

Clauses affected:	⌘	11.22, 11.31				
		Y	**N**			
Other specs Affected:	⌘	**X**		Other core specifications	⌘	TS 23.078-CR680
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

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

11.22 MoveLeg procedure

11.22.1 General Description

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

11.22.1.1 Parameters

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

11.22.2 Responding entity (gsmSSF)

11.22.2.1 Normal procedure

gsmSSF preconditions:

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

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

3) The target Call Segment fulfills the following preconditions:

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

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

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

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

gsmSSF postconditions:

1) The gsmSSF performs the appropriate call processing actions.

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

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

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

11.22.2.2 Error handling

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

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

11.31 SplitLeg Procedure

11.31.1 General Description

The gsmSCF uses this operation to request the gsmSSF to separate one party from the source Call Segment and place it in a new target Call Segment.

11.31.1.1 Parameters

- legToBeSplit:
  This parameter indicates the party in the call to be split from the source Call Segment.

- newCallSegment:
  This parameter indicates the CSID to be assigned to the newly-created Call Segment.

11.31.2 Responding entity (gsmSSF)

11.31.2.1 Normal procedure

gsmSSF preconditions:

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

2) The CSID1 is either the source Call Segment or the target Call Segment.

3) When SplitLeg is used to move a leg into CSID1 (when CSID1 does not exist), then the BCSM for the leg to be split shall be in the alerting phase ~~,~~or in the active ~~or mid-call~~ phase.

   When SplitLeg is used to split a leg off from CSID1 into a new Call Segment, then the BCSM for the leg to be split shall be in the active phase~~state O_Active, T_Active, O_Mid_Call or T_Mid_Call~~.

4) User interaction is not in progress in the source Call Segment.

gsmSSF postconditions:

1) The gsmSSF performs the necessary actions to separate the specified leg from its original Call Segment and place it in a new target Call Segment.

2) The CS_gsmSSF FSM for the new Call Segment transits to the state "Waiting_for_Instructions".

3) The CS_gsmSSF FSM for the source Call Segment transits to the state "Waiting_for_Instructions".

4) The remaining BCSM instances within the source Call Segment transit to the O_Mid_Call DP or to the T_Mid_Call DP, unless already suspended at a DP. The Mid_Call EDP shall not be reported for this case.

5) A Return Result shall be sent to the gsmSCF immediately after successful execution of this operation.

11.31.2.2 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.

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

CHANGE REQUEST

⌘ **29.078** **CR** **362** ⌘ **rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to SplitLeg and MoveLeg preconditions
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘ The pre-conditions for SplitLeg and MoveLeg need correction.

(1) The pre-conditions for MoveLeg, to move a leg into CS1, shall specify that the leg to be moved shall be in the Alerting phase or in the Active phase. It is not correct to refer to a "mid-call phase". Mid-call is not a phase of the call; furthermore, mid-call may refer to mid-call during alerting and mid-call during active state.

The pre-condition "alerting phase" includes also the DP Alerting handling as well as mid-call handling during alerting phase. The pre-condition "active phase" includes also the DP Answer handling as well as mid-call handling during the active phase.

(2) The pre-conditions for SplitLeg, to move a leg into CS1 when CS1 does not exist, are the same as the pre-conditions for MoveLeg.

(3) The pre-conditions for SplitLeg, to move a leg from CS1 to another CS, shall specify that the leg to be moved shall be in active phase. The active phase includes the handling of DP Answer and the handling of mid-call DP during the active phase.

Summary of change: ⌘ Correct the pre-conditions for MoveLeg and SplitLeg.

Consequences if not approved: ⌘ Incorrect and inconsistent preconditions, resulting in interworking problems between gsmSCF and gsmSSF. As an example, a CAMEL Service may attempt to put the called party on hold prior to that called party reaching the active phase. The gsmSSF would, however, reject such attempt.

	The stage 1 requirement specifies that putting the called party on hold is allowed as from the active phase onwards, but the current pre-condition for Split Leg, when used for the called party on hold, may be interpreted in that this action is also allowed in the mid-call state before the answer event.

Clauses affected:	⌘	11.22, 11.31				
		Y	**N**			
Other specs Affected:	⌘	**X**		Other core specifications	⌘	TS 23.078-CR680
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

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

11.22 MoveLeg procedure

11.22.1 General Description

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

11.22.1.1 Parameters

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

11.22.2 Responding entity (gsmSSF)

11.22.2.1 Normal procedure

gsmSSF preconditions:

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

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

3) The target Call Segment fulfills the following preconditions:

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

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

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

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

gsmSSF postconditions:

1) The gsmSSF performs the appropriate call processing actions.

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

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

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

11.22.2.2 Error handling

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

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

11.31 SplitLeg Procedure

11.31.1 General Description

The gsmSCF uses this operation to request the gsmSSF to separate one party from the source Call Segment and place it in a new target Call Segment.

11.31.1.1 Parameters

- legToBeSplit:
  This parameter indicates the party in the call to be split from the source Call Segment.

- newCallSegment:
  This parameter indicates the CSID to be assigned to the newly-created Call Segment.

11.31.2 Responding entity (gsmSSF)

11.31.2.1 Normal procedure

gsmSSF preconditions:

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

2) The CSID1 is either the source Call Segment or the target Call Segment.

3) When SplitLeg is used to move a leg into CSID1 (when CSID1 does not exist), then the BCSM for the leg to be split shall be in the alerting phase ,or in the active ~~or mid-call~~ phase.

   When SplitLeg is used to split a leg off from CSID1 into a new Call Segment, then the BCSM for the leg to be split shall be in the active phase~~state O_Active, T_Active, O_Mid_Call or T_Mid_Call~~.

4) User interaction is not in progress in the source Call Segment.

gsmSSF postconditions:

1) The gsmSSF performs the necessary actions to separate the specified leg from its original Call Segment and place it in a new target Call Segment.

2) The CS_gsmSSF FSM for the new Call Segment transits to the state "Waiting_for_Instructions".

3) The CS_gsmSSF FSM for the source Call Segment transits to the state "Waiting_for_Instructions".

4) The remaining BCSM instances within the source Call Segment transit to the O_Mid_Call DP or to the T_Mid_Call DP, unless already suspended at a DP. The Mid_Call EDP shall not be reported for this case.

5) A Return Result shall be sent to the gsmSCF immediately after successful execution of this operation.

11.31.2.2 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.

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

CHANGE REQUEST

⌘ **23.078** **CR** **711** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Correction to Tssf timer at Apply Charging
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	A
Release:	⌘	Rel-6

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ Refer to figure 4.97-15, CS_gsmSSF. When gsmSSF receives Apply Charging, it should set Tssf to "last used time interval" and not to "Int_Reset_Timer time interval" as currently reflected in the SDL.
The setting of Tssf to the value "Int_Reset_Timer time interval" is done in reaction to the Reset Timer CAP operation.

In figure 4.102-1, Handle_AC, there is a task box to set the Tssf timer. That task box should not be in that procedure. Procedure Handle_AC may be called from process CS_gsmSSF in various places. Process CS_gsmSSF is in control of the Tssf timer. The setting of the Tssf timer, when calling Handle_AC, depends on the gsmSSF FSM state in which Handle_AC is called.

As an example, if Handle_AC is called due to receiving CAP Apply Charging when the gsmSSF FSM is in monitoring state, then Tssf shall not be started. Therefore, the setting of Tssf shall be controlled by CS_gsmSSF and not by sub-procedures.

Summary of change: ⌘
- Correct figure 4.97-15: correct the text in the task box following the Apply Charging operation.
- Correct figure 4.102-1: remove the task box for the timer setting.

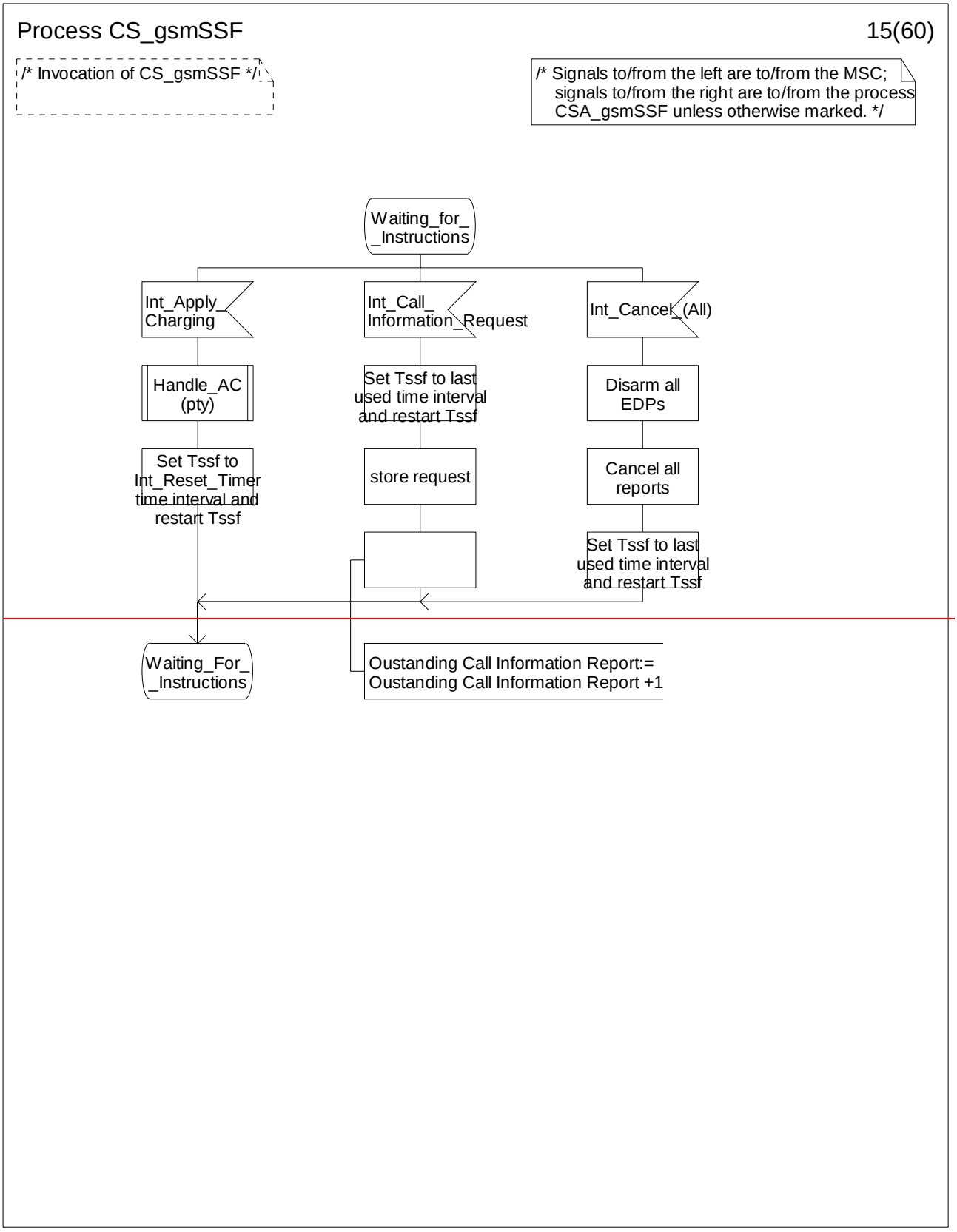
Consequences if not approved: ⌘ Incorrect Tssf timer setting. The result may be that Tssf is set to a too large timer value, which reduces the usefulness of Tssf. This may further result in that gsmSSF would wait a too long period for further instructions from gsmSCF, before timing out, and that MSC resources are unnecessarily seized.

A further consequence if not approved is that Tssf may be started when the gsmSSF FSM is in monitoring state. As a result, Tssf may expire unexpectedly,

	resulting in call failure.

Clauses affected:	⌘	4.5.7.5			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	A spelling mistake is corrected in figure 4.96-15.			

*** First Modification ***



~~Figure 4.97-15: Process CS_gsmSSF (sheet 15)~~

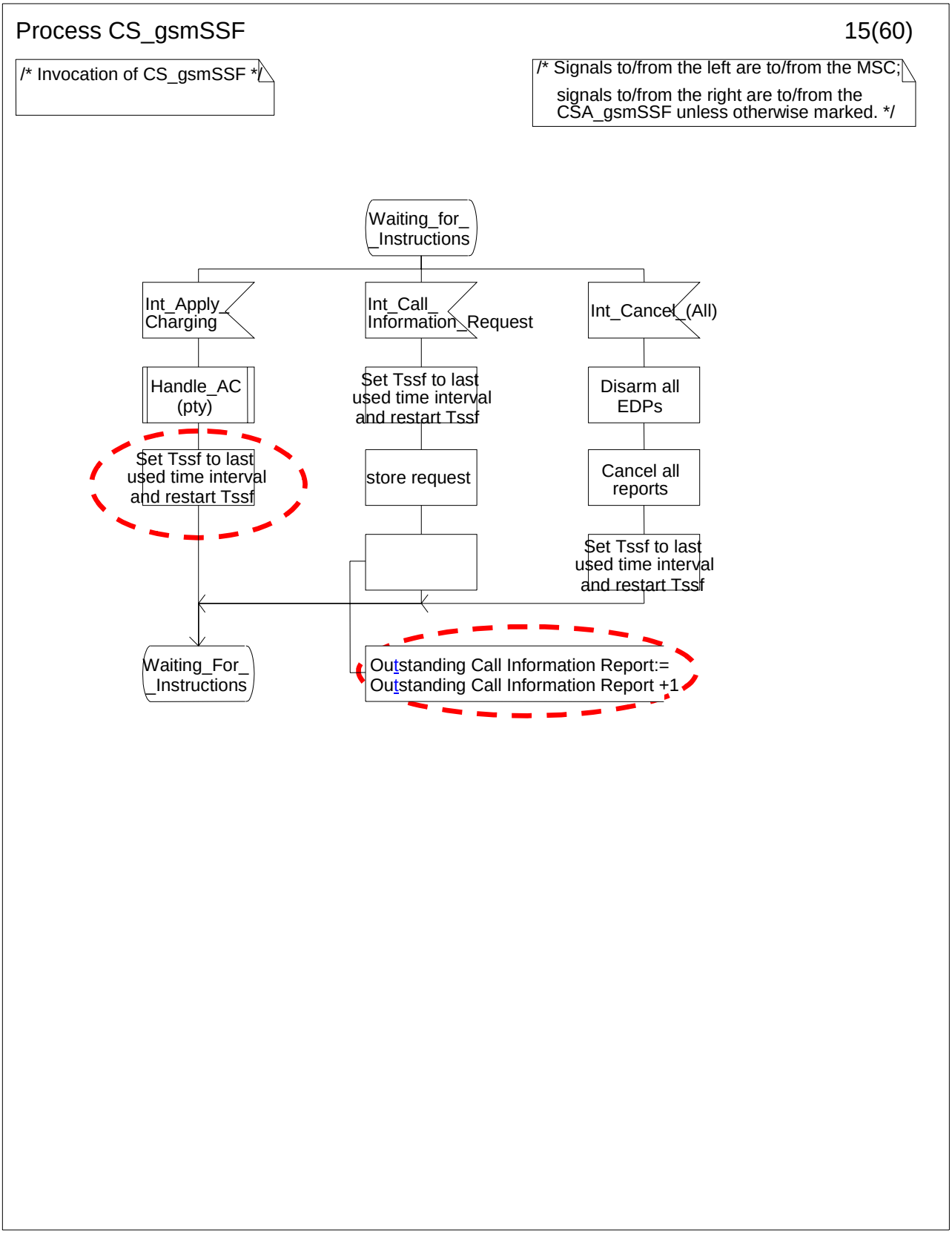
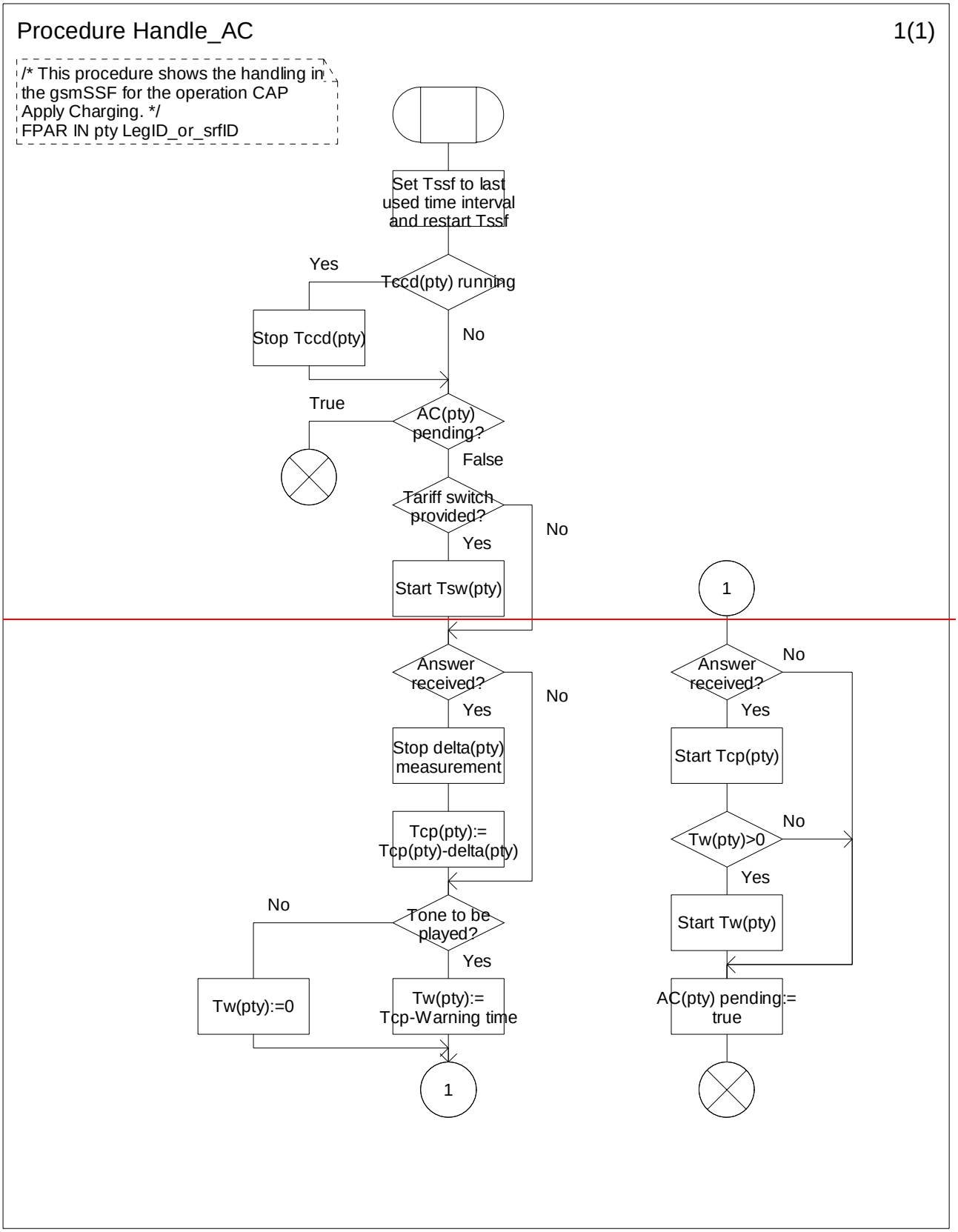


Figure 4.97-15: Process CS_gsmSSF (sheet 15)



~~Figure 4.102-1: Procedure Handle_AC (sheet 1)~~

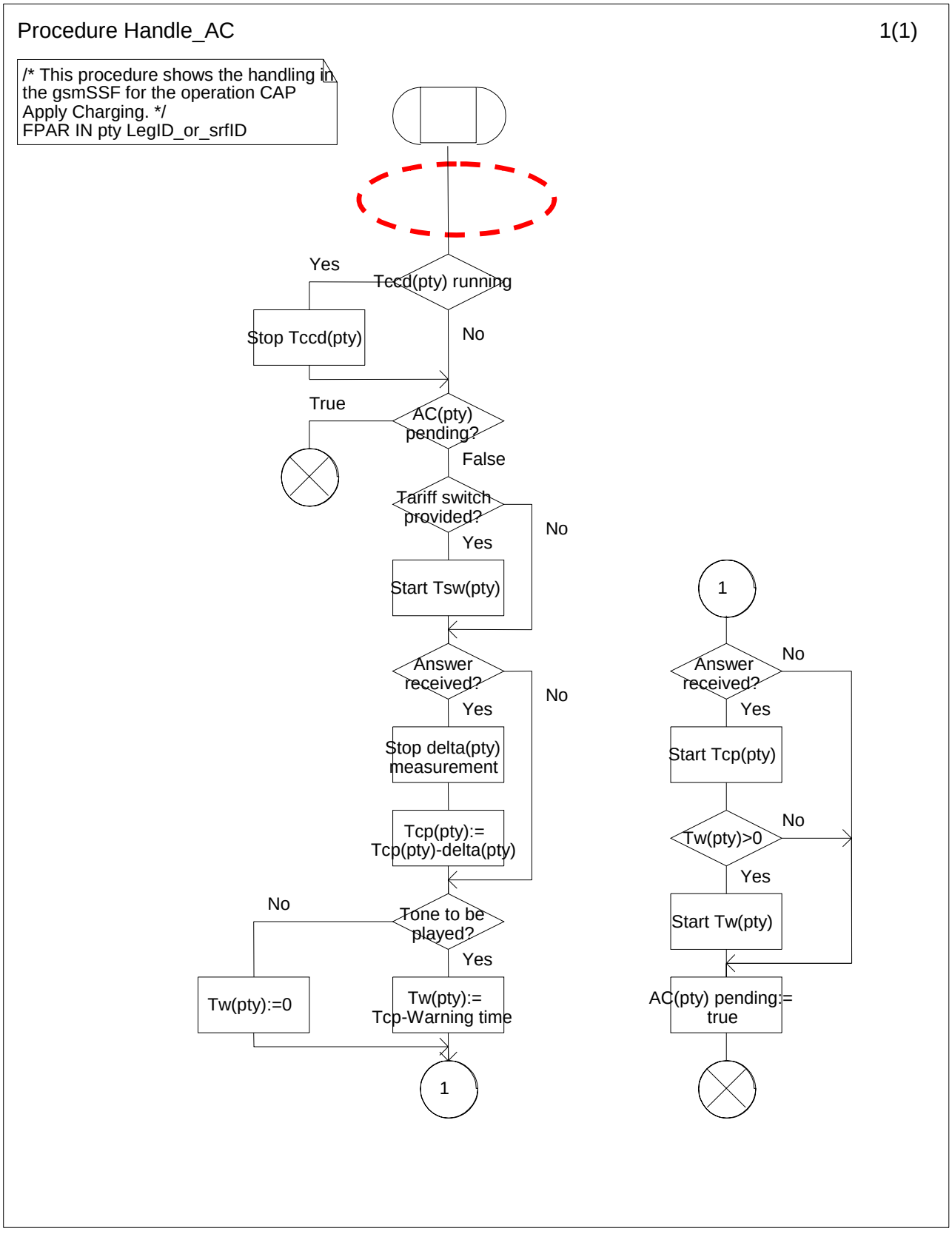


Figure 4.102-1: Procedure Handle_AC (sheet 1)

*** End of Document***

3GPP TSG CN WG2 Meeting #32 N2-040176
Atlanta, USA, 16th – 20st February 2004

CHANGE REQUEST

⌘ **23.078** **CR** **712** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘	Allowing Export_leg at DP Alerting and DP Answer		
Source:	⌘	Ericsson		
Work item code:	⌘	CAMEL4	***Date:*** ⌘	2004-02-18
Category:	⌘	A	***Release:*** ⌘	Rel-6

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘

Currently, it is not possible to move an ICA leg from its source CS to a target CS, using Move Leg or Split Leg, during the Alerting DP or during the Answer DP.

Refer to figure 4.88, CAMEL_ICA_MSC_Alerting. In state DP_O_Term_Seized, the input signal Int_Export_leg may be received from CS_gsmSSF. Likewise, refer to figure 4.89, CAMEL_ICA_MSC_Answer. In state DP_O_Answer, the input signal Int_Export_leg may be received.

Figure 4.87, CAMEL_ICA_MSC, allows for signal Int_Export_leg. However, these Int_Export_leg signals do not cater for the Move Leg and Split Leg during the handling of DP Alerting or DP Answer.

Refer to TS 22.078, section 8.1.4, where the requirements for SplitLeg and MoveLeg are specified.

The proposed changes to CAMEL_ICA_MSC_Alerting and CAMEL_ICA_MSC_Answer are the following.

CAMEL_ICA_MSC_Alerting

In sheet 2, CAMEL_ICA_MSC_ALERTING is in state DP_O_Term_Seized; the gsmSCF may send SplitLeg or MoveLeg, depending on the call scenario. CAMEL_ICA_MSC_ALERTING will export the leg. If leg export fails, then this is reported through CAMEL_ICA_MSC1 or CAMEL_ICA_MSC2, depending on the cause of the release; this handling is the same as in CAMEL_ICA_MSC.
If the leg export succeeds, then CAMEL_ICA_MSC_ALERTING remains in the state DP_O_Term_Seized. The next Int_Continue or Int_Continue_With_Argument signals results in a return to CAMEL_ICA_MSC,

	as is currently the case. Since the gsmSCF has applied a CPH operation for the ICA leg, process CS_gsmSSF receives both a CWA[CS Id] and a CWA[Leg Id]. CS_gsmSSF passes only a single Int_Continue_With_Argiment on to CAMEL_ICA_MSC_ALERTING. CAMEL_ICA_MSC_Answer Same as for CAMEL_ICA_MSC_Alerting, except that failure to export a leg is reported in CAMEL_OCH_MSC_DISC2.
Summary of change: ⌘	- Correct figure 4.88; allow for the Int_Export_leg signal in state DP_O_Term_Seized; - Correct figure 4.89; allow for the Int_Export_leg signal in state DP_O_Answer.
Consequences if not approved: ⌘	It will not be possible for a CAMEL Service to move a newly created call party (i.e. ICA leg) into the group (i.e. Call Segment 1) at the Alerting DP or the Answer DP.

Clauses affected:	⌘	4.5.6.1			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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

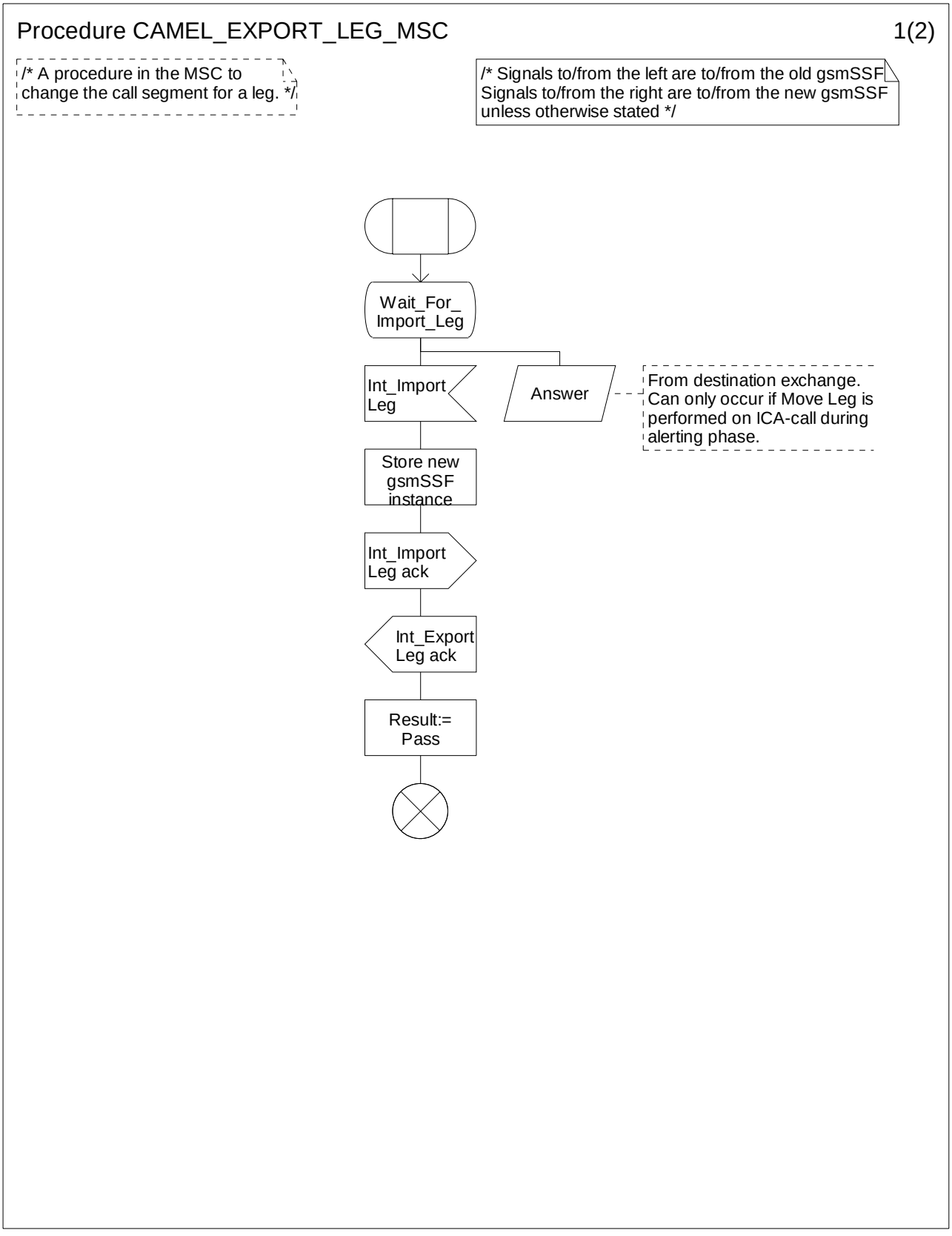


Figure 4.34-1: Procedure CAMEL_EXPORT_LEG_MSC (sheet 1)

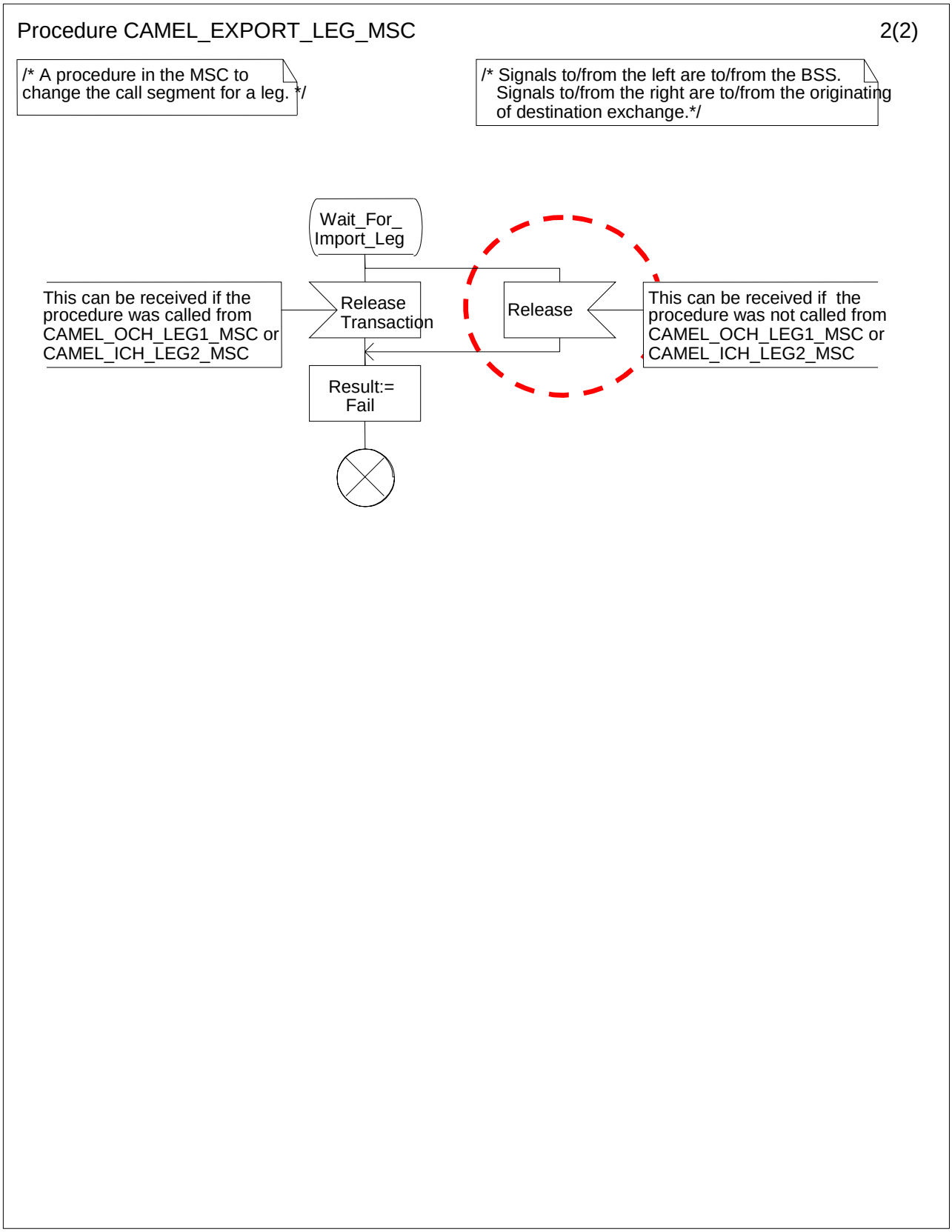


Figure 4.34-2: Procedure CAMEL_EXPORT_LEG_MSC (sheet 2)

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

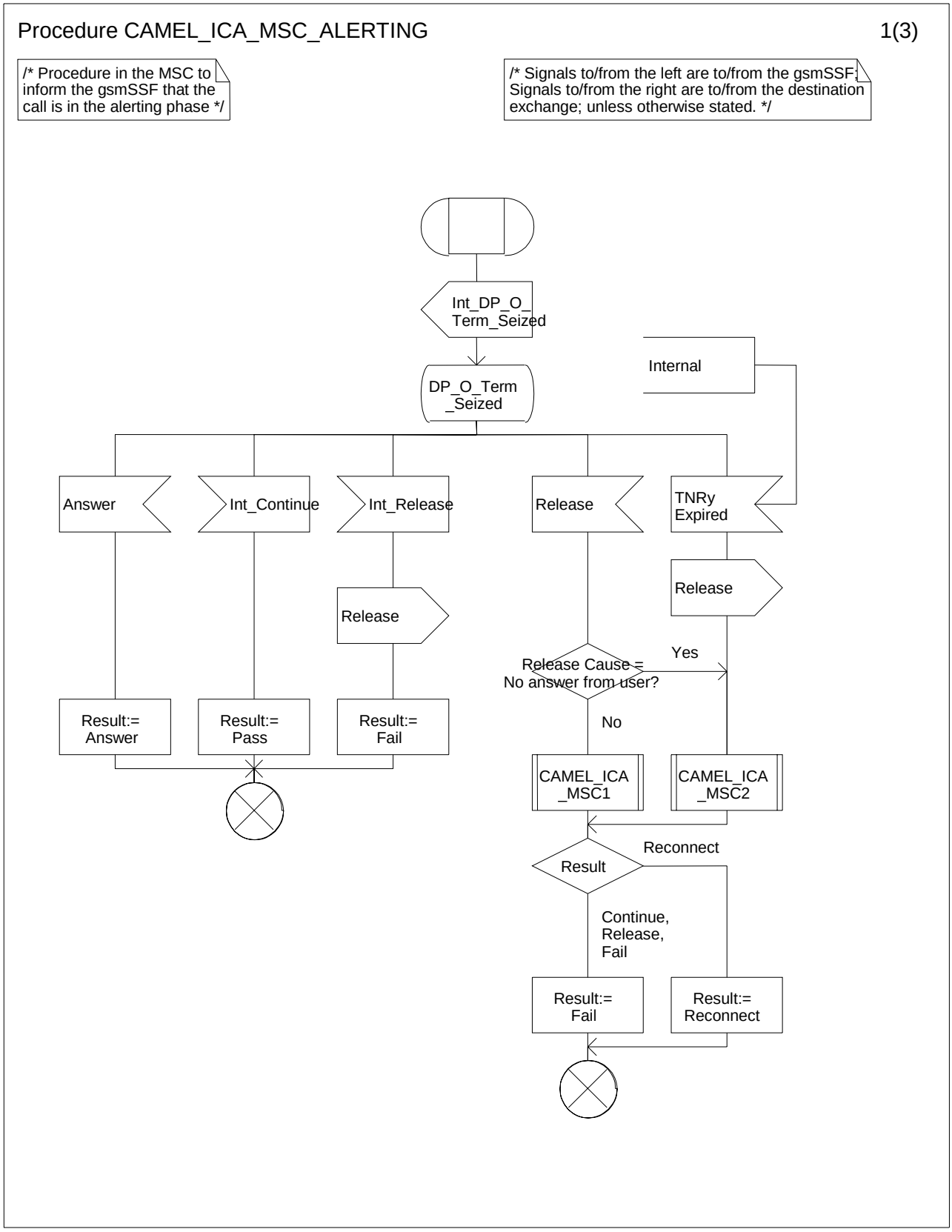
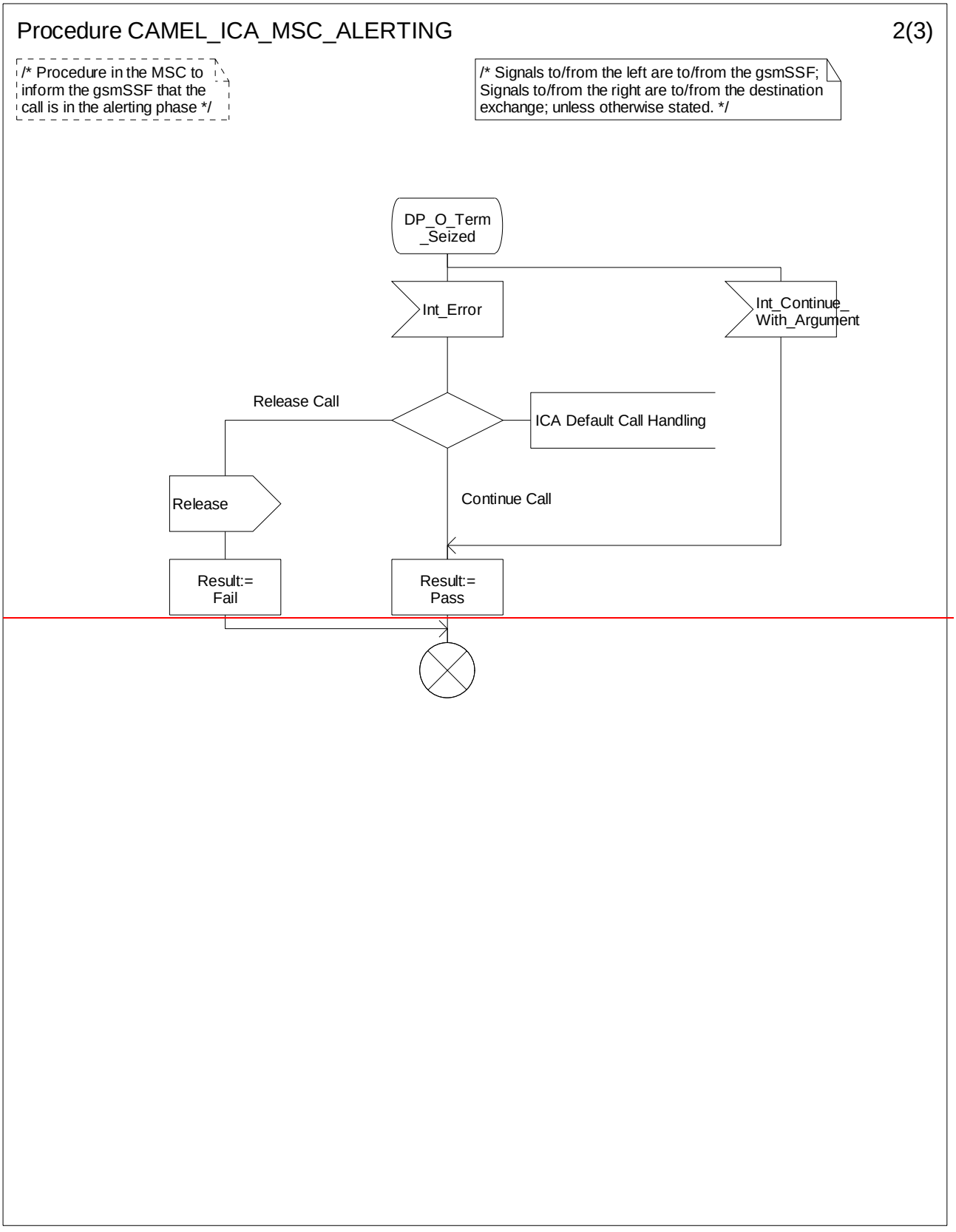


Figure 4.88-1: Procedure CAMEL_ICA_MSC_ALERTING (sheet 1)



~~Figure 4.88-2: Process CAMEL_ICA_MSC_ALERTING (sheet 2)~~

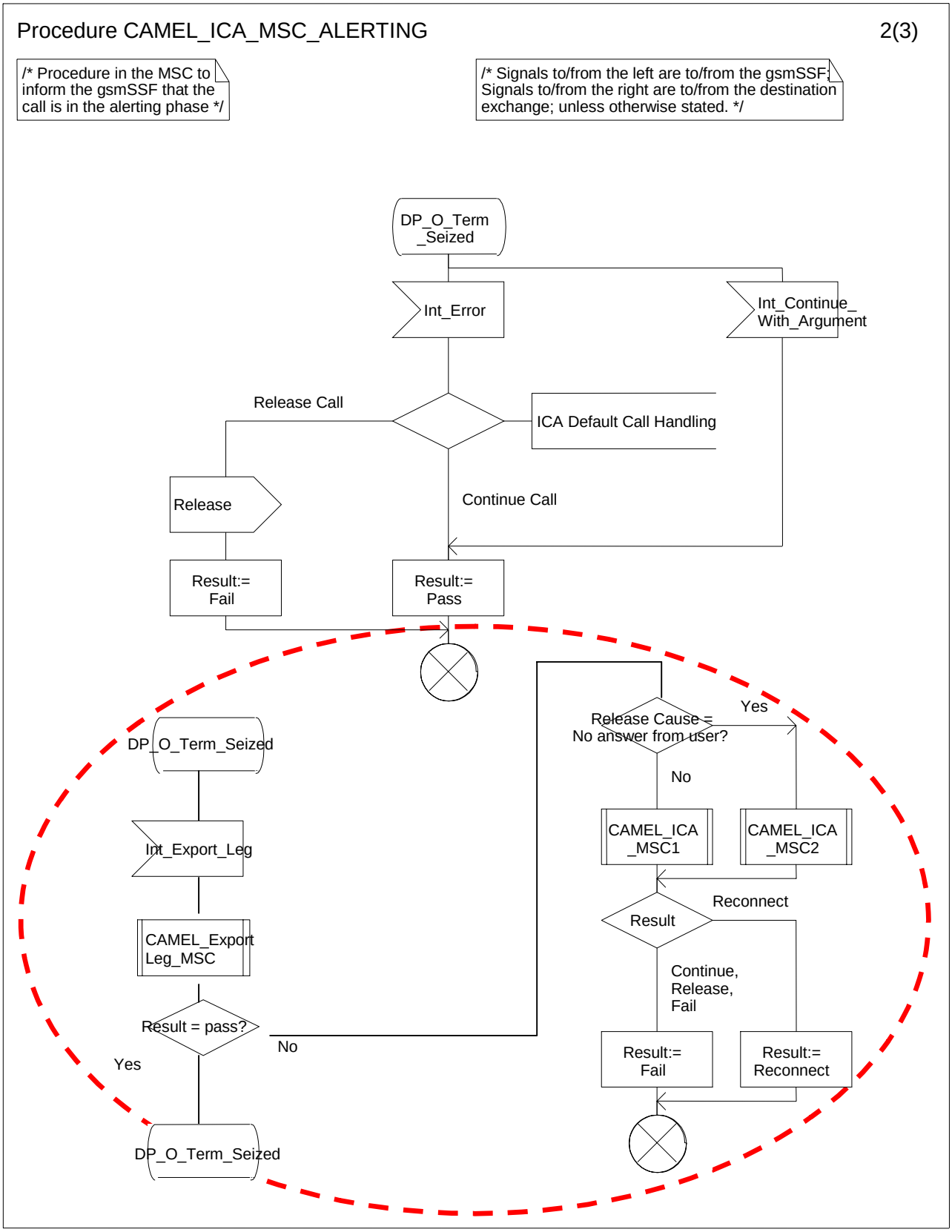


Figure 4.88-2: Process CAMEL_ICA_MSC_ALERTING (sheet 2)

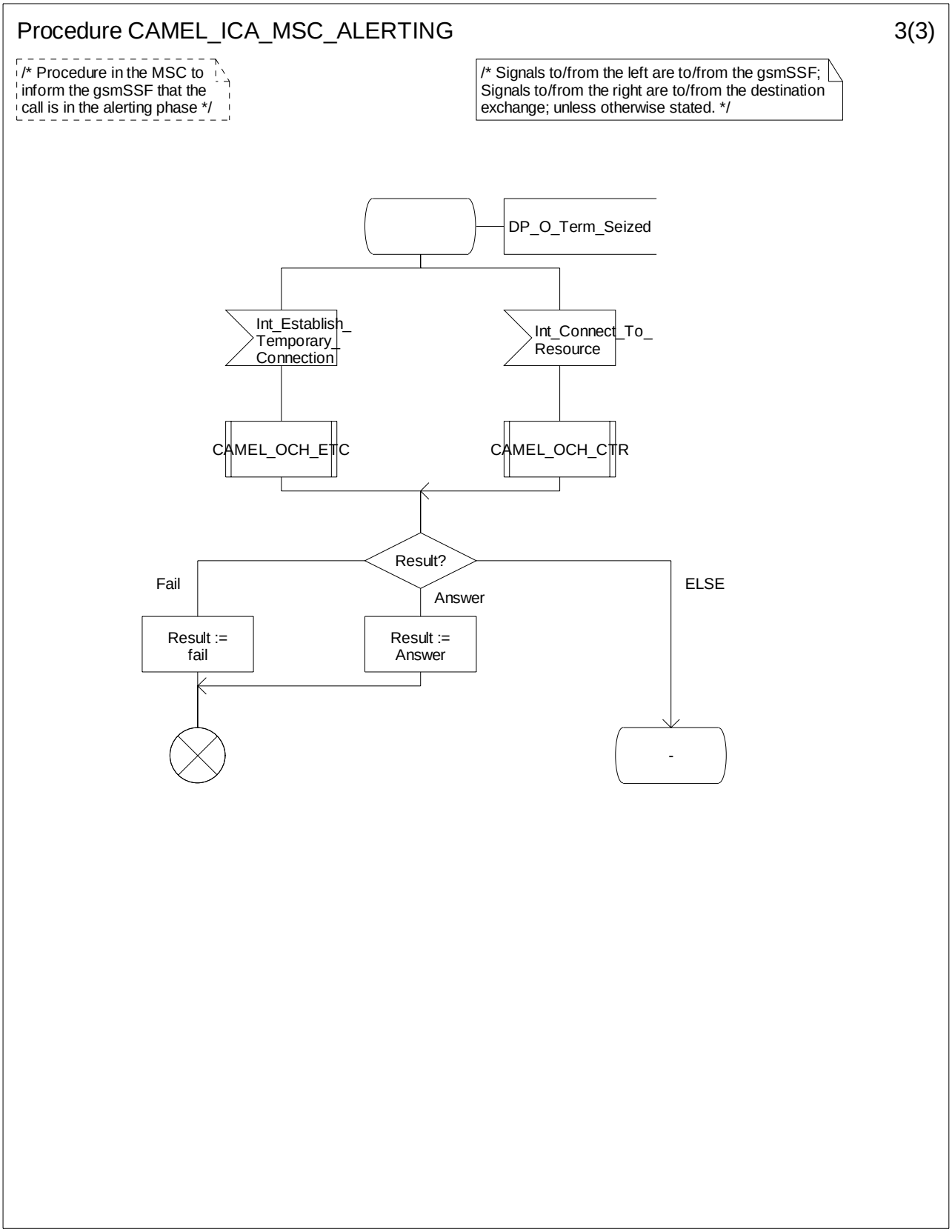


Figure 4.88-3: Process CAMEL_ICA_MSC_ALERTING (sheet 3)

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

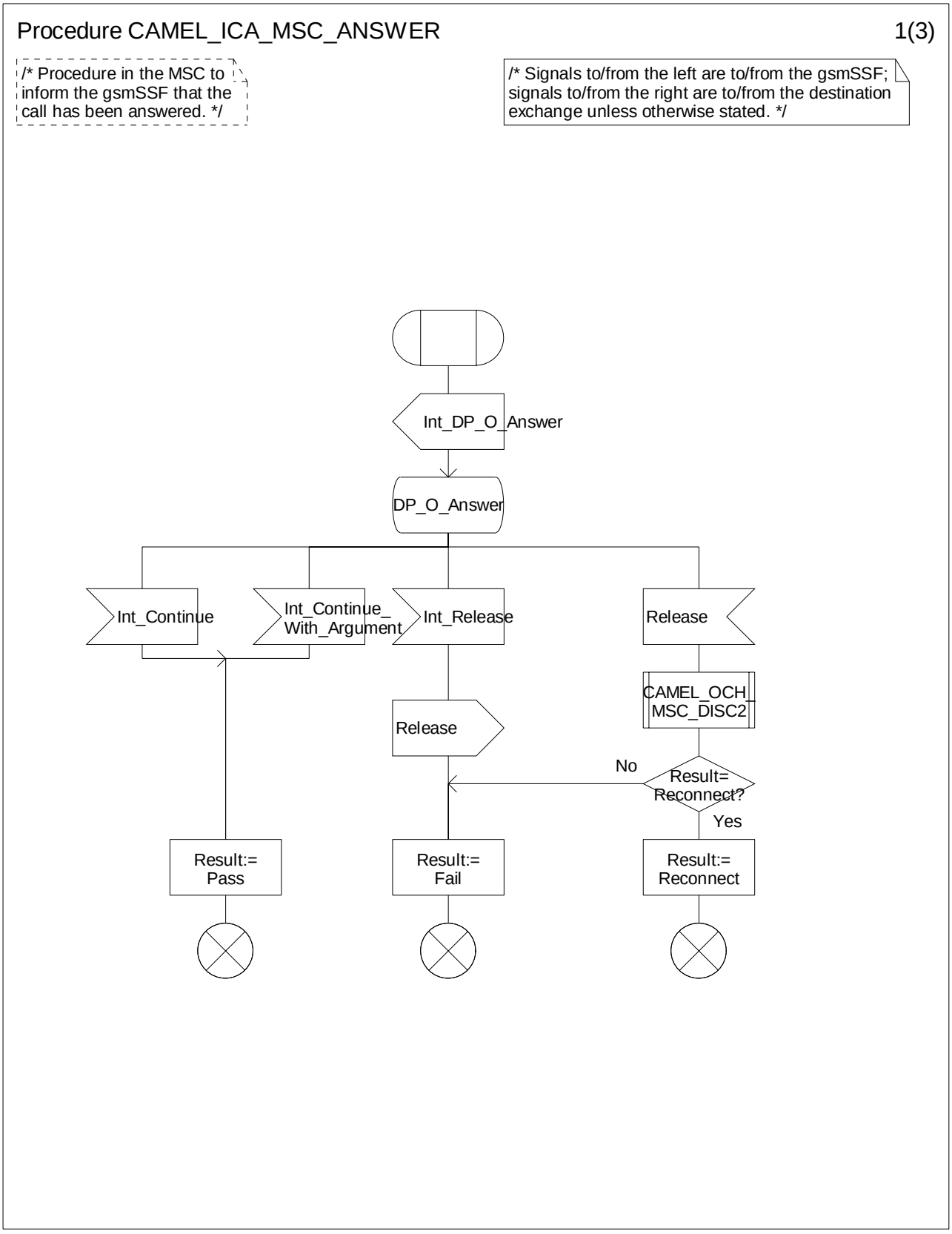
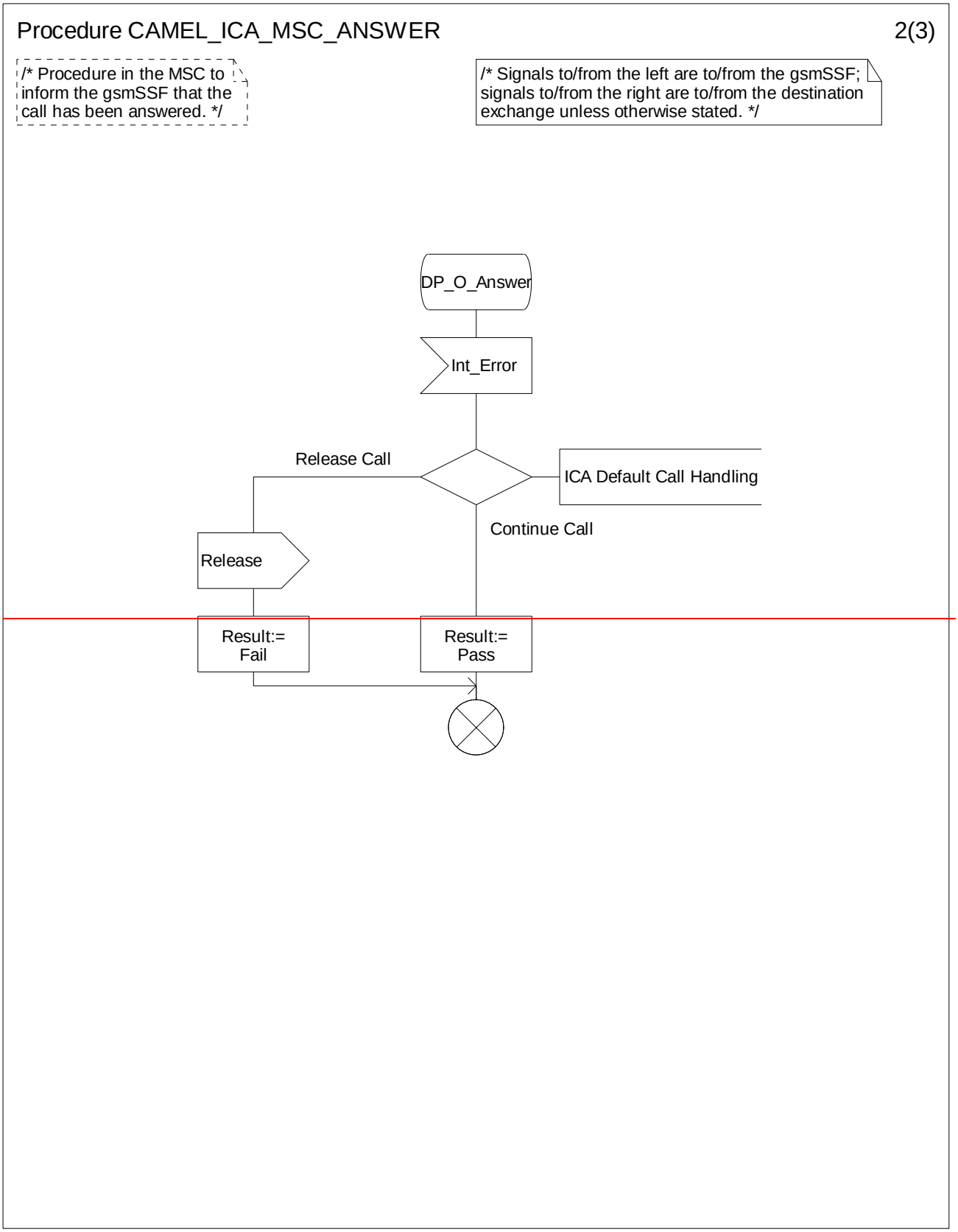


Figure 4.89-1: Procedure CAMEL_ICA_MSC_ANSWER (sheet 1)



~~Figure 4.89-2: Process CAMEL_ICA_MSC_ANSWER (sheet 2)~~

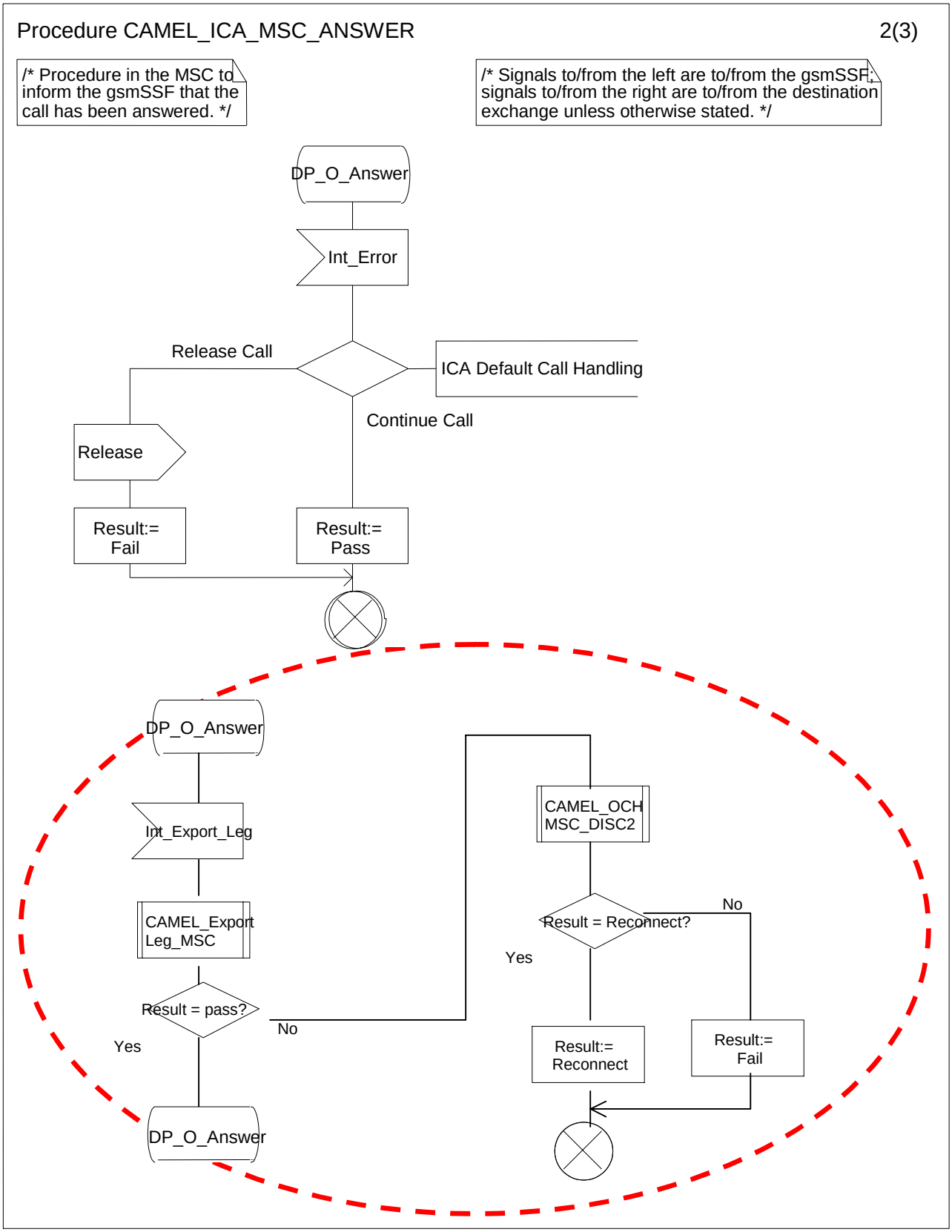


Figure 4.89-2: Process CAMEL_ICA_MSC_ANSWER (sheet 2)

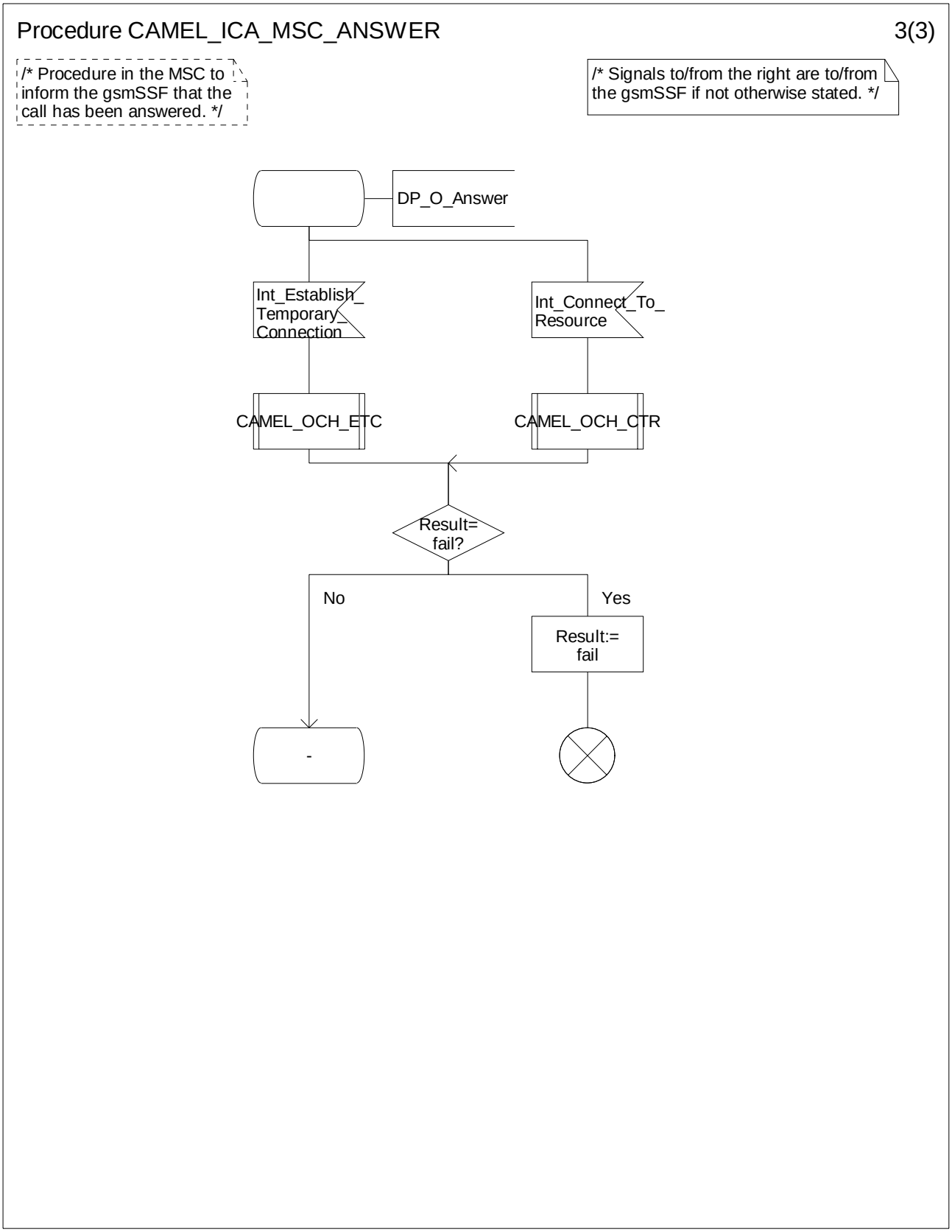


Figure 4.89-3: Process CAMEL_ICA_MSC_ANSWER (sheet 3)

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

3GPP TSG CN WG2 Meeting #32 **N2-040122**
Atlanta, USA, 16th – 21st February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** 648 ⌘**rev** **1** ⌘ Current version: **5.6.0** ⌘

*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:	⌘	Missing DisconnectLeg Result to the gsmSCF
Source:	⌘	Alcatel
Work item code:	⌘	CAMEL4
Date:	⌘	17/02/2004
Category:	⌘	**F (essential correction)**
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change:	⌘	In procedures relative to the establisment phase of the call, the sending of Int-DisconnectLeg Ack is not foreseen on receipt Int- DisconnectLeg (leg1). In addition after sending the Int-DisconnectLeg message, the CS-gsmSSF process is waiting for a Int-DisconnectLeg ack.
Summary of change:	⌘	In any state Int-DisconnectLeg Ack is sent on receipt of Int-DisconnectLeg.
Consequences if not approved:	⌘	When gsmSCF sends DisconnectLeg (leg1) to the gsmSSF then it is waiting for an acknowledgement which will never come so interworking problems occur.

Clauses affected:	⌘	4.5.2.1 , 4.5.3.1 , 4.5.4.1 and 4.5.5

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

Other comments:	⌘	

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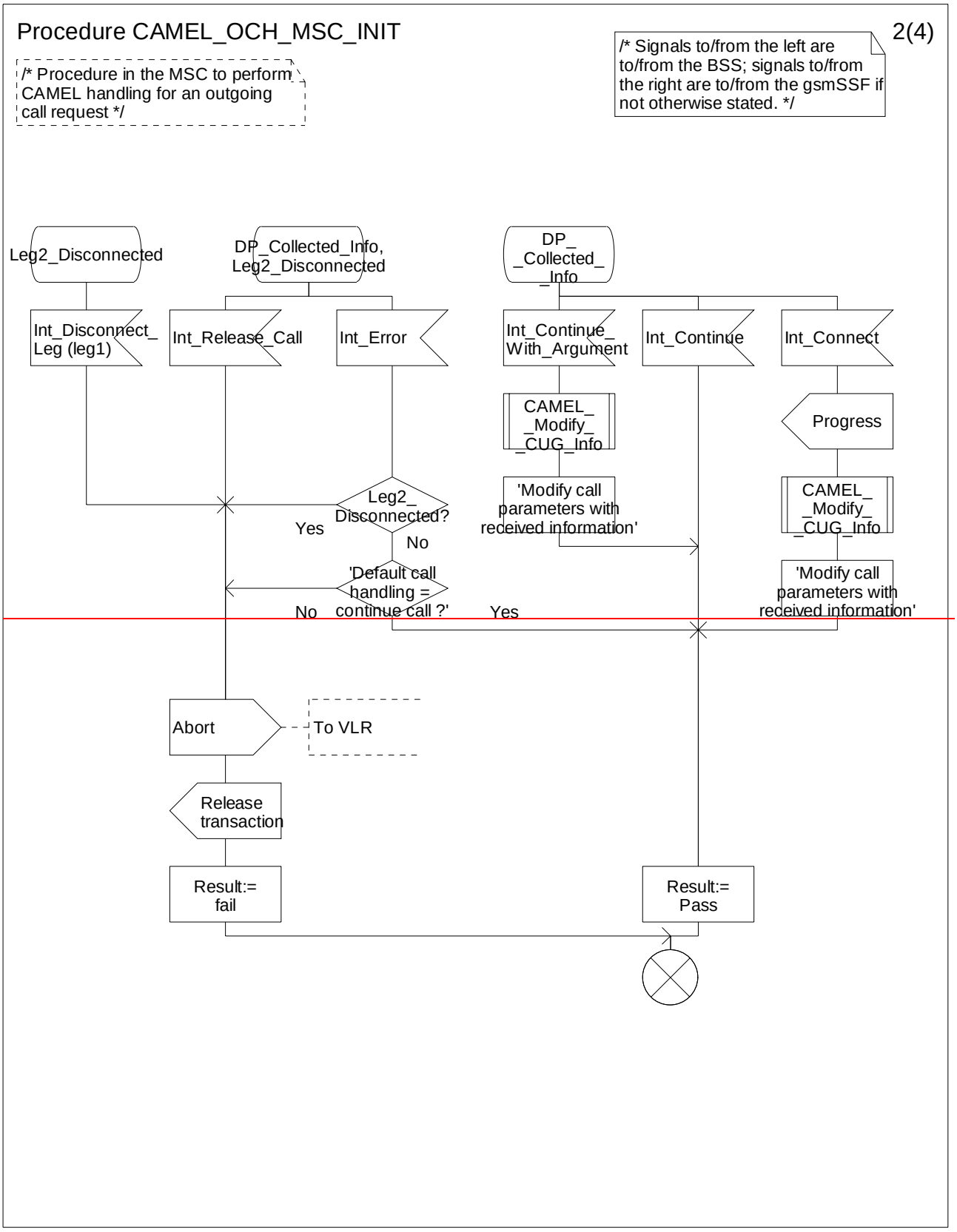
***** First modified section *****

4.5.2.1 Handling of mobile originated calls in the originating MSC



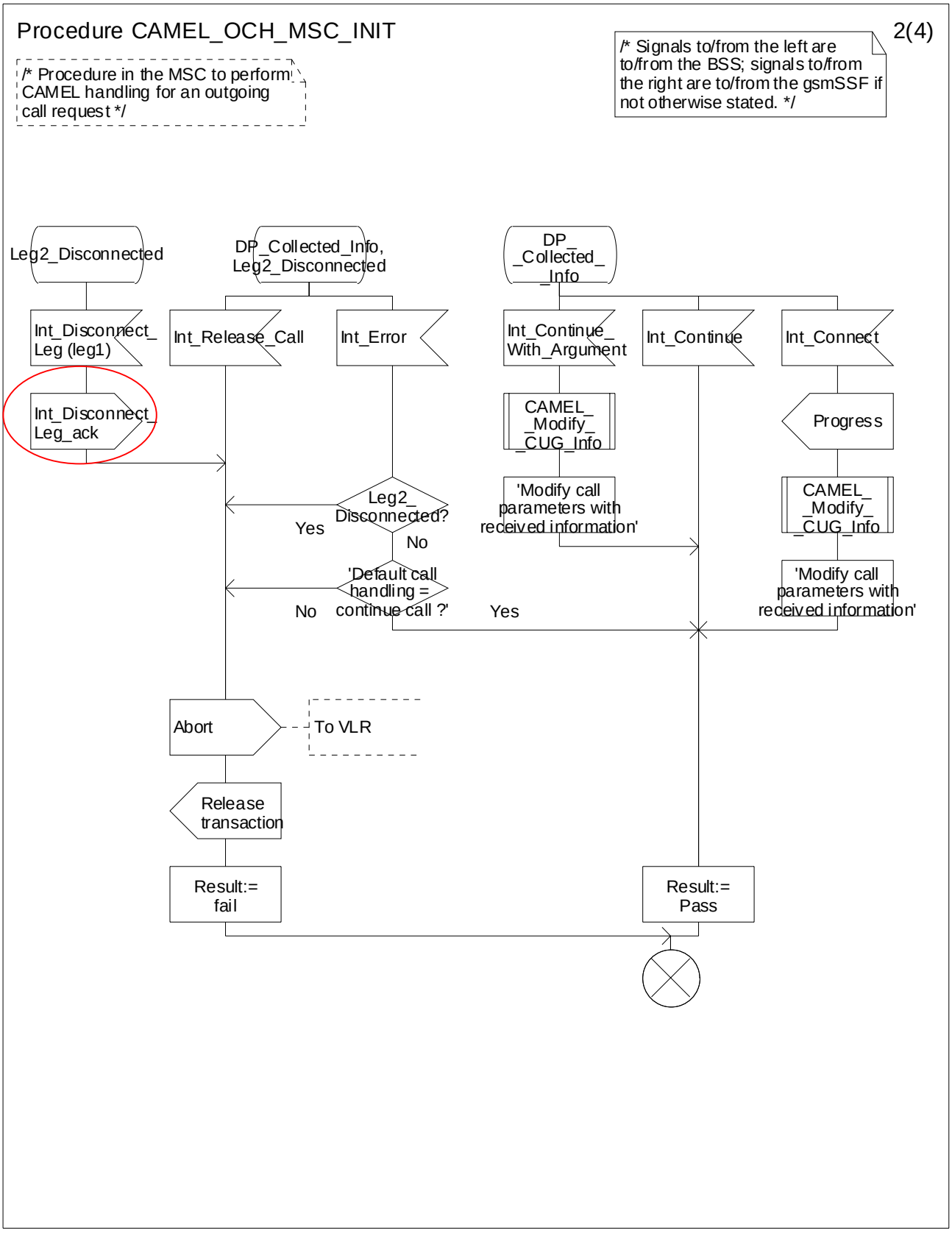
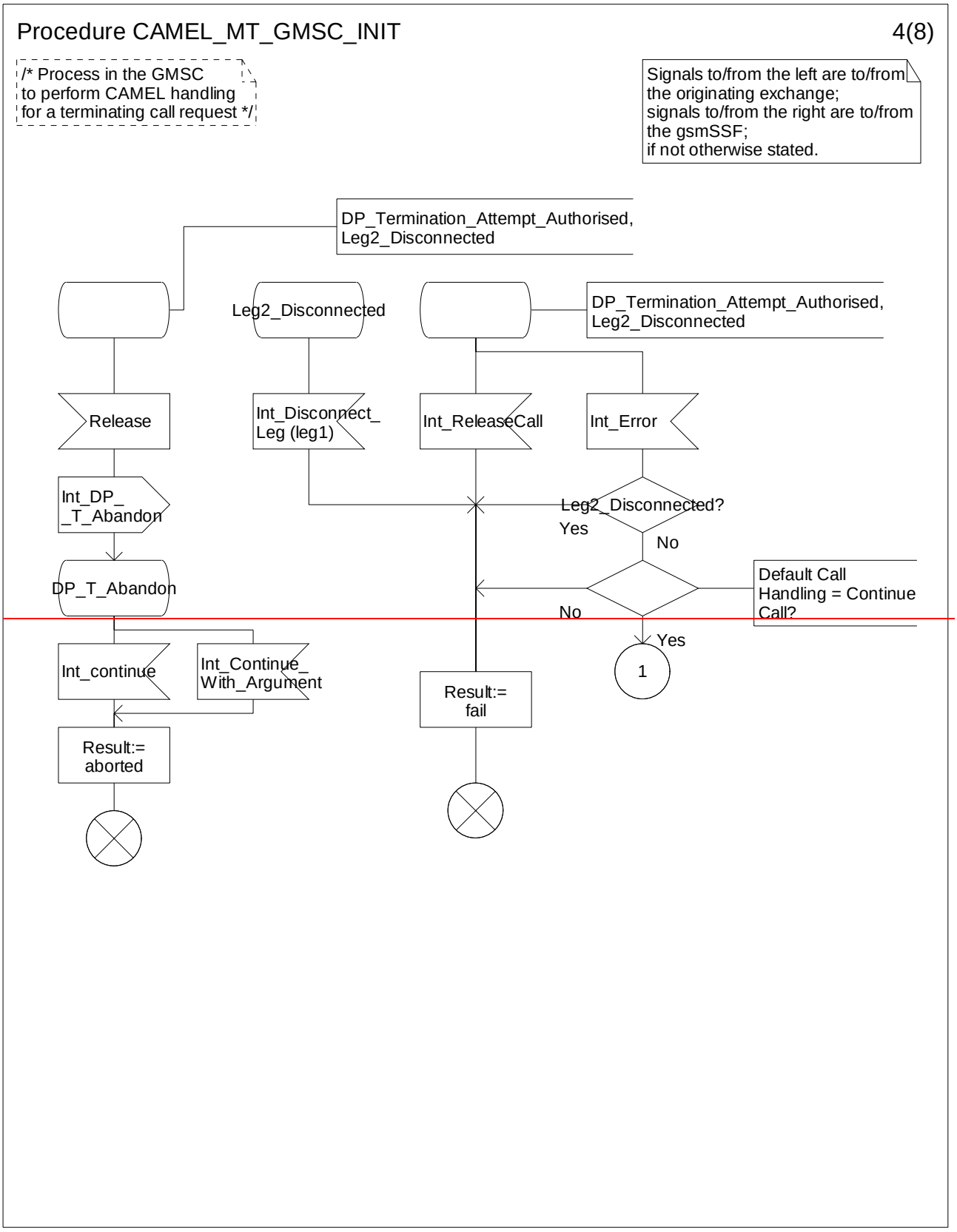


Figure 4.10-2: Procedure CAMEL_OCH_MSC_INIT (sheet 2)

***** Next modified section *****

4.5.3.1 Retrieval of routeing information in the GMSC



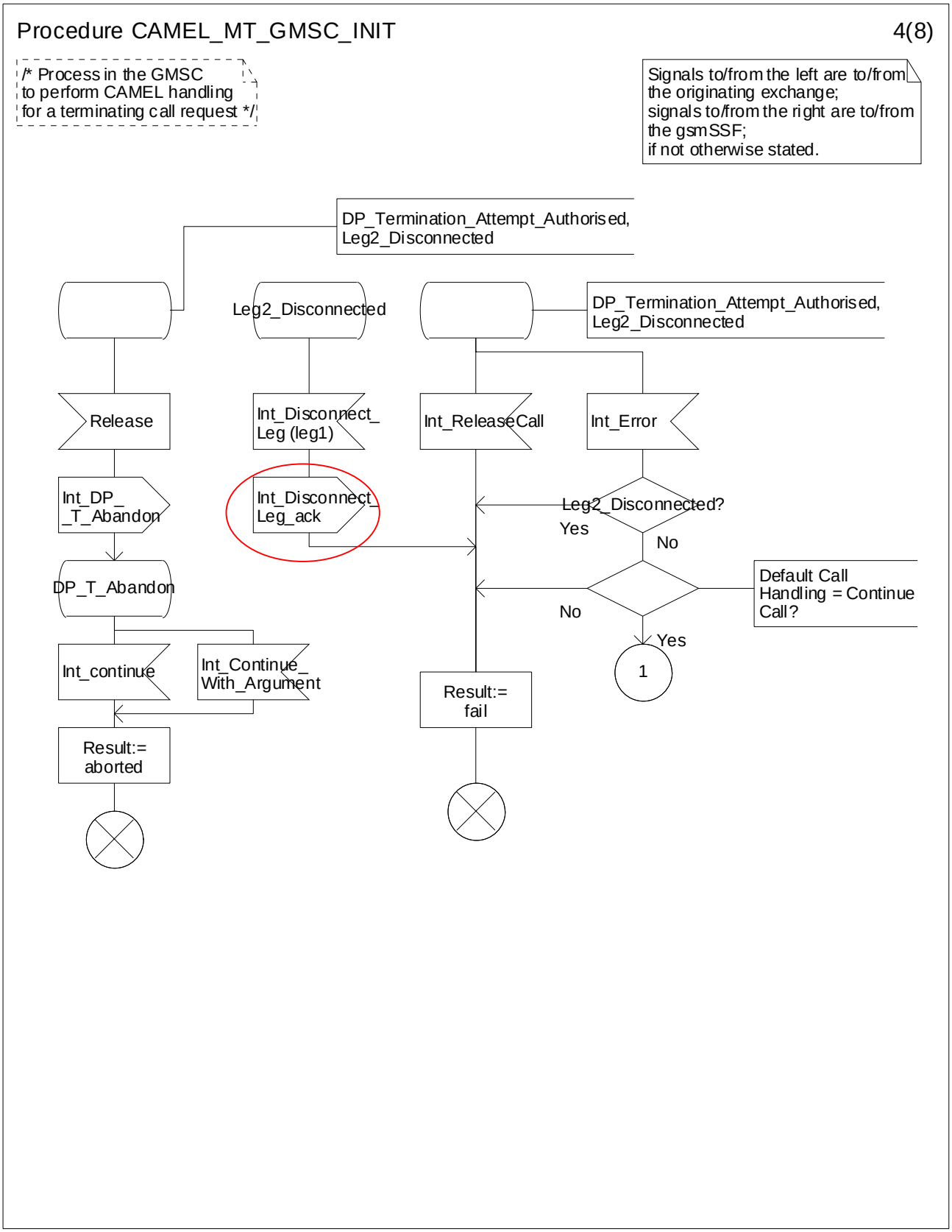
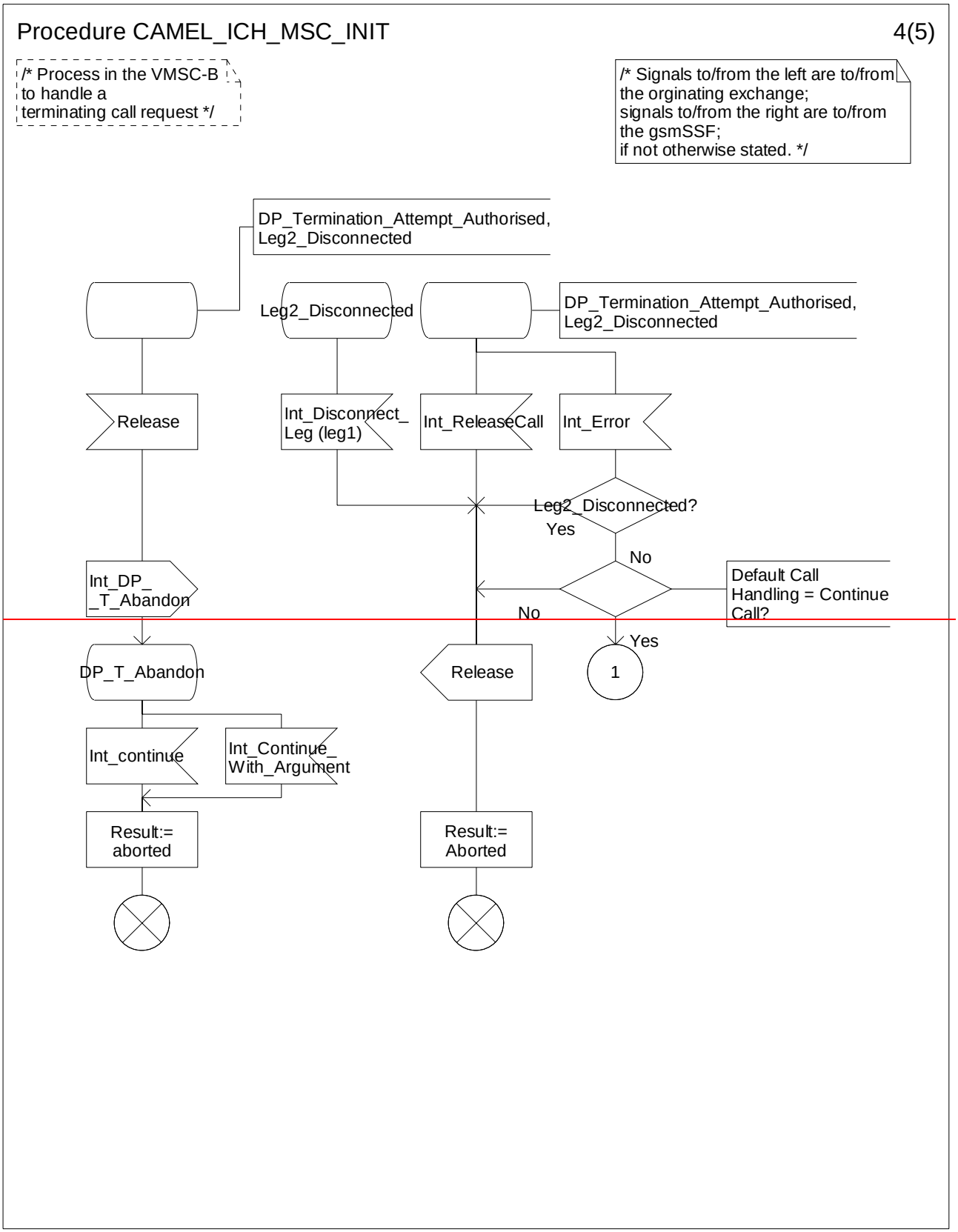


Figure 4.40-4: Procedure CAMEL_MT_GMSC_INIT (sheet 4)

***** Next modified section *****

4.5.4.1 Handling of mobile terminating calls in the terminating VMSC



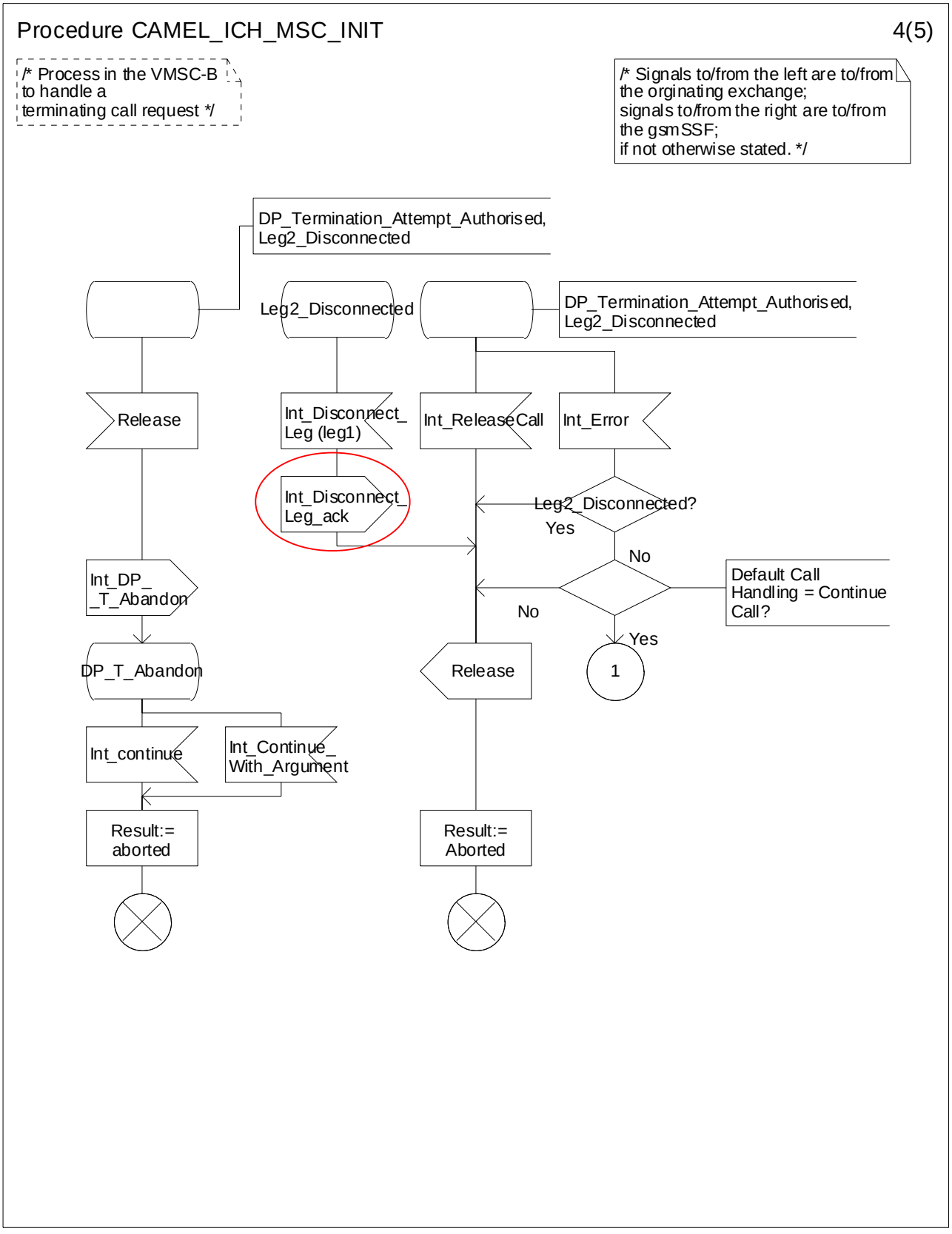
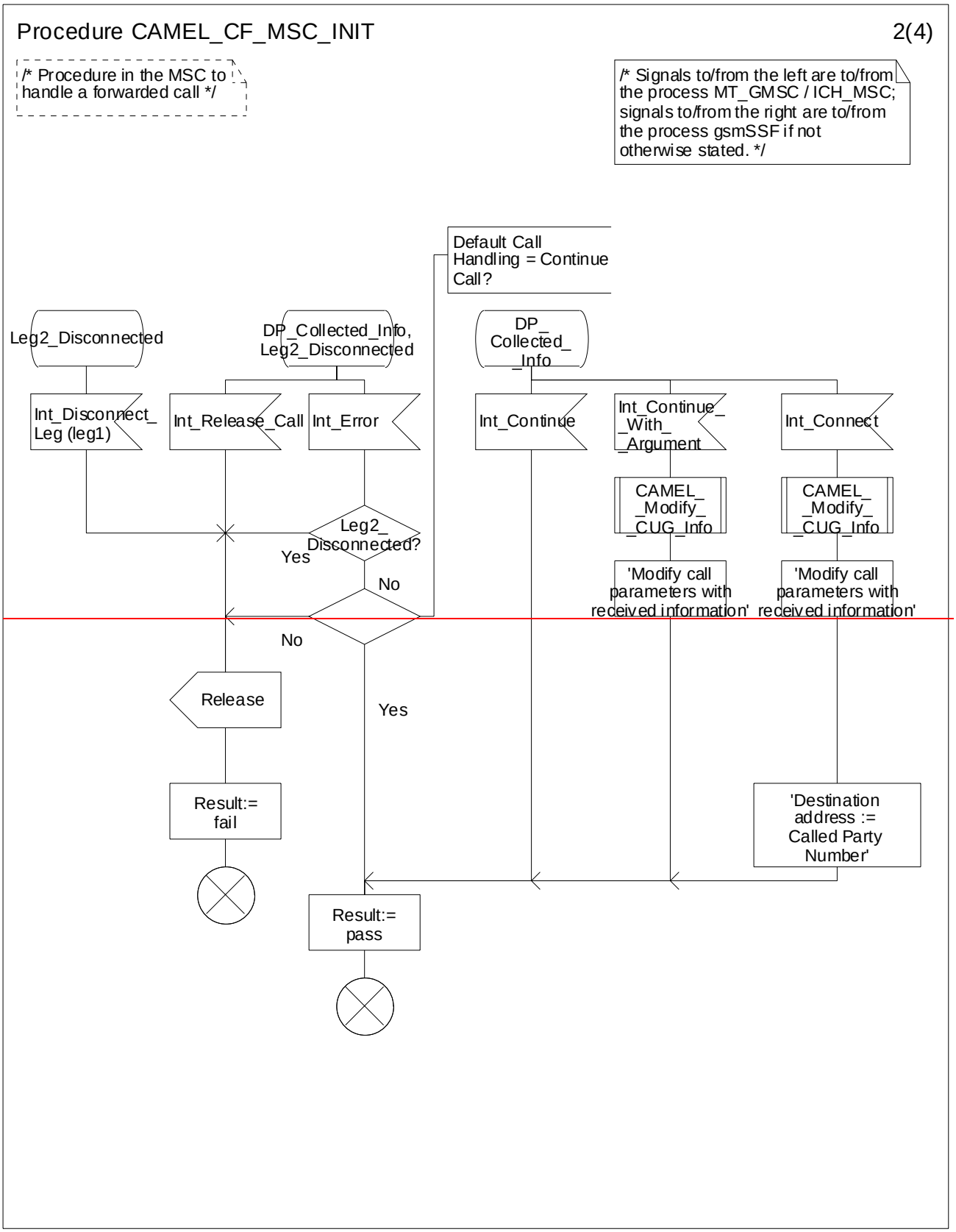


Figure 4.66-4: Procedure CAMEL_ICH_MSC_INIT (sheet 4)

***** Last modified section *****

4.5.5 Handling of forwarded calls



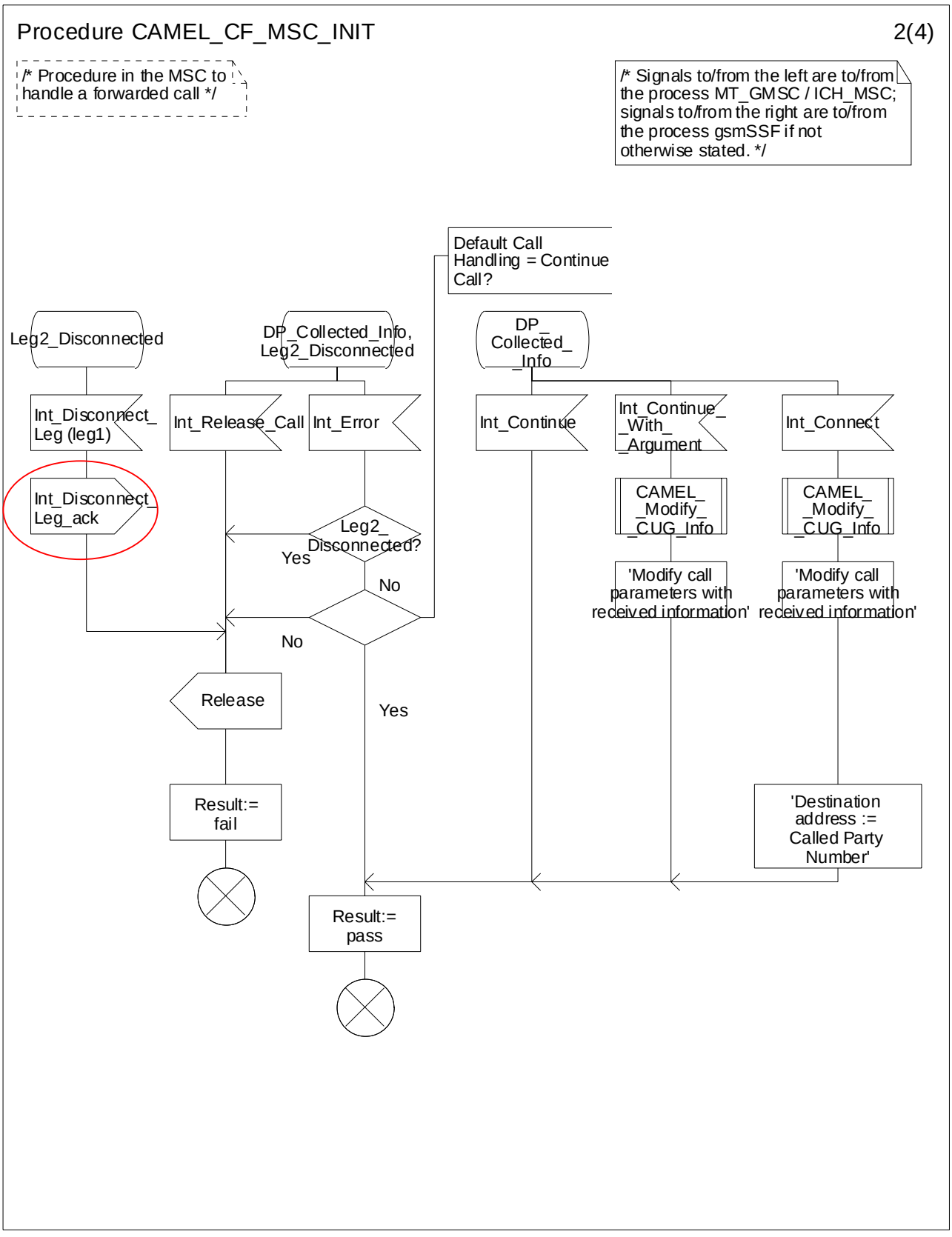


Figure 4.76-2: Procedure CAMEL_CF_MSC_INIT (sheet 2)

3GPP TSG CN WG2 Meeting #32 **N2-040123**
Atlanta, USA, 16th – 21st February 2004

CR-Form-v7

CHANGE REQUEST

⌘ **23.078** **CR** **649** ⌘**rev** **1** ⌘ Current version: **6.0.0** ⌘

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

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

Title:	⌘	Missing DisconnectLeg Result to the gsmSCF
Source:	⌘	Alcatel
Work item code:	⌘	CAMEL4
Date:	⌘	17/02/2004
Category:	⌘	**A**
Release:	⌘	Rel-6

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	In procedures relative to the establisment phase of the call, the sending of Int-DisconnectLeg Ack is not foreseen on receipt Int- DisconnectLeg (leg1). In addition after sending the Int-DisconnectLeg message, the CS-gsmSSF process is waiting for a Int-DisconnectLeg ack.
Summary of change:	⌘	In any state Int-DisconnectLeg Ack is sent on receipt of Int-DisconnectLeg.
Consequences if not approved:	⌘	When gsmSCF sends DisconnectLeg (leg1) to the gsmSSF then it is waiting for an acknowledgement which will never come so interworking problems occur.

Clauses affected:	⌘	4.5.2.1 , 4.5.3.1 , 4.5.4.1 and 4.5.5

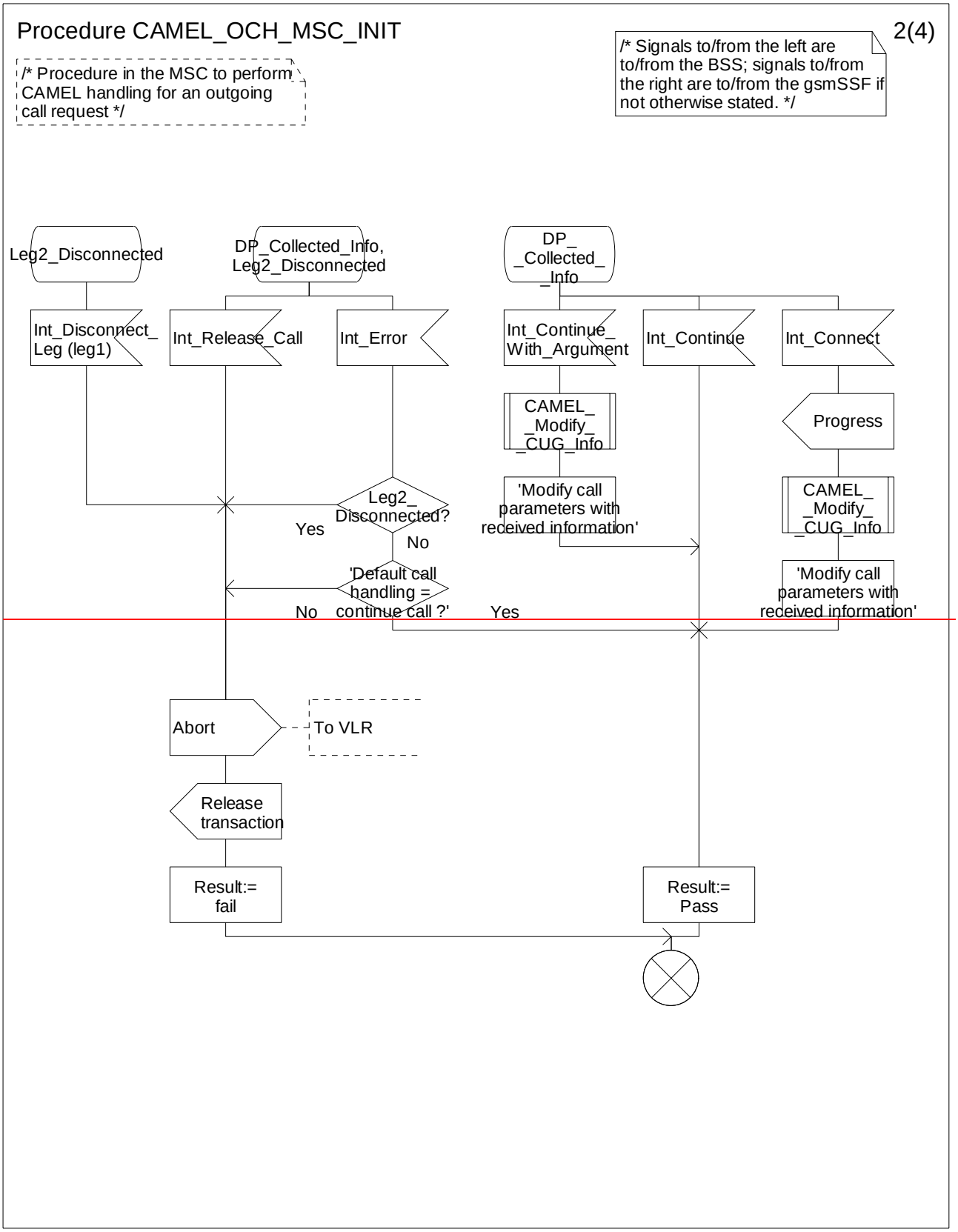
Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	

.

***** First modified section *****

4.5.2.1 Handling of mobile originated calls in the originating MSC


Procedure CAMEL_OCH_MSC_INIT
2(4)
/* Procedure in the MSC to perform CAMEL handling for an outgoing call request */
/* Signals to/from the left are to/from the BSS; signals to/from the right are to/from the gsmSSF if not otherwise stated. */
Leg2_Disconnected
DP_Collected_Info, Leg2_Disconnected
DP_ _Collected_ _Info
Int_Disconnect_ Leg (leg1)
Int_Release_Call
Int_Error
Int_Continue_ With_Argument
Int_Continue
Int_Connect
CAMEL_ _Modify_ _CUG_Info
Progress
'Modify call parameters with received information'
CAMEL_ _Modify_ _CUG_Info
Leg2_ Disconnected?
Yes
No
'Default call handling = continue call ?'
No
Yes
'Modify call parameters with received information'
Abort
To VLR
Release transaction
Result:= fail
Result:= Pass

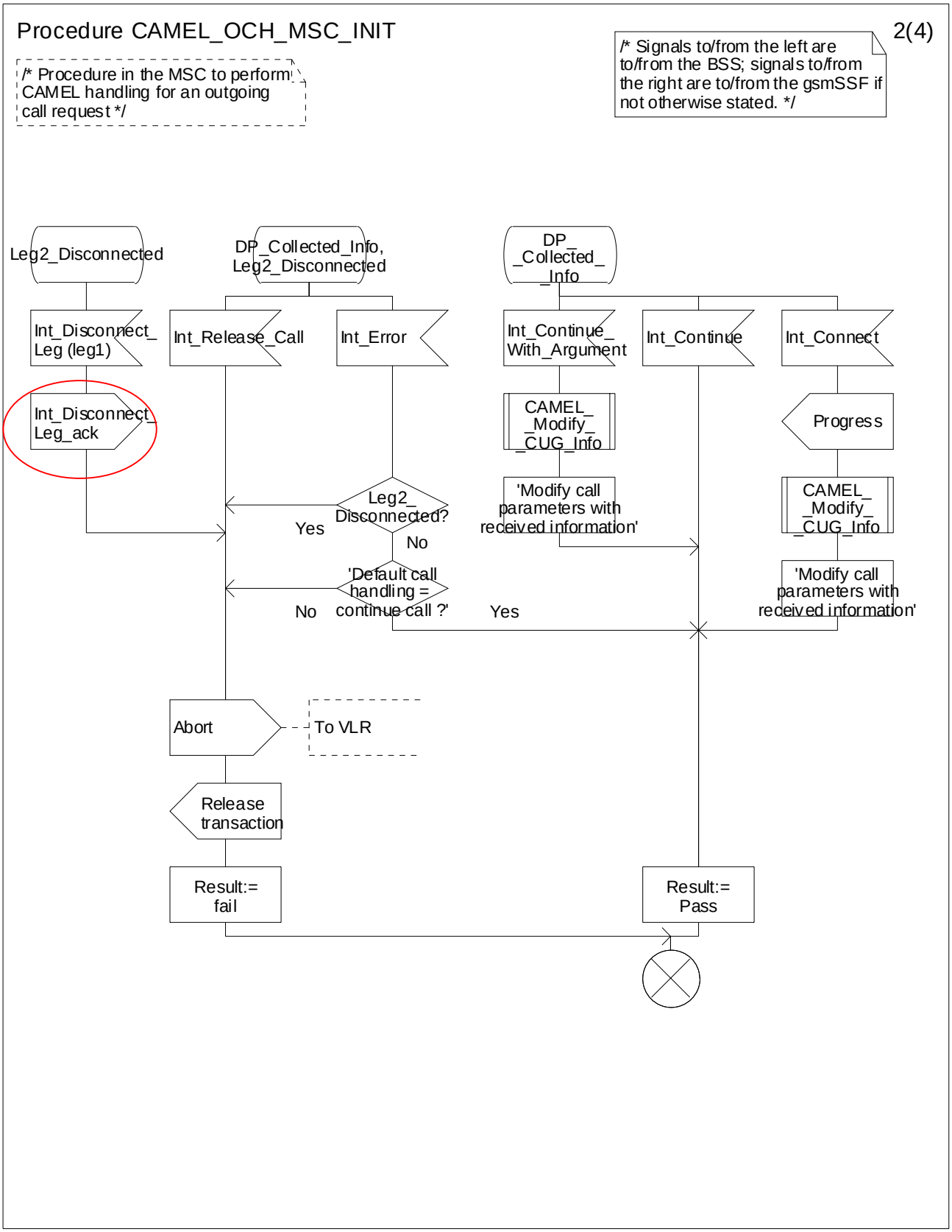
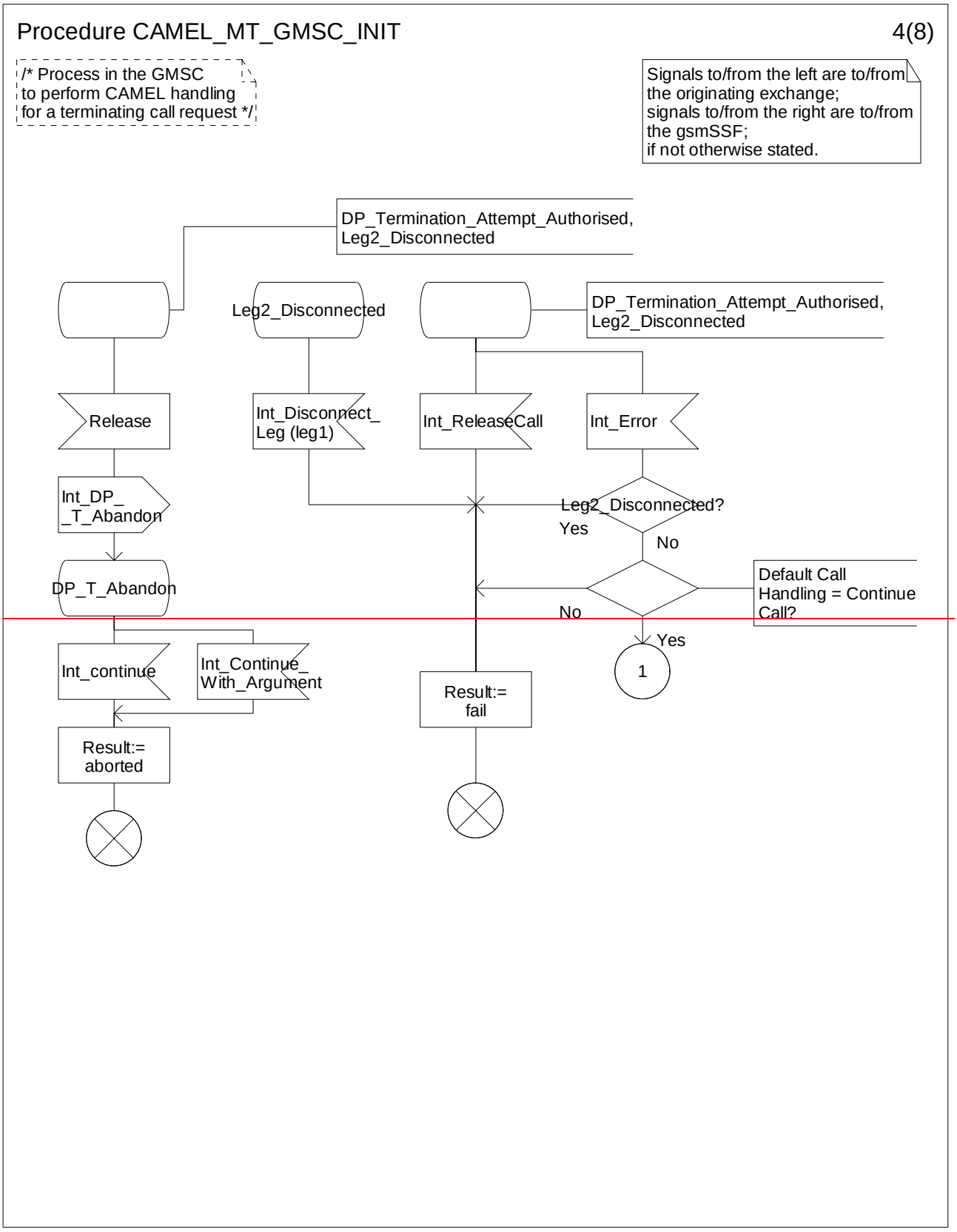


Figure 4.10-2: Procedure CAMEL_OCH_MSC_INIT (sheet 2)

***** Next modified section *****

4.5.3.1 Retrieval of routeing information in the GMSC



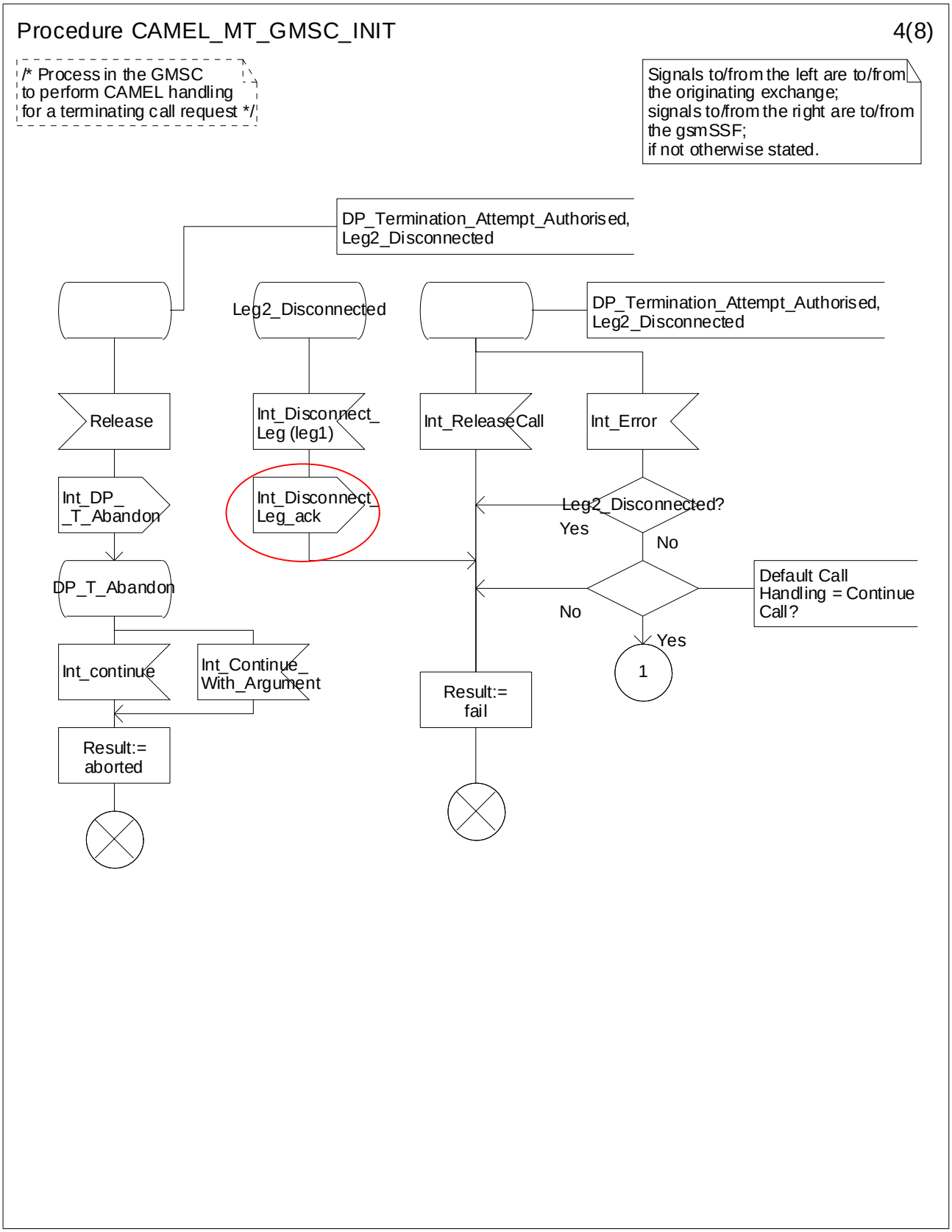
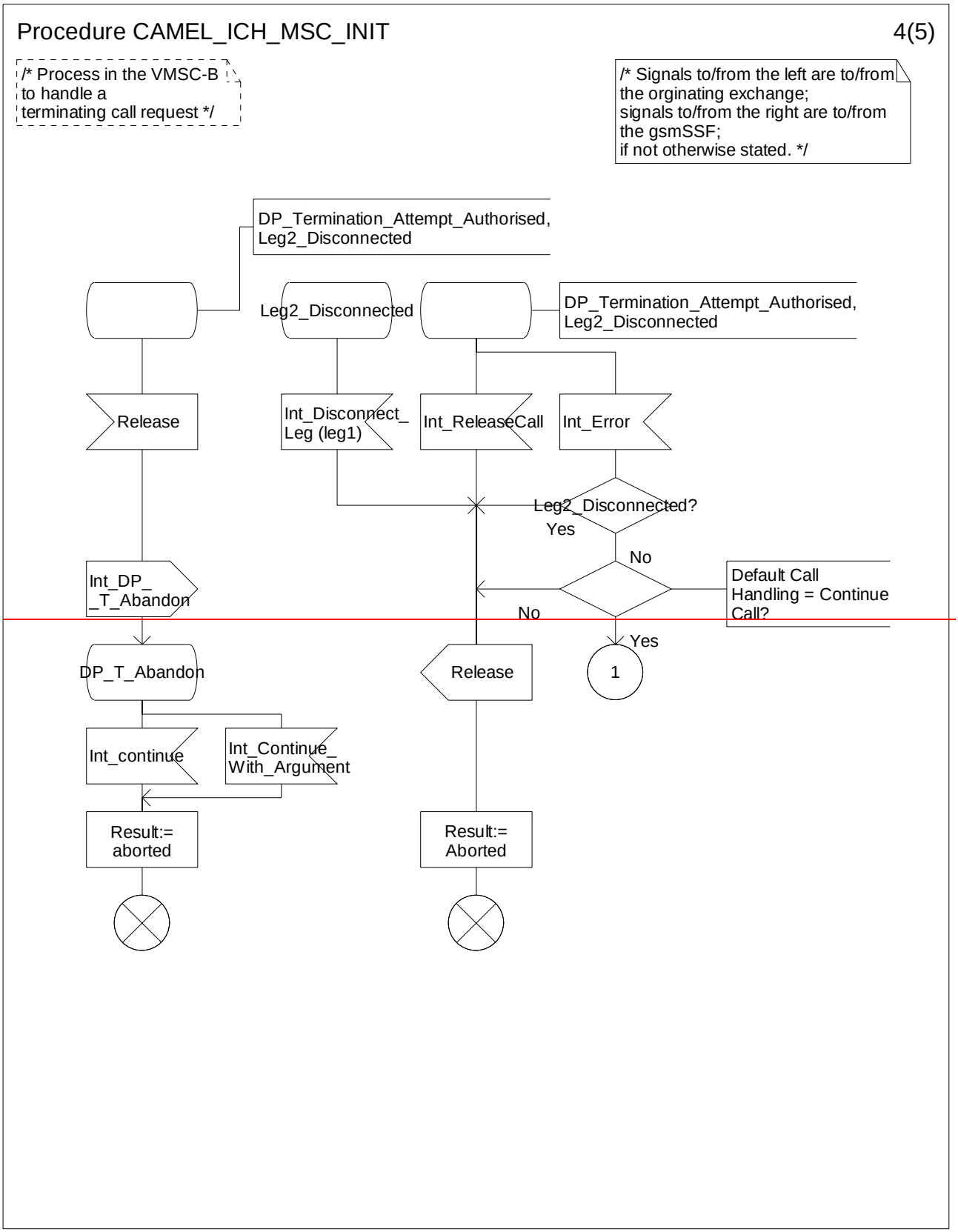


Figure 4.41-4: Procedure CAMEL_MT_GMSC_INIT (sheet 4)

***** Next modified section *****

4.5.4.1 Handling of mobile terminating calls in the terminating VMSC



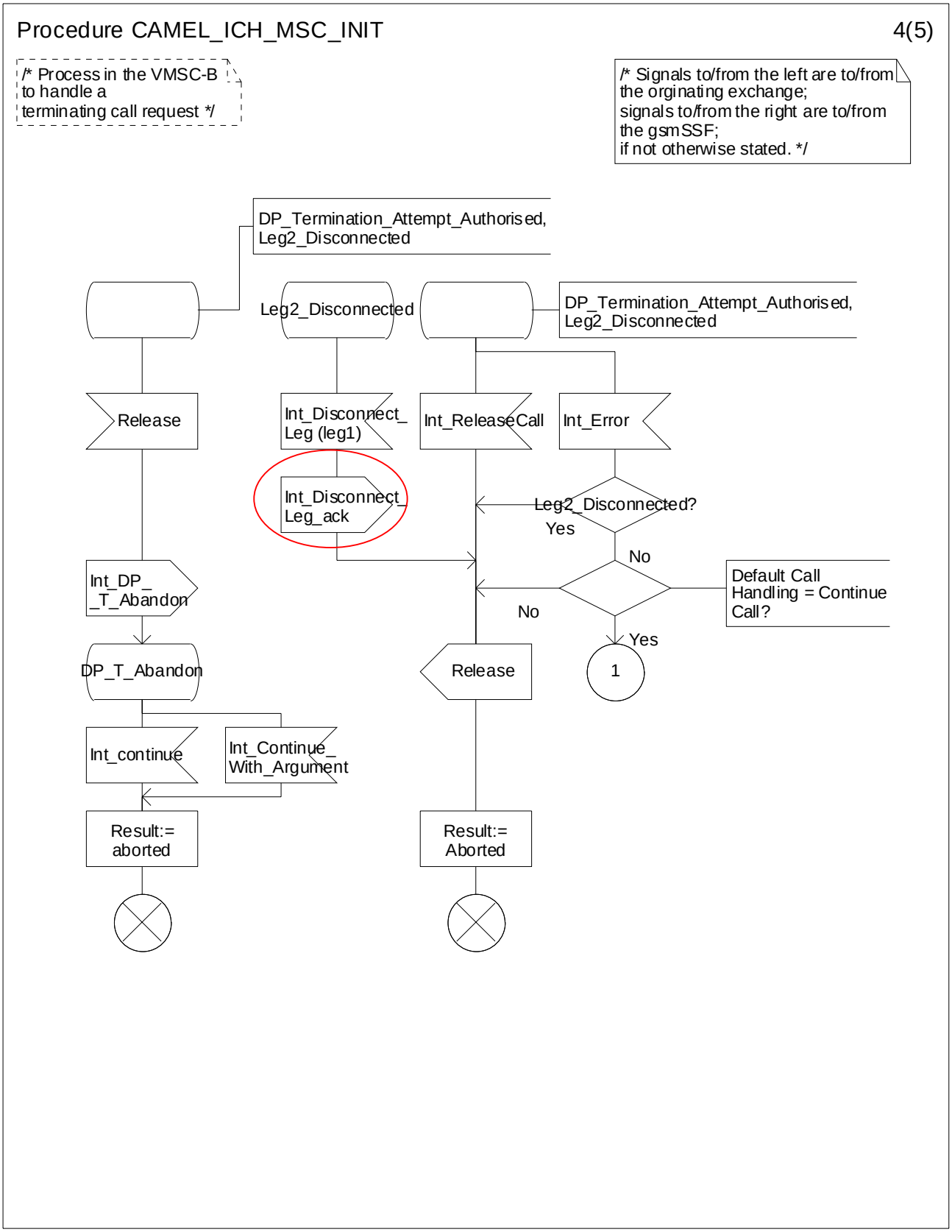
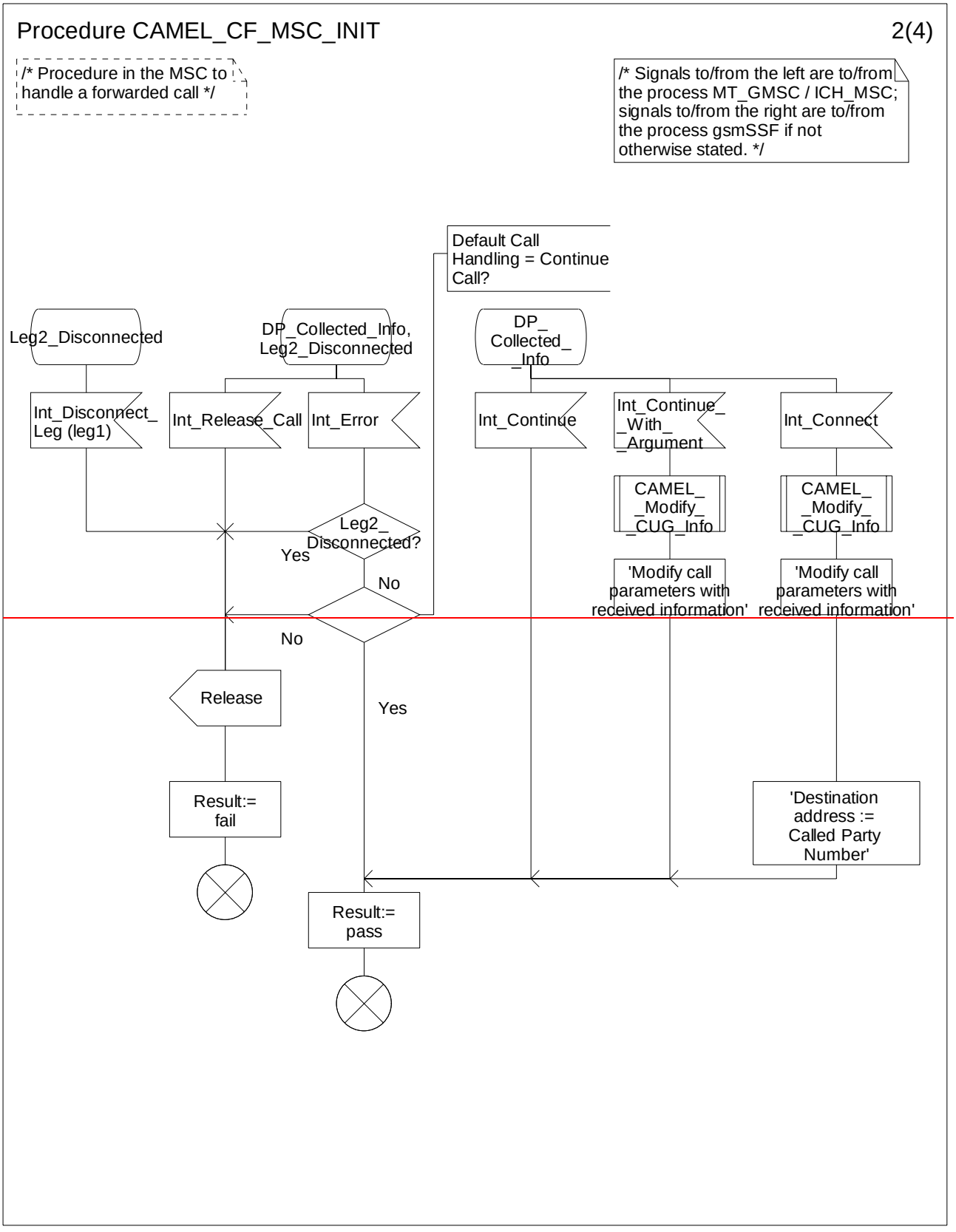


Figure 4.67-4: Procedure CAMEL_ICH_MSC_INIT (sheet 4)

***** Last modified section *****

4.5.5 Handling of forwarded calls


Procedure CAMEL_CF_MSC_INIT
2(4)
/* Procedure in the MSC to handle a forwarded call */
/* Signals to/from the left are to/from the process MT_GMSC / ICH_MSC; signals to/from the right are to/from the process gsmSSF if not otherwise stated. */
Default Call Handling = Continue Call?
Leg2_Disconnected
DP_Collected_Info, Leg2_Disconnected
DP_ Collected_ _Info
Int_Disconnect_ Leg (leg1)
Int_Release_Call
Int_Error
Int_Continue
Int_Continue_ _With_ _Argument
Int_Connect
CAMEL_ _Modify_ _CUG_Info
CAMEL_ _Modify_ _CUG_Info
Leg2_ Disconnected?
Yes
No
'Modify call parameters with received information'
'Modify call parameters with received information'
No
Release
Yes
Result:= fail
'Destination address := Called Party Number'
Result:= pass

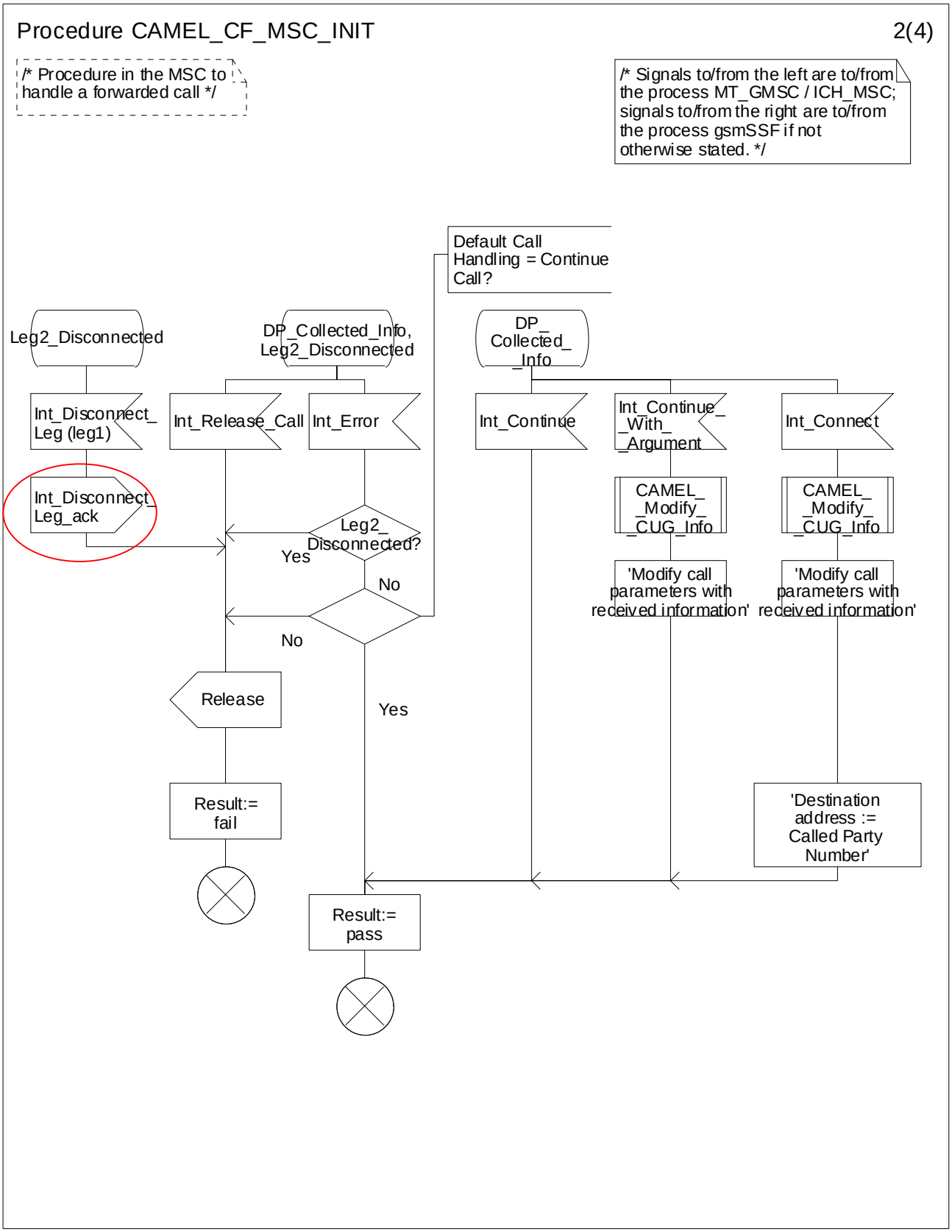


Figure 4.77-2: Procedure CAMEL_CF_MSC_INIT (sheet 2)

3GPP TSG CN WG2 Meeting #32
Atlanta, USA, 16th – 20st February 2004

N2-040125
revision of N2-040031

CHANGE REQUEST

⌘ **23.078** **CR** **667** ⌘**rev** **1** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to CUG handling for NP calls
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL4
Date:	⌘	2004-02-18
Category:	⌘	F (essential correction)
Release:	⌘	Rel-5

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

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘

Correction 1: MO_CUG_Check

Process CAMEL_ICA_VLR (fig. 4.92) specifies behaviour in the VLR for the creation of NP legs that are created within an MO call or VT call. This process calls procedure OG_CUG_Check. However, OG_CUG_Check should not be called for NP legs within MO calls. For NP legs within VT calls, the calling for OG_CUG_Check should be conditional. The execution of OG_CUG_Check involves checking the table 1.3 from TS 23.085; see the “for information” section of the present CR.

MO calls
OG_CUG_Check is called during MO call establishment; it is called prior to CAMEL invocation; that is existing Basic Call handling, specified in TS 23.018. If MO CUG check yields result “reject”, then CAMEL triggering will not take place. When gsmSCF creates an NP leg within the MO call, it is not possible that for that NP leg the MO_CUG_Check fails (i.e. results in “reject”). The NP leg shall continue with the CUG subscription information from VLR, possibly modified by the gsmSCF (in CWA) or amended by the gsmSCF.

Initial DP for an MO call contains CUG Index, CUG Interlock Code and Outgoing Access Indicator. Hence, gsmSCF has adequate indication about the CUG status of the subscriber.

Hence, for NP legs created within MO call, VLR does not need to perform CUG check.

VT calls
For VT calls, OG_CUG_Check is not executed as part of Basic Call handling.

When gsmSCF creates an NP leg within the VT call, then MO_CUG_Check shall be called conditionally. The gsmSCF may supply CUG information in CWA following ICA.

- If gsmSCF supplies “non-CUG call” in CWA, then the NP call shall continue as non-CUG call and in that case, MO_CUG_Check shall not be executed. The presence of “non-CUG call” serves as indication that gsmSCF has determined that the NP call sall be non-CUG call.

- If gsmSCF supplies Interlock Code (IC) or IC + Outgoing Access (OA) in CWA, then the NP call shall continue as CUG call and in that case, MO_CUG_Check shall not be executed. The presence of IC or IC + OA in CWA serves as an indication that gsmSCF has determined that the NP call shall be a CUG call.

- If gsmSCF supplies OA in CWA, but not IC, then MO_CUG_Check shall be executed. In this case, VLR shall check the subscriber’s CUG subscription data. The VLR shall act as specified in table 1.3 in TS 23.085.
  In this case, MO_CUG_Check shall consider only the leftmost column of table 1.3, underneath the header “Information provided by calling user”, from TS 23.085. Reason is that the four rightmost columns under that header apply when information is supplied by a calling user, over the Access Network. That is not applicable in a VT call case.

- If gsmSCF does not supply CUG information in CWA, then MO_CUG_Check shall be executed. Rationale is that the CUG information in VLR determines in that case whether the NP call shall be a CUG call. In that case, MO_CUG_Check shall consider only the leftmost column of table 1.3, underneath the header “Information provided by calling user”, from TS 23.085. For reason, see above.

The above behaviour shall be reflected in the SDL.

Correction 2: Send Info for ICA

Considering what is explained for correction 1, and bearing in mind that process CAMEL_ICA_VLR resised in VLR, the VLR needs to have the CUG-related information contained in CWA, to determine whether MO_CUG_Check shall be executed for an NP leg in the VT call. Hereto, the following elements shall be added to Send Info for ICA: non-CUG call, Interlock Code and Outgoing Access.

Correction 3: OCB Suppressed

CAP CWA that follows CAP ICA may contain the IE “Suppress Outgoing Call Barring”; see extract from Continue With Argument IF in the “For Information” section of the present CR. When Suppress Outgoing Call Barring is present in CWA, then both the ***unconditional*** call barrings shall be suppressed for the NP call and the ***conditional*** call barrings. Hence, both the procedures Check_BAOC and Check_OG_Barring shall be suppressed in that case. Currently, only Check_BAOC is suppressed when Outgoing Call Barring is present in CWA.

Suppress Outgoing Call Barring might also be received in the CWA from the D-CSI or N-CSI service. Hence, both SIFICA IFs may contain Suppress Outgoing Call Barring.

Correction 4: Applicability of Get_AoC_Subscription_Info_VLR

Procedure Get_AoC_Subscription_Info_VLR, shall not be called from CAMEL_ICA_VLR, since Advice of Charge does not apply to NP call leg. Refer to section 4.6.2.21, Send Charging Information, in TS 23.078.

Get_AoC_Subscription_Info_VLR returns the status of the AoC service. Since the SCI operation is not applicable to an ICA NP leg (see TS 29.078, subclause 11.29), there is no need to retrieve the AoC subscription info. Therefore, it is proposed to remove this procedure.

Correction 5: Applicability of Get_LI_Subscription_Info_MO_VLR

Get_LI_Subscription_Info_MO_VLR retrieves info related to both CLIR and COLP services (defined in 23.018, figure 7.1.2.14).

For an NP leg in an MO call, the following applies:
- COLP: there is no need to check the COLP supplementary service data for the subscriber. COLP indicates whether the Connected Number, received in ISUP ANM/CON, shall be sent to the MS. The COLP subscription is already checked during MO call set up; Continue With Argument for the NP leg does not have the ability to affect the COLP setting for a call.
- CLIR: CLIR may be applied for an NP leg in an MO call; Continue With Argument for the NP leg has the ability to affect the CLIR setting for a call.

For an NP leg in an VT call, the following applies:
- COLP: COLP is not applicable for an NP leg in a VT call. There is no MS connected to the MSC in the backwards direction. COLP applies only to a MO call case.
- CLIR: CLIR may be applied for an NP leg in a VT call. Continue With Argument for the NP leg has the ability to affect the CLIR setting for a call.

The above shall be reflected in the SDL.

For the CLIR handling in the VLR, refer figure 2.4 in TS 23.081; for the COLP handling in the VLR, refer figure 3.2 in TS 23.081.

Correction 6: CAMEL_Modify_CUG_Info

It is ambiguous for designers how to interpret procedure CAMEL_Modify_CUG_Info. The gsmSCF may provide IC, OA or both for a call. If both are received, then both parameters shall be used for that call. The current SDL, however, gives the impression that when IC is received, then IC shall be used for the call and that OA is then ignored.

This requires a refinement in the SDL.

Summary of change:	⌘	- Process CAMEL_ICA_VLR shall be corrected as outlined above; - Send Info for ICA shall be corrected as outlined above; - Procedure CAMEL_Modify_CUG_Info shall be refined as outlined above.
Consequences if not approved:	⌘	Mailfunctioning CUG interworking for gsmSCF-initiated call establishment. As an example, the Outgoing Access information elemen, when provided by the gsmSCF for a new call leg, may be discarded. Furthermore, the gsmSCF would not be able to instruct the gsmSSF to suppress conditional barring for a new call leg.

Clauses affected:	⌘	4.5.2.1 , 4.6.12.1			
Other specs Affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

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

Extract from 3GPP TS 23.078 V5.6.0

4.6.2.9 Continue With Argument

4.6.2.9.1 Description

…

4.6.2.9.2 Information Elements

Information element name	MO	MF	MT	VT	NC	NP	Description
…							
Service Interaction Indicators Two	O	O	O	O	O	O	This IE is described in a table below.
CUG Interlock Code	O	O	-	-	O	O	See 3GPP TS 23.085 [22] for details of this IE.
Outgoing Access Indicator	O	O	-	-	O	O	See 3GPP TS 23.085 [22] for details of this IE.
…							
Suppress Outgoing Call Barring	-	-	-	-	-	O	This IE indicates that Outgoing Call Barrings for the created leg shall be suppressed. This IE can only be included if the Initiate Call Attempt IF is sent to the VMSC of the CAMEL subscriber.

Service Interaction Indicators Two contains the following information elements:

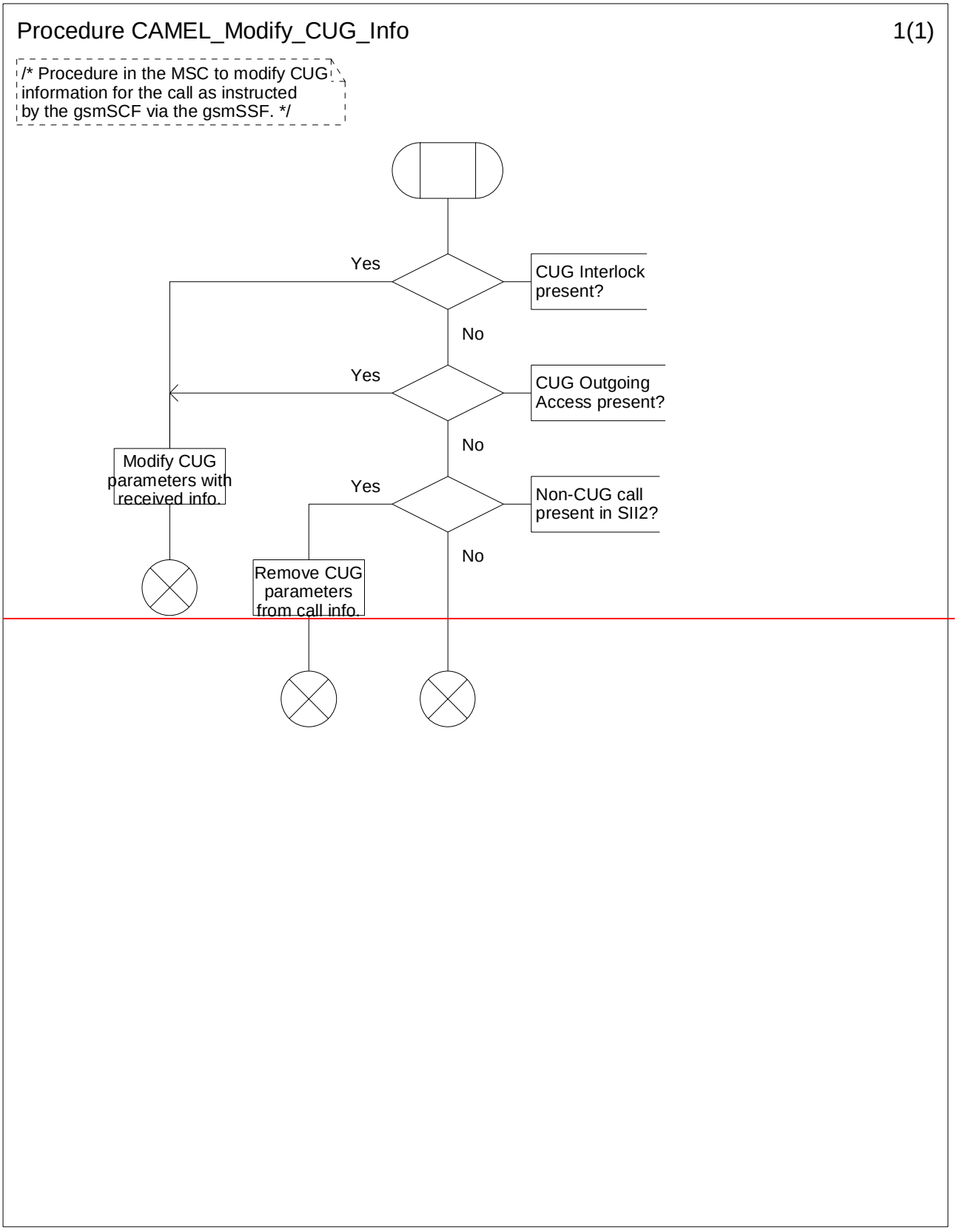
Information element name	MO	MF	MT	VT	NC	NP	Description
Forward Service Interaction Indicator	O	O	O	O	O	O	This IE is described in a table below.
Backward Service Interaction Indicator	O	O	O	O	-	-	This IE is described in a table below.
HOLD Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the invocation of HOLD by the CAMEL subscriber.
CW Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the invocation of CW for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	O	-	-	O	-	-	This IE allows the gsmSCF to disallow the call leg to become part of an ECT call initiated by the CAMEL subscriber.
Connected Number Treatment Indicator	O	O	O	O	-	-	This IE indicates the treatment of the connected number at the originating side.
Non-CUG Call	O	O	-	-	-	O	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call). This IE shall be absent if one or more of CUG Interlock Code and Outgoing Access Indicator are present in the IF.

Forward Service Interaction Indicator contains the following information elements:

Information element name	MO	MF	MT	VT	NC	NP	Description
Conference Treatment Indicator	O	O	O	O	O	O	This IE indicates whether the call leg can become part of a MPTY call initiated by the called subscriber.
Call Diversion Treatment Indicator	O	O	O	O	O	O	This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection supplementary services.
Calling Party Restriction	O	O	O	O	O	O	This IE allows the gsmSCF to mark the CLI

Information element name	MO	MF	MT	VT	NC	NP	Description
Indicator							as Restricted for the call.

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



~~**Figure 4.28-1: Procedure CAMEL_Modify_CUG_Info (sheet 1)**~~

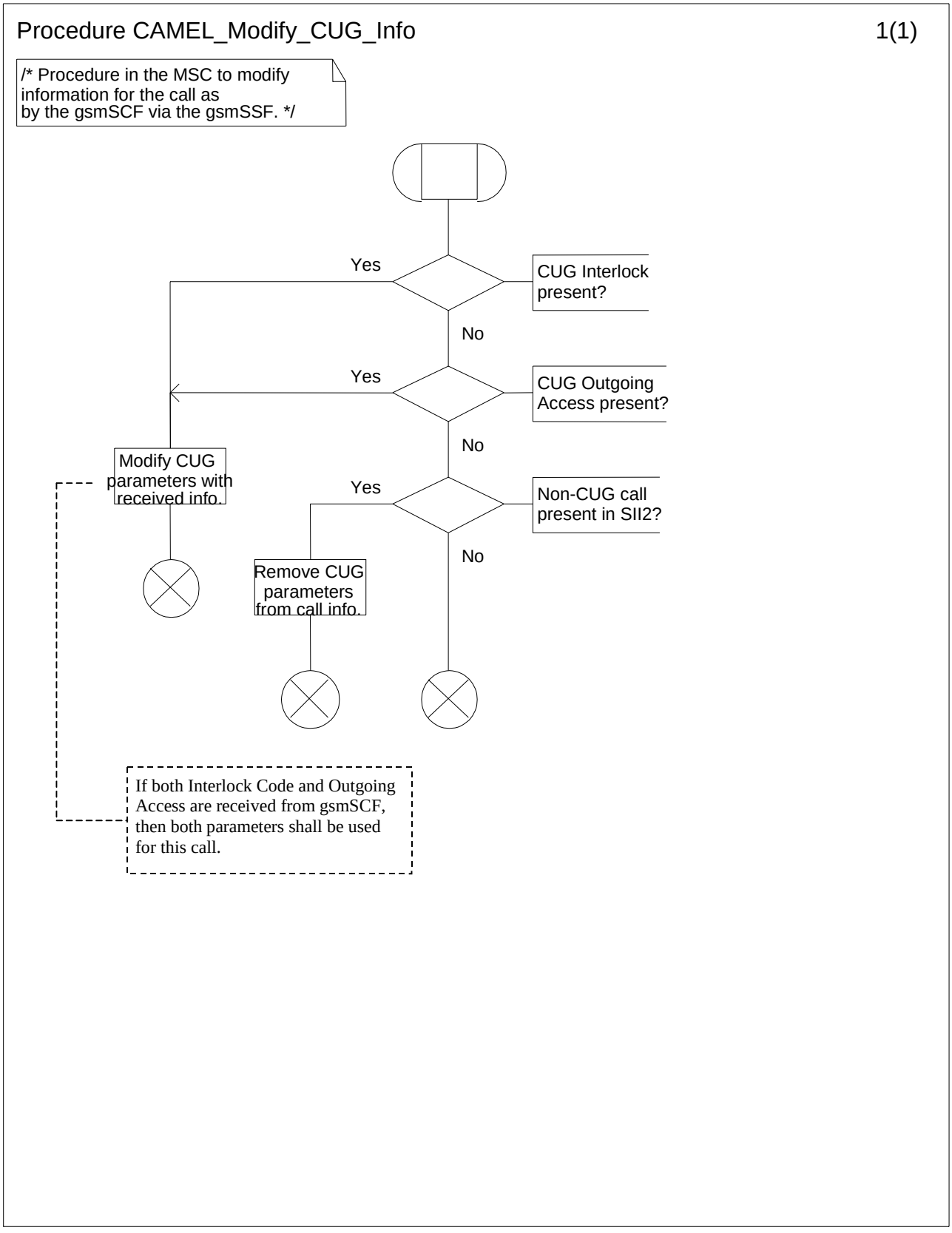
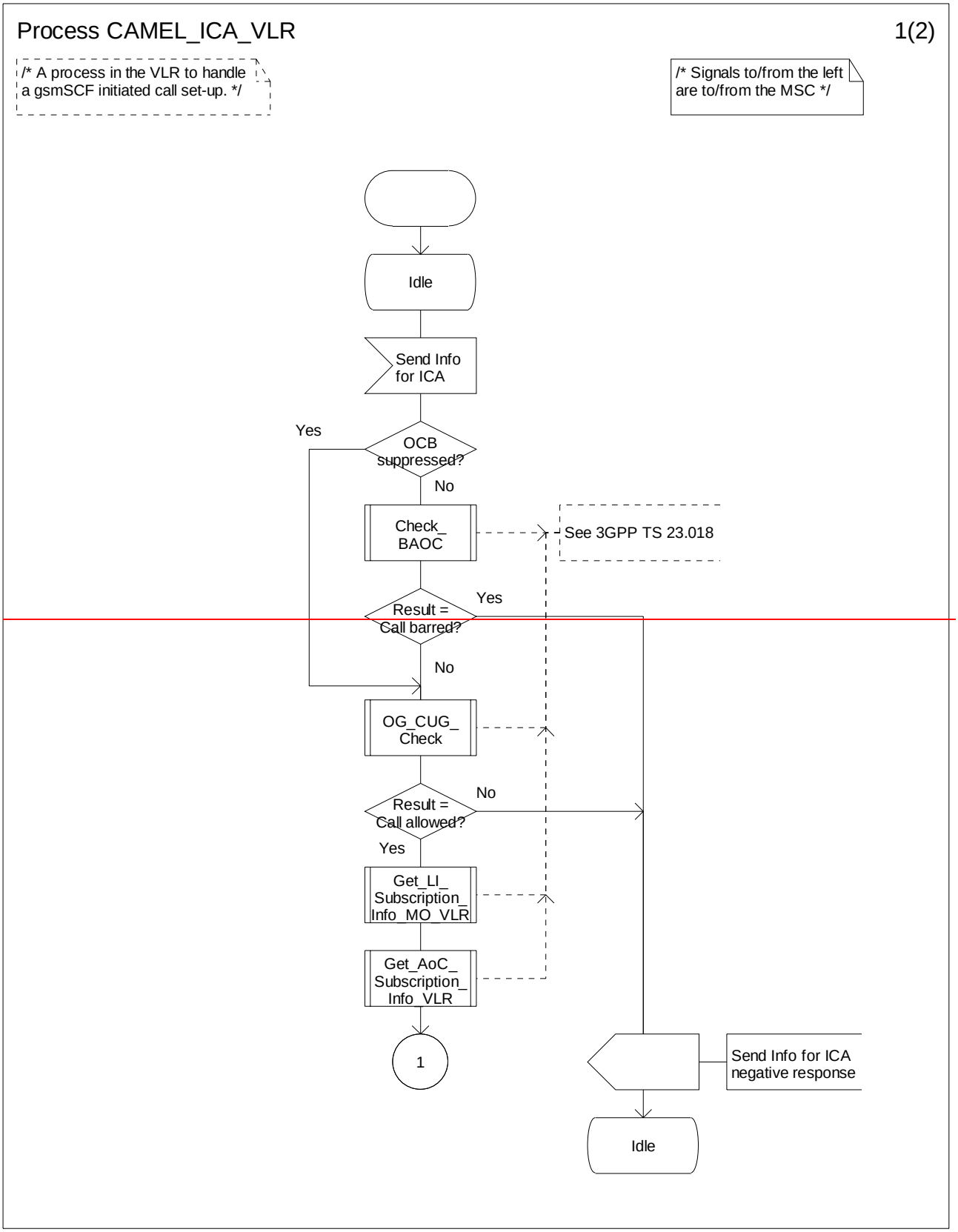
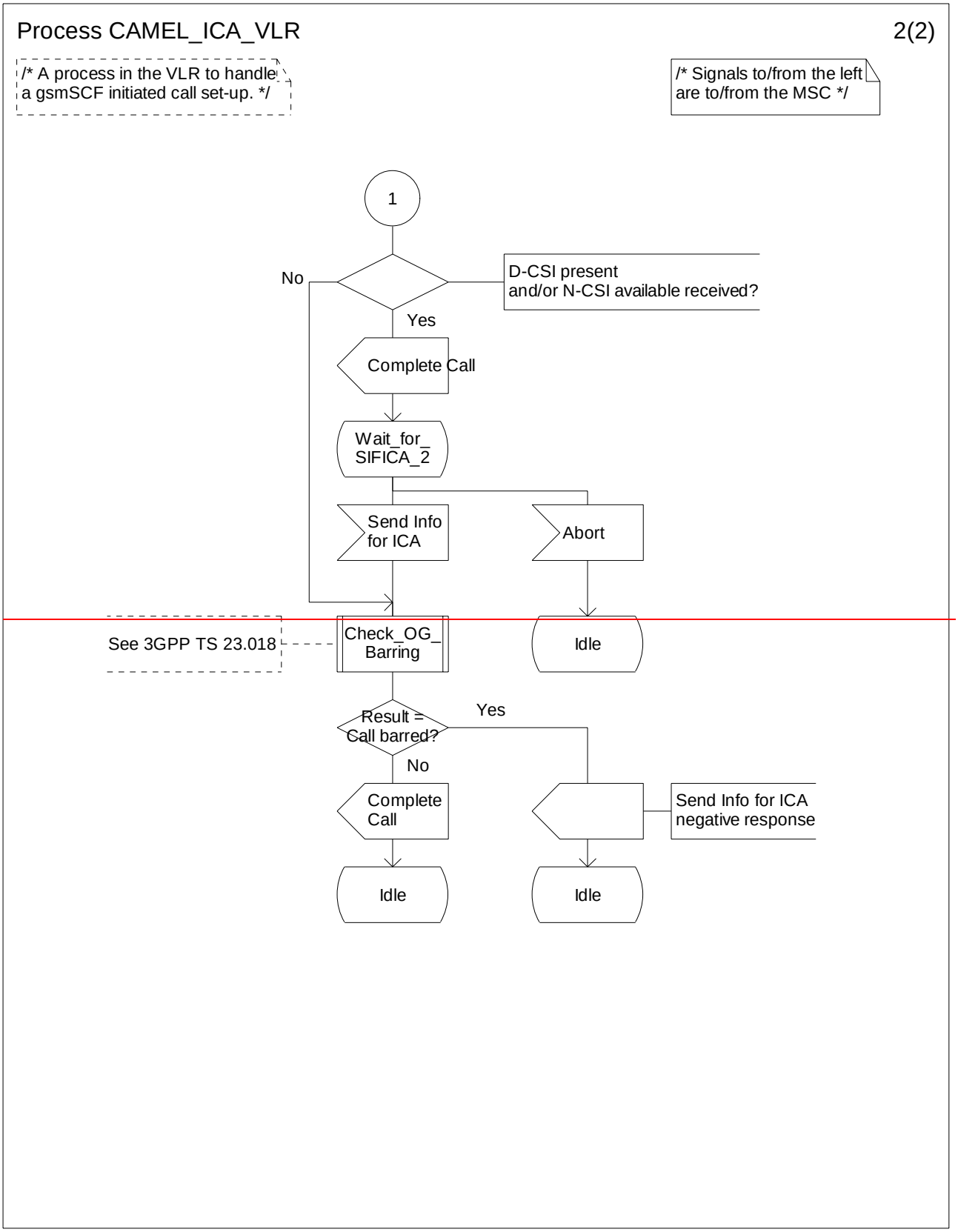


Figure Error! Reference source not found.**.2-1: Procedure CAMEL_Modify_CUG_Info (sheet 1)**

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



~~**Figure 4.92-1: Process CAMEL_ICA_VLR (sheet 1)**~~



~~Figure 4.92-2: Process CAMEL_ICA_VLR (sheet 2)~~

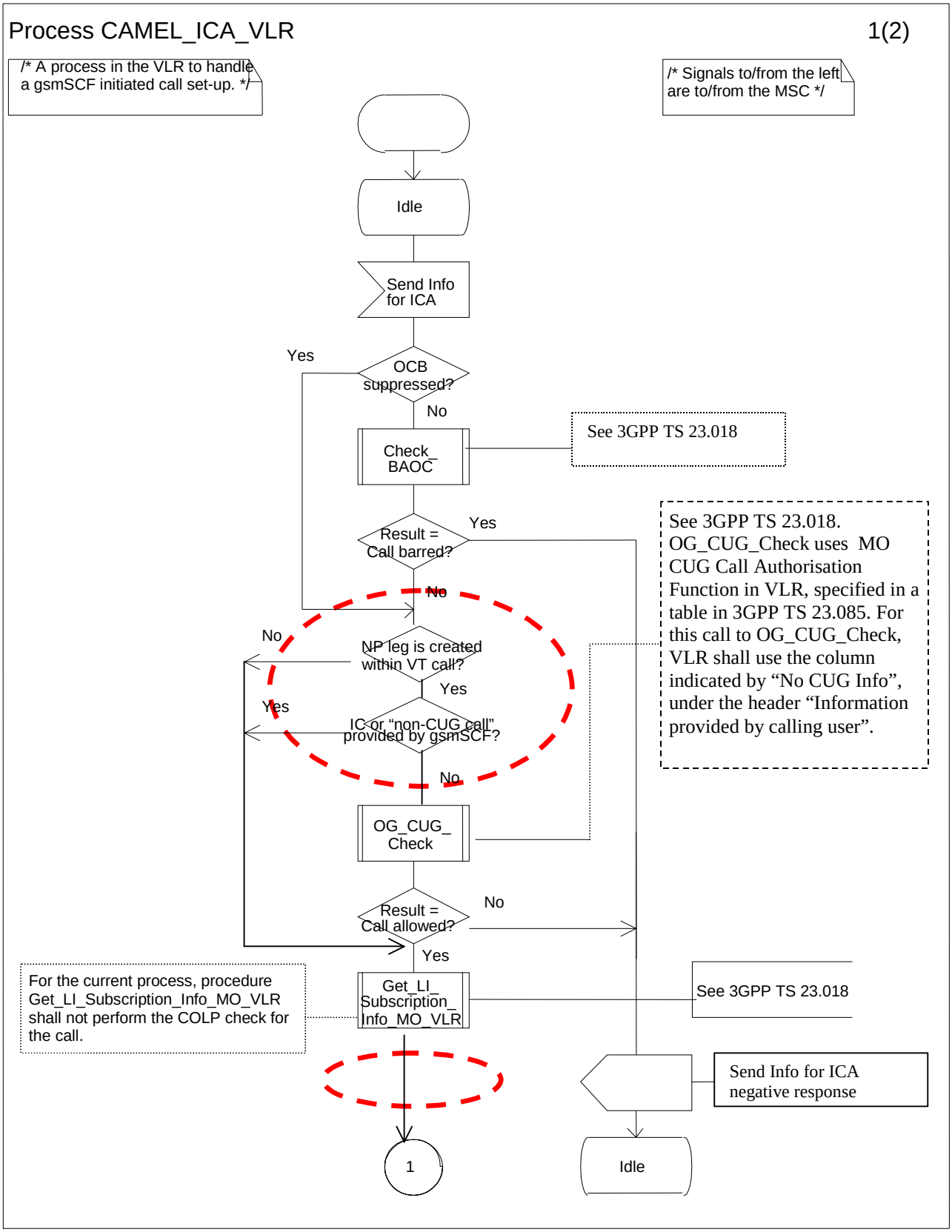


Figure 4.92-1: Process CAMEL_ICA_VLR (sheet 2)

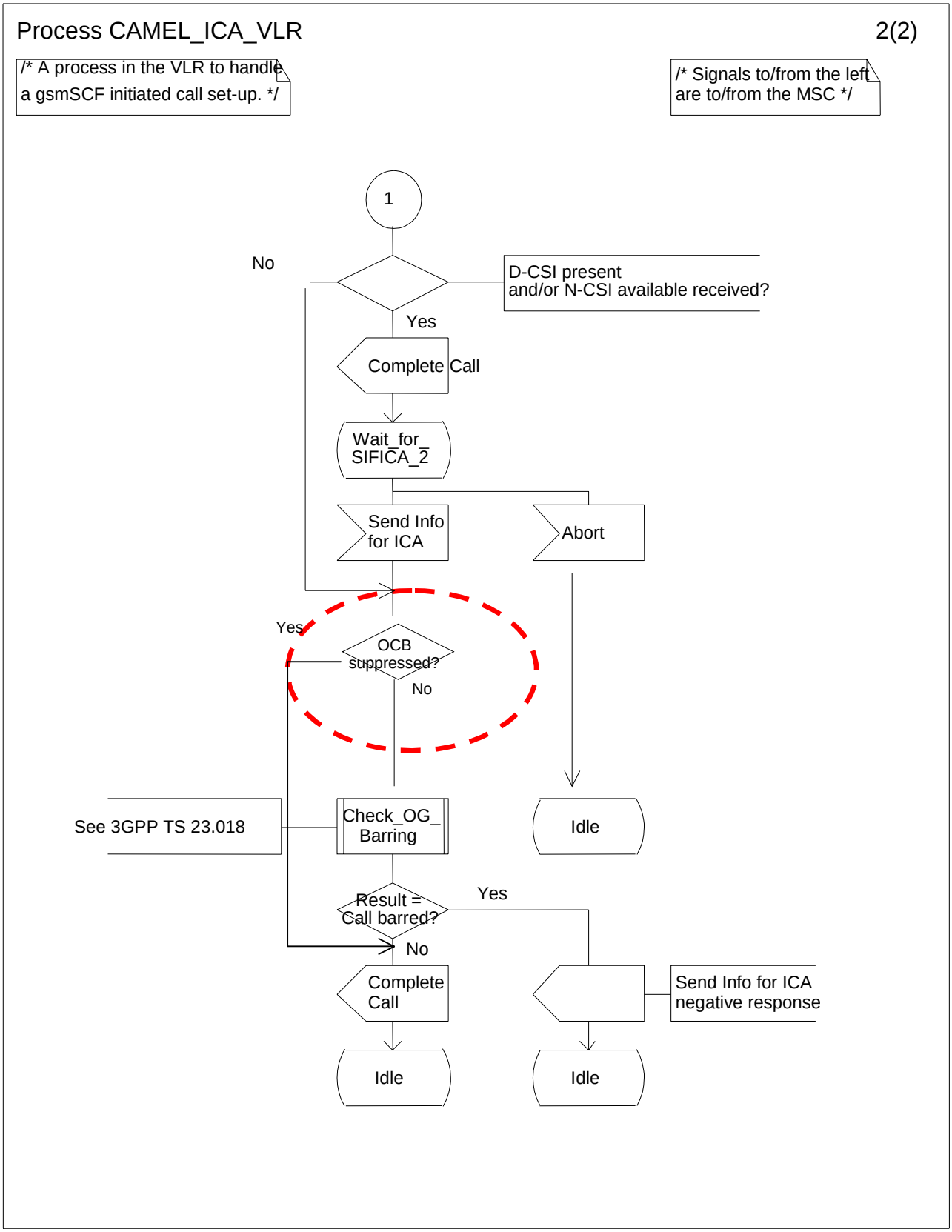


Figure 4.92-2: Process CAMEL_ICA_VLR (sheet 2)

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

4.6 Description of information flows

…

4.6.12 MSC to VLR information flows

4.6.12.1 Send Info For ICA

4.6.12.1.1 Description

This IF is used to request the VLR to provide information to handle an outgoing call leg created by the gsmSCF.

4.6.12.1.2 Information Elements

Information element name	NP	Description
Called Number	M	This IE indicates the E.164 number of the call leg destination.
IMSI	M	This IE is the IMSI of the served CAMEL subscriber.
CUG Index	C	For the definition of this IE, see 3GPP TS 23.085 [22].
Suppress Preferential CUG	C	For the definition of this IE, see 3GPP TS 23.085 [22].
Suppress CUG Outgoing Access	C	For the definition of this IE, see 3GPP TS 23.085 [22].
Suppress Outgoing Call Barring	C	This IE indicates that outgoing call barrings shall be suppressed for the call leg.
Suppress D-CSI	S	This IE indicates that D-CSI shall be suppressed. It shall always be present in the second interrogation.
N-CSI Available	S	This IE indicates that N-CSI is available in MSC. It shall be present in the first interrogation if N-CSI is available in the MSC.
Non-CUG Call	S	This IE indicates that no parameters for CUG should be used for the call. It shall be present if received from gsmSCF.
CUG Interlock Code	S	For the definition of this IE, see 3GPP TS 23.085 [22]. It shall be present if received from gsmSCF.
Outgoing Access	S	For the definition of this IE, see 3GPP TS 23.085 [22]. It shall be present if received from gsmSCF.

…

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

*** For Information – for 23.078 CR667 ***

Extract from 3GPP TS 23.018 V5.8.0

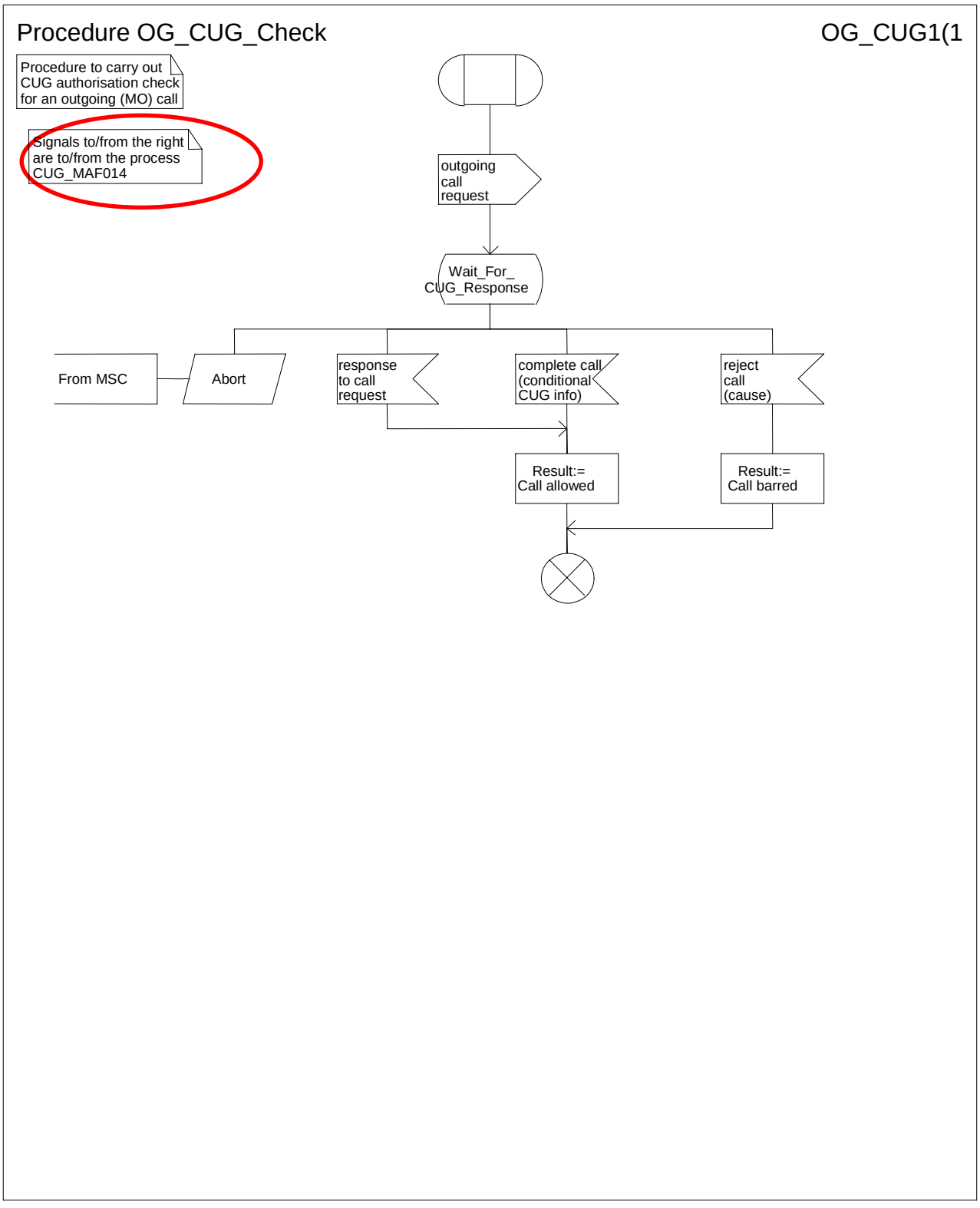


Figure 7.1.2.13: Procedure OG_CUG_Check

Extract from 3GPP TS 23.085 V5.0.0

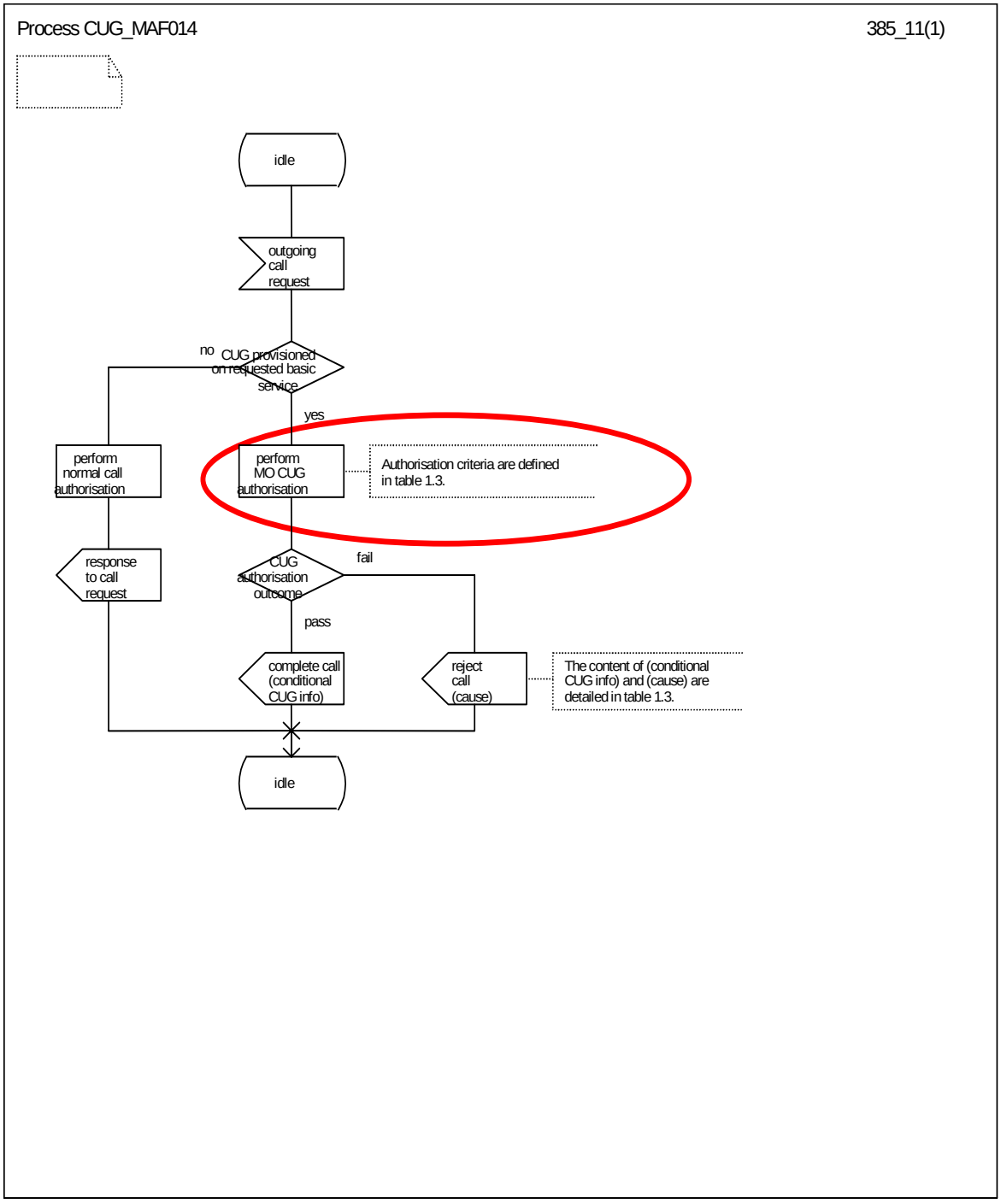


Figure 1.1: MAF014 Mobile Originated CUG call authorisation (VLR)

1.2.1 Functions

…

Table 1.3: MO CUG Call Authorisation Function (VLR)

Calling user subscrip. for Basic Service	Information provided by calling user				
	No CUG Info.	CUG Index (CI) or CI+SPC	Suppress OA (SOA)	Suppress Pref CUG (SPC)	CI+SOA or CI+ SOA+SPC
CUG without Pref CUG. No OA	Reject note 1	Interlock note 2,3,4	Reject note 1	Reject note 1	Interlock note 2,3,4
CUG with Pref CUG. No OA	IC(pref)	Interlock note 2,3,4	IC(pref)	Reject note 1	Interlock note 2,3,4
CUG with OA and without Pref CUG	Normal call	IC+OA note 3,4,5	Reject note 1	Normal call	Interlock note 2,3,4
CUG with Pref CUG and with OA	IC(pref) +OA	IC+OA note 3,4,5	IC(pref)	Normal call	Interlock note 2,3,4
Normal subscriber	Normal call	Normal call	Normal call	Normal call	Normal call

NOTE 1: "Inconsistent access information - no CUG selected".

NOTE 2: If the intra-CUG restriction option "Outgoing calls barred within the CUG" is applicable for the requested CUG, the call shall be rejected, reason for rejection "Outgoing calls barred within the CUG".

NOTE 3: If an index is provided which is not recognised by the network the call is rejected, reason for rejection "Unknown CUG Index".

NOTE 4: If an index is provided which does not match with the interlock(s) of the requested basic service the call is rejected, reason for rejection "Inconsistent access information - Index incompatible with requested basic service".

NOTE 5: If a CUG is selected using a CUG Index but the intra-CUG restriction option "Outgoing calls barred within the CUG" is applicable, and the calling user subscription includes OA for the requested Basic Service the call shall be attempted as a normal call with no CUG information included in the call establishment signalling.