

**Source:** TSG CN WG2  
**Title:** CRs on Rel-5 Work Item CAMEL4, CR Pack 4  
**Agenda item:** 8.3  
**Document for:** APPROVAL

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**Introduction:**

This document contains 10 CRs on Rel-5 WI CAMEL4. These CRs have been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting #17 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.078	423		N2-020681	Rel-5	Change "Initial Call Segment" to "CSID1"	F	5.0.0
29.078	265		N2-020682	Rel-5	Change "Initial Call Segment" to "CSID1"	F	5.0.0
23.078	424		N2-020683	Rel-5	Removal of DP_MidCall state from CAMEL_EXPORT_LEG_MSC	F	5.0.0
23.078	425		N2-020684	Rel-5	FtN in Perform Call Handling ack	F	5.0.0
29.078	266		N2-020692	Rel-5	Introduction of CPH Definitions	D	5.0.0
23.078	432	1	N2-020779	Rel-5	Introduction of CPH Definitions	D	5.0.0
23.078	414		N2-020655	Rel-5	Move Leg not allowed before Active phase of "normal" A-B call	F	5.0.0
23.078	415	1	N2-020770	Rel-5	Disconnect of penultimate leg in CSID1	F	5.0.0
23.078	419	1	N2-020771	Rel-5	No use of Call Segment ID for the direct gsmSCF - gsmSRF case	F	5.0.0
23.078	412	1	N2-020768	Rel-5	CPH clarification on overall SDL architecture	B	5.0.0

CR-Form-v7

## CHANGE REQUEST

⌘ **23.078 CR 414** ⌘ rev **5.0.0** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ Move Leg not allowed before Active phase of "normal" A-B call		
<b>Source:</b>	⌘ Vodafone		
<b>Work item code:</b>	⌘ CAMEL4	<b>Date:</b>	⌘ 17 <sup>th</sup> July 2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ REL-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ If a "normal" A-B call is set-up using the procedures in 23.018 (i.e. Disconnect Leg for Leg 2 is not sent during the initial DP) then it should not be possible to perform a Move Leg operation before the active phase of the call. Moving an active leg into CSID1 during the "normal" A-B call set-up would lead to an Answer message being sent to the A party, although the B party is yet to answer. This would cause confusion in the 23.018 SDLs and would be very complex to implement correctly.
<b>Summary of change:</b>	⌘ Introduction of Move_Leg_Allowed boolean variable in Process_CSA_gsmSSF. <ul style="list-style-type: none"> <li>• If CSA_gsmSSF is invoked by an Initial_DP from the CS_gsmSSF then Move_Leg_Allowed := False (as call is being set-up within 23.018).</li> <li>• If CSA_gsmSSF is invoked by an Initiate Call Attempt from the gsmSCF then Move_Leg_Allowed := True (as call handling is CAMEL-specific).</li> <li>• If Leg 1 becomes active then Move_Leg_Allowed := True (as call handling must have moved into Leg 1 process/procedure in 23.078, and possibly also Leg 2 process/procedure).</li> <li>• If Disconnect Leg for Leg 2 is received then Move_Leg_Allowed := True (as call handling must have moved into Leg 1 process/procedure in 23.078).</li> <li>• If Move Leg is received from gsmSCF then the operation is handled only if Move_Leg_Allowed = True.</li> </ul>
<b>Consequences if not approved:</b>	⌘ There will be no restriction on the Move Leg operation. Hence, a leg created by ICA could be moved into CSID1 during the set-up of a "normal" A-B call, causing A to become answered (due to Update_Signalling procedure) but leaving B in a state of limbo...

<b>Clauses affected:</b>	⌘ 4.5.7.6
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<b>Other specs affected:</b>	⌘	<table border="1"><tr><td>Y</td><td>N</td></tr></table>	Y	N		
	Y	N				
	⌘	<table border="1"><tr><td>Y</td><td></td></tr></table>	Y		Other core specifications	⌘ 22.078-xxx (N2-020656)
Y						
	<table border="1"><tr><td></td><td>N</td></tr></table>		N	Test specifications		
	N					
		<table border="1"><tr><td></td><td>N</td></tr></table>		N	O&M Specifications	
	N					
<b>Other comments:</b>	⌘					

**\*\*\* Modified Section \*\*\***

#### 4.5.7.6 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(21)

/\* 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.  
\*/

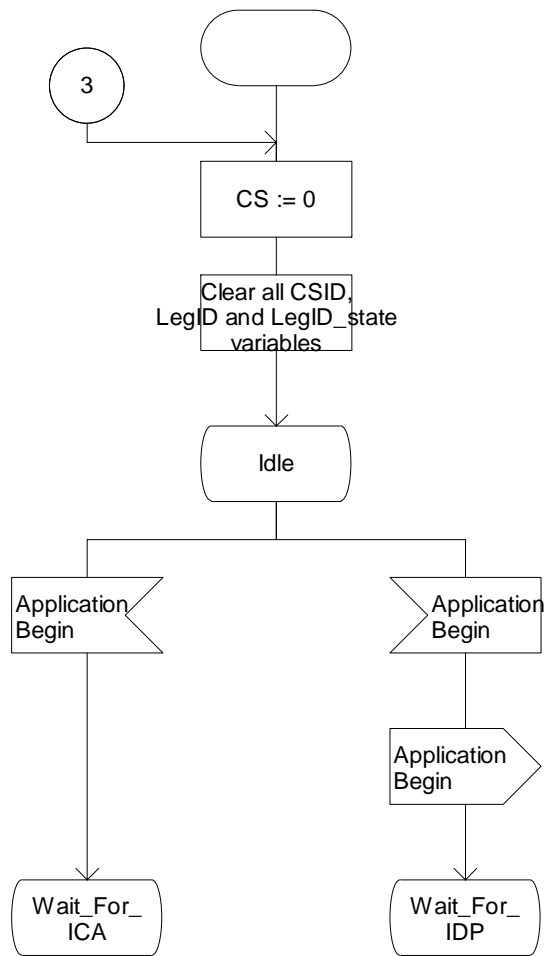


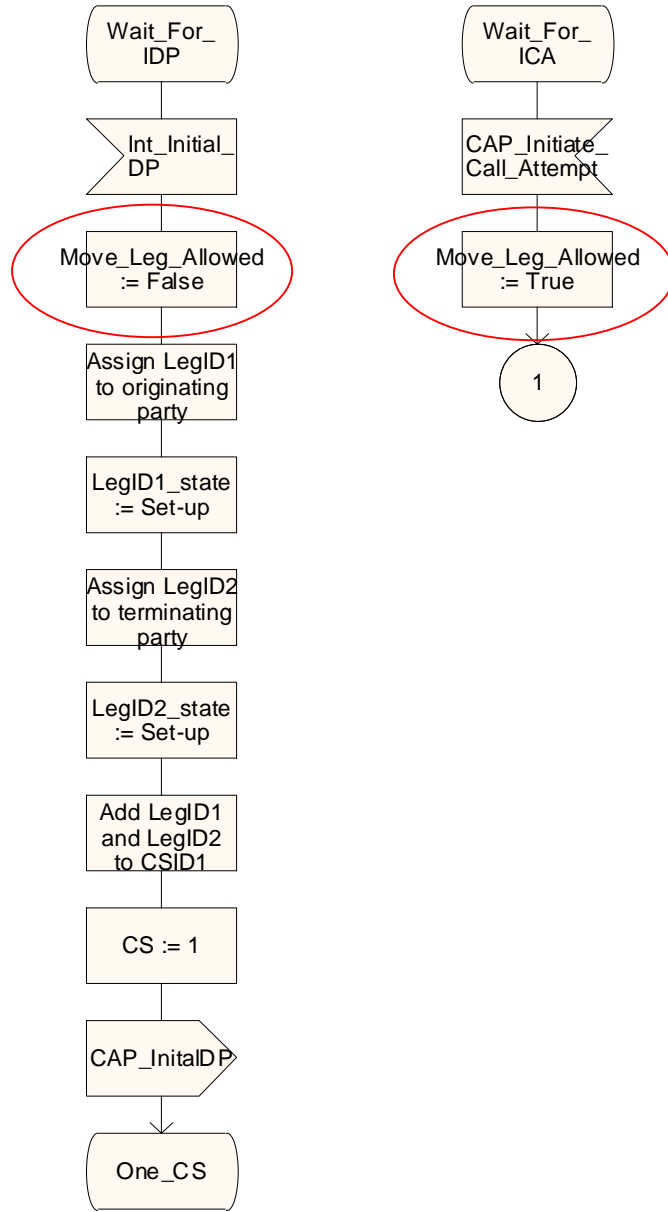
Figure 4.112a: Process CSA\_gsmSSF (sheet 1)

### Process CSA\_gsmSSF

2(21)

/\* 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. \*/



### Process CSA\_gsmSSF

2(21)

/\* 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. \*/

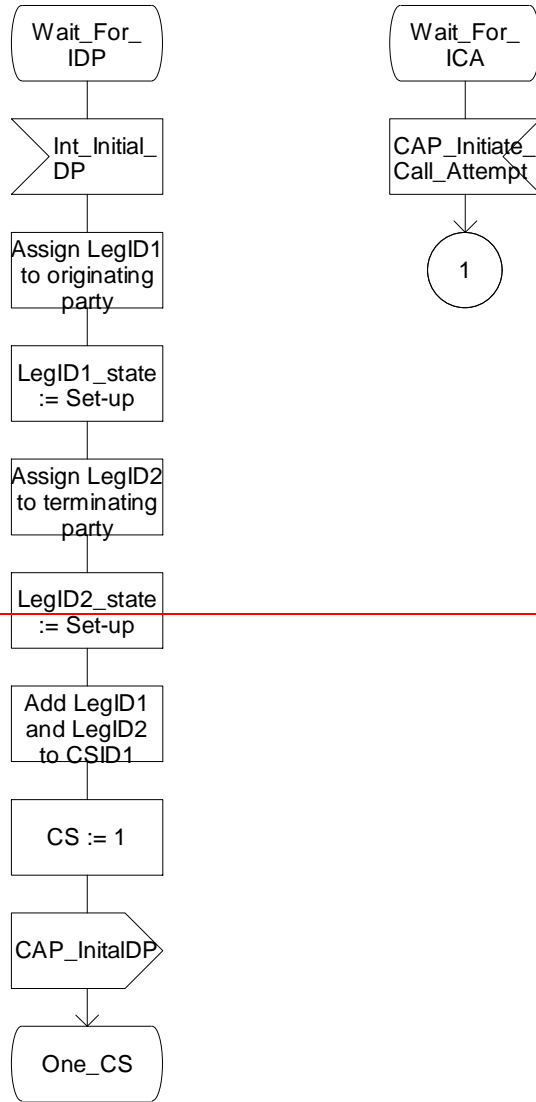


Figure 4.112b: Process CSA\_gsmSSF (sheet 2)

### Process CSA\_gsmSSF

3(21)

/\* 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. \*/

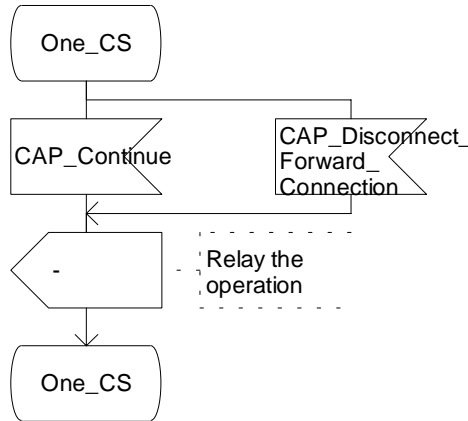


Figure 4.112c: Process CSA\_gsmSSF (sheet 3)



Process CSA\_gsmSSF

4(21)

/\* 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. \*/

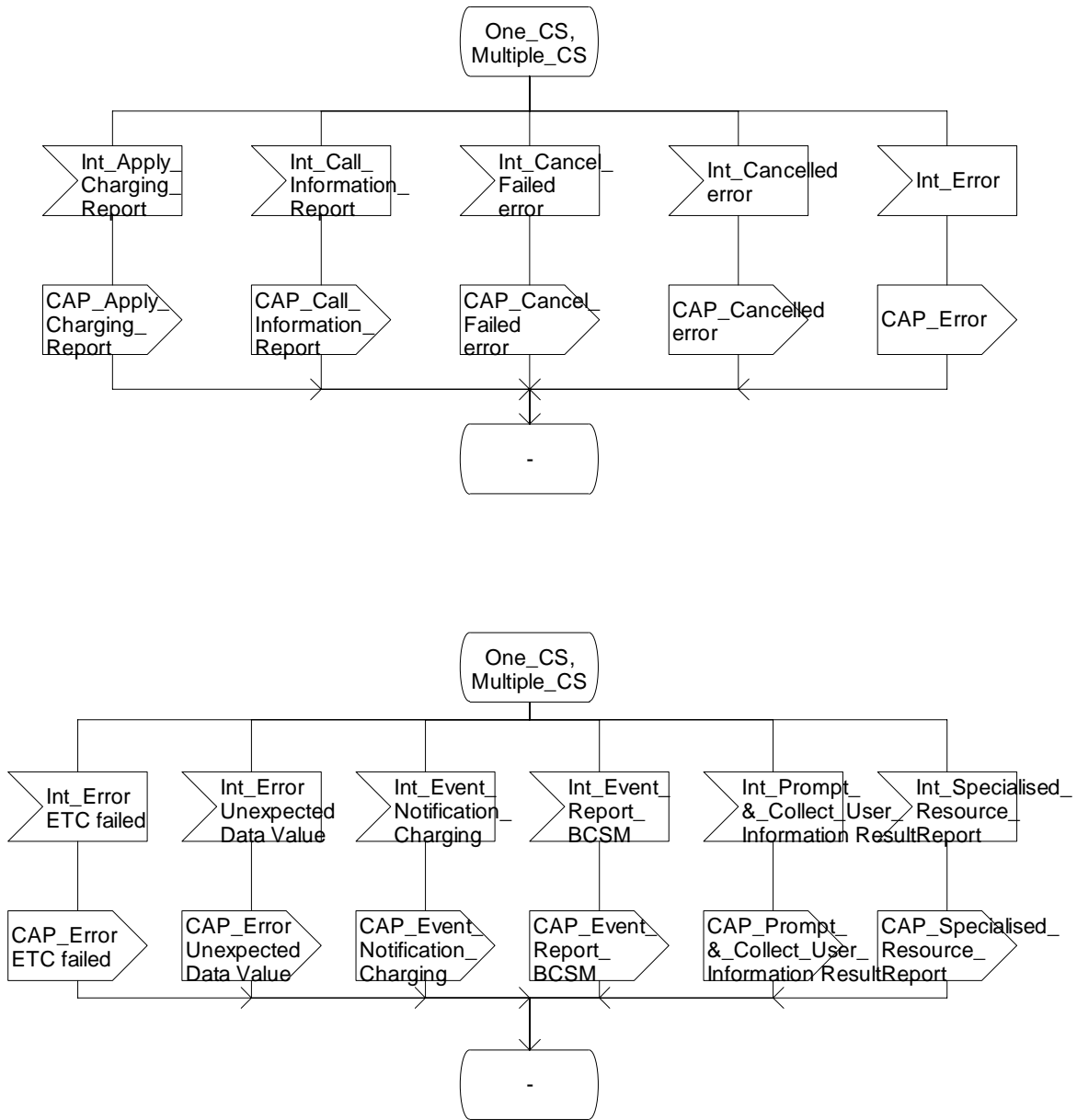


Figure 4.112d: Process CSA\_gsmSSF (sheet 4)

Process CSA\_gsmSSF

5(21)

/\* 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. \*/

Relay the operation to the Process CS\_gsmSSF for the indicated CS ID

Or Party To Charge

Relay the operation to the Process CS\_gsmSSF for the CS containing the indicated LegID

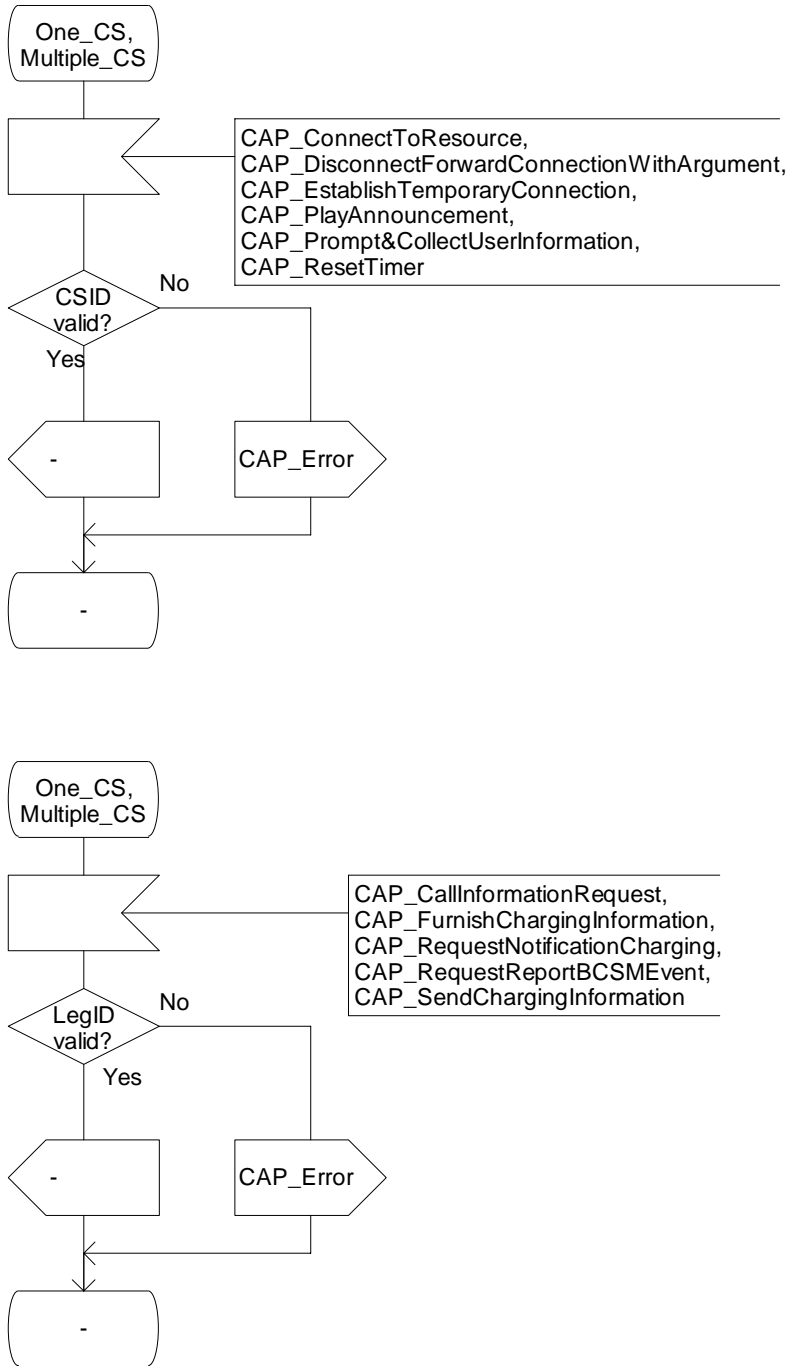


Figure 4.112e: Process CSA\_gsmSSF (sheet 5)

### Process CSA\_gsmSSF

6(21)

/\* 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. \*/

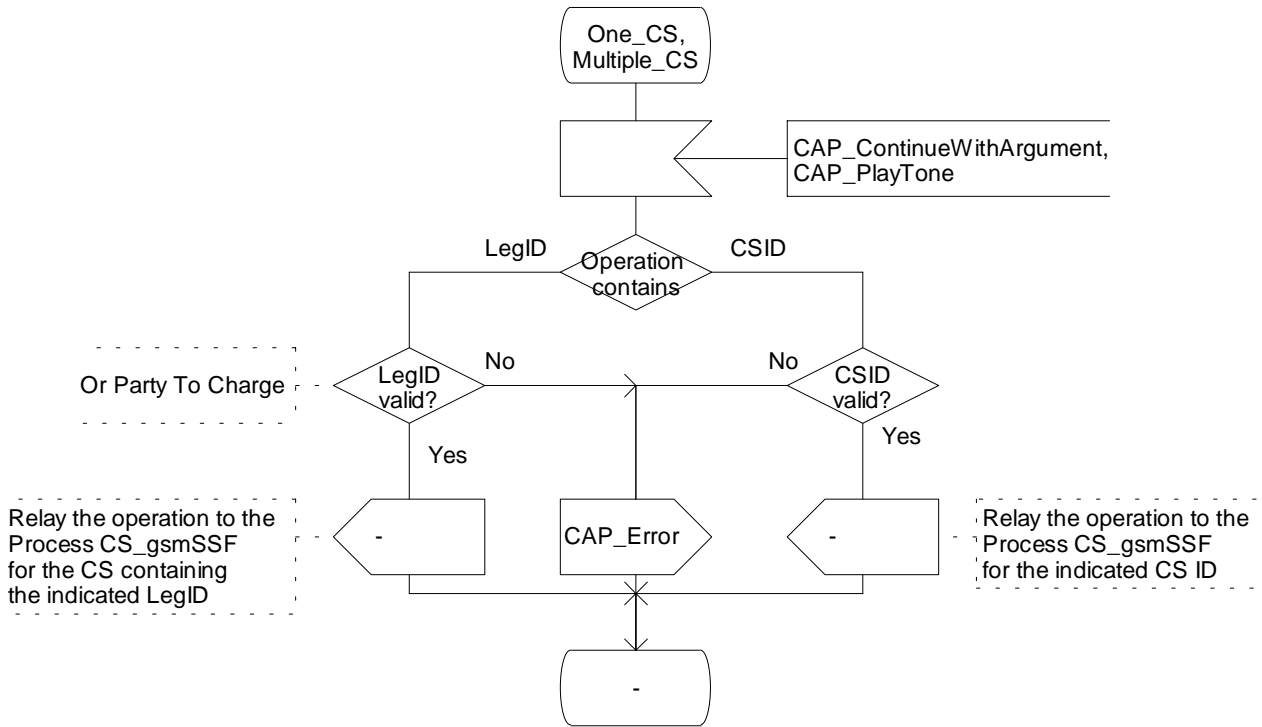


Figure 4.112f: Process CSA\_gsmSSF (sheet 6)

### Process CSA\_gsmSSF

7(21)

/\* 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. \*/

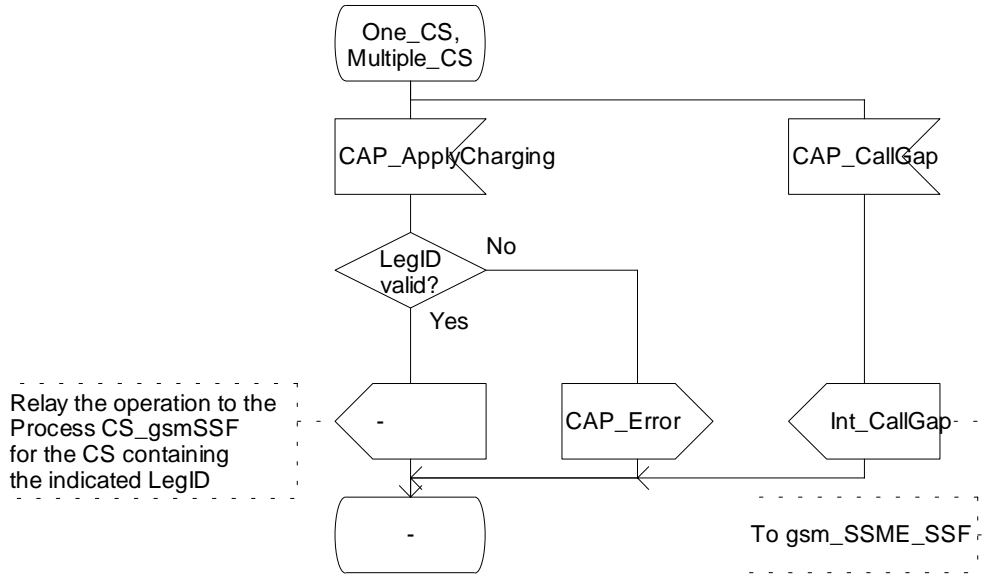


Figure 4.112g: Process CSA\_gsmSSF (sheet 7)

### Process CSA\_gsmSSF

8(21)

/\* 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. \*/

Relay the operation to the Process CS\_gsmSSF for the CS containing the indicated LegID, or to CSID1 if no LegID was indicated.

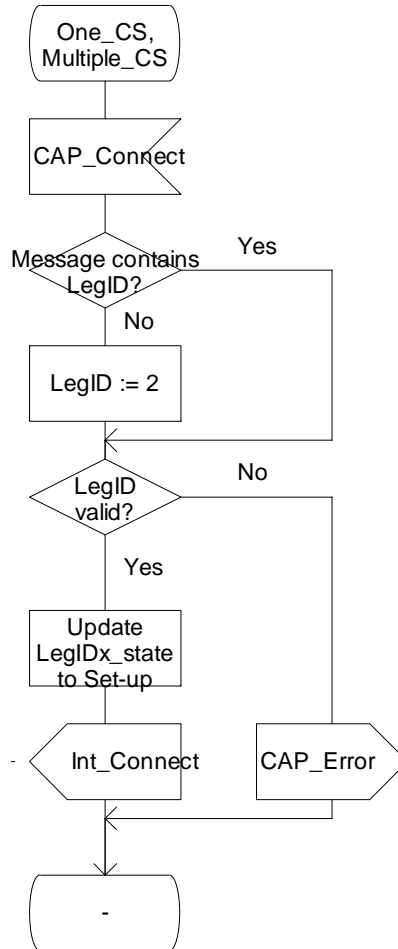


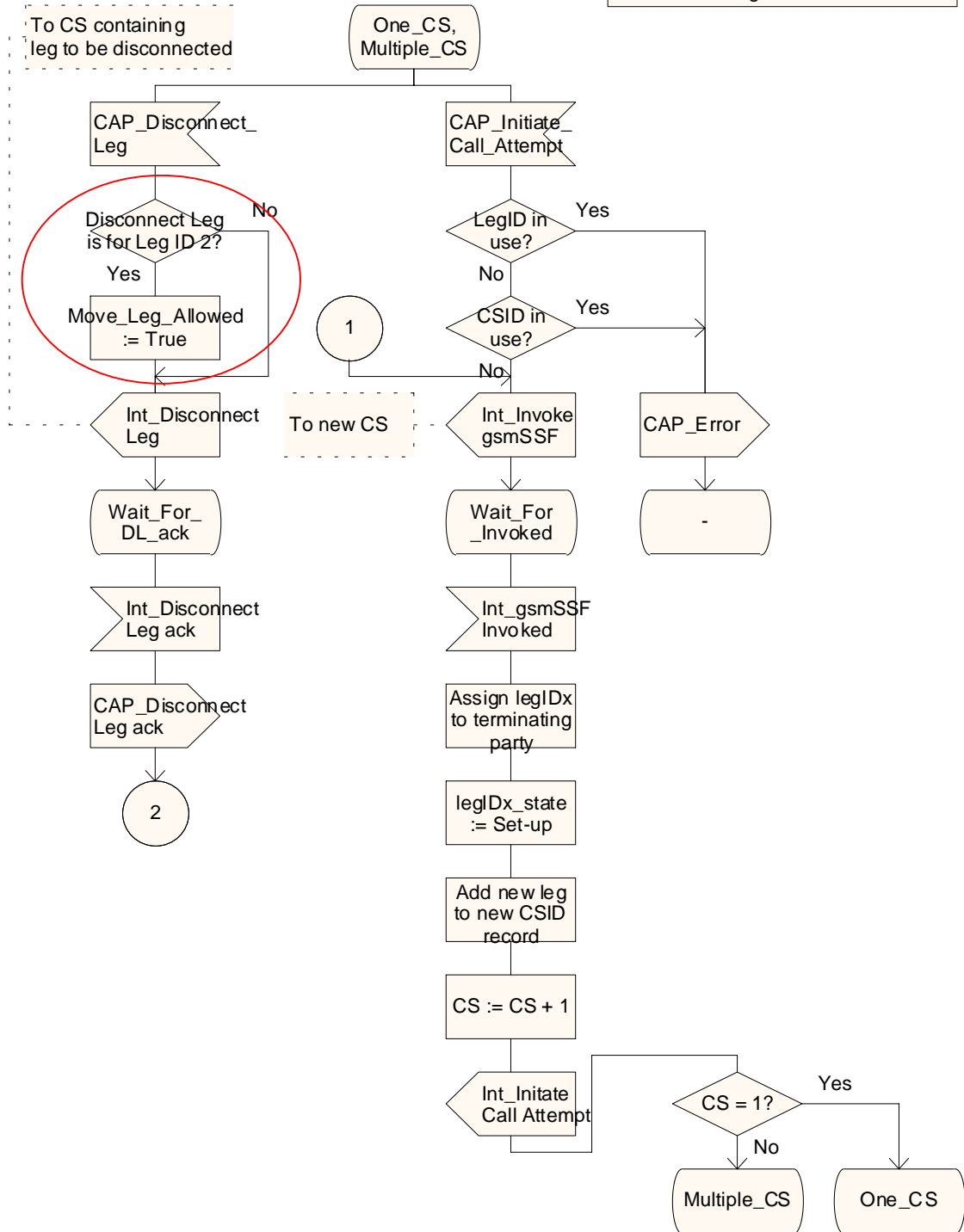
Figure 4.112h: Process CSA\_gsmSSF (sheet 8)

Process CSA\_gsmSSF

9(21)

/\* 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. \*/



Process CSA\_gsmSSF

9(21)

/\* 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. \*/

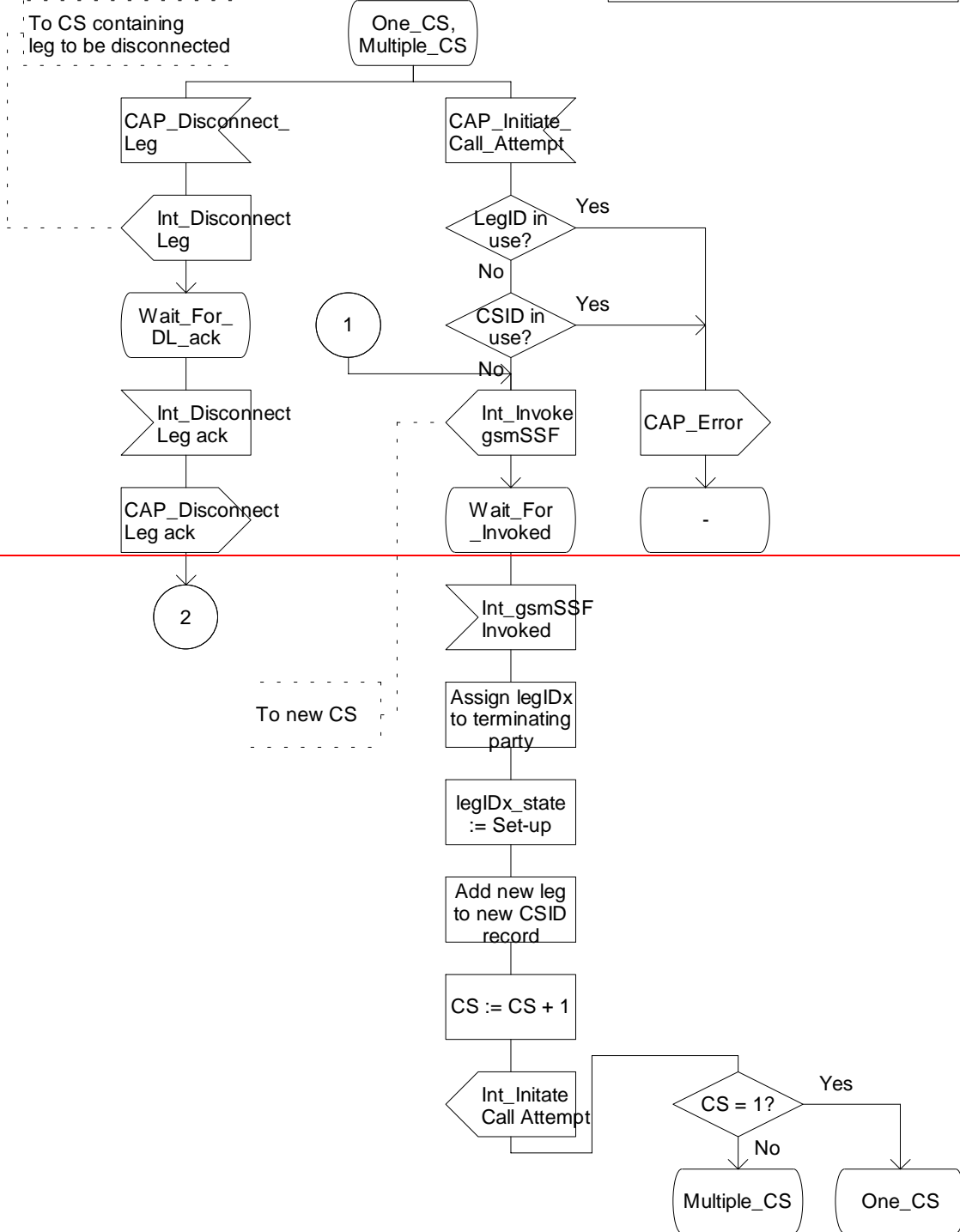


Figure 4.112i: Process CSA\_gsmSSF (sheet 9)

Process CSA\_gsmSSF

10(21)

/\* 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. \*/

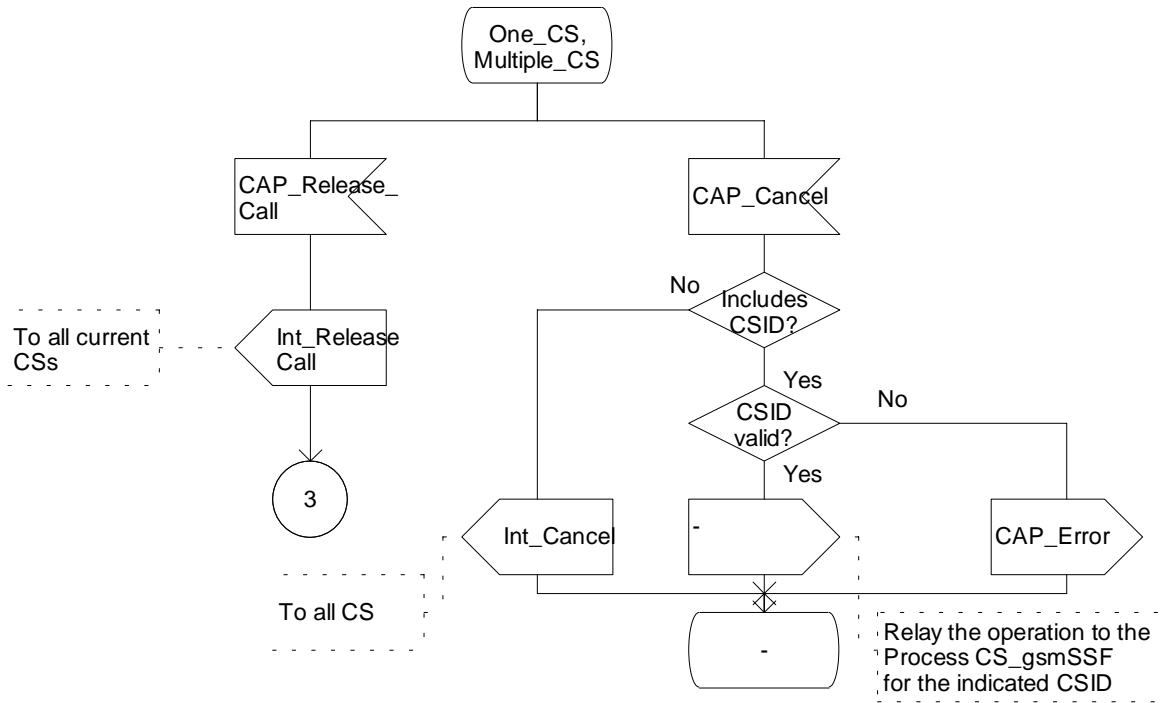


Figure 4.112j: Process CSA\_gsmSSF (sheet 10)



### Process CSA\_gsmSSF

11(21)

/\* 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. \*/

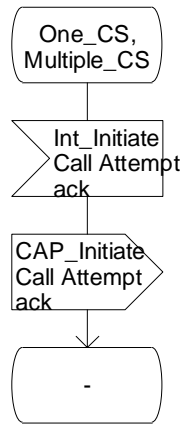


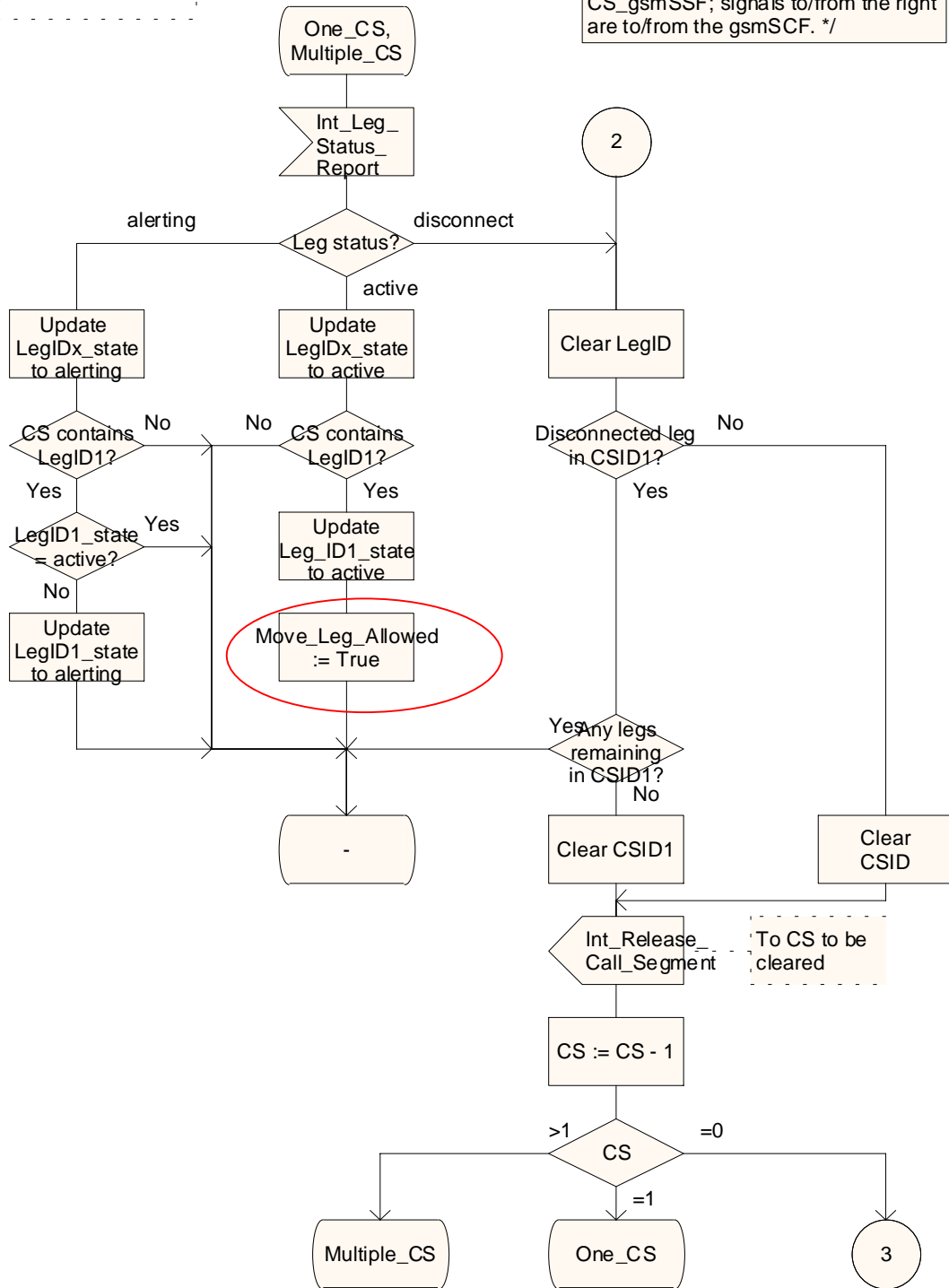
Figure 4.112k: Process CSA\_gsmSSF (sheet 11)

### Process CSA\_gsmSSF

12(21)

/\* 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. \*/



Process CSA\_gsmSSF

12(21)

/\* 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. \*/

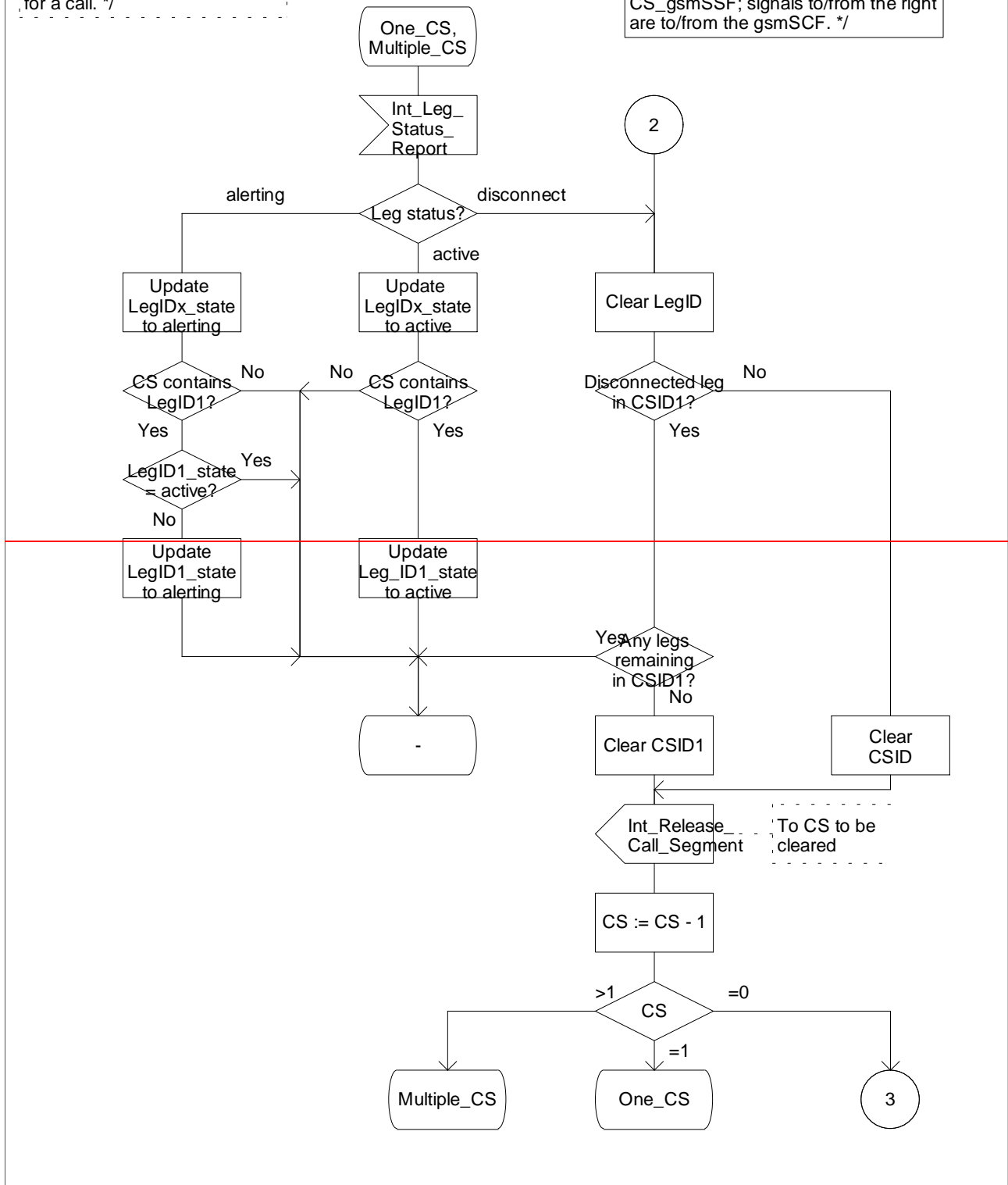


Figure 4.112I: Process CSA\_gsmSSF (sheet 12)

Process CSA\_gsmSSF

13(21)

/\* 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. \*/

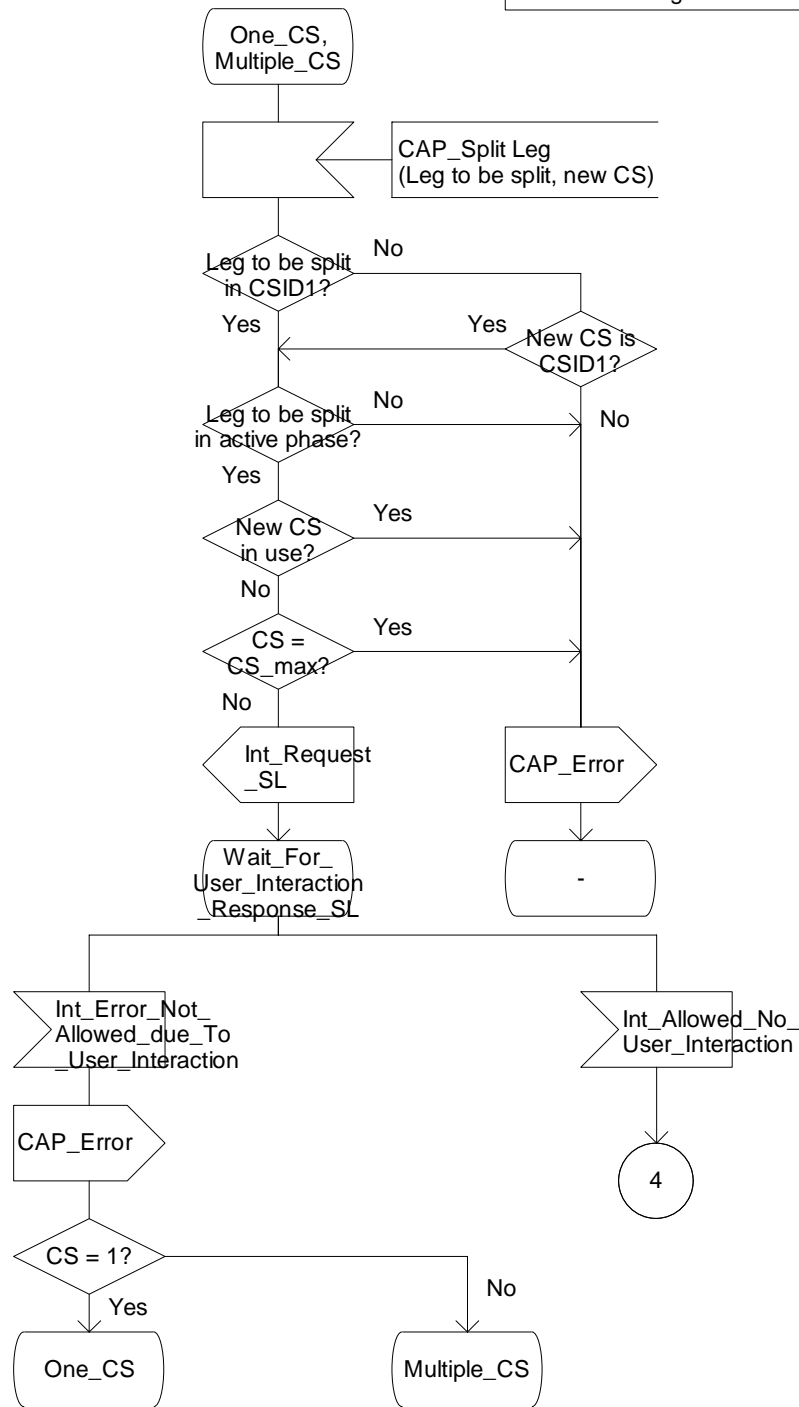


Figure 4.112m: Process CSA\_gsmSSF (sheet 13)

Process CSA\_gsmSSF

14(21)

/\* 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. \*/

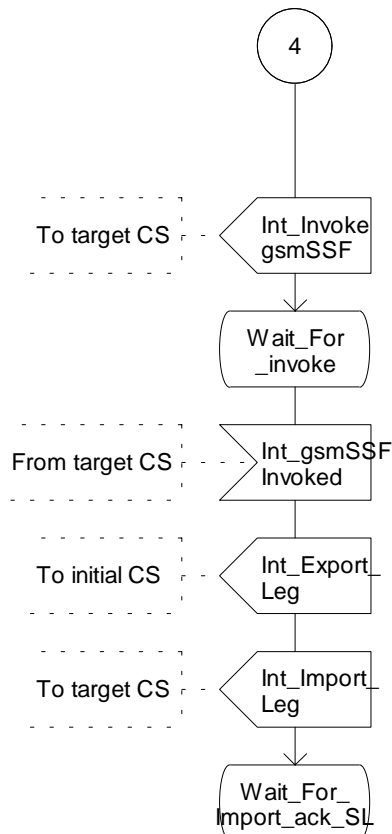


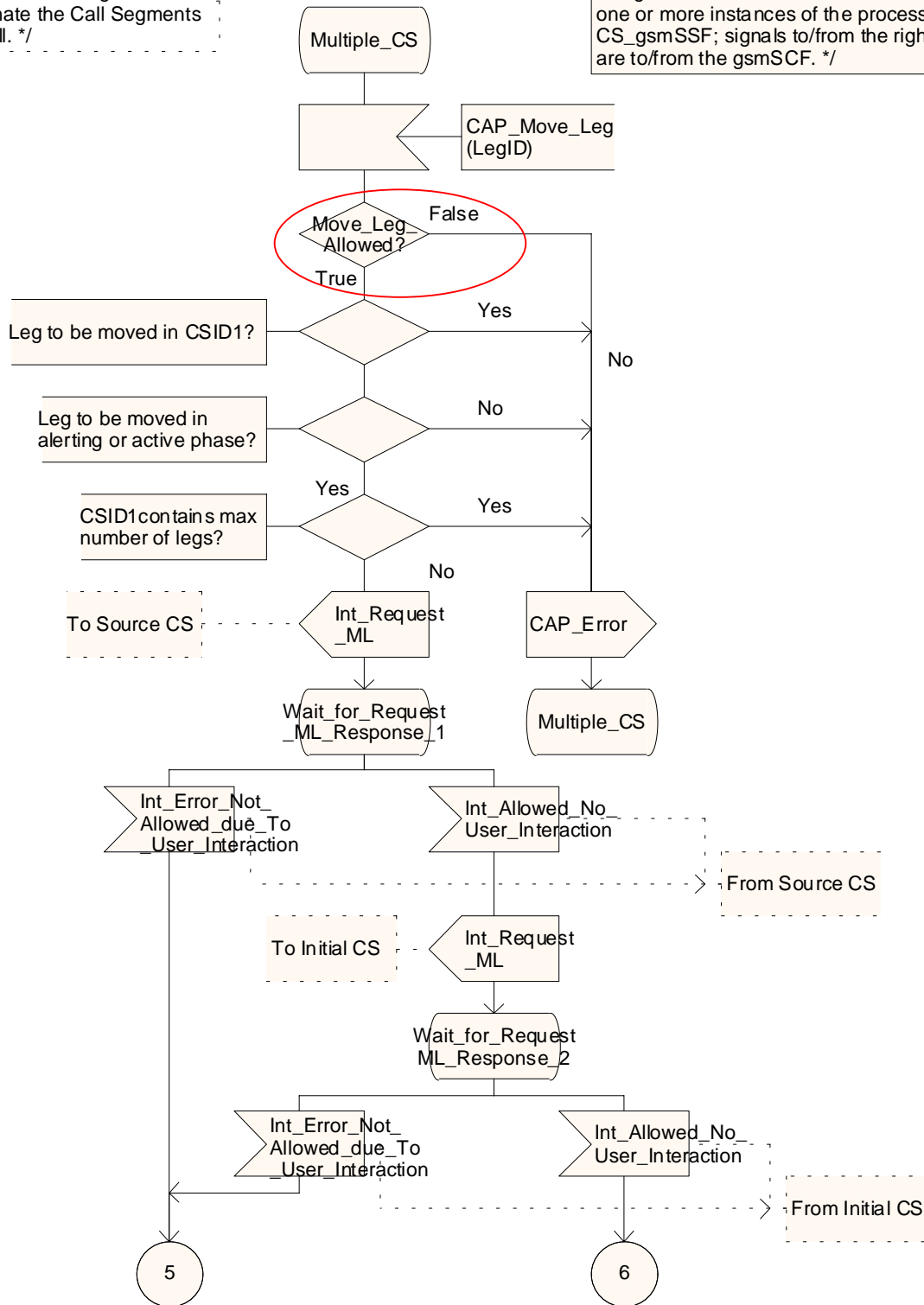
Figure 4.112n: Process CSA\_gsmSSF (sheet 14)

### Process CSA\_gsmSSF

15(21)

/\* 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. \*/



Process CSA\_gsmSSF

15(21)

/\* 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. \*/

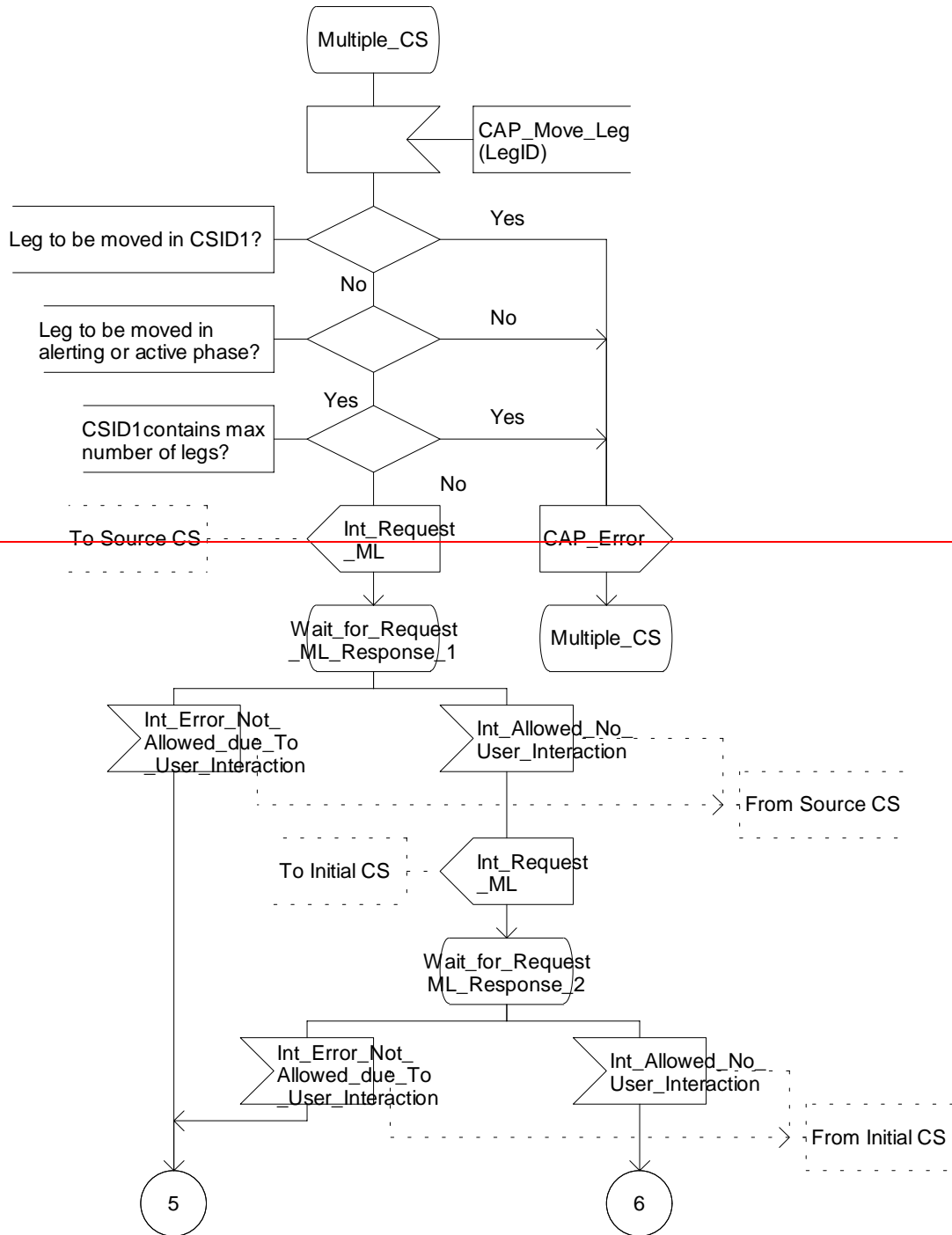


Figure 4.112o: Process CSA\_gsmSSF (sheet 15)

Process CSA\_gsmSSF

16(21)

/\* 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. \*/

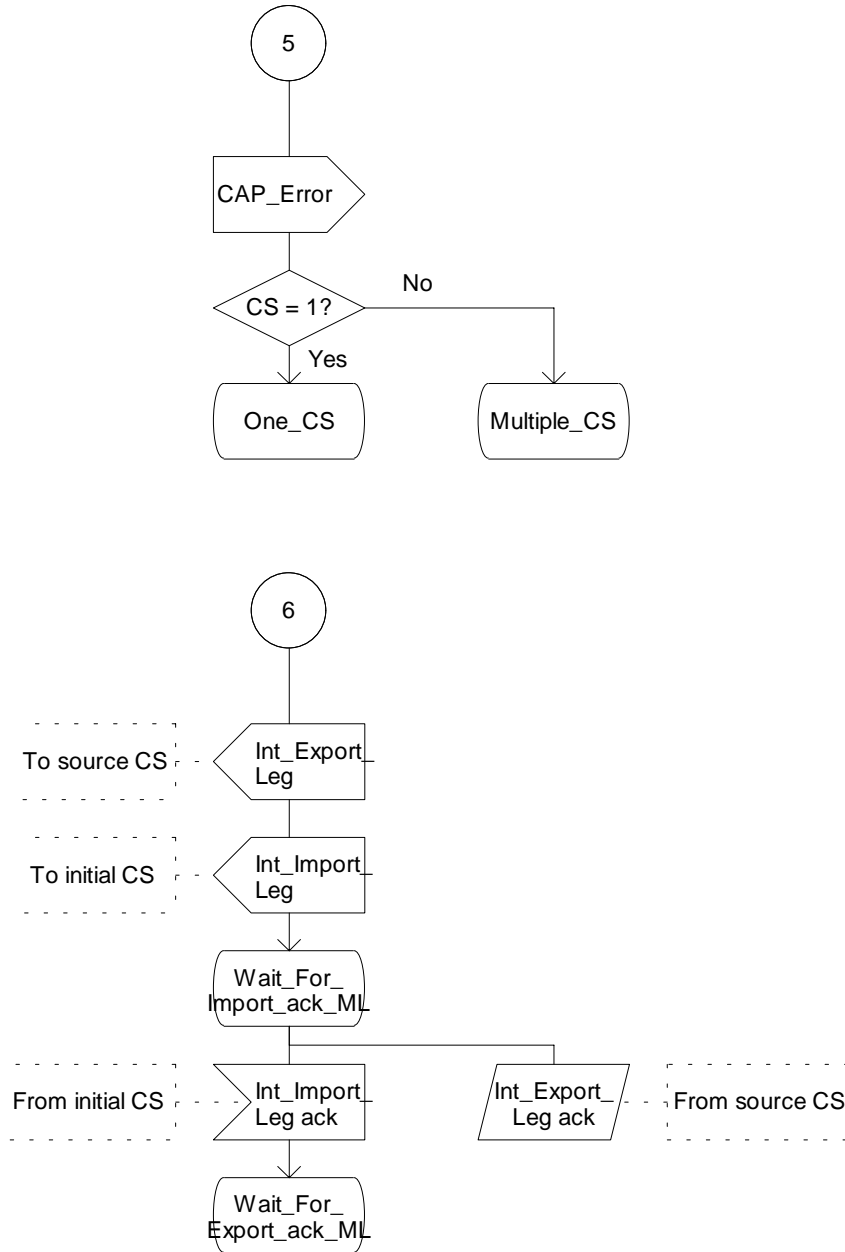


Figure 4.112p: Process CSA\_gsmSSF (sheet 16)



Process CSA\_gsmSSF

17(21)

/\* 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. \*/

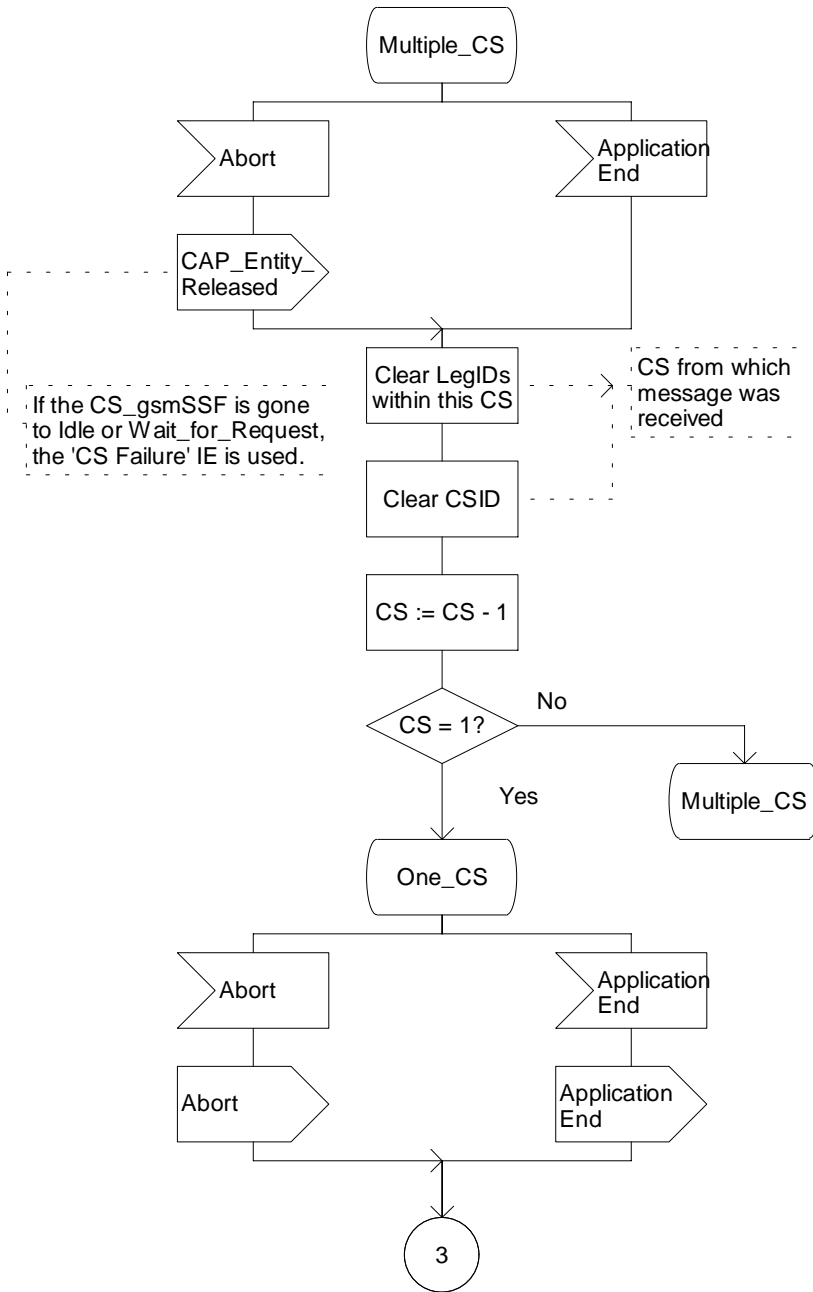


Figure 4.112q: Process CSA\_gsmSSF (sheet 17)

Process CSA\_gsmSSF

18(21)

/\* 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. \*/

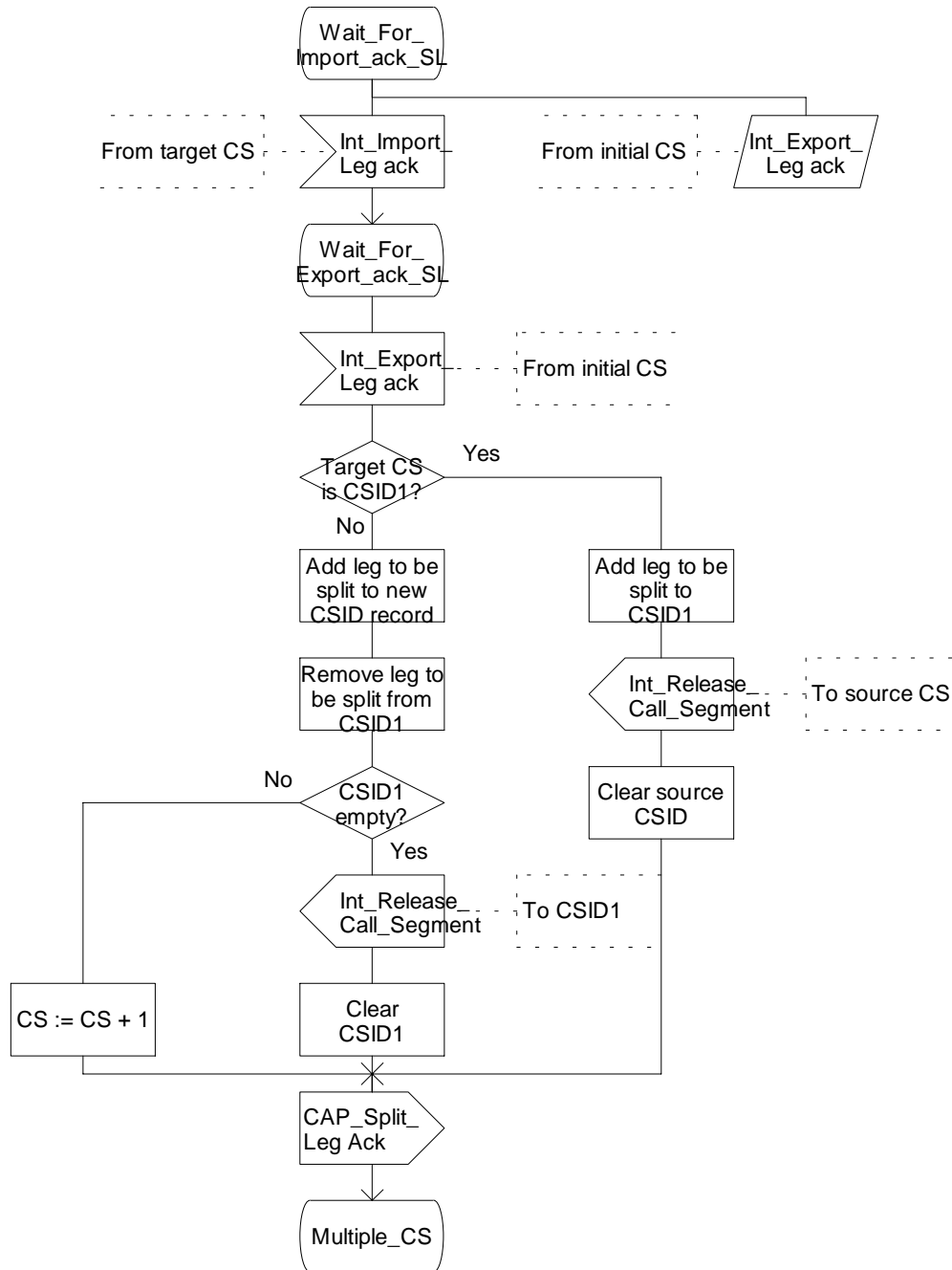


Figure 4.112r: Process CSA\_gsmSSF (sheet 18)

Process CSA\_gsmSSF

19(21)

/\* 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. \*/

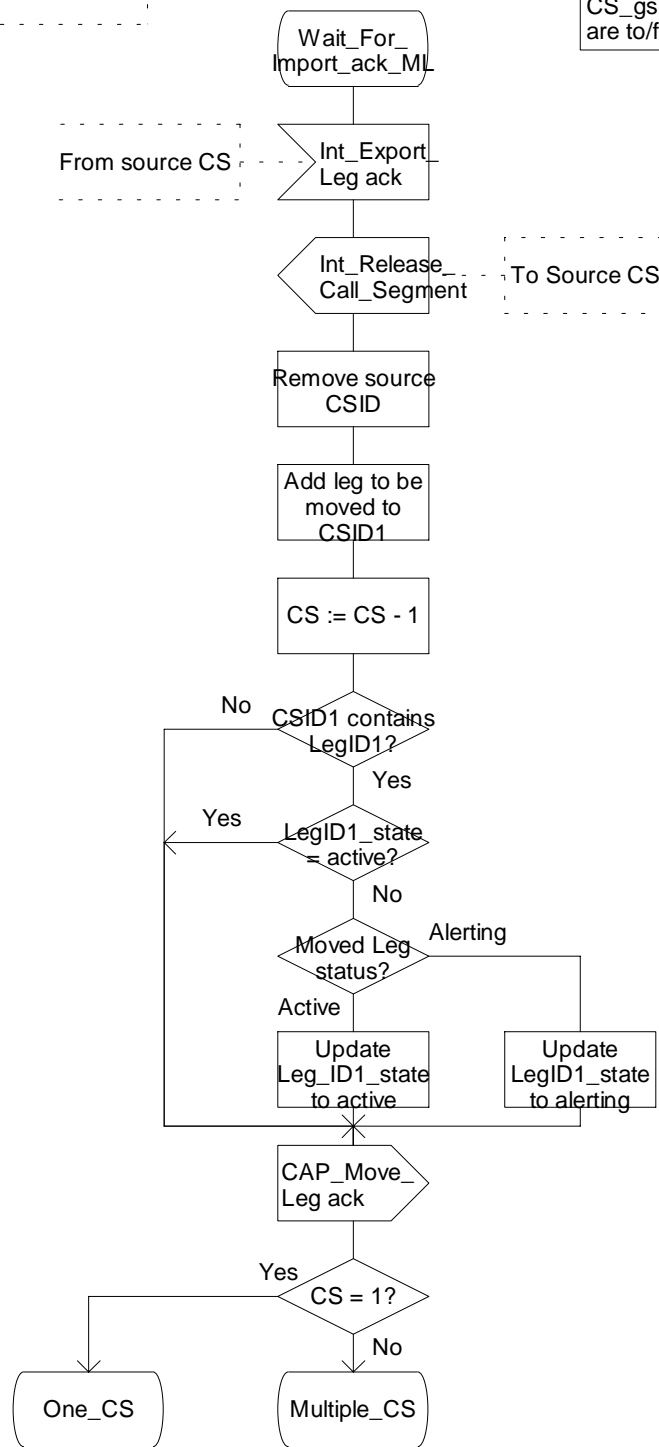


Figure 4.112s: Process CSA\_gsmSSF (sheet 19)

### Process CSA\_gsmSSF

20(21)

/\* 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. \*/

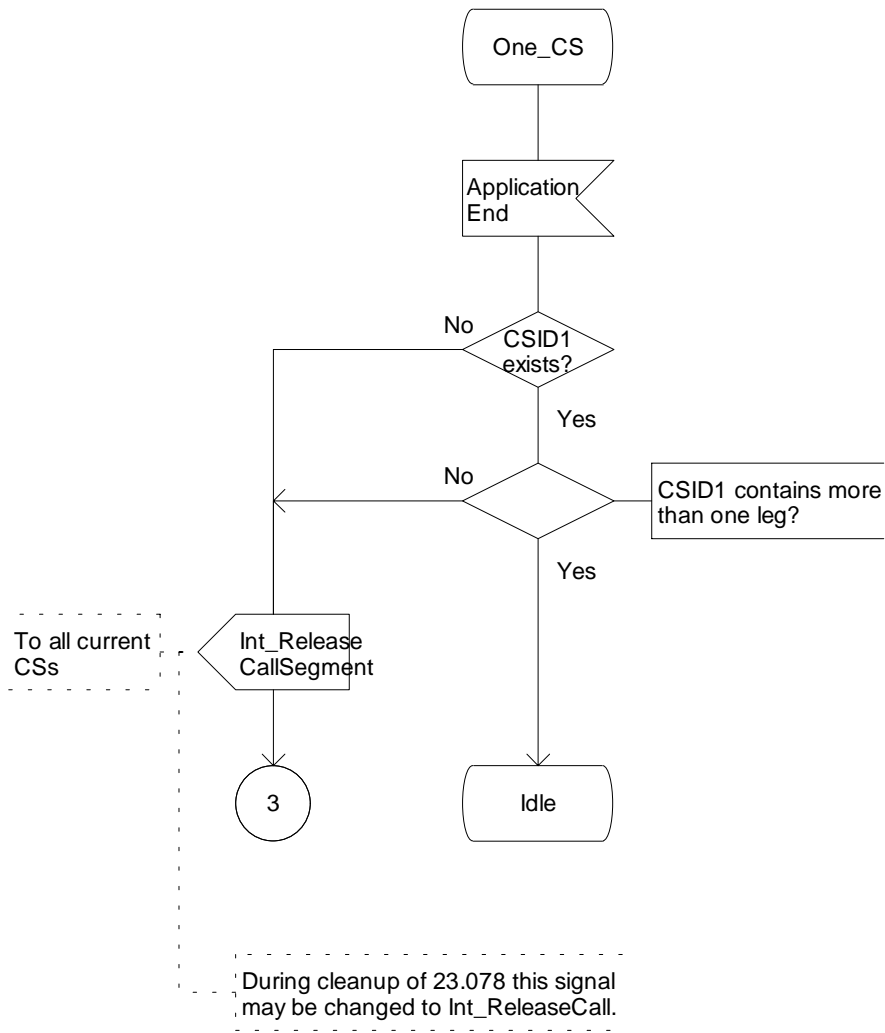


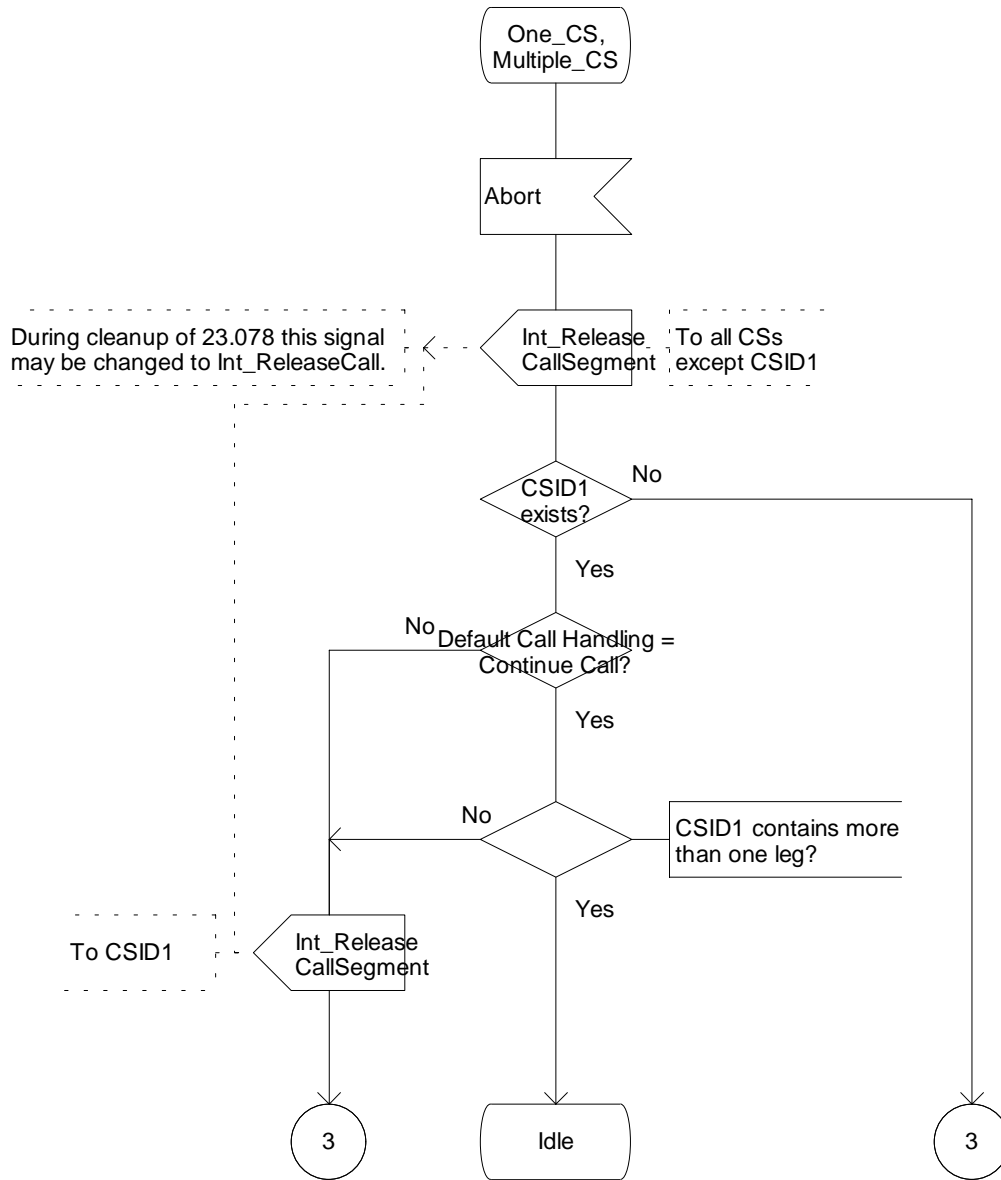
Figure 4.112t: Process CSA\_gsmSSF (sheet 20)

### Process CSA\_gsmSSF

21(21)

/\* 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. \*/



During cleanup of 23.078 this signal may be changed to Int\_ReleaseCall.

To all CSs except CSID1

To CSID1

Figure 4.112u: Process CSA\_gsmSSF (sheet 21)

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

## CHANGE REQUEST

⌘ **23.078 CR 423** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ Change "Initial Call Segment" to "CSID1" ⌘		
<b>Source:</b>	⌘ Vodafone ⌘		
<b>Work item code:</b>	⌘ CAMEL4 ⌘	<b>Date:</b>	⌘ 19/06/02 ⌘
<b>Category:</b>	⌘ <b>F</b> ⌘	<b>Release:</b>	⌘ Rel-5 ⌘
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> 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)

<b>Reason for change:</b>	⌘ There is confusion over whether the Initial Call Segment is the same as CSID1. The term "Initial Call Segment" is only used in the Move Leg and Split Leg descriptions, so the simplest solution it to replace the occurrences of "Initial Call Segment" with "CSID1" ⌘
<b>Summary of change:</b>	⌘ Replacement of the occurrences of "Initial Call Segment" with "CSID1". Also a clarification that Split Leg can be used to create CSID1. ⌘
<b>Consequences if not approved:</b>	⌘ Confusion remains ⌘

<b>Clauses affected:</b>	⌘ 4.5.7 (CSA_gsmSSF), 4.6.2.16 and 4.6.2.23 ⌘										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ 29.078 CR 265 (N2-020682) ⌘	
Y	N										
X											
	X										
	X										
<b>Other comments:</b>	⌘ ⌘										

**\*\*\* First Modified Section \*\*\***

#### 4.5.7 Handling of mobile calls in the gsmSSF

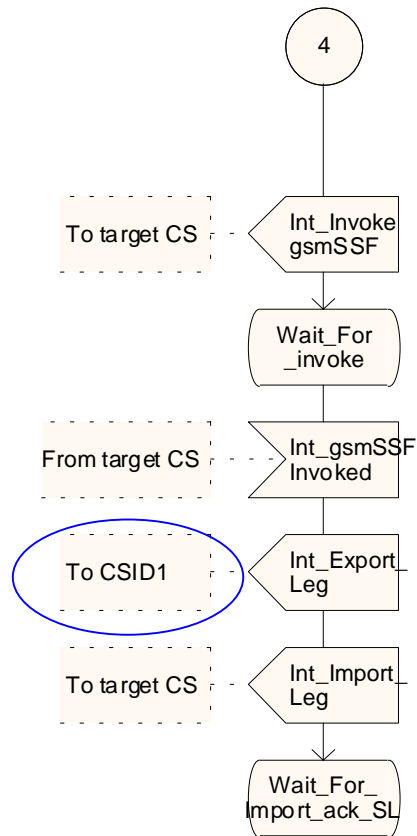
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### Process CSA\_gsmSSF

14(21)

/\* 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. \*/





### Process CSA\_gsmSSF

14(21)

/\* 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. \*/

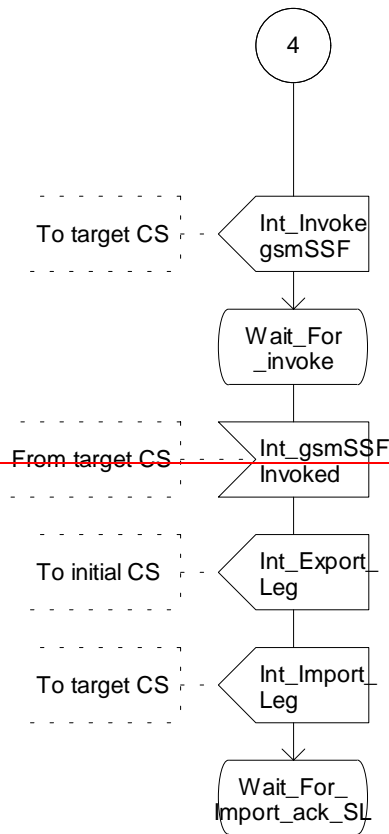


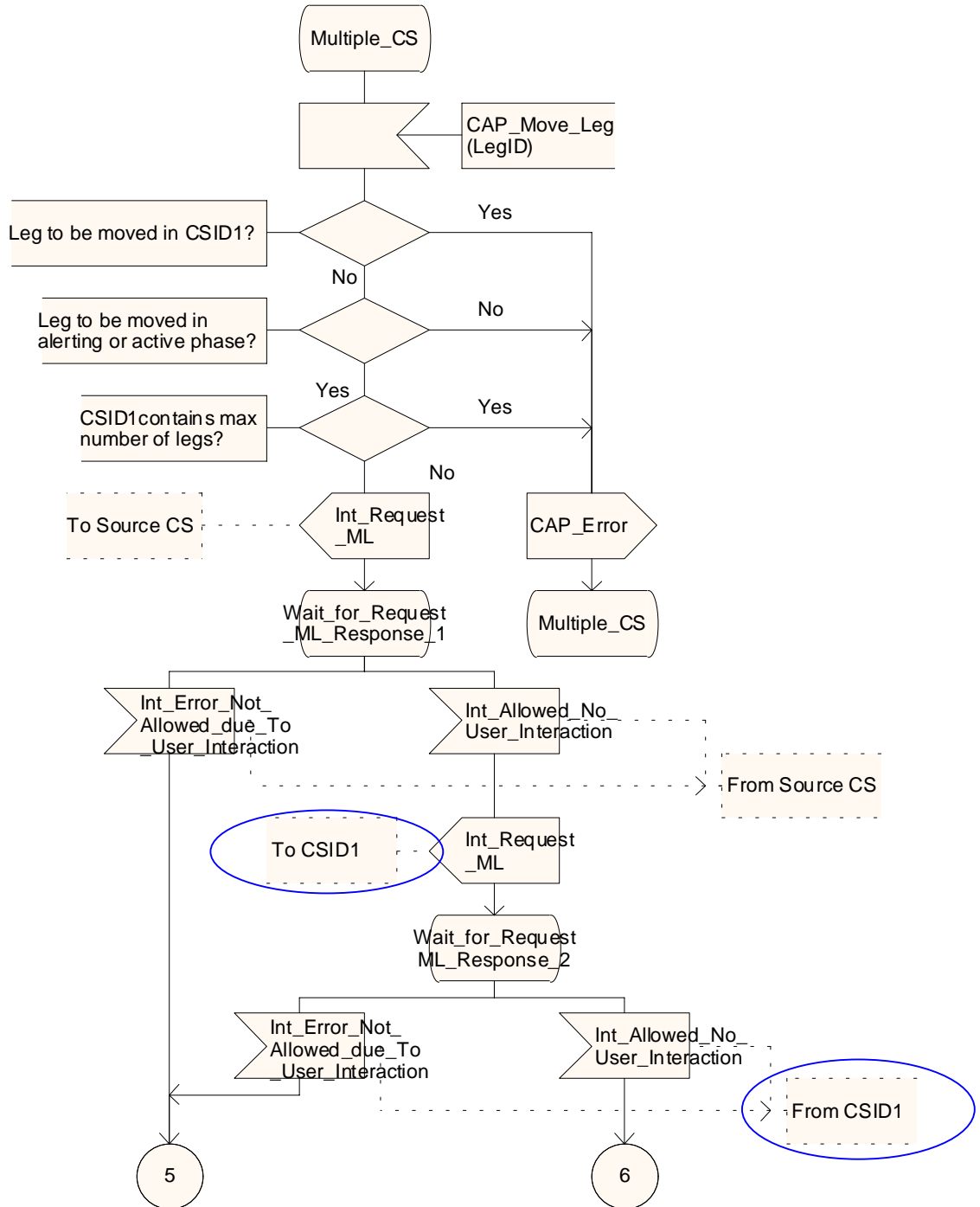
Figure 4.112n: Process CSA\_gsmSSF (sheet 14)

### Process CSA\_gsmSSF

15(21)

/\* 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. \*/



Process CSA\_gsmSSF

15(21)

/\* 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. \*/

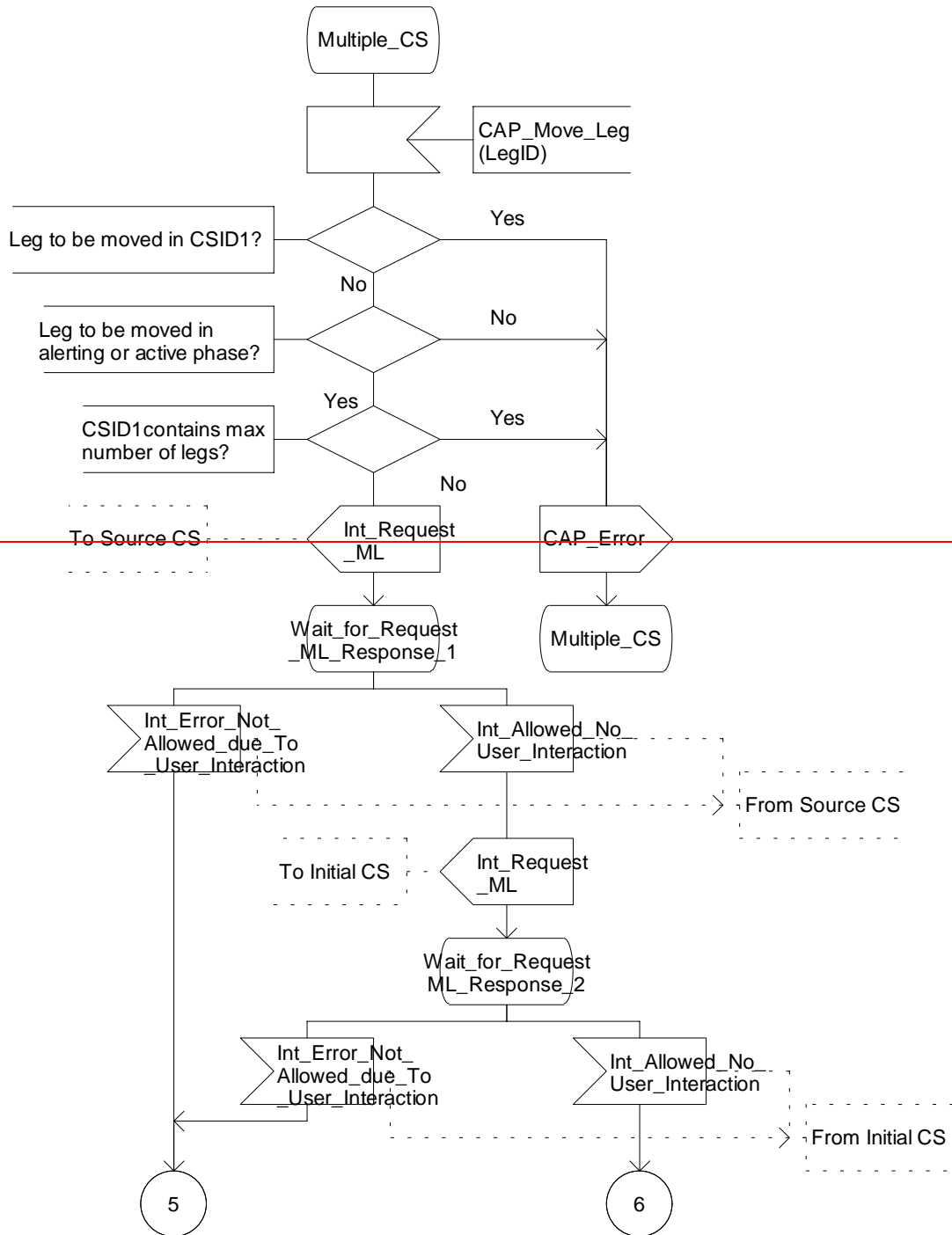


Figure 4.112o: Process CSA\_gsmSSF (sheet 15)

### Process CSA\_gsmSSF

16(21)

/\* 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. \*/

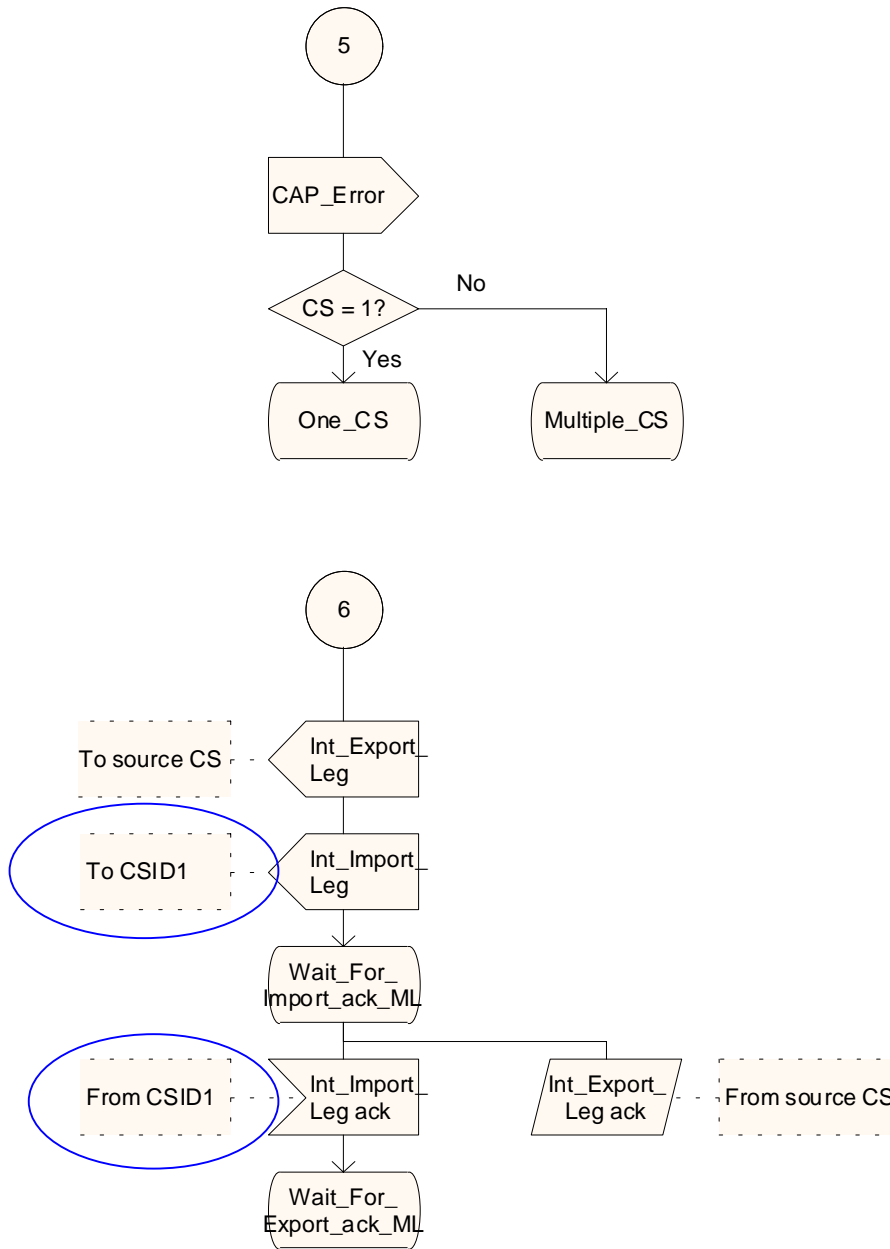


Figure 4.112p: Process CSA\_gsmSSF (sheet 16)

Process CSA\_gsmSSF

16(21)

/\* 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. \*/

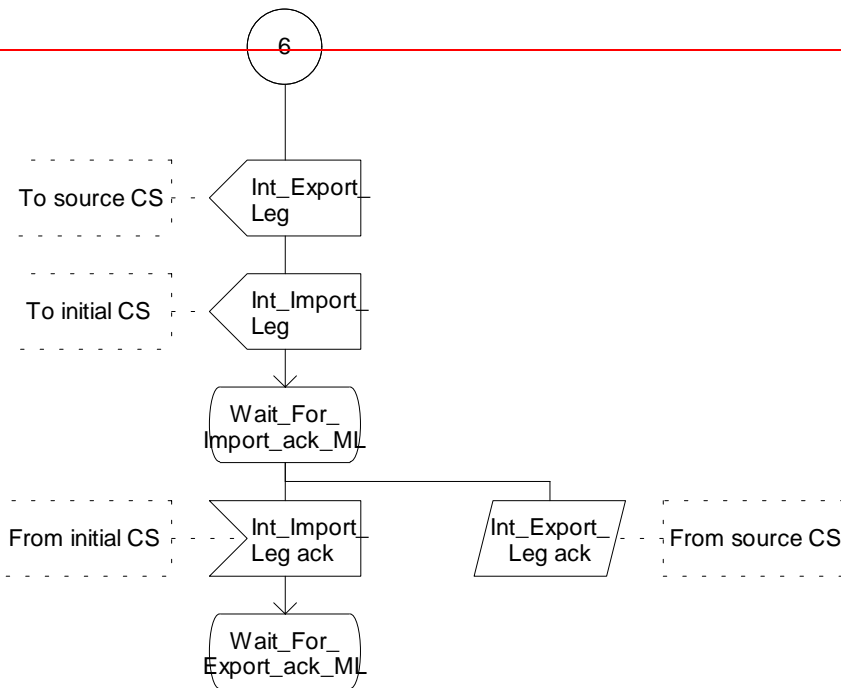
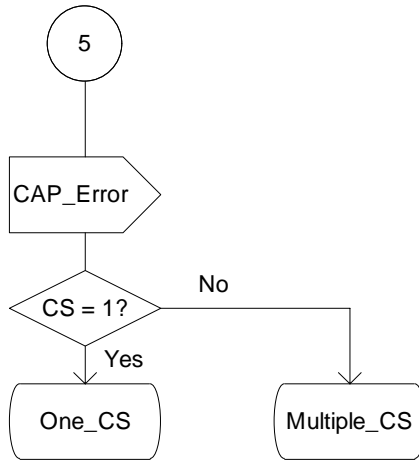


Figure 4.112p: Process CSA\_gsmSSF (sheet 16)

Process CSA\_gsmSSF

17(21)

/\* 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. \*/

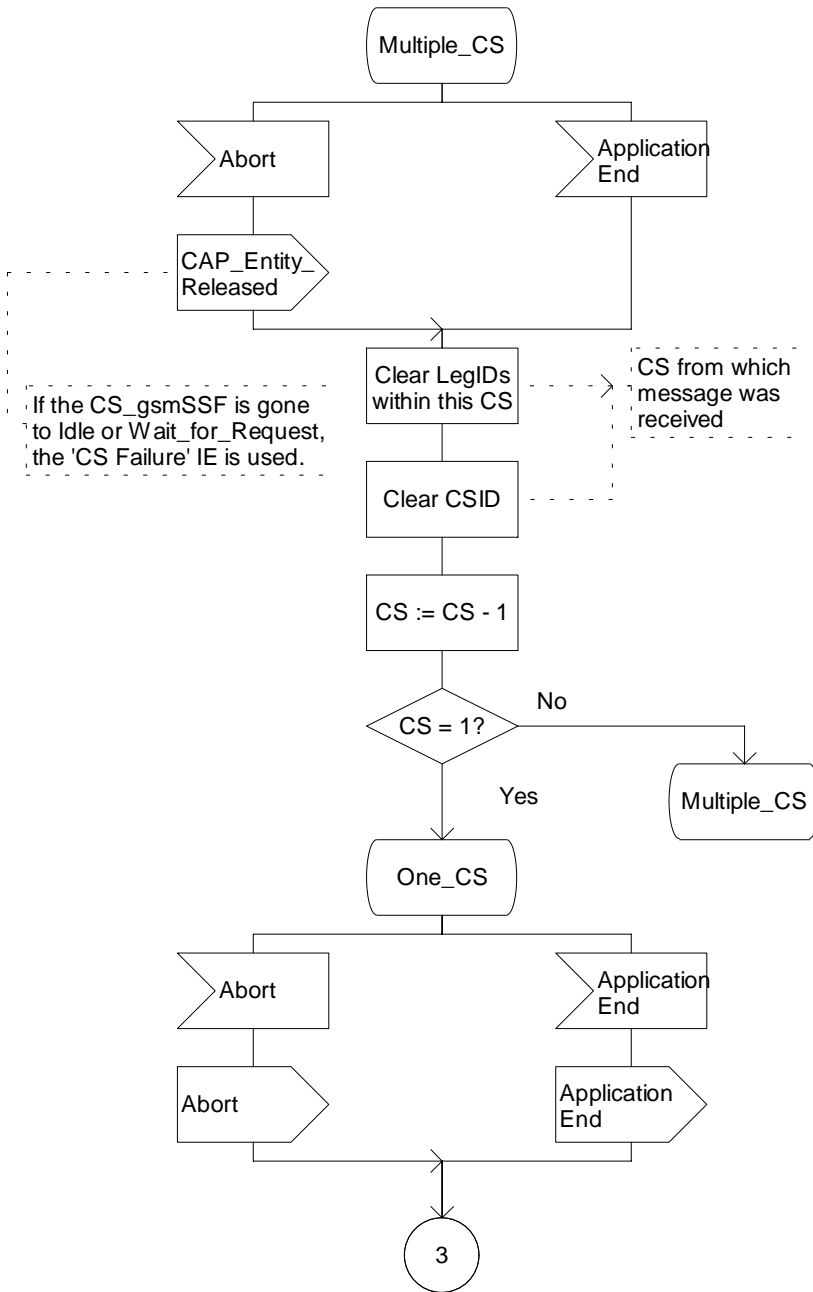


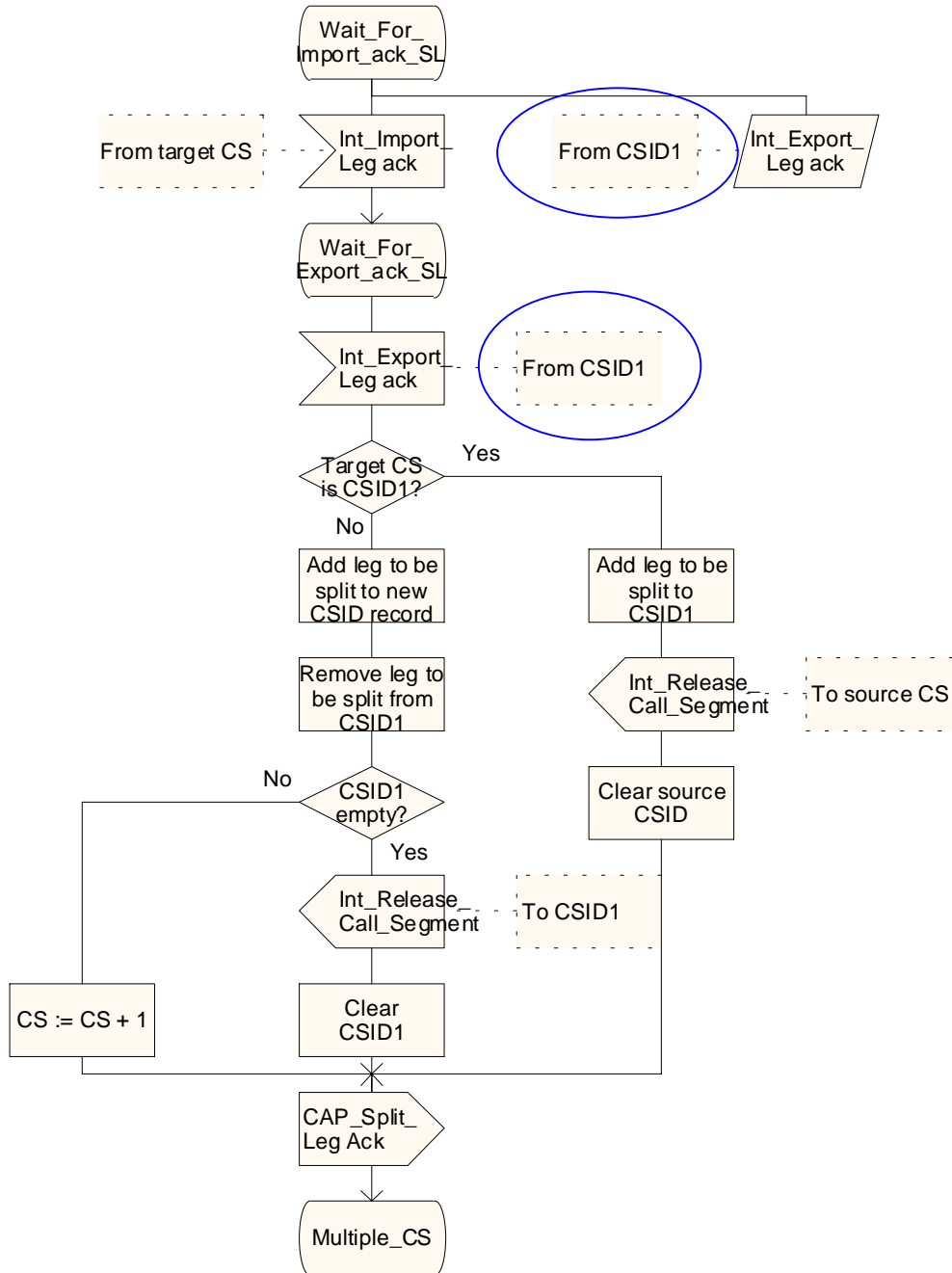
Figure 4.112q: Process CSA\_gsmSSF (sheet 17)

### Process CSA\_gsmSSF

18(21)

/\* 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. \*/



Process CSA\_gsmSSF

18(21)

/\* 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. \*/

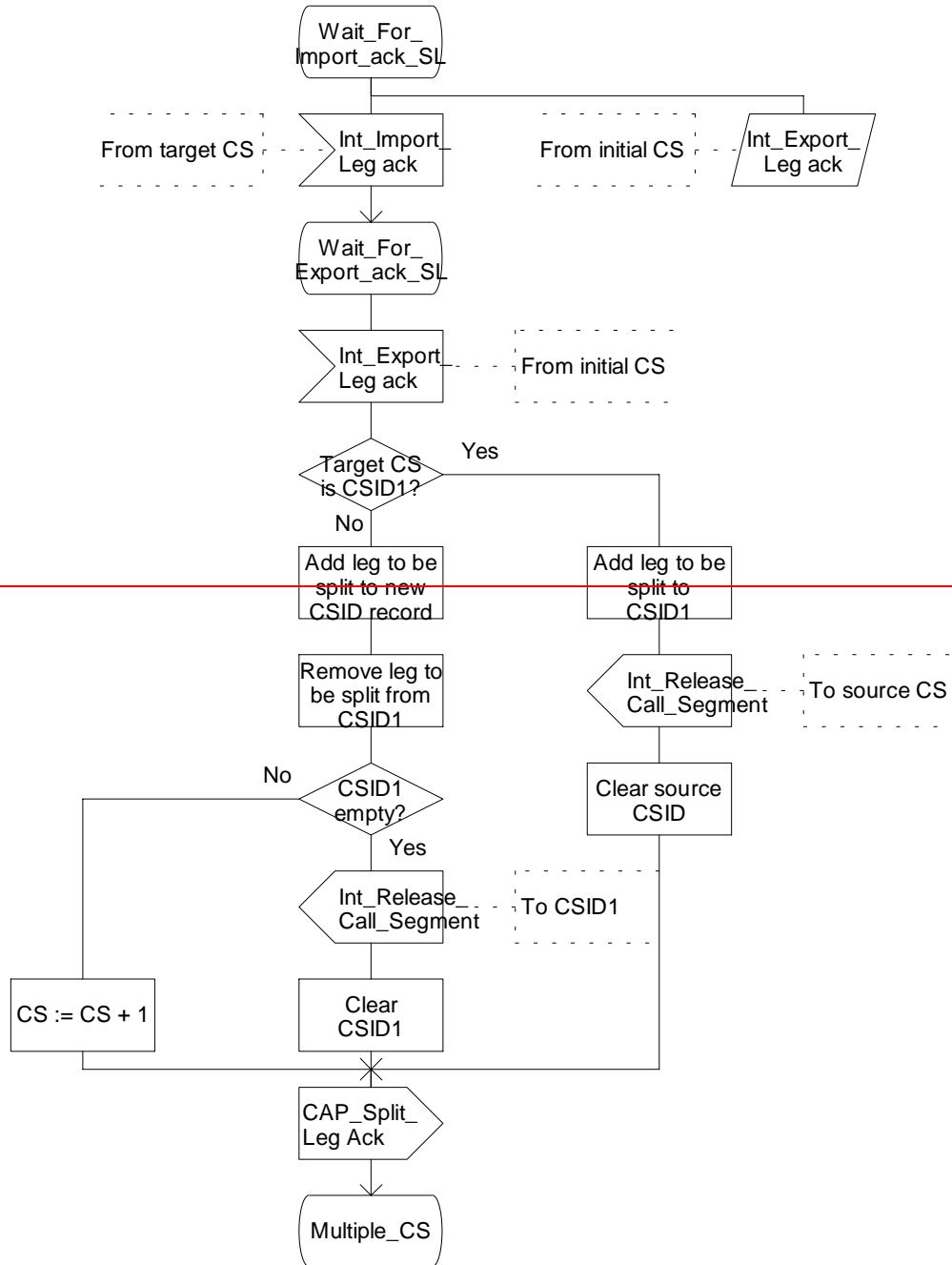


Figure 4.112r: Process CSA\_gsmSSF (sheet 18)



**\*\*\*\* Next Modified Section \*\*\*\***

## 4.6.2 gsmSCF to gsmSSF information flows

### 4.6.2.16 Move Leg

#### 4.6.2.16.1 Description

This IF requests the gsmSSF to move a leg to ~~the initial call segment~~ [CSID1](#). After the move the source call segment is deleted.

In moving the specified leg, the conditions of the leg: the armed EDPs, the Apply Charging Report pending, the Stored e-parameters, the Non-completed CAMEL logical call records, and the Call Information Report pending, are also applied for the same leg after the move.

#### 4.6.2.16.2 Information Elements

Information element name	Status	Description
Leg ID To Move	M	This IE indicates the leg that shall be moved.

**\*\*\*\* Next Modified Section \*\*\*\***

### 4.6.2.23 Split Leg

#### 4.6.2.23.1 Description

This IF is used to request the gsmSSF to separate a leg from ~~the initial call segment~~ [CSID1](#) and move it to a new call segment.

[If CSID1 does not exist then this IF is used to request the gsmSSF to move a leg into a newly created CSID1.](#)

In splitting the specified leg, the conditions of the leg: the armed EDPs, the Apply Charging Report pending, the Stored e-parameters, the Non-completed CAMEL logical call records, and the Call Information Report pending, are also applied for the same leg after split.

#### 4.6.2.23.2 Information Elements

Information element name	Status	Description
Leg To Be Split	M	This IE indicates the leg in the call to be split <del>from initial call segment</del> .
New Call Segment	M	This IE indicates the Call Segment ID to be assigned to the new call segment.

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

## CHANGE REQUEST

⌘ **29.078 CR 265** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ Change "Initial Call Segment" to "CSID1" ⌘		
<b>Source:</b>	⌘ Vodafone ⌘		
<b>Work item code:</b>	⌘ CAMEL4 ⌘	<b>Date:</b>	⌘ 20/06/2002 ⌘
<b>Category:</b>	⌘ <b>F</b> ⌘	<b>Release:</b>	⌘ Rel-5 ⌘
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> 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)

<b>Reason for change:</b>	⌘ There is confusion over whether the Initial Call Segment is the same as CSID1. The term "Initial Call Segment" is only used in the Move Leg and Split Leg descriptions, so the simplest solution it to replace the occurances of "Initial Call Segment" with "CSID1" ⌘
<b>Summary of change:</b>	⌘ Replacement of the occurances of "Initial Call Segment" with "CSID1". ⌘
<b>Consequences if not approved:</b>	⌘ Confusion remains ⌘

<b>Clauses affected:</b>	⌘ 11.23 and 11.33 ⌘										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘ 23.078-CR 423 (N2-020681) ⌘	
Y	N										
X											
	X										
	X										
<b>Other comments:</b>	⌘ ⌘ ⌘										

**\*\*\*\* First Modified Section \*\*\*\***

## 11.23 MoveLeg procedure

### 11.23.1 General Description

The gsmSCF uses this operation to request the gsmSSF to move the leg from its current Call Segment to ~~the initial Call Segment (CS-ID=1)~~ [CSID1](#).

#### 11.23.1.1 Parameters

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

### 11.23.2 Responding entity (gsmSSF)

#### 11.23.2.1 Normal procedure

gsmSSF preconditions:

- 1) A control relationship exists between the gsmSCF and the gsmSSF.
- 2) The corresponding BCSM is in the alerting, active or mid-call phase.
- 3) The CS\_gsmSSF FSM for each Call Segment involved is in the state "Waiting\_for\_Instructions" or in the state "Monitoring".

gsmSSF postconditions:

- 1) The gsmSSF performs the appropriate call processing actions.
- 2) The CS\_gsmSSF FSM for ~~the initial Call Segment~~ [CSID1](#) transits to the state "Waiting\_for\_Instructions". The BCSM instances within ~~the initial Call Segment~~ [CSID1](#) transit to the O\_Mid\_Call DP or to the T\_Mid\_Call DP, if not already suspended. Note that no Mid\_Call EDP will 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.

#### 11.23.2.2 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 Modified Section \*\*\***

## 11.33 SplitLeg Procedure

### 11.33.1 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.

#### 11.33.1.1 Parameters

- legToBeSplit:  
This parameter indicates the party in the call to be split from the source Call Segment.
- newCallSegment:  
This parameter indicates the ~~CallSegment~~CallSegmentID to be assigned to the newly-created Call Segment.

### 11.33.2 Responding entity (gsmSSF)

#### 11.33.2.1 Normal procedure

gsmSSF preconditions:

- 1) A control relationship exists between the gsmSCF and the gsmSSF.
- 2) ~~The initial Call Segment~~CSID1 is either the source Call Segment or the target Call Segment.
- 3) The BCSM for the leg to be split is in the state O\_Active, T\_Active, O\_Mid\_Call or T\_Mid\_Call.

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. Note that no Mid\_Call EDP will be reported for this case.
- 5) A Return Result shall be sent to the gsmSCF immediately after successful execution of this operation.

#### 11.33.2.2 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 424** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ Removal of DP_MidCall state from CAMEL_EXPORT_LEG_MSC		
<b>Source:</b>	⌘ Vodafone		
<b>Work item code:</b>	⌘ CAMEL4	<b>Date:</b>	⌘ 03/07/2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-5
	<i>Use one of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<i>Use one of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>Rel-4</b> (Release 4) <b>Rel-5</b> (Release 5) <b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ CAMEL_EXPORT_LEG_MSC contains the DP_MidCall State. However, this has now been incorporated in the Leg1 and Leg2 processes and procedures (e.g. CAMEL_OCH_LEG1_MSC and CAMEL_OCH_LEG2_MSC).
<b>Summary of change:</b>	⌘ Removal of DP_MidCall state from CAMEL_EXPORT_LEG_MSC. As a consequence of this, CAMEL_EXPORT_LEG_MSC cannot return an Answer result, so CAMEL_ICA_MSC has also been modified.
<b>Consequences if not approved:</b>	⌘ If a leg is exported (due to Move Leg or Split Leg operation), Continue/CWA will need to be sent twice. Disconnect Leg, Release etc. are not available in the first DP_MidCall (in CAMEL_EXPORT_LEG_MSC).

<b>Clauses affected:</b>	⌘ 4.5.2.1 and 4.5.6.1						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
	Y	N					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications					
<b>Other comments:</b>	⌘ Procedure CAMEL_EXPORT_LEG_MSC; Procedure CAMEL_ICA_MSC;						

**\*\*\* First Modified Section \*\*\***

4.5.2.1 Handling of mobile originated calls in the originating MSC

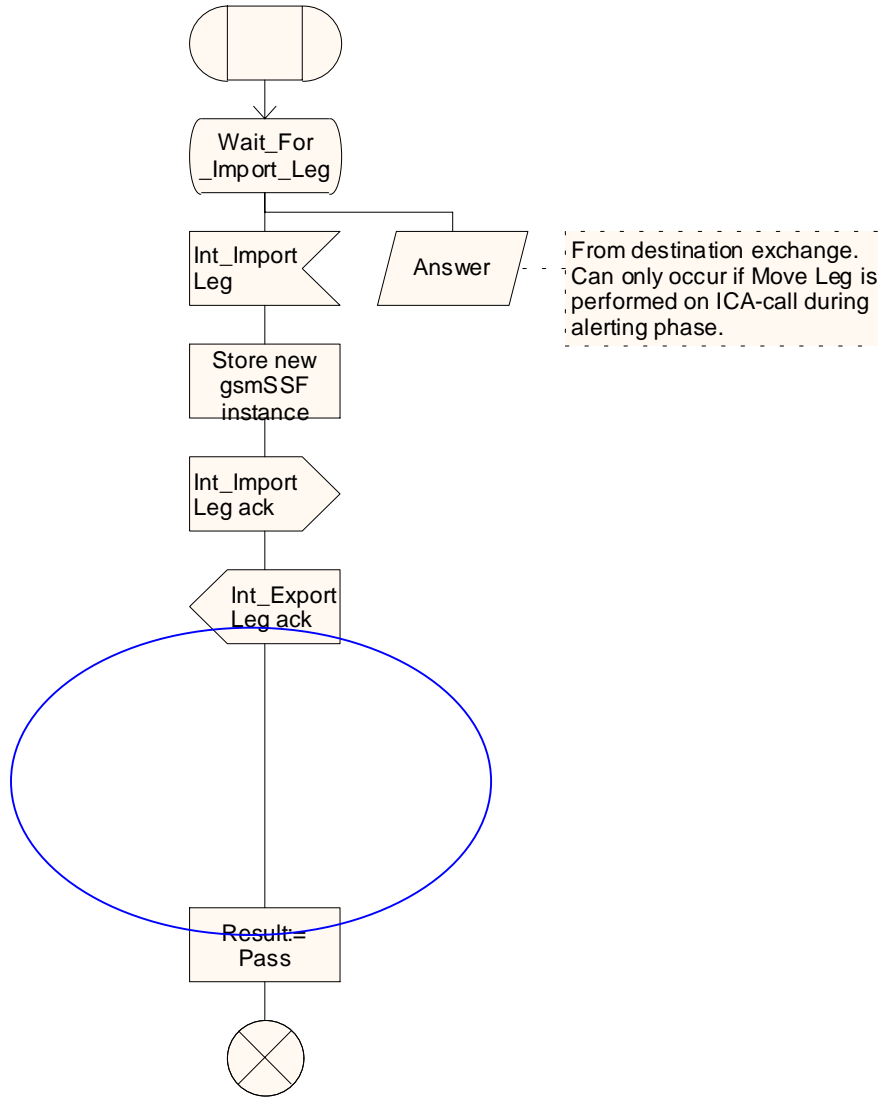
...

# Procedure CAMEL\_EXPORT\_LEG\_MSC

1(2)

/\* A procedure in the MSC to change the call segment for a leg. \*/

/\* Signals to/from the left are to/from the old gsmSSF  
Signals to/from the right are to/from the new gsmSSF unless otherwise stated \*/



Procedure CAMEL\_EXPORT\_LEG\_MSC

1(2)

/\* A procedure in the MSC to change the call segment for a leg. \*/

/\* Signals to/from the left are to/from the old gsmSSF. Signals to/from the right are to/from the new gsmSSF unless otherwise stated \*/

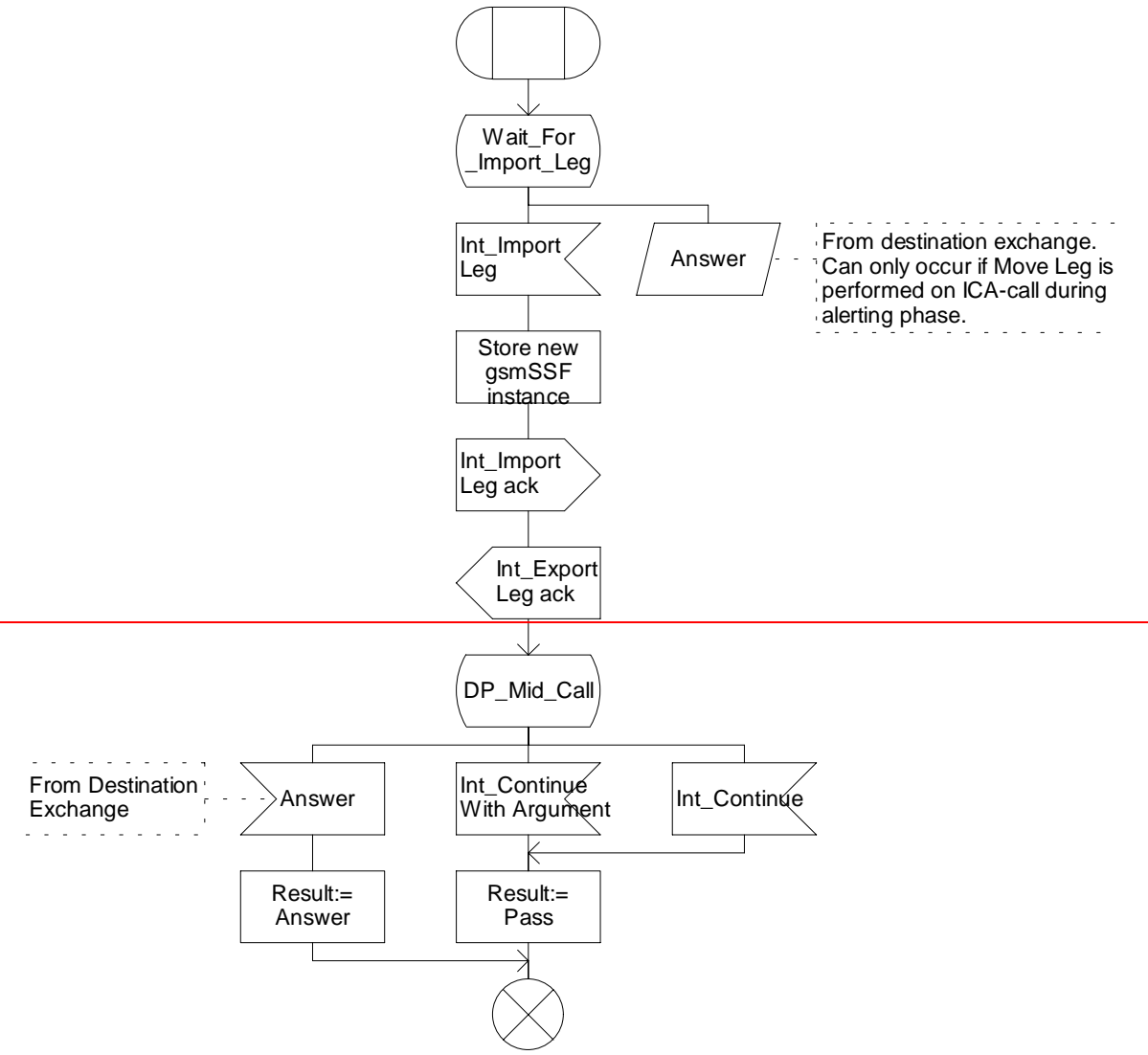


Figure 4.33a: Procedure CAMEL\_EXPORT\_LEG\_MSC (sheet 1)

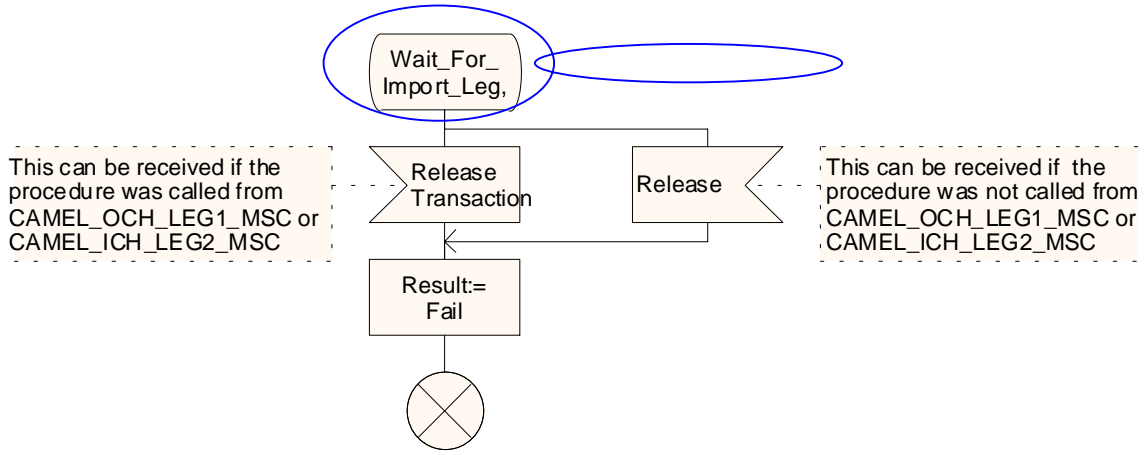


# Procedure CAMEL\_EXPORT\_LEG\_MSC

2(2)

/\* A procedure in the MSC to change the call segment for a leg. \*/

/\* Signals to/from the left are to/from the BSS. Signals to/from the right are to/from the originating of destination exchange. \*/



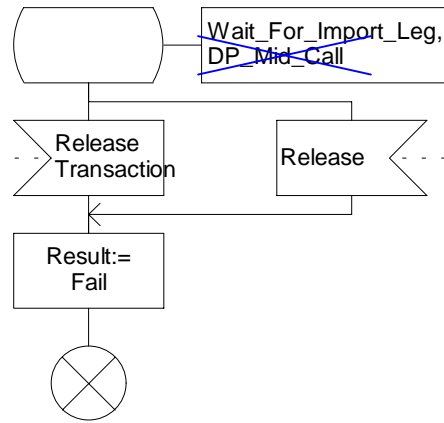
Procedure CAMEL\_EXPORT\_LEG\_MSC

2(2)

/\* A procedure in the MSC to change the call segment for a leg. \*/

/\* Signals to/from the left are to/from the BSS. Signals to/from the right are to/from the originating of destination exchange. \*/

This can be received if the procedure was called from CAMEL\_OCH\_LEG1\_MSC or CAMEL\_ICH\_LEG2\_MSC



This can be received if the procedure was not called from CAMEL\_OCH\_LEG1\_MSC or CAMEL\_ICH\_LEG2\_MSC

Figure 4.33b: Procedure CAMEL\_EXPORT\_LEG\_MSC (sheet 2)

**\*\*\* Next Modified Section \*\*\***

4.5.6.1 Handling of gsmSCF initiated calls in the MSC ...

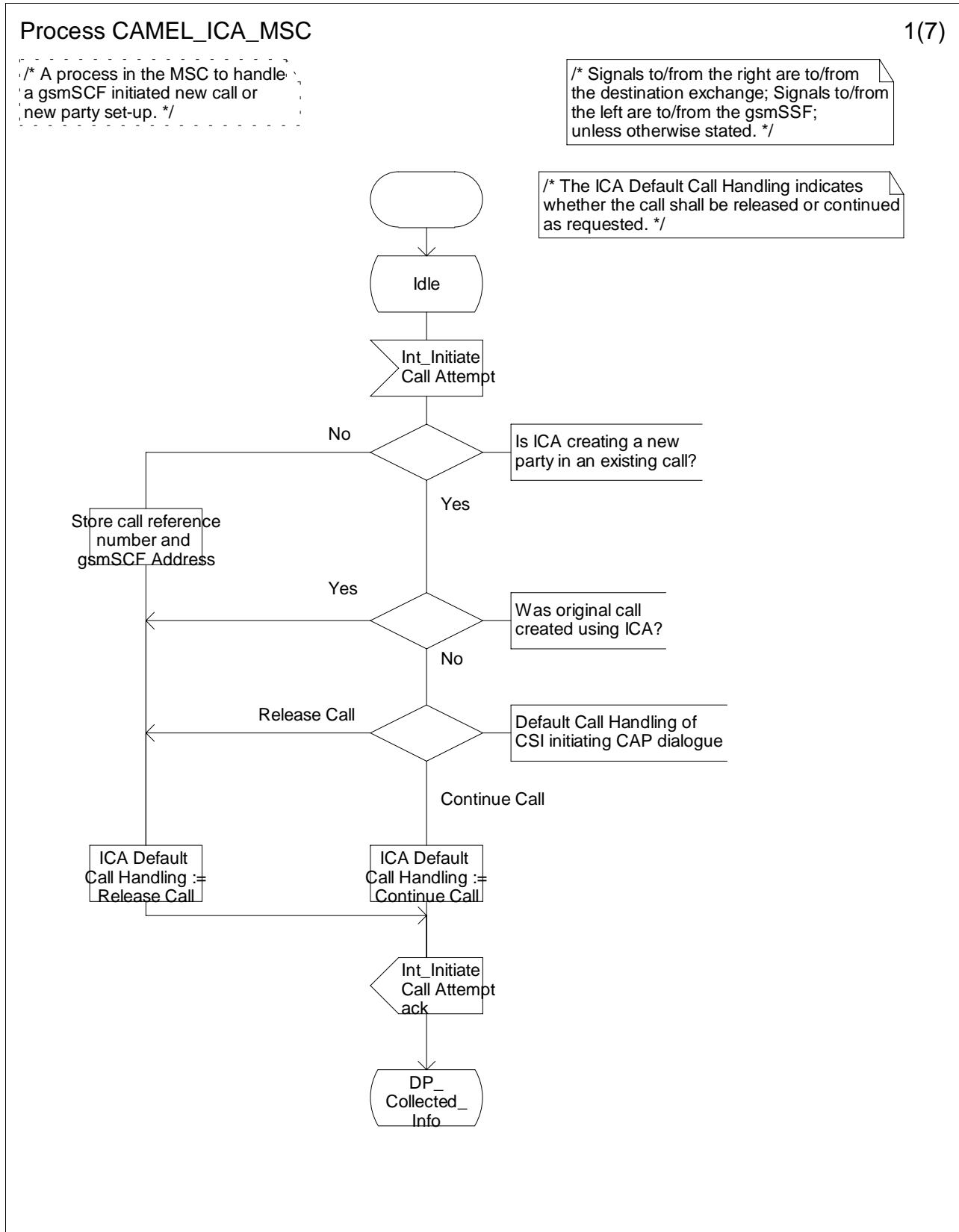


Figure 4.85a: Process CAMEL\_ICA\_MSC (sheet 1)

Process CAMEL\_ICA\_MSC

2(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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

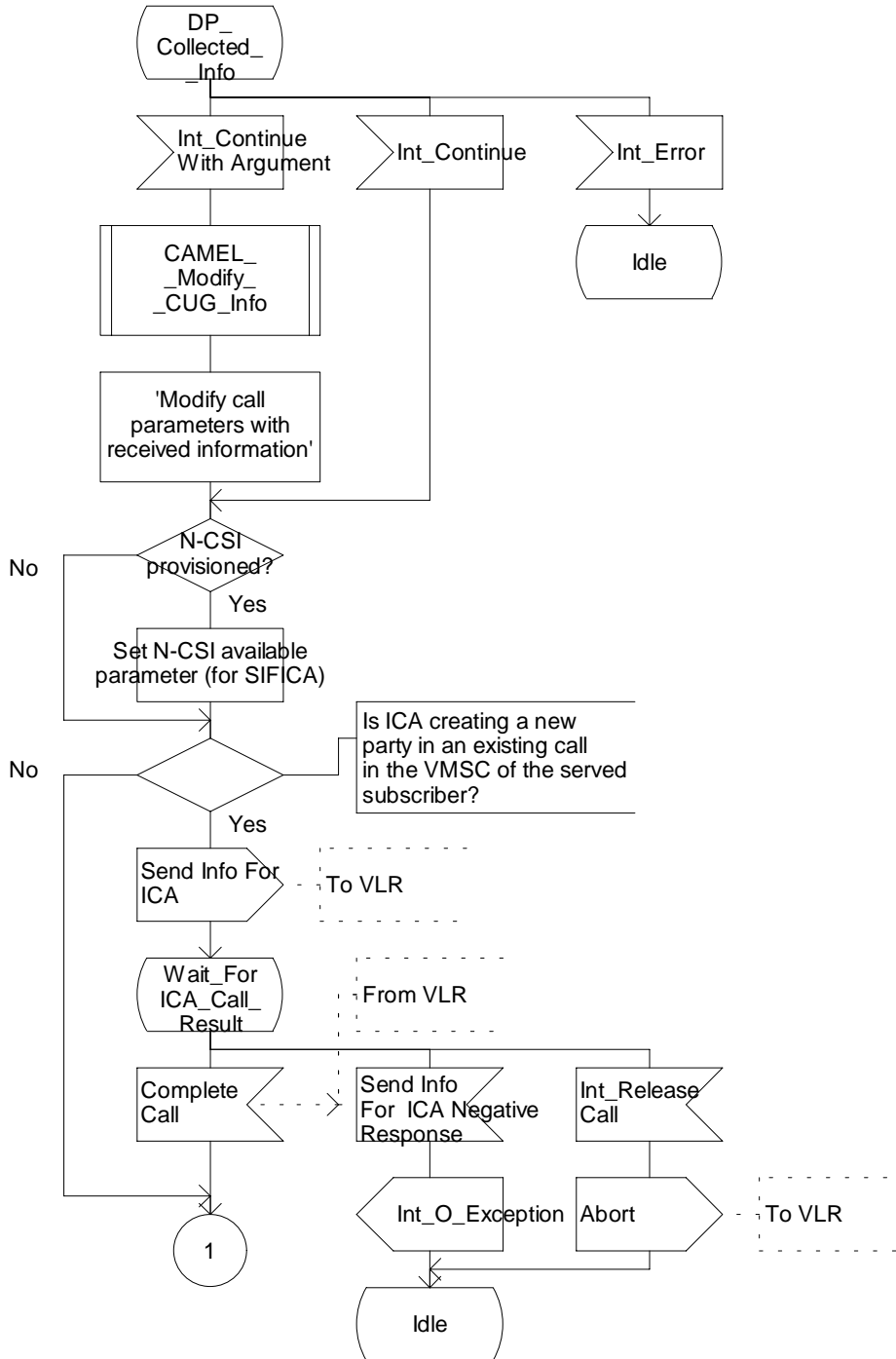


Figure 4.85b: Process CAMEL\_ICA\_MSC (sheet 2)

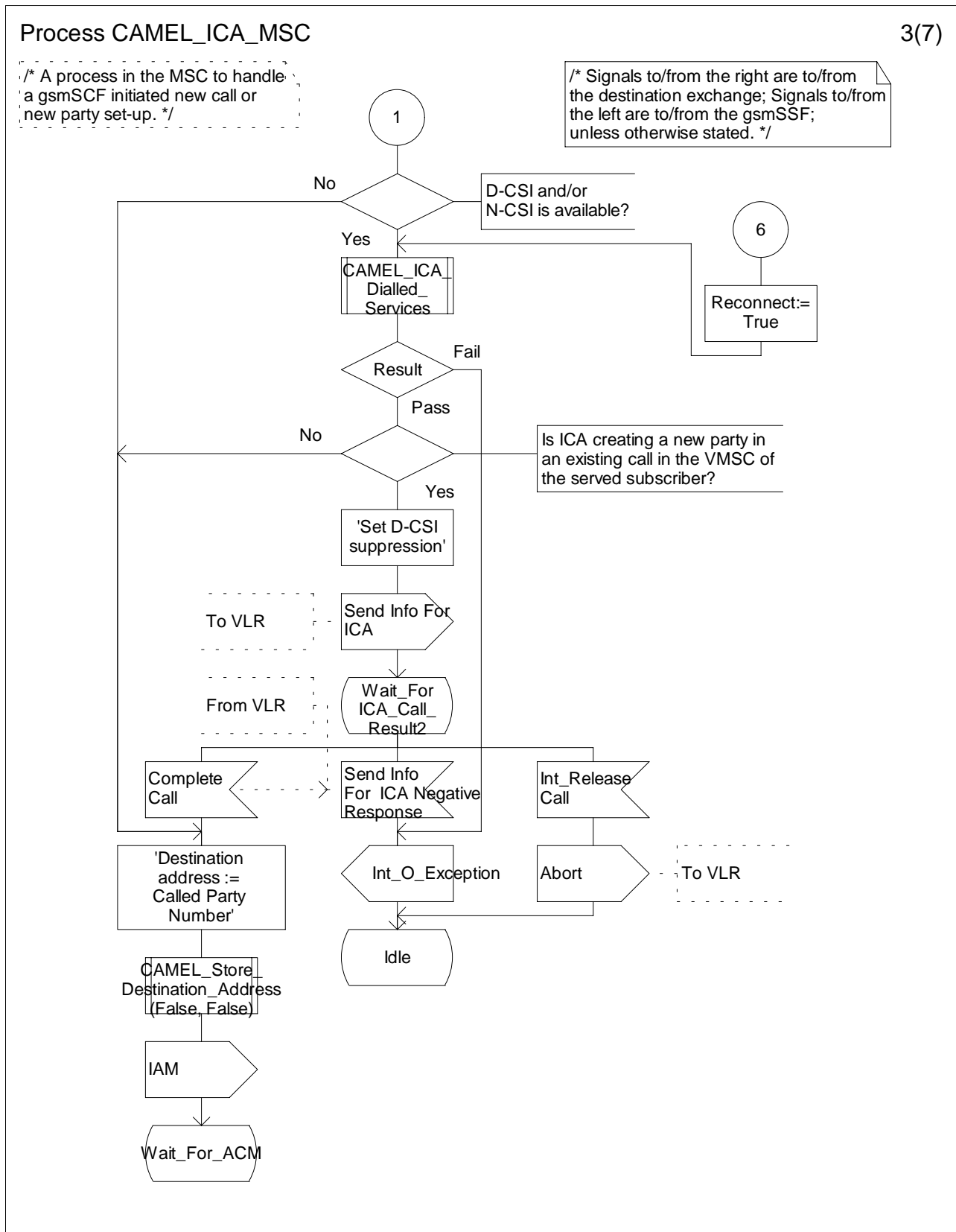


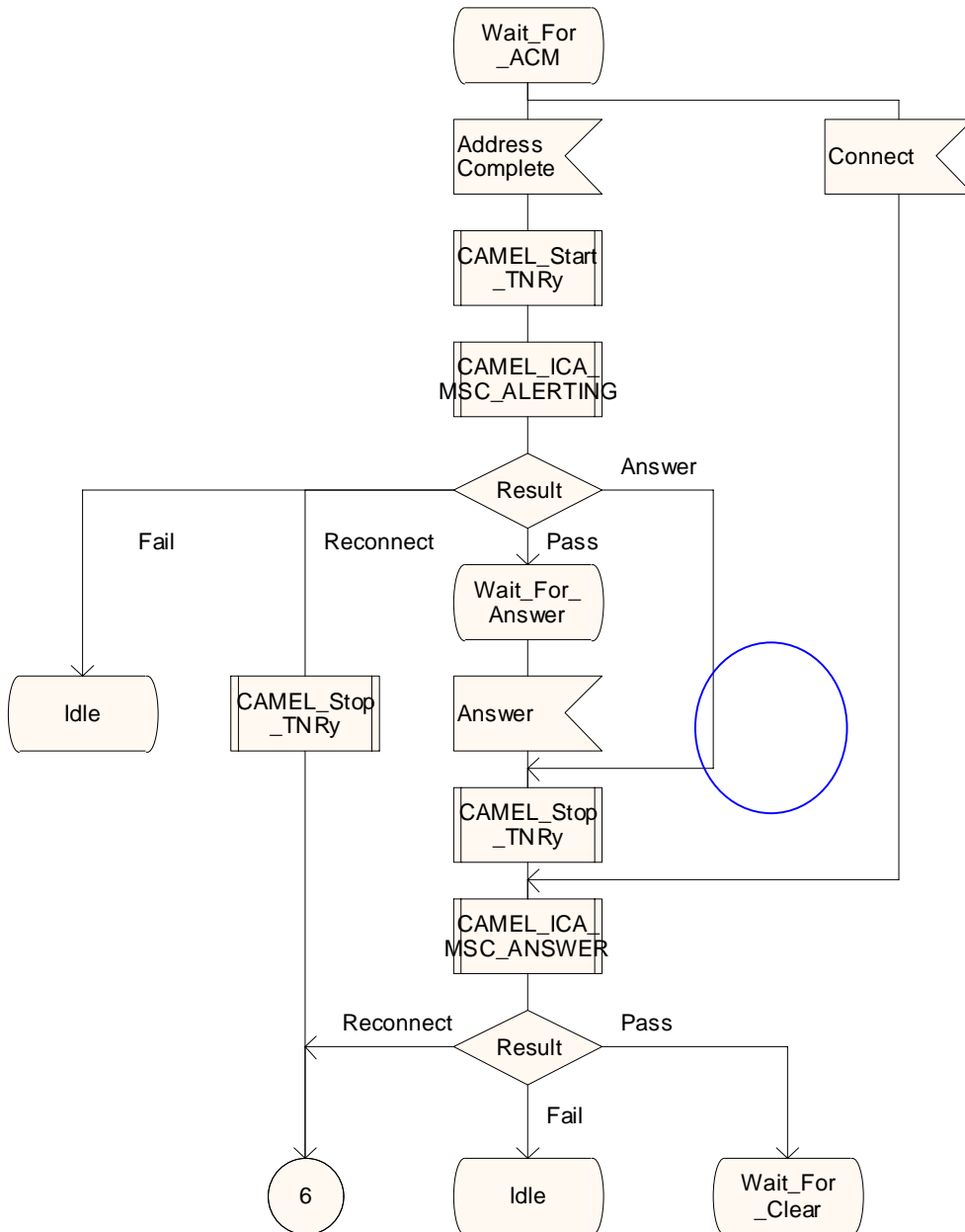
Figure 4.85c: Process CAMEL\_ICA\_MSC (sheet 3)

### Process CAMEL\_ICA\_MSC

4(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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



### Process CAMEL\_ICA\_MSC

4(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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

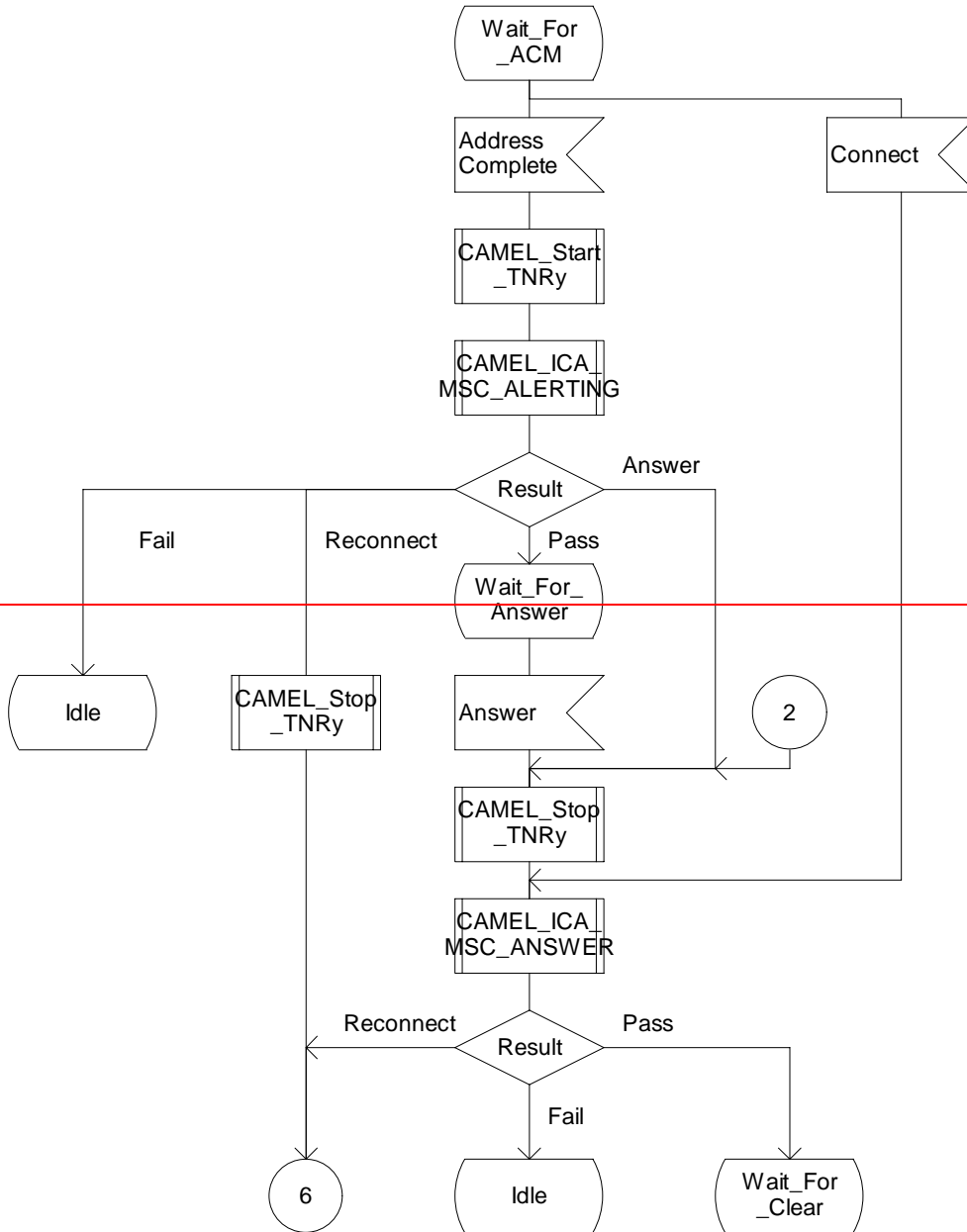


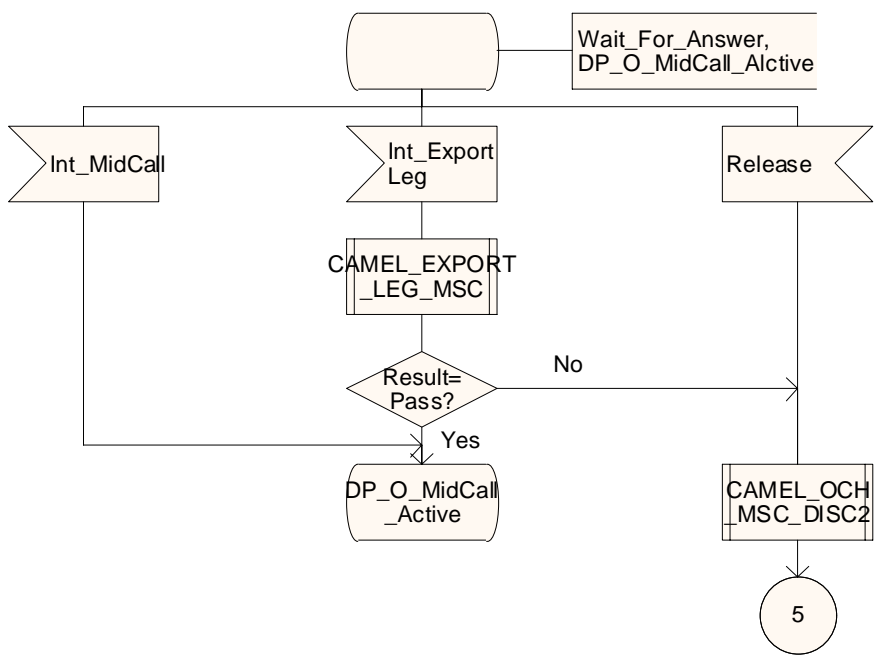
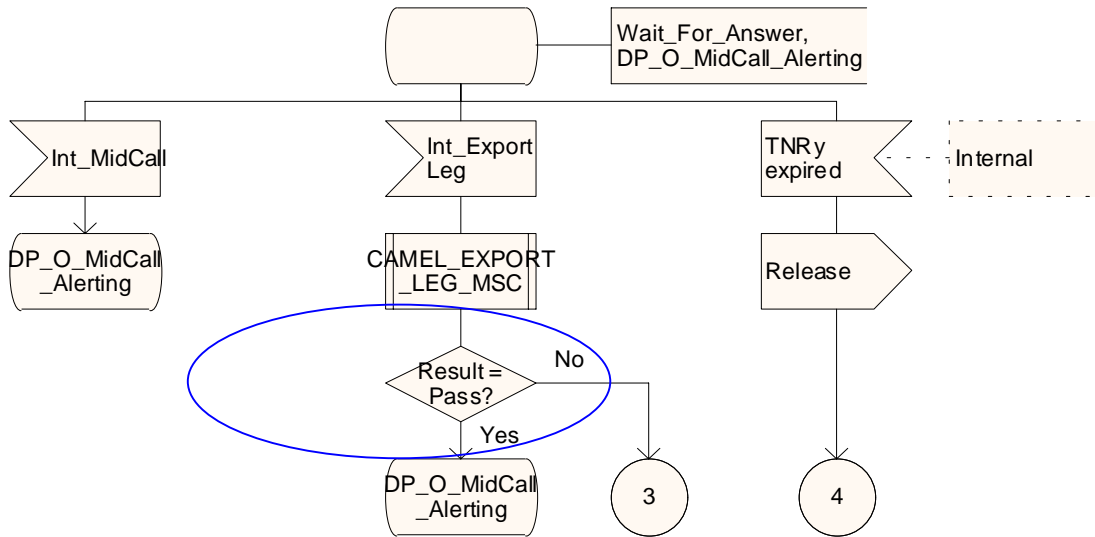
Figure 4.85d: Process CAMEL\_ICA\_MSC (sheet 4)

### Process CAMEL\_ICA\_MSC

5(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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





Process CAMEL\_ICA\_MSC

5(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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

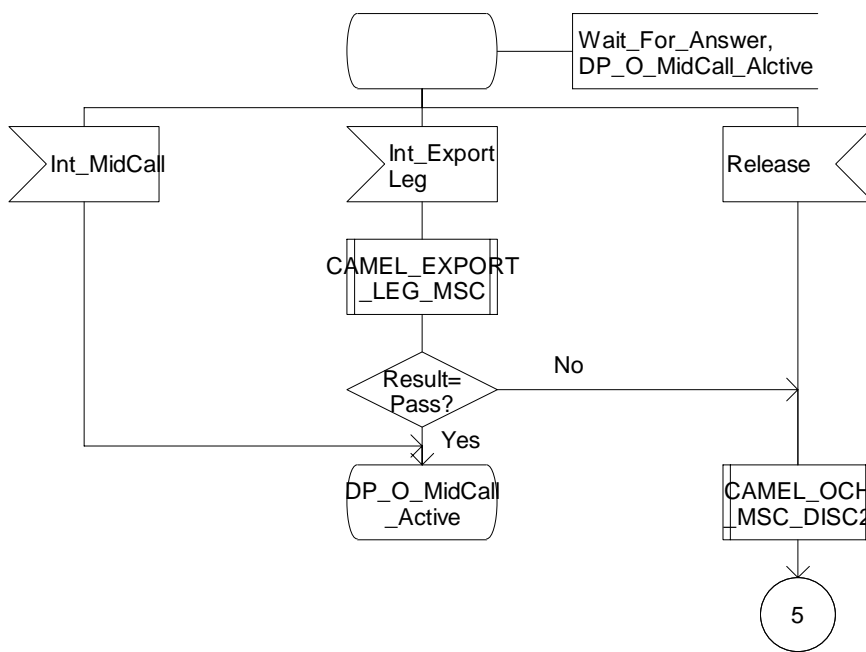
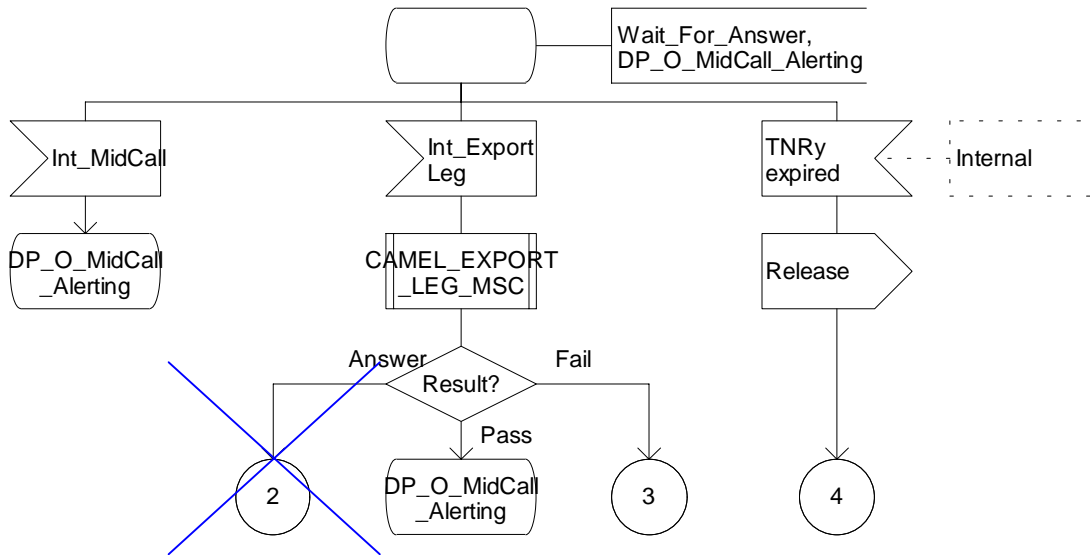


Figure 4.85e: Process CAMEL\_ICA\_MSC (sheet 5)

Process CAMEL\_ICA\_MSC

6(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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

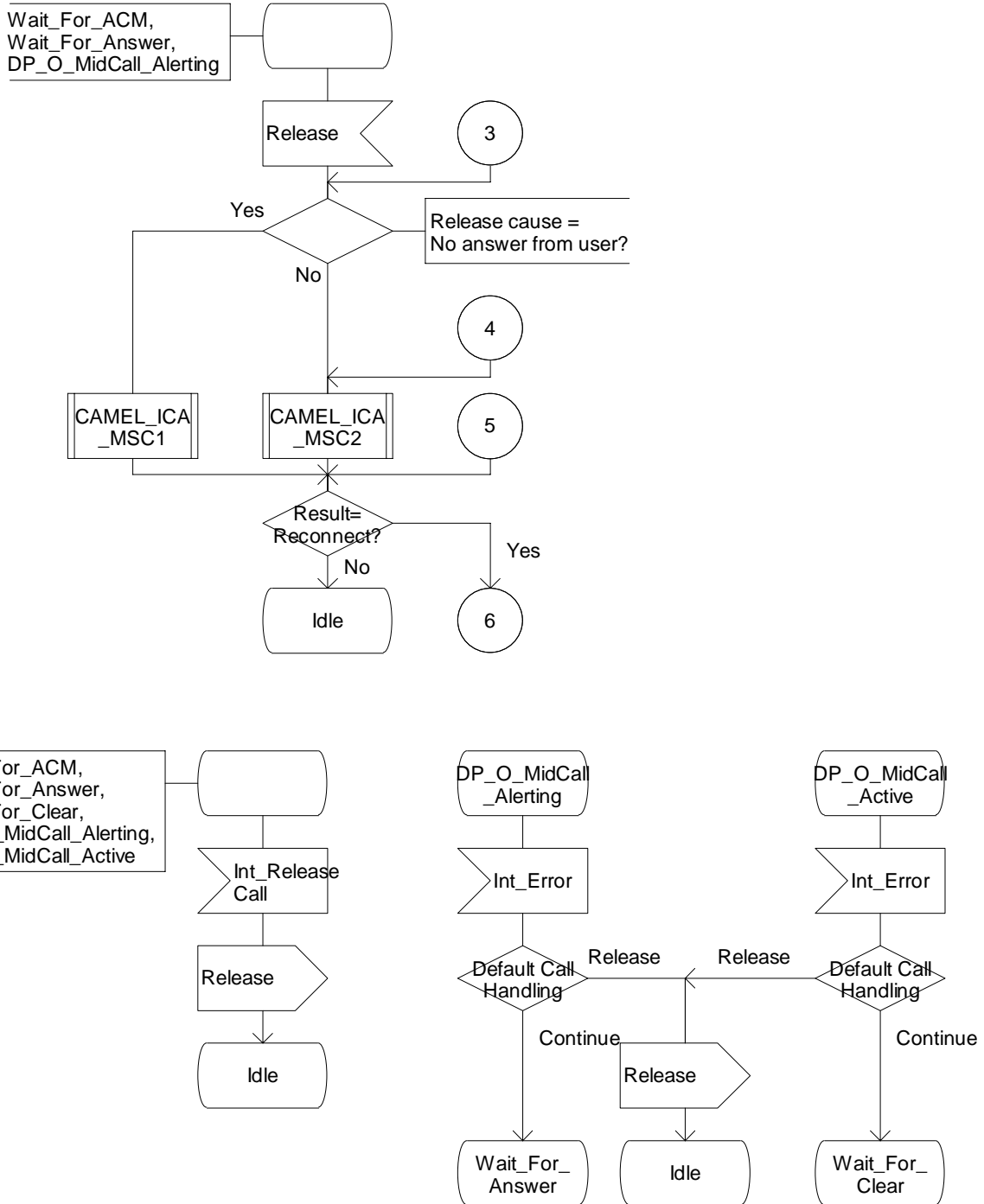


Figure 4.85f: Process CAMEL\_ICA\_MSC (sheet 6)

### Process CAMEL\_ICA\_MSC

7(7)

/\* A process in the MSC to handle a gsmSCF initiated new call or new party set-up. \*/

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

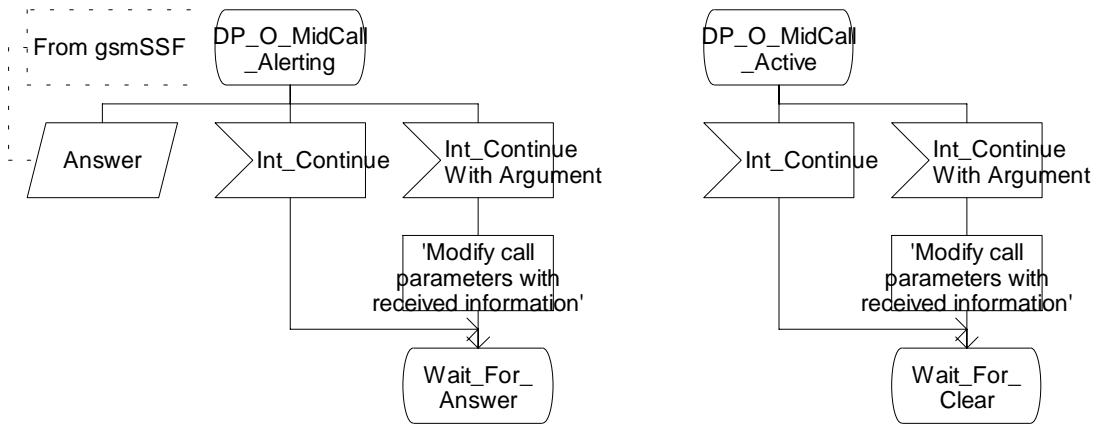
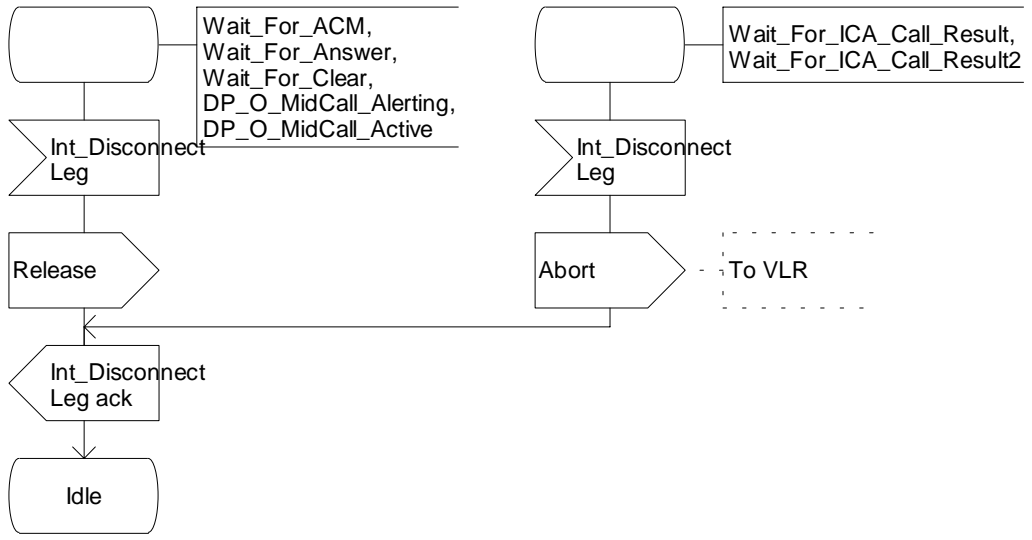


Figure 4.85g: Process CAMEL\_ICA\_MSC (sheet 7) ...

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

## CHANGE REQUEST

⌘ **23.078 CR 425** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ FtN in Perform Call Forwarding ack		
<b>Source:</b>	⌘ Vodafone		
<b>Work item code:</b>	⌘ CAMEL4	<b>Date:</b>	⌘ 08/07 2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ If Call Forwarding is invoked, the forwarding CAMEL service may send a Disconnect Leg operation for Leg 2 indicating that Leg 1 should be kept but the call should not be routed to the destination. This means that there will not be a Forwarded-to Number. However, the Forwarded-to Number is a mandatory parameter in Perform Call Forwarding ack.
<b>Summary of change:</b>	⌘ Statement in 23.078 that if the call processing is to continue "without Leg 2" then the MSC populates the Forwarded-to Number parameter in Perform Call Forwarding ack with a dummy number to be used in the internal IAM in the MSC. This means that no additional changes are required in 23.018.
<b>Consequences if not approved:</b>	⌘ ncompatibility – It will not be possible to populate a mandatory parameter in Perform Call Forwarding ack.

<b>Clauses affected:</b>	⌘ 4.5.5 and 4.6.x (new)						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	⌘ procedure CAMEL_MT_CF_LEG1_MSC affected						

**\*\*\* First Modified Section \*\*\***

4.5.5 Handling of forwarded calls

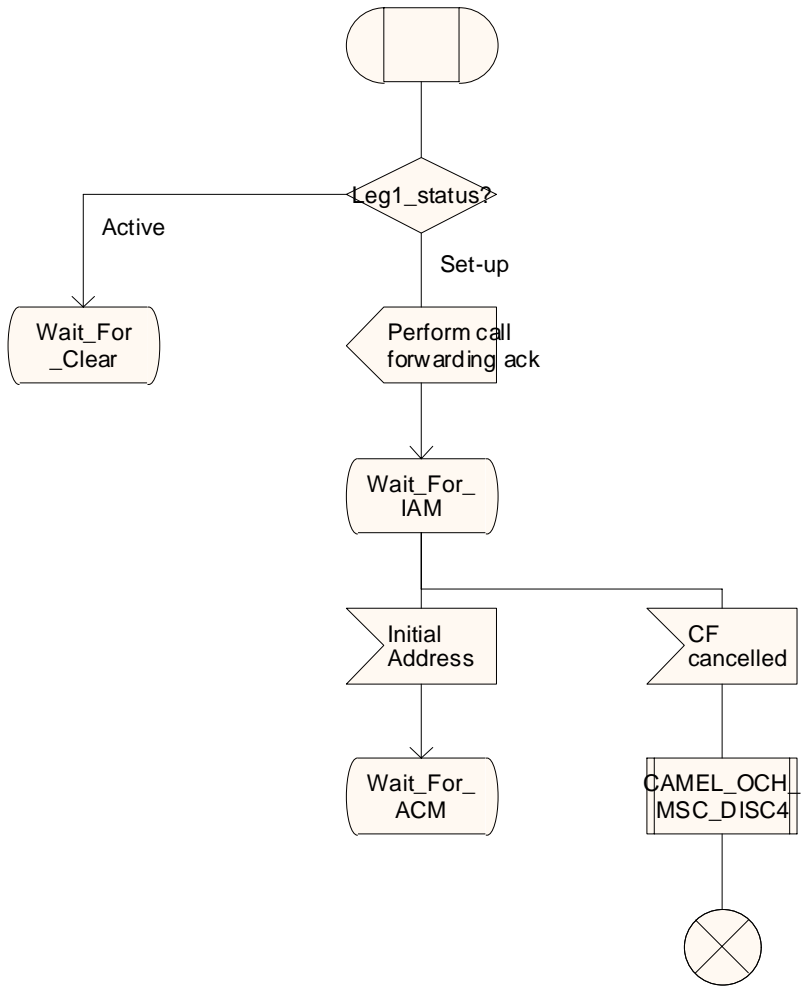
...

### Procedure CAMEL\_MT\_CF\_LEG1\_MSC

1(4)

/\* A procedure in the MSC to handle leg 1 of a forwarded call. \*/

/\* Signals to/from the left are to/from the parent process; Signals to/from the right are to from the gsmSSF; unless otherwise stated. \*/



### Procedure CAMEL\_MT\_CF\_LEG1\_MSC

1(4)

/\* A procedure in the MSC to handle leg 1 of a forwarded call. \*/

/\* Signals to/from the left are to/from the parent process; Signals to/from the right are to from the gsmSSF; unless otherwise stated. \*/

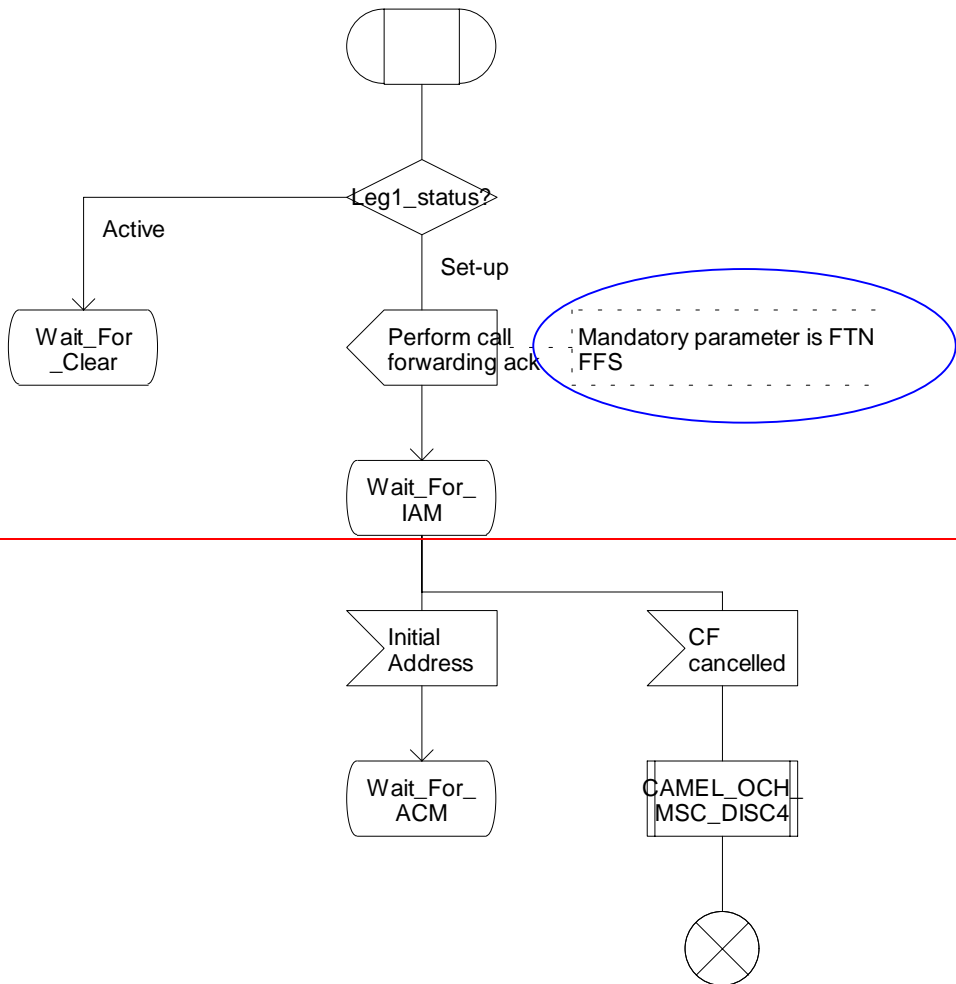


Figure 4.82a: Procedure CAMEL\_MT\_CF\_LEG1\_MSC (sheet 1)

...



**\*\*\* Next Modified Section \*\*\***[4.6.x Internal MSC information flows](#)[4.6.x.1 Perform Call Forwarding ack](#)[4.6.x.1.1 Description](#)

[This IF is described in 3GPP TS 23.018 \[12\]; it is used to inform the MSC that Call Forwarding is taking place.](#)

[4.6.x.1.2 Information Elements](#)

[Perform Call Forwarding ack is defined in 3GPP TS 23.018 \[12\]. The following differences apply:](#)

<u><a href="#">Information element name</a></u>	<u><a href="#">Status</a></u>	<u><a href="#">Description</a></u>
<u><a href="#">Forwarded-to Number</a></u>	<u><a href="#">M</a></u>	<u><a href="#">If the Forwarded-to Number is not available due to CAMEL handling (a Disconnect Leg operation has been received for Leg 2) then the MSC shall populate this parameter with a dummy number.</a></u>

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

CR-Form-v7

## CHANGE REQUEST

⌘ **29.078 CR 266** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘	Introduction of CPH Definitions	
<b>Source:</b>	⌘	Vodafone	
<b>Work item code:</b>	⌘	CAMEL4	<b>Date:</b> ⌘ 20/06/2002
<b>Category:</b>	⌘	<b>D</b>	<b>Release:</b> ⌘ Rel-5
		<i>Use one of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	<i>Use one of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>Rel-4</b> (Release 4) <b>Rel-5</b> (Release 5) <b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘	CSID1 and CPH introduced into 29.078 but not described in abbreviations list. CS described but used with a different meaning in one instance of the text
<b>Summary of change:</b>	⌘	Addition of CSID and CPH to abbreviations list. CS expanded to Circuit Switched once in the text.
<b>Consequences if not approved:</b>	⌘	No definitions of CSID and CPH despite their use in the text. Ambiguous use of CS

<b>Clauses affected:</b>	⌘	3, 11.24.1									
<b>Other specs affected:</b>	⌘	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N	X			X		X	Other core specifications ⌘ 23.078 CR 432 (N2-020691) Test specifications O&M Specifications
		Y	N								
		X									
	X										
	X										
<b>Other comments:</b>	⌘										

**\*\*\* First Modified Section \*\*\***

## 3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AC	Application Context
AE	Application Entity
AEI	Application Entity Invocation
APDU	Application Protocol Data Unit
ASE	Application Service Element
ASN.1	Abstract Syntax Notation One
BCSM	Basic Call State Model
CAP	CAMEL Application Part
CCF	Call Control Function
CCITT	International Telegraph and Telephone Consultative Committee
CS1	Capability Set 1
CS2	Capability Set 2
<a href="#">CPH</a>	<a href="#">Call Party Handling</a>
CS	Call Segment
	<a href="#">Circuit Switched</a>
CSA	Call Segment Association
<a href="#">CSID</a>	<a href="#">Call Segment (followed by an identification Number e.g. CSID1)</a>
CSI	CAMEL Subscription Information
DP	Detection Point
DSS1	Digital Subscriber Signalling System No. One
EDP	Event Detection Point
EDP-N	Event Detection Point - Notification
EDP-R	Event Detection Point - Request
FE	Functional Entity
FEAM	Functional Entity Access Manager
ffs	for further study
FSM	Finite State Model
gprsSSF	GPRS Service Switching Function
gsmSCF	GSM Service Control Function
gsmSRF	GSM Specialized Resource Function
gsmSSF	GSM Service Switching Function
GT	Global Title
ID	IDentifier
IN	Intelligent Network
INAP	Intelligent Network Application Protocol
IP	Intelligent Peripheral
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
LE	Local Exchange
MACF	Multiple Association Control Function
MO	Mobile Originated
MS	Mobile Station
MSC	Mobile services Switching Centre
MT	Mobile Terminated
MTP	Message Transfer Part
NA	North American
O-BCSM	Originating BCSM
PDU	Protocol Data Unit
PE	Physical Entity
PIA	Point In Association

PIC	Point In Call
PLMN	Public Land Mobile Network
PSTN	Public Switched Telecommunication Network
ROS	Remote Operations Service
ROSE	ROS Element
SACF	Single Association Control Function
SAO	Single Association Object
SCCP	Signalling Connection Control Part
SCP	Service Control Point
SDL	System Description Language
SL	Service Logic
SLP	Service Logic Program
SLPI	Service Logic Program Instance
SM	Short Message
SM-CP	Short Message Control Protocol
SMS	Short Message Service
SMSC	Short Message Service Centre
smsSSF	Short Message Service Service Switching Function
SMF	Service Management Function
SRME	gsmSRF Management Entity
SRSM	gsmSRF Call State Model
SS7	Signalling System no. 7
smsSSF	SMS Service Switching Function
SSME	gsmSSF Management Entity
SSN	Sub-System Number
SSP	Service Switching Point
T-BCSM	Terminating BCSM
TC	Transaction Capabilities
TCAP	Transaction Capabilities Application Part
TDP	Trigger Detection Point
TDP-R	Trigger Detection Point - Request

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<b>**** End Of Document ****</b>
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## CHANGE REQUEST

⌘ **23.078 CR 412** ⌘ rev **1** ⌘ Current version: **5.0.0** ⌘

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

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

<b>Title:</b>	⌘ CPH clarification on overall SDL architecture		
<b>Source:</b>	⌘ Nokia		
<b>Work item code:</b>	⌘ CAMEL4	<b>Date:</b>	⌘ 28/6/2002
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ Rel-5
	<i>Use <u>one</u> of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)

<b>Reason for change:</b>	⌘ Call Party Handling concept is a bit unclear. This CR intends to help understanding of various SDLs in 23.078 and 23.018.
<b>Summary of change:</b> ⌘[H14]	<ul style="list-style-type: none"> <li>Mapping from Processes to CPH concepts is added.</li> <li>It is clarified that legs are not moved between BCSMs.</li> <li>Only one CSA per CAP dialogue in CAMEL4.</li> <li>Active legs in the same CS hear each other.</li> </ul>
<b>Consequences if not approved:</b>	⌘ None. This CR makes it easier to understand the spec, no technical change is introduced.

<b>Clauses affected:</b>	⌘ 4.5.1										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
<b>Other comments:</b>	⌘										

## 4.5.1 Overall SDL architecture

The following mapping from the SDL procedures to the Intelligent Network concepts apply:

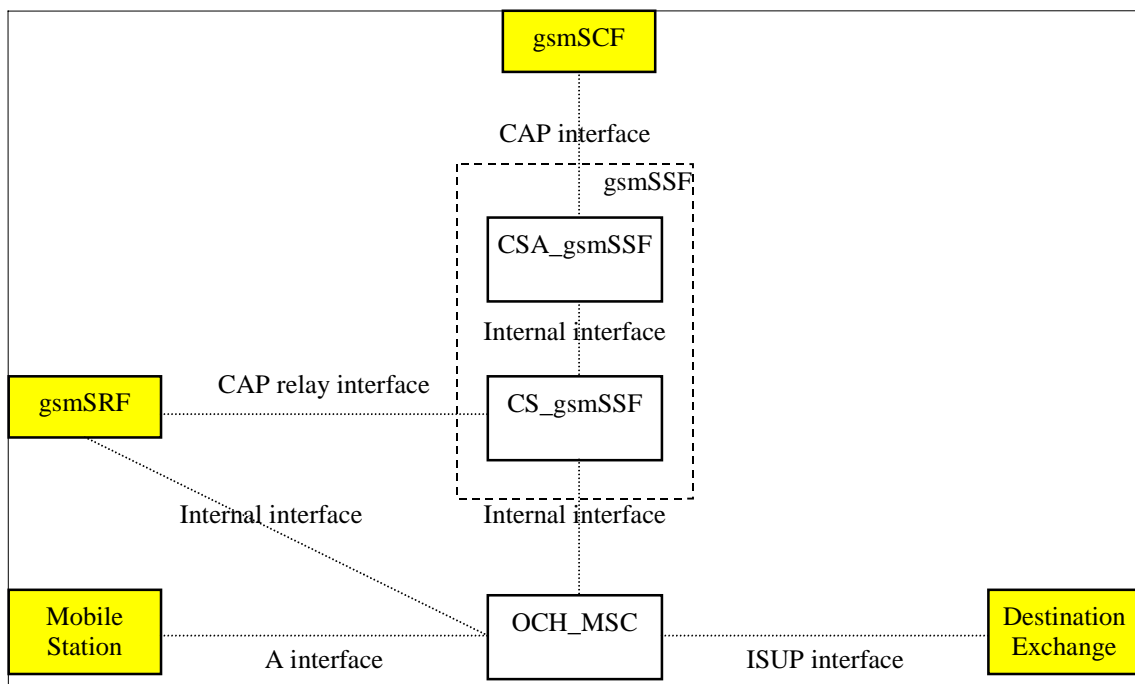
<u>SDL process</u>	<u>Description</u>	<u>SDL process specification</u>
<u>CSA_gsmSSF</u>	<u>Call Segment Association (CSA). The CSA SDL process distributes the CAP operations to the appropriate Call Segment(s).</u>	<u>3GPP TS 23.078</u>
<u>CS_gsmSSF</u>	<u>Call Segment (CS). Controls one or more BCSMs.</u>	<u>3GPP TS 23.078</u>
<u>OCH_MSC</u>	<p><u>O-BCSM in VMSC for Mobile Originating call controlling both Leg 1 and Leg 2.</u></p> <p><u>If CAP Disconnect Leg (leg 2) is received at the initial detection point (Collected Info or Terminating Attempt Authorised), then the call is not routed to the destination and the process calls the procedure CAMEL_OCH_LEG1_MSC to control Leg 1.</u></p> <p><u>If Answer is received, the process spawns the child process CAMEL_OCH_LEG2_MSC to control Leg 2 and calls the procedure CAMEL_OCH_LEG1_MSC to control Leg 1. The handling of the legs after answer is completely separate.</u></p>	<u>3GPP TS 23.018</u>
<u>MT_CF_MSC</u>	<p><u>O-BCSM in the redirecting MSC for Call Forwarding supplementary service, or Call Deflection supplementary service, or for CAMEL-based call forwarding. This process controls both Leg 1 and Leg 2.</u></p> <p><u>If CAP Disconnect Leg (leg 2) is received at the initial detection point (Collected Info or Terminating Attempt Authorised), then the call is not routed to the destination and the process calls the procedure CAMEL_MT_CF_LEG1_MSC to control Leg 1.</u></p> <p><u>If Answer is received, the process spawns the child process CAMEL_MT_CF_LEG2_MSC to control Leg 2 and calls the procedure CAMEL_MT_CF_LEG1_MSC to control Leg 1. The handling of the legs after answer is completely separate.</u></p>	<u>3GPP TS 23.018</u>
<u>MT_GMSC</u>	<p><u>T-BCSM in the GMSC controlling both Leg 1 and Leg 2.</u></p> <p><u>If CAP Disconnect Leg (leg 2) is received at the initial detection point (Collected Info or Terminating Attempt Authorised), then the call is not routed to the destination and the process spawns the child process CAMEL_MT_LEG1_MSC to control Leg 1. The process MT_GMSC terminates.</u></p> <p><u>If Answer is received, the process spawns the child process CAMEL_MT_LEG1_MSC to control Leg 1 and calls the procedure CAMEL_MT_LEG2_MSC to control Leg 2. The handling of the legs after answer is completely separate.</u></p>	<u>3GPP TS 23.018</u>
<u>ICH_MSC</u>	<p><u>T-BCSM in the VMSC controlling both Leg 1 and Leg 2.</u></p> <p><u>If CAP Disconnect Leg (leg 2) is received at the initial detection point (Collected Info or Terminating Attempt Authorised), then the call is not routed to the destination and the process spawns the child process CAMEL_ICH_LEG1_MSC to control Leg 1. The process ICH_MSC terminates.</u></p> <p><u>If Answer is received, the process spawns the child process CAMEL_ICH_LEG1_MSC to control Leg 1 and calls the procedure</u></p>	<u>3GPP TS 23.018</u>

	<u>CAMEL ICH LEG2 MSC to control Leg 2. The handling of the legs after answer is completely separate.;</u>	
<u>CAMEL ICA MSC</u>	<u>O-BCSM for gsmSCF initiated new call, or for new party set-up. This process controls the new leg.</u>	<u>3GPP TS 23.078</u>
<u>Assisting MSC</u>	<u>The process in the MSC to handle an assist request.</u>	<u>3GPP TS 23.078</u>

The following general rules apply:

1. There is only one CSA per CAP dialogue.
2. The CSA controls one or more Call Segments.
3. A Call Segment controls one or more BCSMs. Due to Call Party Handling, legs may be moved from one Call Segment to another- and new Call Segments may be created. When legs are moved they take their properties with them, i.e. armed EDPs and pending reports.
4. Legs are not moved between BCSMs.
5. The active legs in the same Call Segment have a voice connection. They hear each other and the same in-band tone and announcements. The only exception is Apply Charging warning tone in which the party is explicitly indicated by the gsmSCF.

The following diagrams shows the overall architecture for the SDL diagrams.



**Figure 4.9a: Outgoing case (gsmSSF relay)**

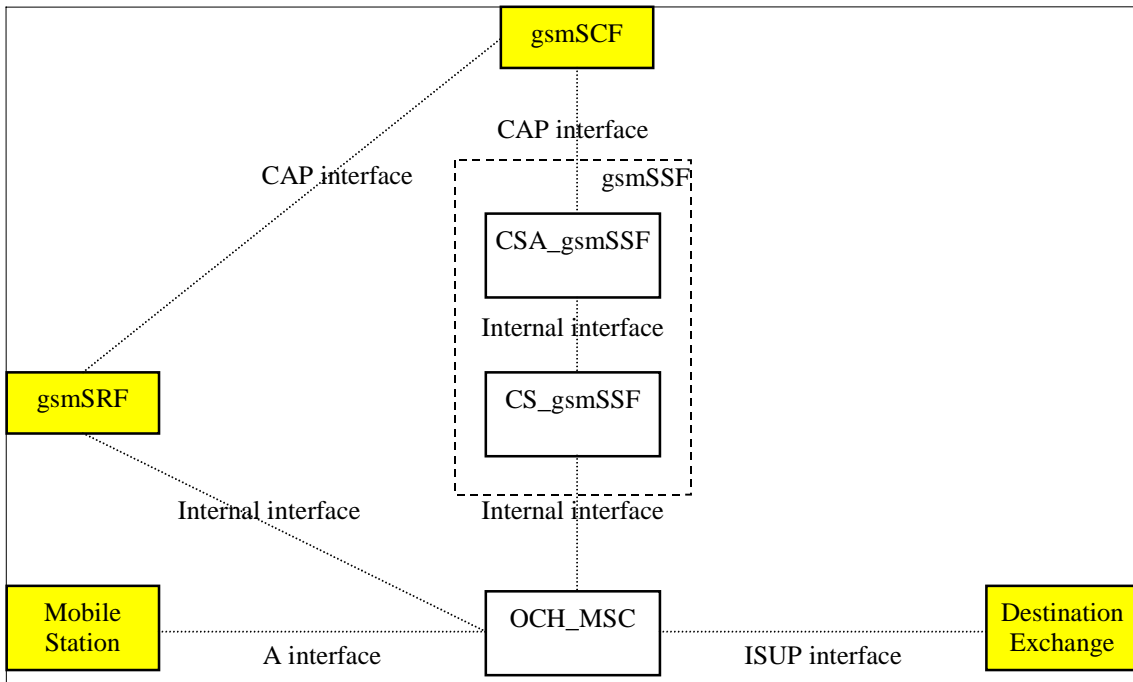


Figure 4.9b: Outgoing case (direct path gsmSCF to gsmSRF or assist with relay)

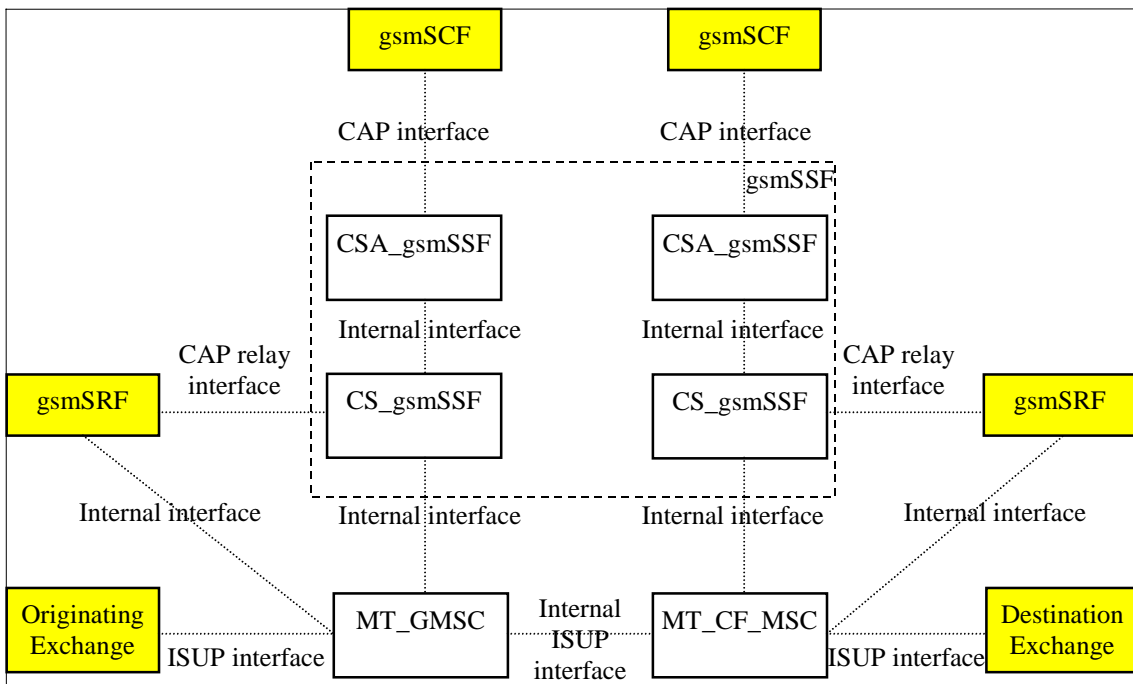


Figure 4.9c: Terminating GMSC case (gsmSSF relay)



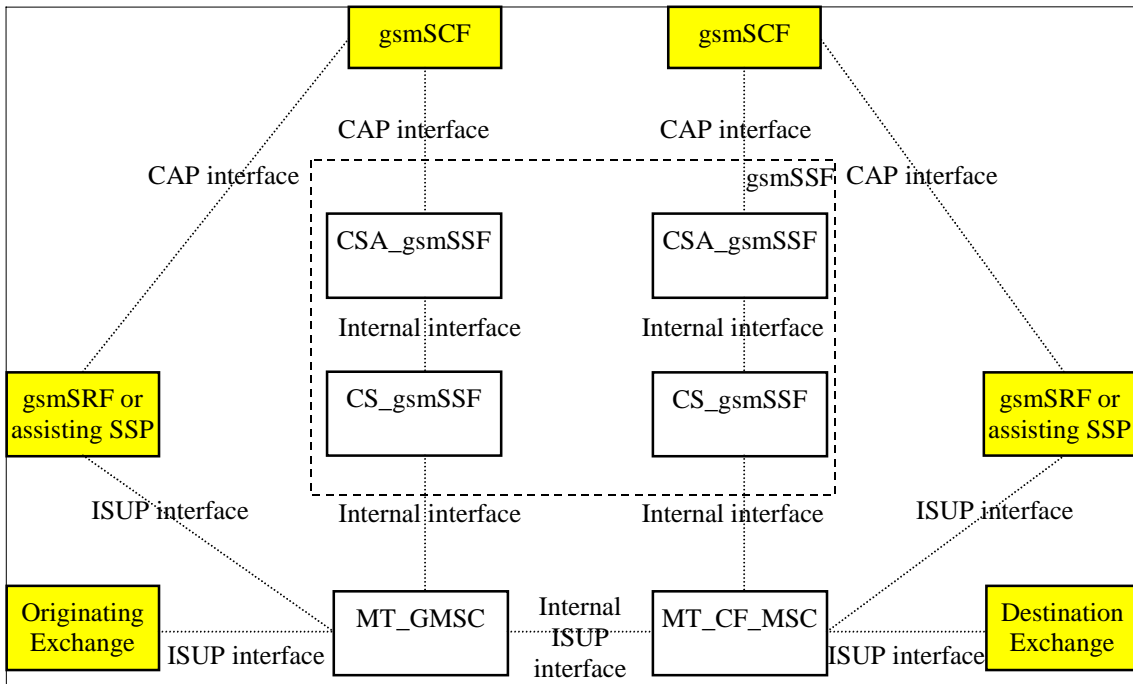
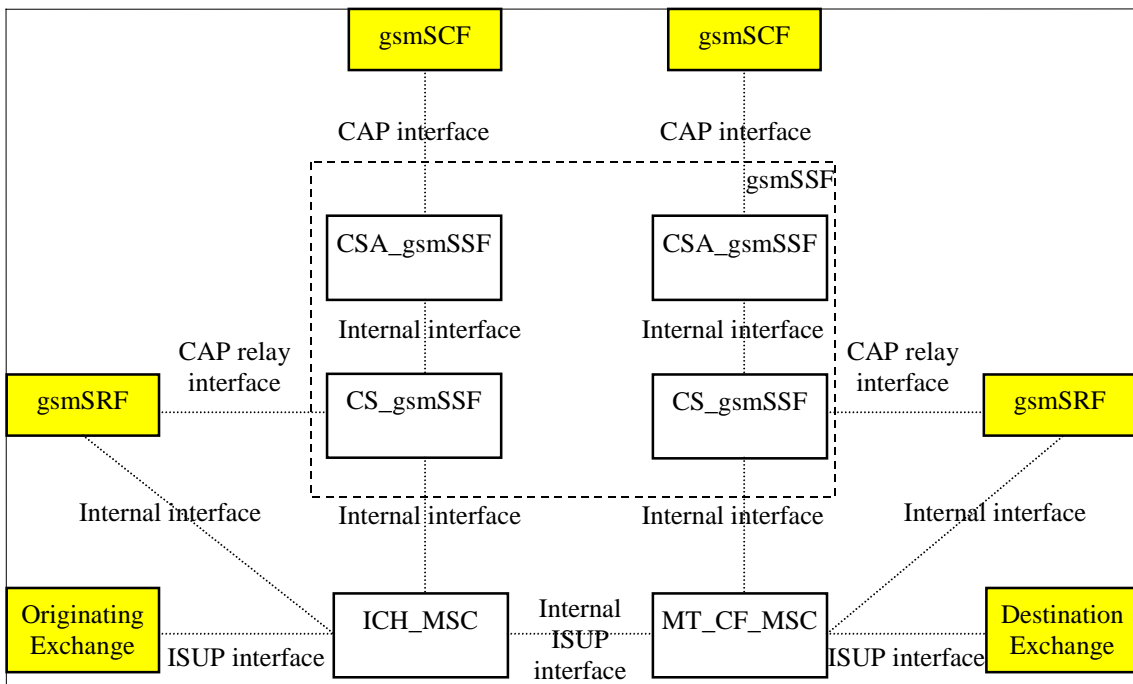
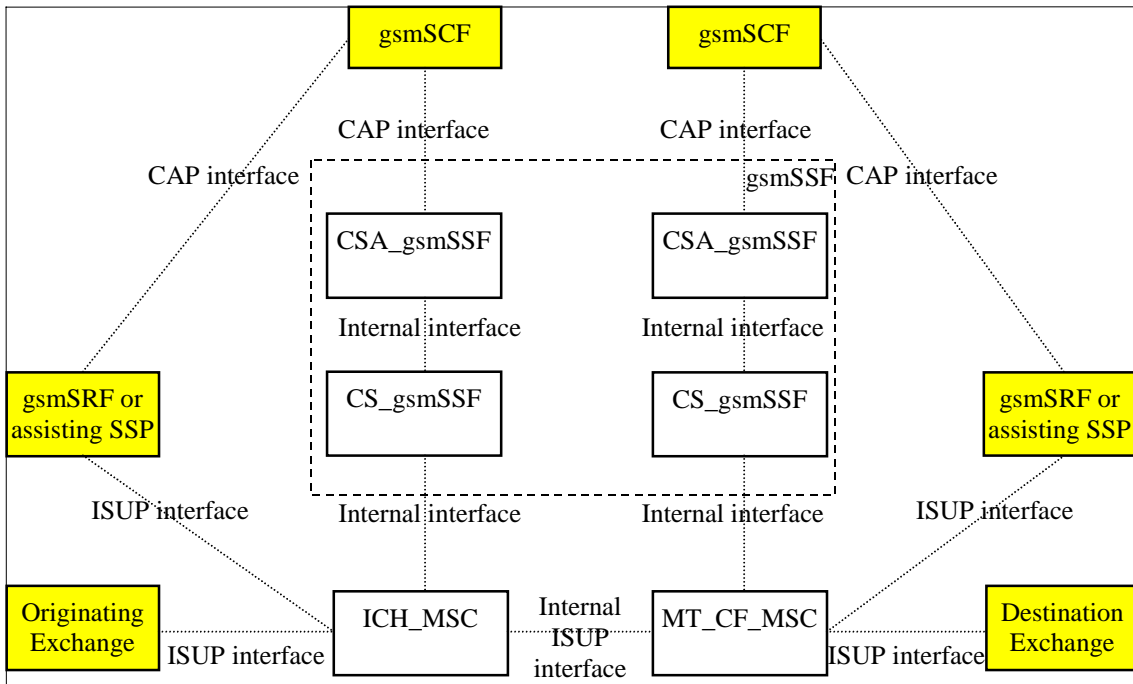


Figure 4.9d: Terminating GMSC case (direct path gsmSCF to gsmSRF or assist with relay)



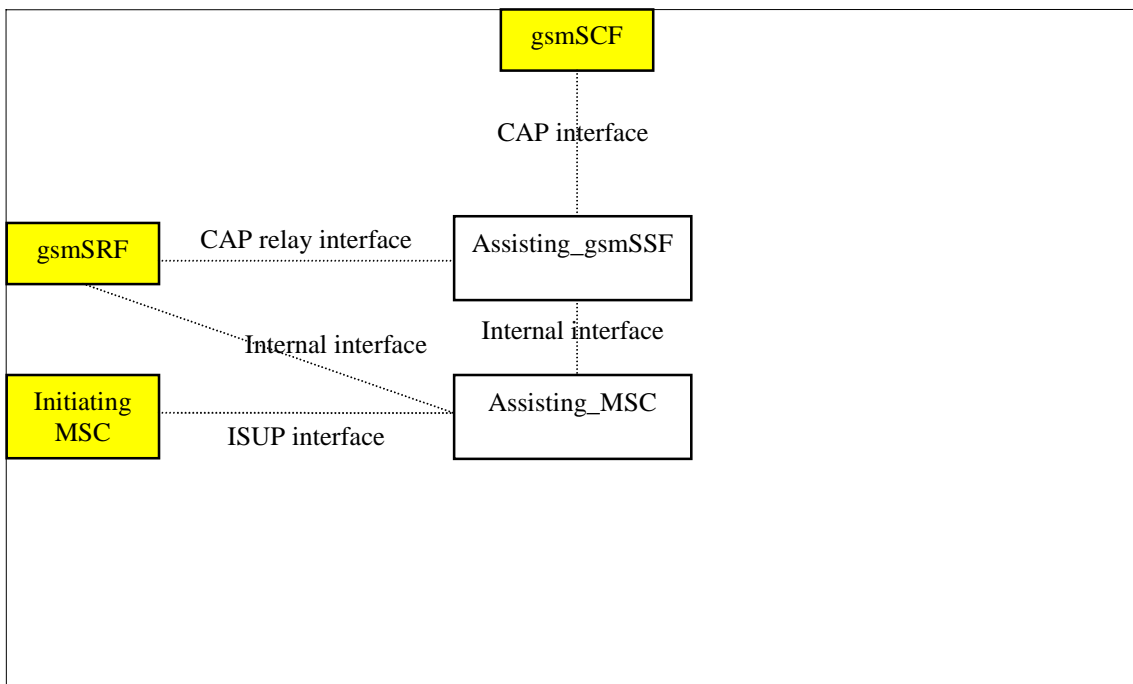
NOTE: The ICH\_MSC may also be connected via an A interface to the terminating Mobile Station.

Figure 4.9e: Terminating VMSC case (gsmSSF relay)



NOTE: The ICH\_MSC may also be connected via an A interface to the terminating Mobile Station

**Figure 4.9f: Terminating VMSC case (direct path gsmSCF to gsmSRF or assist with relay)**



**Figure 4.9g: Assisting case**

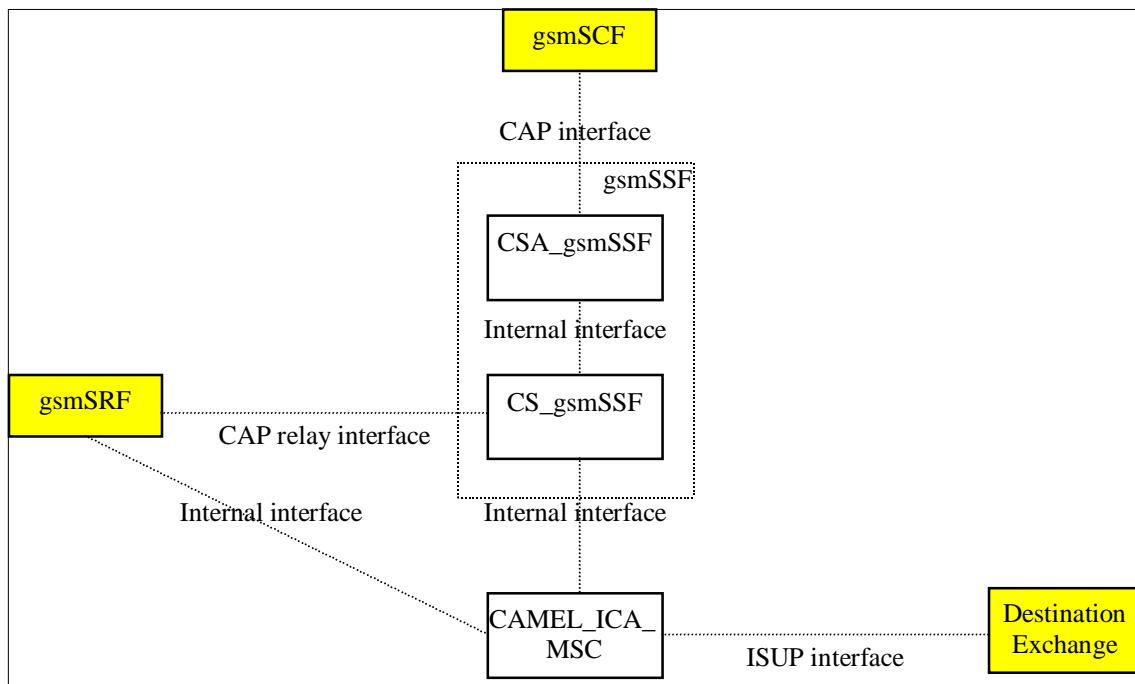


Figure 4.9h: gsmSCF initiated call case (gsmSSF relay)

CR-Form-v7

## CHANGE REQUEST

⌘ **23.078 CR 415** ⌘ rev **1** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ Disconnect of penultimate leg in CSID1		
<b>Source:</b>	⌘ Vodafone		
<b>Work item code:</b>	⌘ CAMEL4	<b>Date:</b>	⌘ 17 <sup>th</sup> July 2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ REL-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ Currently, if the penultimate leg in CSID1 disconnects and the Disconnect DP is not armed as an EDP-R for that leg, then the CS_gsmSSF sends an Int_Continue and returns to Idle. However, this does not cause the last leg in the call segment to be released nor does it inform the CSA_gsmSSF of the release. This results in the last leg being left active with no CAMEL control.
<b>Summary of change:</b>	⌘ The last leg in the call segment is only released if there are no armed DPs for that leg. If the last leg in the call segment is released then CSA_gsmSSF is informed.
<b>Consequences if not approved:</b>	⌘ The last leg in the call segment remains active (and alone) without any CAMEL control even if Disconnect is armed as an EDP-R. The CSA_gsmSSF is not informed of the status of the last leg.

<b>Clauses affected:</b>	⌘ 4.5.7.4										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

**\*\*\* First Modified Section \*\*\***

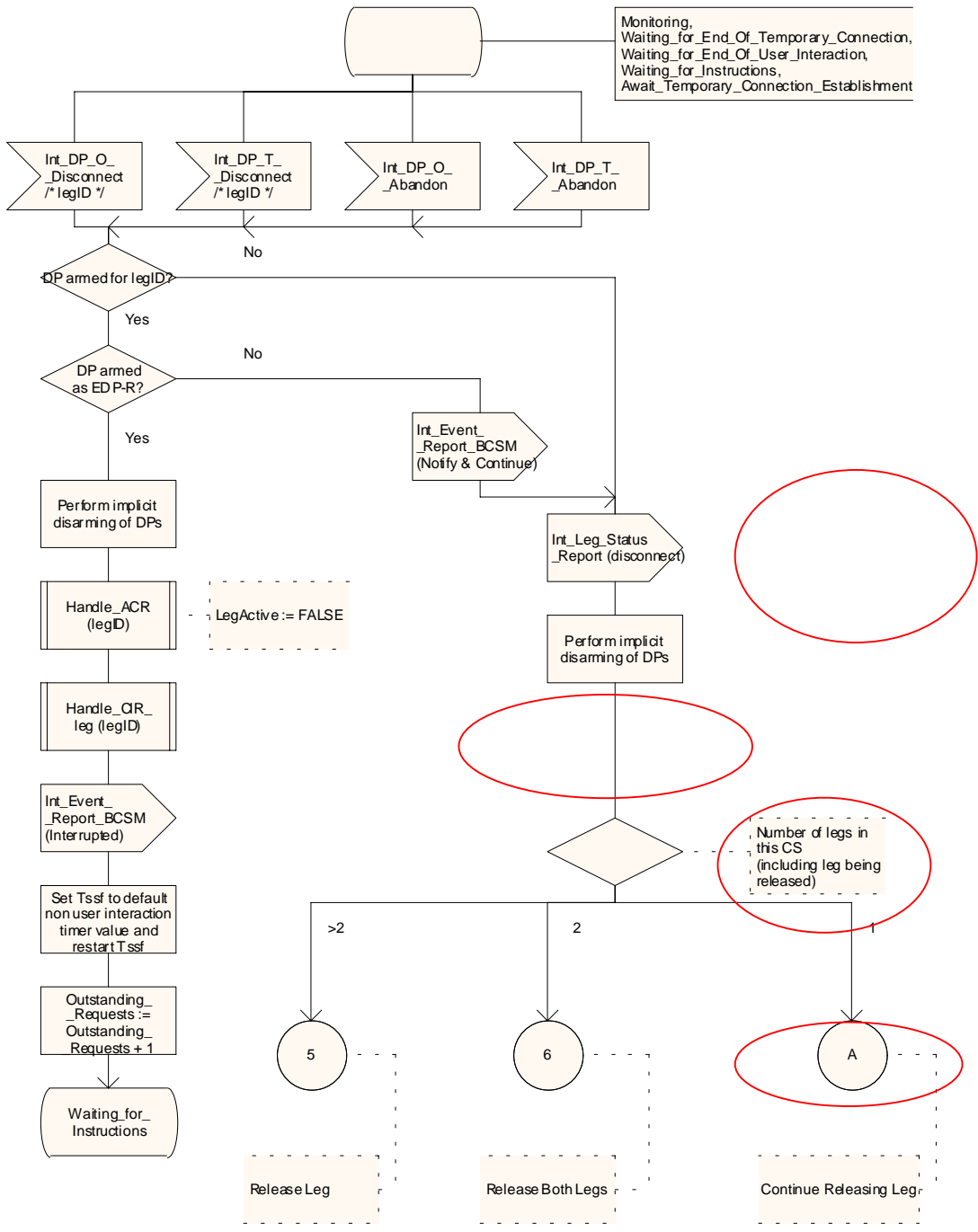
4.5.7.4 Process CS\_gsmSSF and procedures

# Process CS\_gsmSSF

41(56)

/\* Invocation of CS\_gsmSSF \*/

/\* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA\_gsmSSF unless otherwise marked. \*/



# Process CS\_gsmSSF

41(56)

/\* Invocation of CS\_gsmSSF \*/

/\* Signals to/from the left are to/from the MSC; signals to/from the right are to/from the process CSA\_gsmSSF unless otherwise marked. \*/

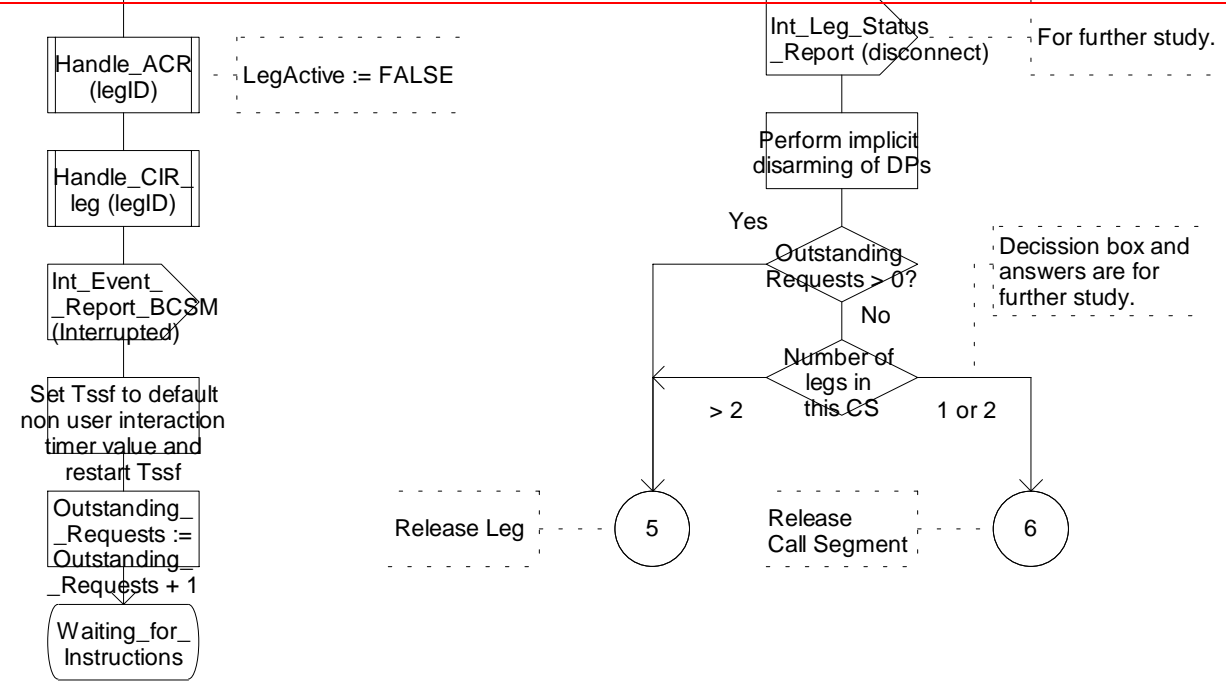
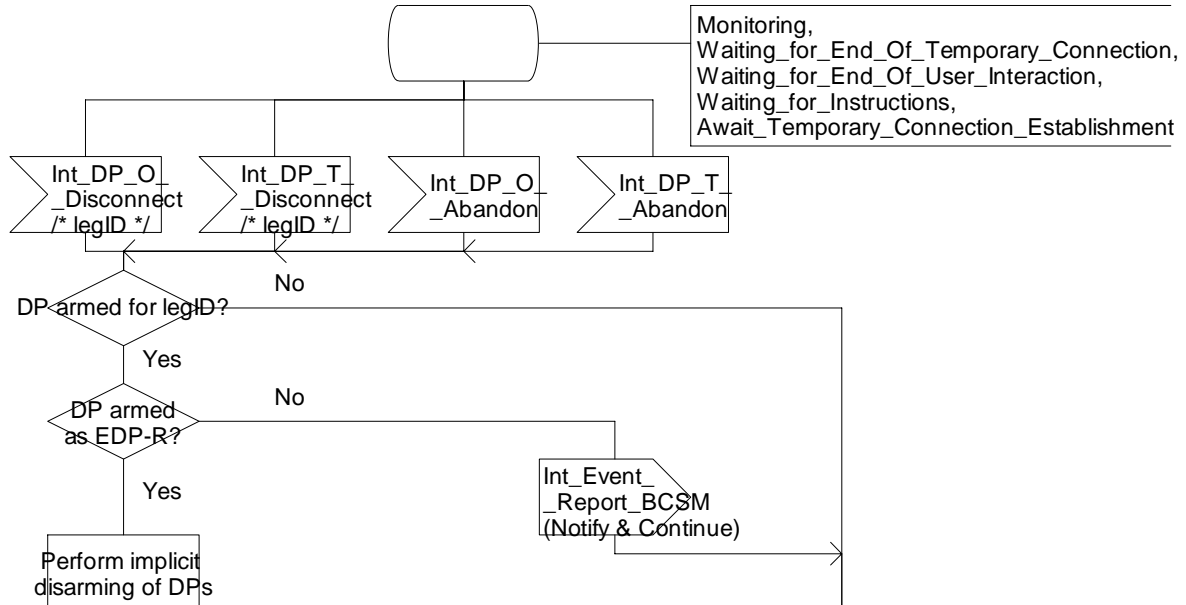
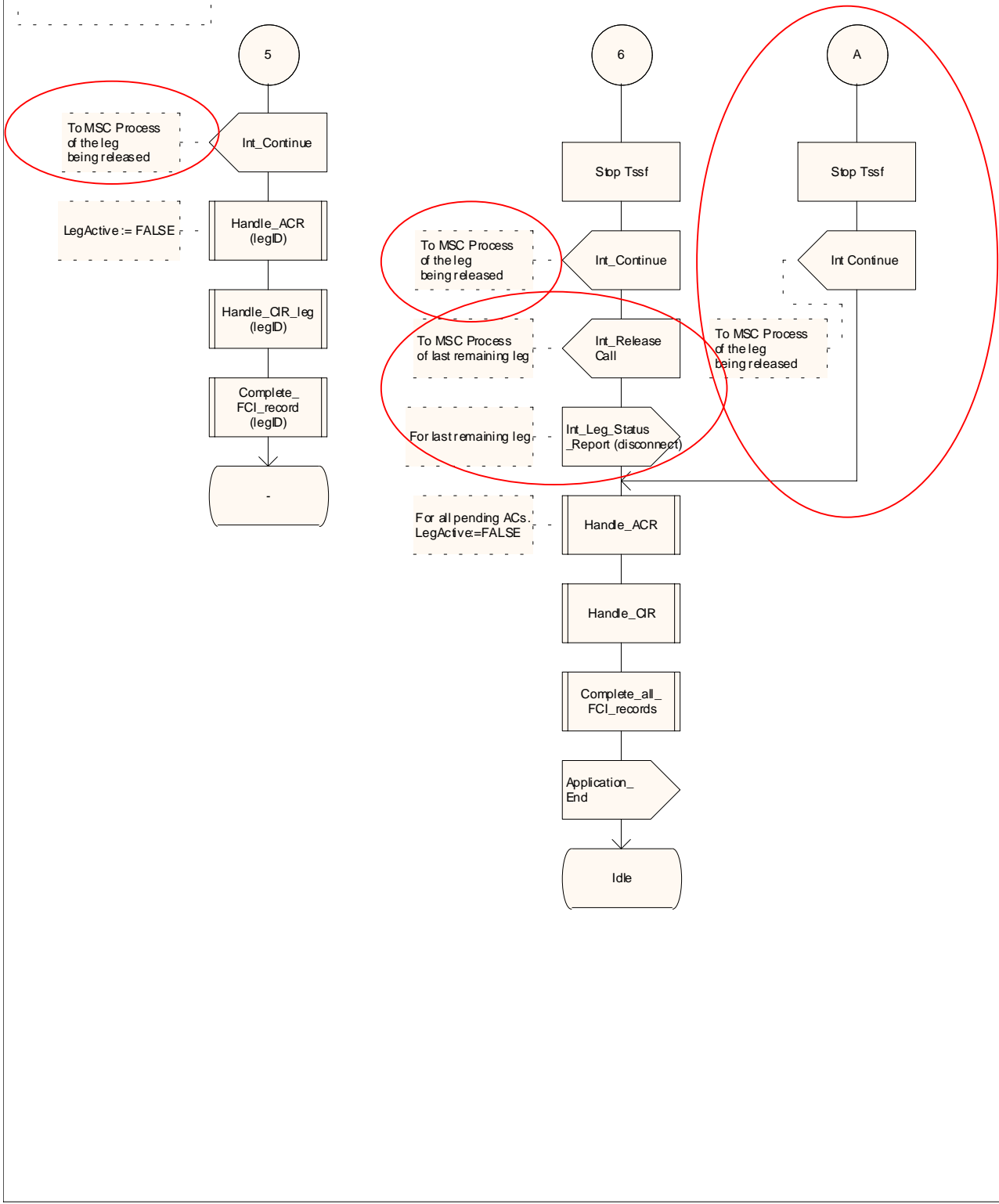


Figure 4.950o: Process CS\_gsmSSF (sheet 41)

Process CS\_gsmSSF

42(56)

/\* Invocation of CS\_gsmSSF \*/





# Process CS\_gsmSSF

42(56)

/\* Invocation of CS\_gsmSSF \*/

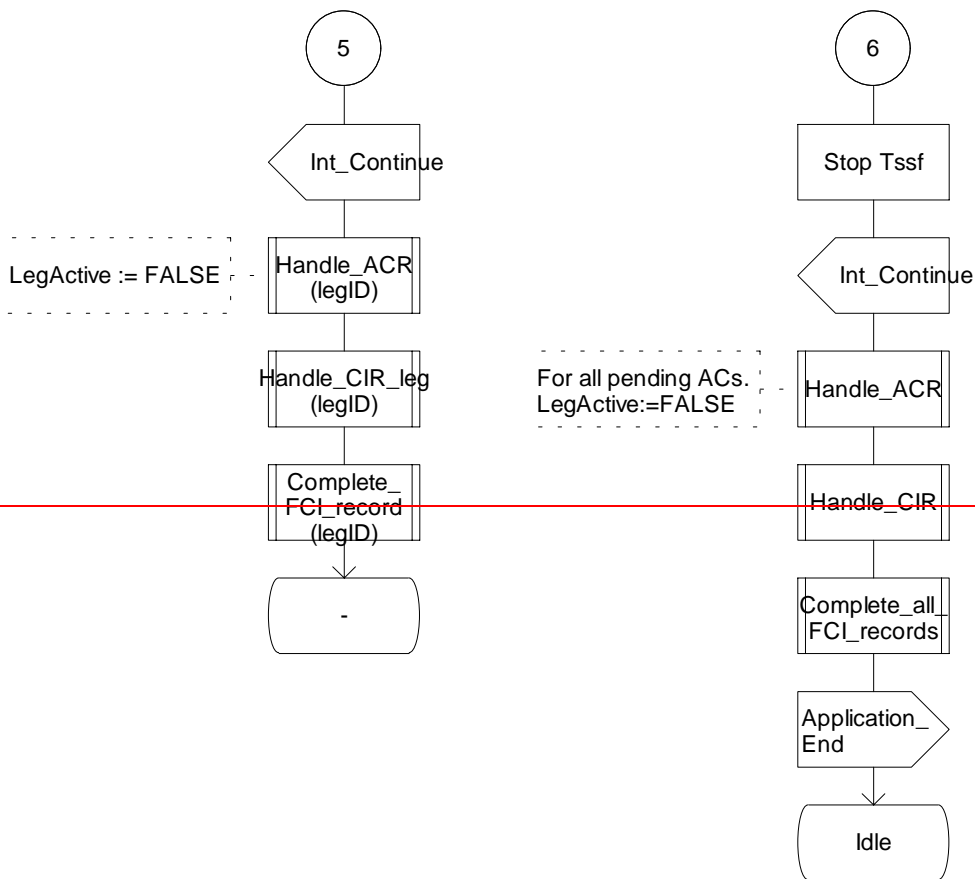


Figure 4.95pp: Process CS\_gsmSSF (sheet 42)

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

## CHANGE REQUEST

⌘ **23.078 CR 419** ⌘ rev **1** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘ No use of Call Segment ID for the direct gsmSCF - gsmSRF case		
<b>Source:</b>	⌘ Alcatel		
<b>Work item code:</b>	⌘ CAMEL4	<b>Date:</b>	⌘ 01/08/2002
<b>Category:</b>	⌘ <b>F</b> (essential correction) Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	<b>Release:</b>	⌘ Rel-5
		Use <u>one</u> 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)	

<b>Reason for change:</b>	⌘ In subclause "4.6.3 Optional (Service logic dependent) gsmSCF to gsmSRF information flows" Information flows are defined which are using the "Call Segment ID". 29.078 "4.1.2 Example physical scenarios" scenarios are defined. In those scenarios some operations can be exchanged between the gsmSCF and the gsmSRF either "Direct" or "Relay" via a gsmSSF. "Relay" may be either via an assisting gsmSSF (Establish Temporary Connection) or via a non-assisting gsmSSF (Connect To Resource). In subclause "4.6.5 gsmSCF to Assisting SSF information flows " it is clearly indicated for the various Information Flows that "The Call Segment ID information element is not used." The Call Segment ID information element is not used for operations which are send directly from the gsmSCF to the gsmSRF. However this case is not specified in subclause "4.6.3 Optional (Service logic dependent) gsmSCF to gsmSRF information flows". Note for Info: Subclause "4.6.2 gsmSCF to gsmSSF information flows" does not mention all those information flows. Therefore, 4.6.3 is also valid for those missing flows. It is NOT proposed to modify this subclause, but 4.6.3 only.
<b>Summary of change:</b>	⌘ Clarify when the Call Segment ID is sent.
<b>Consequences if not approved:</b>	⌘ Invalid CAMEL Phase 4 specifications.

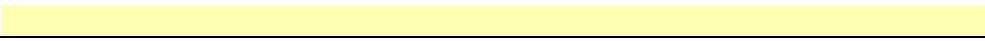
<b>Clauses affected:</b>	⌘ 4.6.3.2.2, 4.6.3.3.2, 4.6.3.4.2						
<b>Other specs</b>	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						

**affected:**

<input checked="" type="checkbox"/>	Test specifications
<input checked="" type="checkbox"/>	O&M Specifications



**Other comments:** ☞



— **First modified section** —

### 4.6.3 Optional (Service logic dependent) gsmSCF to gsmSRF information flows

#### 4.6.3.1 Activity Test

##### 4.6.3.1.1 Description

This IF is used to check for the continued existence of a relationship between the gsmSCF and gsmSRF. If the relationship is still in existence, then the gsmSRF will respond. If no reply is received, then the gsmSCF will assume that the gsmSRF has failed in some way and will take the appropriate action.

##### 4.6.3.1.2 Information Elements

This IF contains no information elements.

#### 4.6.3.2 Cancel

##### 4.6.3.2.1 Description

This IF is used by the gsmSCF to request the gsmSRF to cancel a correlated previous IF.

##### 4.6.3.2.2 Information Elements

Information element name	Status	Description
Invoke ID	M	This IE specifies the IF to be cancelled.
Call Segment ID	MS	This IE specifies to which call segment the cancellation of the user interaction IF shall apply. <a href="#">This IE shall be absent if this IF is send by the gsmSCF to a Intelligent Peripheral.</a>

#### 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	MS	This IE indicates the call segment to which the user interaction shall apply. <a href="#">This IE shall be absent if this IF is send by the gsmSCF to a Intelligent Peripheral.</a>

Information To Send contains the following information elements:

Information element name	Status	Description
Inband Info	E	This IE is described in a table below.
Tone	E	This IE is described in a table below.

Inband Info contains the following information elements:

Information element name	Status	Description
Message ID	M	This IE is described in a table below.
Number Of Repetitions	M	This IE indicates the maximum number of times the message shall be sent to the end-user.
Duration	O	This IE indicates the maximum duration time in seconds that the message shall be played/repeated. Zero indicates endless repetition.
Interval	O	This IE indicates the time interval in seconds between two repetitions.

Message ID contains the following information elements:

Information element name	Status	Description
Elementary Message ID	E	This IE indicates a single announcement
Text	E	This IE indicates a text to be sent. The text shall be transformed to inband information (speech) by the gsmSRF.
Elementary Message IDs	E	This IE indicates a sequence of announcements
Variable Message	E	This IE indicates an announcement with one or more variable parts.

Tone contains the following information elements:

Information element name	Status	Description
Tone ID	M	This IE indicates the tone to be sent.
Duration	O	This IE indicates the maximum duration in seconds that the message shall be played/repeated. Zero indicates endless repetition.

#### 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	MS	This IE indicates the call segment to which the user interaction shall apply. <a href="#">This IE shall be absent if this IF is send by the gsmSCF to a Intelligent Peripheral.</a>

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.

#### 4.6.4 gsmSRF to gsmSCF information flows

##### 4.6.4.1 Activity Test ack

###### 4.6.4.1.1 Description

This IF is the response to the Activity Test.

###### 4.6.4.1.2 Information Elements

This IF contains no information elements.

##### 4.6.4.2 Assist Request Instructions

###### 4.6.4.2.1 Description

This IF is sent to the gsmSCF by a gsmSSF which is acting as the assisting gsmSSF or by a gsmSRF.

###### 4.6.4.2.2 Information Elements

Information element name	Status	Description
Correlation ID	M	This IE is used to associate the Assist Request Instructions IF from an assisting gsmSSF or by a gsmSRF with the Initial DP IF from the initiating gsmSSF.
IP SSP Capabilities	M	This IE indicates which SRF resources are attached, available and supported within the MSC where the gsmSSF resides or the IP in which the gsmSRF resides.

### 4.6.4.3 Prompt And Collect User Information ack

#### 4.6.4.3.1 Description

This IF is used by the gsmSRF to indicate the result of a Prompt And Collect User Information IF.

#### 4.6.4.3.2 Information Elements

Information element name	Status	Description
Digits Response	C	This IE indicates the digit sequence received from the end user.

### 4.6.4.4 Specialized Resource Report

#### 4.6.4.4.1 Description

This IF is used in response to a PlayAnnouncement IF when the Request Announcement Complete Notification IE is set to TRUE in the requesting IF.

This IF is used in response to a Prompt and Collect User Information IF when the Request Announcement Started Notification IE is set to TRUE in the requesting IF.

#### 4.6.4.4.2 Information Elements

Information element name	Status	Description
All Announcements Complete	E	This IE indicates that all the announcements and tones are complete.
First Announcement Started	E	This IE indicates that the first announcement or tone has started.

— End —

CR-Form-v7

## CHANGE REQUEST

⌘ **23.078 CR 432** ⌘ rev **1** ⌘ Current version: **5.0.0** ⌘

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

<b>Title:</b>	⌘	Introduction of CPH Definitions		
<b>Source:</b>	⌘	Vodafone		
<b>Work item code:</b>	⌘	CAMEL4	<b>Date:</b>	⌘ 19/06/2002
<b>Category:</b>	⌘	<b>D</b>	<b>Release:</b>	⌘ Rel-5
		<i>Use one of the following categories:</i> <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<i>Use one of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>Rel-4</b> (Release 4) <b>Rel-5</b> (Release 5) <b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘	Terms such as "Call Segment" and "Call Segment Association" are used within 23.078 but do not have clear definitions.		
<b>Summary of change:</b>	⌘	Introduction of definitions for Call Party Handling Information Flow, Call Segment and Call Segment Association. Addition of CPH, CSID, CS and CSA to abbreviations list.		
<b>Consequences if not approved:</b>	⌘	No CPH definitions		

<b>Clauses affected:</b>	⌘	3.1, 3.2						
<b>Other specs affected:</b>	⌘	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> </table>	Y	N	X		Other core specifications	⌘ 29.078 266 (N2-020692)
		Y	N					
		X						
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">X</td> <td></td> </tr> </table>	X		Test specifications					
X								
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">X</td> <td></td> </tr> </table>	X		O&M Specifications					
X								
<b>Other comments:</b>	⌘							



**\*\*\* First Modified Section \*\*\***

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**Basic Call State Model (BCSM):** BCSM provides a high-level model of GMSC- or MSC/VLR-activities required to establish and maintain communication paths for users. As such, it identifies a set of basic call activities in a GMSC or MSC/VLR and shows how these activities are joined together to process a basic call.

**Call Control Function (CCF):** CCF is the Call Control Function in the network that provides call/service processing and control (see ITU-T Recommendation Q.1224 [41]).

**Call Party Handling (CPH) Information Flow:** [Any of the Disconnect Leg, Move Leg or Split Leg information flows.](#)

**Call Segment:** [A call segment contains one or more legs that are controlled by the same CS\\_gsmSSF instance. The call parties in the same call segment can communicate with each other \(using a conference bridge if necessary\). Call segments are identified by a number, eg. CSID1 is the call segment with id number 1.](#)

**Call Segment Association (CSA):** [A CSA contains one or more call segments. Legs can be moved between call segments within the CSA. There is a single CAP dialogue between the CSA and the gsmSCF.](#)

**Detection Points (DP):** points in processing at which notifications (to the service logic) can occur and transfer of control (to the gsmSCF) is possible are called Detection Points (DPs).

**Dialled Service CAMEL Subscription Information (D-CSI):** D-CSI identifies the subscriber as having originating CAMEL dialled services.

**Forwarding MSC:** MSC which is either an MSC invoking a standardized Call Forwarding supplementary service or Call Deflection supplementary service; or an MSC invoking a CAMEL based call forwarding service.

**Gateway MLC (GMLC):** functional entity that allows external LCS Clients to request real-time information about a Mobile Station. The information that can be requested from the GMLC is:

- location of Mobile Station

See 3GPP TS 23.271 [26] and 3GPP TS 25.305 [30] for information on the GMLC.

**Geodetic Information:** information defining the location of a mobile station, coded according to ITU-T Recommendation Q.763 [40]. The derivation of this information from other information defining the location of a mobile station is a network operator option. If an entity derives the geodetic information it shall also provide the equivalent geographical information.

**Geographical Information:** information defining the location of a mobile station, coded according to 3GPP TS 23.032 [13].

**GPRS CAMEL Subscription Information (GPRS-CSI):** GPRS-CSI identifies the subscriber as having GPRS CAMEL services.

**GPRS Dialogue:** A dialogue between the gprsSSF and the gsmSCF. A single GPRS Dialogue may consist of one or more TCAP dialogues. Only one TCAP dialogue shall exist at one point in time for one gprsDialogue.

**GPRS Service Switching Function (gprsSSF):** functional entity that interfaces the SGSN to the gsmSCF. The concept of the gprsSSF is derived from the IN SSF, but uses different triggering mechanisms because of the nature of the mobile network.

**GPRS Session:** GPRS session starts when the GPRS subscriber attaches to the GPRS data network. It ends when the GPRS subscriber detaches from the GPRS data network.

**GSM Service Control Function (gsmSCF):** functional entity that contains the CAMEL service logic to implement OSS. It interfaces with the gsmSSF, the gsmSRF, the GMLC and the HLR.

**GSM Service Switching Function (gsmSSF):** functional entity that interfaces the MSC or GMSC to the gsmSCF. The concept of the gsmSSF is derived from the IN SSF, but uses different triggering mechanisms because of the nature of the mobile network.

**GSM Specialised Resource Function (gsmSRF):** functional entity which provides various specialized resources. It interfaces with the gsmSCF and with the MSC. This entity is defined in ITU-T Recommendation Q.1224 [41] with variations defined in the present document.

**Location Information:** indicates the location of the Mobile Station. The provision of location information is independent of the MS status. As part of the location information, an indication of the age of this information may be delivered.

**Mobile Originating Short Message Service CAMEL Subscription Information (MO-SMS-CSI):** MO-SMS-CSI identifies the subscriber as having MO SMS CAMEL services. MO-SMS-CSI (CAMEL Phase 4) is identical to SMS-CSI (CAMEL Phase 3).

**Mobile Station State:** similar to **Subscriber State**, but associated only with a Mobile Station, not with a subscriber.

**Mobile Terminating Short Message Service CAMEL Subscription Information (MT-SMS-CSI):** MT-SMS-CSI identifies the subscriber as having MT SMS CAMEL services.

**Mobility Management event CAMEL Subscription Information (M-CSI):** M-CSI identifies the subscriber as having Mobility Management event notification CAMEL services.

**Mobility Management event GPRS CAMEL Subscription Information (MG-CSI):** MG-CSI identifies the GPRS subscriber as having Mobility Management event notification CAMEL services.

**NA (North American):** prefix attached to certain information items used by North American PLMNs in connection with routing a call to a preferred or dialled long distance carrier.

**Network CAMEL Service Information (N-CSI):** N-CSI identifies services offered on a per-network basis by the serving PLMN operator for all subscribers.

**Originating Basic Call State Model (O-BCSM):** originating half of the BCSM. The O-BCSM corresponds to that portion of the BCSM associated with the originating party.

**Originating CAMEL Subscription Information (O-CSI):** O-CSI identifies the subscriber as having originating CAMEL services.

**Point In Association (PIA):** PIAs identify MSC/VLR or SGSN activities associated with one or more basic association/connection states of interest to OSS service logic instances.

**Point In Call (PIC):** PICs identify MSC/VLR (GMSC) activities associated with one or more basic call/connection states of interest to OSS service logic instances.

**Service Key:** Service Key identifies to the gsmSCF the service logic. The Service Key is administered by the HPLMN, and is passed transparently by the VPLMN/IPLMN to the gsmSCF. The Service Key is a part of the T/O/VT/D/GPRS/SMS/M-CSI.

**Serving MLC:** functional entity that performs location information retrieval.

**Short Message Control Protocol (SM-CP):** Protocol between the MSC or SGSN and the MS. This protocol, which is specified in 3GPP TS 24.011 [29], is used to carry RPDU elements between the MSC or SGSN and the MS.

**Short Message Service Centre (SMSC):** also abbreviation SC is used for SMSC.

**Subscriber State:** see 3GPP TS 22.078 [6].

**Supplementary Service Notification CAMEL Subscription Information (SS-CSI):** SS-CSI identifies the subscriber as having supplementary service invocation notification CAMEL services.

**Terminating Basic Call State Model (T-BCSM):** terminating half of the BCSM. The T-BCSM corresponds to that portion of the BCSM associated with the terminating party.

**Terminating CAMEL Subscription Information (in the GMSC) (T-CSI):** T-CSI identifies the subscriber as having terminating CAMEL services in the GMSC.

**VMSC Terminating CAMEL Subscription Information (VT-CSI):** VT-CSI identifies the subscriber as having terminating CAMEL services in the VMSC.

**Translation Information Flag (TIF-CSI):** TIF-CSI is a flag in the CAMEL subscriber data which indicates that when the subscriber registers a forwarded-to number, that the HLR shall not attempt to perform any translation, number format checks, prohibited FTN checks, call barring checks.

**USSD CAMEL Subscription Information (U-CSI):** U-CSI identifies a set of subscriber specific mappings from a USSD service code to a gsmSCF address.

**USSD General CAMEL Service Information (UG-CSI):** UG-CSI globally identifies a set of mappings from a USSD service code to a gsmSCF address. The global mapping applies to all HPLMN subscribers. If, for a particular service code, both U-CSI and UG-CSI are applicable then the U-CSI shall take precedence.

\*\*\*\* Next Modified Section \*\*\*\*

## 3.2 Abbreviations

Abbreviations used in the present document are listed in 3GPP TR 21.905 [1].

For the purposes of the present document, the following abbreviations apply:

BCSM	Basic Call State Model
CAMEL	Customized Applications for Mobile network Enhanced Logic
<a href="#">CPH</a>	<a href="#">Call Party Handling</a>
<a href="#">CS</a>	<a href="#">Call Segment</a>
	<a href="#">Circuit Switched</a>
<a href="#">CSA</a>	<a href="#">Call Segment Association</a>
<a href="#">CSID</a>	<a href="#">Call Segment (followed by an identification Number e.g. CSID1)</a>
DP	Detection Point
DTN	Deflected To Number
D-CSI	Dialled Services CAMEL Subscription Information
EDP	Event Detection Point
FTN	Forwarded To Number
GMLC	Gateway MLC
GMSC	Gateway MSC
GPRS	General Packet Radio Service
gprsSSF	GPRS Service Switching Function
GPRS-CSI	GPRS CAMEL Subscription Information
gsmSCF	GSM Service Control Function
gsmSRF	GSM Specialised Resource Function
gsmSSF	GSM Service Switching Function
HLR	Home Location Register
HPLMN	Home PLMN
ICA	Initiate Call Attempt
IE	Information Element
IF	Information Flow
IP	Intelligent Peripheral
IPLMN	Interrogating PLMN
LCS	Location Services
LSA	Localised Service Area
M-CSI	Mobility Management event Notification CAMEL Subscription Information
MF	Mobile Forwarding
MG-CSI	Mobility Management event Notification GPRS CAMEL Subscription Information

MLC	Mobile Location Centre
MO	Mobile Originating
MO-SMS-CSI	Mobile Originated Short Message Service CAMEL Subscription Information
MSC	Mobile service Switching Centre
MT	Mobile Terminating
MT	Mobile Terminating in GMSC
MT-SMS-CSI	Mobile Terminating Short Message Service CAMEL Subscription Information
N-CSI	Network CAMEL Service Information
NA	North American
NNI	Network Node Interface
O-BCSM	Originating Basic Call State Model
O-CSI	Originating CAMEL Subscription Information
ODB	Operator Determined Barring
OR	Optimal Routeing
OSS	Operator Specific Service
PDP	Packet Data Protocol
PIC	Point In Call
PLMN	Public Land Mobile Network
SGSN	Serving GPRS Support Node
SLPI	Service Logic Program Instance
SM	Short Message
SM-CP	Short Message Control Protocol
SMF	Service Management Function
SMLC	Serving MLC
SMRSE	Short Message Relay Service Element
SMS	Short Message Service
SMSC	Short Message Service Centre
SMS-CSI	Short Message Service CAMEL Subscription Information
SS-CSI	Supplementary Service Notification CAMEL Subscription Information
T-BCSM	Terminating Basic Call State Model
T-CSI	Terminating CAMEL Subscription Information (in the GMSC)
TDP	Trigger Detection Point
TPDU	Transfer Protocol Data Unit
TIF-CSI	Translation Information Flag
U-CSI	USSD CAMEL Subscription Information
UG-CSI	USSD General CAMEL Service Information
UNI	User Network Interface
VLR	Visitor Location Register
VPLMN	Visited PLMN
VT	Mobile Terminating in VMSC
VT-CSI	VMSC Terminating CAMEL Subscription Information

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