3GPP TSG CN Plenary Meeting #21 **NP-030374**
17th - 19th September 2003. Frankfurt, Germany.

Source: TSG CN WG2

Title: CRs on Rel-5 Work Item IMS-CAMEL

Agenda item: 8.3

Document for: APPROVAL

Introduction:

This document contains 3 CRs on **Rel-5 Work Item CAMEL4.** These CRs have been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting for approval.

WG_tdoc	Title	Spec	CR	Rev	Cat	Rel	C_Ver
N2-030438	Incorrect handling of failure SIP response for MT	23.278	043	2	F	Rel-5	5.3.0
N2-030443	Incorrect handling of failure SIP response for MO	23.278	045	1	F	Rel-5	5.3.0
N2-030465	Setting of Timers not specified for IM-SSF process	23.278	044	2	F	Rel-5	5.3.0

3GPP TSG-CN WG2 Meeting #30 ***Tdoc ⌘N2-030438***
Sophia Antipolis, France 25th – 29rd Aug 2003. **(Revision of *N2-030369*)**

CR-Form-v7

CHANGE REQUEST

⌘ **23.278** **CR** **043** ⌘**rev** **2** ⌘ Current version: **5.3.0** ⌘

*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:	⌘	Incorrect handling of failure SIP response for MT
Source:	⌘	Lucent Technologies
Work item code:	⌘	IMS-CAMEL
Date:	⌘	07/08/2003
Category:	⌘	**F** (Essential correction)
Release:	⌘	Rel-5

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

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

Reason for change: ⌘ The handling of the IM-SSF when a 4xx/5xx/6xx final response is received is incorrect. In the current SDLs for Process MT_IM_SSF, when a non-2xx final response is received while at the Wait_For_Answer state, the IM-SSF immediately sends the error response to the originating S-CSCF. Once the error response is sent to the originating S-CSCF, this basically kills the call. The IM-SSF should defer sending of the error response to the originating S-CSCF untl after it has determined that there is no other treatment that can be provided by CAMEL.

Also, the IM-SSF's handling of unsuccessful call attempt due to timer expiry for the INVITE is incorrect. In the current Process MT_IM_SSF, the IM-SSFsends a BYE to the originating S-CSCF when the internal timer for receiving a final response for the INVITE has expired. However, according to RFC3261, the callee S UA can only send a BYE after the ACK for the INVITE has been received. Since the IM-SSF has not yet received the ACK from the originating S-CSCF, the sending of the BYE is not allowed in this case.

Summary of change: ⌘ Process MT_IM_SSF and Procedure CAMEL_IMCN_MT_UNSUCCESSFUL are modified as follows:

1) When a 4xx/5xx/6xx input signal is received from the terminating side while in Wait_For_MT_Answer, the sending of the 4xx/5xx/6xx output signal to the originating side is moved from MT_IM_SSF to the procedure CAMEL_IMCN_MT_UNSUCCESSFUL .
2) The handling of Timer expiry case while in the Wait_For_MT_Answer is modified so that a CANCEL is sent to the terminating S-CSCF after checking that a provisional response has been received. In the

		CAMEL_IMCN_MT_UNSUCCESSFUL procedure, the BYE response to the originating S-CSCF is replaced with a 487 Request Terminated response. -
Consequences if not approved:	⌘	Incorrect handling of error responses and timer expiry.

Clauses affected:	⌘	4.6.1.4 (SDL Figures 4.22 & 4.28)			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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

4.6.1.4 Handling of Mobile Terminated IP Multimedia sessions in the IM-SSF

…

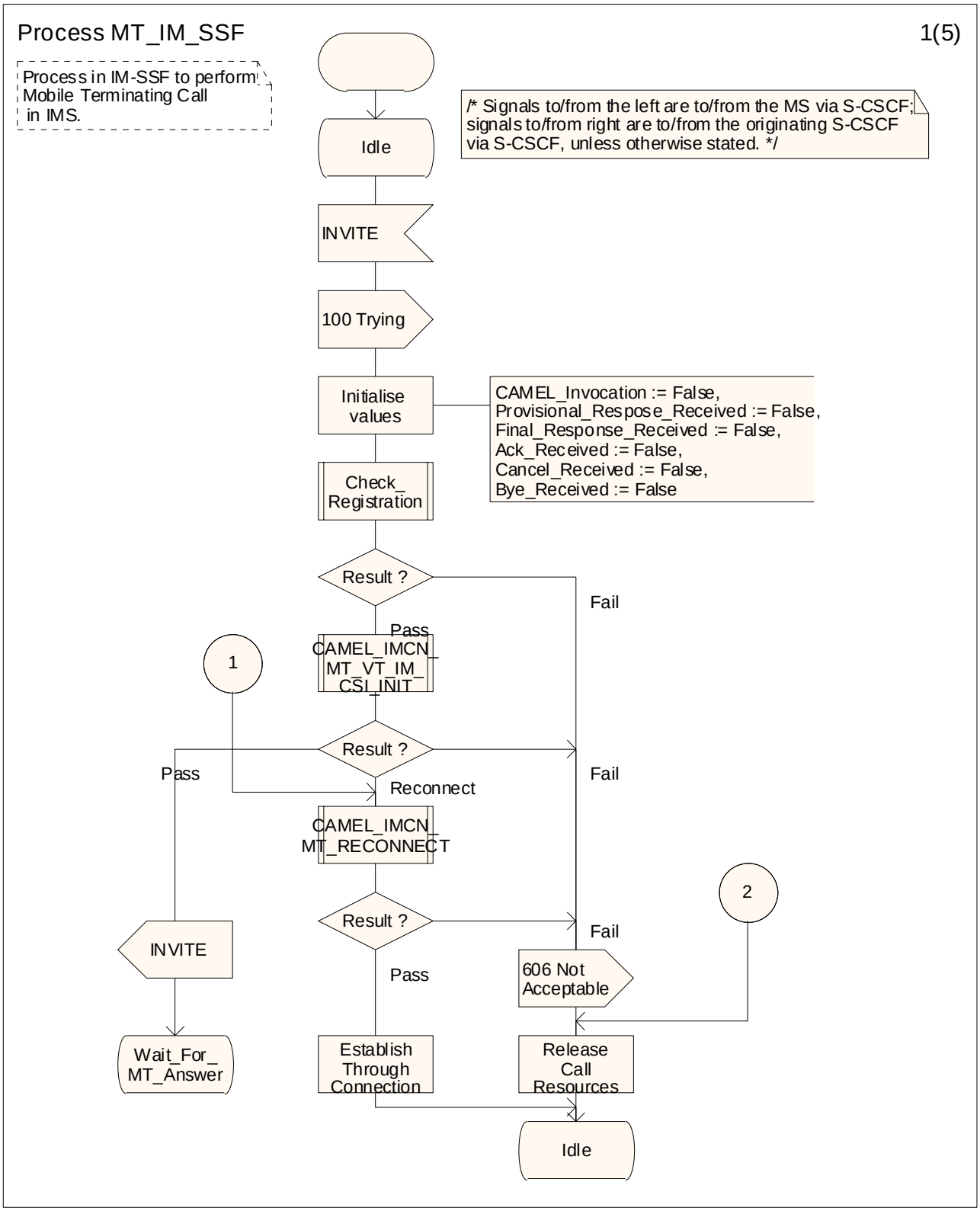


Figure 4.22-1: Process MT_IM_SSF (sheet 1)

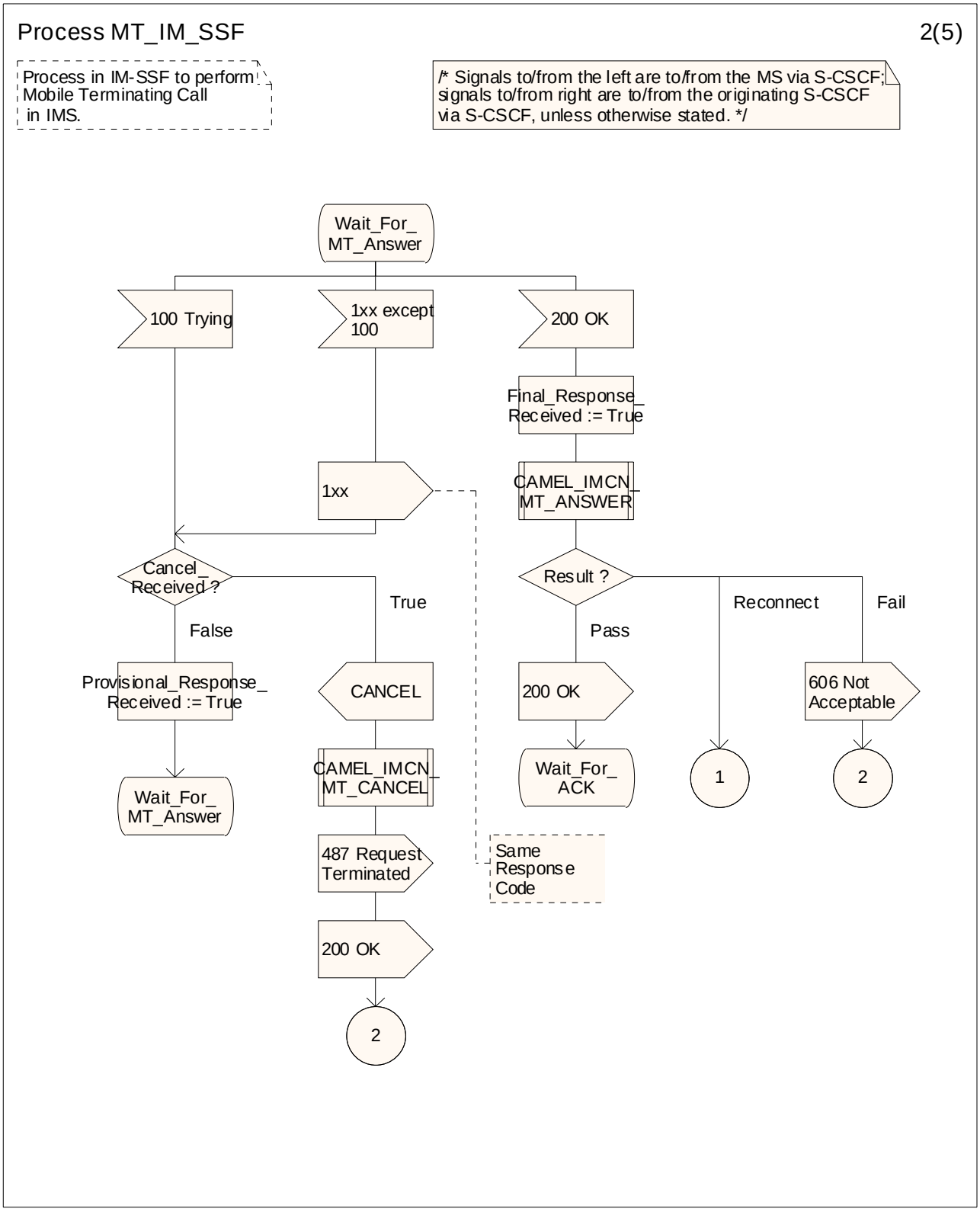
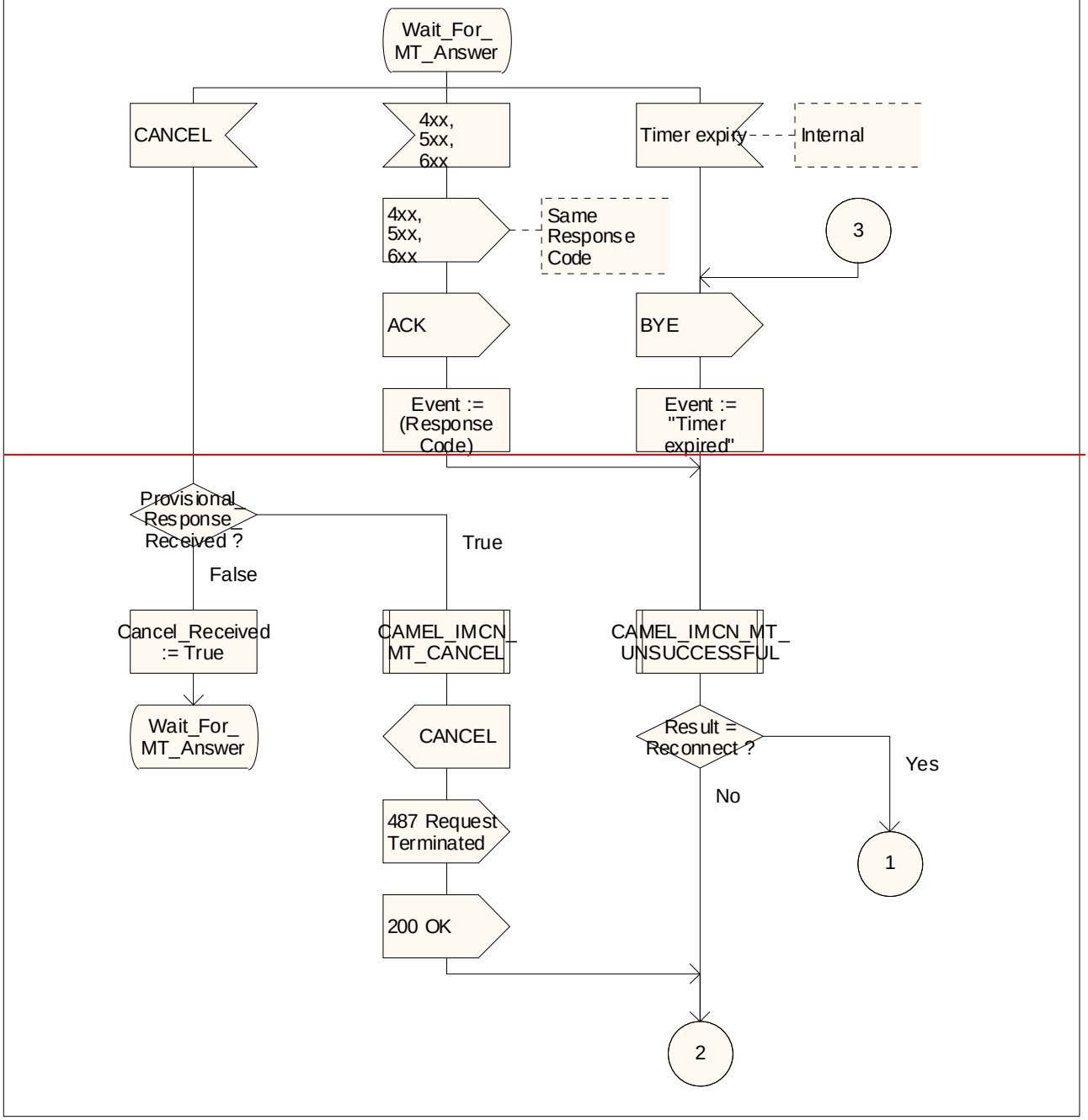


Figure 4.22-2: Process MT_IM_SSF (sheet 2)

Process MT_IM_SSF 3(5)

Process in IM-SSF to perform Mobile Terminating Call in IMS.

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the originating S-CSCF via S-CSCF, unless otherwise stated. */



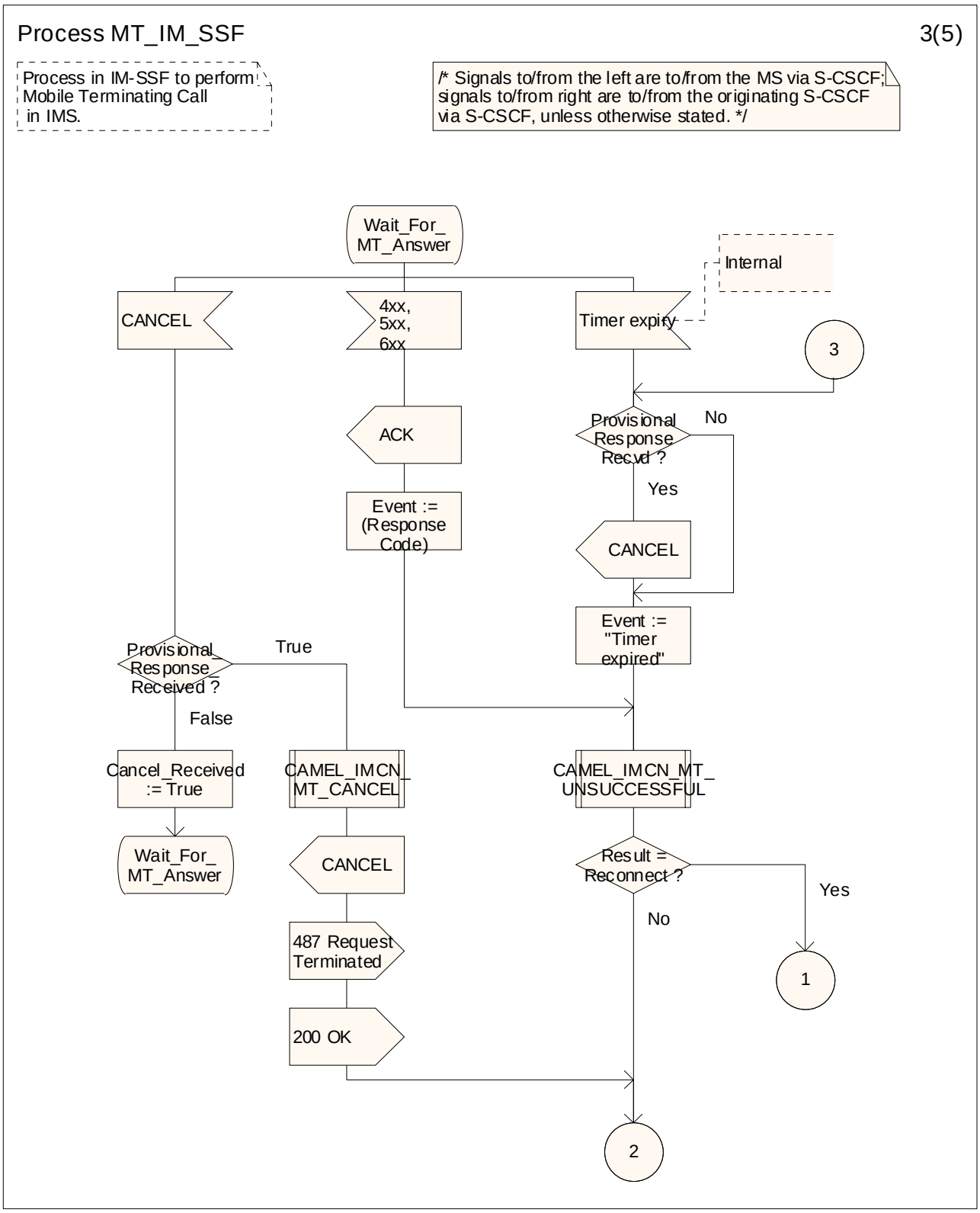


Figure 4.22-3: Process MT_IM_SSF (sheet 3)

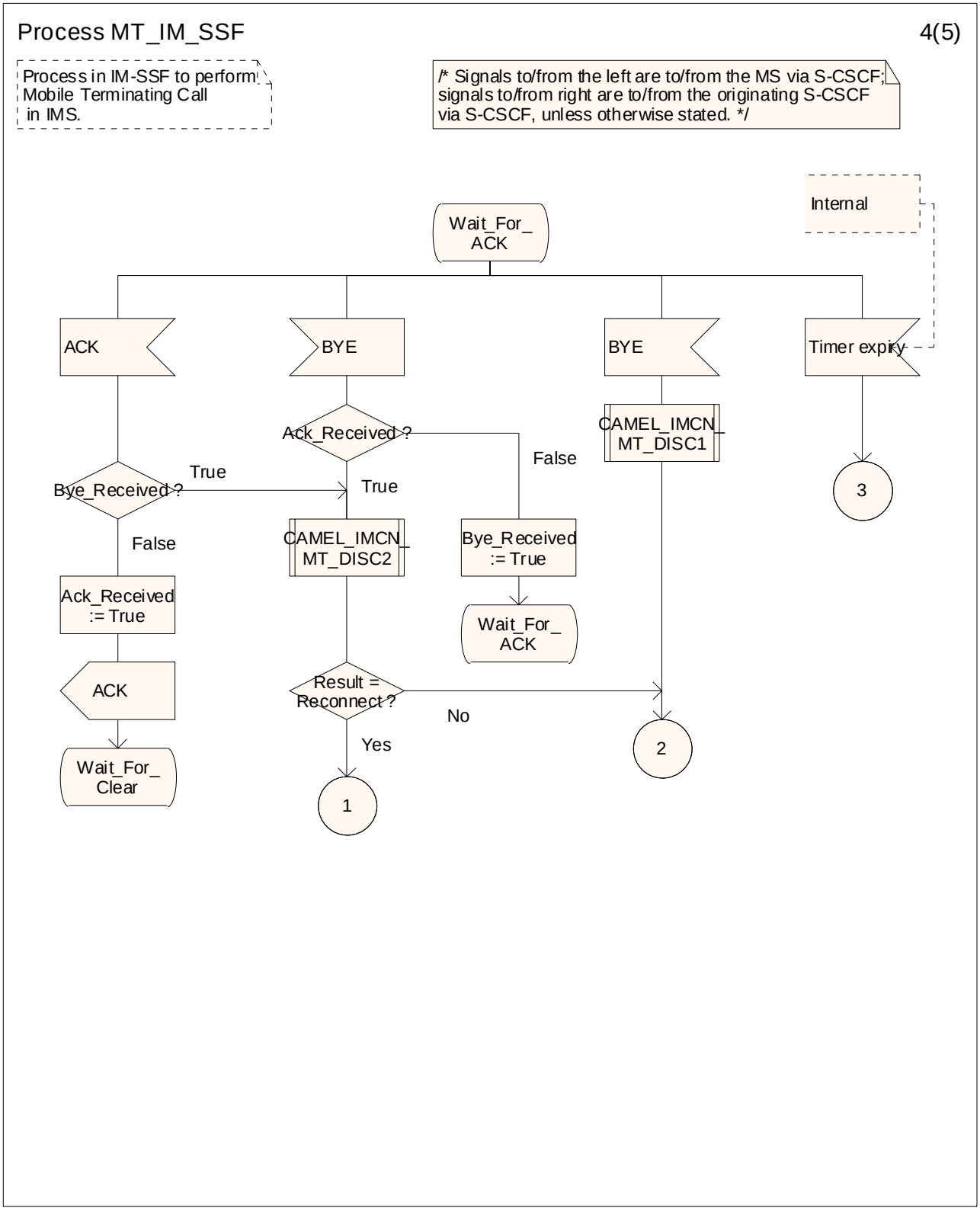


Figure 4.22-4: Process MT_IM_SSF (sheet 4)

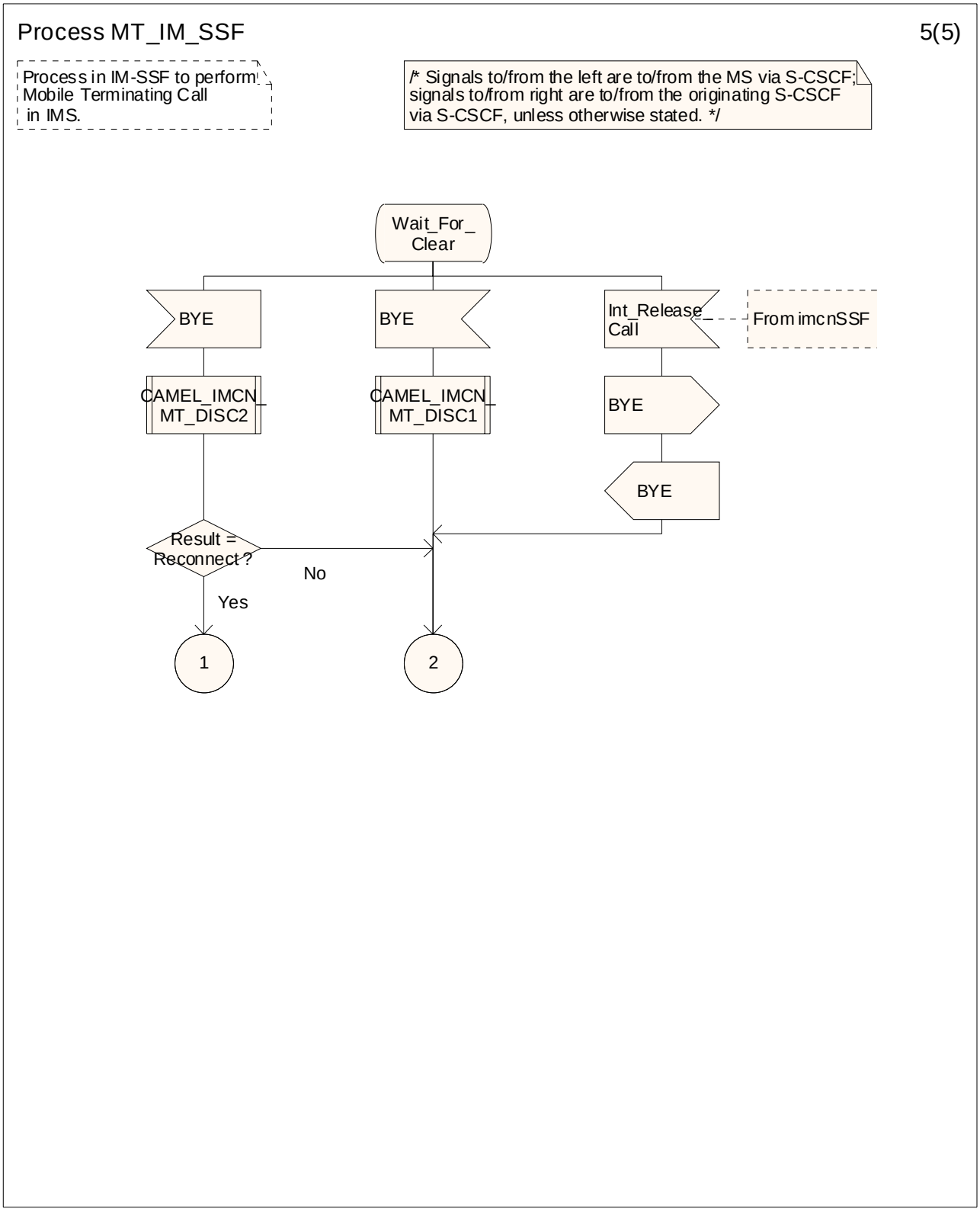


Figure 4.22-5: Process MT_IM_SSF (sheet 5)

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

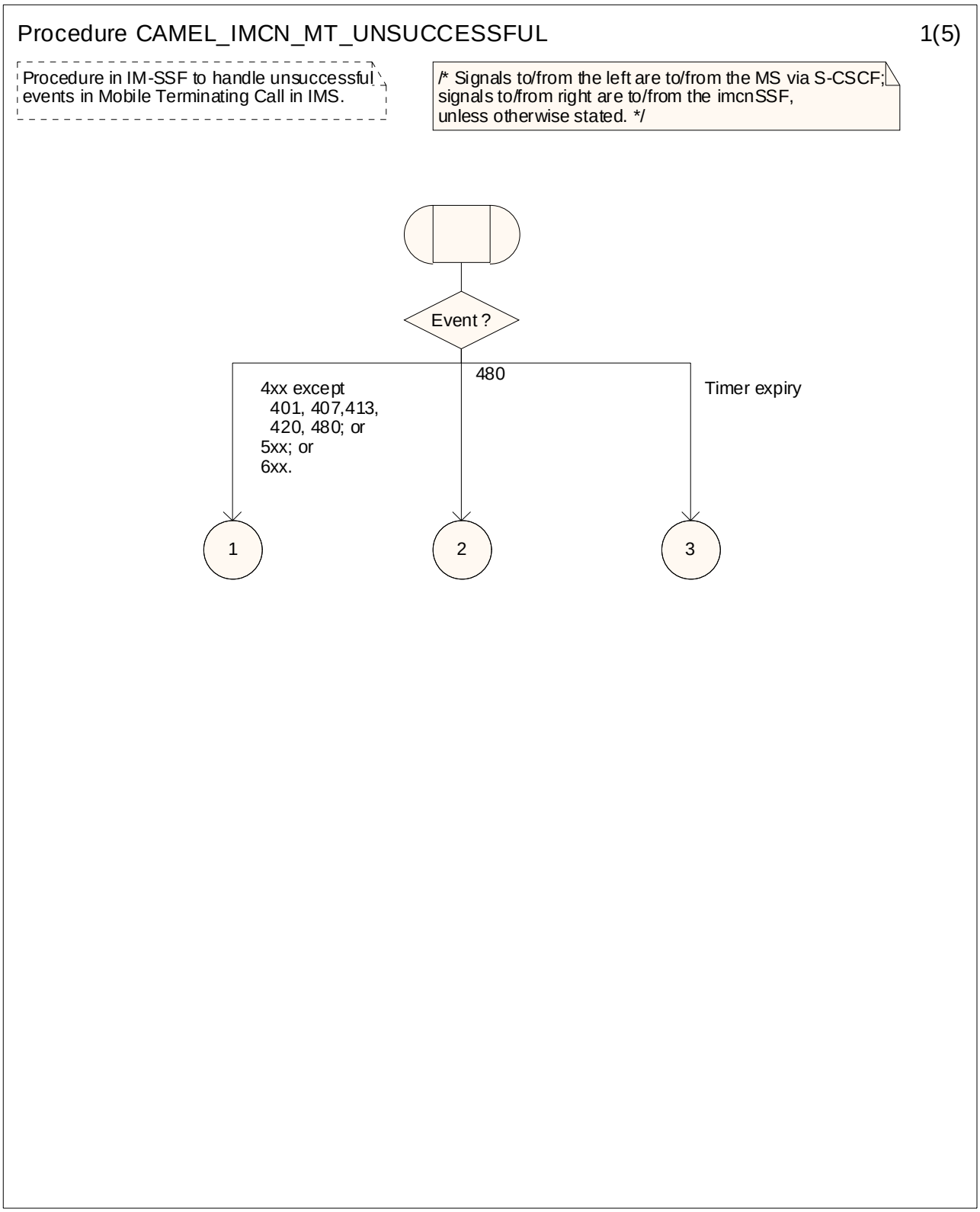
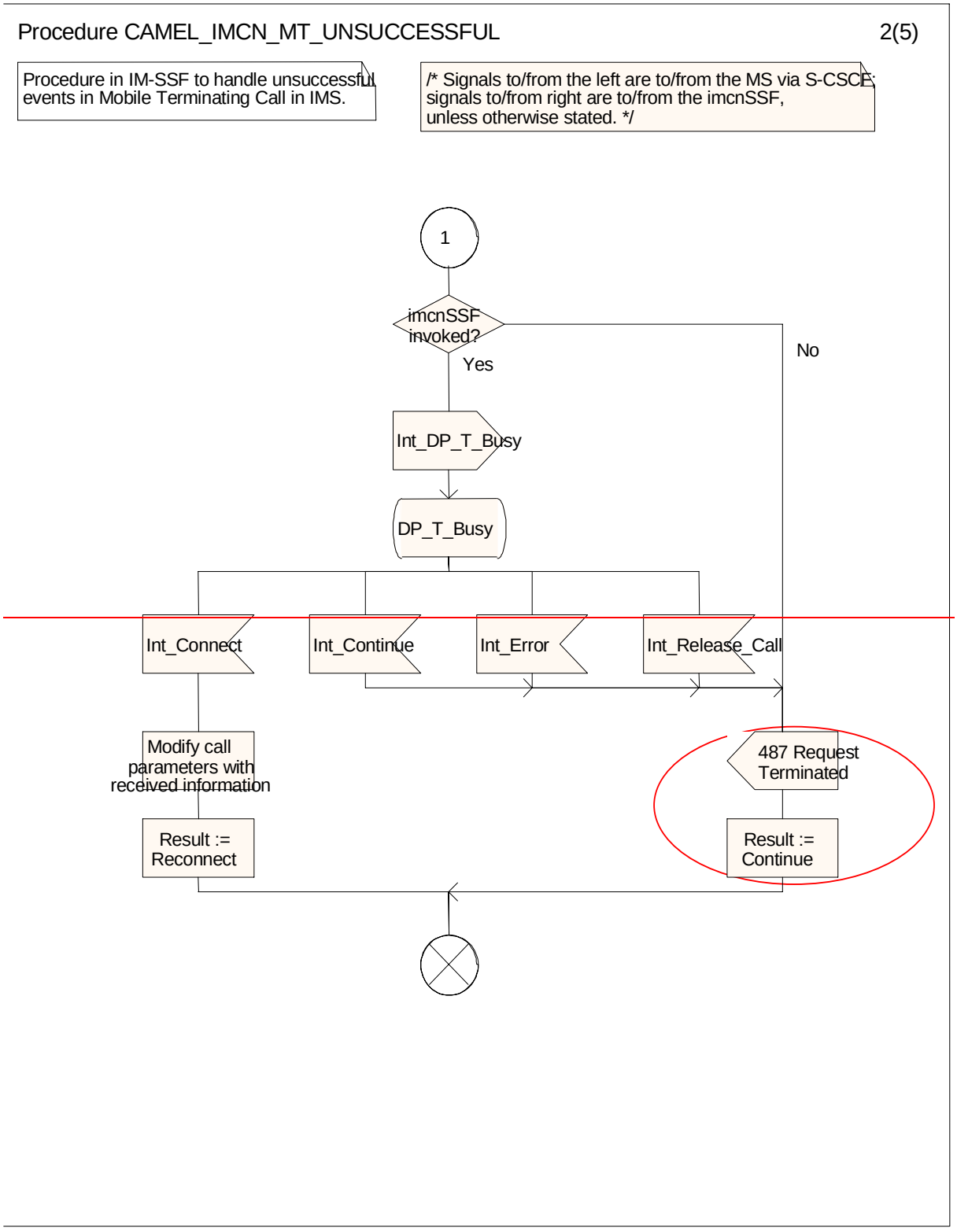


Figure 4.28-1: Procedure CAMEL_IMCN_MT_UNSUCCESSFUL (sheet 1)


Procedure CAMEL_IMCN_MT_UNSUCCESSFUL
2(5)
Procedure in IM-SSF to handle unsuccessful events in Mobile Terminating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */
1
imcnSSF invoked?
No
Yes
Int_DP_T_Busy
DP_T_Busy
Int_Connect
Int_Continue
Int_Error
Int_Release_Call
Modify call parameters with received information
487 Request Terminated
Result := Reconnect
Result := Continue

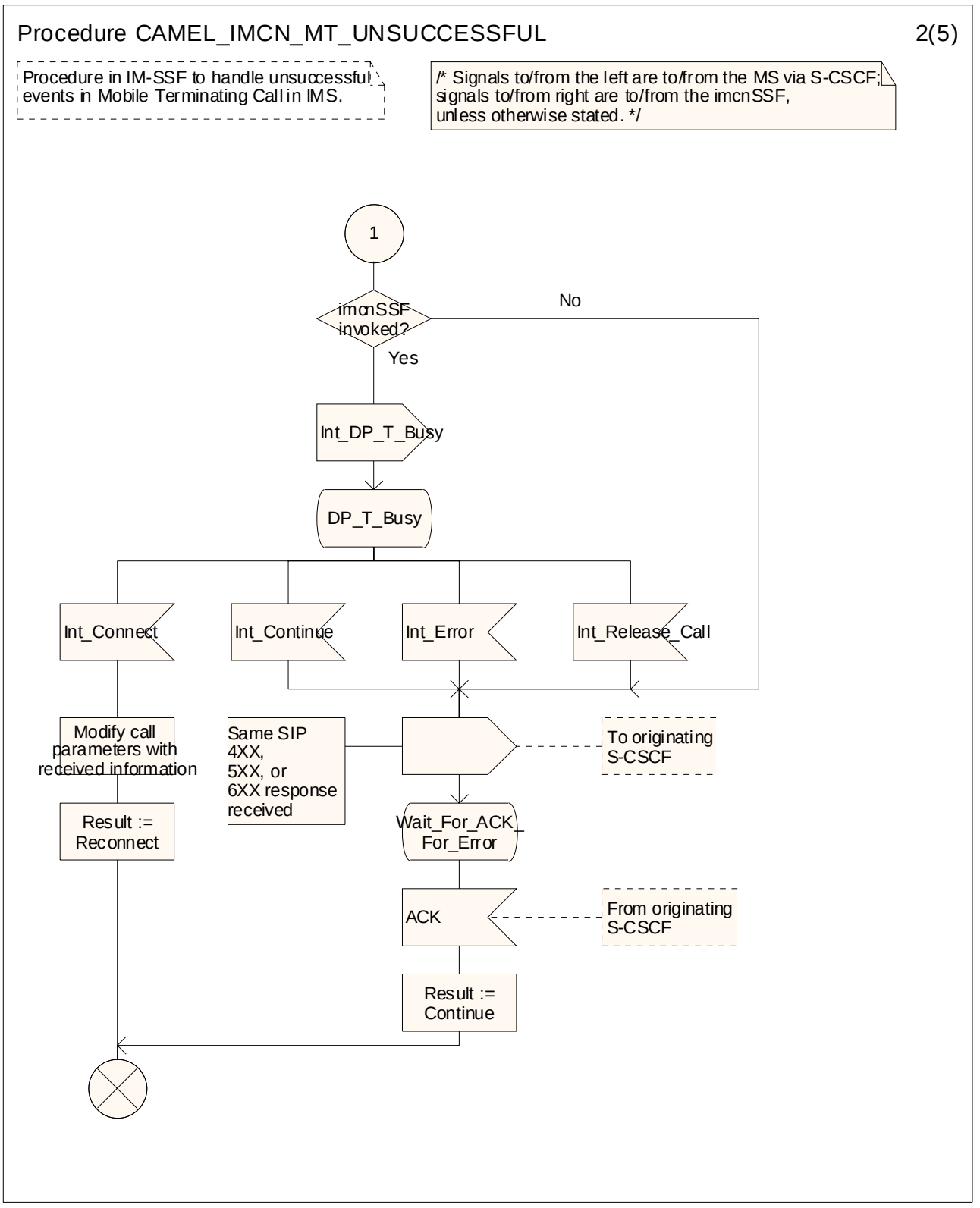
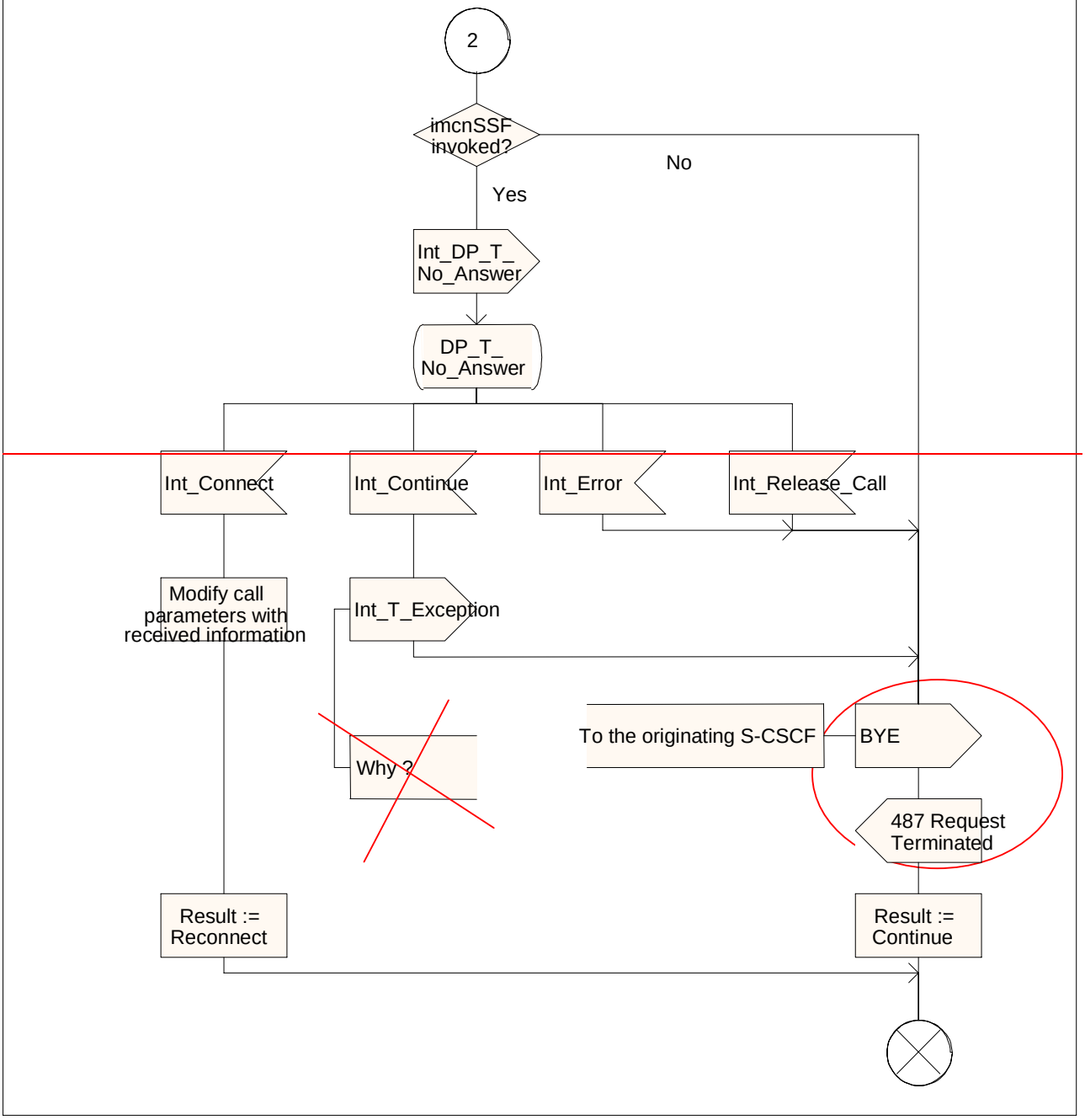


Figure 4.28-2: Procedure CAMEL_IMCN_MT_UNSUCCESSFUL (sheet 2)

Procedure CAMEL_IMCN_MT_UNSUCCESSFUL 3(5)

Procedure in IM-SSF to handle unsuccessful events in Mobile Terminating Call in IMS.

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */



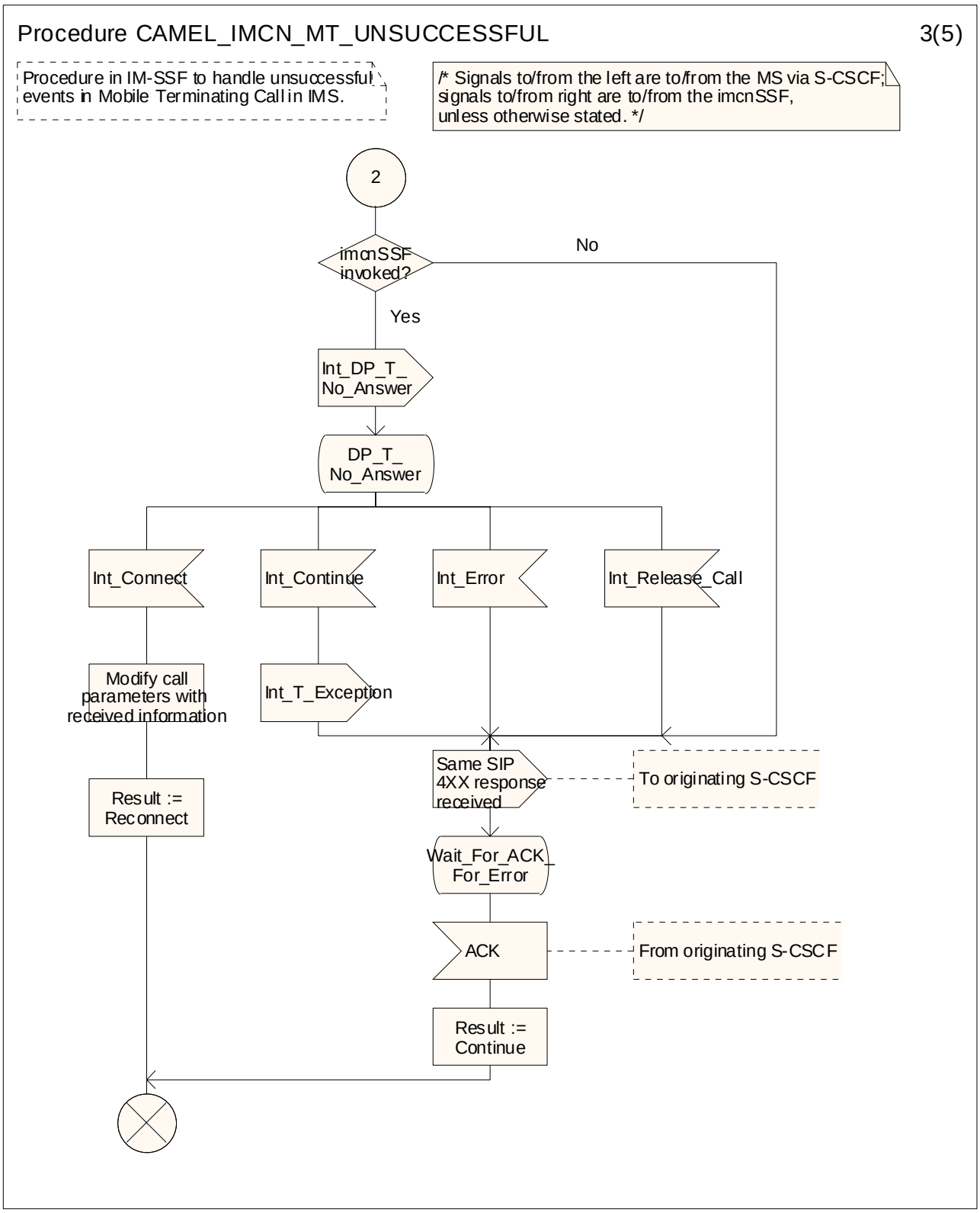
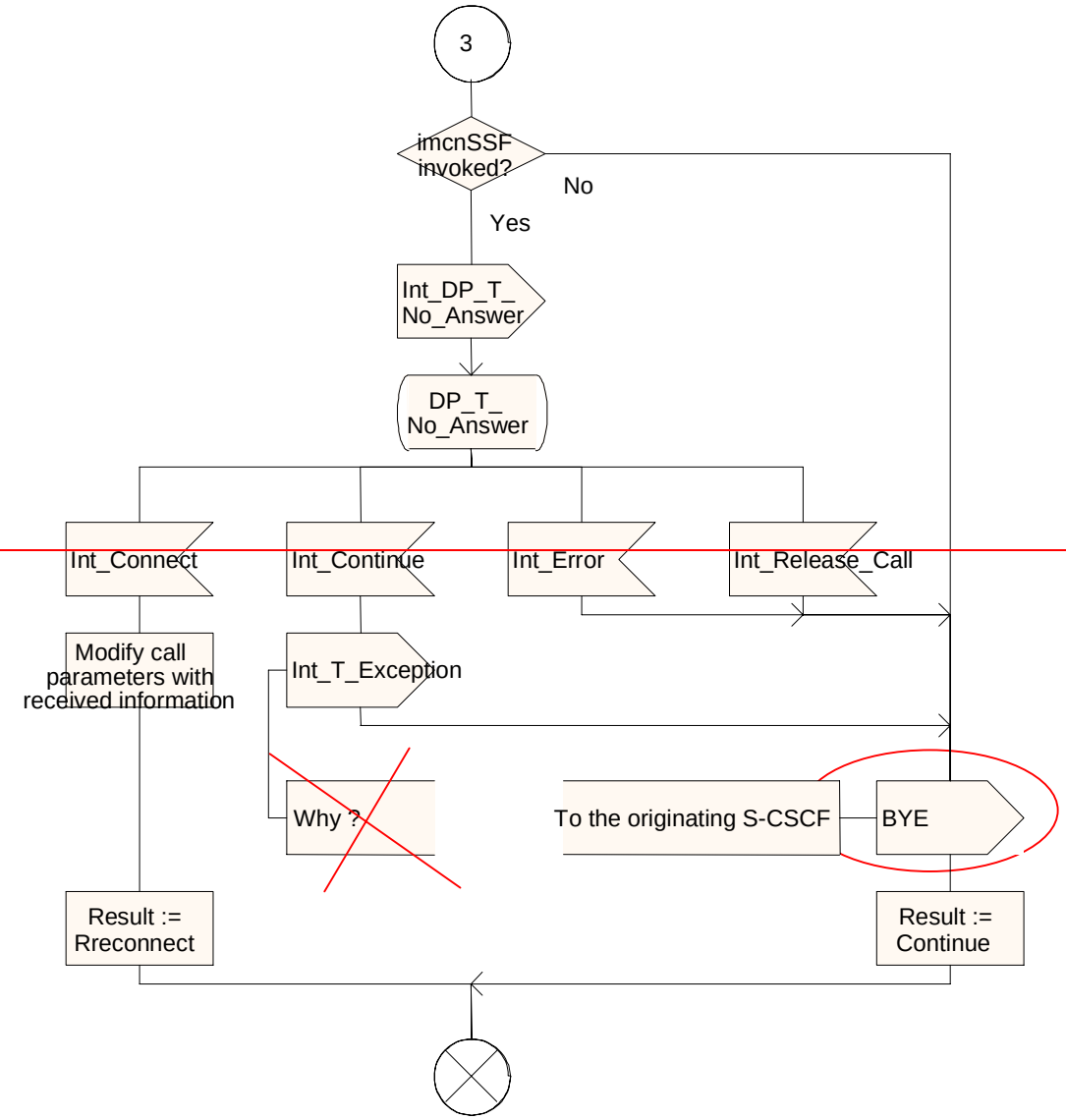


Figure 4.28-3: Procedure CAMEL_IMCN_MT_UNSUCCESSFUL (sheet 3)

Procedure CAMEL_IMCN_MT_UNSUCCESSFUL 4(5)

Procedure in IM-SSF to handle unsuccessful events in Mobile Terminating Call in IMS.

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */



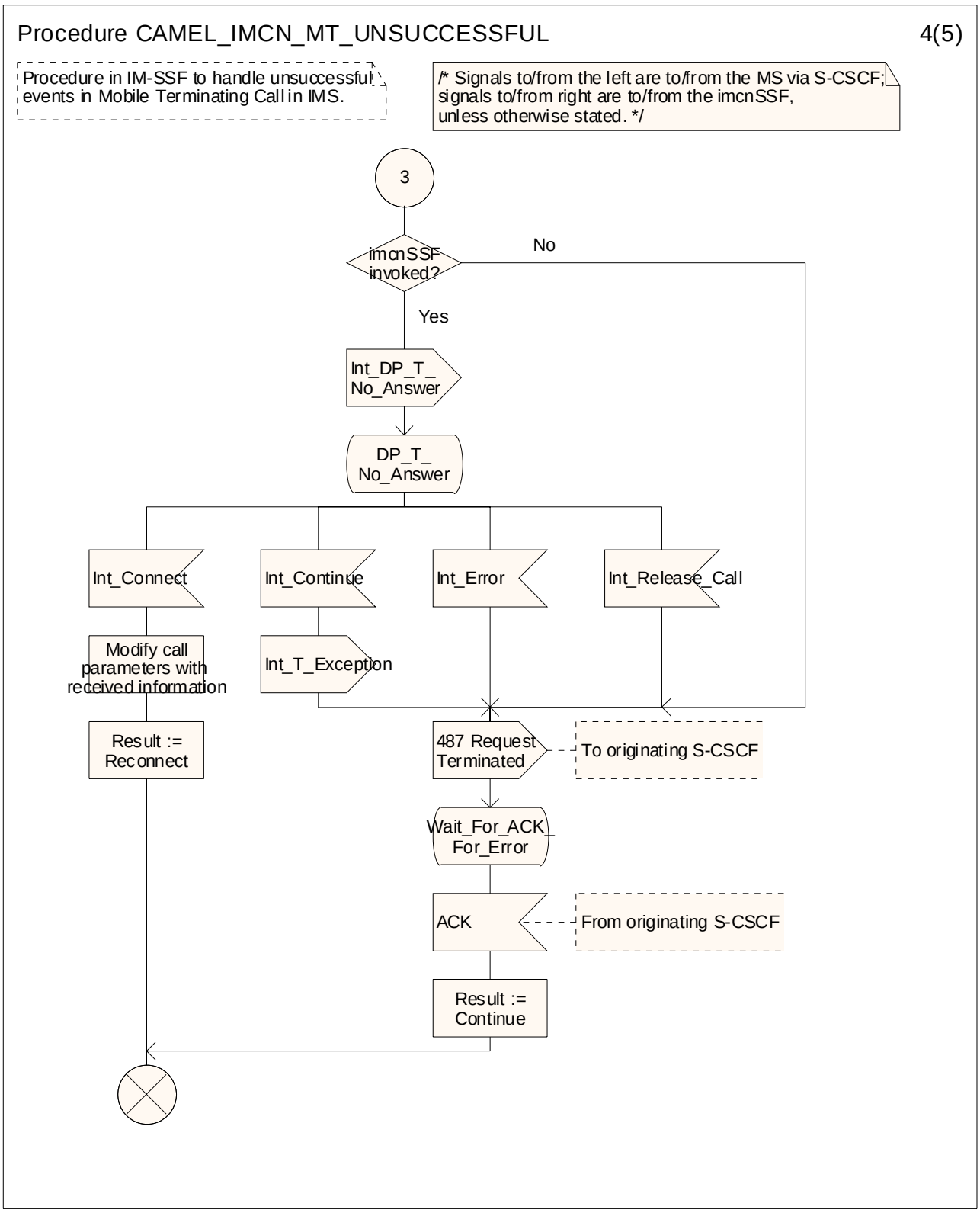
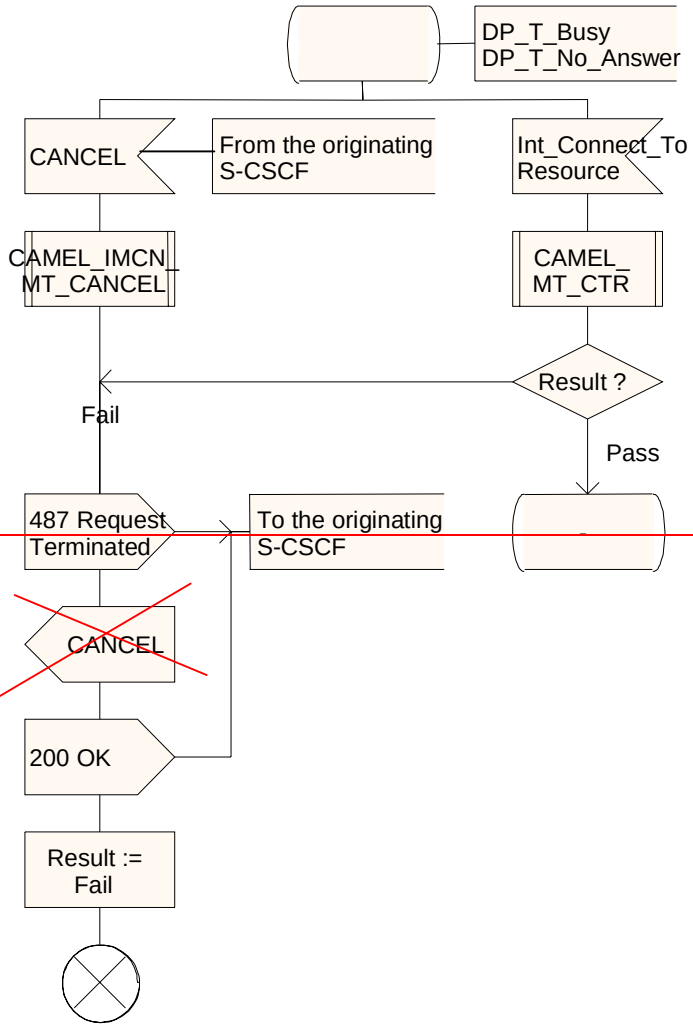


Figure 4.28-4: Procedure CAMEL_IMCN_MT_UNSUCCESSFUL (sheet 4)

Procedure CAMEL_IMCN_MT_UNSUCCESSFUL 5(5)

Procedure in IM-SSF to handle unsuccessful events in Mobile Terminating Call in IMS.

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */



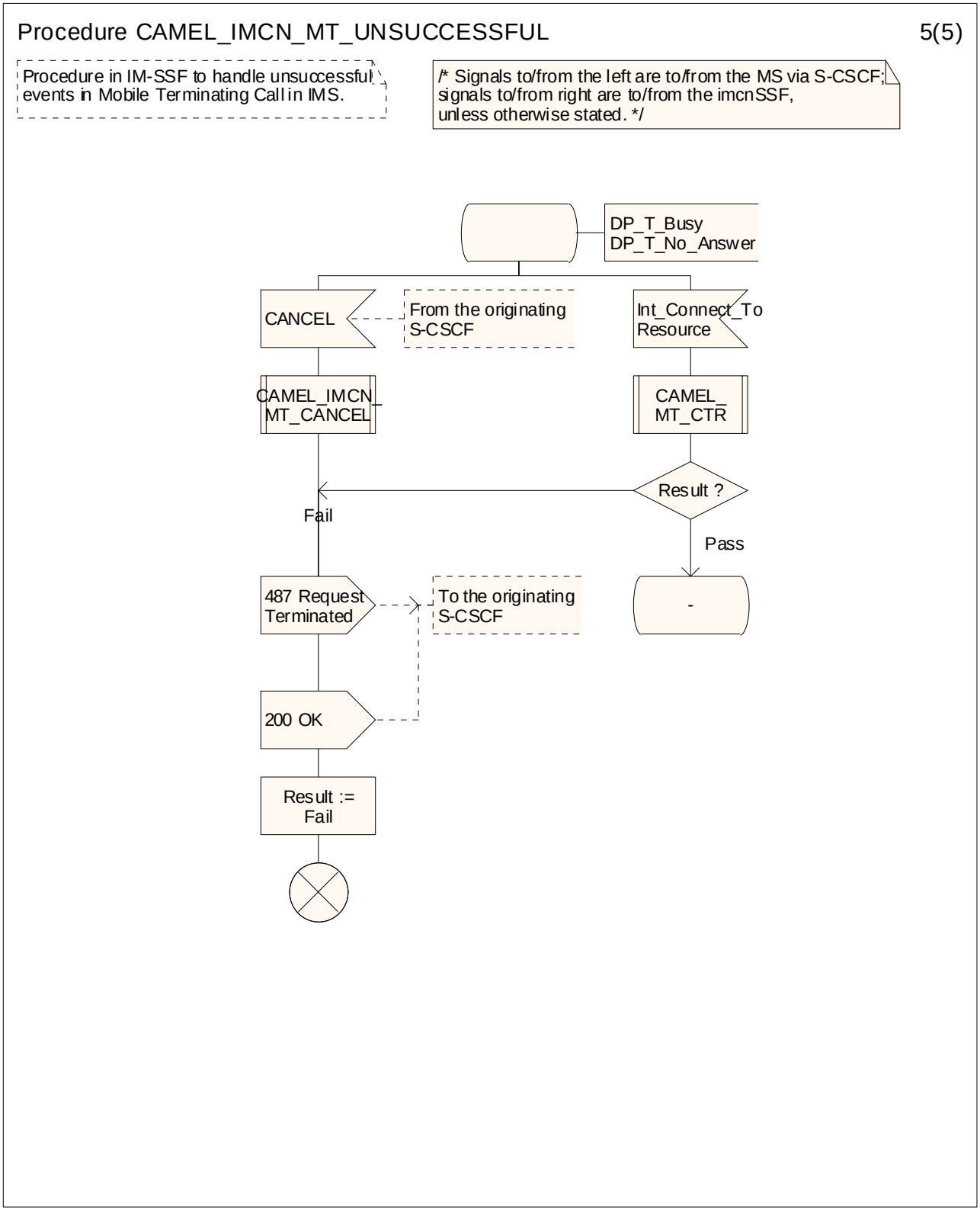


Figure 4.28-5: Procedure CAMEL_IMCN_MT_UNSUCCESSFUL (sheet 5)

****** End ******

3GPP TSG-CN WG2 Meeting #30
Sophia Antipolis, France 25th – 29rd Aug 2003.

Tdoc ⌘N2-030443
(revision of N2-030439)

CR-Form-v7

CHANGE REQUEST

⌘ **23.278** **CR** **045** ⌘ **rev** **1** ⌘ Current version: **5.3.0** ⌘

*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:	⌘	Incorrect handling of failure SIP response for MO
Source:	⌘	Lucent Technologies
Work item code:	⌘	IMS-CAMEL
Date:	⌘	27/08/2003
Category:	⌘	**F** (Essential correction)
Release:	⌘	Rel-5

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

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

Reason for change:	⌘	The receipt of BYE from the destination S-CSCF while in the "Wait_for_ACK" state is currently missing from the SDL Process MO_IM_SSF. However, during the discussion of N2-030369, it was agreed that this scenario needs to be added in the Process MO_IM_SSF. Per IETFC RFC3261, it is possible for a UA Client to receive a BYE request from a UA server to which the INVITE request had been sent to, if after 64 * T1 the ACK is not received in the UA server.
Summary of change:	⌘	The handling of the input signal for BYE is added to the SDL Process MO_IM_SSF (sheet4). In addition, the handling of the input ACK signal from the originating S-CSCF is modified to check if a BYE was previously received. If BYE was received, the procedure for CAMEL_IMCN_MO_DISC2 is called; otherwise, the IM-SSF sends the ACK to the destination S-CSCF and waits for the call to clear.
Consequences if not approved:	⌘	Incomplete specification for handling of call disconnect from terminating party.

Clauses affected:	⌘	4.6.1.3 SDL Process MO_IM_SSF

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

Other comments:	⌘	

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

4.6.1.3 Handling of Mobile Originated Calls in the IM-SSF

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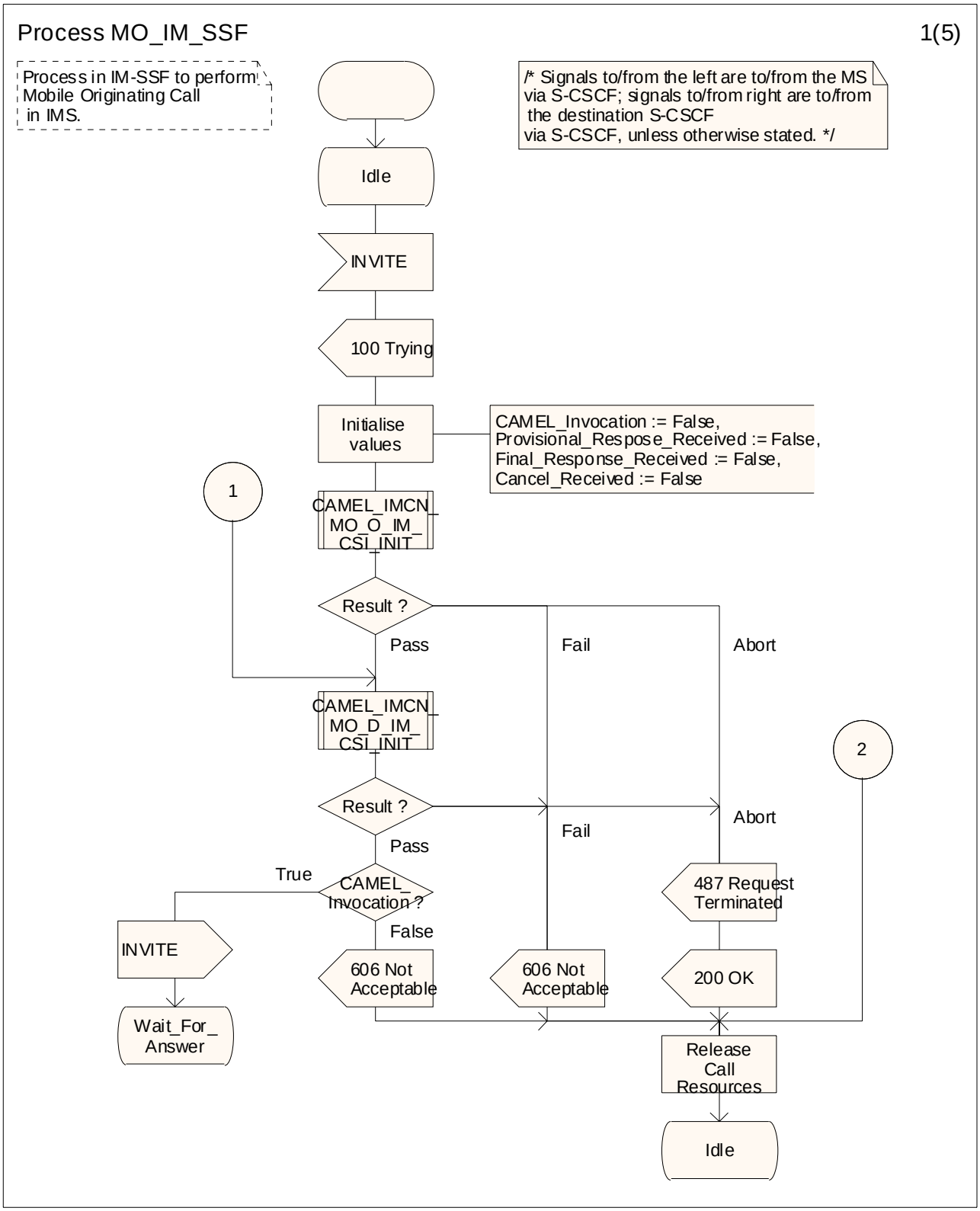


Figure 4.13-1: Process MO_IM_SSF (sheet 1)

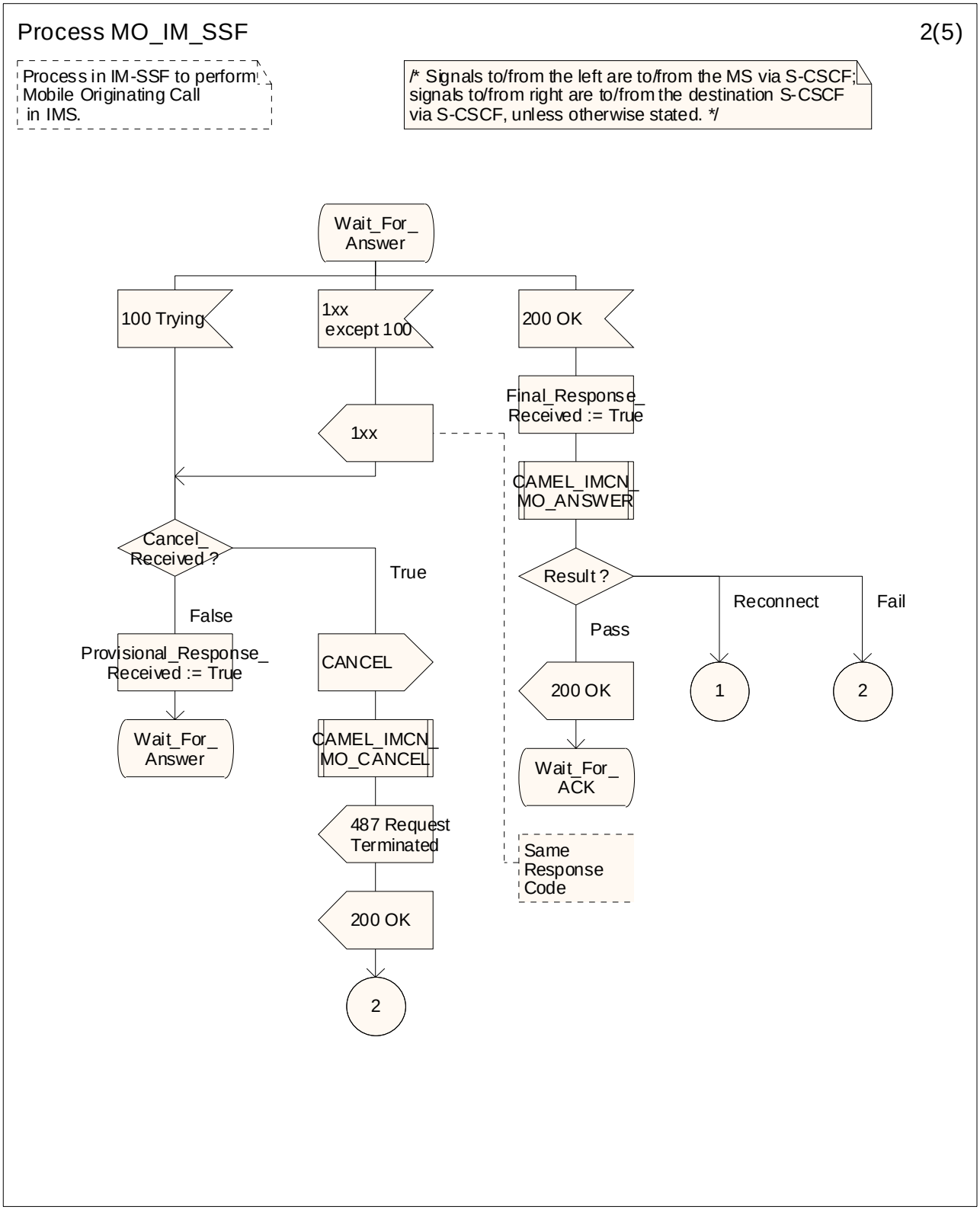


Figure 4.13-2: Process MO_IM_SSF (sheet 2)

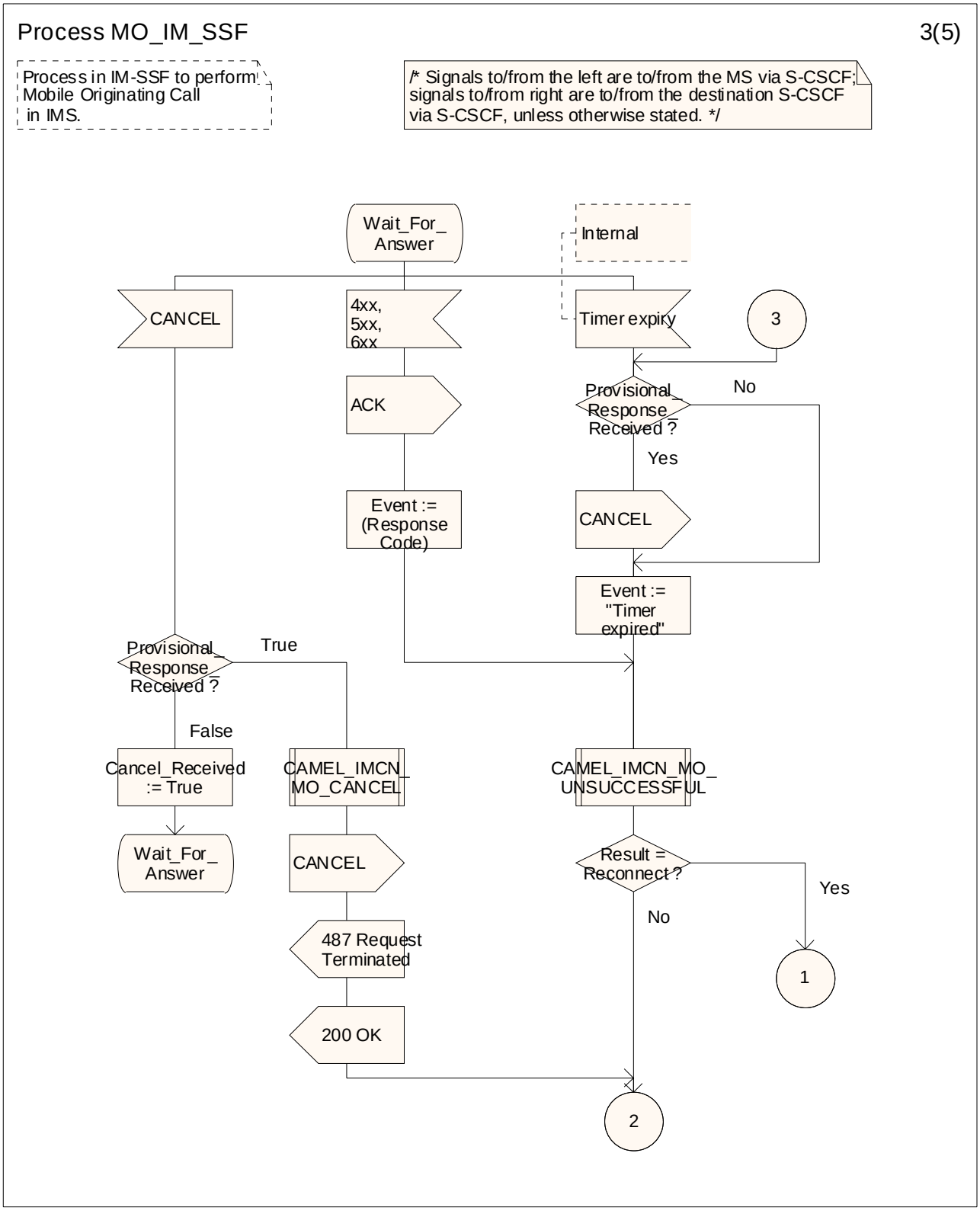
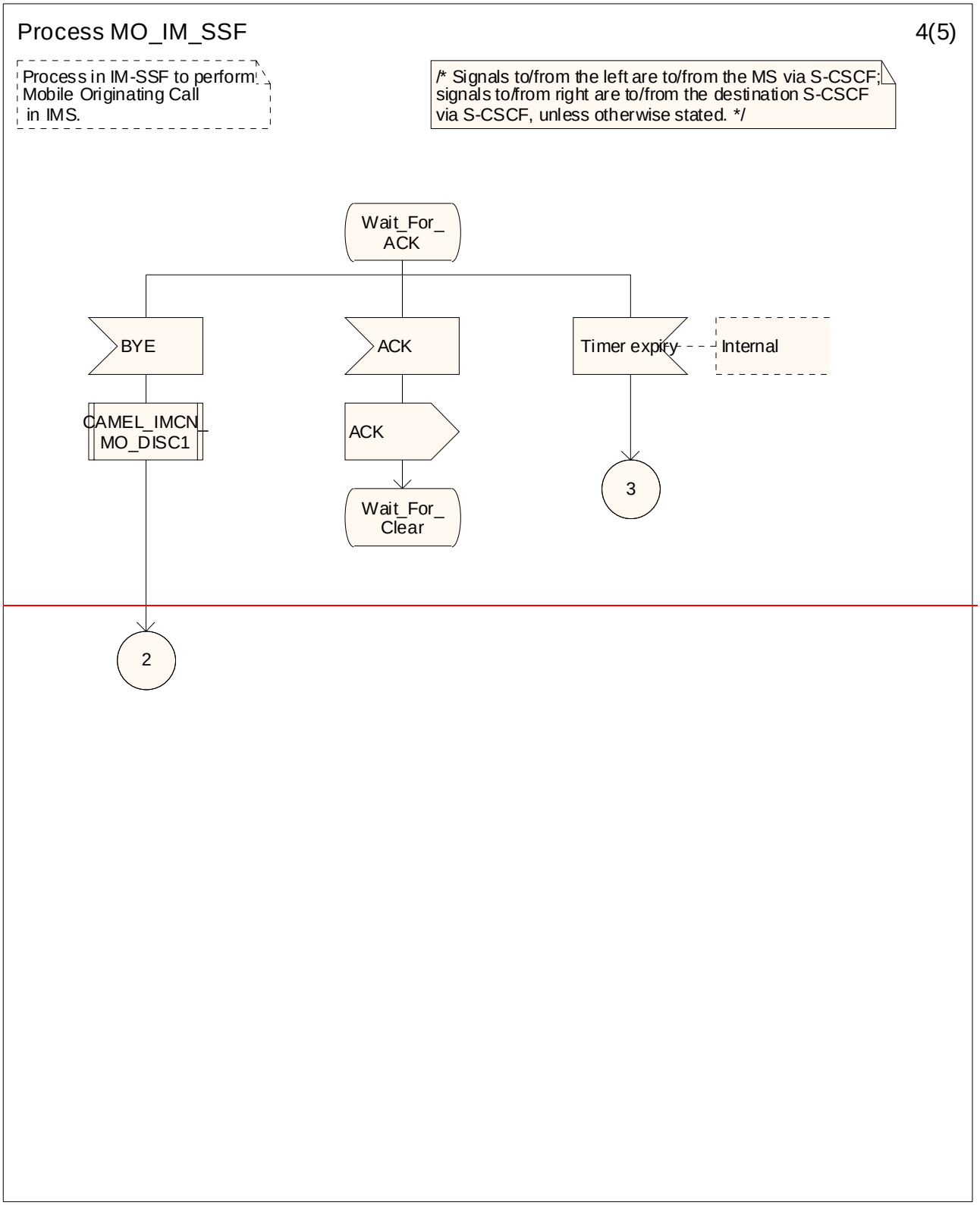


Figure 4.13-3: Process MO_IM_SSF (sheet 3)


Process MO_IM_SSF
4(5)
Process in IM-SSF to perform Mobile Originating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the destination S-CSCF via S-CSCF, unless otherwise stated. */
Wait_For_ ACK
BYE
ACK
Timer expiry
Internal
CAMEL_IMCN_ MO_DISC1
ACK
3
Wait_For_ Clear
2

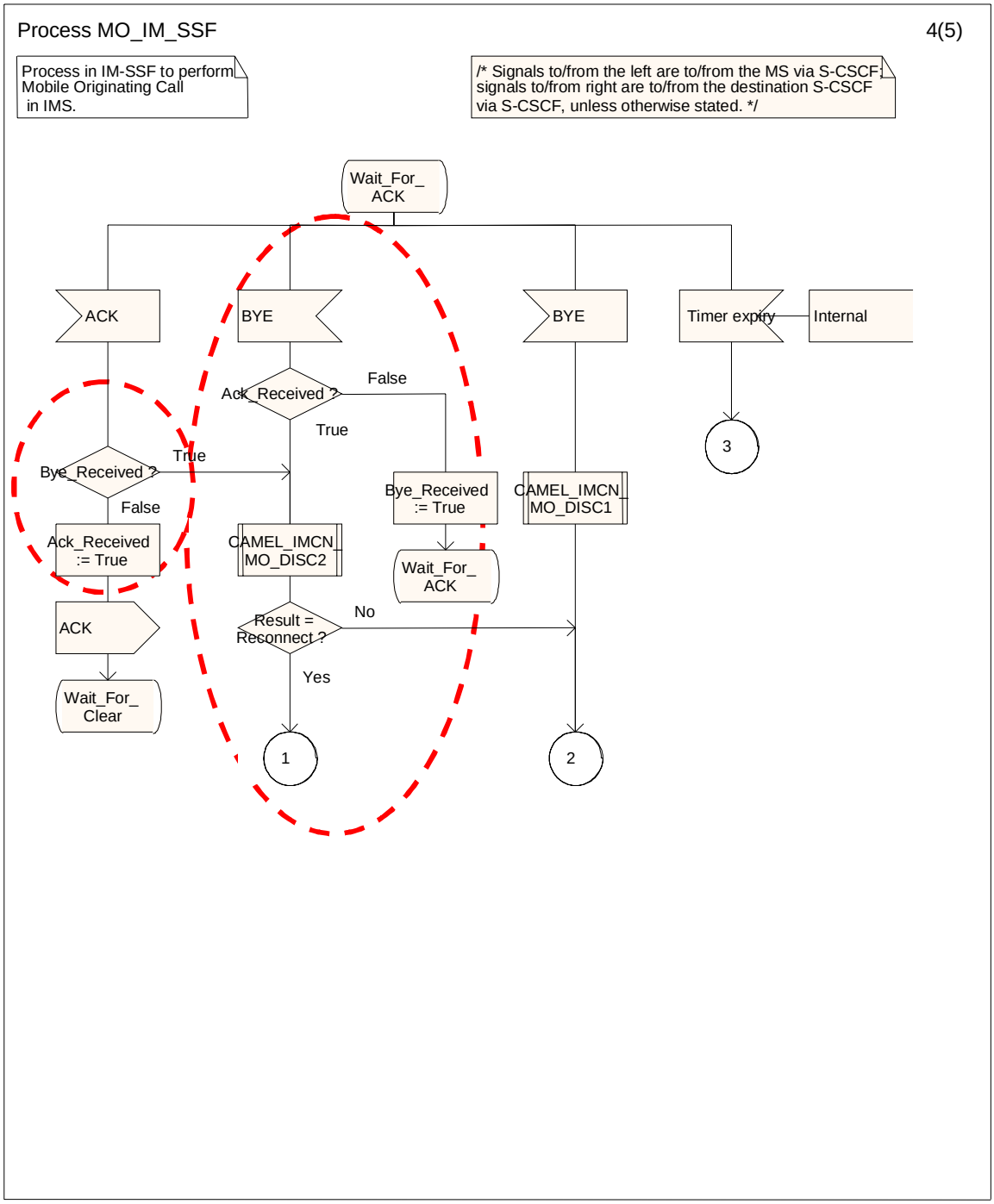


Figure 4.13-4: Process MO_IM_SSF (sheet 4)

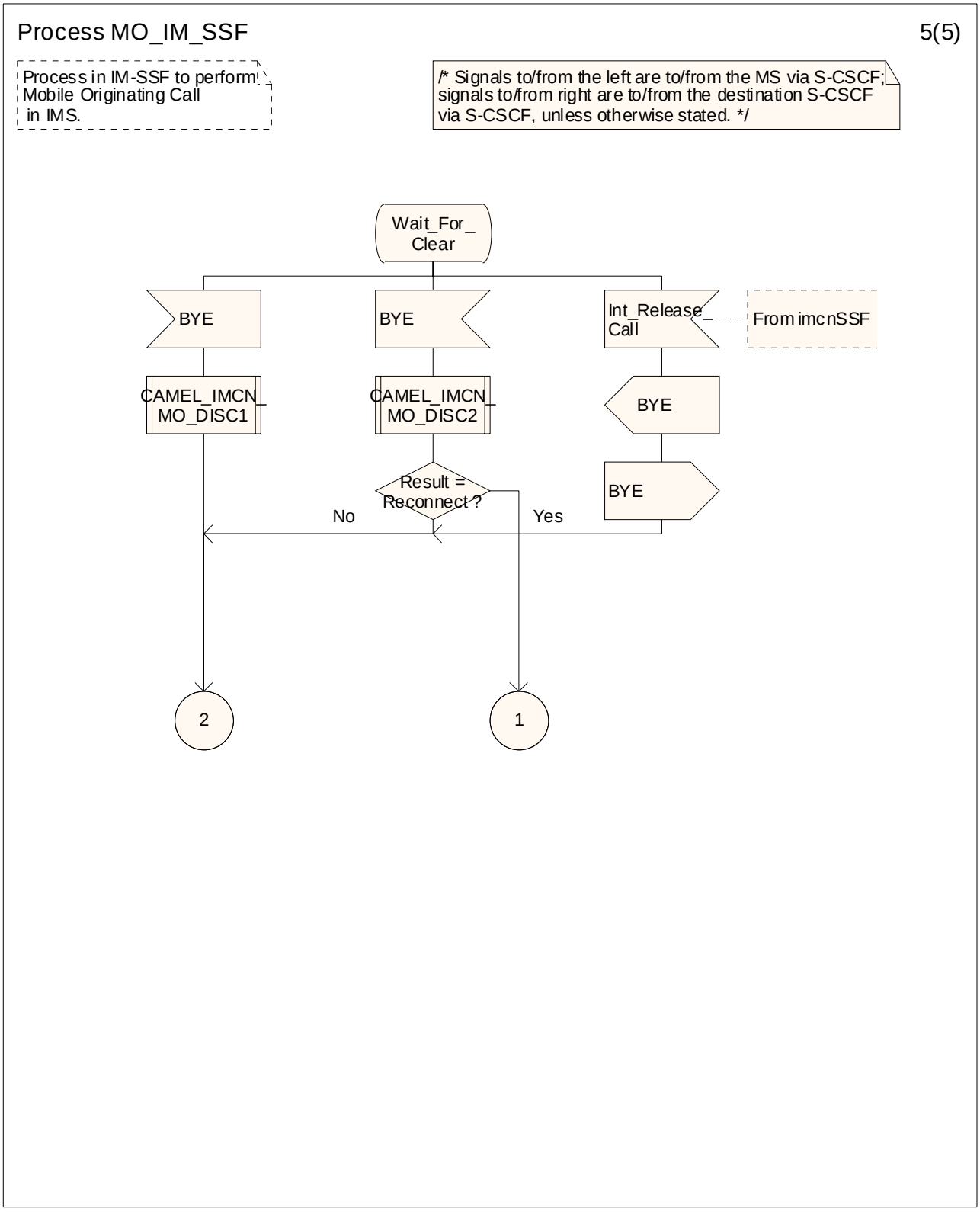


Figure 4.13-5: Process MO_IM_SSF (sheet 5)

**** End ****

3GPP TSG CN WG2 Meeting #30 ***N2-030465***
Sophia Antipolis, France, 25th – 29th August 2003 **(Revision of *N2-030440*)**

CR-Form-v7

CHANGE REQUEST

⌘ **23.278** **CR** **044** ⌘**rev** **2** ⌘ Current version: **5.3.0** ⌘

*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:	⌘	Setting of Timers not specified for IM-SSF process
Source:	⌘	Lucent Technologies
Work item code:	⌘	IMS-CAMEL ***Date:*** ⌘ 27/08/03
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:	⌘	Current SDLs for processing SIP INVITE in the IM-SSF includes the handling of internal timer expiration. However, it is not specified when this internal timer is set/initialize.
Summary of change:	⌘	The existing check for internal timer expiry while in Wait_For_Answer state is modeled after the CS CN handling of TNRy for no answer. This CR modifies the existing the SDLs for Process MO_IM_SSF and MT_IM_SSF specify the setting of the no answer timer for IM-SSF as well as the usage of other timers for control of SIP messages. SDLs modified: Process MO_IM_SSF, Procedures CAMEL_IMCN_MO_IM_CSI_INIT, CAMEL_MO_D_IM_CSI_INIT, Process MT_IM_SSF, Procedure CAMEL_MT_VT_IM_CSI_INIT.
Consequences if not approved:	⌘	Incomplete specification on usage of internal timers will result in incorrect or different implementation of the IM-SSF processing.

Clauses affected:	⌘	4.6.1.3, 4.6.1.4

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

Other comments:	⌘	SDLs used in this tdoc are based on latest revisions on MT-IM-SSF(per CR 043) and MO-IM-SSF (per CR 045).

***** FOR INFORMATION ONY: (The reference list includes 3GPP TS 24.229)**

2 References

…

[7] 3GPP TS 24.228: "3rd Generation Partnership Project; Technical Specification Group Core Networks; Signalling flows for the IP multimedia call control based on SIP and SDP.

[8] 3GPP TS 24.229: “3rd Generation Partnership Project; Technical Specification Group Core Networks; IP Multimedia Call Control Protocol based o SIP and SDP; Stage 3”.[9] 3GPP TS 29.002: "3rd Generation Partnership Project; Technical Specification Group Core Network; Mobile Application Part (MAP) specification".

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

4.6.1.3 Handling of Mobile Originated Calls in the IM-SSF

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4.6.1.3.9 Handling of internal timers in Process MO_IM_SSF

The SIP B timer defined in 3GPP TS 24.229 [8] is used for IM-SSF handling of no response condition for an INVITE request, similar to the Circuit Switched handling of TNRy Timer for No Reply. The use of B timer in the IM-SSF is indicated in the SDL Process MO_IM_SSF. There are other SIP timers defined in 3GPP TS 24.229 [8] that are not specified in the SDLs for IM-SSF processing. The usage of these timers is based on the network's implementation of the IM-SSF (e.g. choice of UDP or TCP for transport of SIP, and how IM-SSF operates as both a UAS and a UAC - i.e. back-to-back UA).

The following sub-clauses provide additional information on Process MO_IM_SSF's handling of the internal timers:

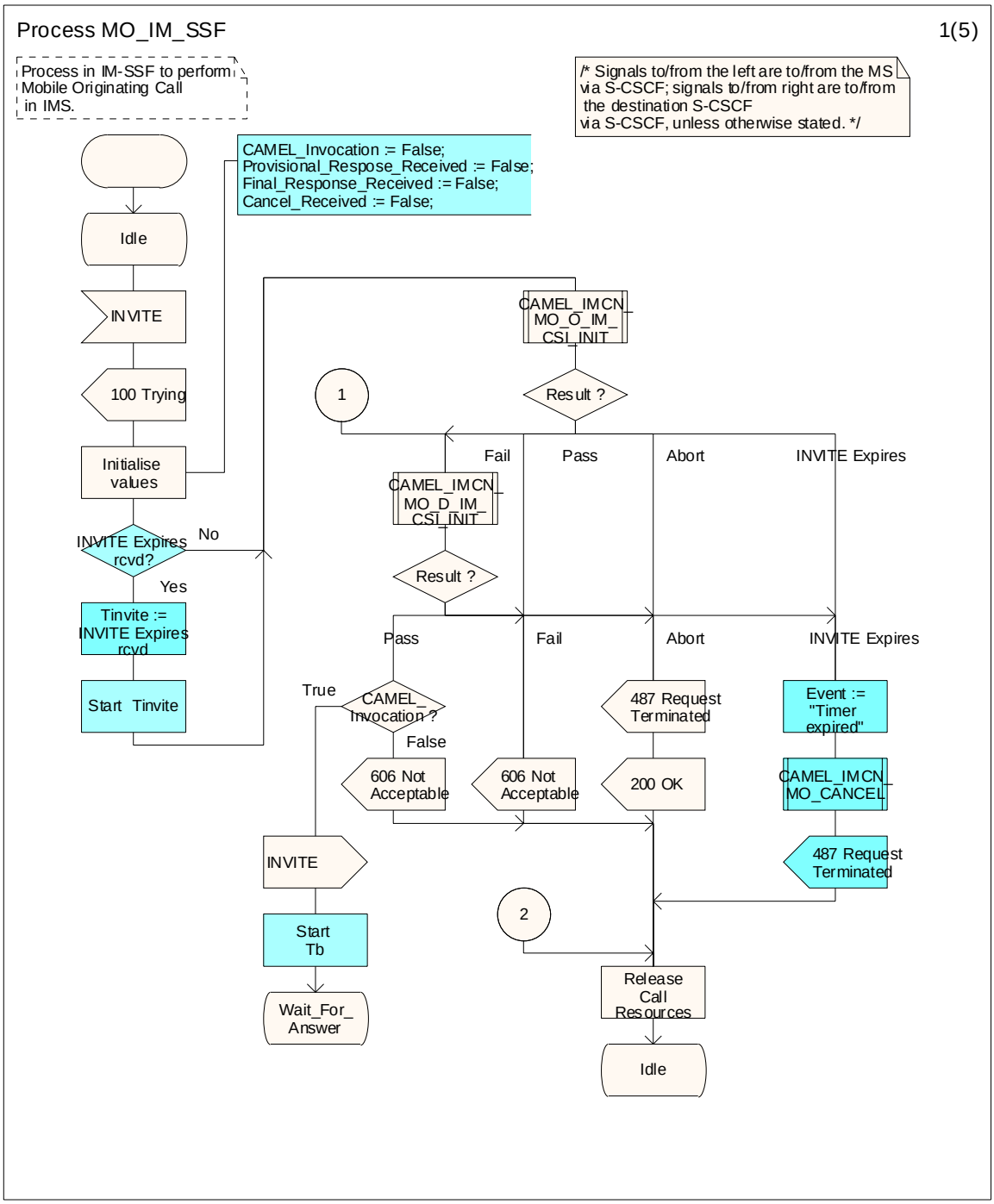
Sheet 1: The inclusion of Expires header field in the INVITE method is optional and is used to indicate the duration of the invitation in seconds. When the timer fires before a final response is generated by the IM-SSF, the INVITE message is considered to be "expired". The IM-SSF shall report a call abandon event to the gsmSCF if requested and return a 487 Request Terminated to the originating S-CSCF.

When the IM-SSF (taking the role of a UAC) sends out the INVITE request, the B timer (i.e. Tb timer) shall be used for the INVITE transaction timeout timer. Refer to 3GPP TS 24.229 [8] for the recommended B timer value.

Sheet 2: When the IM-SSF (taking the role of a UAS) sends the 200 OK final response to the S-CSCF that sent the INVITE request, the IM-SSF shall start the Tack timer to monitor the receipt of the ACK request. Refer to 3GPP TS 24.229 [8] for the recommended ACK timer value.

Sheet 3: The expiration of Tb timer shall be reported as a no answer event to the gsmSCF if requested. If the Tinvite timer expires, the IM-SSF shall report a call abandon event to the gsmSCF if requested.

Sheet 4: The expiration of the Tack shall be reported to the gsmSCF as a call disconnect from the originating party if requested.


Process MO_IM_SSF
1(5)
Process in IM-SSF to perform Mobile Originating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the destination S-CSCF via S-CSCF, unless otherwise stated. */
CAMEL_Invocation := False;
Provisional_Respose_Received := False;
Final_Response_Received := False;
Cancel_Received := False;
Idle
INVITE
100 Trying
Initialise values
INVITE Expires rcvd?
No
Yes
Tinvite := INVITE Expires rcvd
Start Tinvite
CAMEL_IMCN_MO_O_IM_CSI_INIT
Result ?
1
Fail
Pass
Abort
INVITE Expires
CAMEL_IMCN_MO_D_IM_CSI_INIT
Result ?
Pass
Fail
Abort
INVITE Expires
True
CAMEL_Invocation ?
False
606 Not Acceptable
606 Not Acceptable
487 Request Terminated
200 OK
Event := "Timer expired"
CAMEL_IMCN_MO_CANCEL
487 Request Terminated
INVITE
Start Tb
Wait_For_Answer
2
Release Call Resources
Idle

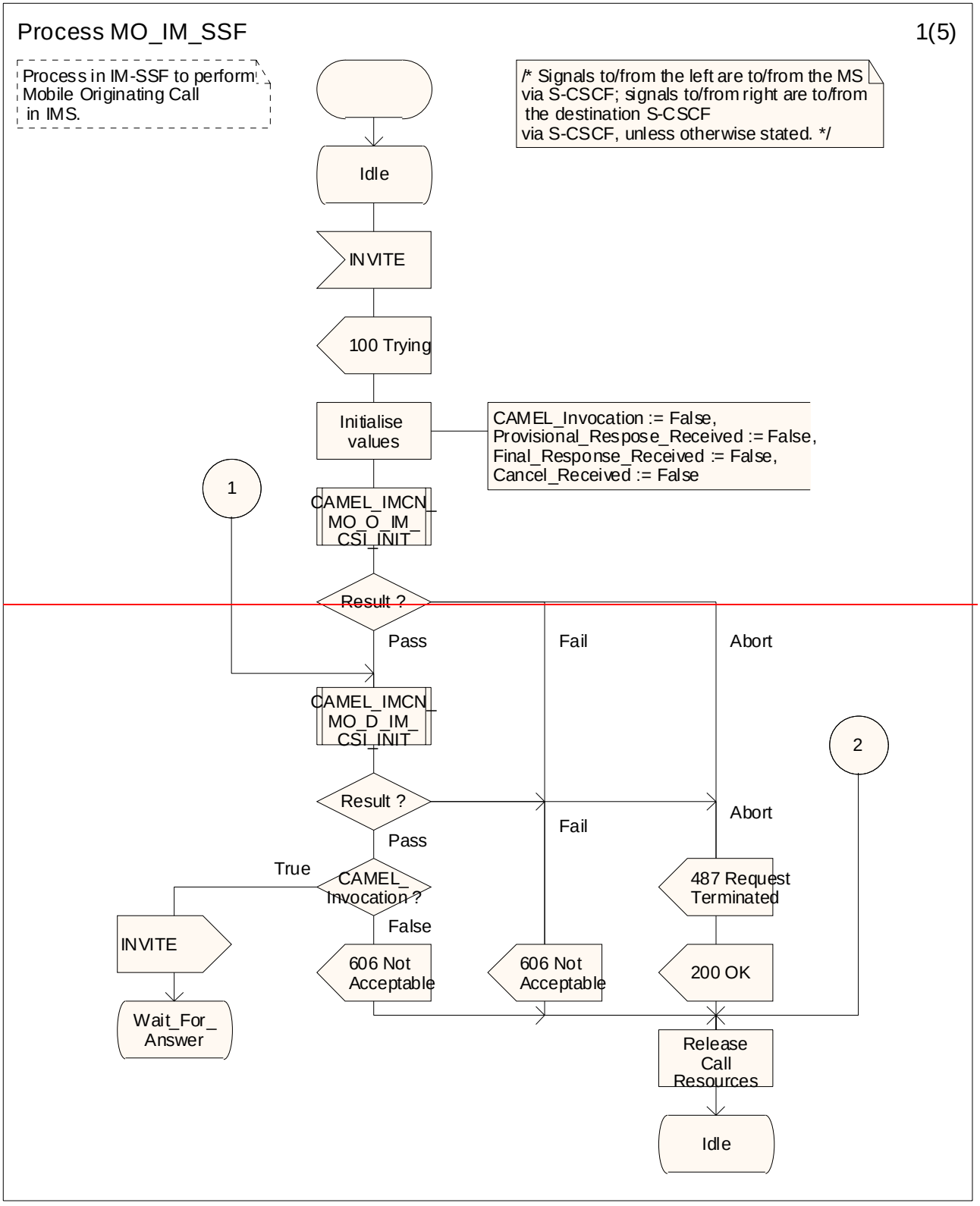
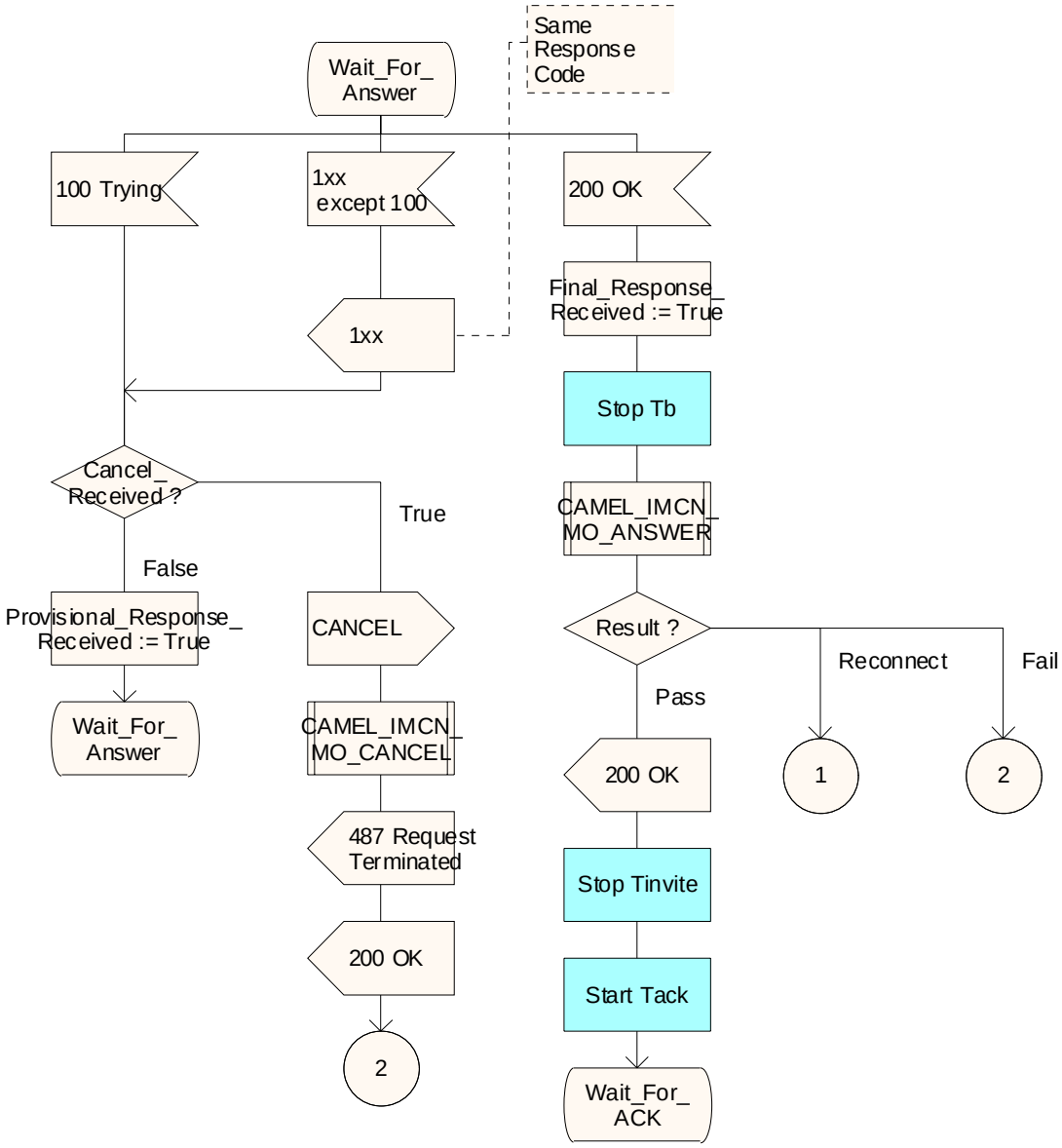


Figure 4.13-1: Process MO_IM_SSF (sheet 1)

Process MO_IM_SSF 2(5)

Process in IM-SSF to perform Mobile Originating Call in IMS.

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the destination S-CSCF via S-CSCF, unless otherwise stated. */



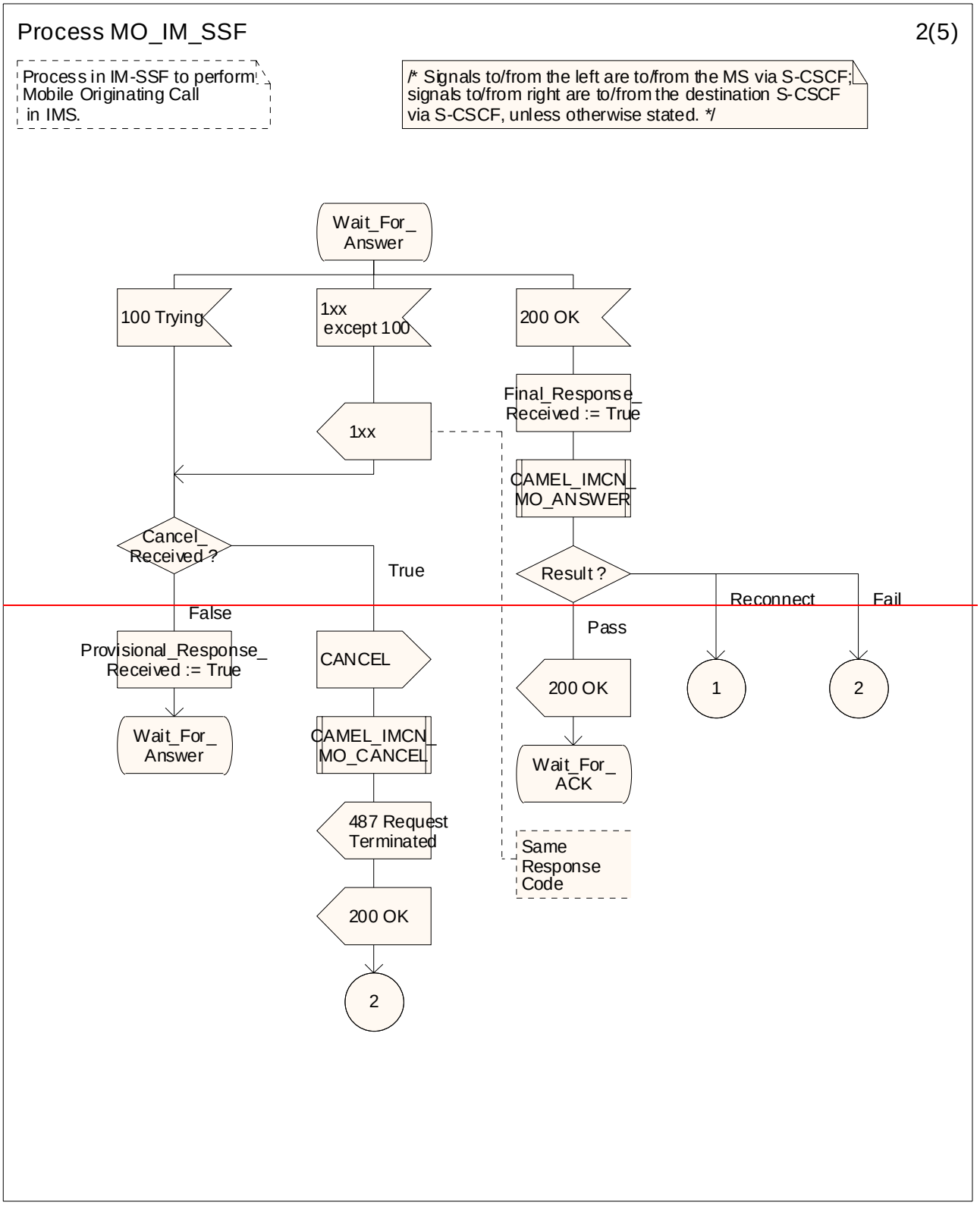
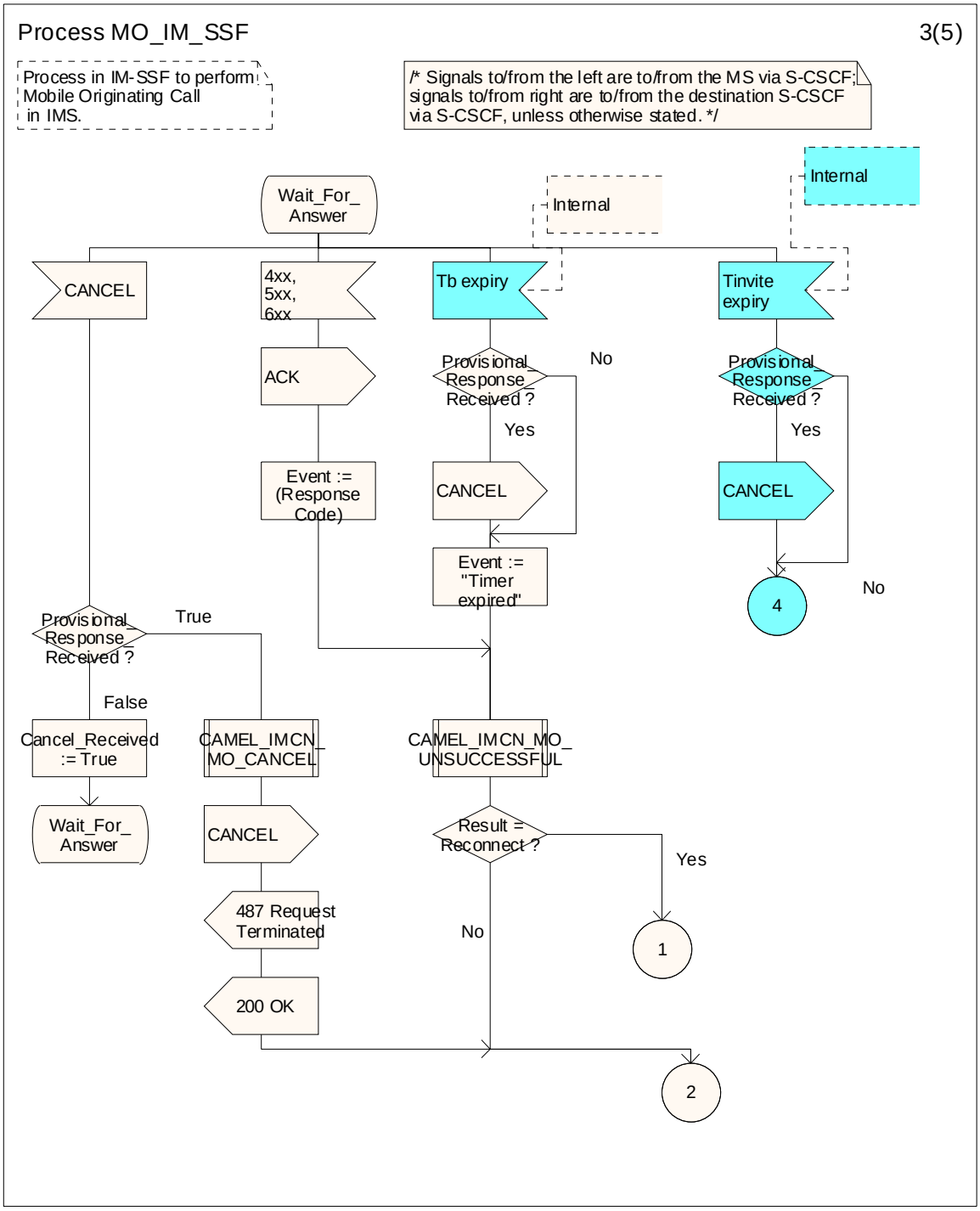


Figure 4.13-2: Process MO_IM_SSF (sheet 2)


Process MO_IM_SSF
3(5)
Process in IM-SSF to perform Mobile Originating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the destination S-CSCF via S-CSCF, unless otherwise stated. */
Wait_For_ Answer
Internal
Internal
CANCEL
4xx, 5xx, 6xx
Tb expiry
Tinvite expiry
ACK
Provisional_ Response_ Received ?
No
Yes
Provisional_ Response_ Received ?
Yes
Event := (Response Code)
CANCEL
CANCEL
Event := "Timer expired"
4
No
Provisional_ Response_ Received ?
True
False
Cancel_Received := True
CAMEL_IMCN_ MO_CANCEL
CAMEL_IMCN_MO_ UNSUCCESSFUL
Wait_For_ Answer
CANCEL
Result = Reconnect ?
Yes
487 Request Terminated
No
1
200 OK
2

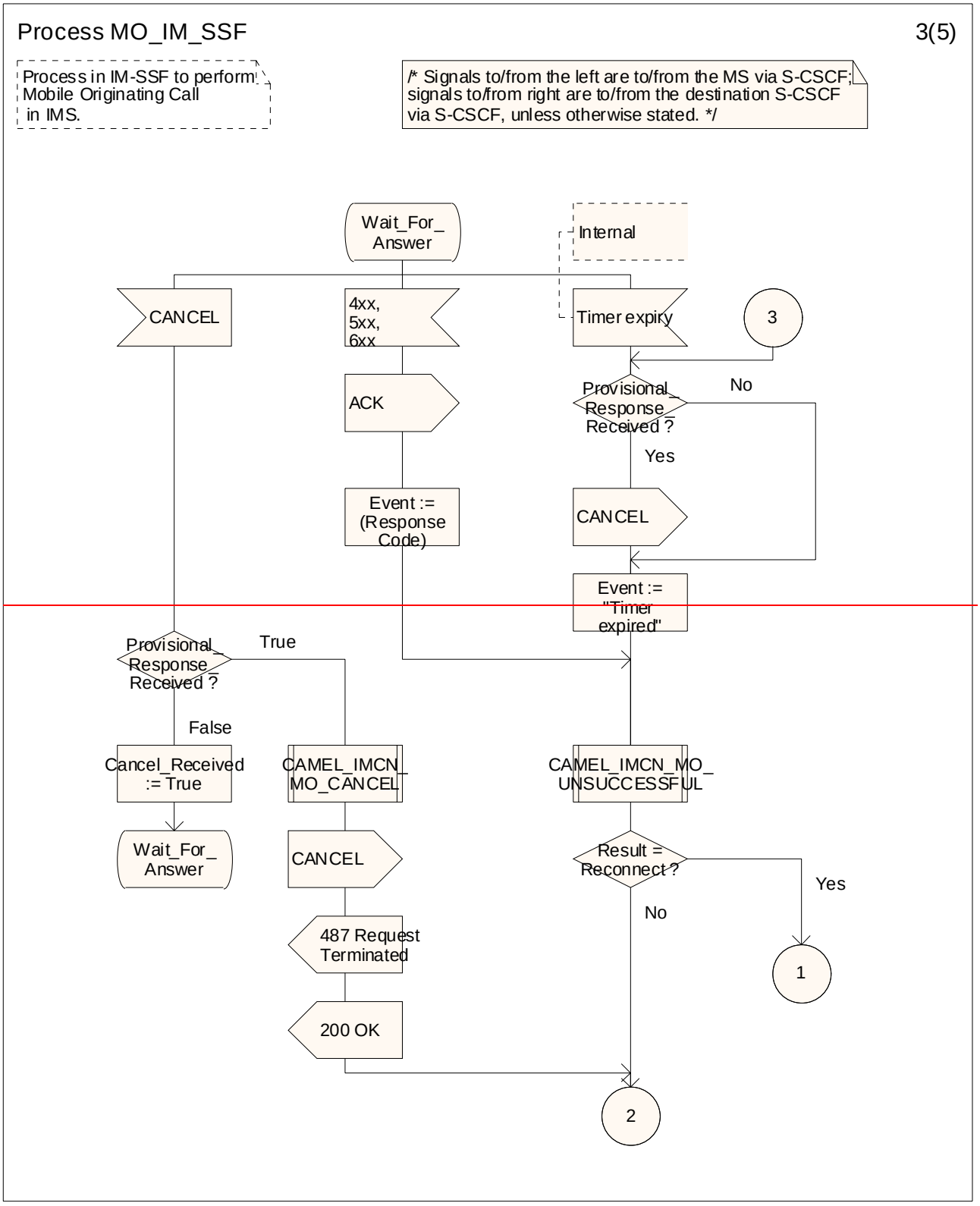
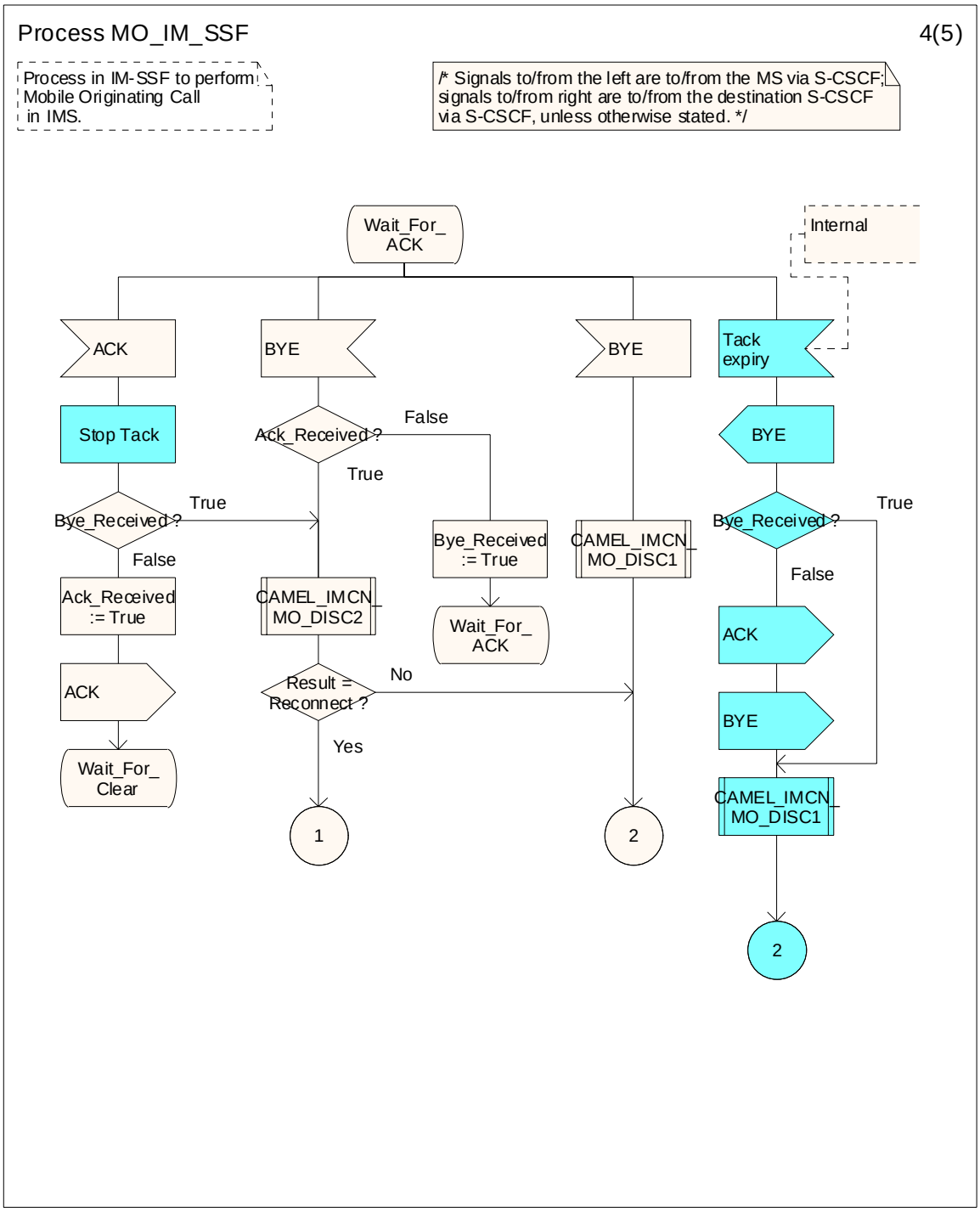


Figure 4.13-3: Process MO_IM_SSF (sheet 3)

Process MO_IM_SSF 4(5)



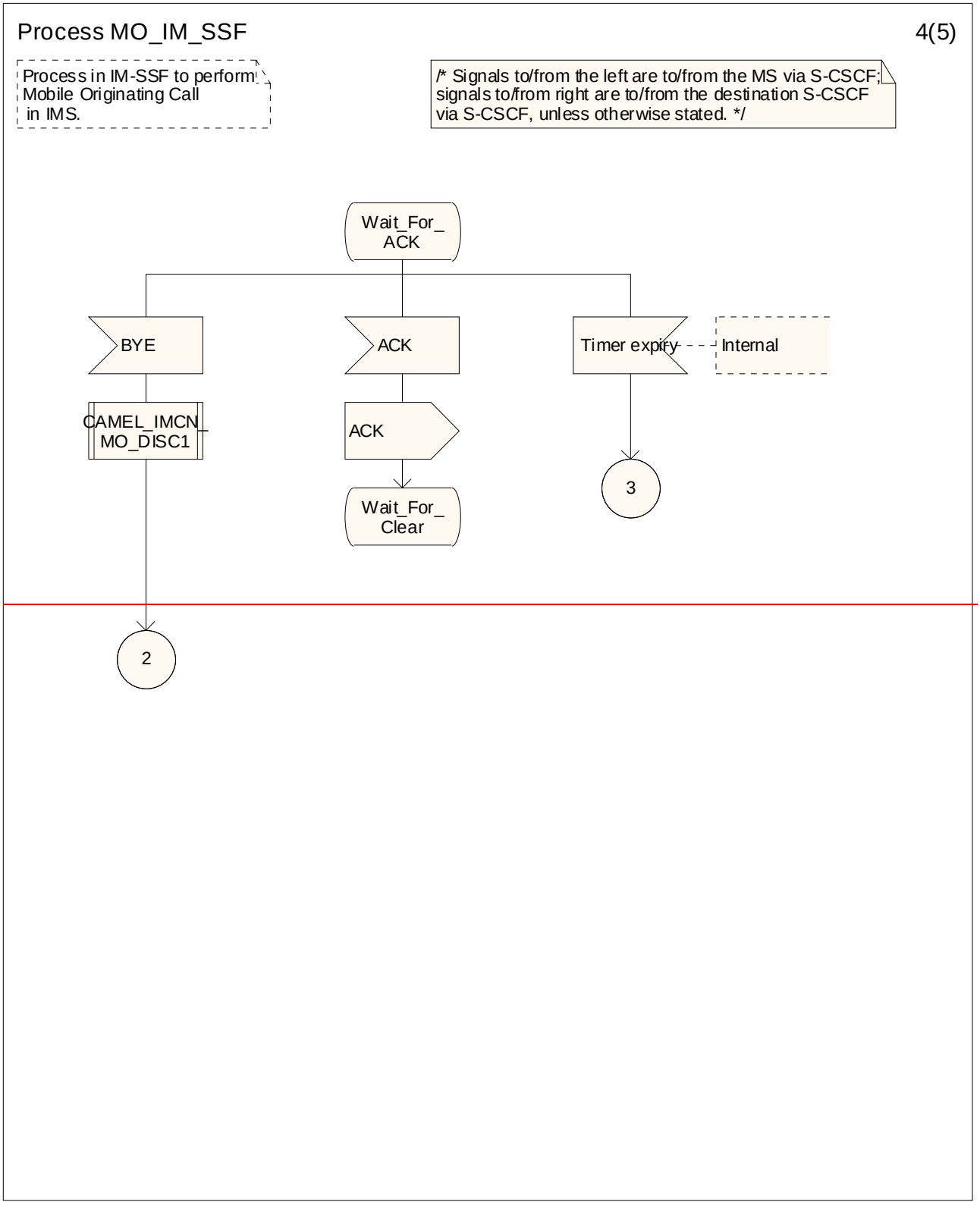


Figure 4.13-4: Process MO_IM_SSF (sheet 4)

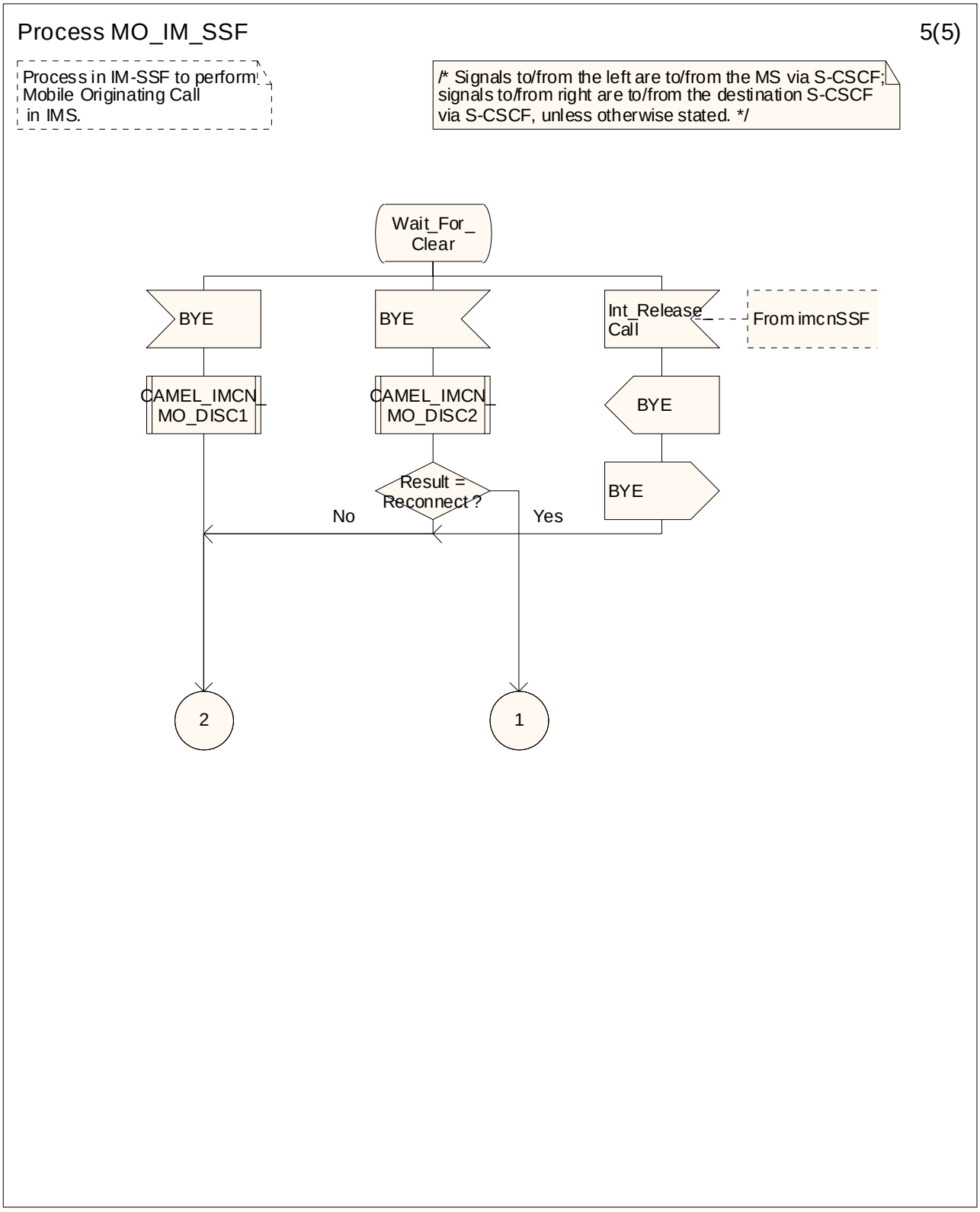


Figure 4.13-5: Process MO_IM_SSF (sheet 5)

**** Next modified SDL ****

(SDL Procedure CAMEL_IMCN_MO_O_IM_CSI_INIT, sheets 1-2 are for information only)

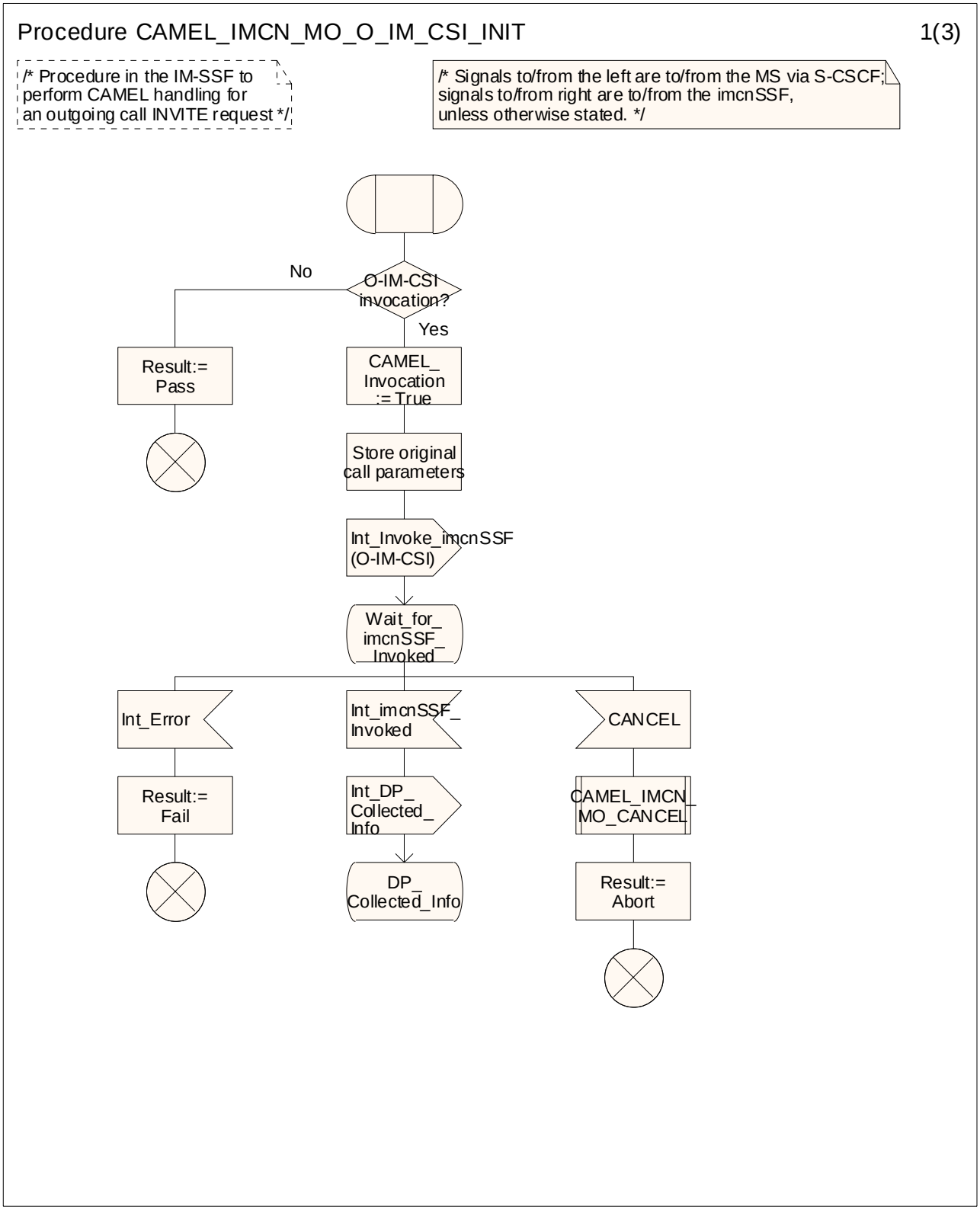


Figure 4.14-1: Procedure CAMEL_IMCN_MO_ O_IM_CSI_INIT (sheet 1)

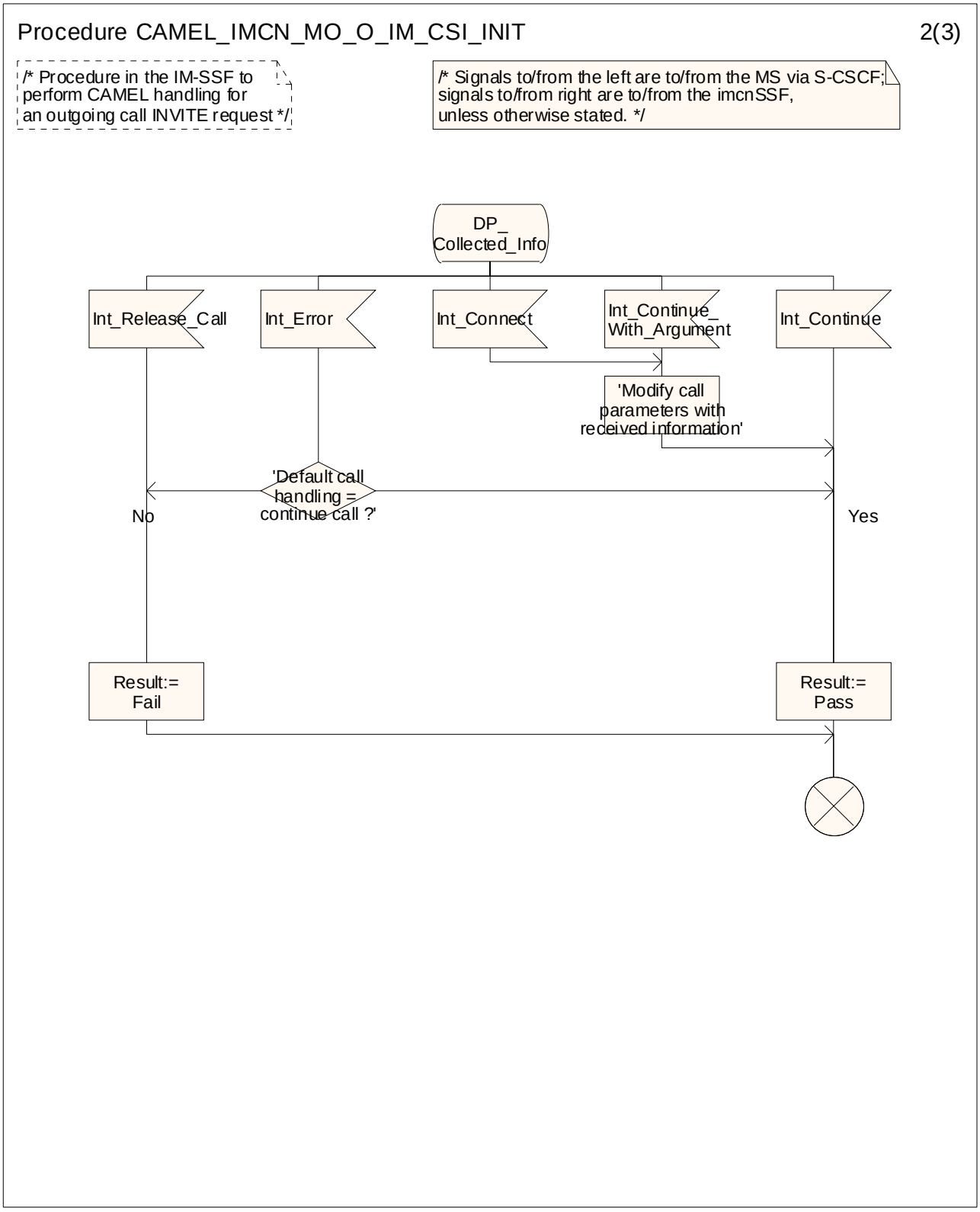
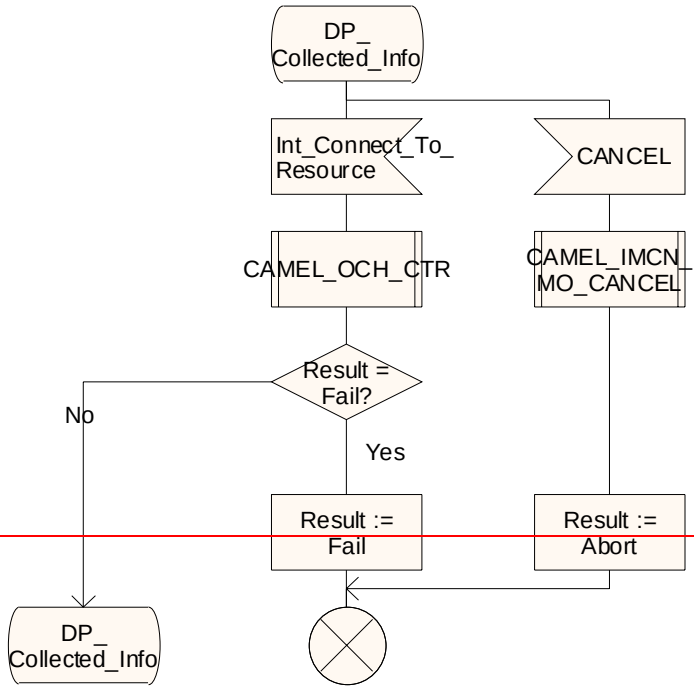


Figure 4.14-2: Procedure CAMEL_IMCN_MO_O_IM_CSI_INIT (sheet 2)

Procedure CAMEL_IMCN_MO_O_IM_CSI_INIT 3(3)

/* Procedure in the IM-SSF to perform CAMEL handling for an outgoing call INVITE request */

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */



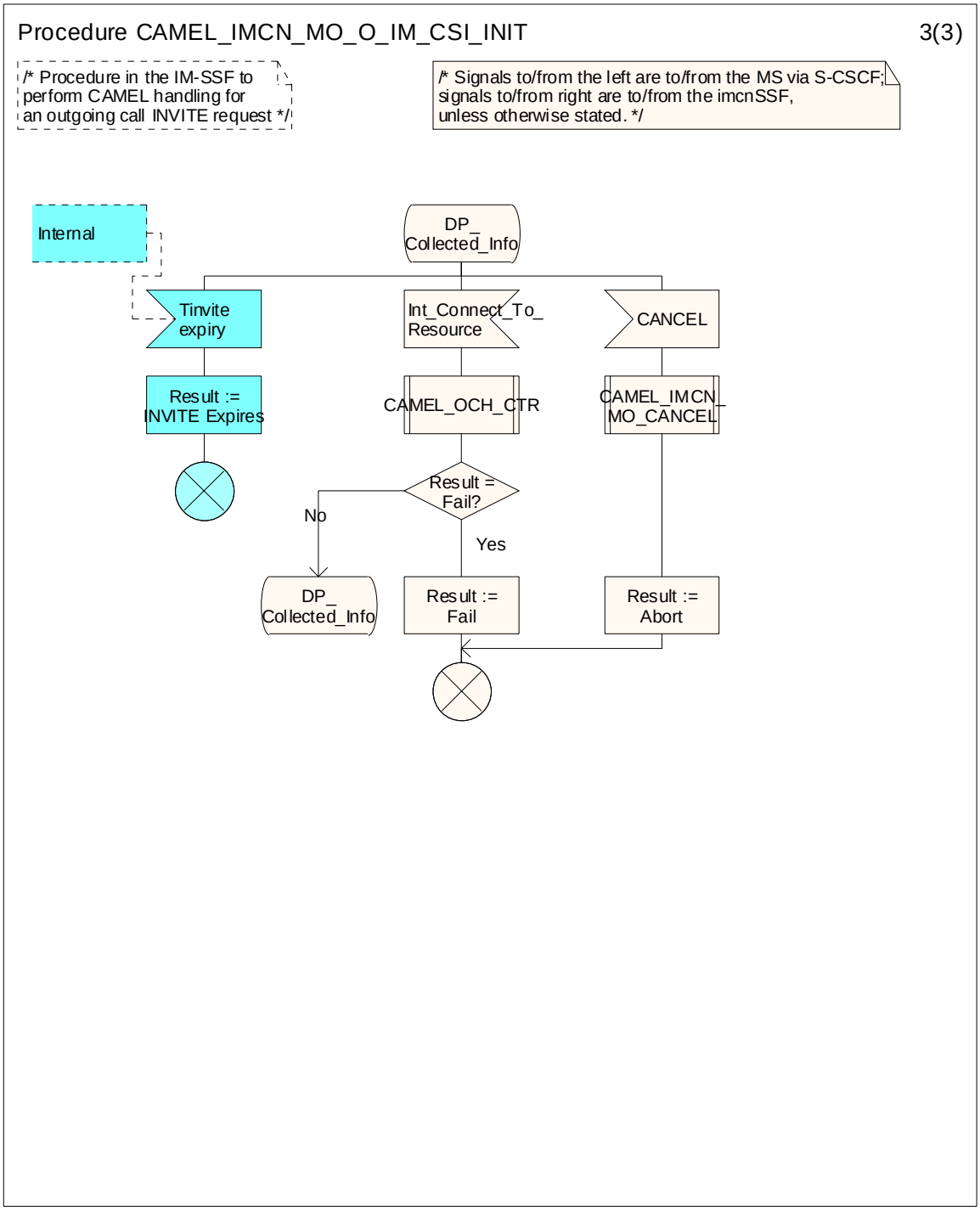


Figure 4.14-3: Procedure CAMEL_IMCN_MO_O_IM_CSI_INIT (sheet 3)

**** Next modified SDL ****

(SDL Procedure CAMEL_IMCN_MO_D_IM_CSI_INIT, sheets 1-2 are for information only)

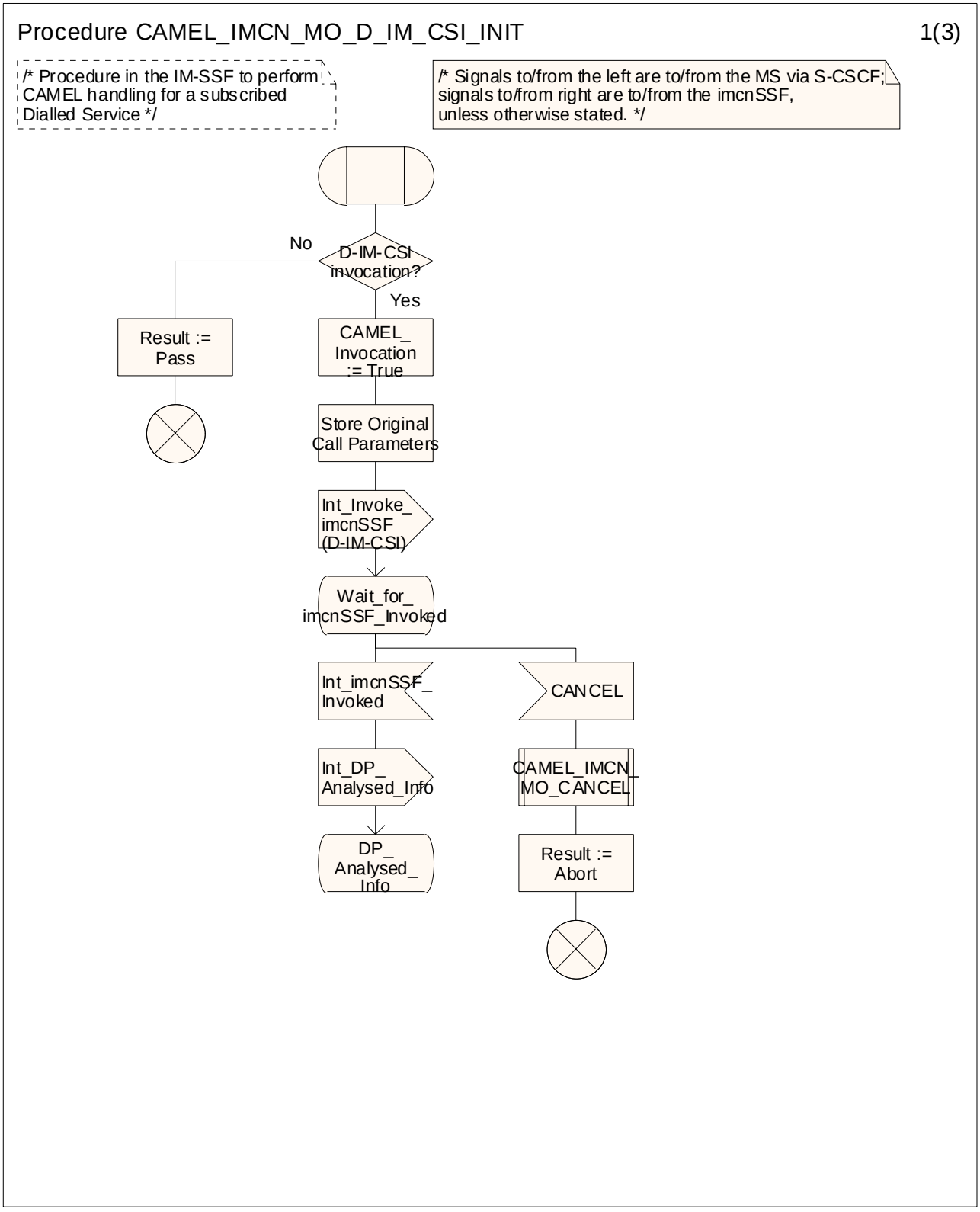


Figure 4.15-1: Procedure CAMEL_IMCN_MO_D_IM_CSI_INIT (sheet 1)

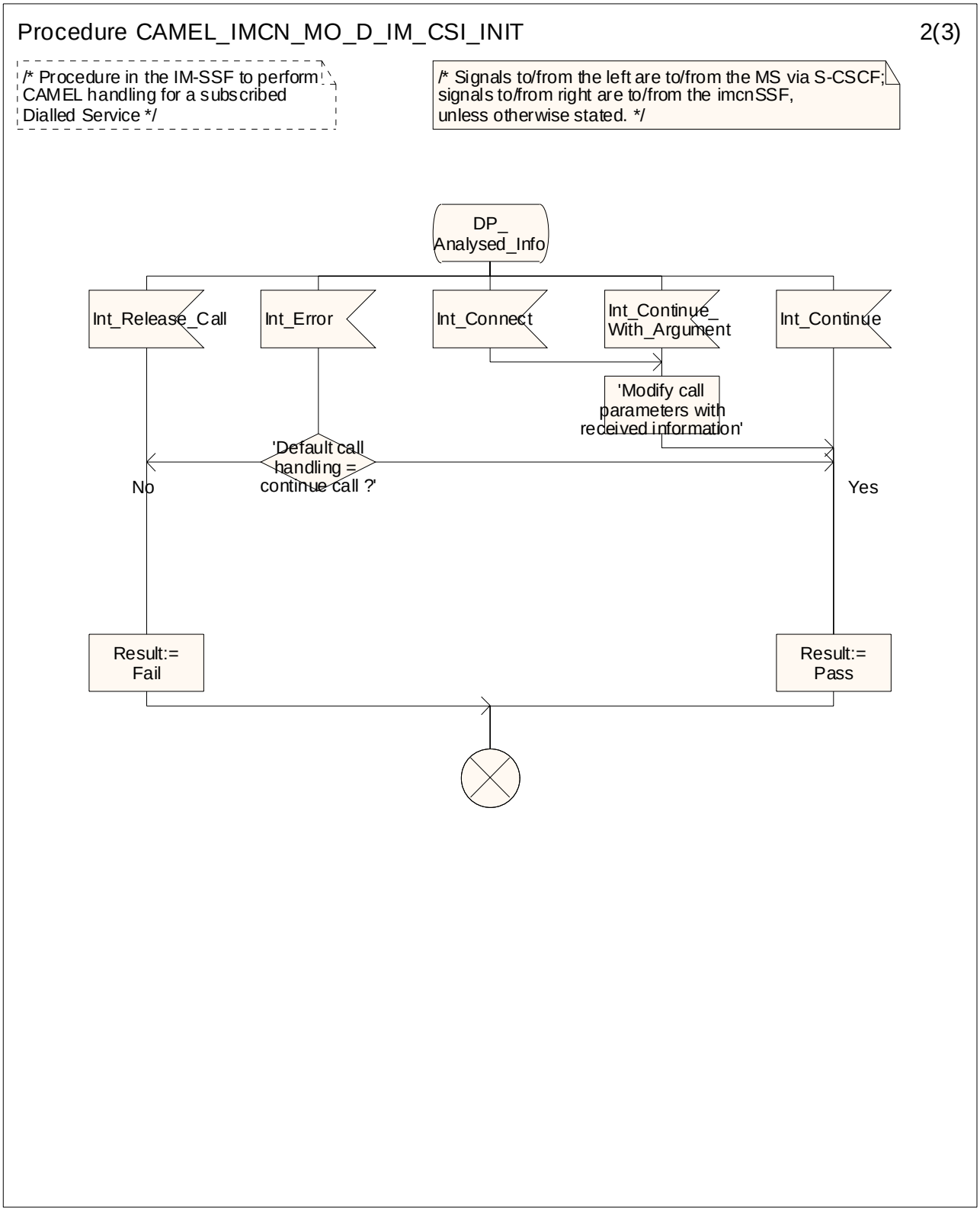
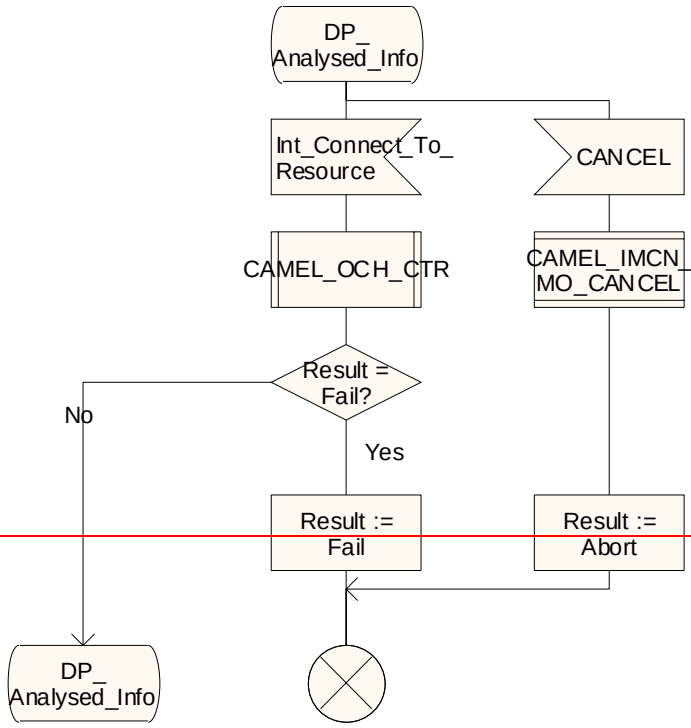


Figure 4.15-2: Procedure CAMEL_IMCN_MO_D_IM_CSI_INIT (sheet 2)

Procedure CAMEL_IMCN_MO_D_IM_CSI_INIT 3(3)

/* Procedure in the IM-SSF to perform CAMEL handling for a subscribed Dialled Service */

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */



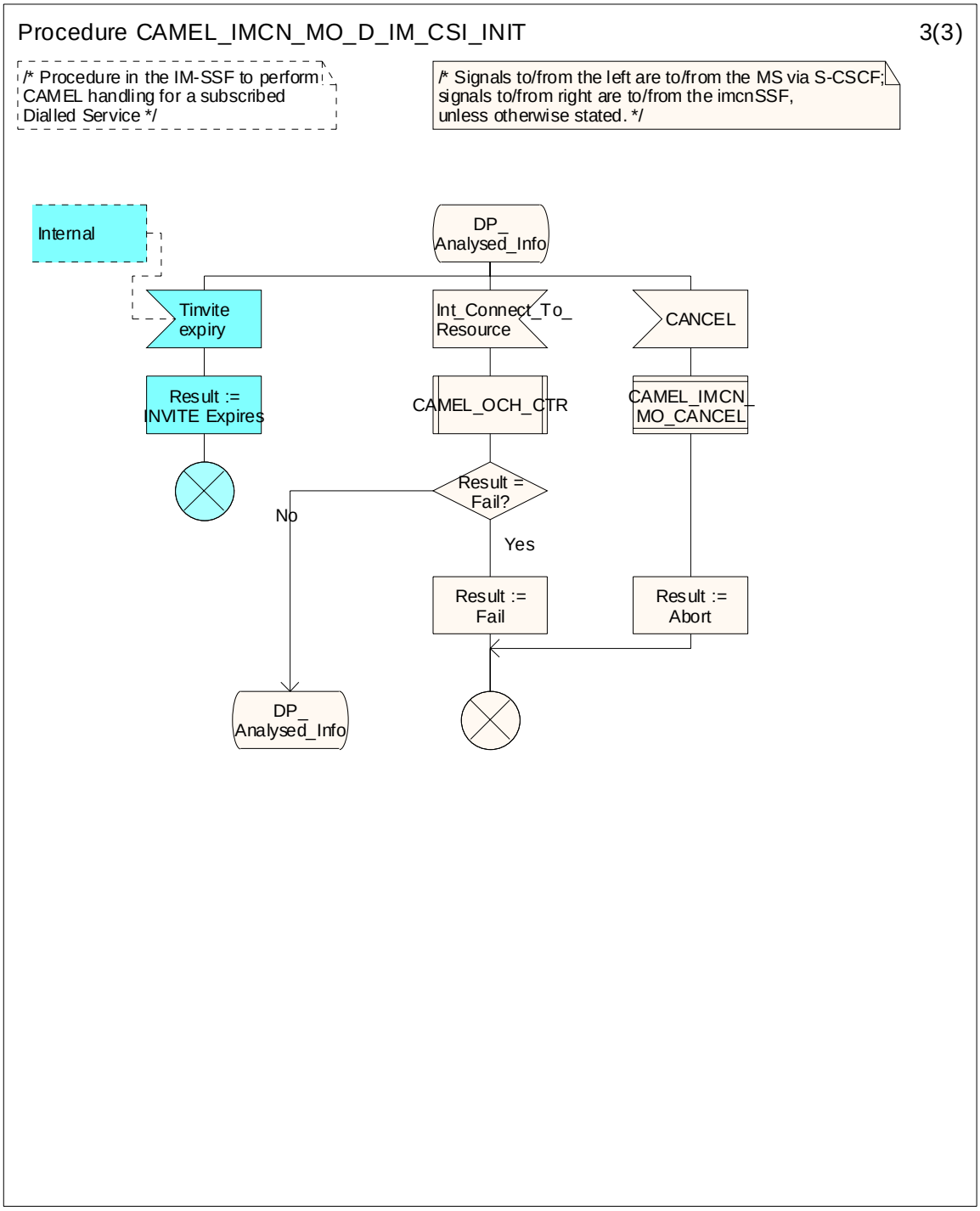


Figure 4.15-3: Procedure CAMEL_IMCN_MO_D_IM_CSI_INIT (sheet 3)

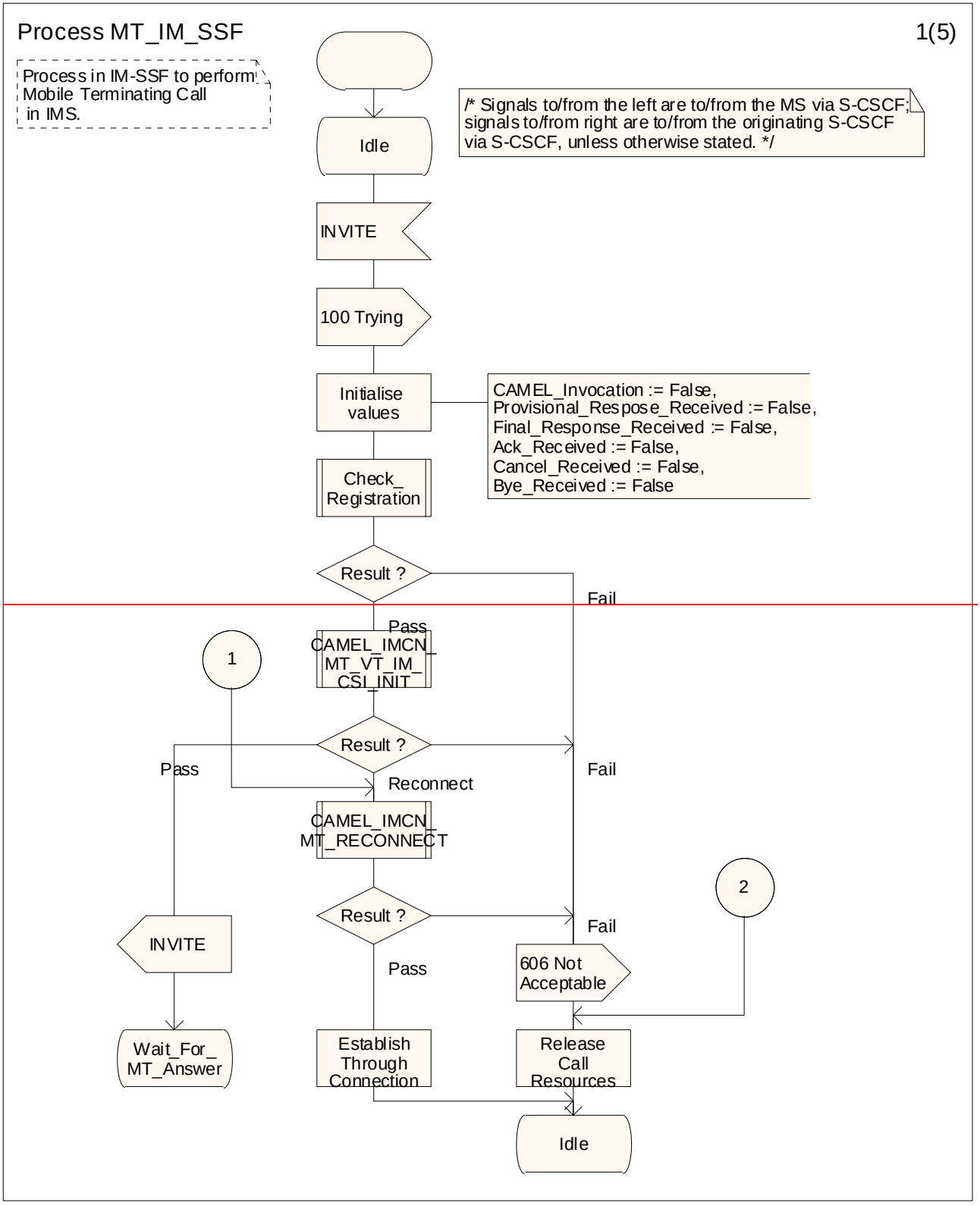
**** Next modified SDL ****

4.6.1.4 Handling of Mobile Terminated IP Multimedia sessions in the IM-SSF

(….)

4.6.1.4.8 Handling of internal timers in Process MT_IM_SSF

For additional description on usage of internal timers in Process MT_IM_SSF, please refer to the description in clause 4.6.1.3.9.


Process MT_IM_SSF
1(5)
Process in IM-SSF to perform Mobile Terminating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the originating S-CSCF via S-CSCF, unless otherwise stated. */
Idle
INVITE
100 Trying
Initialise values
CAMEL_Invocation := False,
Provisional_Respose_Received := False,
Final_Response_Received := False,
Ack_Received := False,
Cancel_Received := False,
Bye_Received := False
Check_ Registration
Result ?
Fail
Pass
CAMEL_IMCN_ MT_VT_IM_ CSI_INIT
1
Result ?
Pass
Fail
Reconnect
CAMEL_IMCN_ MT_RECONNECT
2
Result ?
Fail
INVITE
Pass
606 Not Acceptable
Wait_For_ MT_Answer
Establish Through Connection
Release Call Resources
Idle

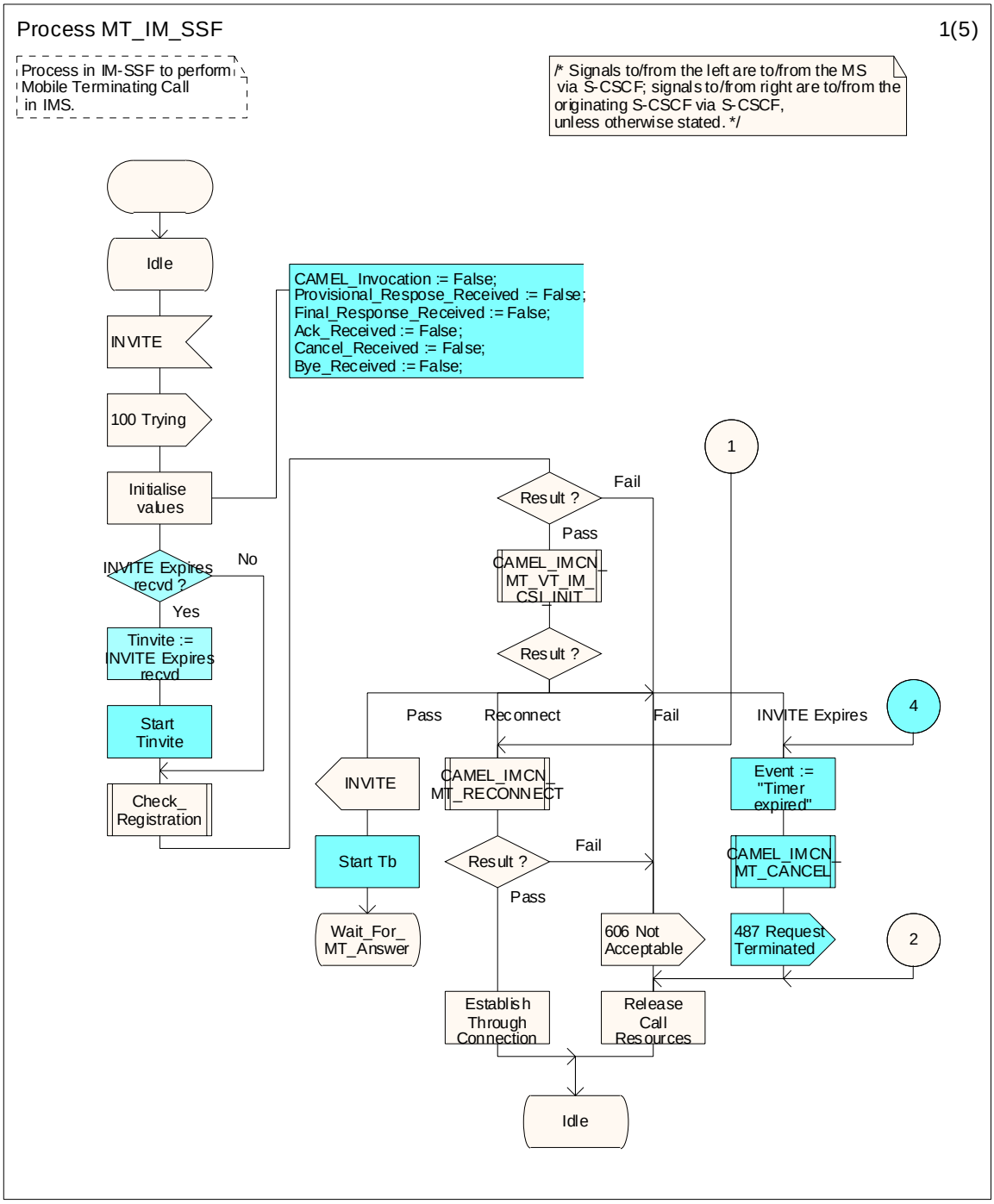
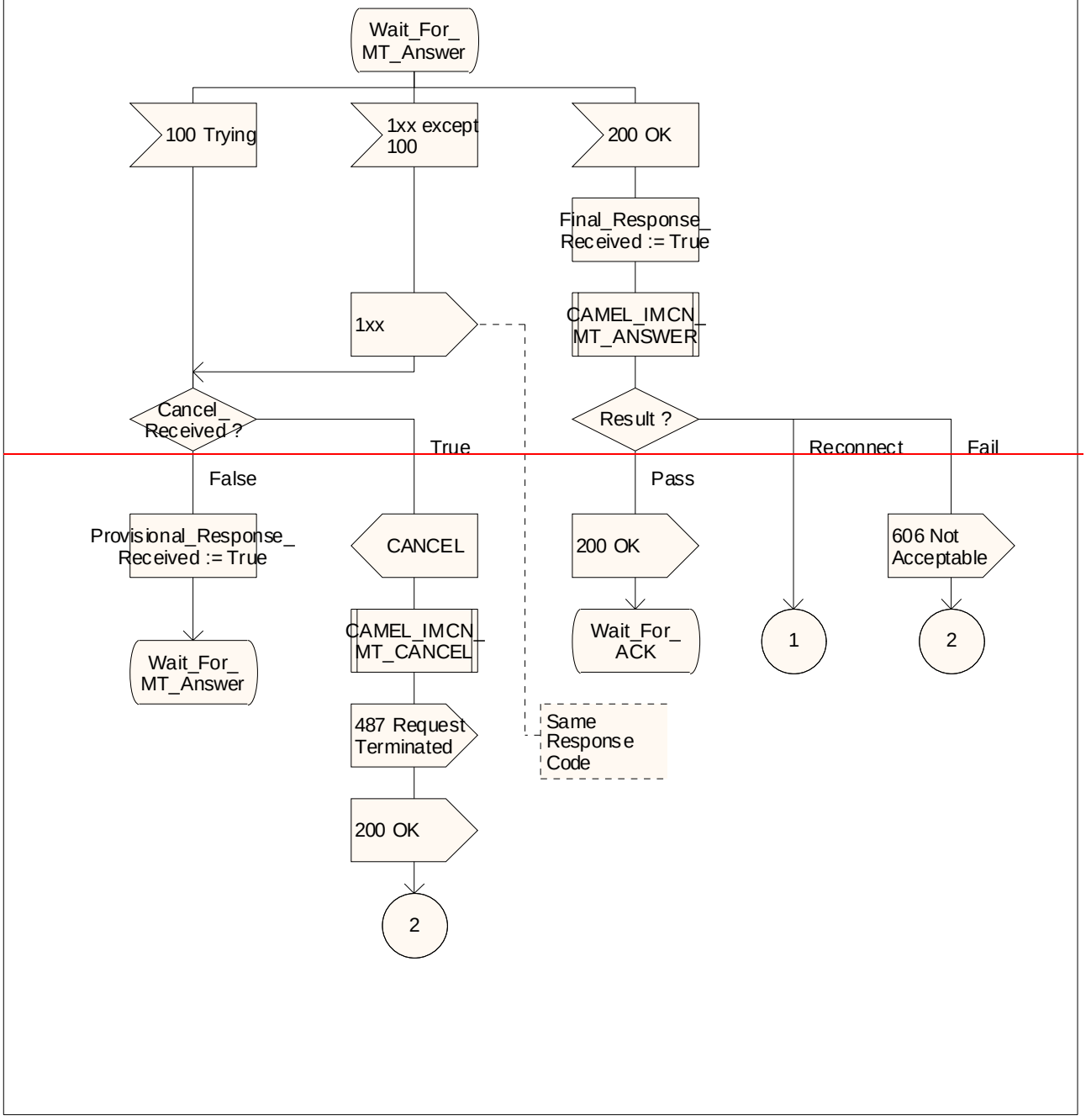


Figure 4.22-1: Process MT_IM_SSF (sheet 1)

Process MT_IM_SSF 2(5)

Process in IM-SSF to perform Mobile Terminating Call in IMS.

/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the originating S-CSCF via S-CSCF, unless otherwise stated. */



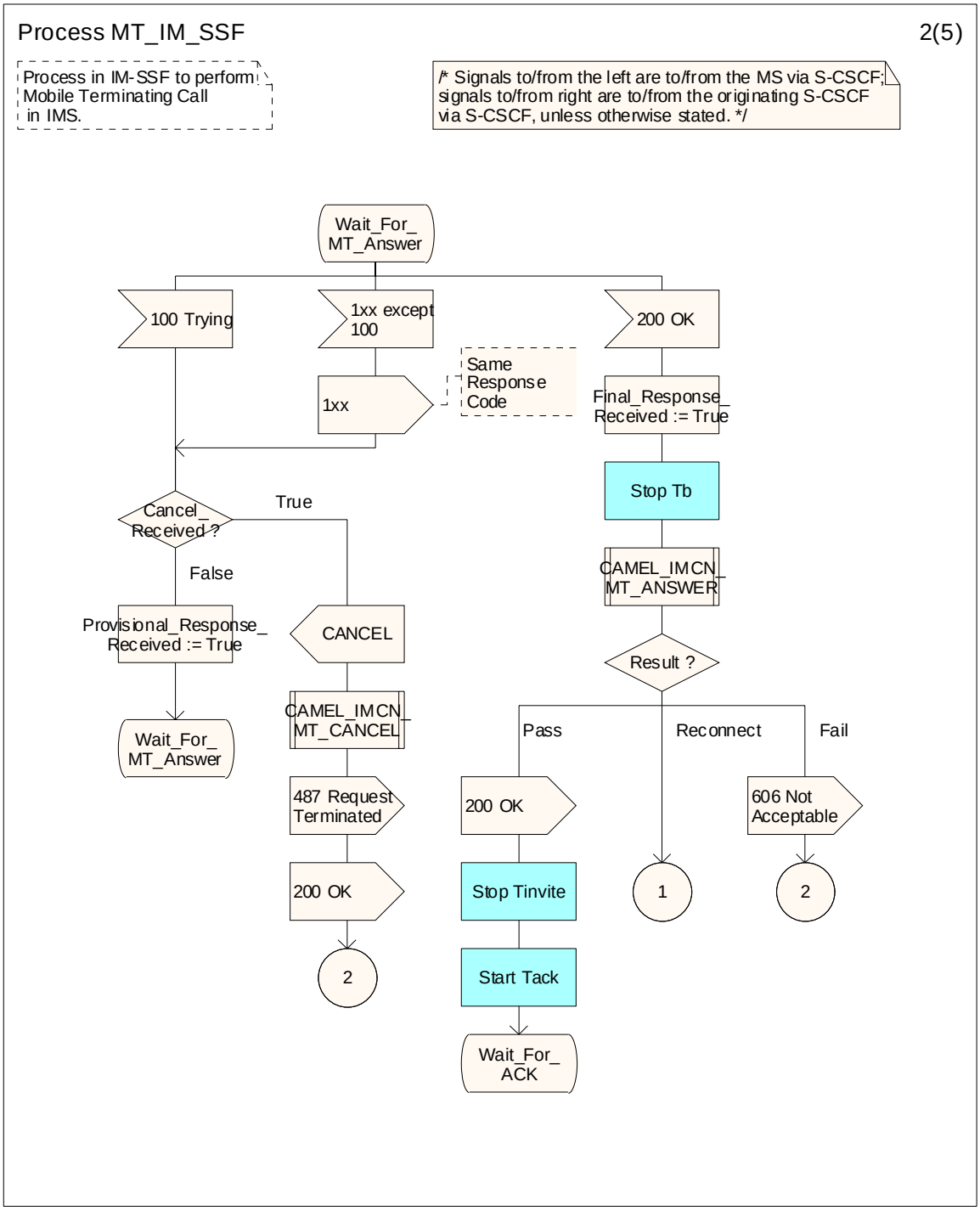
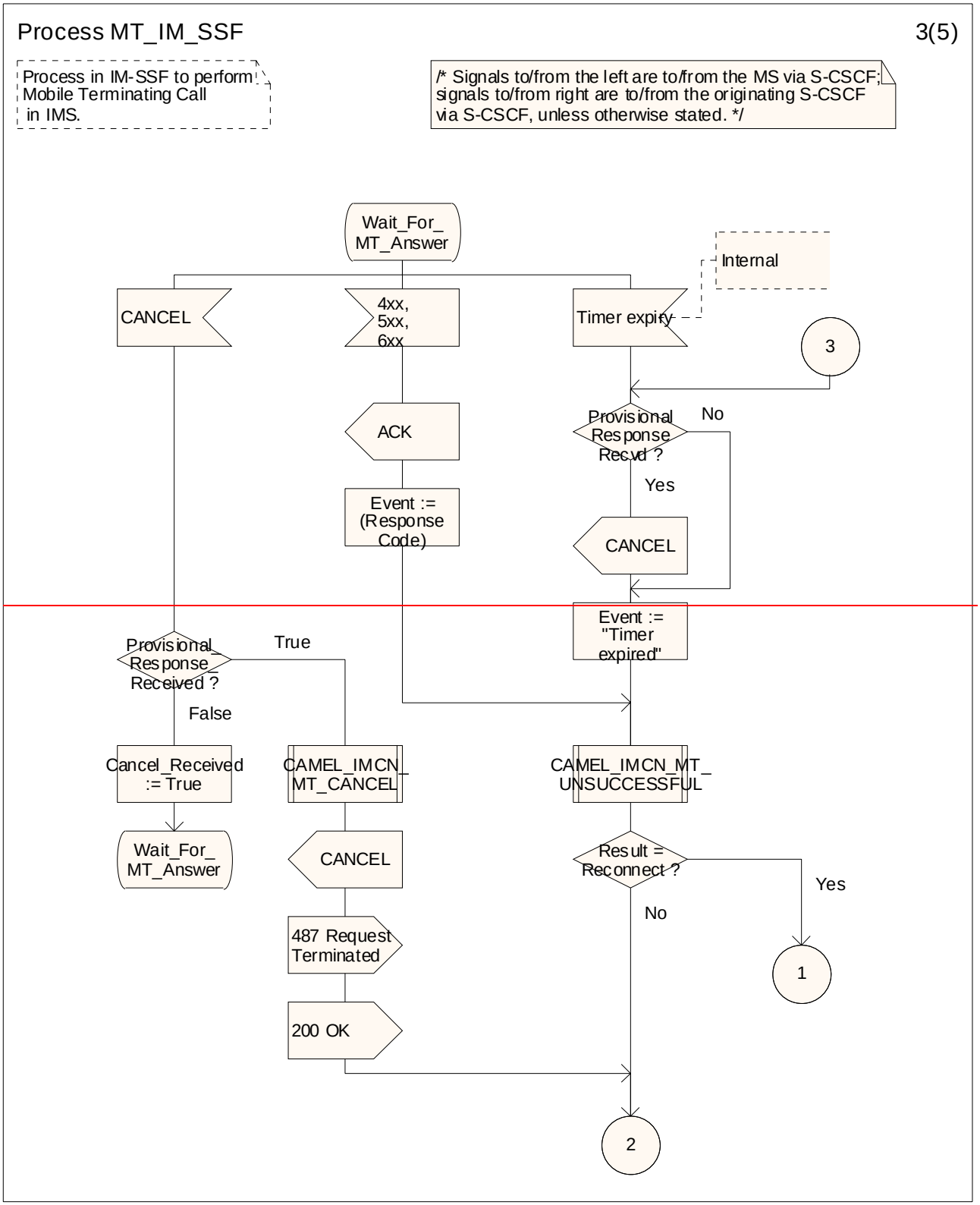


Figure 4.22-2: Process MT_IM_SSF (sheet 2)


Process MT_IM_SSF
3(5)
Process in IM-SSF to perform Mobile Terminating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the originating S-CSCF via S-CSCF, unless otherwise stated. */
Wait_For_ MT_Answer
Internal
CANCEL
4xx, 5xx, 6xx
Timer expiry
3
ACK
Provisional Response Recvd ?
No
Yes
Event := (Response Code)
CANCEL
Event := "Timer expired"
Provisional_ Response_ Received ?
True
False
Cancel_Received := True
CAMEL_IMCN_ MT_CANCEL
CAMEL_IMCN_MT_ UNSUCCESSFUL
Wait_For_ MT_Answer
CANCEL
Result = Reconnect ?
Yes
No
487 Request Terminated
1
200 OK
2

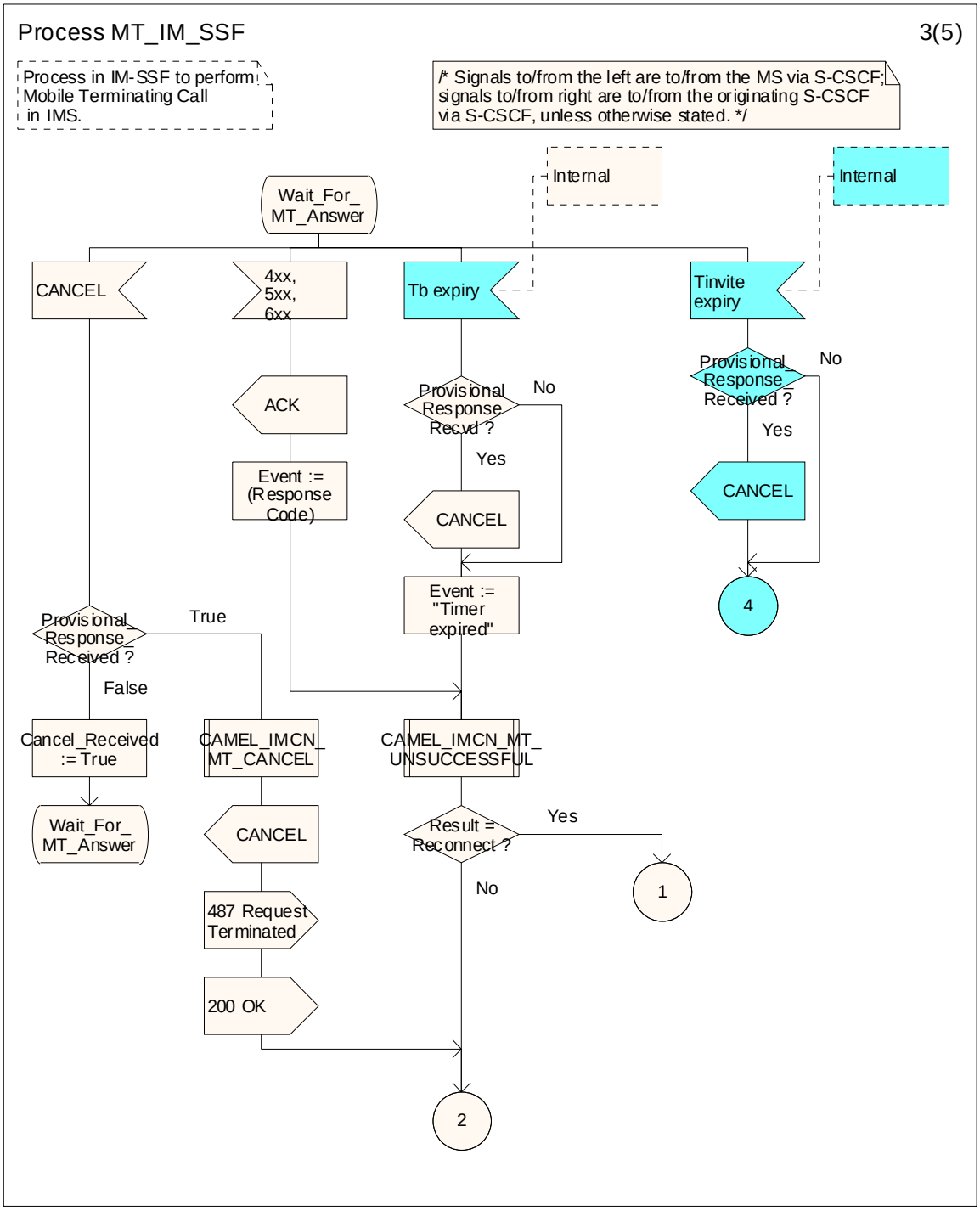
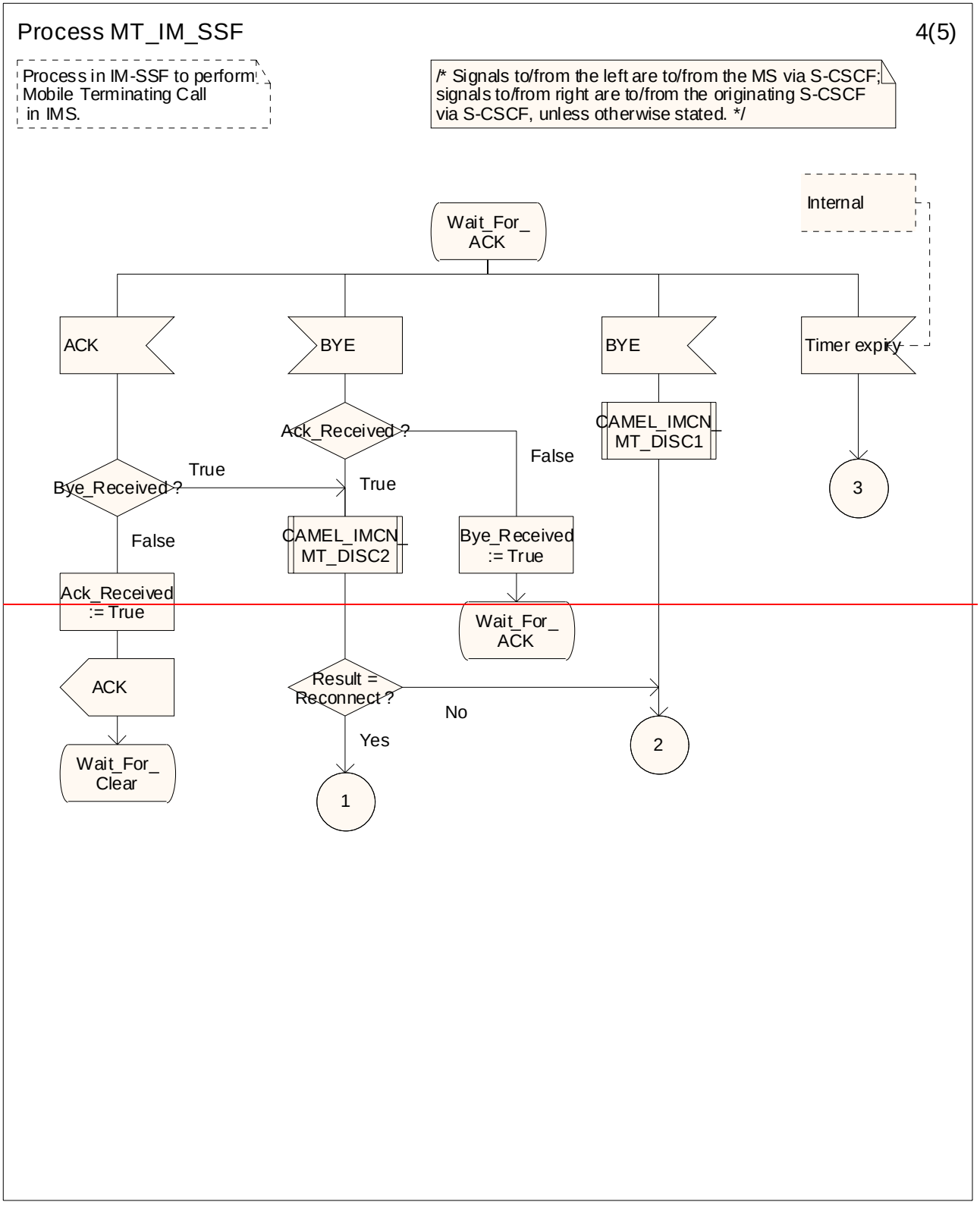


Figure 4.22-3: Process MT_IM_SSF (sheet 3)


Process MT_IM_SSF
4(5)
Process in IM-SSF to perform Mobile Terminating Call in IMS.
/* Signals to/from the left are to/from the MS via S-CSCF; signals to/from right are to/from the originating S-CSCF via S-CSCF, unless otherwise stated. */
Internal
Wait_For_ ACK
ACK
BYE
BYE
Timer expiry
Ack_Received ?
CAMEL_IMCN_ MT_DISC1
Bye_Received ?
True
True
False
3
False
CAMEL_IMCN_ MT_DISC2
Bye_Received := True
Ack_Received := True
Wait_For_ ACK
ACK
Result = Reconnect ?
No
Yes
2
Wait_For_ Clear
1

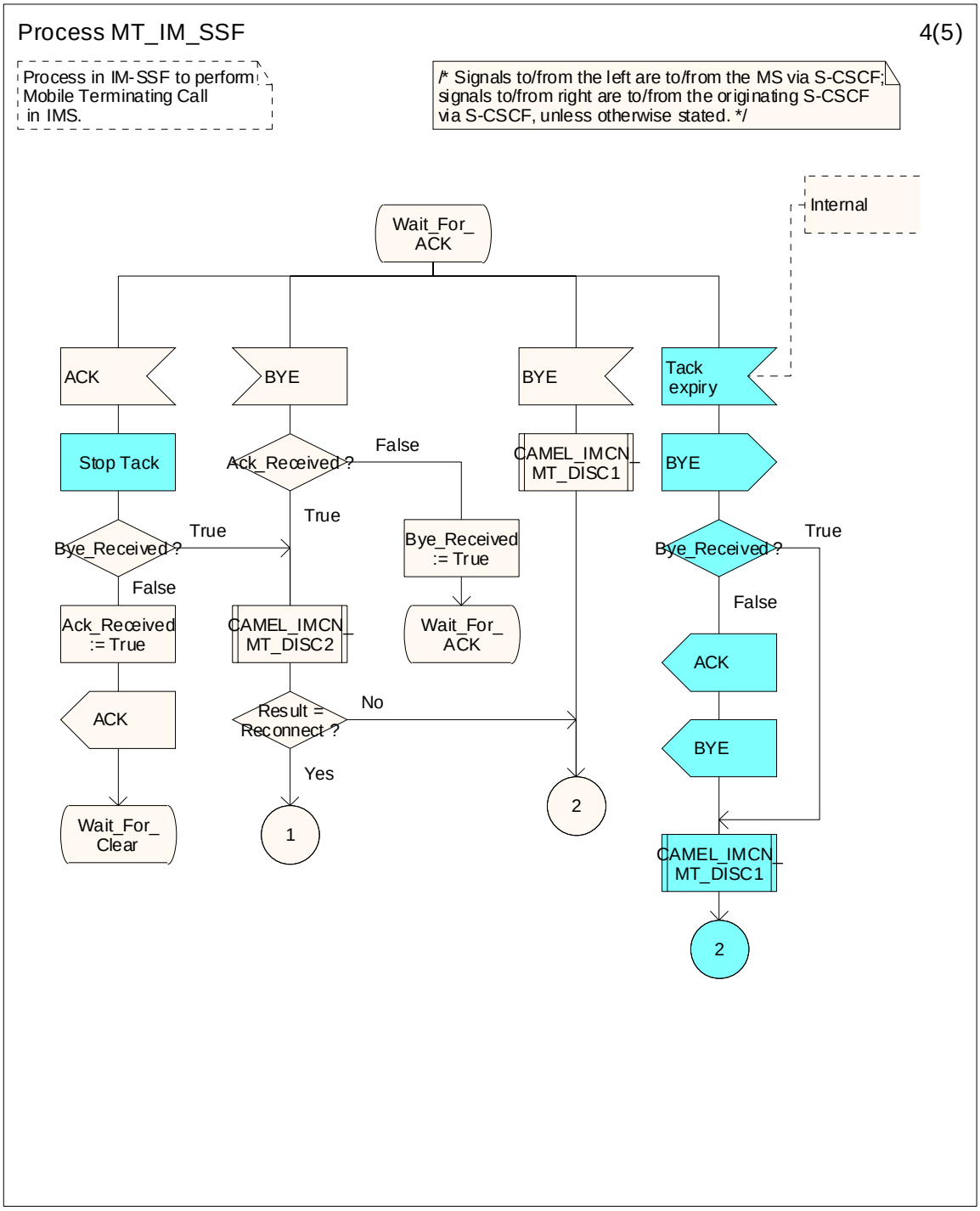


Figure 4.22-4: Process MT_IM_SSF (sheet 4)

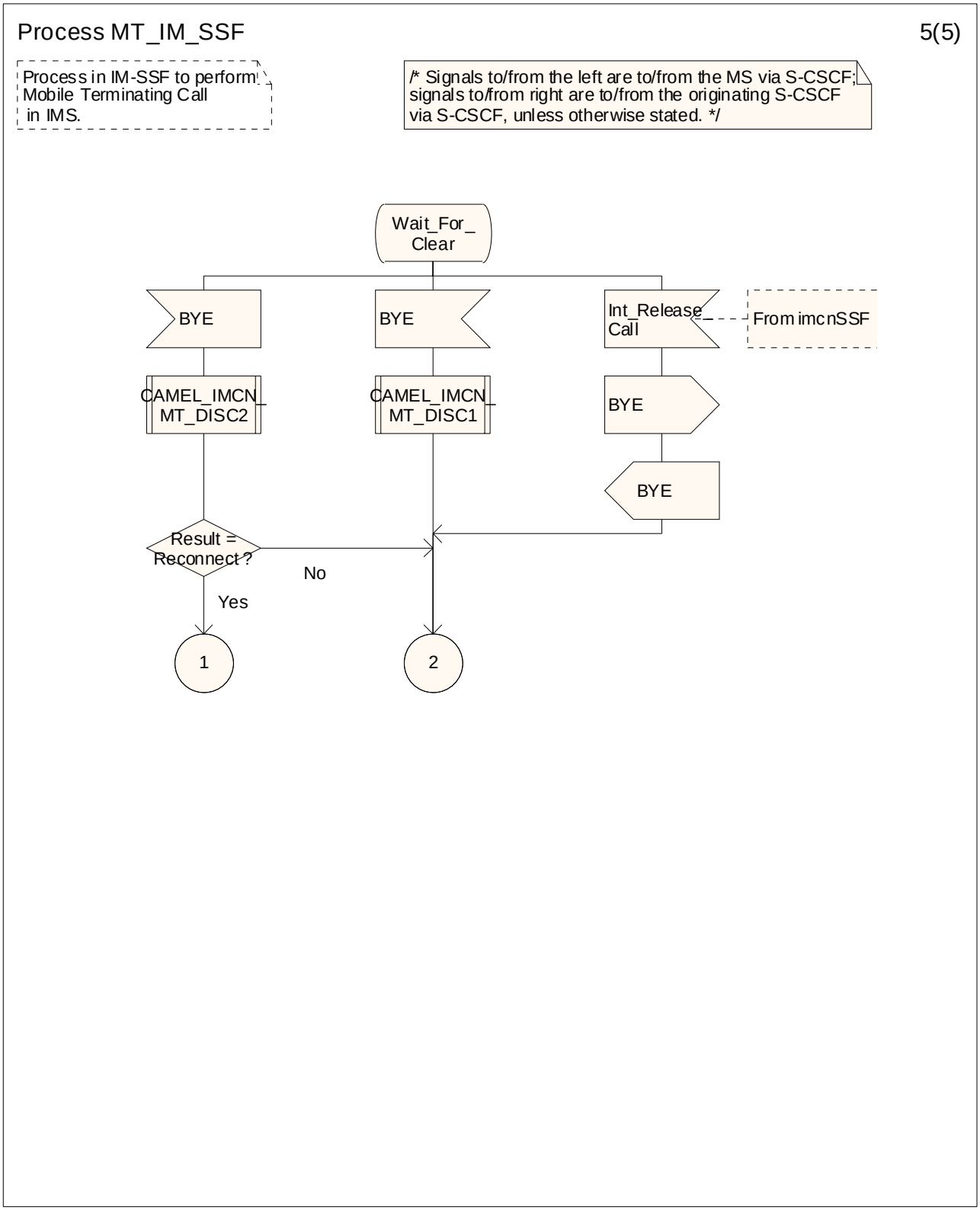


Figure 4.22-5: Process MT_IM_SSF (sheet 5)

**** Next modified SDL ****

(SDL Procedure CAMEL_IMCN_MT_VT _IM_CSI_INIT, sheets 1-2 are for information only)

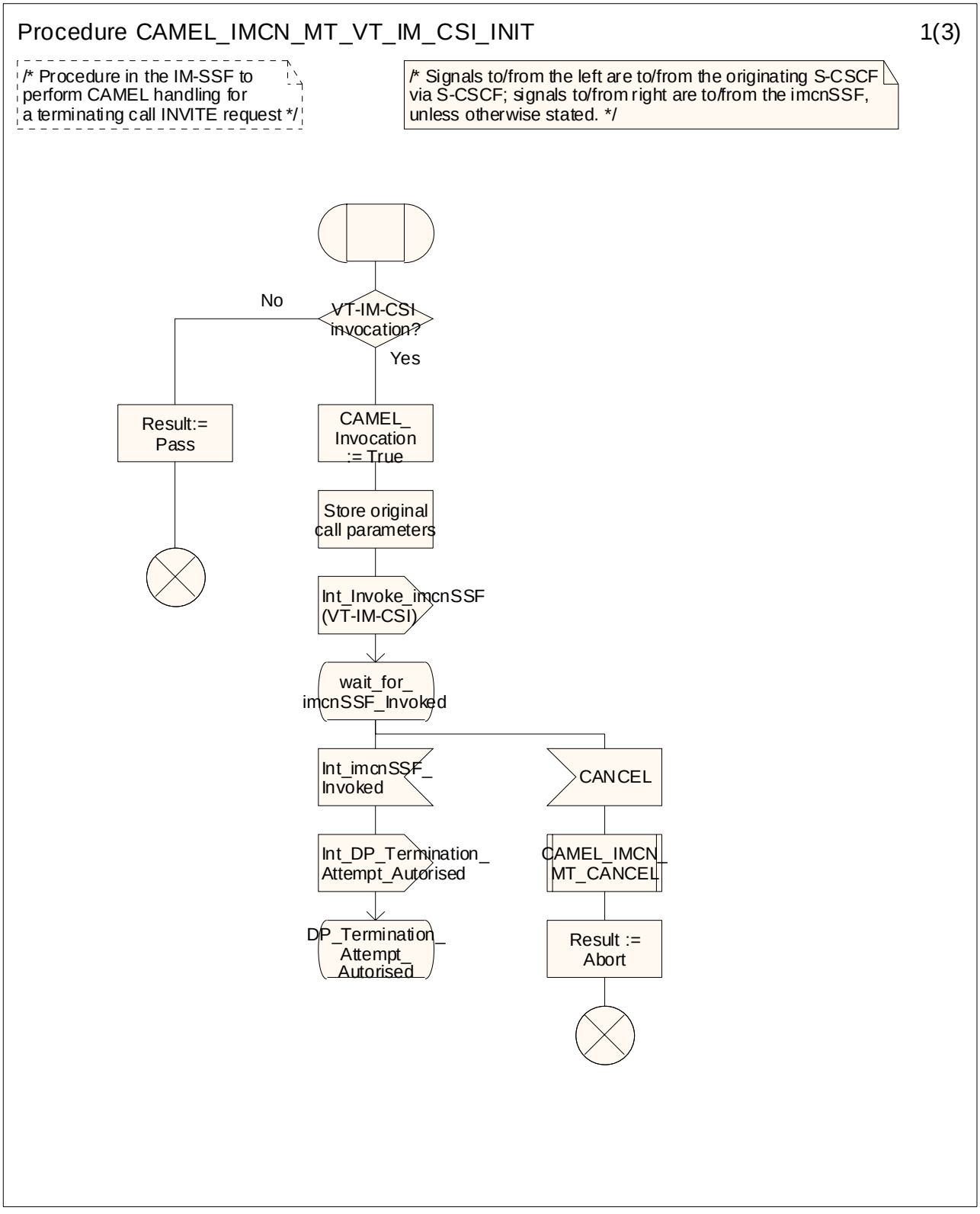


Figure 4.24-1: Procedure CAMEL_IMCN_MT_VT_IM_CSI_INIT (sheet 1)

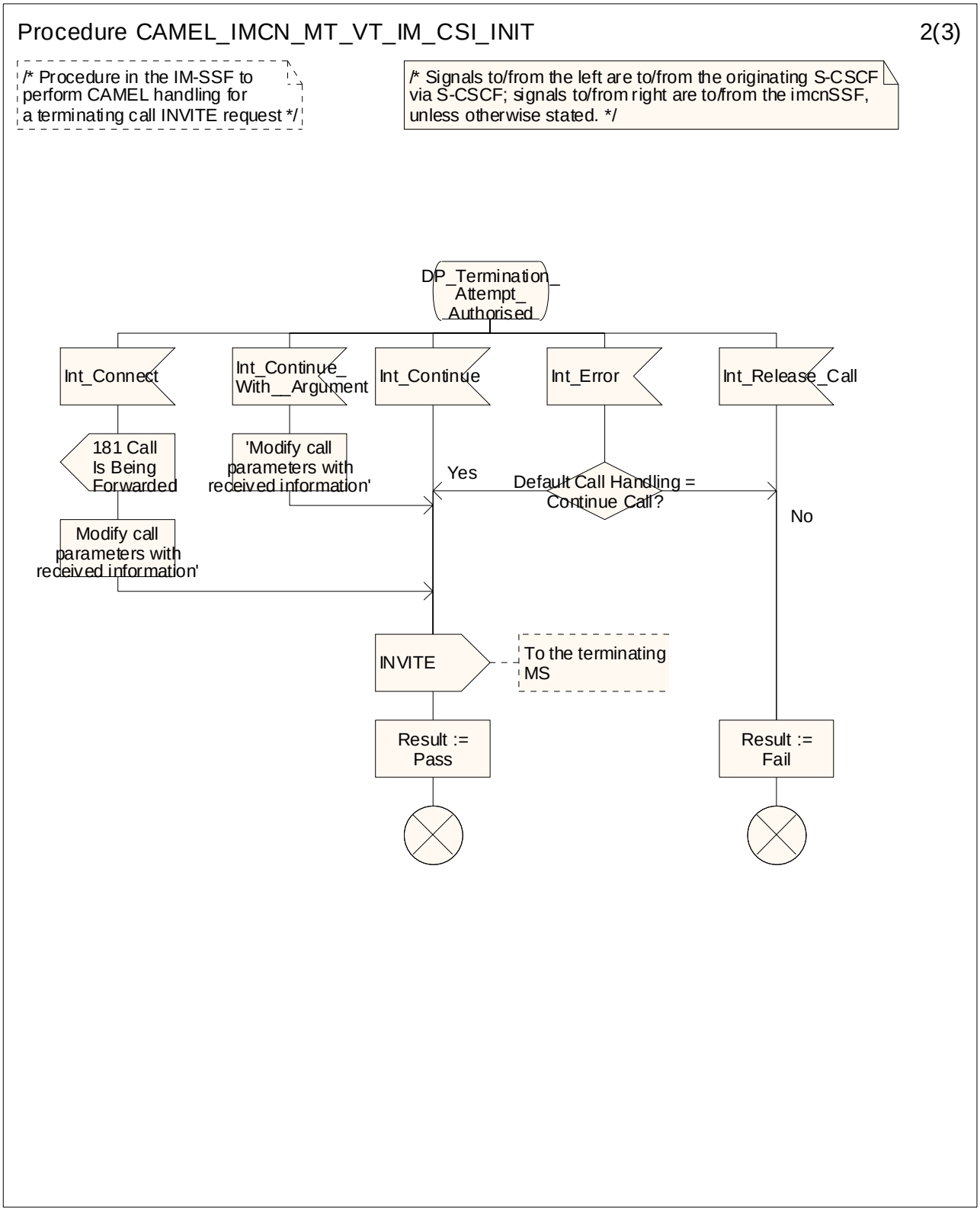
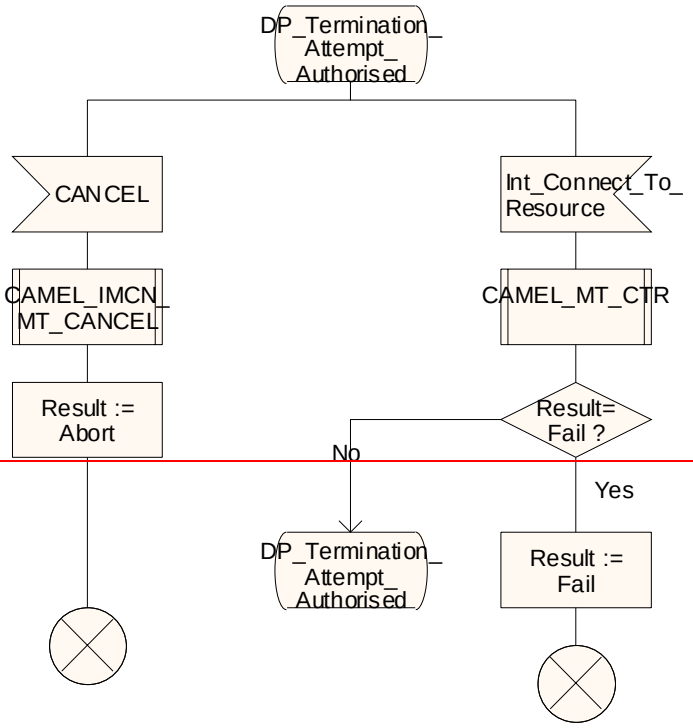


Figure 4.24-2: Procedure CAMEL_IMCN_MT_VT_IM_CSI_INIT (sheet 2)

Procedure CAMEL_IMCN_MT_VT_IM_CSI_INIT 3(3)

/* Procedure in the IM-SSF to perform CAMEL handling for a terminating call INVITE request */

/* Signals to/from the left are to/from the originating S-CSCF via S-CSCF; signals to/from right are to/from the imcnSSF, unless otherwise stated. */



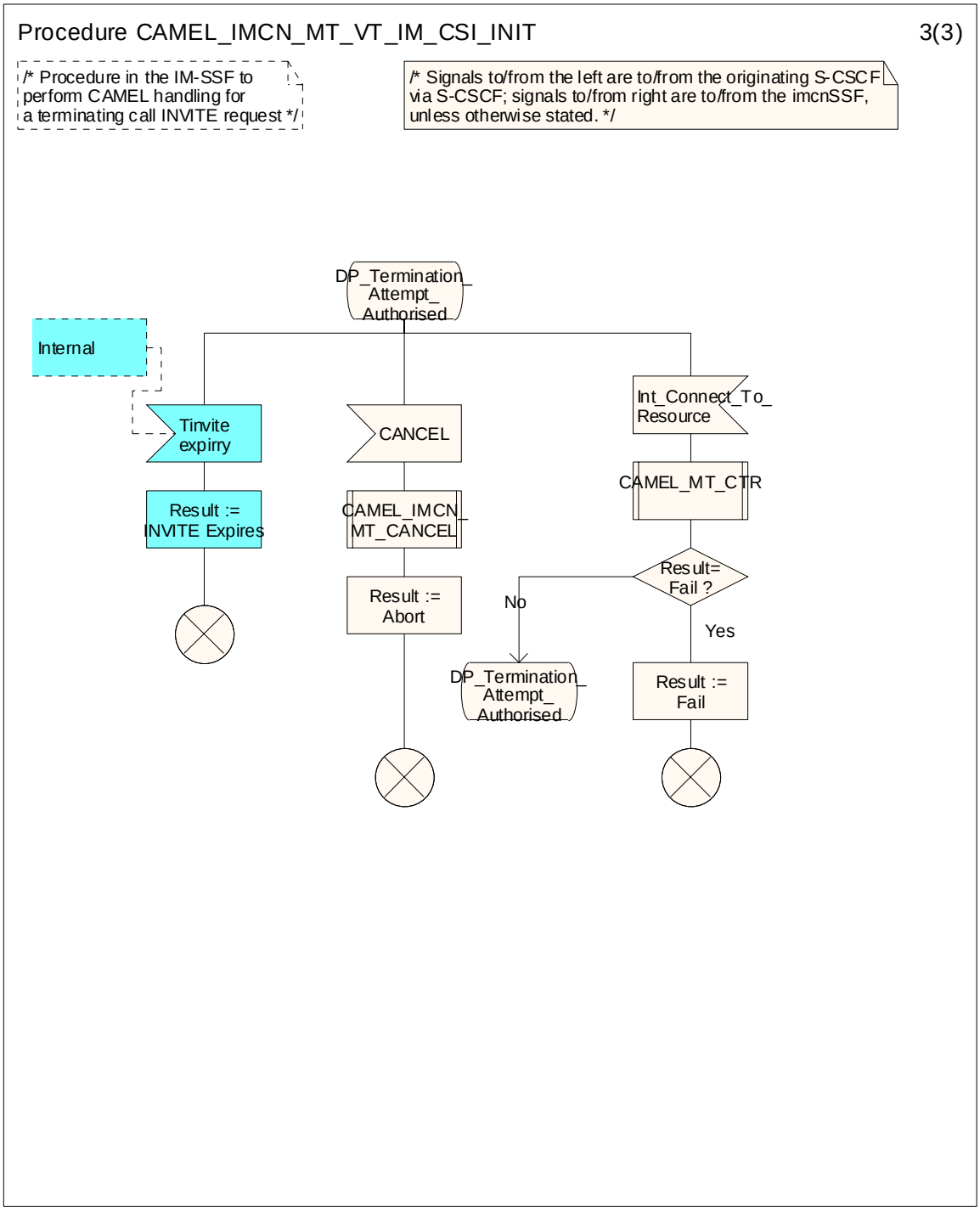


Figure 4.24-3: Procedure CAMEL_IMCN_MT_VT_IM_CSI_INIT (sheet 3)

****** End of modified section ******