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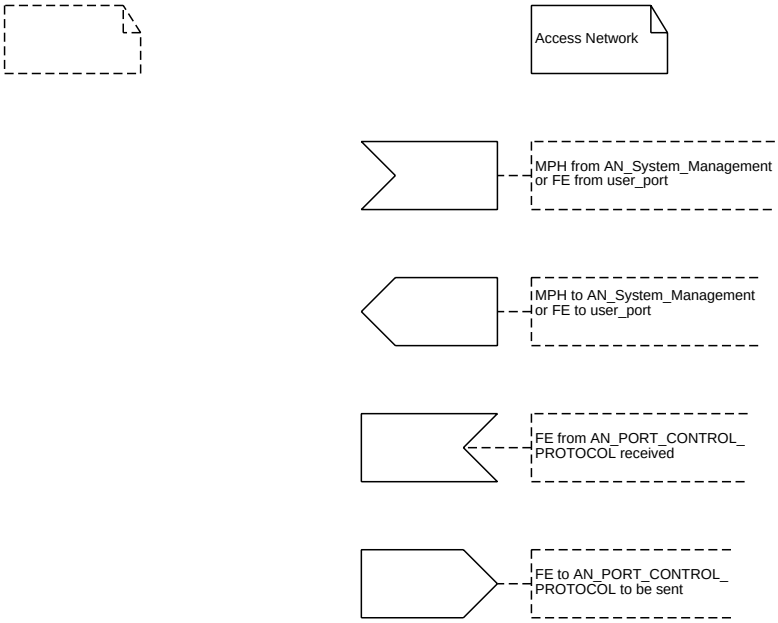
SDT	rw	C:\WINDOWS\Desktop\V5_SDL\V5_1.sdt
	rw	C:\WINDOWS\Desktop\V5_SDL\
Description	rw	Description.spd
V5_1_LE	rw	V5_1_LE.ssy
V5_1_LE		
LE_PSTN_PROTOCOL	rw	LE_PSTN_PROTOCOL.sbk
LE_PSTN_PROTOCOL	rw	LE_PSTN_PROTOCOL.spr
LE_V5_interface_status_FSM		[unconnected]
LE_SYSTEM_MANAGEMENT	rw	LE_SYSTEM_MANAGEMENT.sbk
LE_PSTN_DL		[unconnected]
LE_PSTN_DL_MANAGEMENT	rw	LE_PSTN_DL_MANAGEMENT.spr
LE_SYSTEM_MANAGEMENT	rw	LE_SYSTEM_MANAGEMENT.spr
LE_CTRL_DL		[unconnected]
LE_PSTN_RESTART_MANAGEMENT	rw	LE_PSTN_RESTART_MANAGEMENT.spr
LE_PSTN_port_status_FSM	rw	LE_PSTN_port_status_FSM.sbk
LE_PSTN_port_status_FSM	rw	LE_PSTN_port_status_FSM.spr
national_PSTN_protocol		[unconnected]
LE_ISDN_port_status_FSM	rw	LE_ISDN_port_status_FSM.sbk
LE_ISDN_port_status_FSM	rw	LE_ISDN_port_status_FSM.spr
LE_CTRL_PROTOCOL	rw	LE_CTRL_PROTOCOL.sbk
LE_CONTROL_PORT	rw	LE_CONTROL_PORT.spr
LE_CONTROL_COMMON	rw	LE_CONTROL_COMMON.spr
V5_1_LE	rw	V5_1_le.sov
V5_1_AN	rw	V5_1_an.ssy
V5_1_AN		
AN_PSTN_user_port		[unconnected]
AN_PSTN_PROTOCOL	rw	AN_PSTN_PROTOCOL.sbk
AN_PSTN_PROTOCOL	rw	AN_PSTN_PROTOCOL.spr
AN_SYSTEM_MANAGEMENT	rw	AN_SYSTEM_MANAGEMENT.sbk
AN_PSTN_DL		[unconnected]
AN_PSTN_DL_MANAGEMENT	rw	AN_PSTN_DL_MANAGEMENT.spr
AN_SYSTEM_MANAGEMENT	rw	AN_SYSTEM_MANAGEMENT.spr
AN_CTRL_DL		[unconnected]
AN_PSTN_RESTART_MANAGEMENT	rw	AN_PSTN_RESTART_MANAGEMENT.spr
AN_ISDN_port_status_FSM	rw	AN_ISDN_port_status_FSM.sbk
AN_ISDN_port_status_FSM	rw	AN_ISDN_port_status_FSM.spr
AN_ISDN_user_port		[unconnected]
AN_PSTN_port_status_FSM	rw	AN_PSTN_port_status_FSM.sbk
AN_PSTN_port_status_FSM	rw	AN_PSTN_port_status_FSM.spr
AN_CTRL_PROTOCOL	rw	AN_CTRL_PROTOCOL.sbk
AN_CONTROL_PORT	rw	AN_CONTROL_PORT.spr
AN_CONTROL_COMMON	rw	AN_CONTROL_COMMON.spr
AN_V5_interface_status_FSM		[unconnected]

V5_1_AN rw V5_1_AN.sov

- Analysis Model
- Used Files
- SDL System Structure
- TTCN Test Specification
- Other Documents

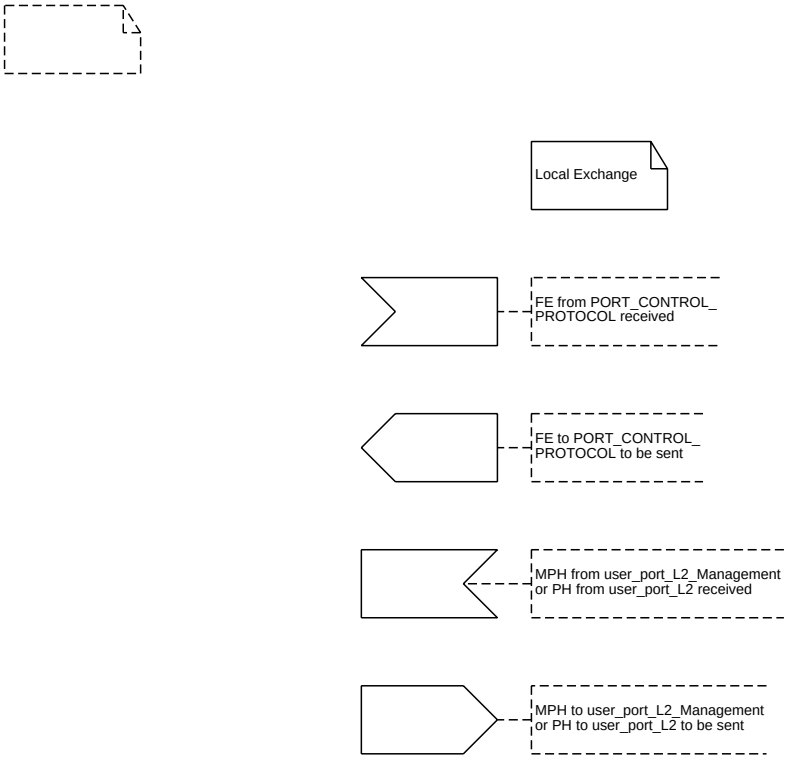
Procedure Description

AN_port_status_FSMs(9)



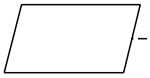
Procedure Description

LE_port_status_FSMs(9)

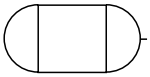


Task symbol

Procedure call symbol



Save symbol

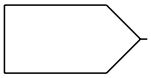


Procedure start symbol

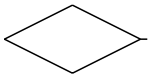
Return symbol

State symbol

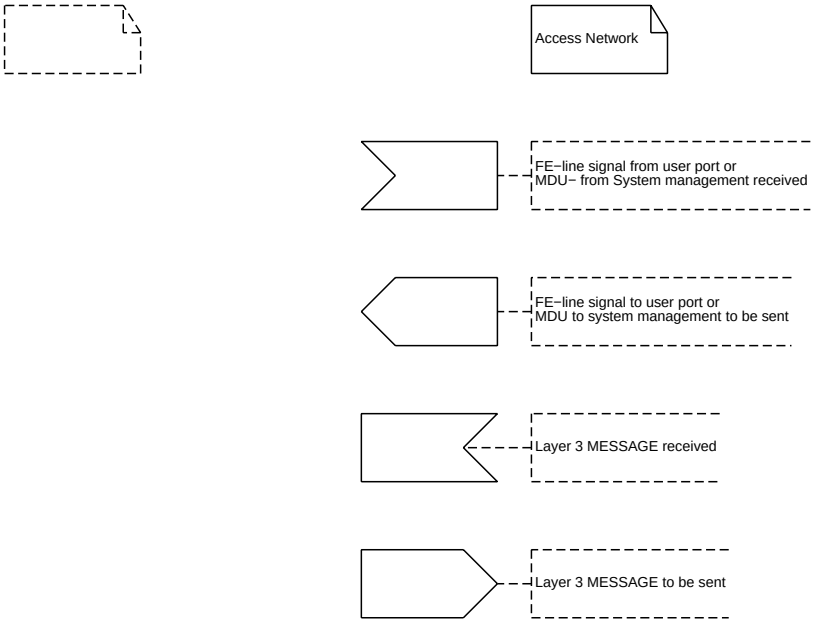
Input symbol (event occurance)



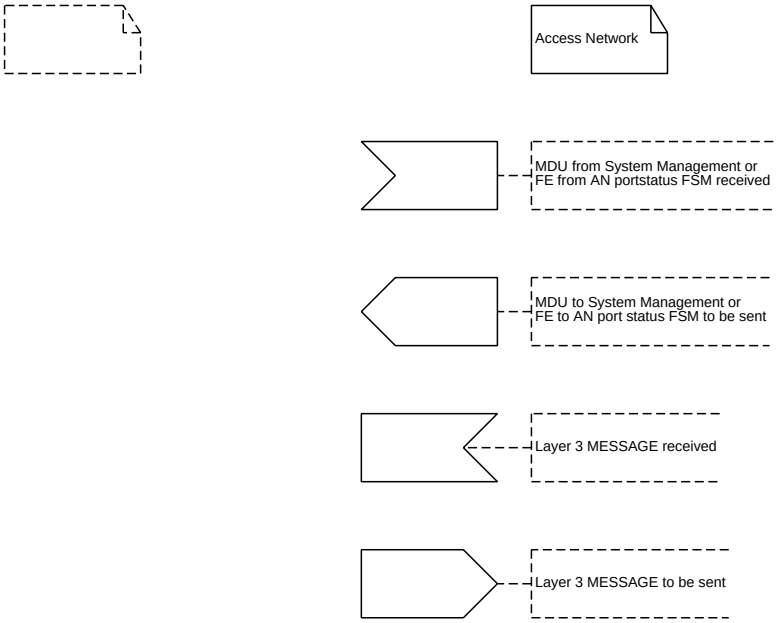
Output symbol (signal generation − which will lead to an associated event occurance)



Decision symbol

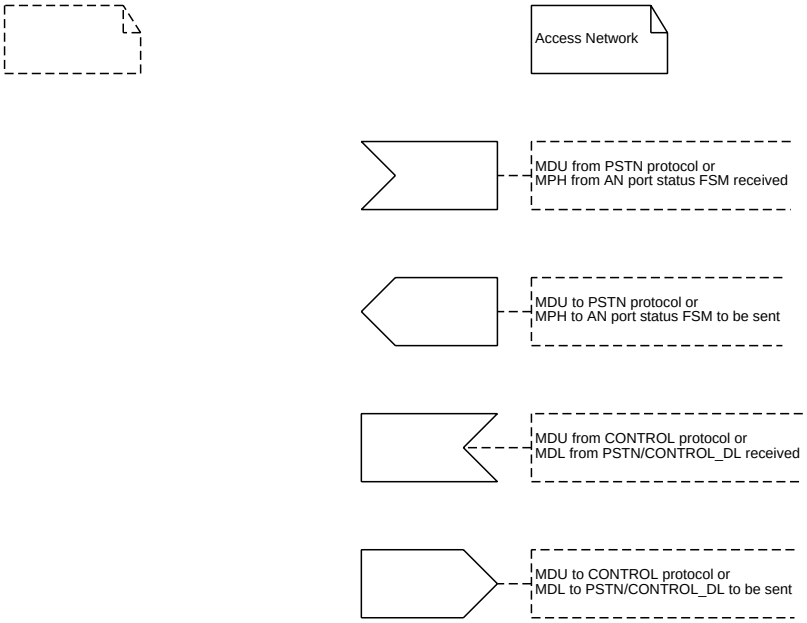

Access Network
FE−line signal from user port or
MDU− from System management received
FE−line signal to user port or
MDU to system management to be sent
Layer 3 MESSAGE received
Layer 3 MESSAGE to be sent

Procedure Description AN_CONTROL(9)



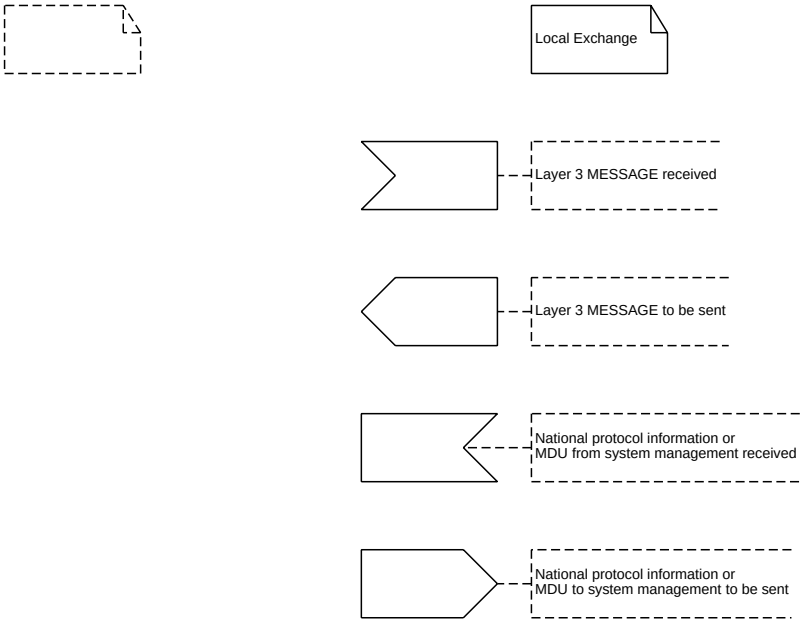
Procedure Description

AN_SYSTEM(9)



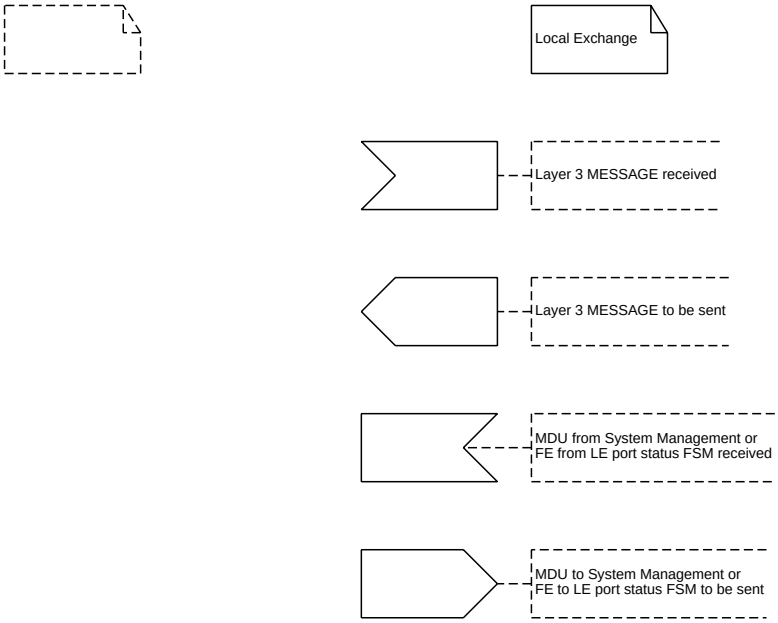
Procedure Description

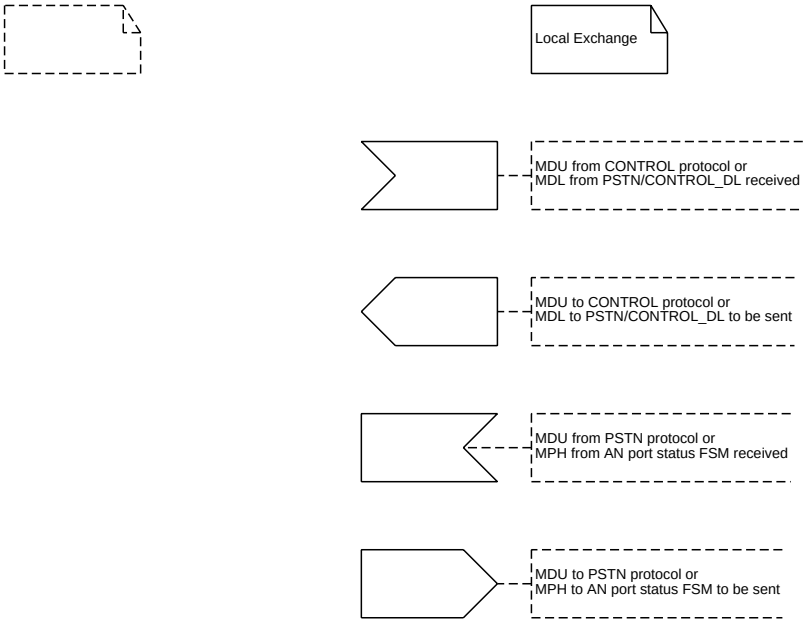
LE_PSTN(9)

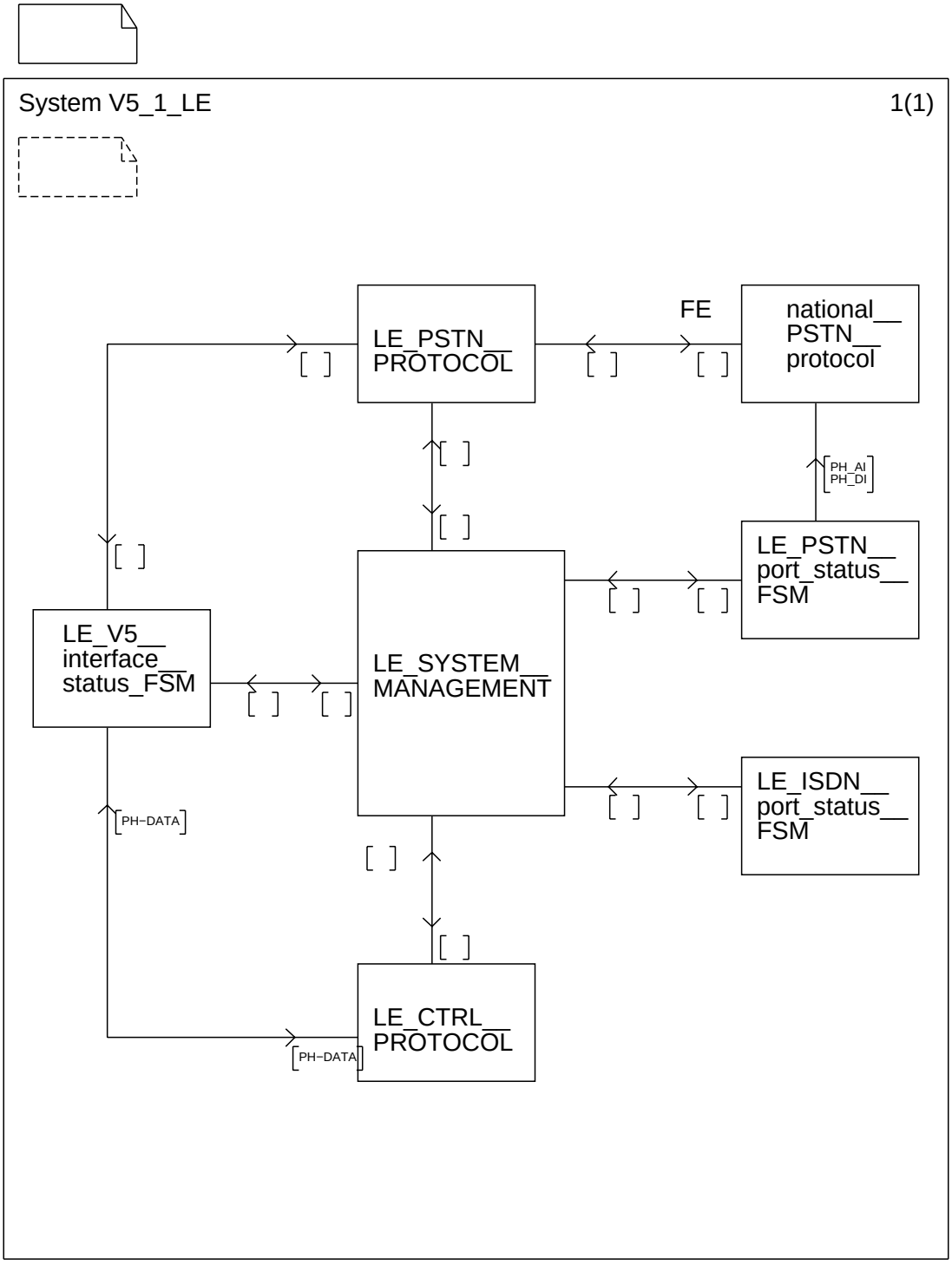


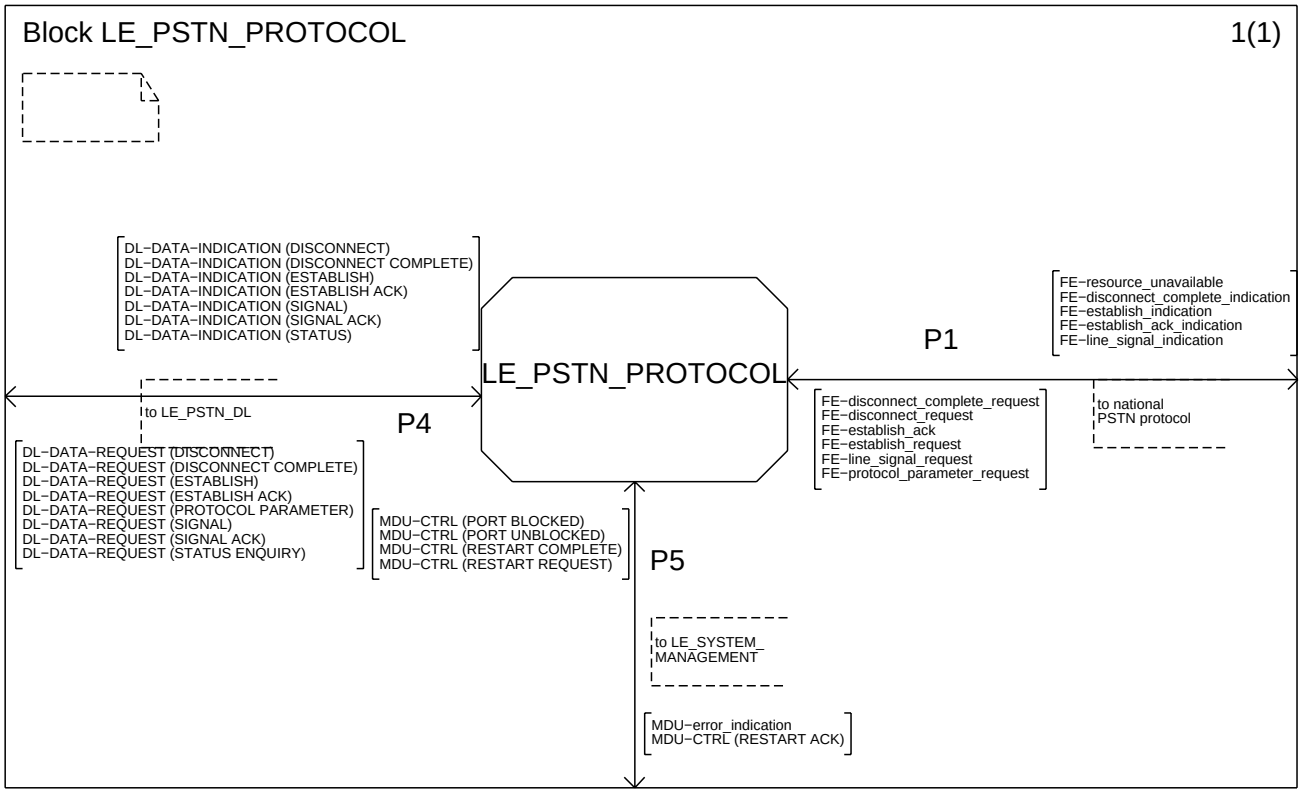
Procedure Description

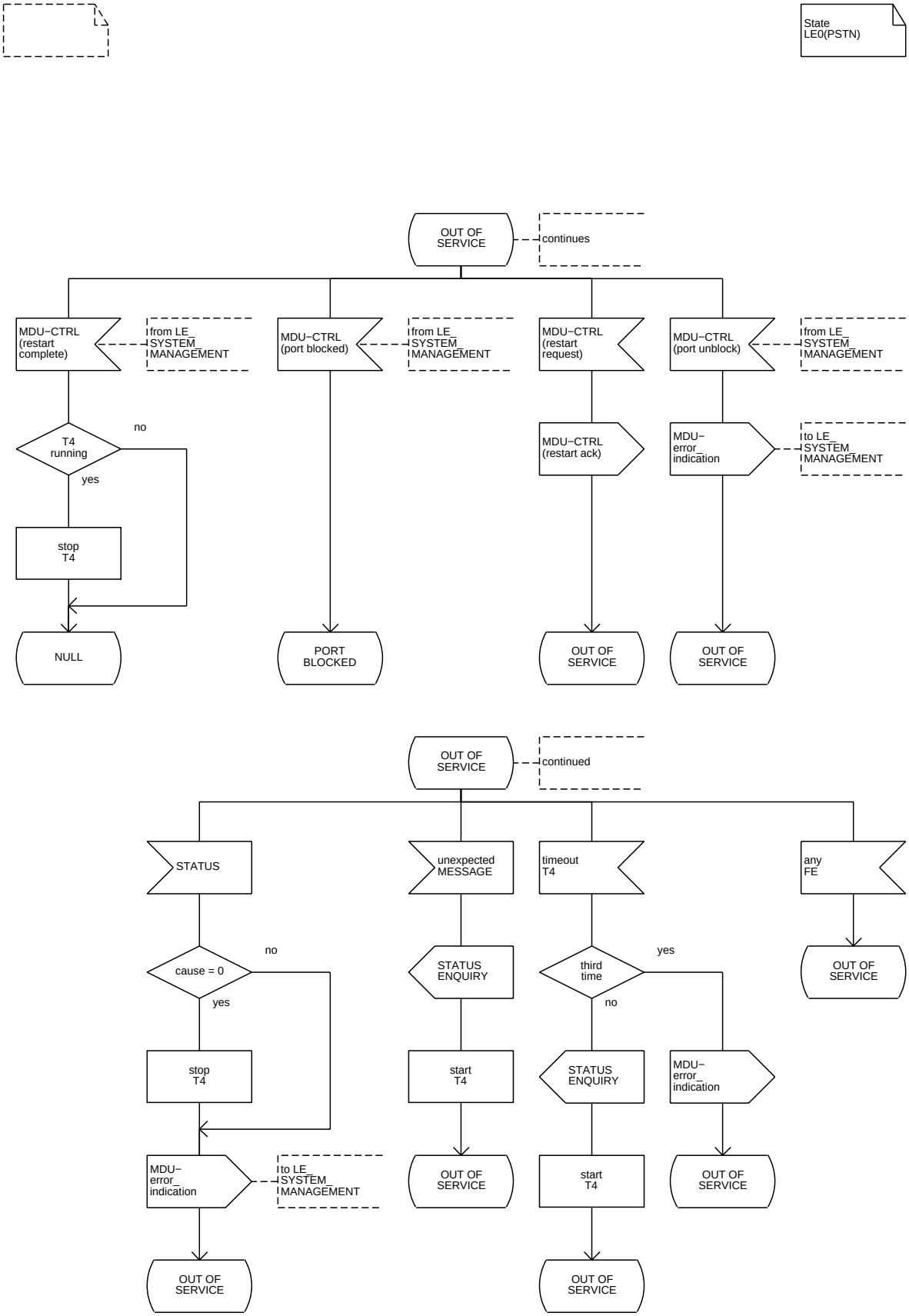
LE_CONTROL(9)

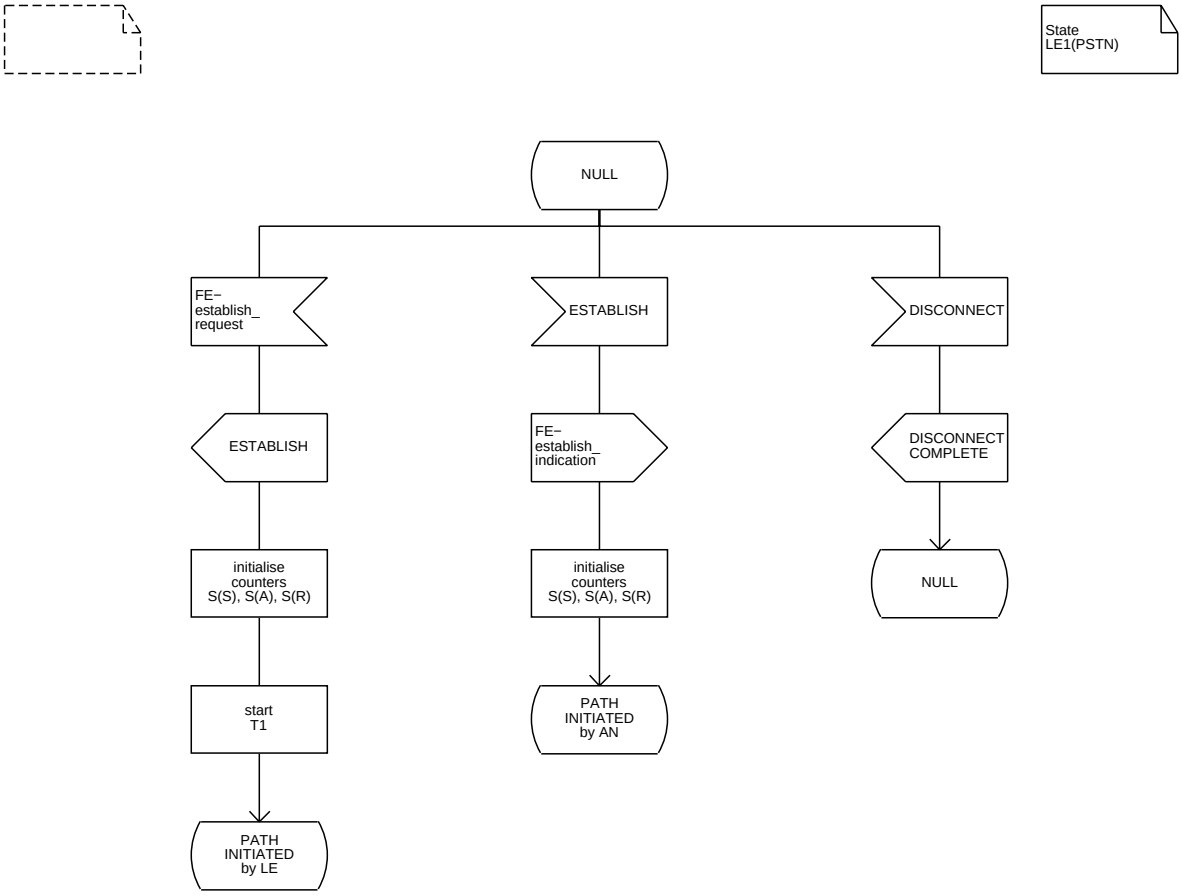


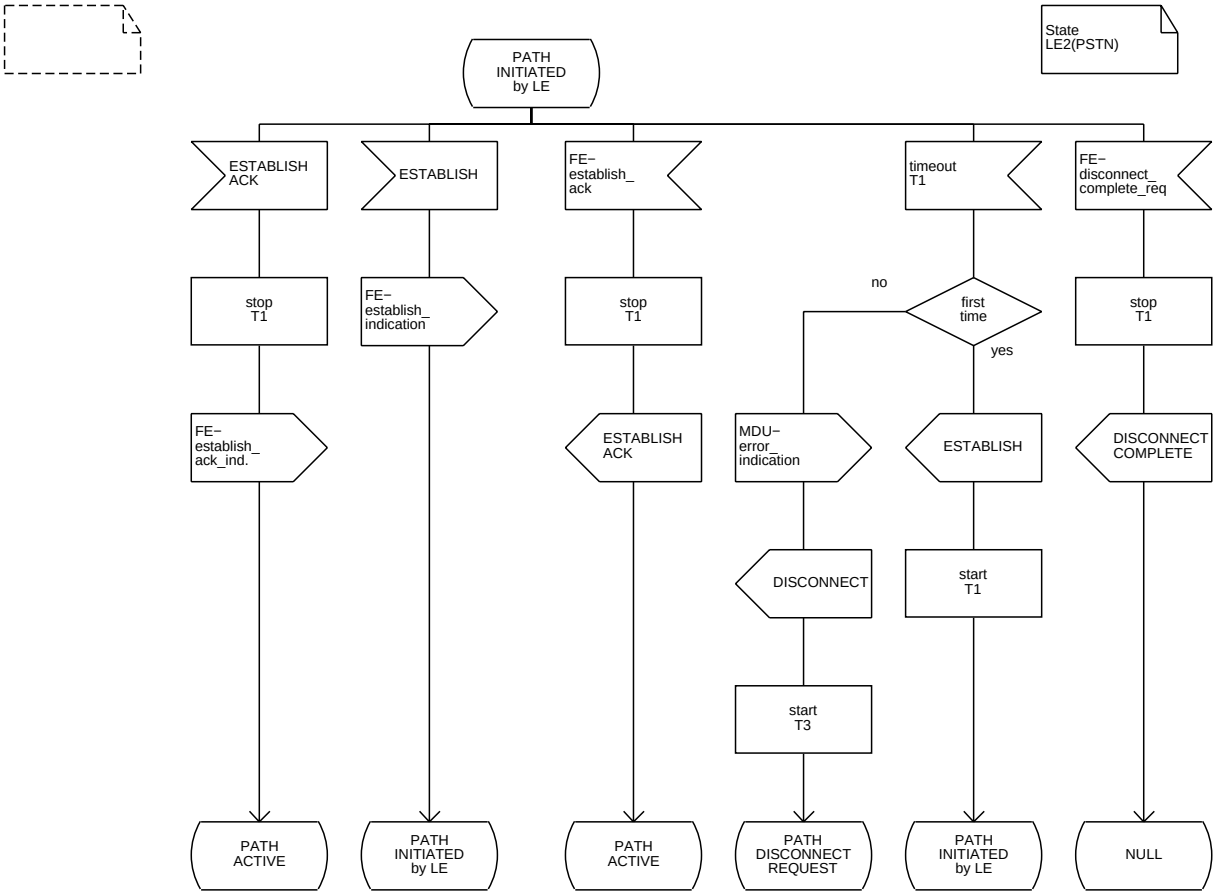

Local Exchange
MDU from CONTROL protocol or
MDL from PSTN/CONTROL_DL received
MDU to CONTROL protocol or
MDL to PSTN/CONTROL_DL to be sent
MDU from PSTN protocol or
MPH from AN port status FSM received
MDU to PSTN protocol or
MPH to AN port status FSM to be sent

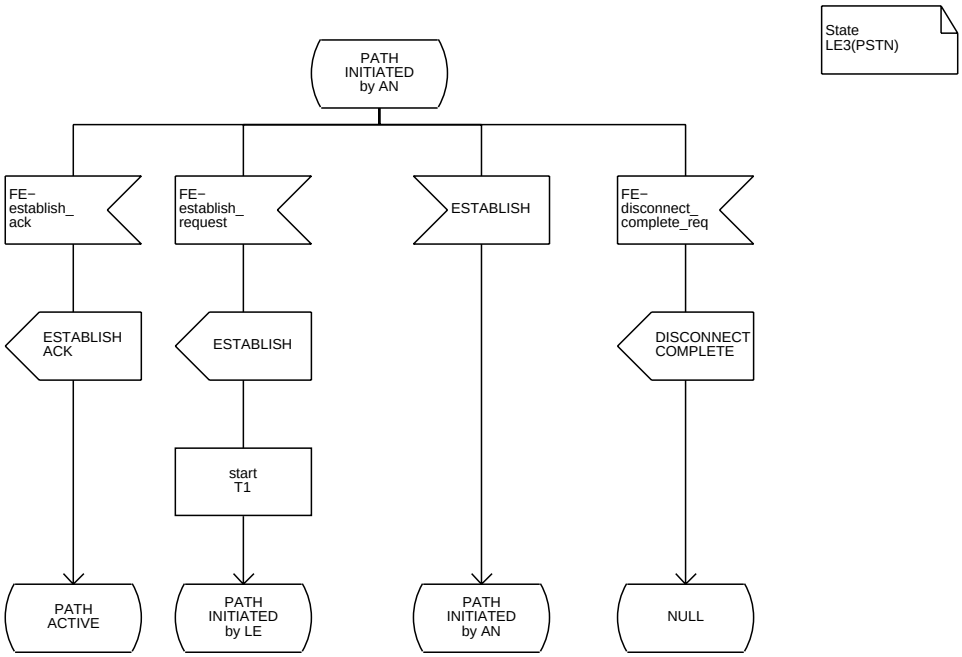

System V5_1_LE
1(1)
LE_PSTN__ PROTOCOL
FE
national__ PSTN__ protocol
PH_AI
PH_DI
LE_PSTN__ port_status__ FSM
LE_V5__ interface__ status_FSM
LE_SYSTEM__ MANAGEMENT
LE_ISDN__ port_status__ FSM
PH-DATA
LE_CTRL__ PROTOCOL
PH-DATA

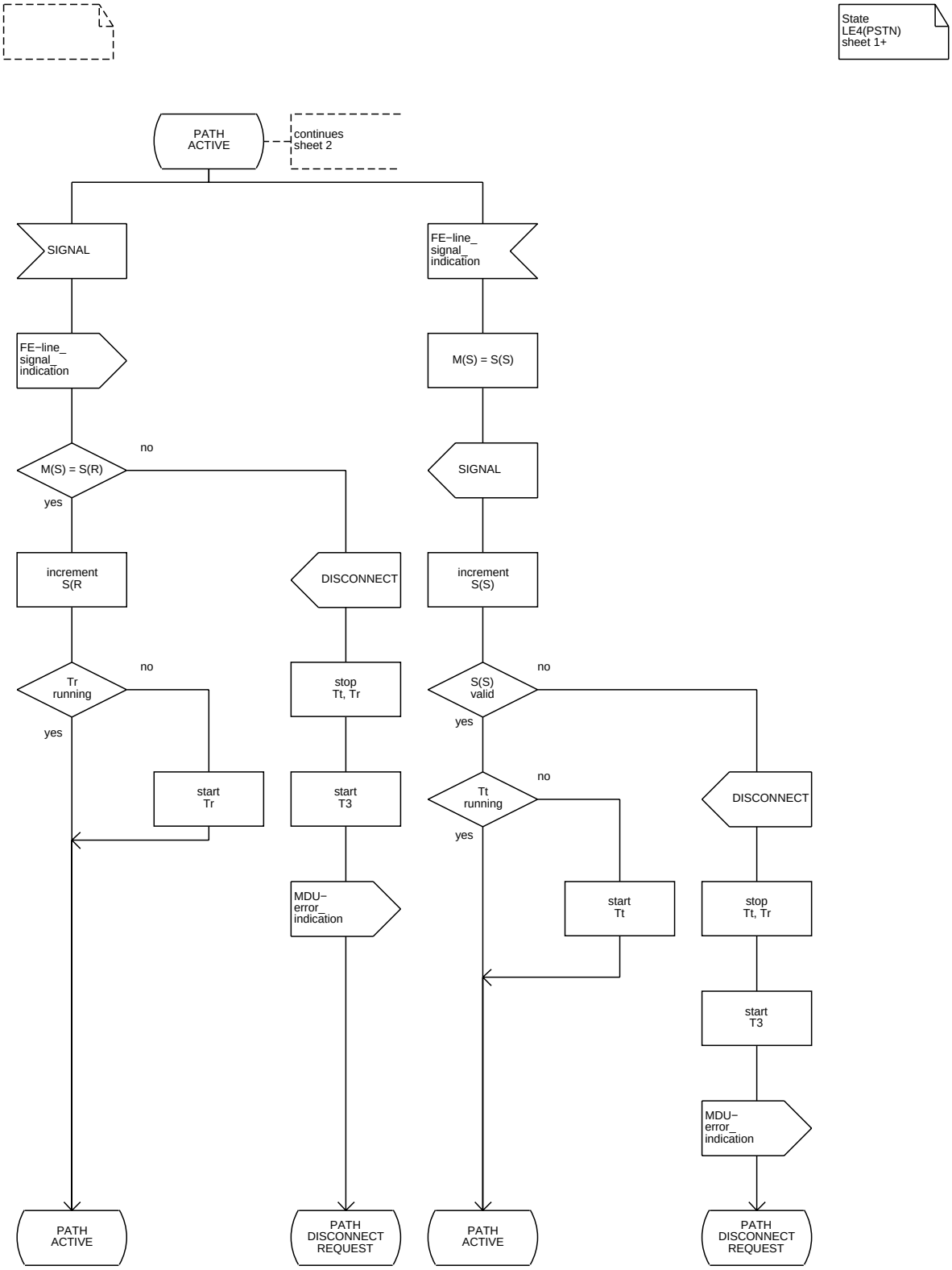

Block LE_PSTN_PROTOCOL
1(1)
DL−DATA−INDICATION (DISCONNECT)
DL−DATA−INDICATION (DISCONNECT COMPLETE)
DL−DATA−INDICATION (ESTABLISH)
DL−DATA−INDICATION (ESTABLISH ACK)
DL−DATA−INDICATION (SIGNAL)
DL−DATA−INDICATION (SIGNAL ACK)
DL−DATA−INDICATION (STATUS)
LE_PSTN_PROTOCOL
P1
FE−resource_unavailable
FE−disconnect_complete_indication
FE−establish_indication
FE−establish_ack_indication
FE−line_signal_indication
to LE_PSTN_DL
P4
DL−DATA−REQUEST (DISCONNECT)
DL−DATA−REQUEST (DISCONNECT COMPLETE)
DL−DATA−REQUEST (ESTABLISH)
DL−DATA−REQUEST (ESTABLISH ACK)
DL−DATA−REQUEST (PROTOCOL PARAMETER)
DL−DATA−REQUEST (SIGNAL)
DL−DATA−REQUEST (SIGNAL ACK)
DL−DATA−REQUEST (STATUS ENQUIRY)
FE−disconnect_complete_request
FE−disconnect_request
FE−establish_ack
FE−establish_request
FE−line_signal_request
FE−protocol_parameter_request
to national
PSTN protocol
MDU−CTRL (PORT BLOCKED)
MDU−CTRL (PORT UNBLOCKED)
MDU−CTRL (RESTART COMPLETE)
MDU−CTRL (RESTART REQUEST)
P5
to LE_SYSTEM_
MANAGEMENT
MDU−error_indication
MDU−CTRL (RESTART ACK)

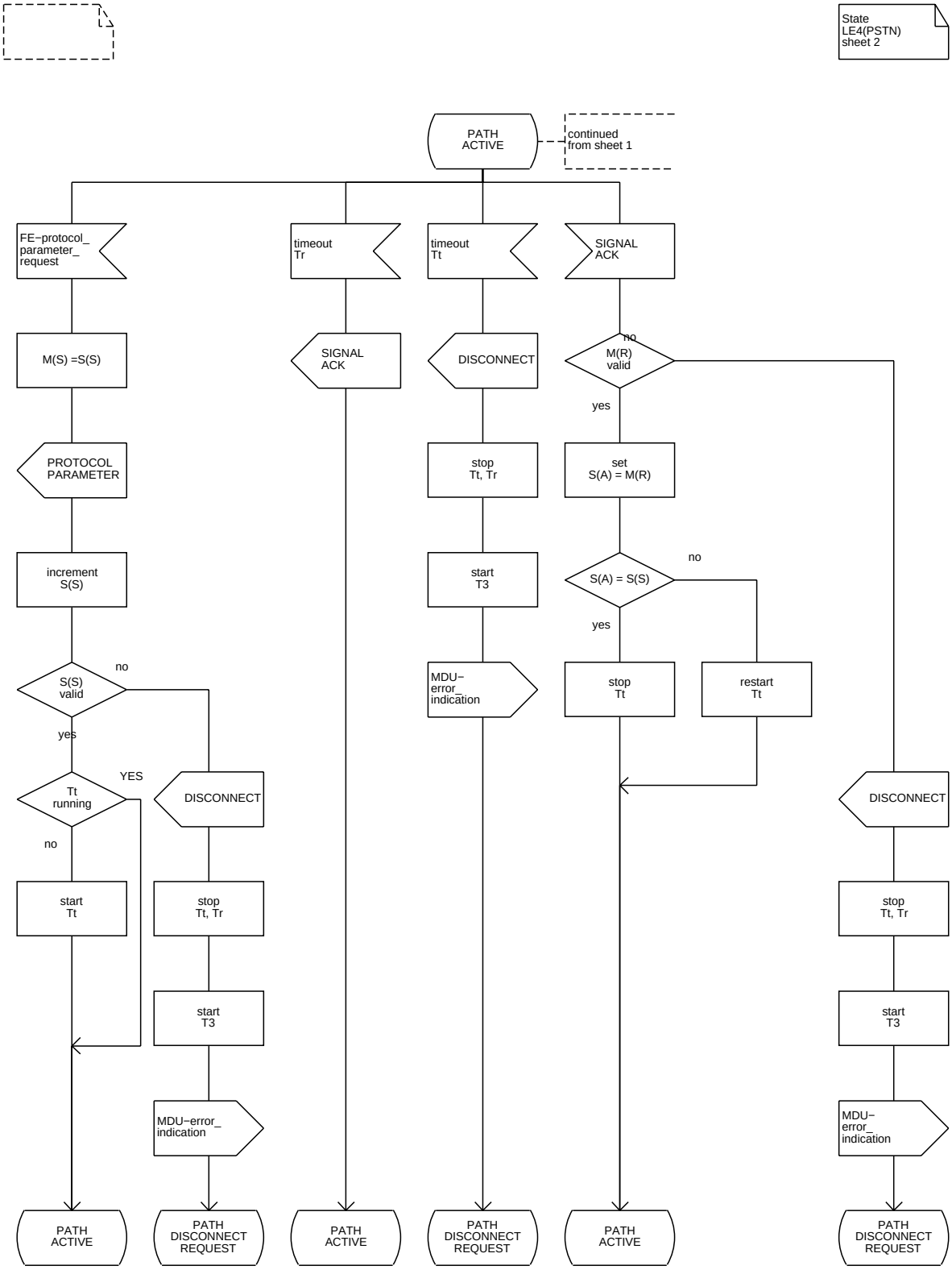

State
LE0(PSTN)
OUT OF SERVICE
continues
MDU−CTRL (restart complete)
from LE_ SYSTEM_ MANAGEMENT
MDU−CTRL (port blocked)
from LE_ SYSTEM_ MANAGEMENT
MDU−CTRL (restart request)
MDU−CTRL (port unblock)
from LE_ SYSTEM_ MANAGEMENT
T4 running
no
yes
stop T4
NULL
PORT BLOCKED
MDU−CTRL (restart ack)
OUT OF SERVICE
MDU− error_ indication
to LE_ SYSTEM_ MANAGEMENT
OUT OF SERVICE
OUT OF SERVICE
continued
STATUS
unexpected MESSAGE
timeout T4
any FE
cause = 0
no
yes
stop T4
MDU− error_ indication
to LE_ SYSTEM_ MANAGEMENT
OUT OF SERVICE
STATUS ENQUIRY
start T4
OUT OF SERVICE
third time
yes
no
STATUS ENQUIRY
start T4
OUT OF SERVICE
MDU− error_ indication
OUT OF SERVICE
OUT OF SERVICE

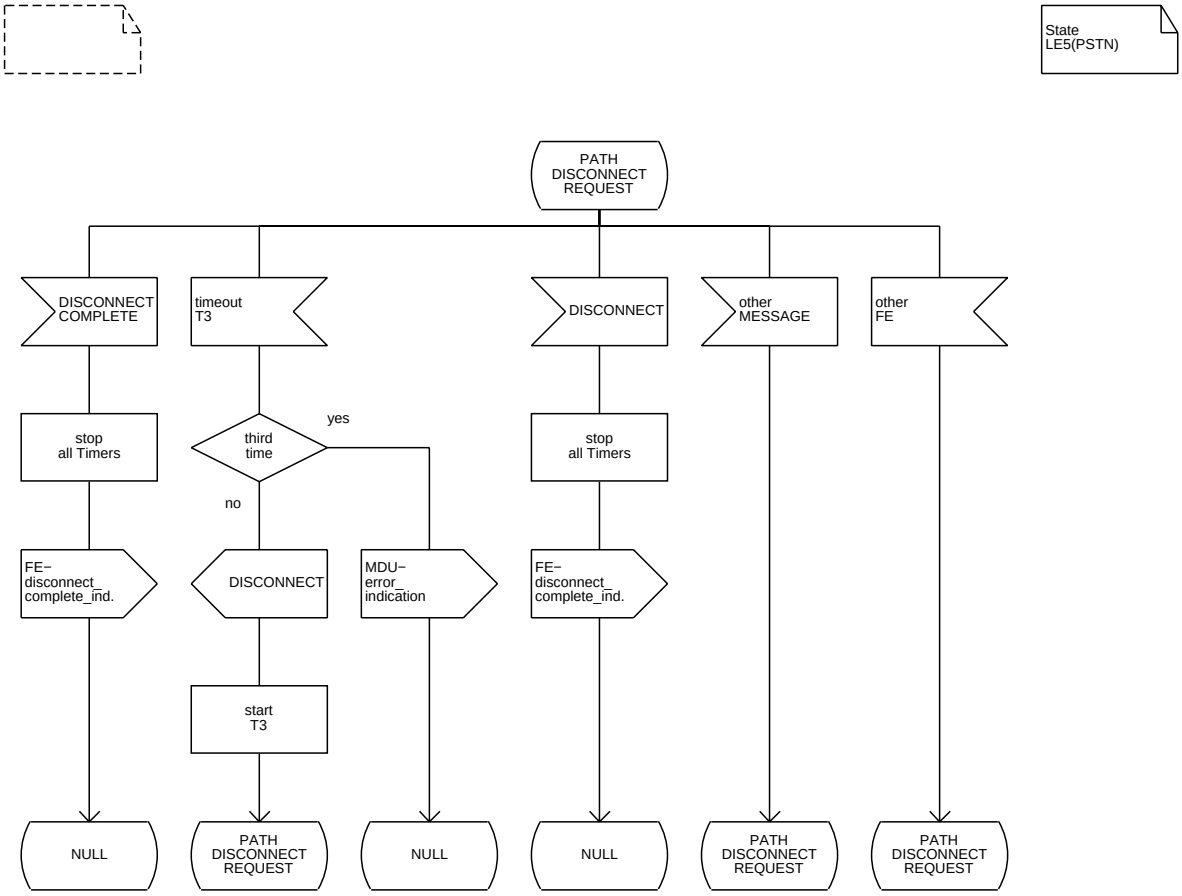

State
LE1(PSTN)
NULL
FE−
establish_
request
ESTABLISH
DISCONNECT
ESTABLISH
FE−
establish_
indication
DISCONNECT
COMPLETE
initialise
counters
S(S), S(A), S(R)
initialise
counters
S(S), S(A), S(R)
NULL
start
T1
PATH
INITIATED
by AN
PATH
INITIATED
by LE

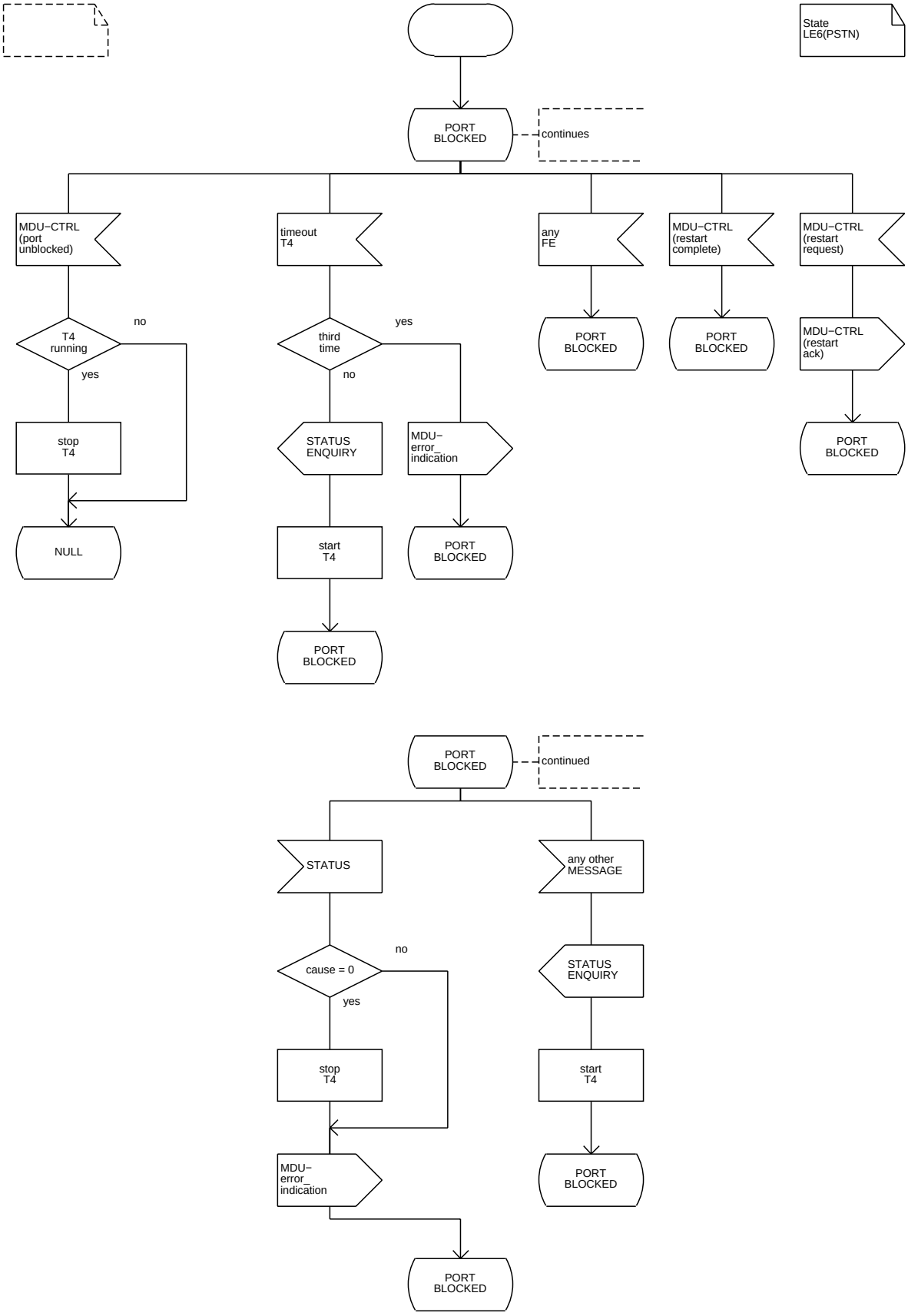

State
LE2(PSTN)
PATH
INITIATED
by LE
ESTABLISH
ACK
ESTABLISH
FE−
establish_
ack
timeout
T1
FE−
disconnect_
complete_req
stop
T1
FE−
establish_
indication
stop
T1
no
first
time
yes
stop
T1
FE−
establish_
ack_ind.
ESTABLISH
ACK
MDU−
error_
indication
ESTABLISH
DISCONNECT
COMPLETE
DISCONNECT
start
T1
start
T3
PATH
ACTIVE
PATH
INITIATED
by LE
PATH
ACTIVE
PATH
DISCONNECT
REQUEST
PATH
INITIATED
by LE
NULL

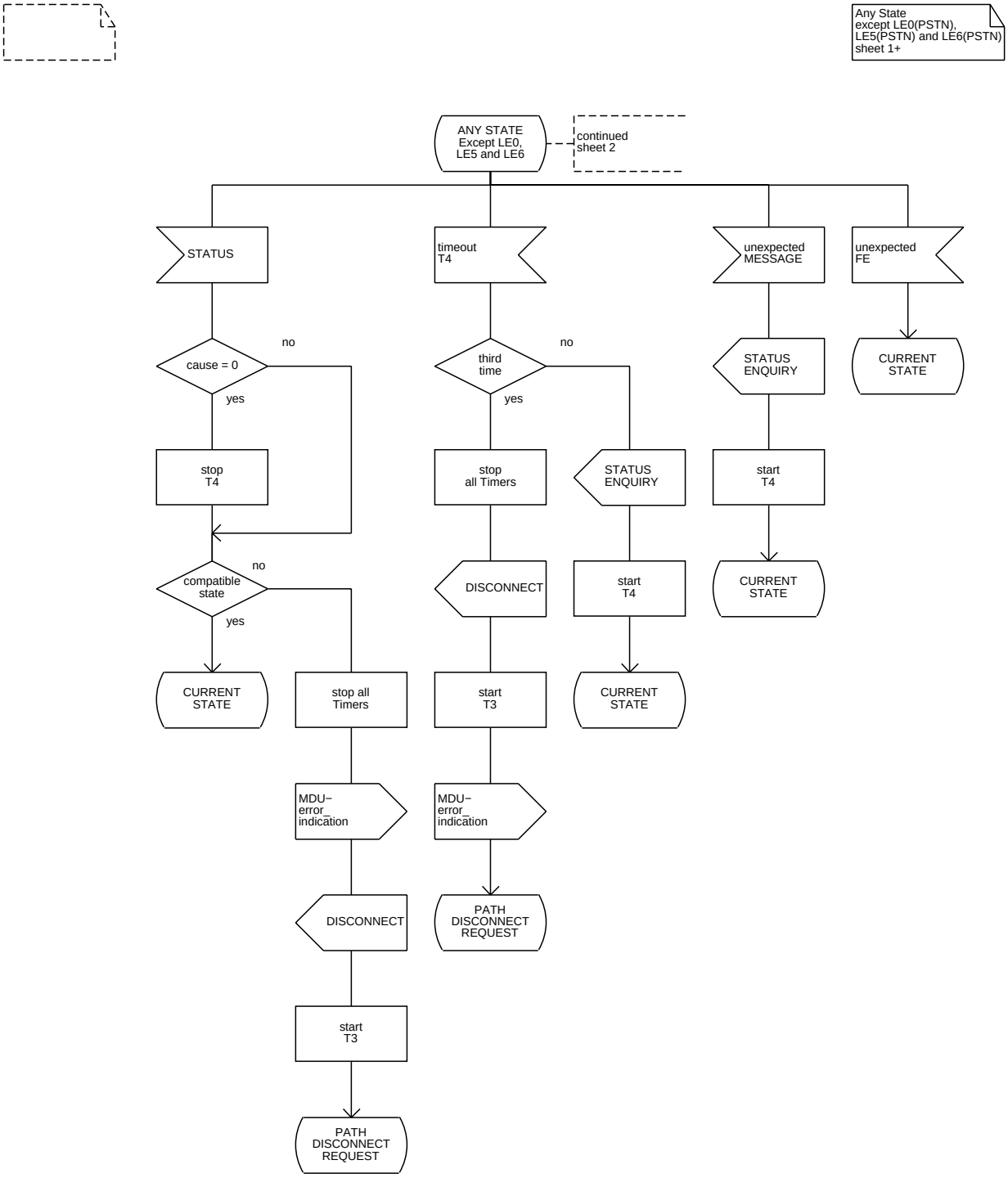

State
LE3(PSTN)
PATH
INITIATED
by AN
FE−
establish_
ack
FE−
establish_
request
ESTABLISH
FE−
disconnect_
complete_req
ESTABLISH
ACK
ESTABLISH
DISCONNECT
COMPLETE
start
T1
PATH
ACTIVE
PATH
INITIATED
by LE
PATH
INITIATED
by AN
NULL

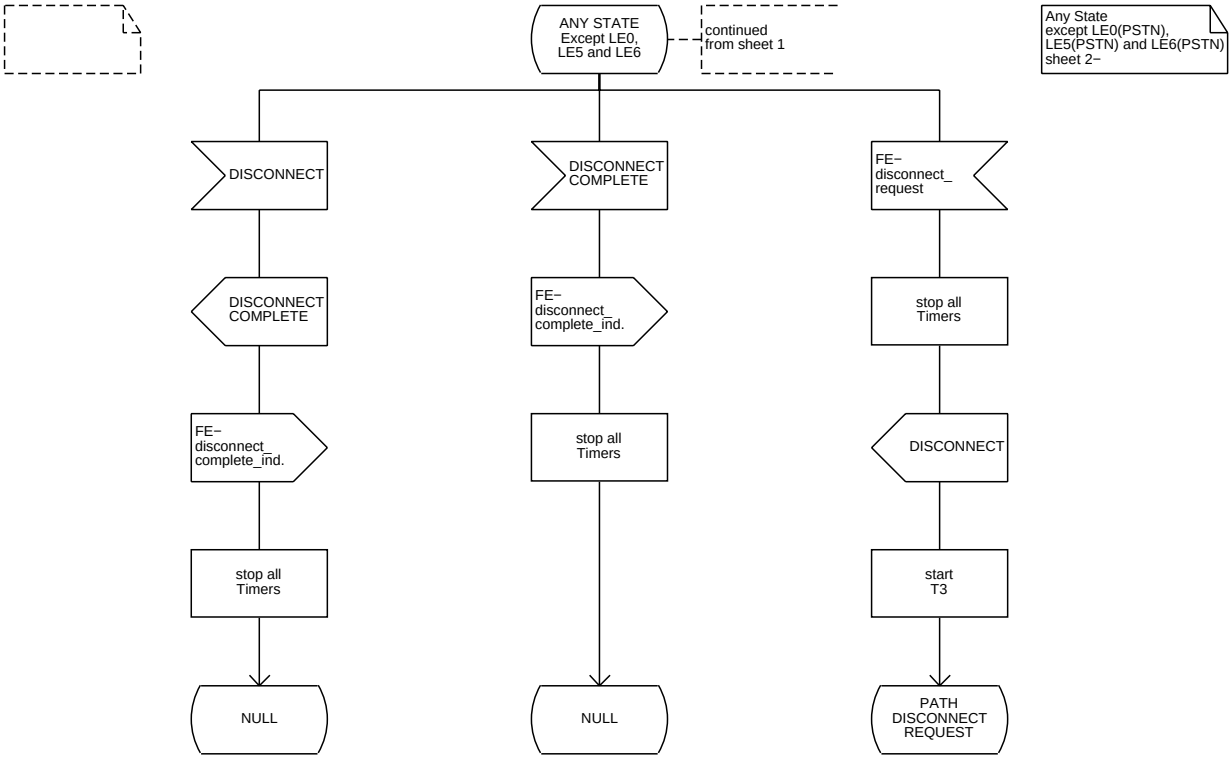

State
LE4(PSTN)
sheet 1+
PATH
ACTIVE
continues
sheet 2
SIGNAL
FE−line_
signal_
indication
FE−line_
signal_
indication
M(S) = S(S)
M(S) = S(R)
no
yes
SIGNAL
increment
S(R
DISCONNECT
increment
S(S)
Tr
running
no
yes
stop
Tt, Tr
S(S)
valid
no
yes
start
Tr
start
T3
Tt
running
no
yes
DISCONNECT
MDU−
error_
indication
start
Tt
stop
Tt, Tr
start
T3
MDU−
error_
indication
PATH
ACTIVE
PATH
DISCONNECT
REQUEST
PATH
ACTIVE
PATH
DISCONNECT
REQUEST

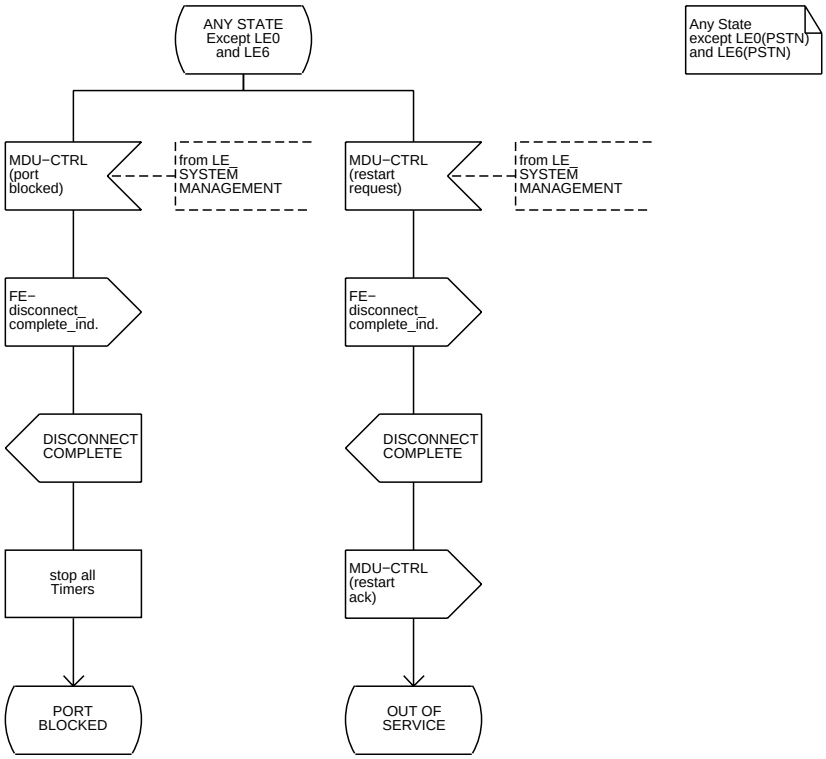

State
LE4(PSTN)
sheet 2
PATH
ACTIVE
continued
from sheet 1
FE−protocol_
parameter_
request
timeout
Tr
timeout
Tt
SIGNAL
ACK
M(S) =S(S)
SIGNAL
ACK
DISCONNECT
M(R)
valid
no
yes
PROTOCOL
PARAMETER
stop
Tt, Tr
set
S(A) = M(R)
increment
S(S)
start
T3
S(A) = S(S)
no
yes
S(S)
valid
no
yes
MDU−
error_
indication
stop
Tt
restart
Tt
Tt
running
YES
no
DISCONNECT
DISCONNECT
start
Tt
stop
Tt, Tr
stop
Tt, Tr
start
T3
start
T3
MDU−error_
indication
MDU−
error_
indication
PATH
ACTIVE
PATH
DISCONNECT
REQUEST
PATH
ACTIVE
PATH
DISCONNECT
REQUEST
PATH
ACTIVE
PATH
DISCONNECT
REQUEST

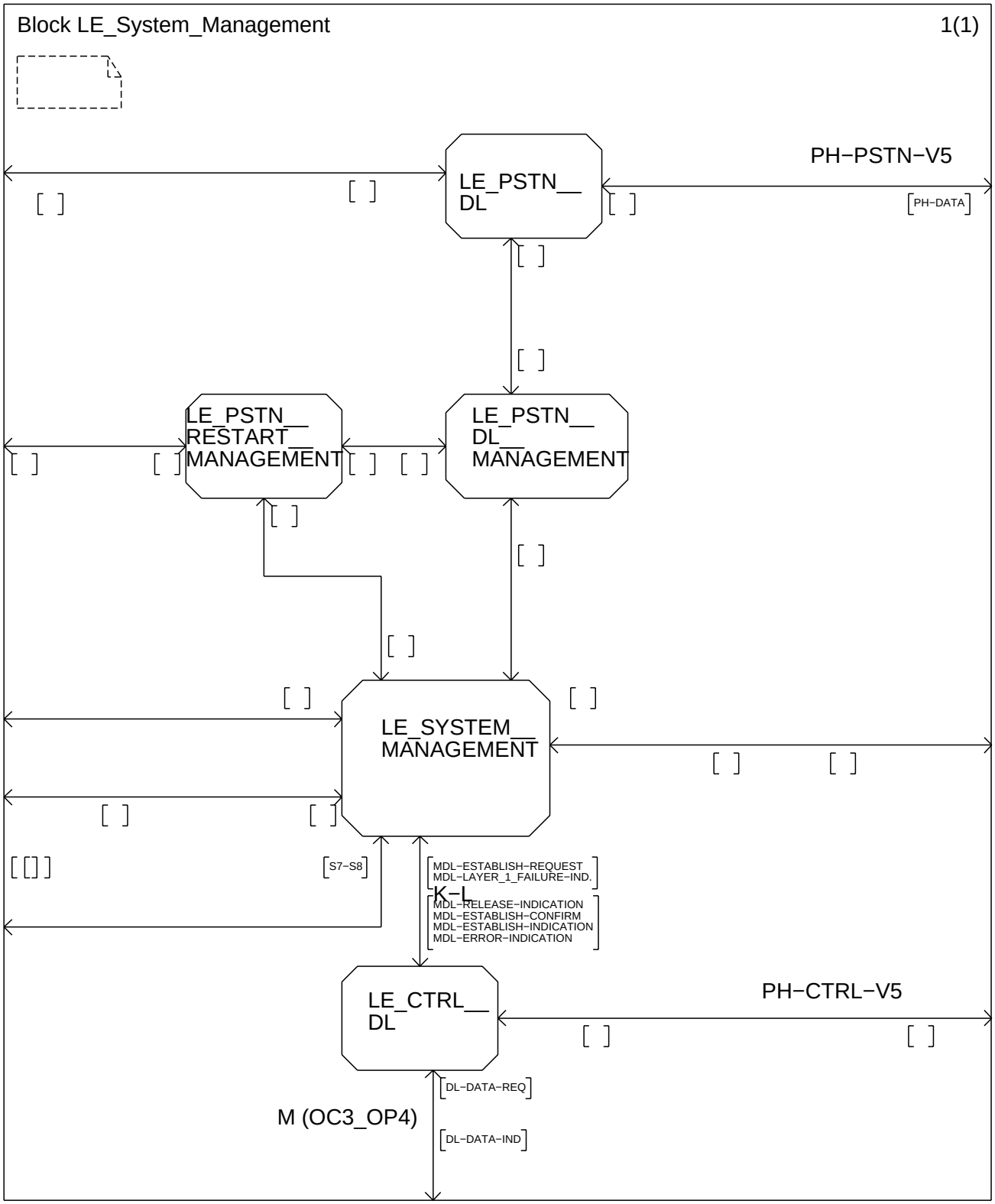

State
LE5(PSTN)
PATH
DISCONNECT
REQUEST
DISCONNECT
COMPLETE
timeout
T3
DISCONNECT
other
MESSAGE
other
FE
stop
all Timers
third
time
yes
no
stop
all Timers
FE−
disconnect_
complete_ind.
DISCONNECT
MDU−
error_
indication
FE−
disconnect_
complete_ind.
start
T3
NULL
PATH
DISCONNECT
REQUEST
NULL
NULL
PATH
DISCONNECT
REQUEST
PATH
DISCONNECT
REQUEST


State
LE6(PSTN)
PORT
BLOCKED
continues
MDU−CTRL
(port
unblocked)
timeout
T4
any
FE
MDU−CTRL
(restart
complete)
MDU−CTRL
(restart
request)
T4
running
no
yes
stop
T4
NULL
third
time
yes
no
STATUS
ENQUIRY
MDU−
error_
indication
start
T4
PORT
BLOCKED
PORT
BLOCKED
PORT
BLOCKED
MDU−CTRL
(restart
ack)
PORT
BLOCKED
PORT
BLOCKED
continued
STATUS
any other
MESSAGE
cause = 0
no
yes
stop
T4
MDU−
error_
indication
STATUS
ENQUIRY
start
T4
PORT
BLOCKED
PORT
BLOCKED


Any State
except LE0(PSTN),
LE5(PSTN) and LE6(PSTN)
sheet 1+
ANY STATE
Except LE0,
LE5 and LE6
continued
sheet 2
STATUS
timeout
T4
unexpected
MESSAGE
unexpected
FE
cause = 0
no
yes
stop
T4
compatible
state
no
yes
CURRENT
STATE
stop all
Timers
MDU−
error_
indication
DISCONNECT
start
T3
PATH
DISCONNECT
REQUEST
third
time
no
yes
stop
all Timers
DISCONNECT
start
T3
PATH
DISCONNECT
REQUEST
STATUS
ENQUIRY
start
T4
CURRENT
STATE
STATUS
ENQUIRY
start
T4
CURRENT
STATE
CURRENT
STATE

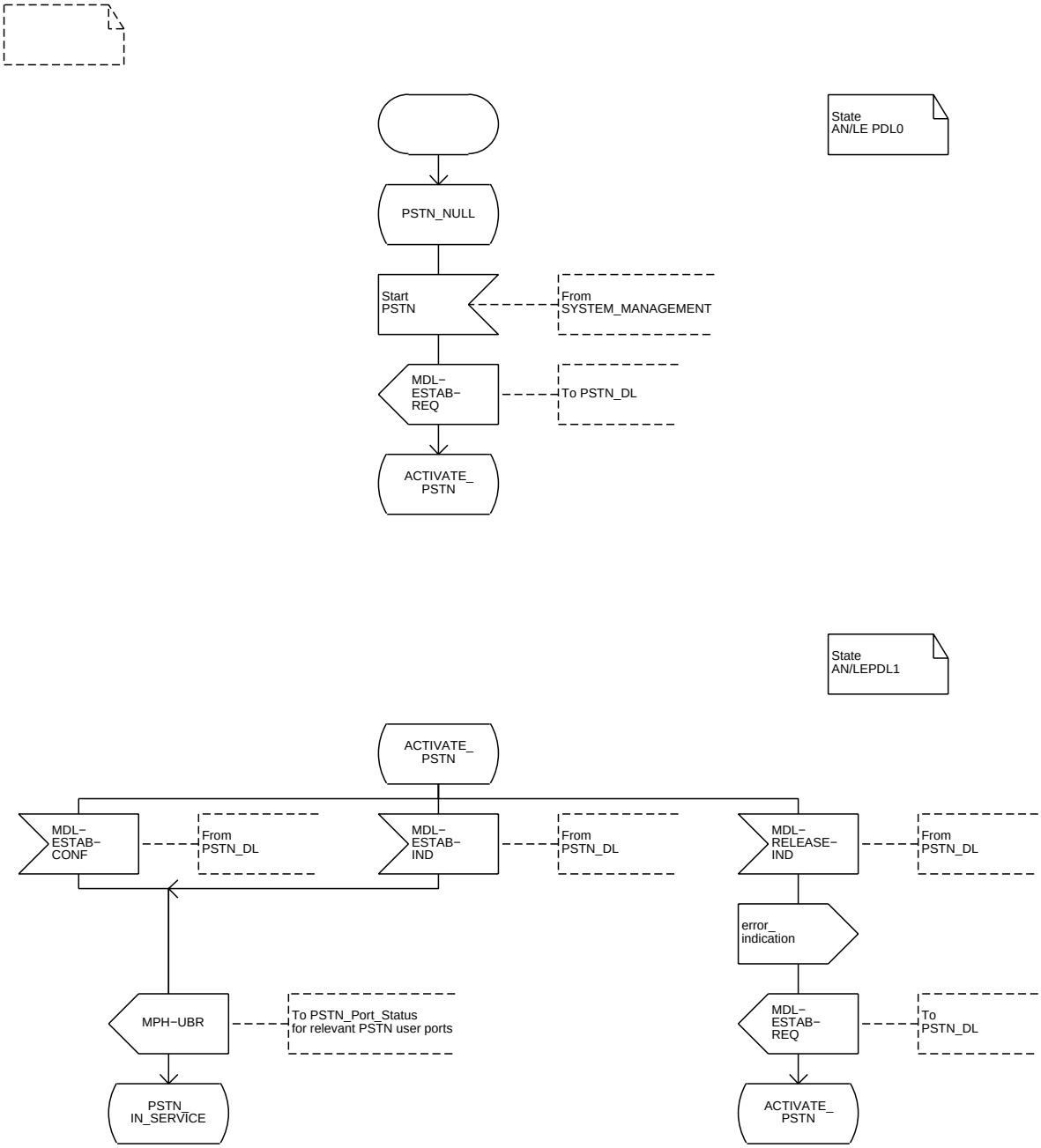

ANY STATE
Except LE0,
LE5 and LE6
continued
from sheet 1
Any State
except LE0(PSTN),
LE5(PSTN) and LE6(PSTN)
sheet 2−
DISCONNECT
DISCONNECT
COMPLETE
FE−
disconnect_
request
DISCONNECT
COMPLETE
FE−
disconnect_
complete_ind.
stop all
Timers
FE−
disconnect_
complete_ind.
stop all
Timers
DISCONNECT
stop all
Timers
start
T3
NULL
NULL
PATH
DISCONNECT
REQUEST


ANY STATE
Except LE0
and LE6
Any State
except LE0(PSTN)
and LE6(PSTN)
MDU−CTRL
(port
blocked)
from LE_
SYSTEM
MANAGEMENT
MDU−CTRL
(restart
request)
from LE_
SYSTEM
MANAGEMENT
FE−
disconnect_
complete_ind.
FE−
disconnect_
complete_ind.
DISCONNECT
COMPLETE
DISCONNECT
COMPLETE
stop all
Timers
MDU−CTRL
(restart
ack)
PORT
BLOCKED
OUT OF
SERVICE


Block LE_System_Management
1(1)
LE_PSTN__ DL
PH−PSTN−V5
[ ]
[ ]
[ ]
[PH−DATA]
[ ]
[ ]
LE_PSTN__ RESTART__ MANAGEMENT
LE_PSTN__ DL__ MANAGEMENT
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
LE_SYSTEM__ MANAGEMENT
[ ]
[ ]
[ ]
[ ]
[[]]
[S7−S8]
[MDL−ESTABLISH−REQUEST
MDL−LAYER_1_FAILURE−IND.]
K−L
[MDL−RELEASE−INDICATION
MDL−ESTABLISH−CONFIRM
MDL−ESTABLISH−INDICATION
MDL−ERROR−INDICATION]
LE_CTRL__ DL
PH−CTRL−V5
[ ]
[ ]
[DL−DATA−REQ]
M (OC3_OP4)
[DL−DATA−IND]

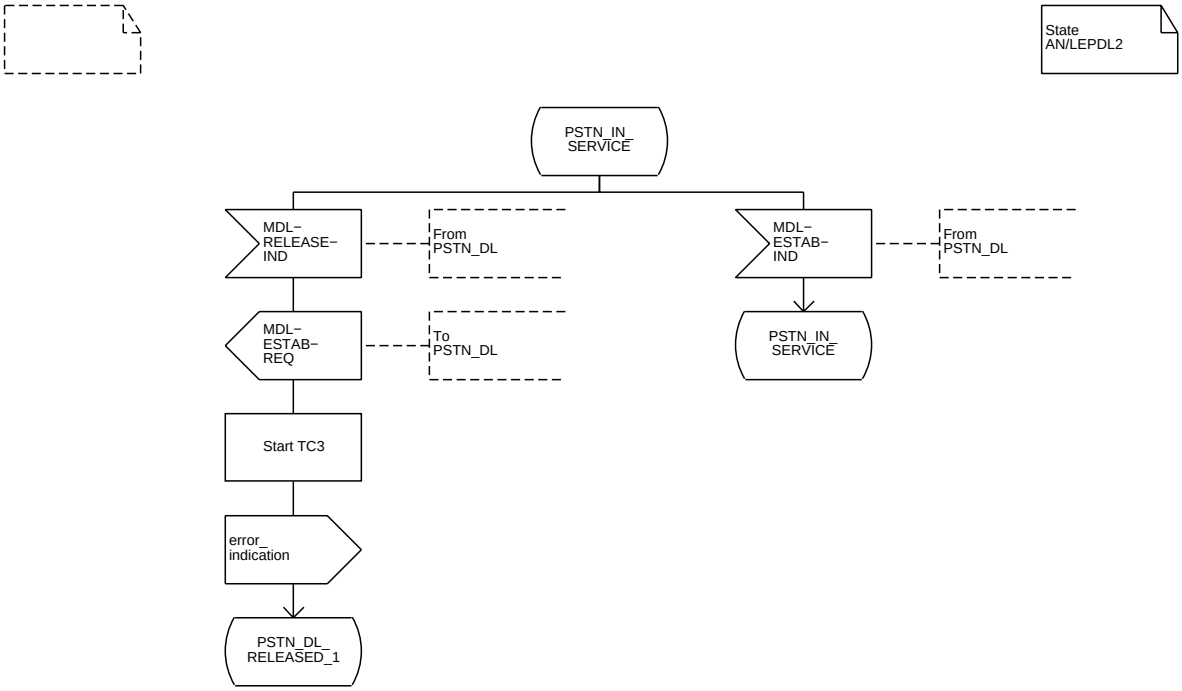
Process LE_PSTN_DL_MANAGEMENT

PDL0_1_Start_Activate_PSTN(3)



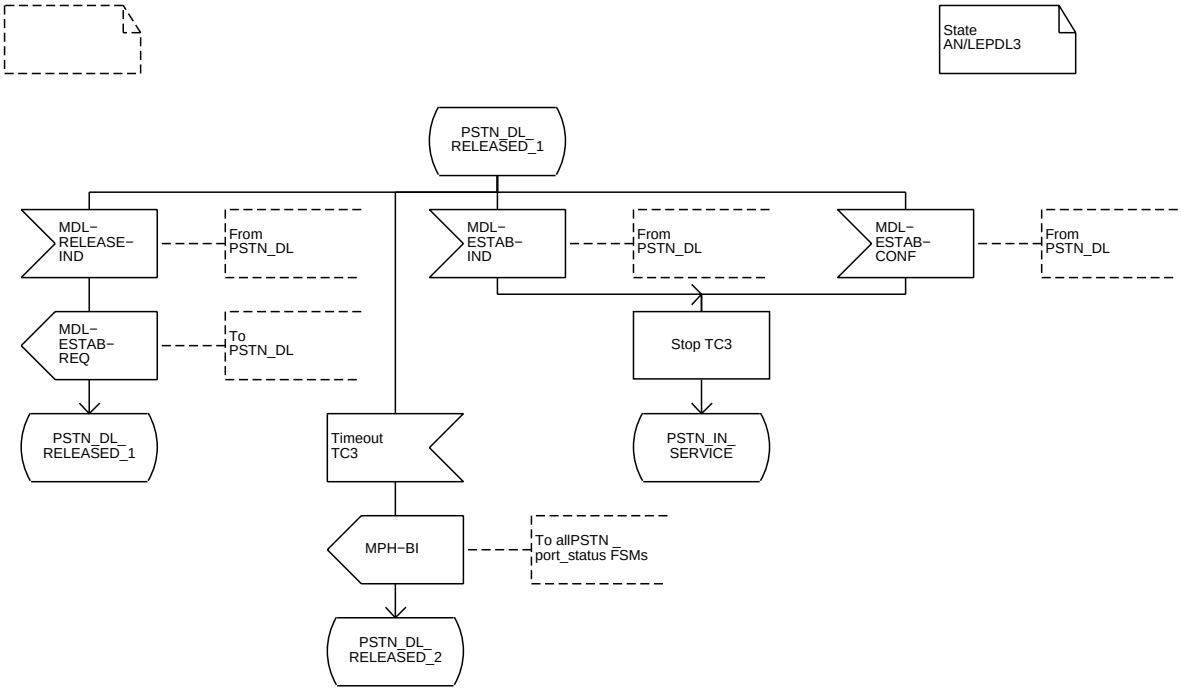
Process LE_PSTN_DL_MANAGEMENT

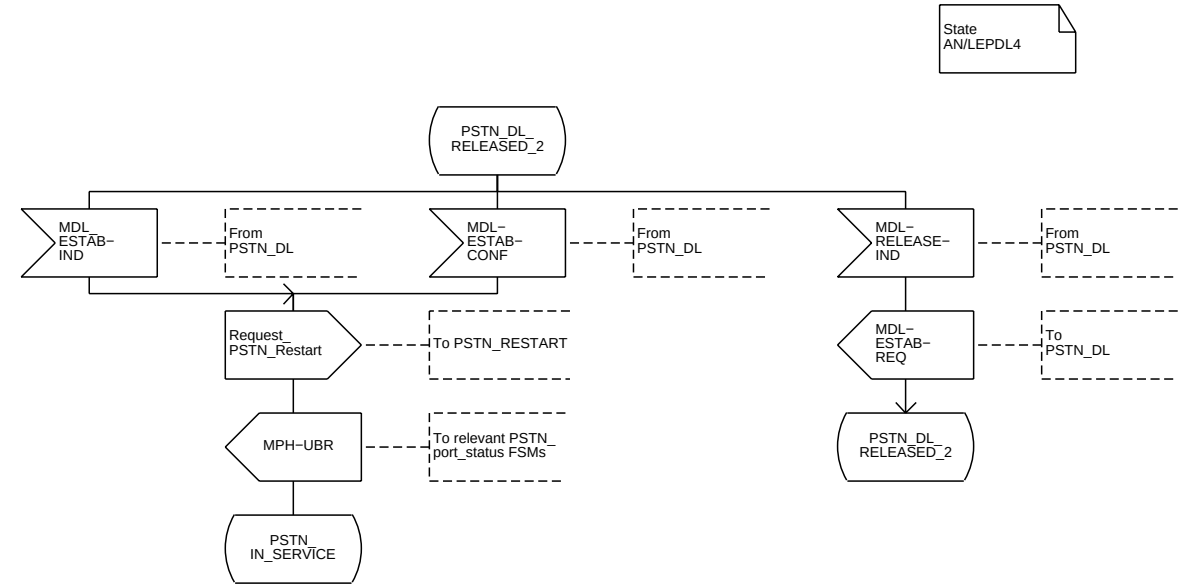
PDL2_PSTN_In_Service(3)



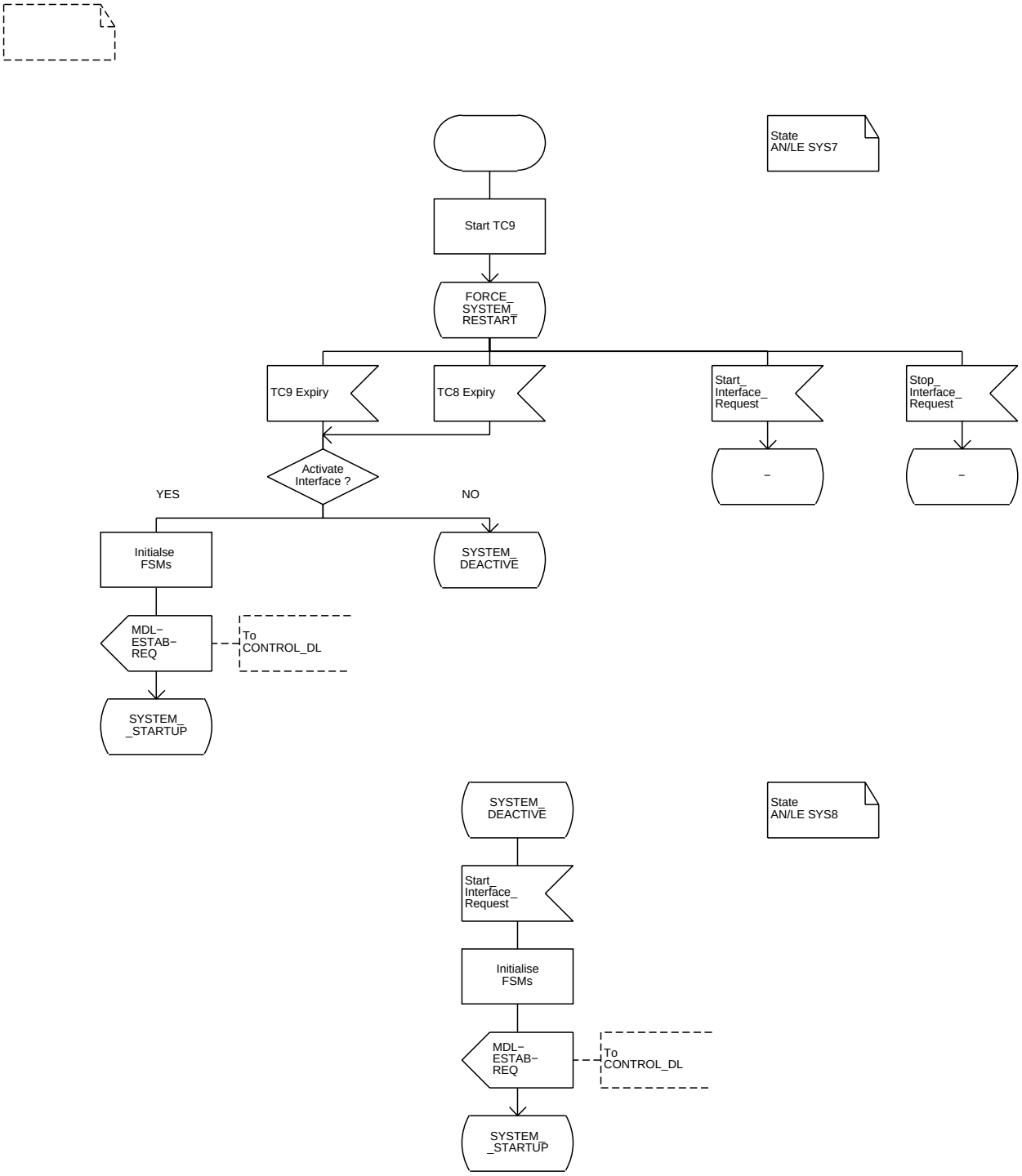
Process LE_PSTN_DL_MANAGEMENT

PDL3_4_PSTN_DL_Relased(3)



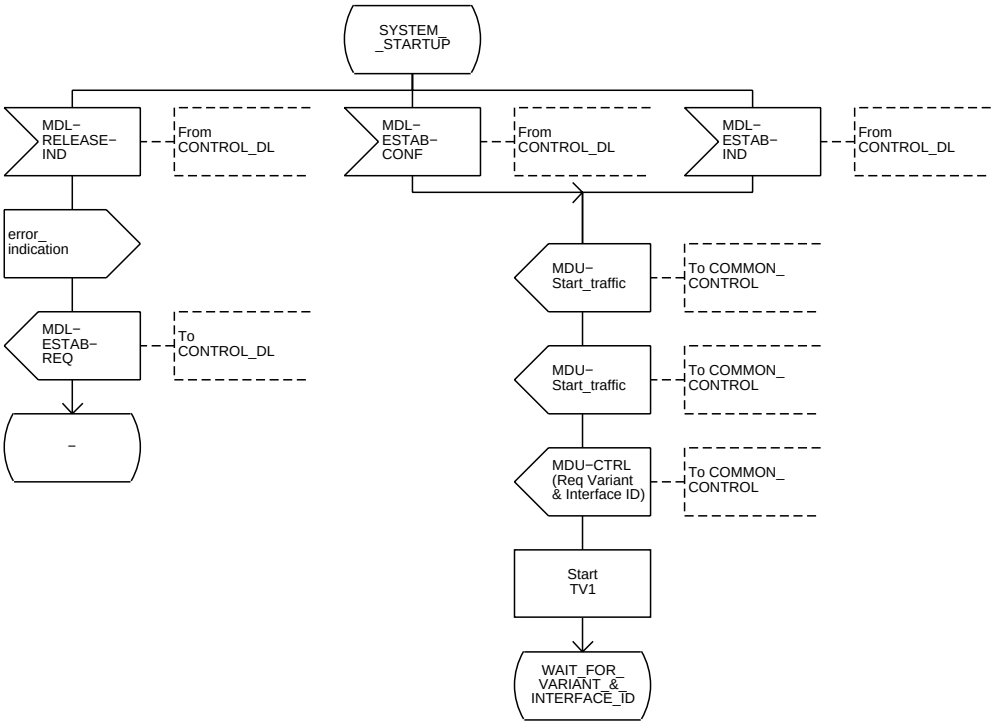


Process LE_SYSTEM_MANAGEMENT SYS7_8_Force_System_Restart(7)

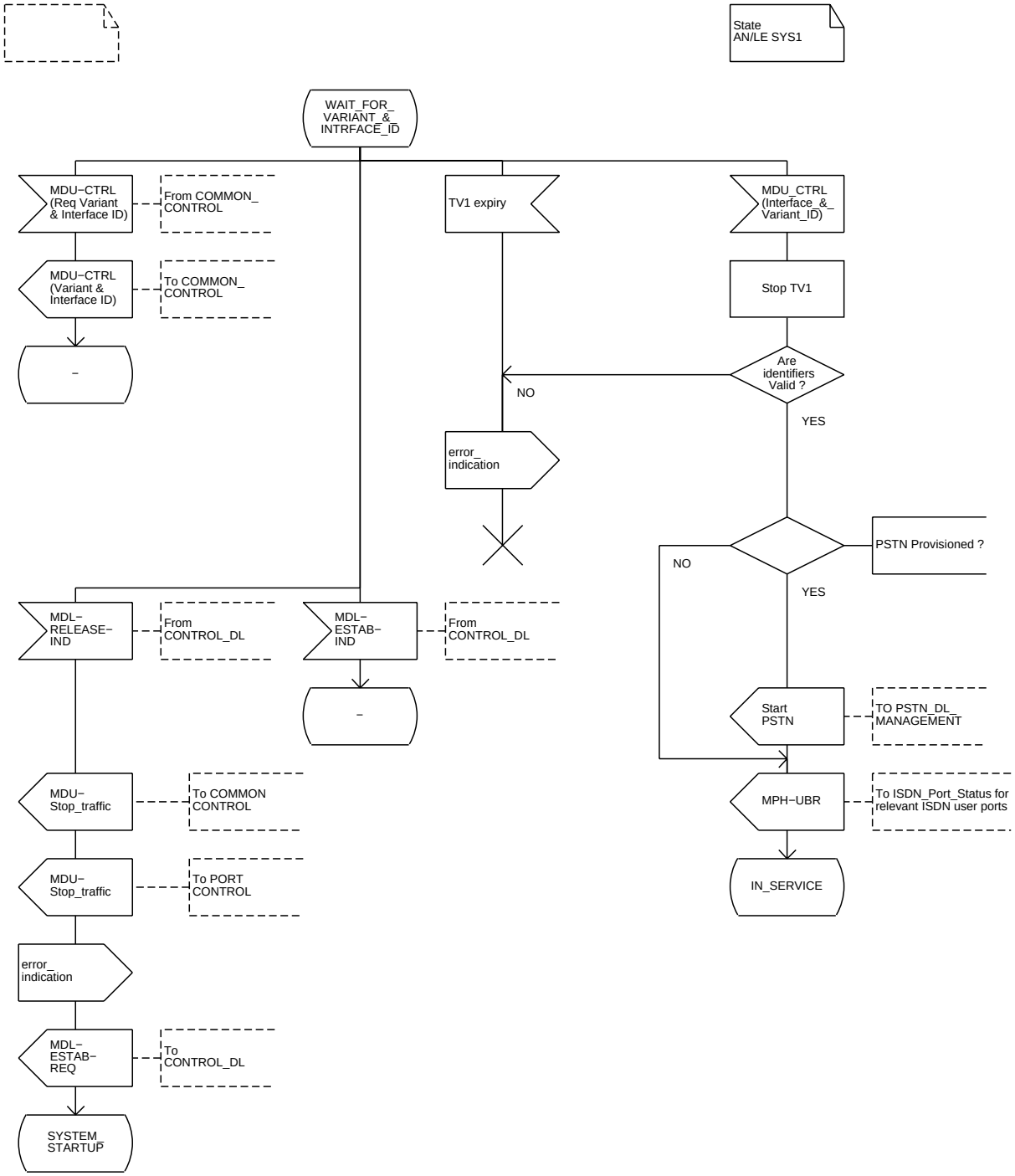


Process LE_SYSTEM_MANAGEMENT SYS0_System_Startup(7)

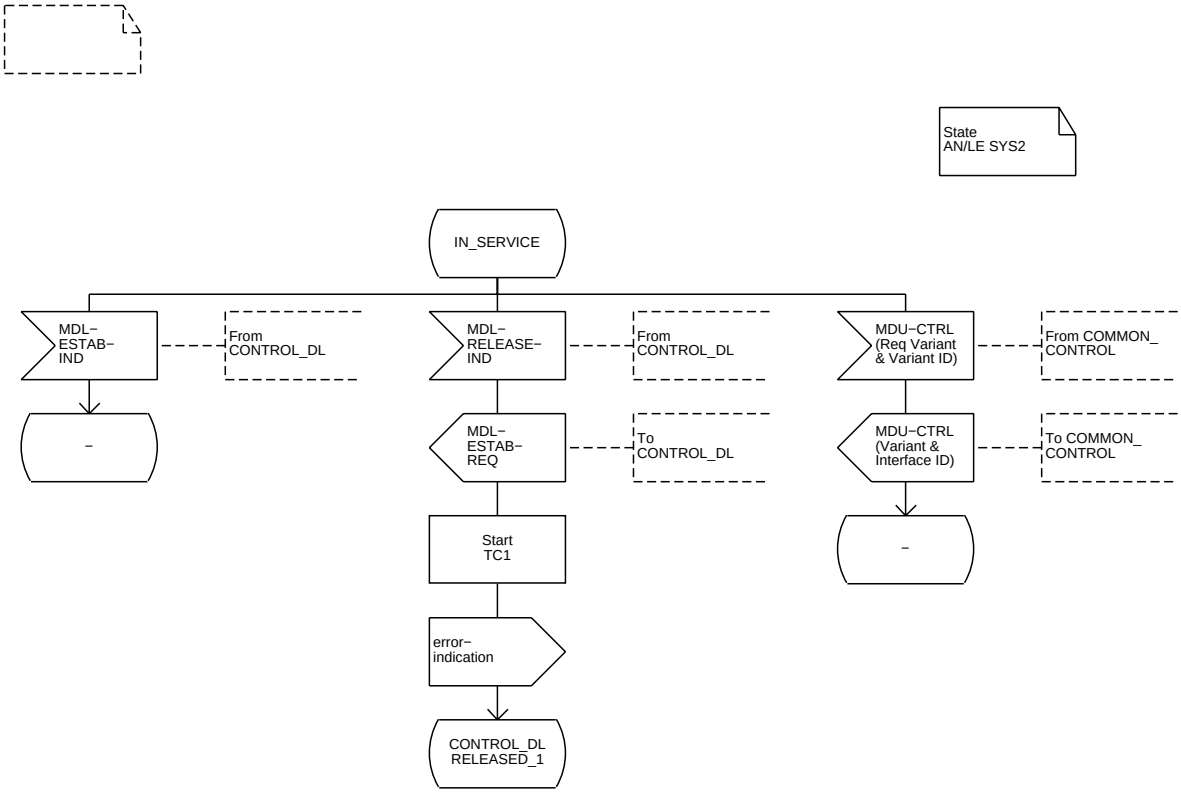
State
AN/LE SYS0



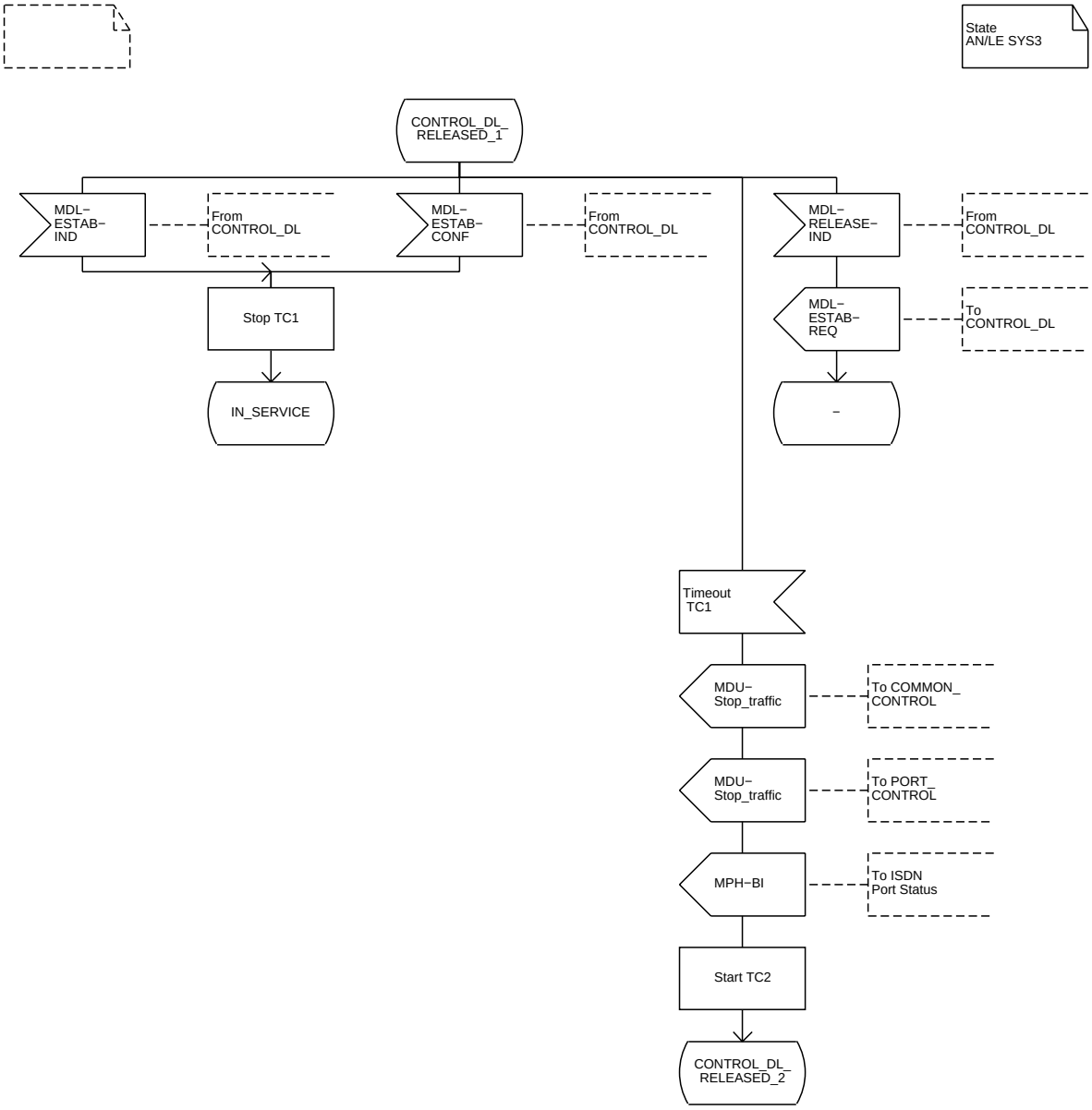
Process LE_SYSTEM_MANAGEMENT SYS1_Wait_Var_and_if_ID(7)



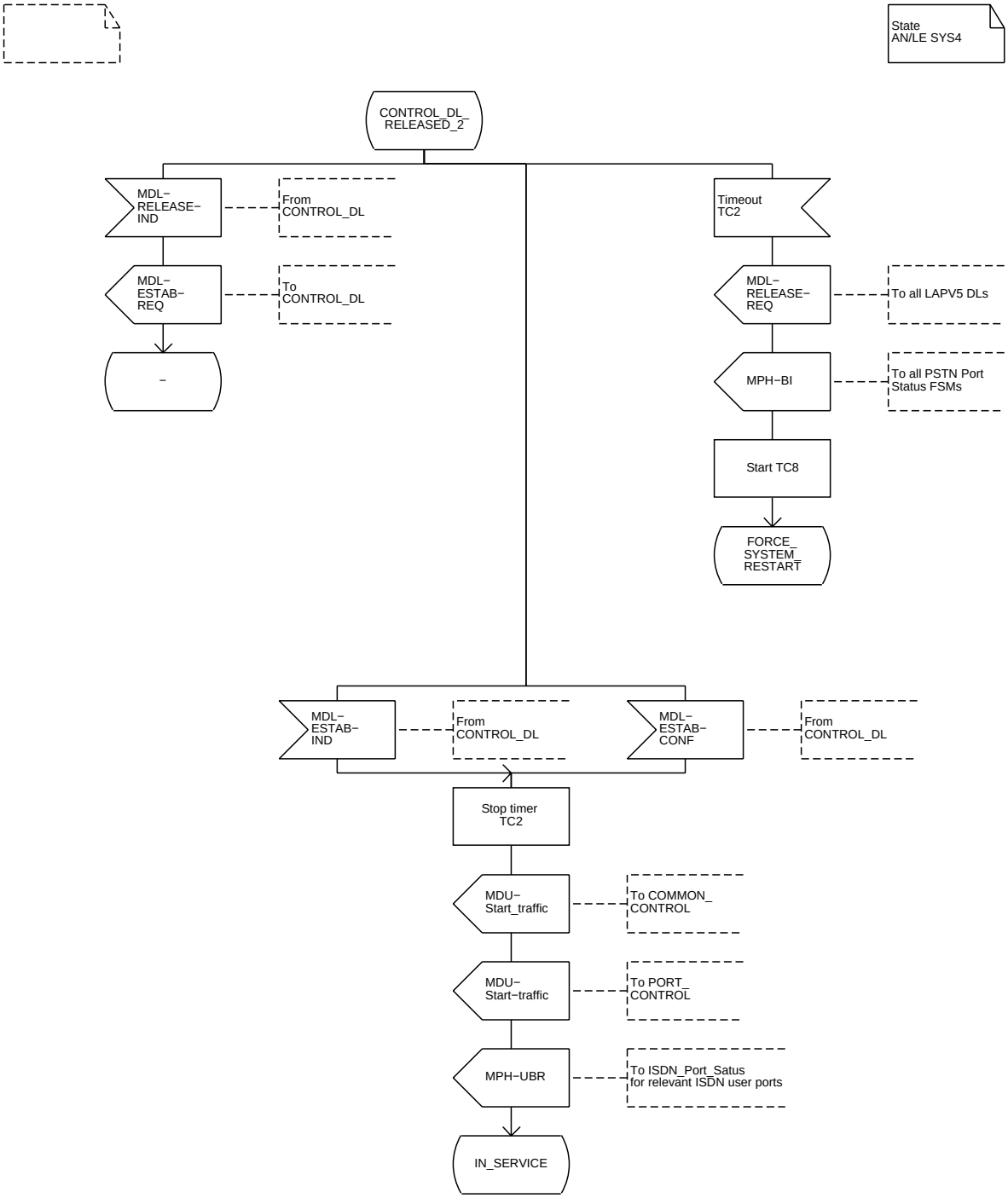
Process LE_SYSTEM_MANAGEMENT SYS2_In_Service(7)



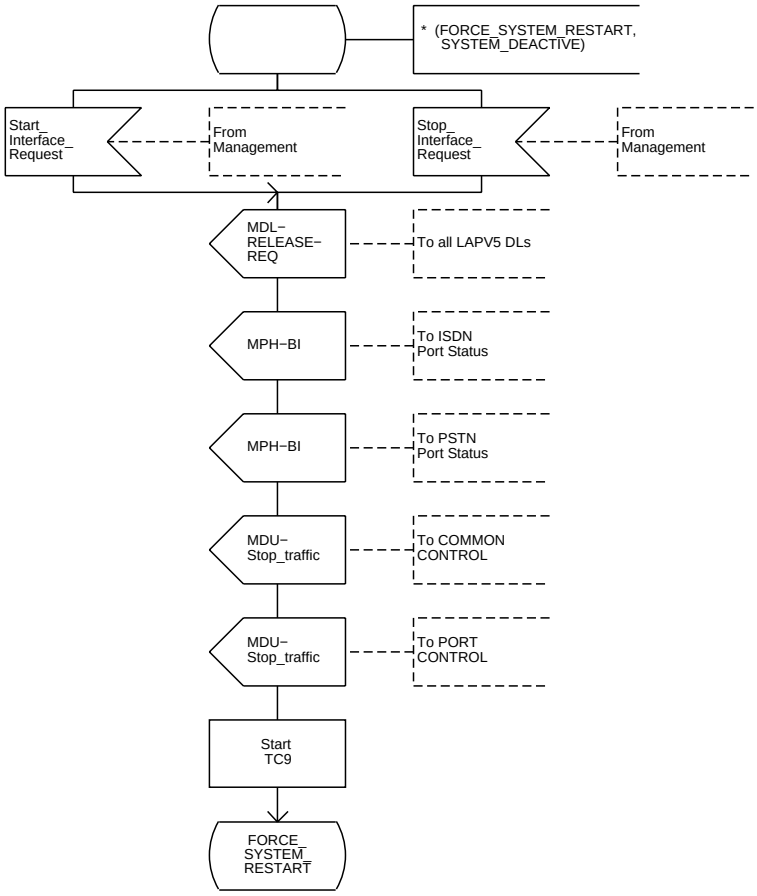
Process LE_SYSTEM_MANAGEMENT SYS3_Control_DL_Released1(7)



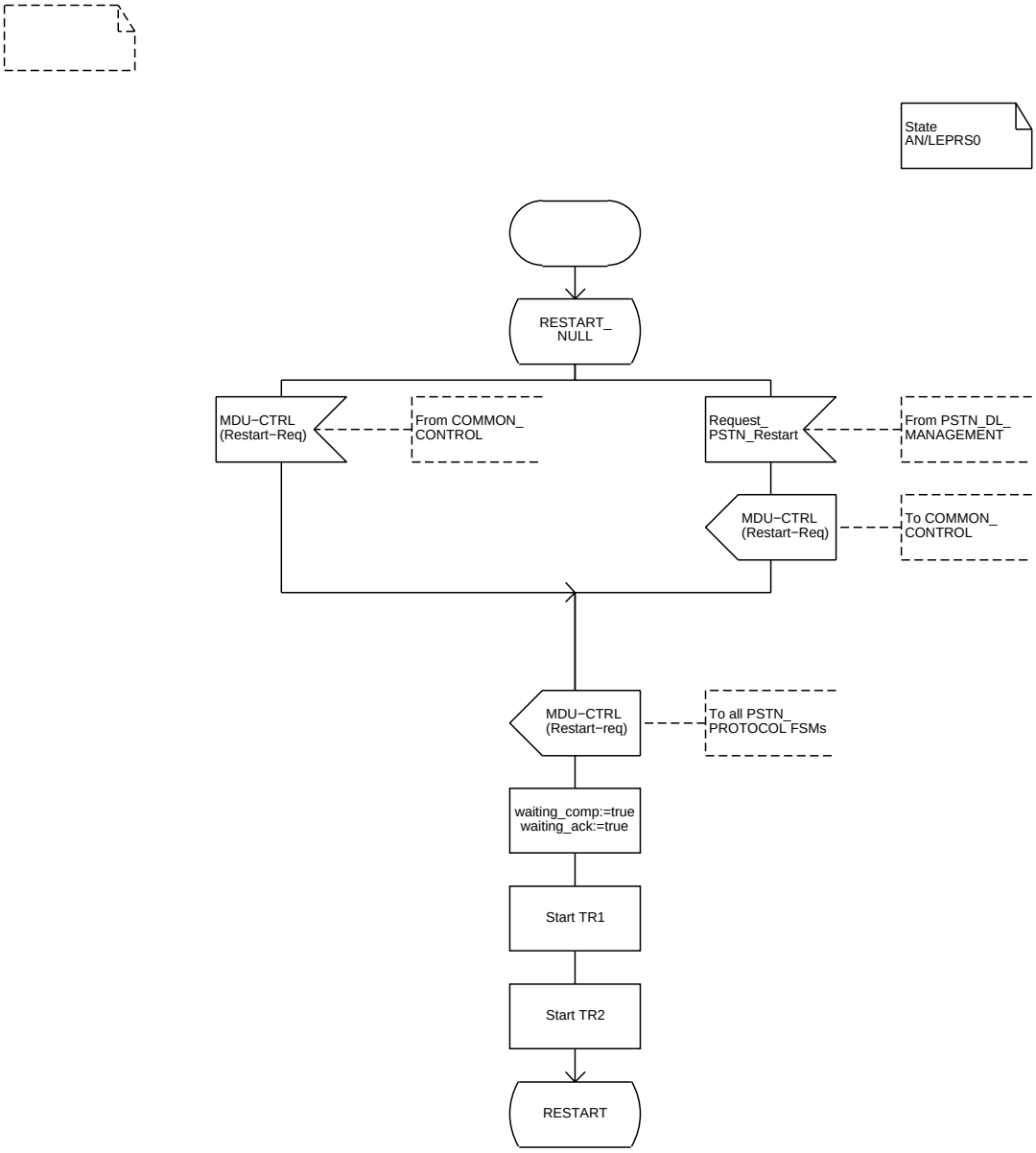
Process LE_SYSTEM_MANAGEMENT SYS4_Contol_DL_Released2(7)



Process LE_SYSTEM_MANAGEMENT SYS_Any_State(7)

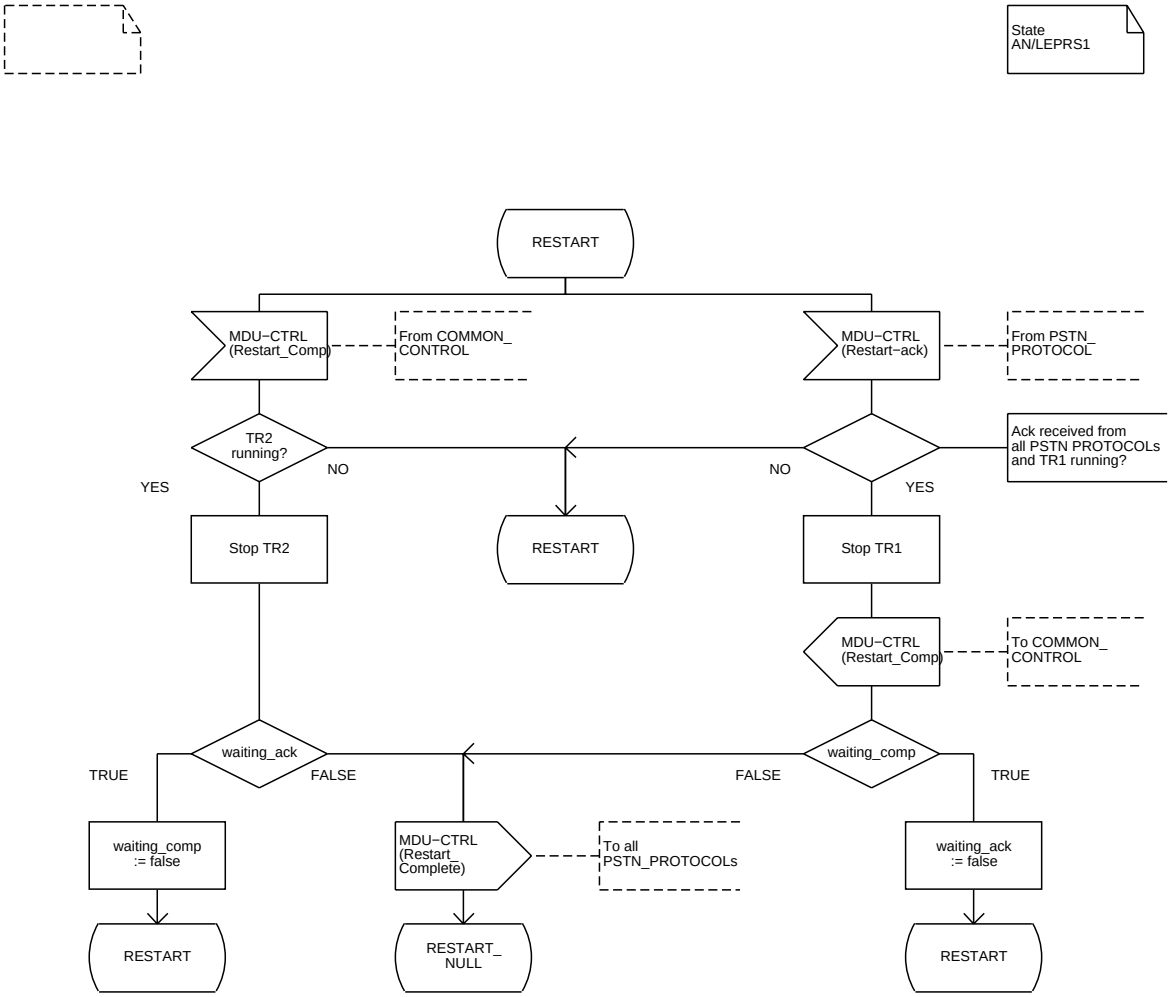


Process LE_PSTN_RESTART_MANAGEMENT PRS0_Restart_Null(3)

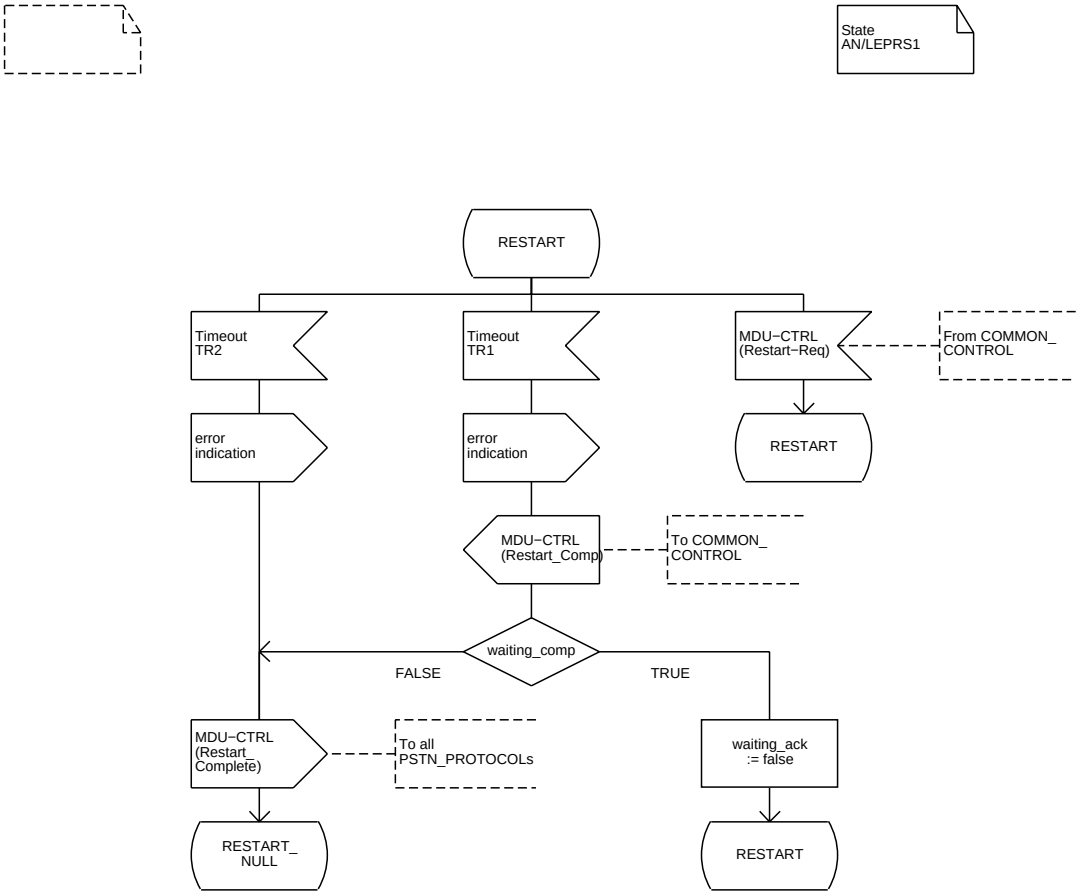


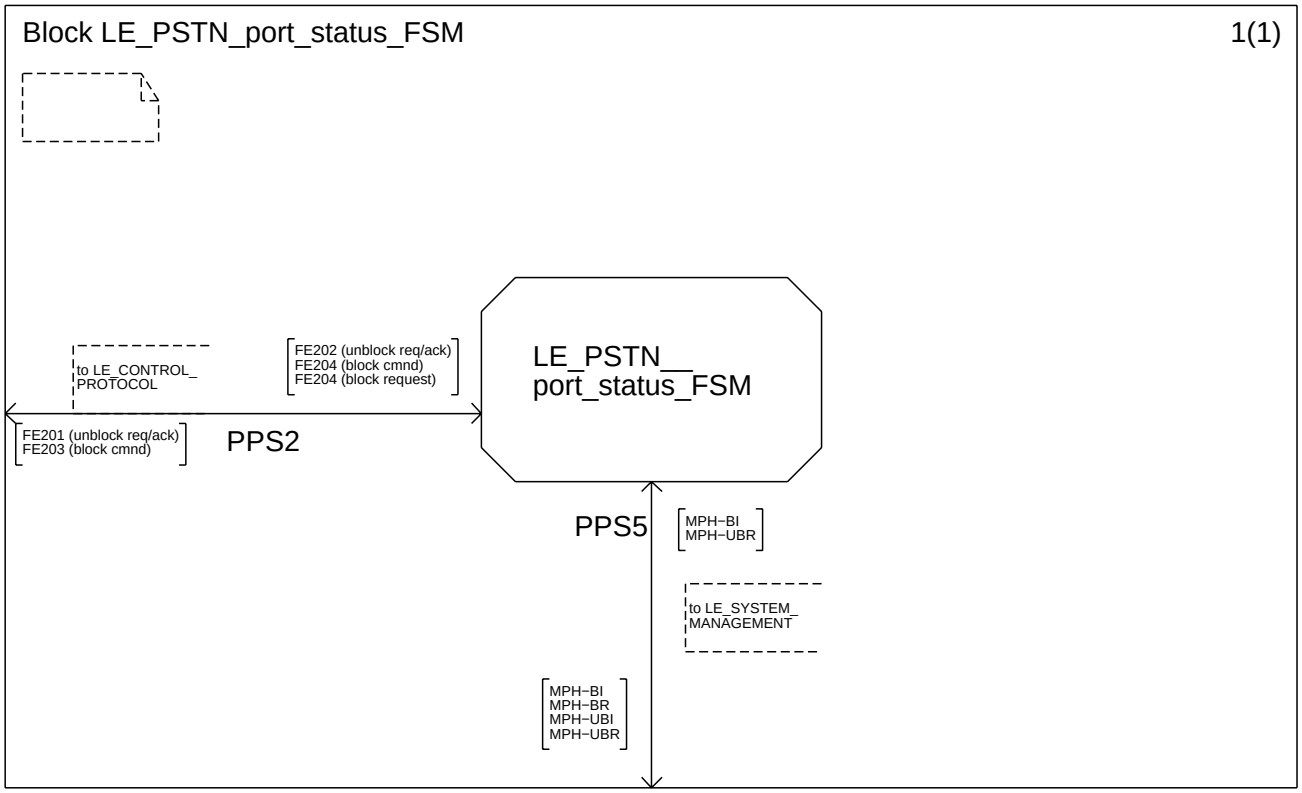
Process LE_PSTN_RESTART_MANAGEMENT

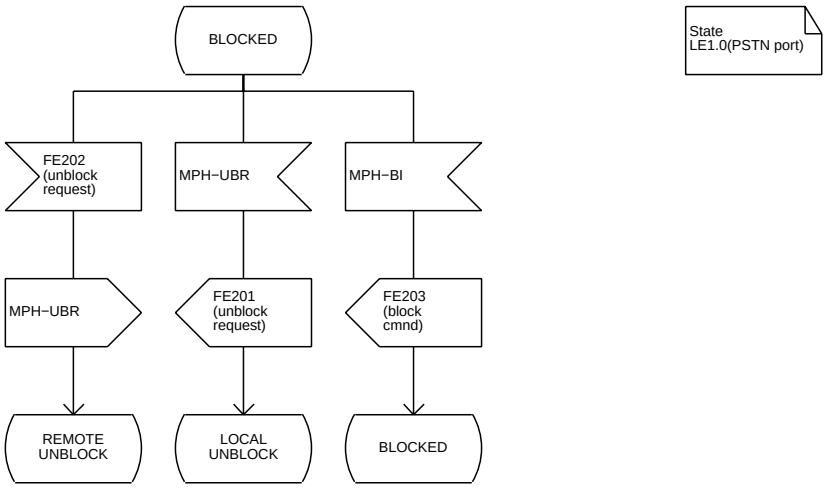
PRS1_Restart1(3)

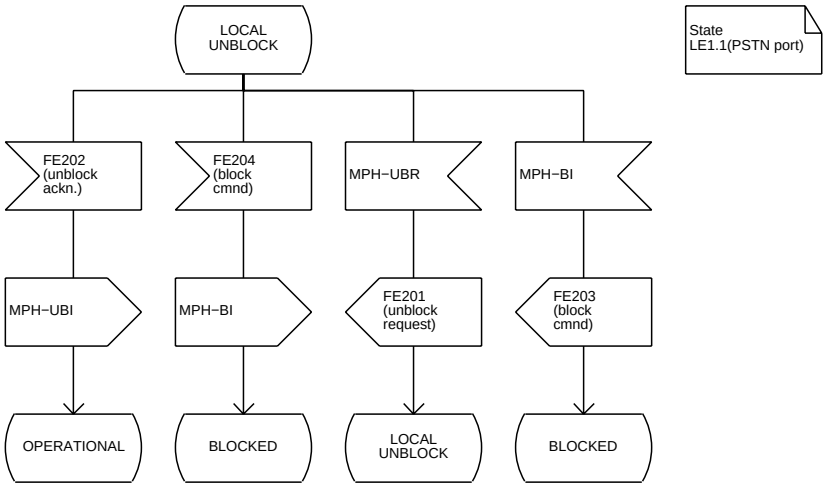


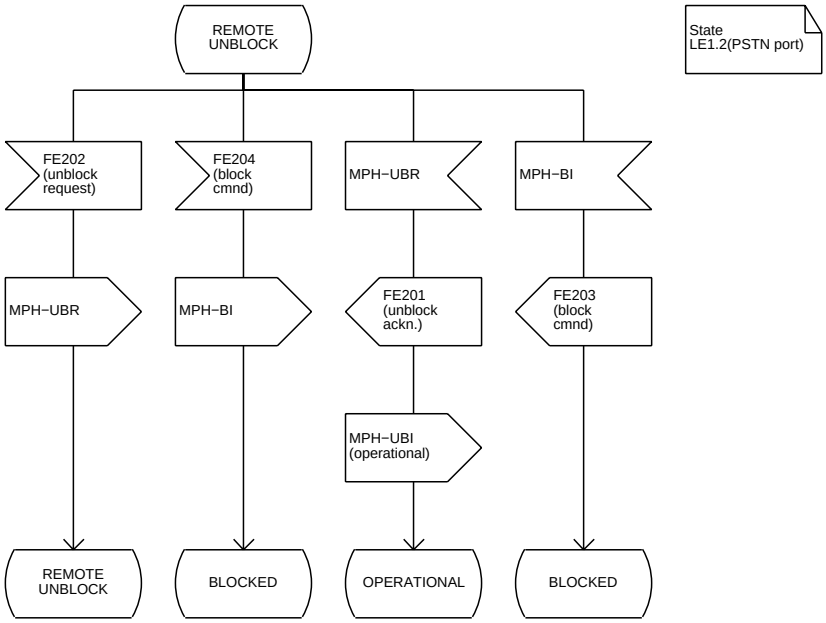
Process LE_PSTN_RESTART_MANAGEMENT PRS1_Restart2(3)

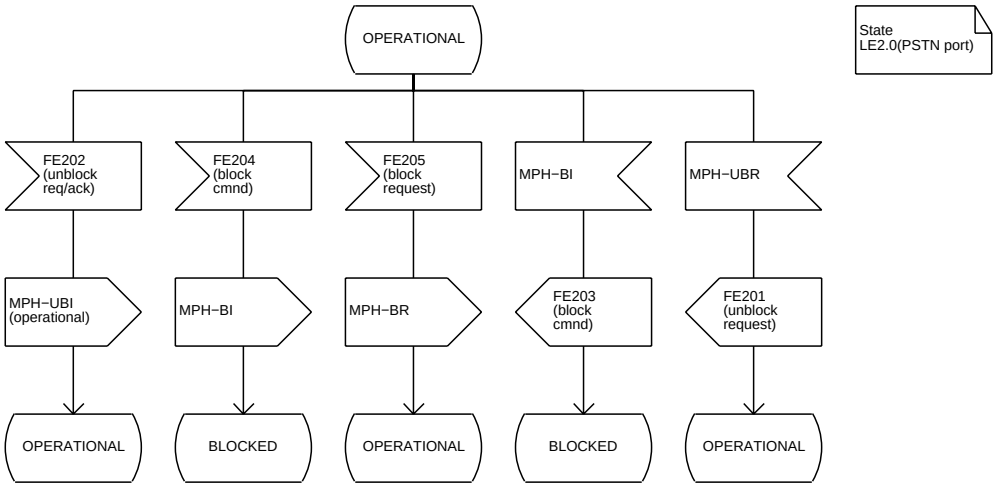


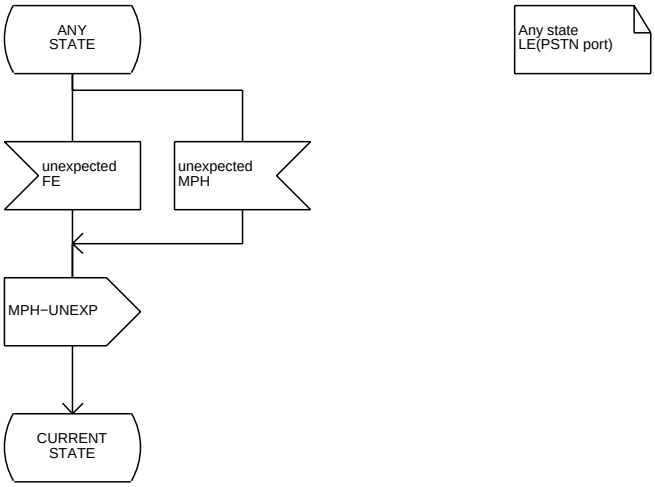

Block LE_PSTN_port_status_FSM
1(1)
to LE_CONTROL_
PROTOCOL
FE202 (unblock req/ack)
FE204 (block cmnd)
FE204 (block request)
LE_PSTN__
port_status_FSM
FE201 (unblock req/ack)
FE203 (block cmnd)
PPS2
PPS5
MPH−BI
MPH−UBR
to LE_SYSTEM_
MANAGEMENT
MPH−BI
MPH−BR
MPH−UBI
MPH−UBR

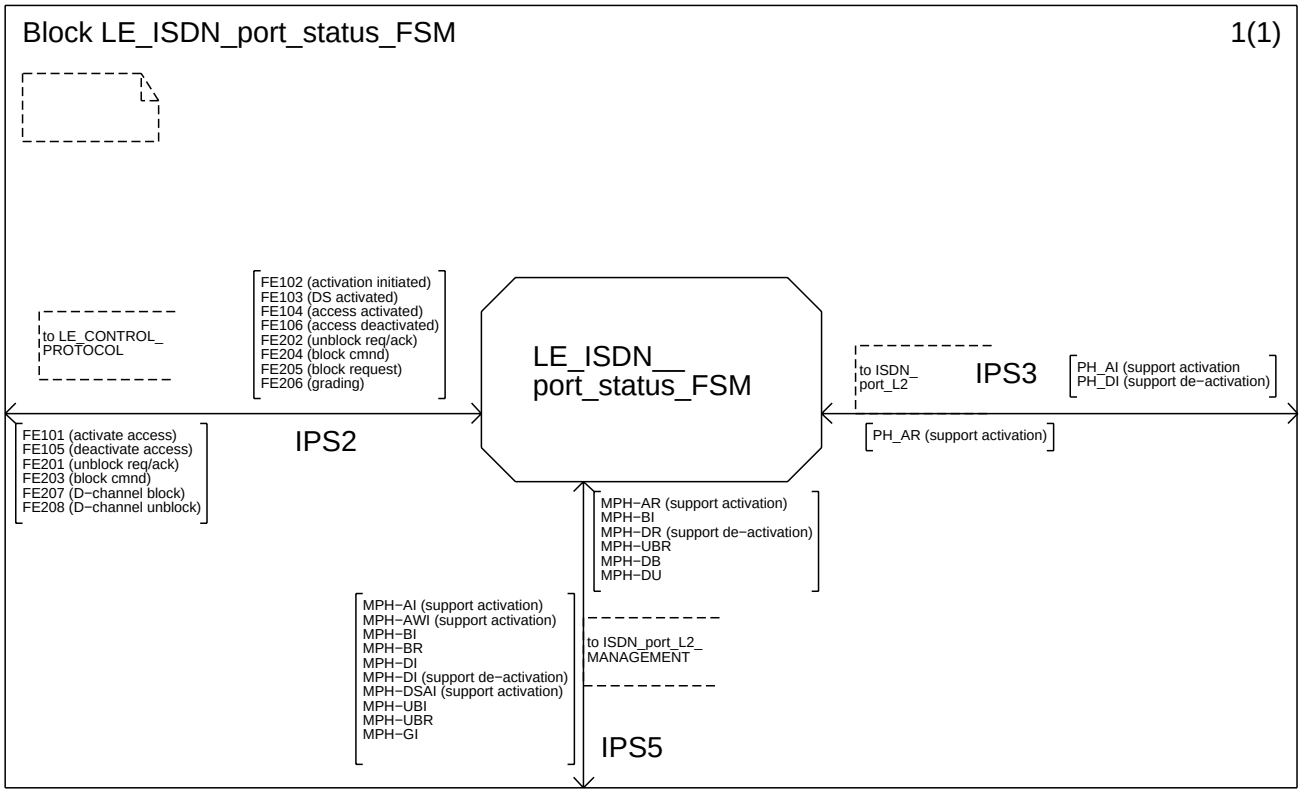

BLOCKED
State
LE1.0(PSTN port)
FE202
(unblock
request)
MPH−UBR
MPH−BI
MPH−UBR
FE201
(unblock
request)
FE203
(block
cmnd)
REMOTE
UNBLOCK
LOCAL
UNBLOCK
BLOCKED

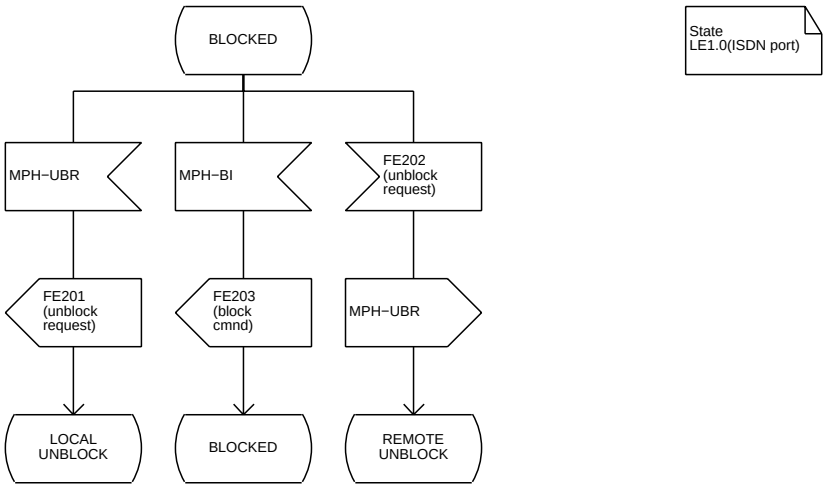

LOCAL
UNBLOCK
State
LE1.1(PSTN port)
FE202
(unblock
ackn.)
FE204
(block
cmnd)
MPH−UBR
MPH−BI
MPH−UBI
MPH−BI
FE201
(unblock
request)
FE203
(block
cmnd)
OPERATIONAL
BLOCKED
LOCAL
UNBLOCK
BLOCKED

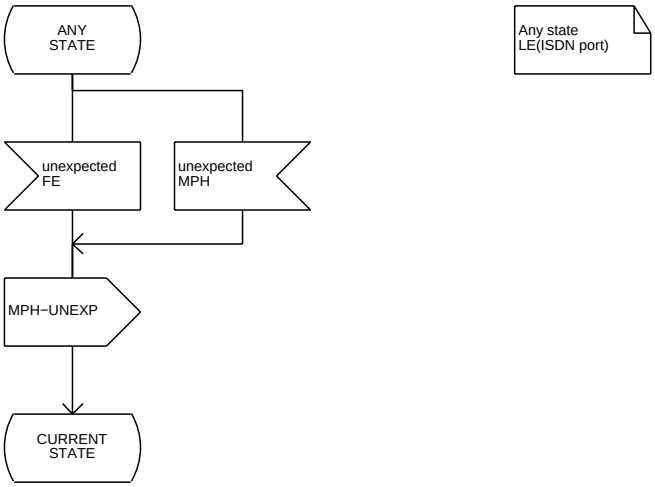

REMOTE UNBLOCK
State LE1.2(PSTN port)
FE202 (unblock request)
FE204 (block cmnd)
MPH−UBR
MPH−BI
MPH−UBR
MPH−BI
FE201 (unblock ackn.)
FE203 (block cmnd)
MPH−UBI (operational)
REMOTE UNBLOCK
BLOCKED
OPERATIONAL
BLOCKED

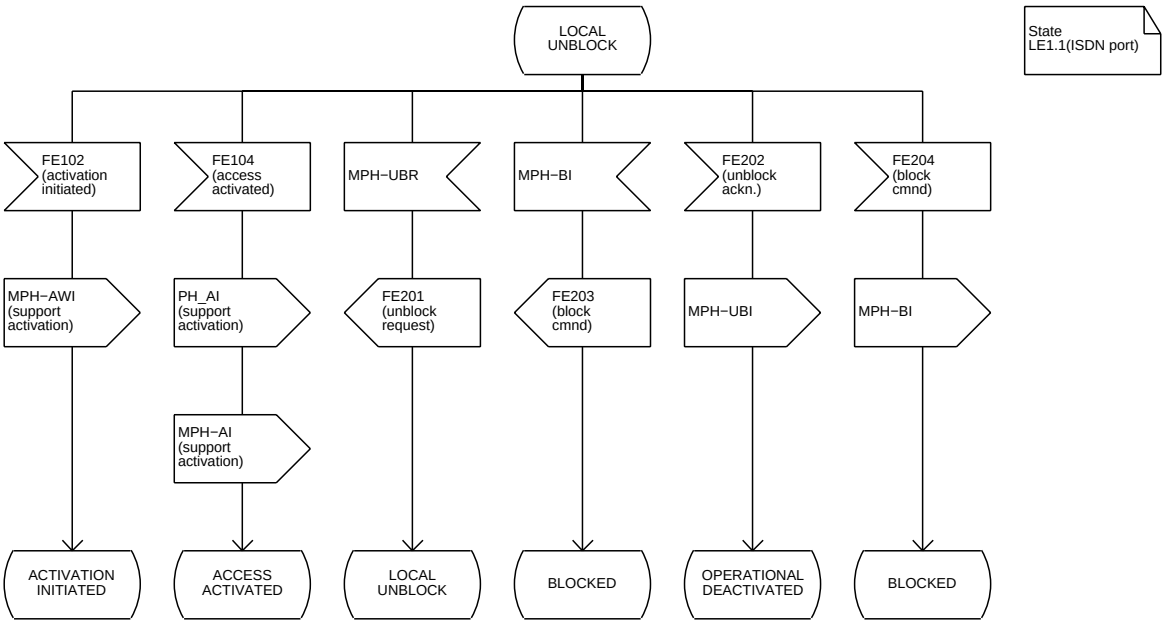

OPERATIONAL
State LE2.0(PSTN port)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
MPH−BI
MPH−UBR
MPH−UBI (operational)
MPH−BI
MPH−BR
FE203 (block cmnd)
FE201 (unblock request)
OPERATIONAL
BLOCKED
OPERATIONAL
BLOCKED
OPERATIONAL

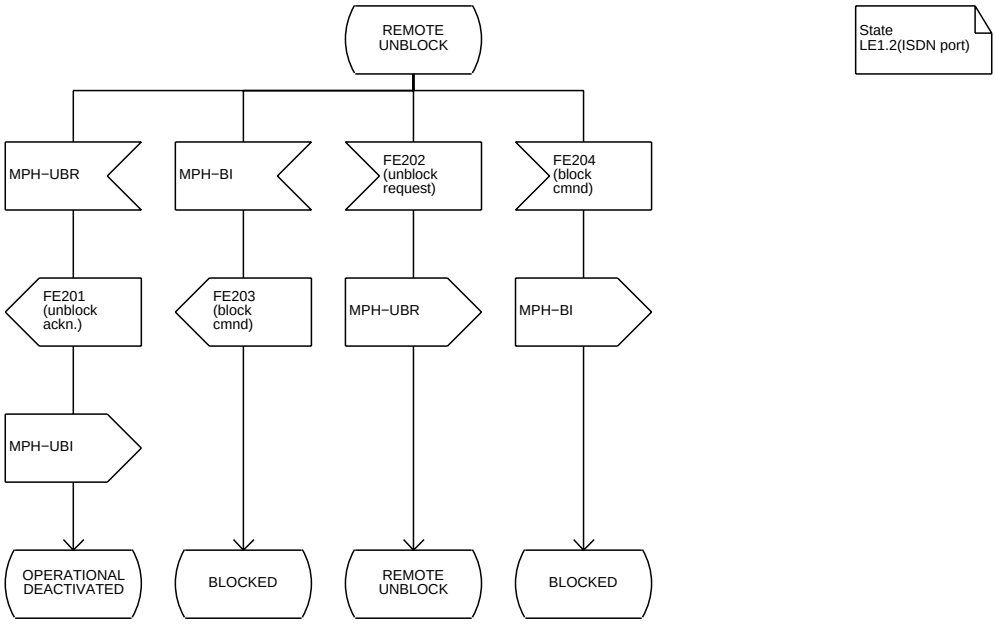

ANY
STATE
Any state
LE(PSTN port)
unexpected
FE
unexpected
MPH
MPH−UNEXP
CURRENT
STATE

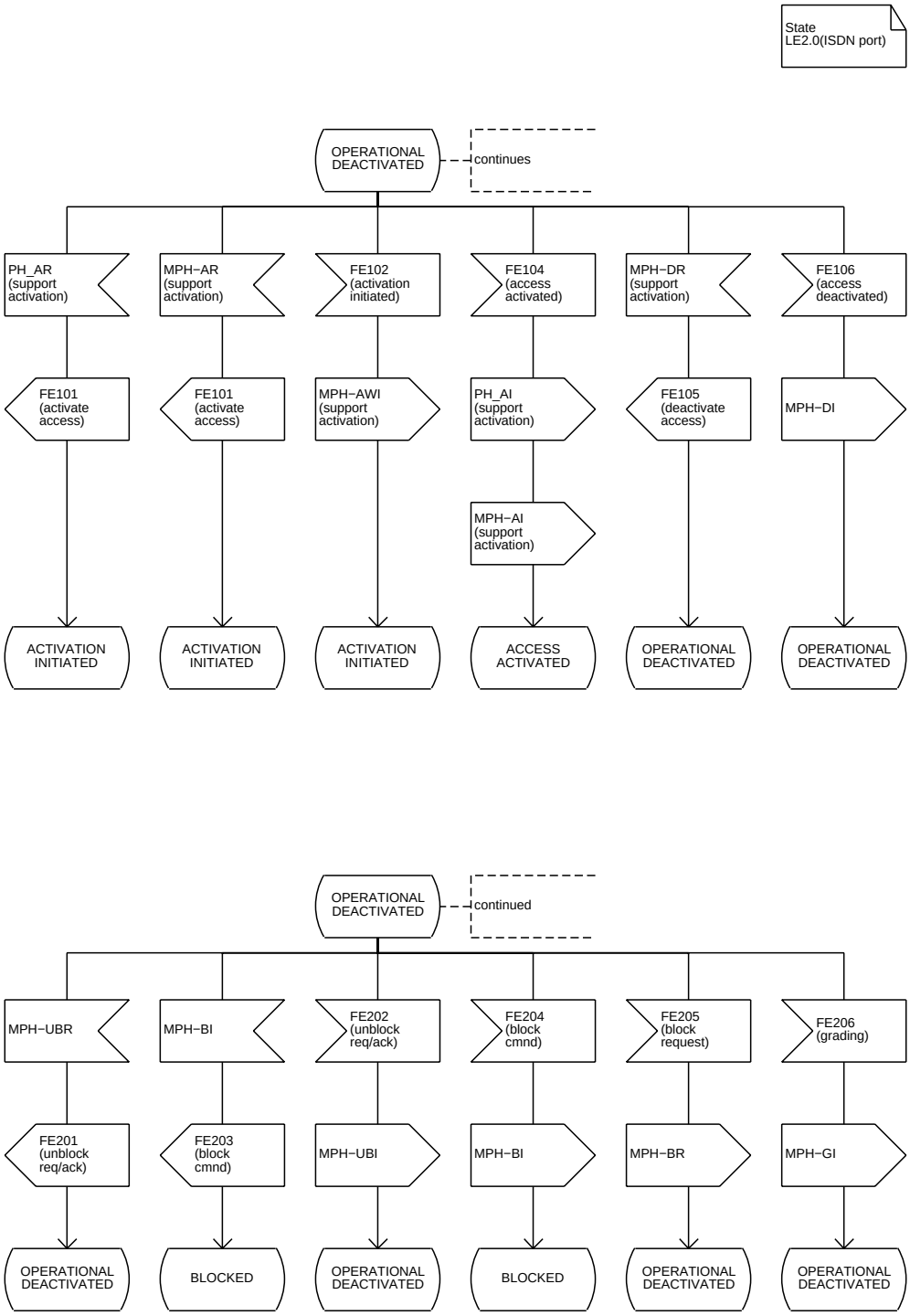

Block LE_ISDN_port_status_FSM
1(1)
to LE_CONTROL_
PROTOCOL
FE102 (activation initiated)
FE103 (DS activated)
FE104 (access activated)
FE106 (access deactivated)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE206 (grading)
LE_ISDN__
port_status_FSM
to ISDN_
port_L2_
IPS3
PH_AI (support activation
PH_DI (support de−activation)
FE101 (activate access)
FE105 (deactivate access)
FE201 (unblock req/ack)
FE203 (block cmnd)
FE207 (D−channel block)
FE208 (D−channel unblock)
IPS2
PH_AR (support activation)
MPH−AR (support activation)
MPH−BI
MPH−DR (support de−activation)
MPH−UBR
MPH−DB
MPH−DU
MPH−AI (support activation)
MPH−AWI (support activation)
MPH−BI
MPH−BR
MPH−DI
MPH−DI (support de−activation)
MPH−DSAI (support activation)
MPH−UBI
MPH−UBR
MPH−GI
to ISDN_port_L2_
MANAGEMENT
IPS5

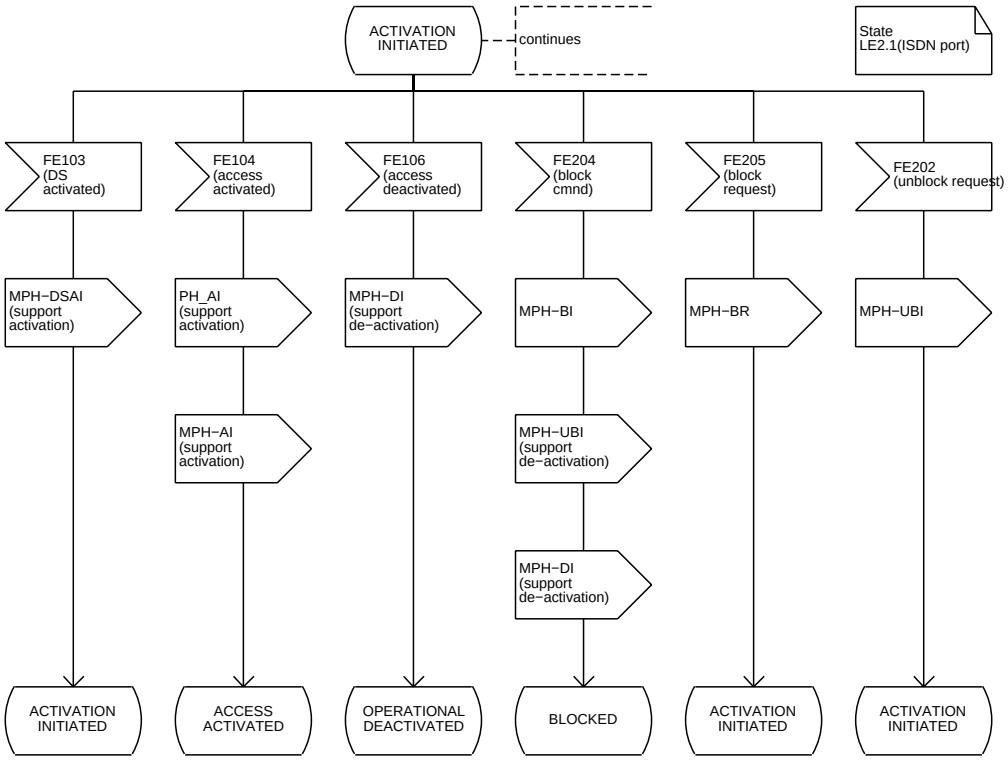

BLOCKED
State
LE1.0(ISDN port)
MPH−UBR
MPH−BI
FE202
(unblock
request)
FE201
(unblock
request)
FE203
(block
cmnd)
MPH−UBR
LOCAL
UNBLOCK
BLOCKED
REMOTE
UNBLOCK

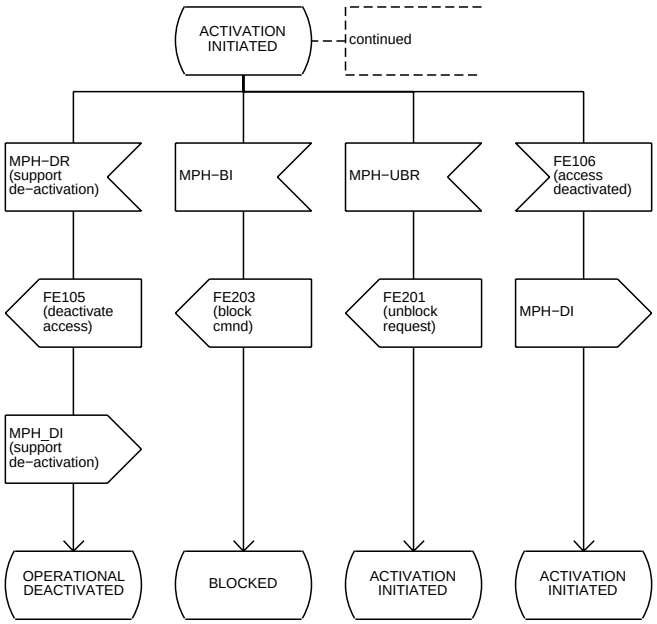

ANY
STATE
Any state
LE(ISDN port)
unexpected
FE
unexpected
MPH
MPH−UNEXP
CURRENT
STATE

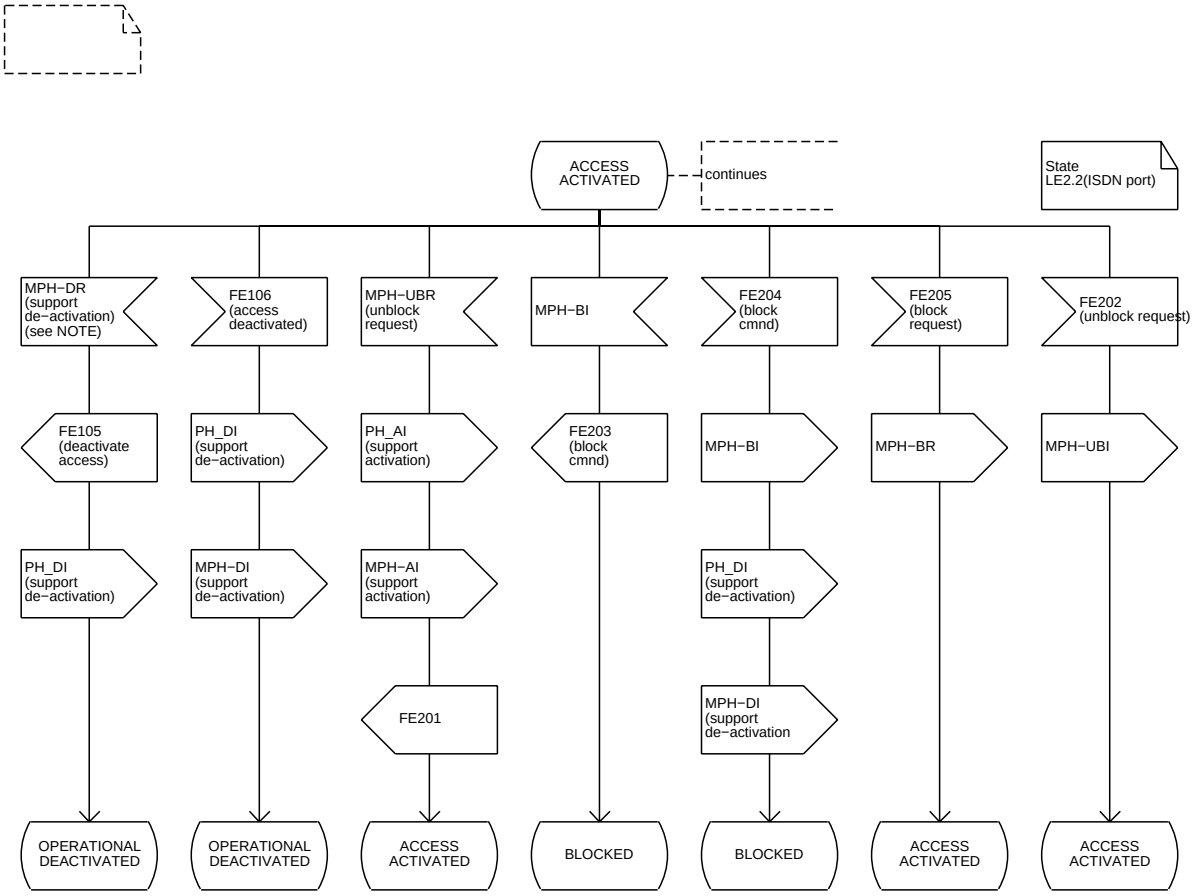

LOCAL UNBLOCK
State LE1.1(ISDN port)
FE102 (activation initiated)
FE104 (access activated)
MPH−UBR
MPH−BI
FE202 (unblock ackn.)
FE204 (block cmnd)
MPH−AWI (support activation)
PH_AI (support activation)
FE201 (unblock request)
FE203 (block cmnd)
MPH−UBI
MPH−BI
MPH−AI (support activation)
ACTIVATION INITIATED
ACCESS ACTIVATED
LOCAL UNBLOCK
BLOCKED
OPERATIONAL DEACTIVATED
BLOCKED


REMOTE UNBLOCK
State LE1.2(ISDN port)
MPH−UBR
MPH−BI
FE202 (unblock request)
FE204 (block cmnd)
FE201 (unblock ackn.)
FE203 (block cmnd)
MPH−UBR
MPH−BI
MPH−UBI
OPERATIONAL DEACTIVATED
BLOCKED
REMOTE UNBLOCK
BLOCKED

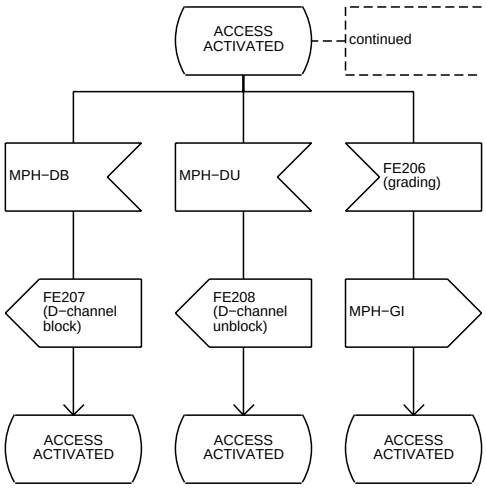

State
LE2.0(ISDN port)
OPERATIONAL DEACTIVATED
continues
PH_AR (support activation)
MPH−AR (support activation)
FE102 (activation initiated)
FE104 (access activated)
MPH−DR (support activation)
FE106 (access deactivated)
FE101 (activate access)
FE101 (activate access)
MPH−AWI (support activation)
PH_AI (support activation)
FE105 (deactivate access)
MPH−DI
MPH−AI (support activation)
ACTIVATION INITIATED
ACTIVATION INITIATED
ACTIVATION INITIATED
ACCESS ACTIVATED
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED
continued
MPH−UBR
MPH−BI
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE206 (grading)
FE201 (unblock req/ack)
FE203 (block cmnd)
MPH−UBI
MPH−BI
MPH−BR
MPH−GI
OPERATIONAL DEACTIVATED
BLOCKED
OPERATIONAL DEACTIVATED
BLOCKED
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED

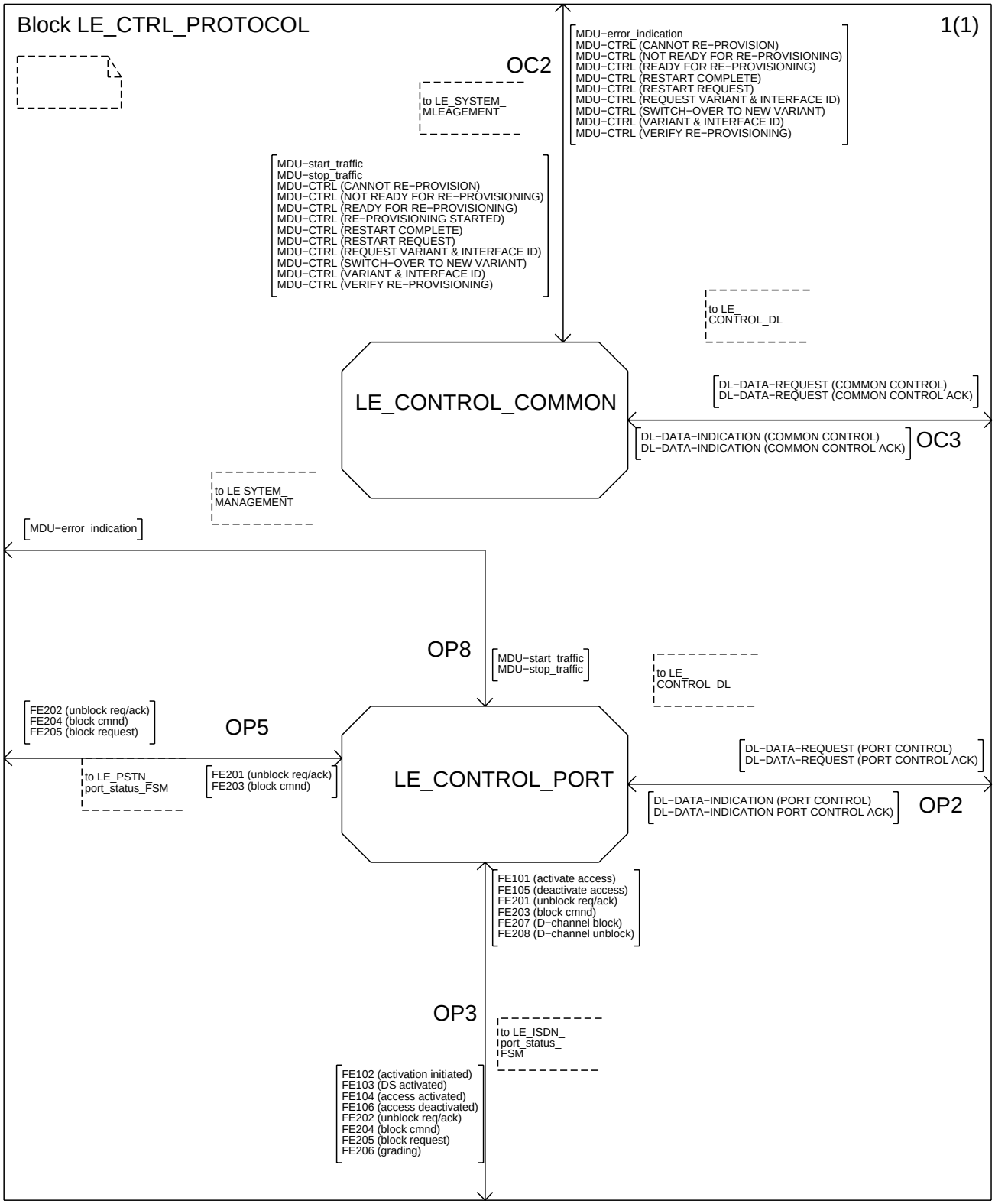

ACTIVATION INITIATED
continues
State LE2.1(ISDN port)
FE103 (DS activated)
FE104 (access activated)
FE106 (access deactivated)
FE204 (block cmnd)
FE205 (block request)
FE202 (unblock request)
MPH−DSAI (support activation)
PH_AI (support activation)
MPH−DI (support de−activation)
MPH−BI
MPH−BR
MPH−UBI
MPH−AI (support activation)
MPH−UBI (support de−activation)
MPH−DI (support de−activation)
ACTIVATION INITIATED
ACCESS ACTIVATED
OPERATIONAL DEACTIVATED
BLOCKED
ACTIVATION INITIATED
ACTIVATION INITIATED


ACTIVATION INITIATED
continued
MPH−DR (support de−activation)
MPH−BI
MPH−UBR
FE106 (access deactivated)
FE105 (deactivate access)
FE203 (block cmnd)
FE201 (unblock request)
MPH−DI
MPH_DI (support de−activation)
OPERATIONAL DEACTIVATED
BLOCKED
ACTIVATION INITIATED
ACTIVATION INITIATED

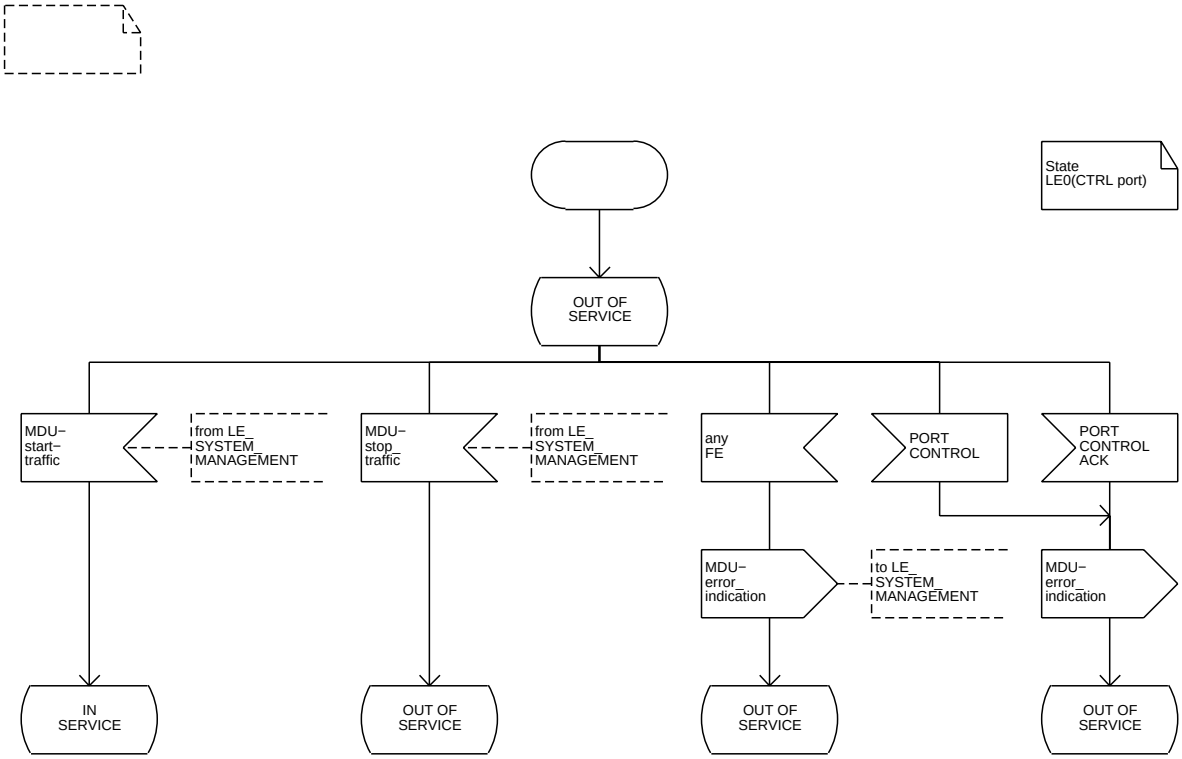


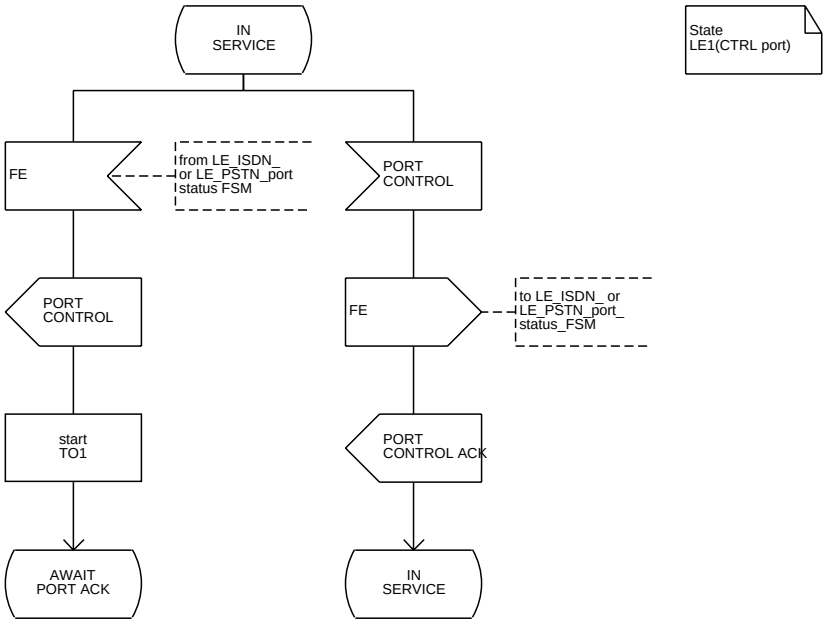
NOTE: MPH−DR not issued when in "Permanent Activation".

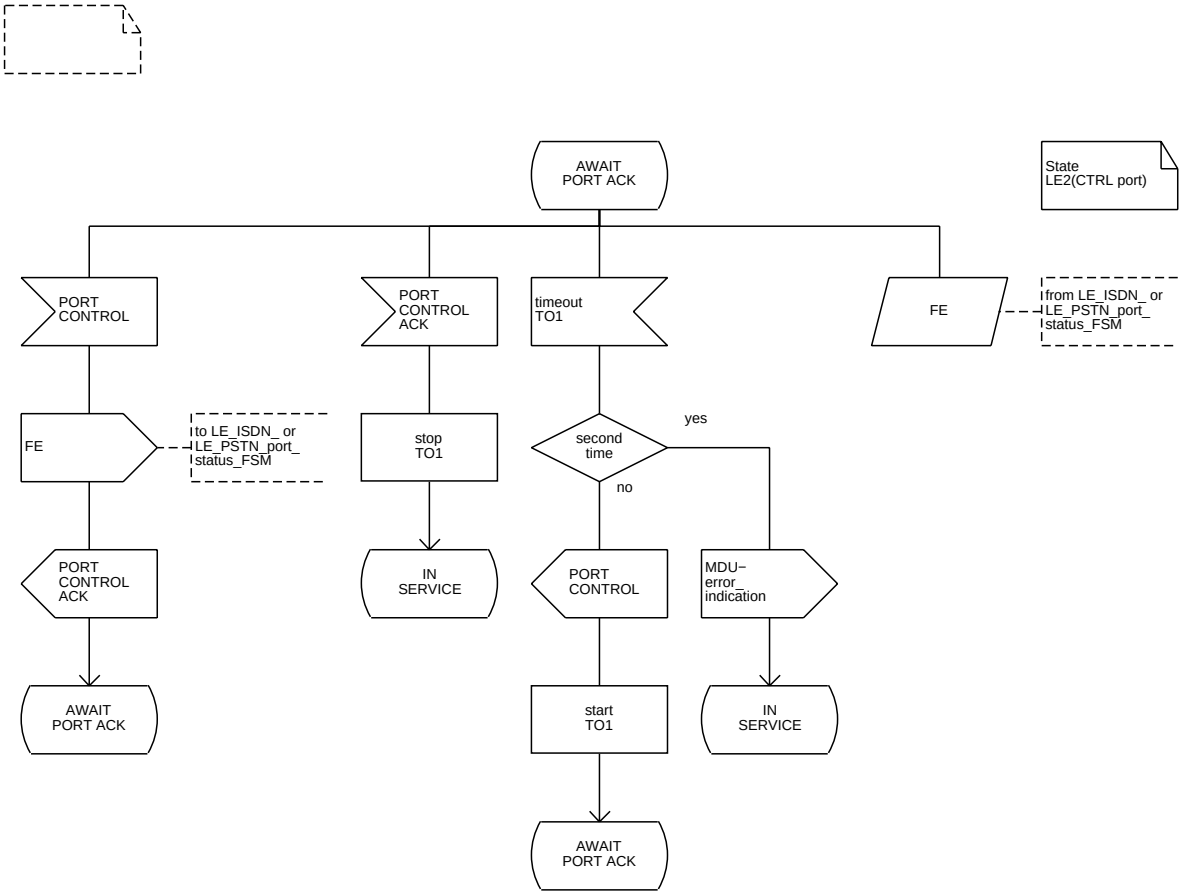


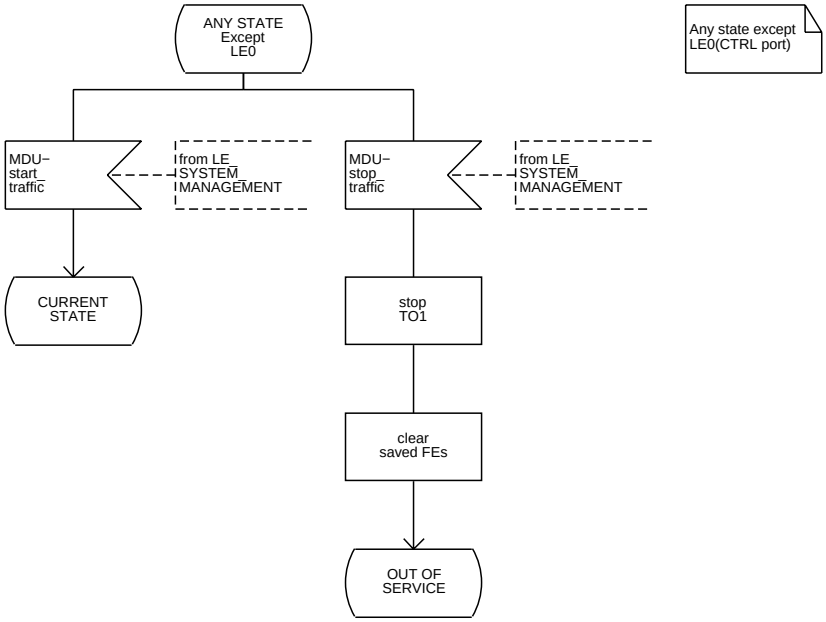

Block LE_CTRL_PROTOCOL
1(1)
OC2
to LE_SYSTEM_
MLEAGEMENT
MDU−error_indication
MDU−CTRL (CANNOT RE−PROVISION)
MDU−CTRL (NOT READY FOR RE−PROVISIONING)
MDU−CTRL (READY FOR RE−PROVISIONING)
MDU−CTRL (RESTART COMPLETE)
MDU−CTRL (RESTART REQUEST)
MDU−CTRL (REQUEST VARIANT & INTERFACE ID)
MDU−CTRL (SWITCH−OVER TO NEW VARIANT)
MDU−CTRL (VARIANT & INTERFACE ID)
MDU−CTRL (VERIFY RE−PROVISIONING)
MDU−start_traffic
MDU−stop_traffic
MDU−CTRL (CANNOT RE−PROVISION)
MDU−CTRL (NOT READY FOR RE−PROVISIONING)
MDU−CTRL (READY FOR RE−PROVISIONING)
MDU−CTRL (RE−PROVISIONING STARTED)
MDU−CTRL (RESTART COMPLETE)
MDU−CTRL (RESTART REQUEST)
MDU−CTRL (REQUEST VARIANT & INTERFACE ID)
MDU−CTRL (SWITCH−OVER TO NEW VARIANT)
MDU−CTRL (VARIANT & INTERFACE ID)
MDU−CTRL (VERIFY RE−PROVISIONING)
to LE_
CONTROL_DL
LE_CONTROL_COMMON
DL−DATA−REQUEST (COMMON CONTROL)
DL−DATA−REQUEST (COMMON CONTROL ACK)
DL−DATA−INDICATION (COMMON CONTROL)
DL−DATA−INDICATION (COMMON CONTROL ACK)
OC3
to LE SYTEM_
MANAGEMENT
MDU−error_indication
OP8
MDU−start_traffic
MDU−stop_traffic
to LE_
CONTROL_DL
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
OP5
to LE_PSTN_
port_status_FSM
FE201 (unblock req/ack)
FE203 (block cmnd)
LE_CONTROL_PORT
DL−DATA−REQUEST (PORT CONTROL)
DL−DATA−REQUEST (PORT CONTROL ACK)
DL−DATA−INDICATION (PORT CONTROL)
DL−DATA−INDICATION PORT CONTROL ACK)
OP2
FE101 (activate access)
FE105 (deactivate access)
FE201 (unblock req/ack)
FE203 (block cmnd)
FE207 (D−channel block)
FE208 (D−channel unblock)
OP3
to LE_ISDN_
port_status_
FSM
FE102 (activation initiated)
FE103 (DS activated)
FE104 (access activated)
FE106 (access deactivated)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE206 (grading)

Process LE_CONTROL_PORT

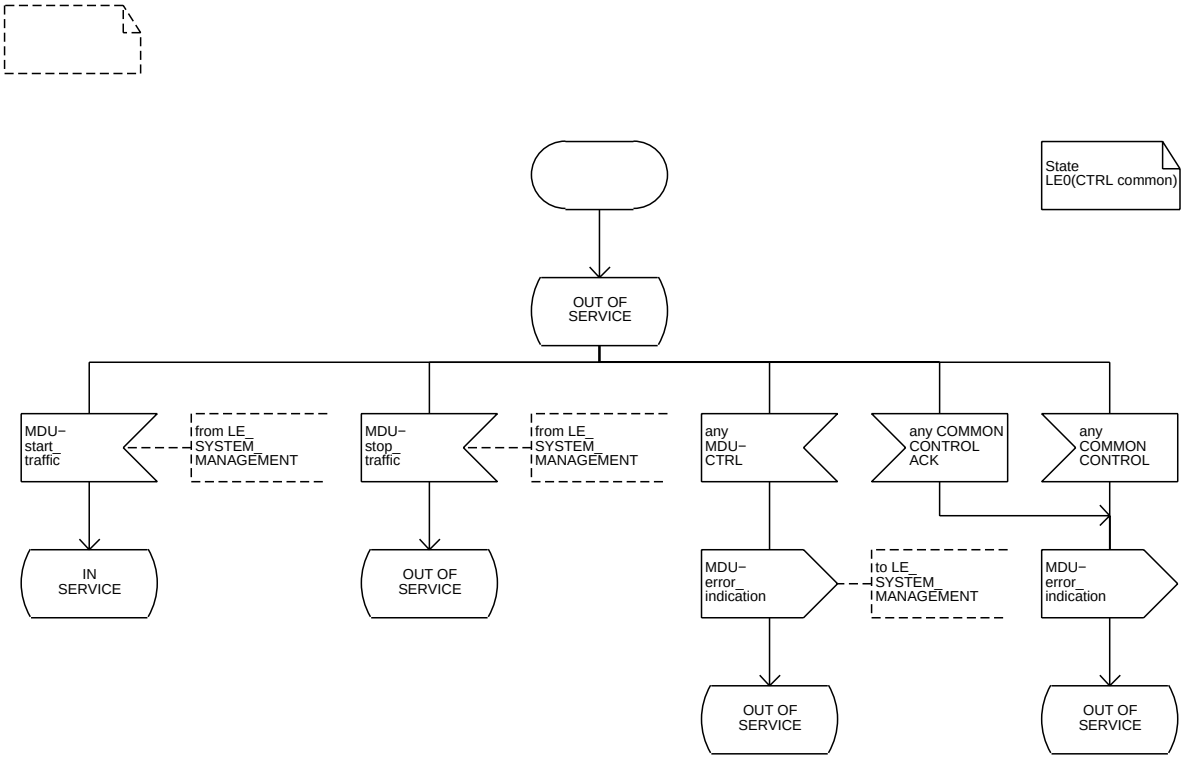


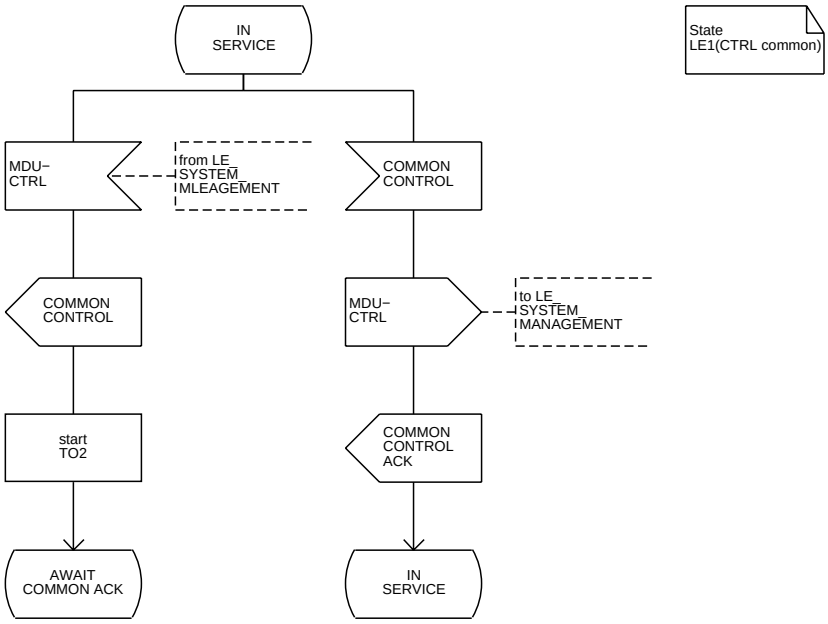


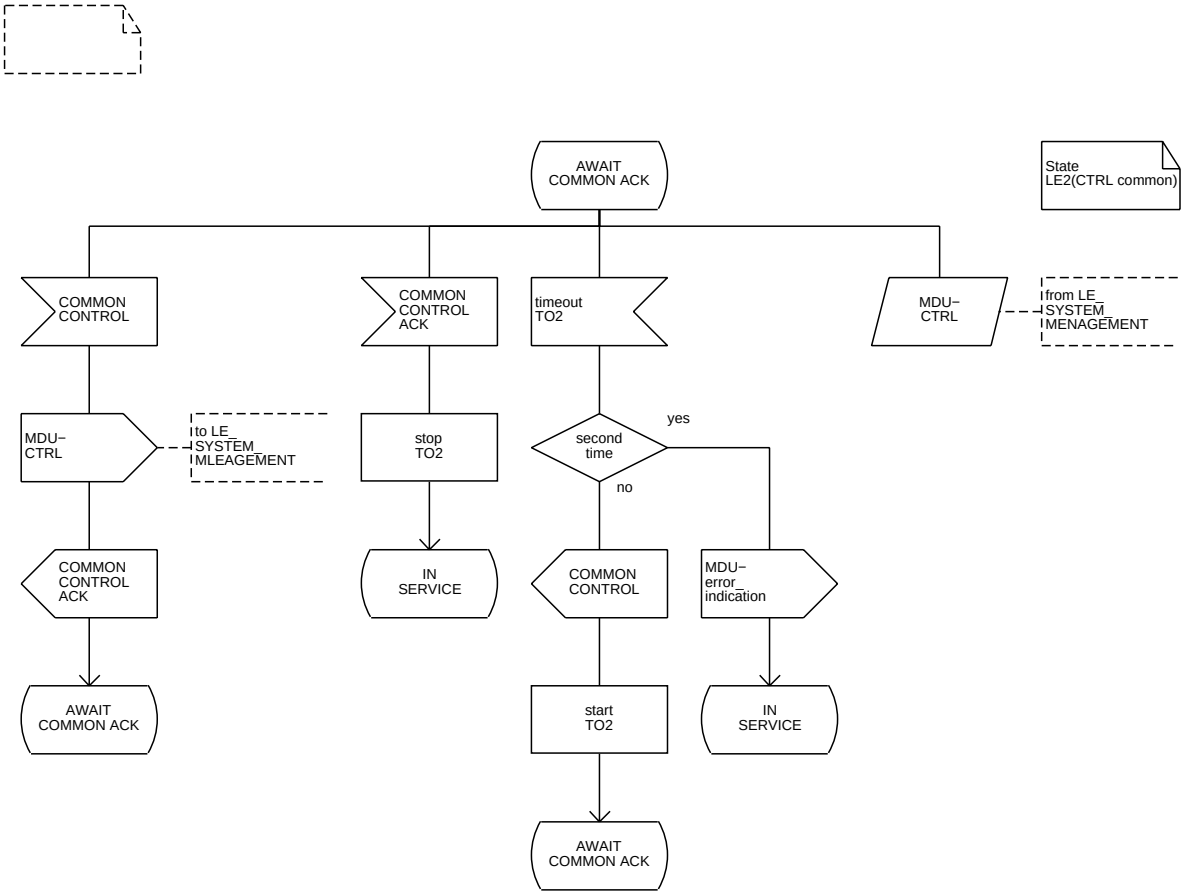

AWAIT
PORT ACK
State
LE2(CTRL port)
PORT
CONTROL
PORT
CONTROL
ACK
timeout
TO1
FE
from LE_ISDN_ or
LE_PSTN_port_
status_FSM
FE
to LE_ISDN_ or
LE_PSTN_port_
status_FSM
stop
TO1
second
time
yes
no
PORT
CONTROL
ACK
IN
SERVICE
PORT
CONTROL
MDU−
error_
indication
AWAIT
PORT ACK
start
TO1
IN
SERVICE
AWAIT
PORT ACK

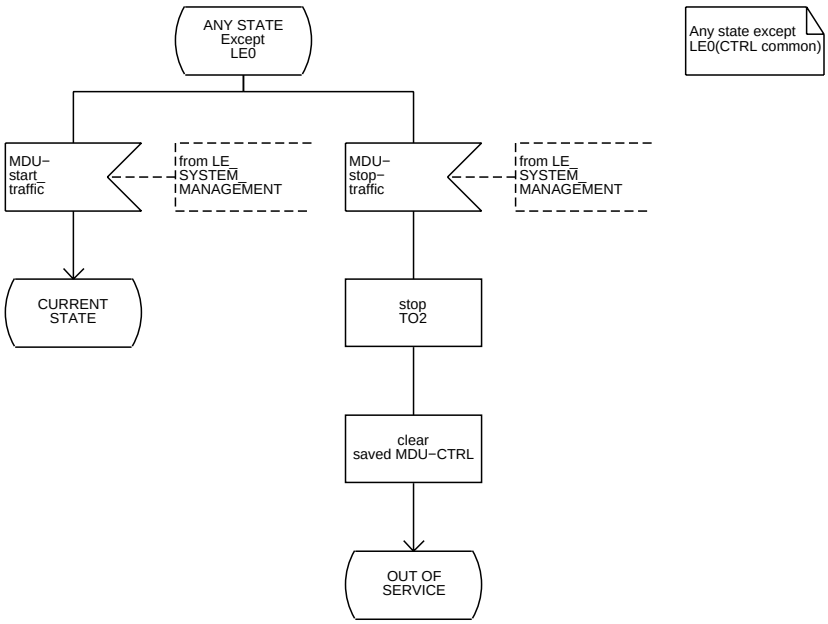

ANY STATE
Except
LE0
Any state except
LE0(CTRL port)
MDU−
start_
traffic
from LE_
SYSTEM_
MANAGEMENT
MDU−
stop_
traffic
from LE_
SYSTEM_
MANAGEMENT
CURRENT
STATE
stop
TO1
clear
saved FEs
OUT OF
SERVICE

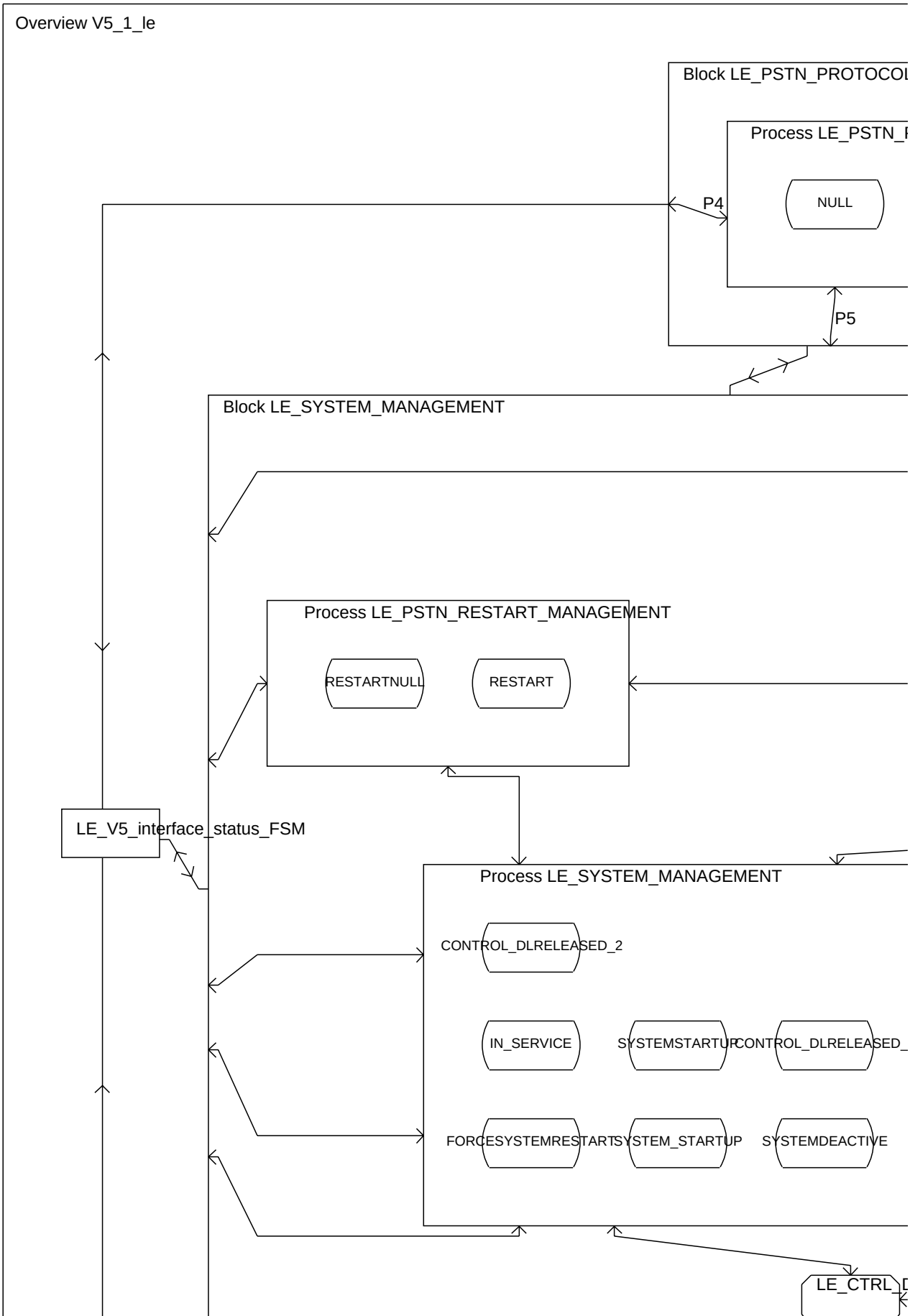
Process LE_CONTROL_COMMON

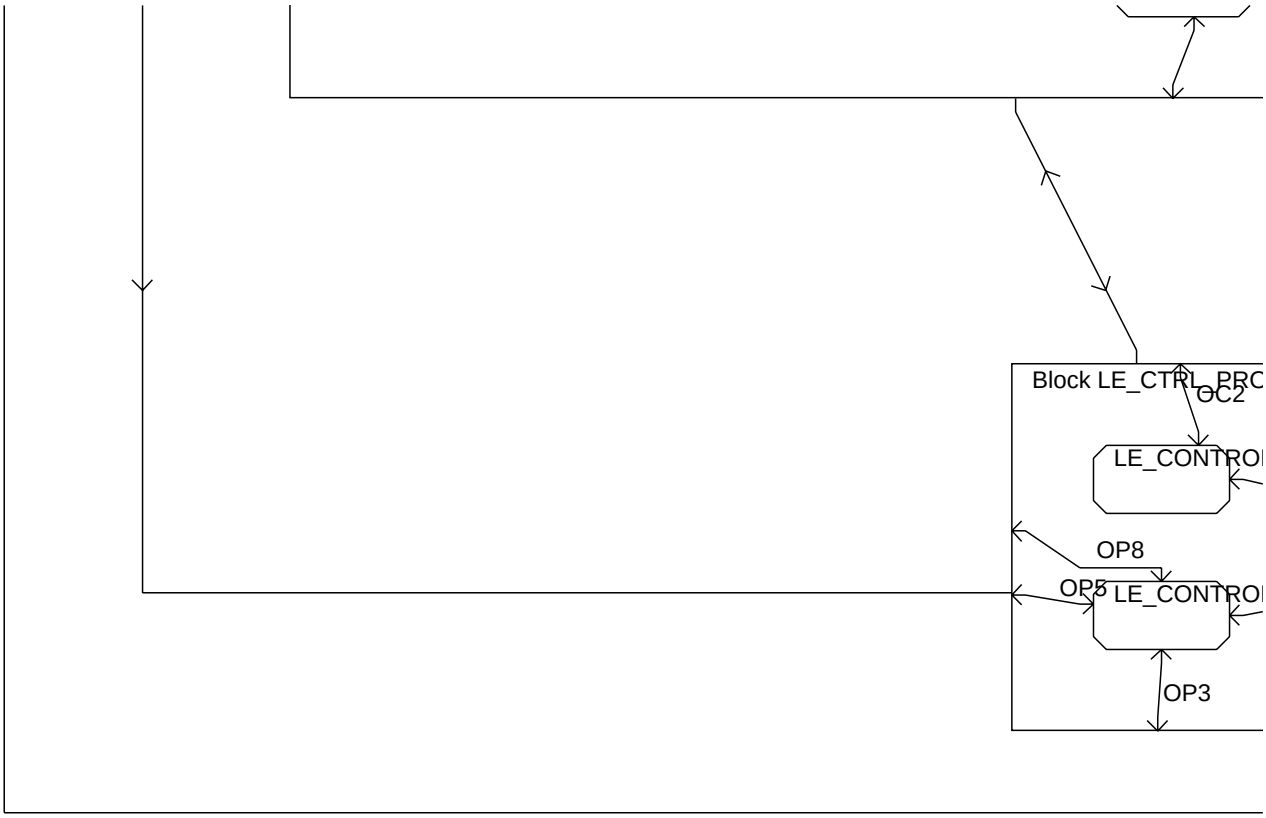


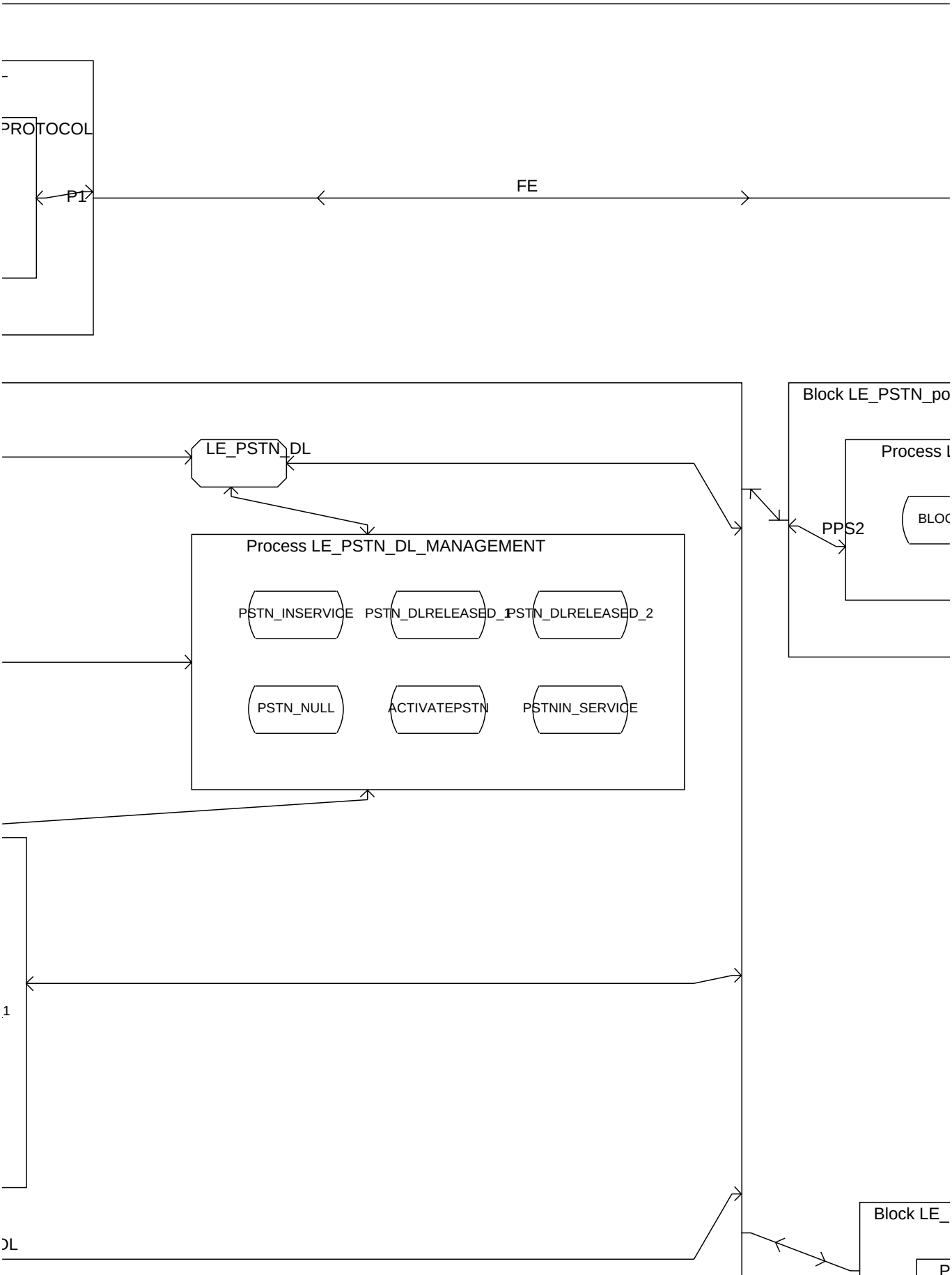


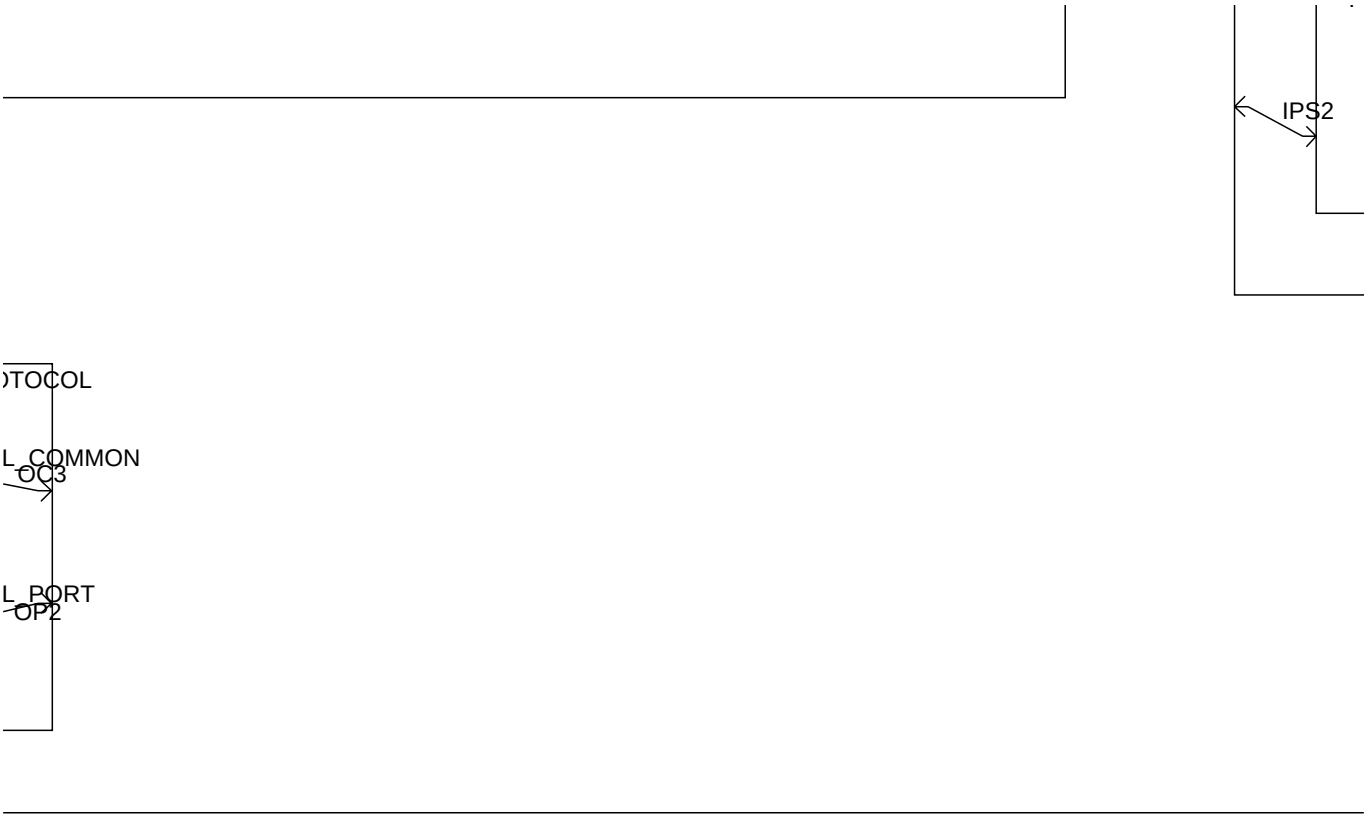

AWAIT
COMMON ACK
State
LE2(CTRL common)
COMMON
CONTROL
COMMON
CONTROL
ACK
timeout
TO2
MDU−
CTRL
from LE_
SYSTEM_
MENAGEMENT
MDU−
CTRL
to LE_
SYSTEM_
MLEAGEMENT
stop
TO2
second
time
yes
no
COMMON
CONTROL
ACK
IN
SERVICE
COMMON
CONTROL
MDU−
error_
indication
AWAIT
COMMON ACK
start
TO2
IN
SERVICE
AWAIT
COMMON ACK

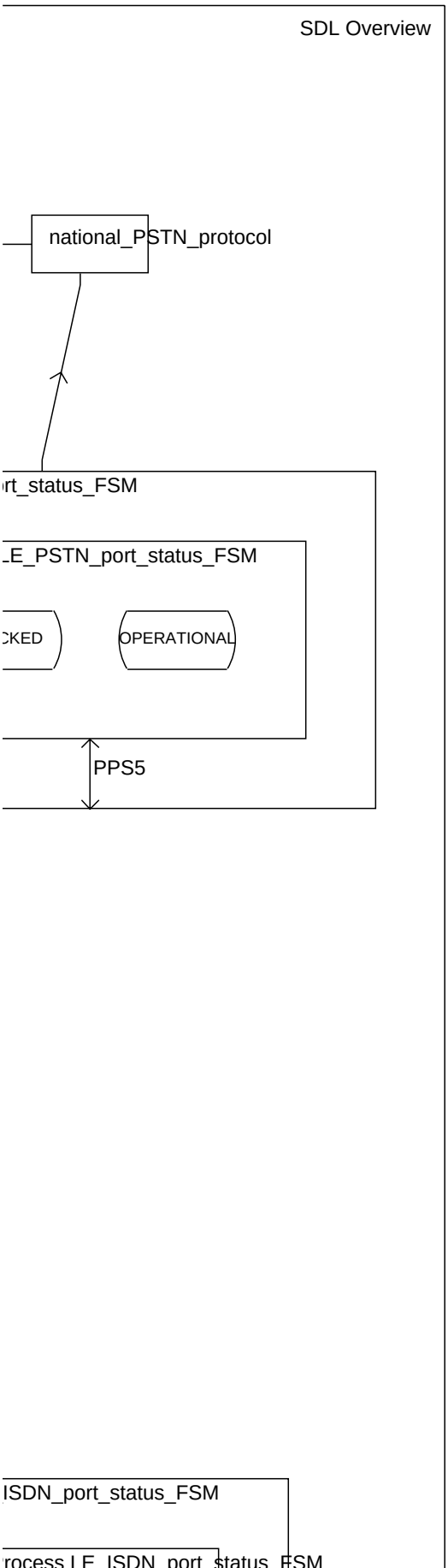

ANY STATE
Except
LE0
Any state except
LE0(CTRL common)
MDU−
start_
traffic
from LE_
SYSTEM_
MANAGEMENT
MDU−
stop−
traffic
from LE_
SYSTEM_
MANAGEMENT
CURRENT
STATE
stop
TO2
clear
saved MDU−CTRL
OUT OF
SERVICE

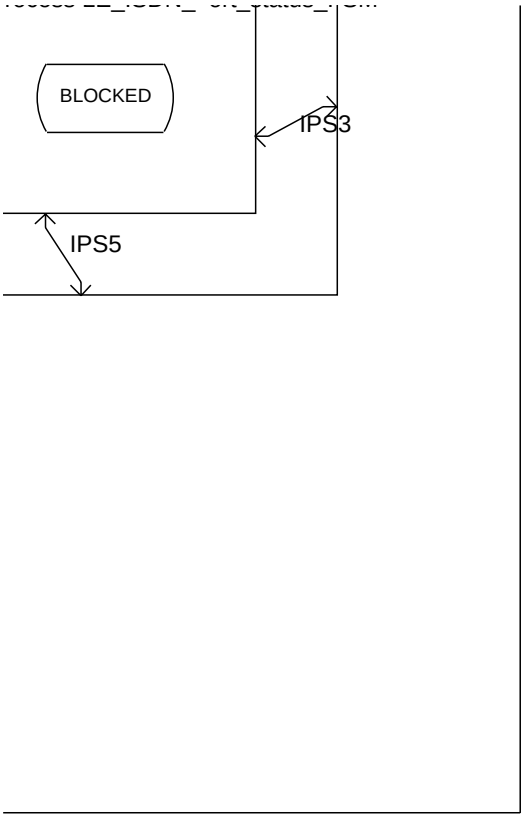

Overview V5_1_le
Block LE_PSTN_PROTOCOL
Process LE_PSTN_
NULL
P4
P5
Block LE_SYSTEM_MANAGEMENT
Process LE_PSTN_RESTART_MANAGEMENT
RESTARTNULL
RESTART
LE_V5_interface_status_FSM
Process LE_SYSTEM_MANAGEMENT
CONTROL_DLRELEASED_2
IN_SERVICE
SYSTEMSTARTUP
CONTROL_DLRELEASED_
FORCESYSTEMRESTART
SYSTEM_STARTUP
SYSTEMDEACTIVE
LE_CTRL_


Block LE_CTRL_PRC
OC2
LE_CONTROL
OP8
OP5
LE_CONTROL
OP3

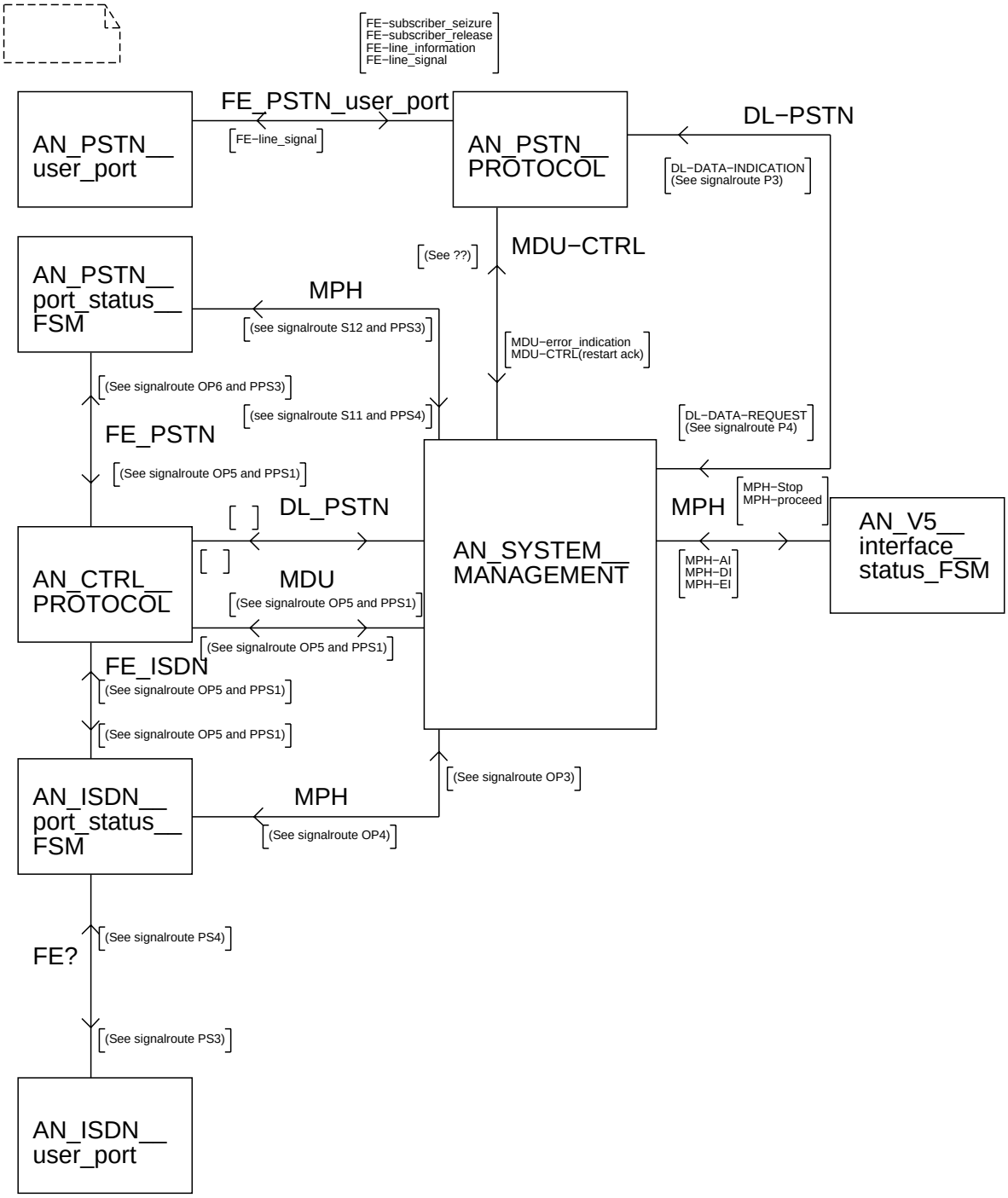

PROTOCOL
P1
FE
Block LE_PSTN_po
Process l
BLOC
PPS2
LE_PSTN_DL
Process LE_PSTN_DL_MANAGEMENT
PSTN_INSERVICE
PSTN_DLRELEASED_1
PSTN_DLRELEASED_2
PSTN_NULL
ACTIVATEPSTN
PSTNIN_SERVICE
Block LE_

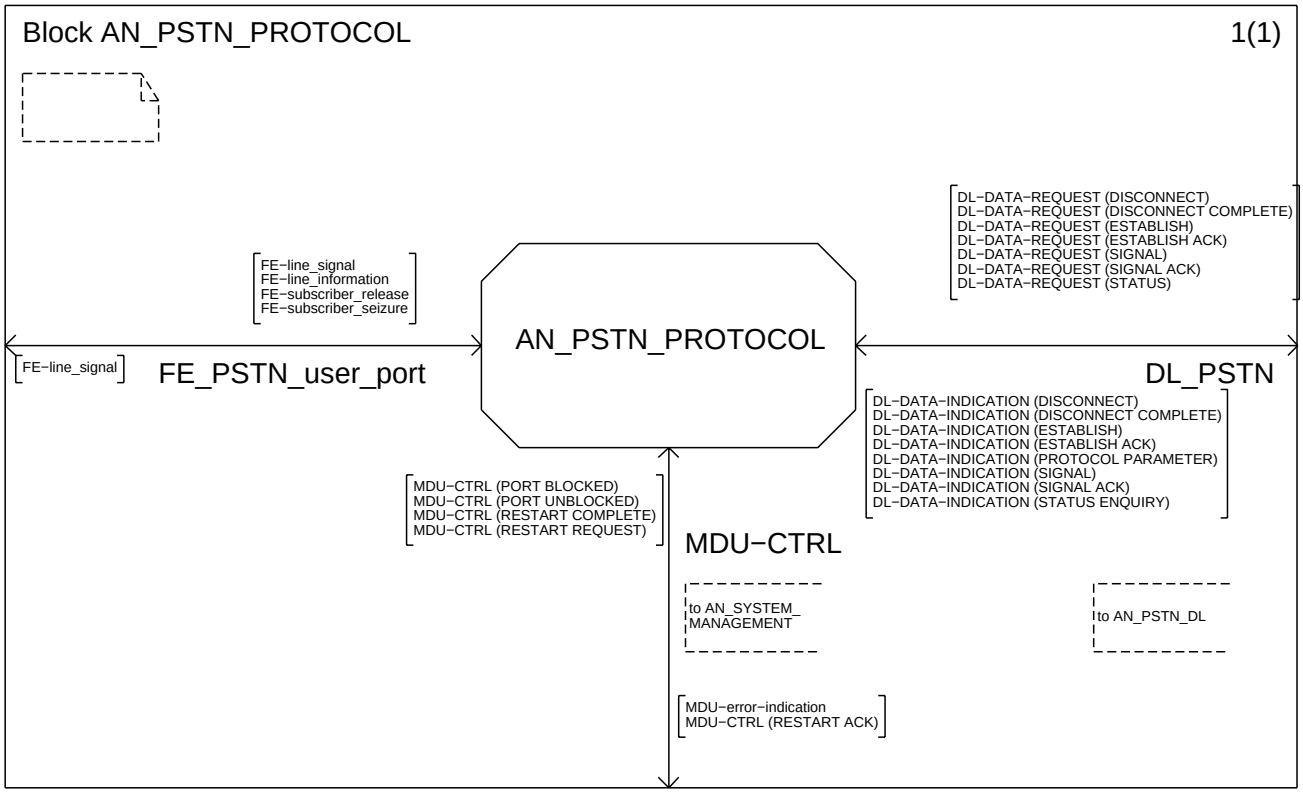

IPS2
OTOCOL
L_COMMON
OC3
L_PORT
OP2

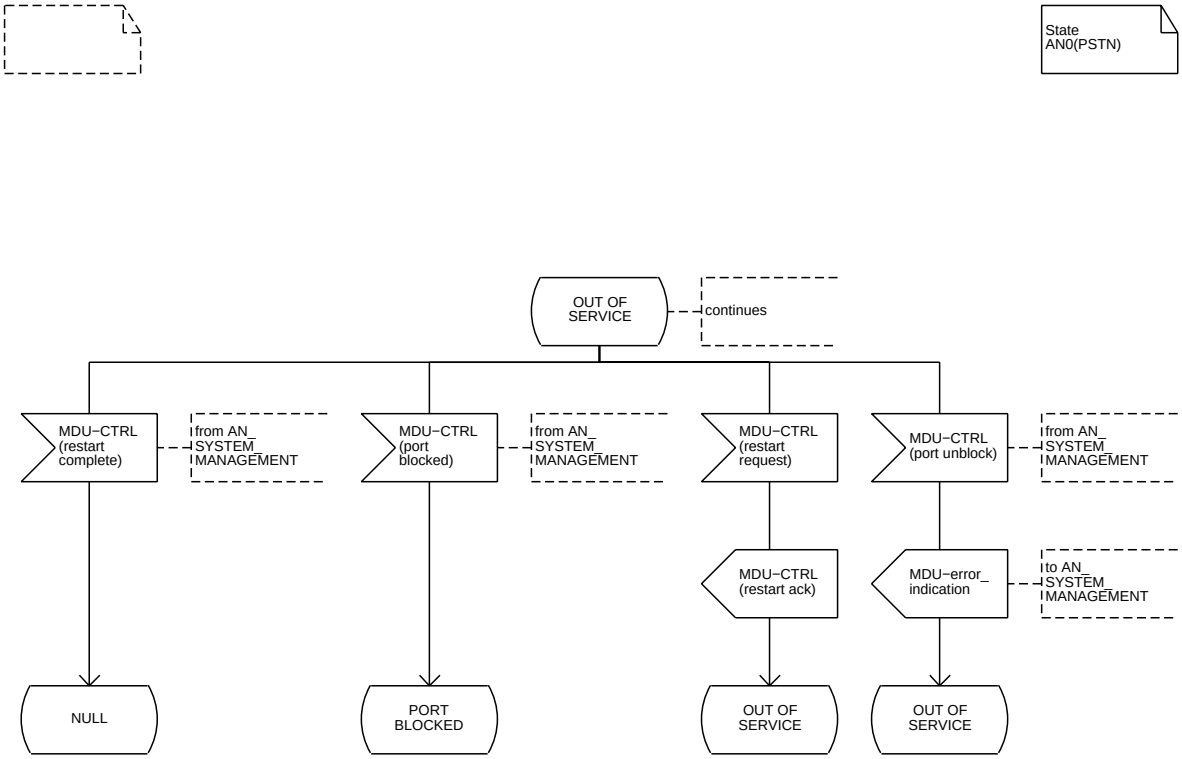

SDL Overview
national_PSTN_protocol
rt_status_FSM
E_PSTN_port_status_FSM
CKED
OPERATIONAL
PPS5
ISDN_port_status_FSM
rocess LE_ISDN_port_status_FSM

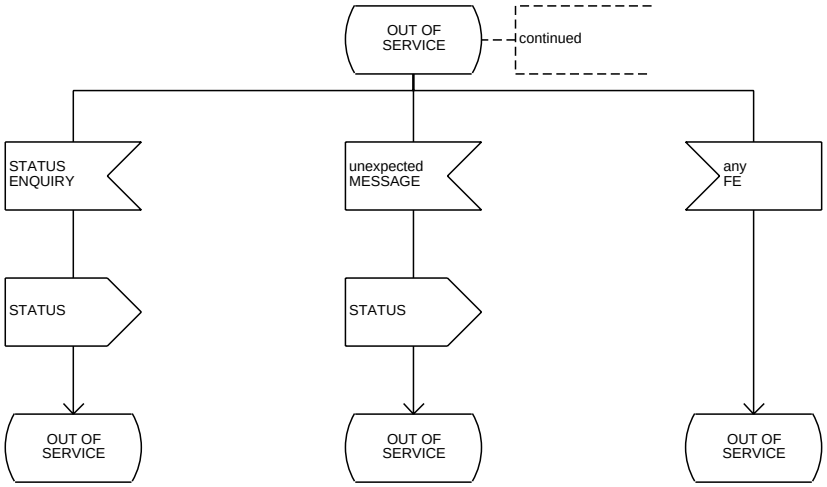

BLOCKED
IPS3
IPS5

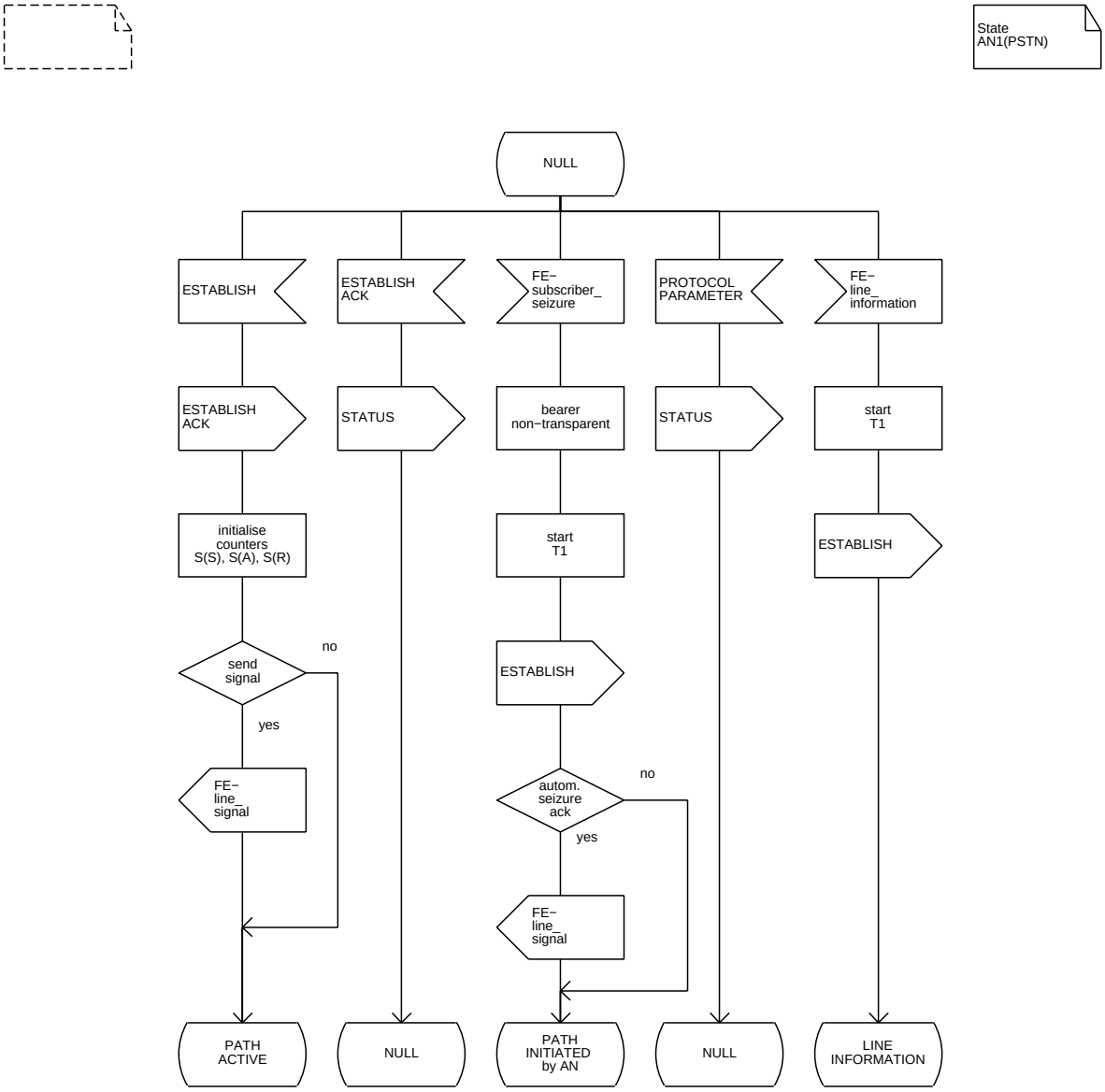
System V5_1_AN

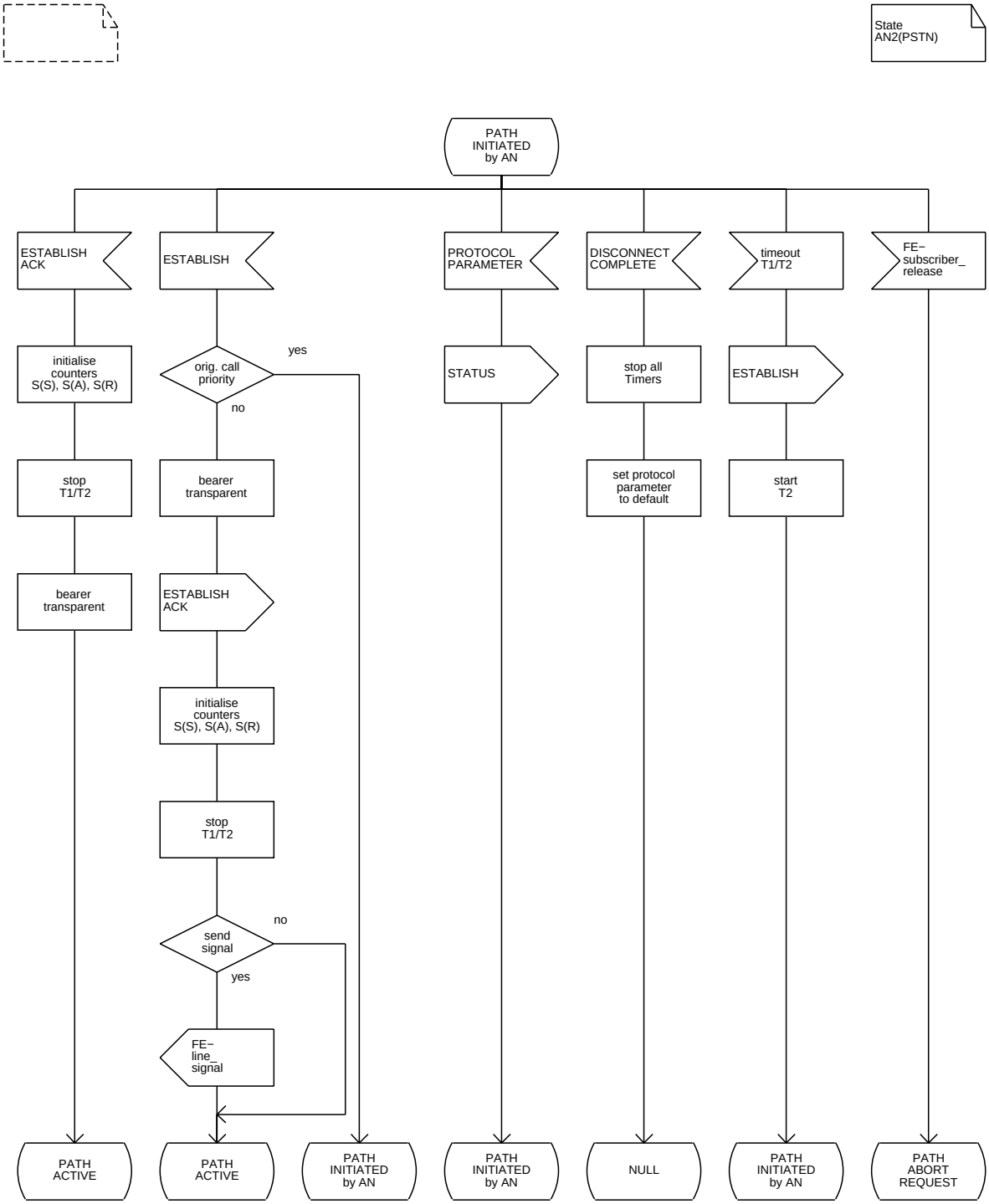


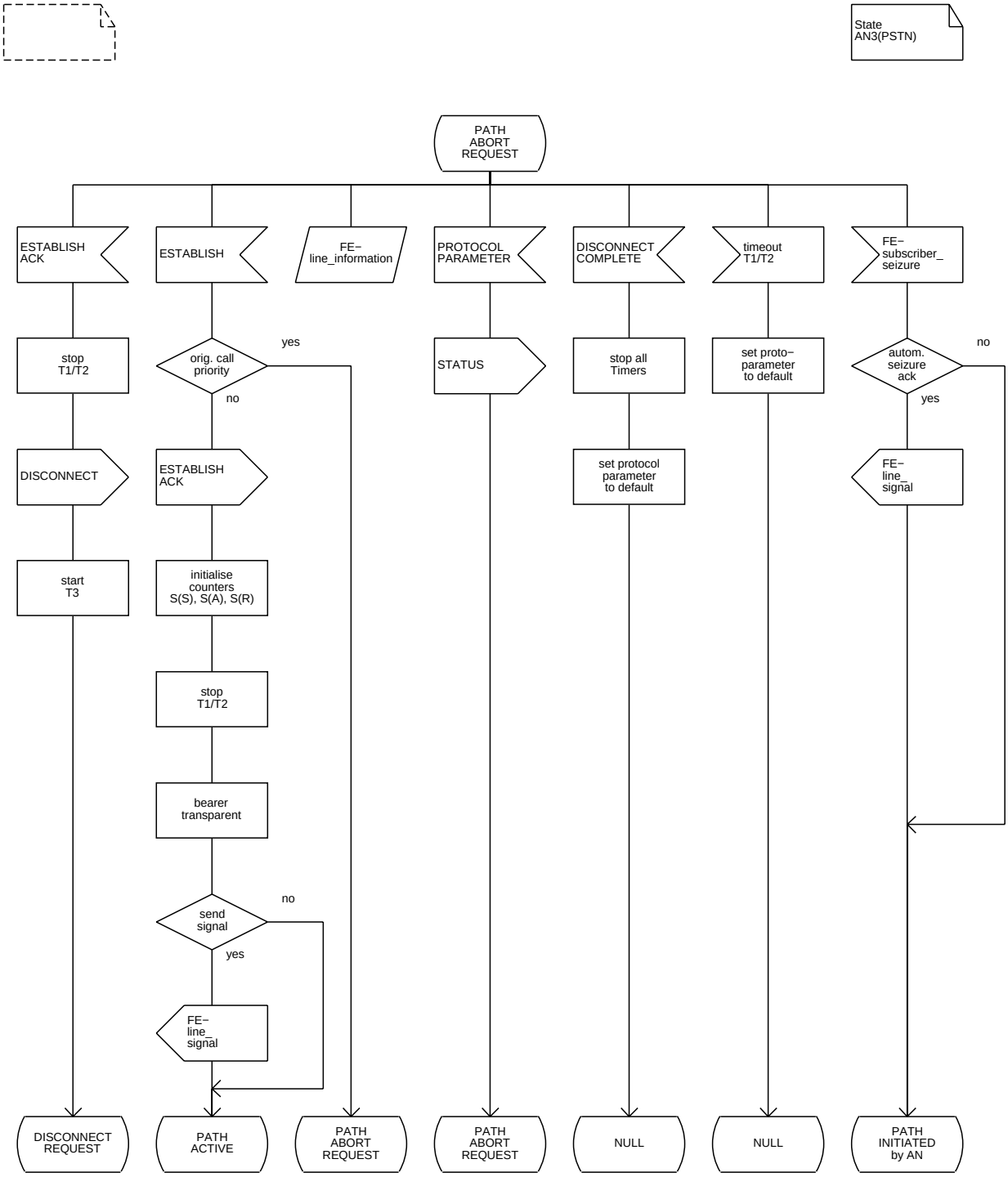

Block AN_PSTN_PROTOCOL
1(1)
FE−line_signal
FE−line_information
FE−subscriber_release
FE−subscriber_seizure
AN_PSTN_PROTOCOL
DL−DATA−REQUEST (DISCONNECT)
DL−DATA−REQUEST (DISCONNECT COMPLETE)
DL−DATA−REQUEST (ESTABLISH)
DL−DATA−REQUEST (ESTABLISH ACK)
DL−DATA−REQUEST (SIGNAL)
DL−DATA−REQUEST (SIGNAL ACK)
DL−DATA−REQUEST (STATUS)
FE−line_signal
FE_PSTN_user_port
DL_PSTN
DL−DATA−INDICATION (DISCONNECT)
DL−DATA−INDICATION (DISCONNECT COMPLETE)
DL−DATA−INDICATION (ESTABLISH)
DL−DATA−INDICATION (ESTABLISH ACK)
DL−DATA−INDICATION (PROTOCOL PARAMETER)
DL−DATA−INDICATION (SIGNAL)
DL−DATA−INDICATION (SIGNAL ACK)
DL−DATA−INDICATION (STATUS ENQUIRY)
MDU−CTRL (PORT BLOCKED)
MDU−CTRL (PORT UNBLOCKED)
MDU−CTRL (RESTART COMPLETE)
MDU−CTRL (RESTART REQUEST)
MDU−CTRL
to AN_SYSTEM_
MANAGEMENT
to AN_PSTN_DL
MDU−error−indication
MDU−CTRL (RESTART ACK)

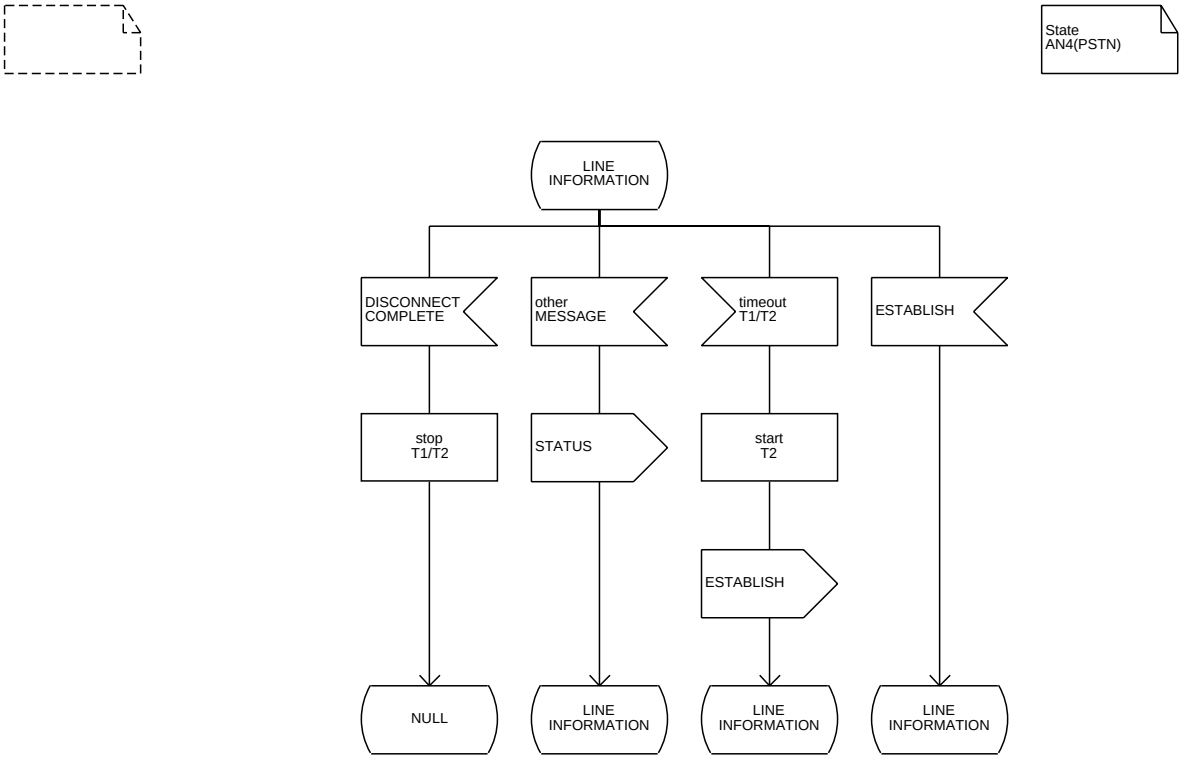

State
AN0(PSTN)
OUT OF SERVICE
continues
MDU−CTRL (restart complete)
from AN_ SYSTEM_ MANAGEMENT
MDU−CTRL (port blocked)
from AN_ SYSTEM_ MANAGEMENT
MDU−CTRL (restart request)
MDU−CTRL (port unblock)
from AN_ SYSTEM_ MANAGEMENT
MDU−CTRL (restart ack)
MDU−error_ indication
to AN_ SYSTEM_ MANAGEMENT
NULL
PORT BLOCKED
OUT OF SERVICE
OUT OF SERVICE

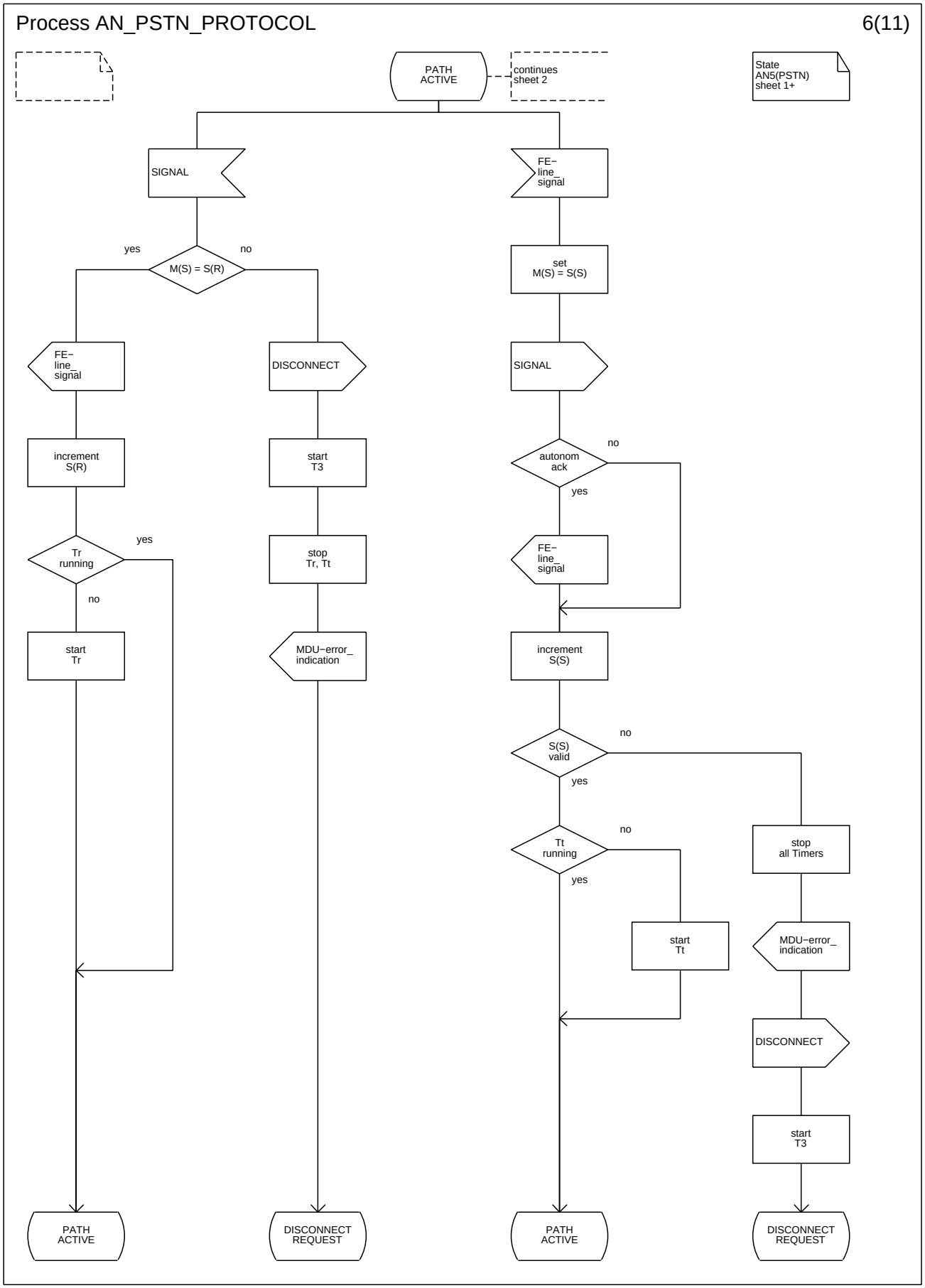

OUT OF SERVICE
continued
STATUS ENQUIRY
unexpected MESSAGE
any FE
STATUS
STATUS
OUT OF SERVICE
OUT OF SERVICE
OUT OF SERVICE

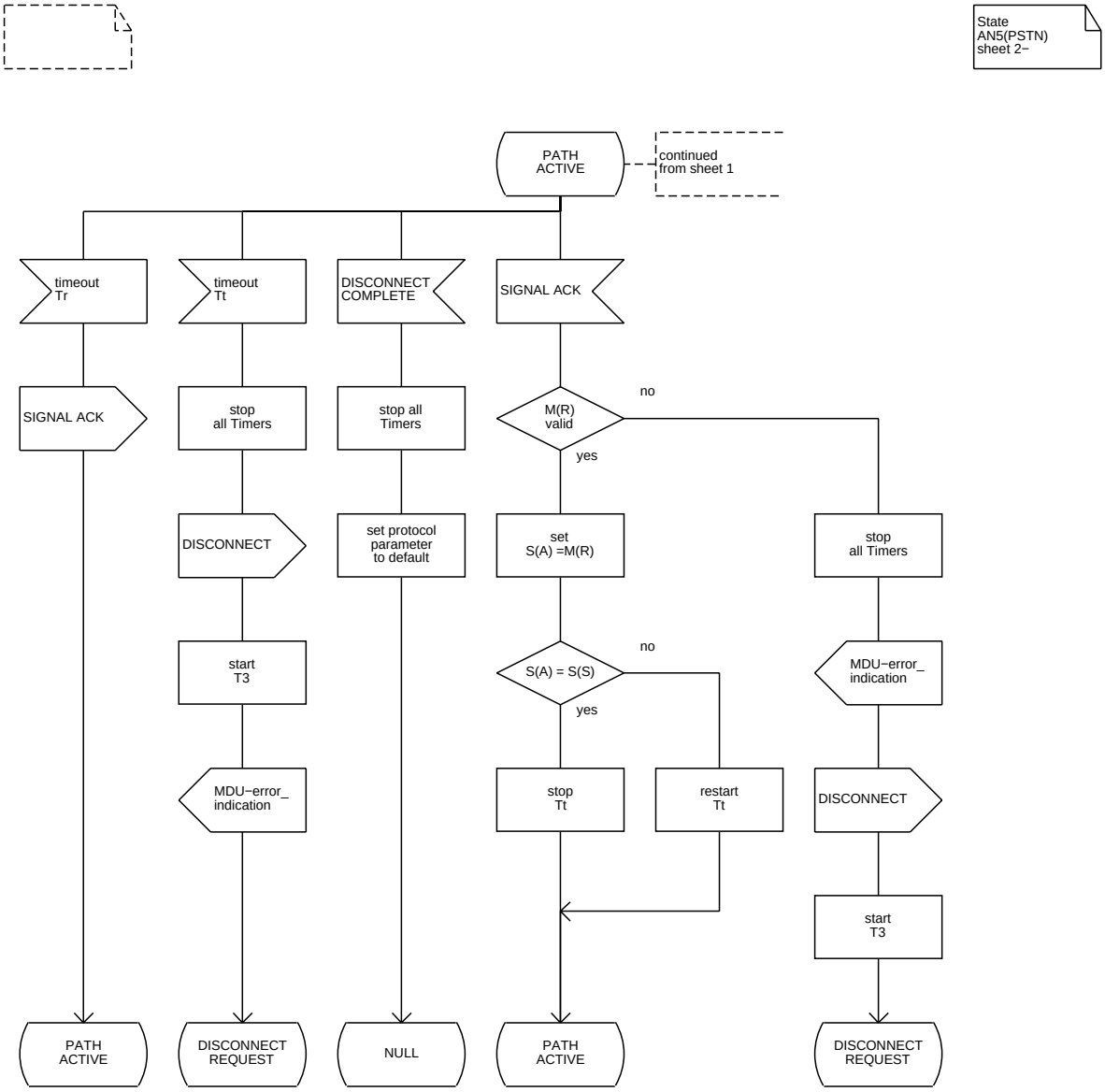

State
AN1(PSTN)
NULL
ESTABLISH
ESTABLISH ACK
FE− subscriber_ seizure
PROTOCOL PARAMETER
FE− line_ information
ESTABLISH ACK
STATUS
bearer non−transparent
STATUS
start T1
initialise counters S(S), S(A), S(R)
start T1
ESTABLISH
send signal
no
yes
ESTABLISH
FE− line_ signal
autom. seizure ack
no
yes
FE− line_ signal
PATH ACTIVE
NULL
PATH INITIATED by AN
NULL
LINE INFORMATION

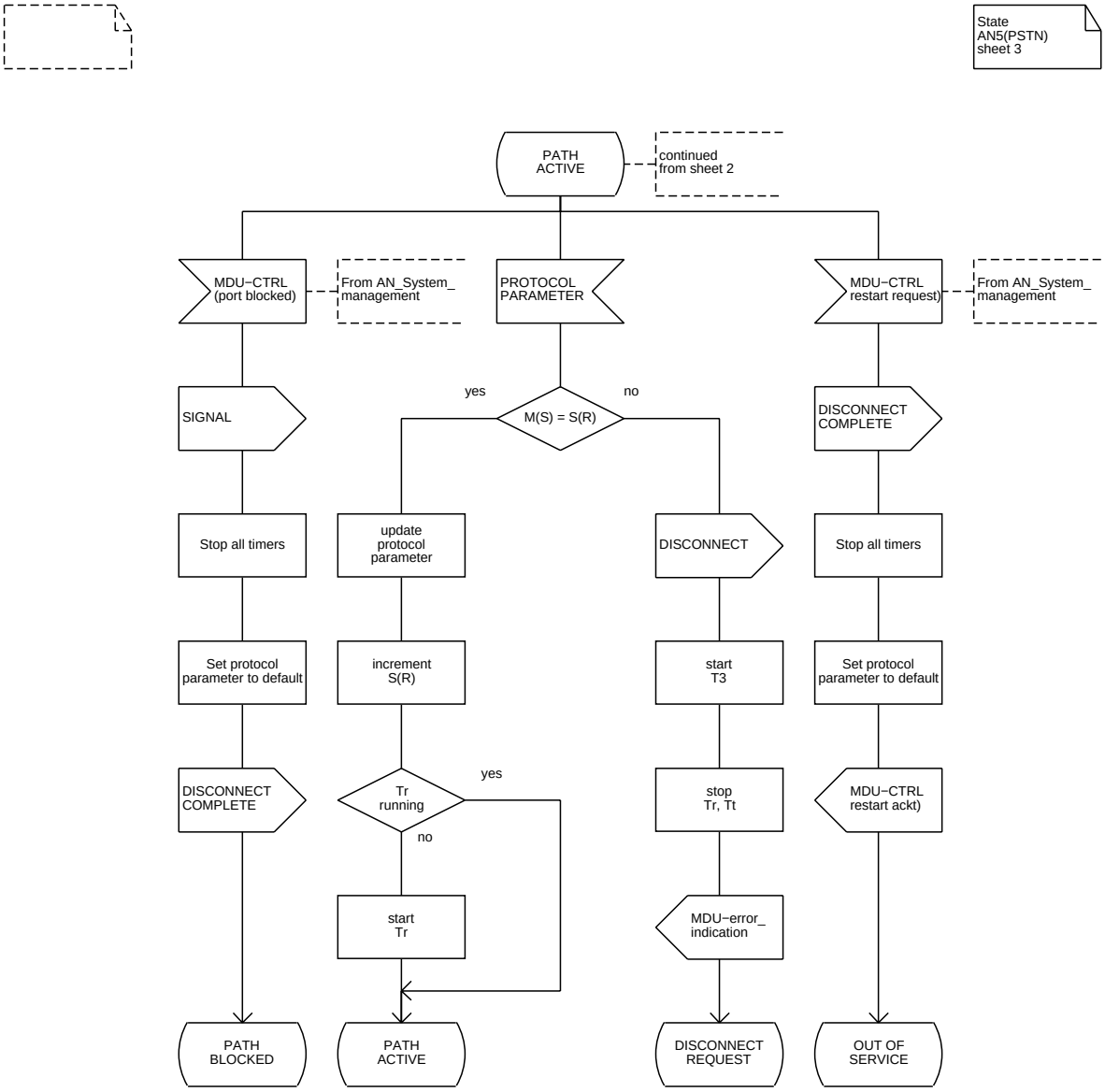

State
AN2(PSTN)
PATH
INITIATED
by AN
ESTABLISH
ACK
ESTABLISH
PROTOCOL
PARAMETER
DISCONNECT
COMPLETE
timeout
T1/T2
FE−
subscriber_
release
initialise
counters
S(S), S(A), S(R)
orig. call
priority
yes
no
STATUS
stop all
Timers
ESTABLISH
stop
T1/T2
bearer
transparent
set protocol
parameter
to default
start
T2
bearer
transparent
ESTABLISH
ACK
initialise
counters
S(S), S(A), S(R)
stop
T1/T2
send
signal
no
yes
FE−
line_
signal
PATH
ACTIVE
PATH
ACTIVE
PATH
INITIATED
by AN
PATH
INITIATED
by AN
NULL
PATH
INITIATED
by AN
PATH
ABORT
REQUEST

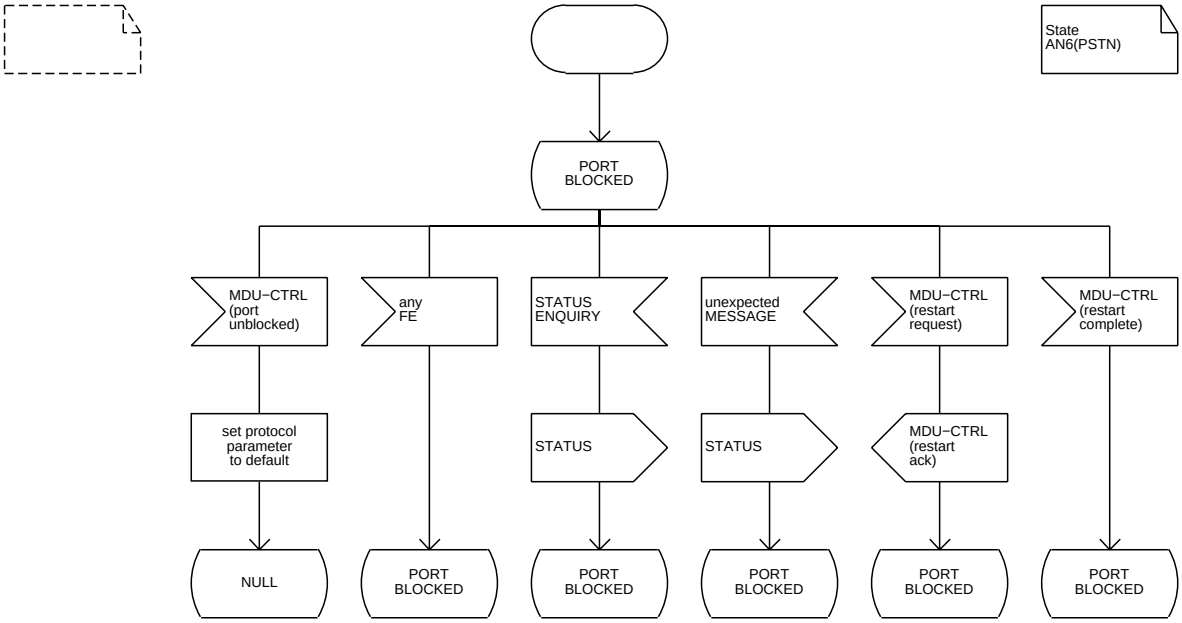

State
AN3(PSTN)
PATH
ABORT
REQUEST
ESTABLISH
ACK
ESTABLISH
FE−
line_information
PROTOCOL
PARAMETER
DISCONNECT
COMPLETE
timeout
T1/T2
FE−
subscriber_
seizure
stop
T1/T2
orig. call
priority
yes
no
STATUS
stop all
Timers
set proto−
parameter
to default
autom.
seizure
ack
no
yes
DISCONNECT
ESTABLISH
ACK
set protocol
parameter
to default
FE−
line_
signal
start
T3
initialise
counters
S(S), S(A), S(R)
stop
T1/T2
bearer
transparent
send
signal
no
yes
FE−
line_
signal
DISCONNECT
REQUEST
PATH
ACTIVE
PATH
ABORT
REQUEST
PATH
ABORT
REQUEST
NULL
NULL
PATH
INITIATED
by AN

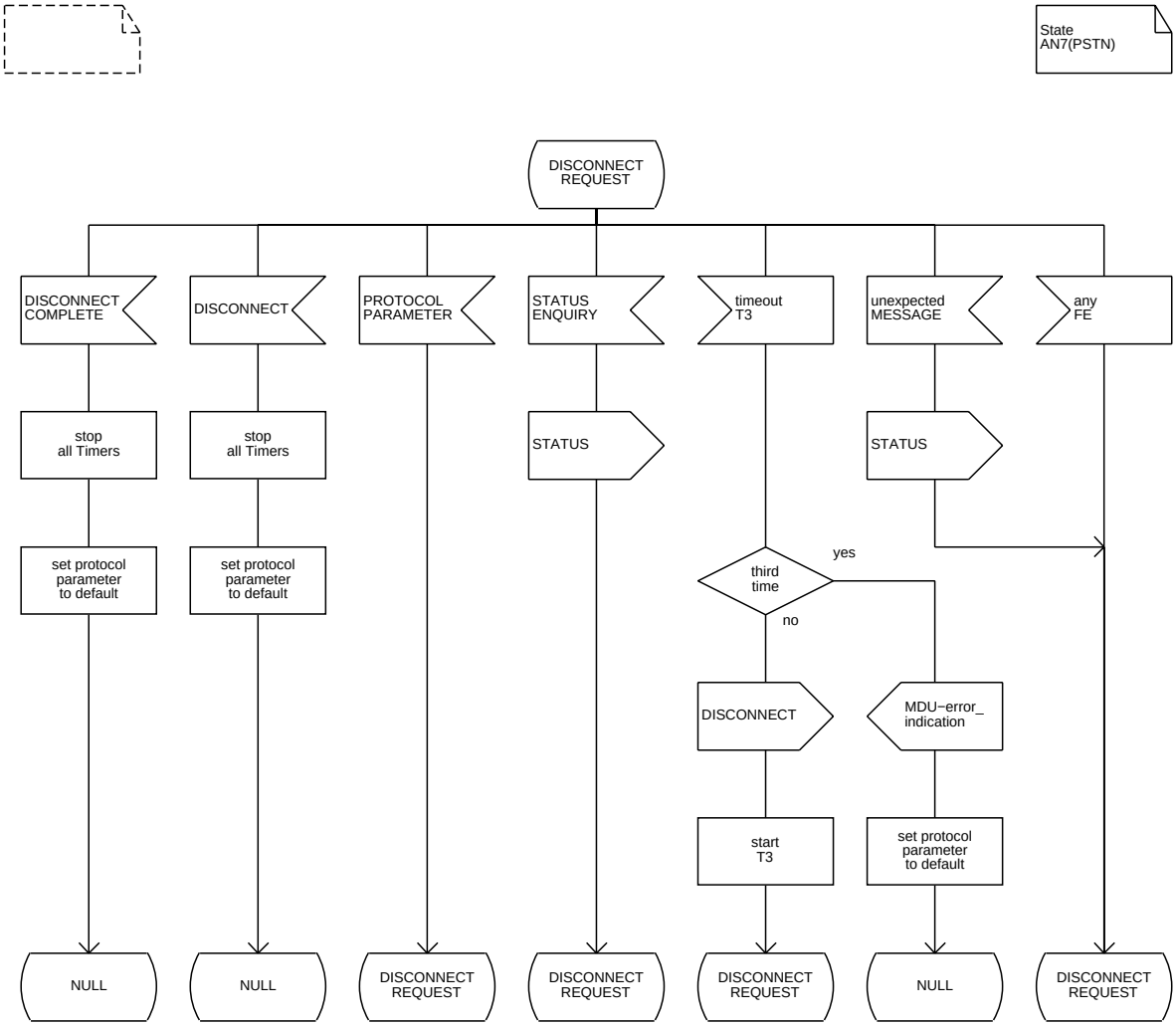

State
AN4(PSTN)
LINE
INFORMATION
DISCONNECT
COMPLETE
other
MESSAGE
timeout
T1/T2
ESTABLISH
stop
T1/T2
STATUS
start
T2
ESTABLISH
NULL
LINE
INFORMATION
LINE
INFORMATION
LINE
INFORMATION

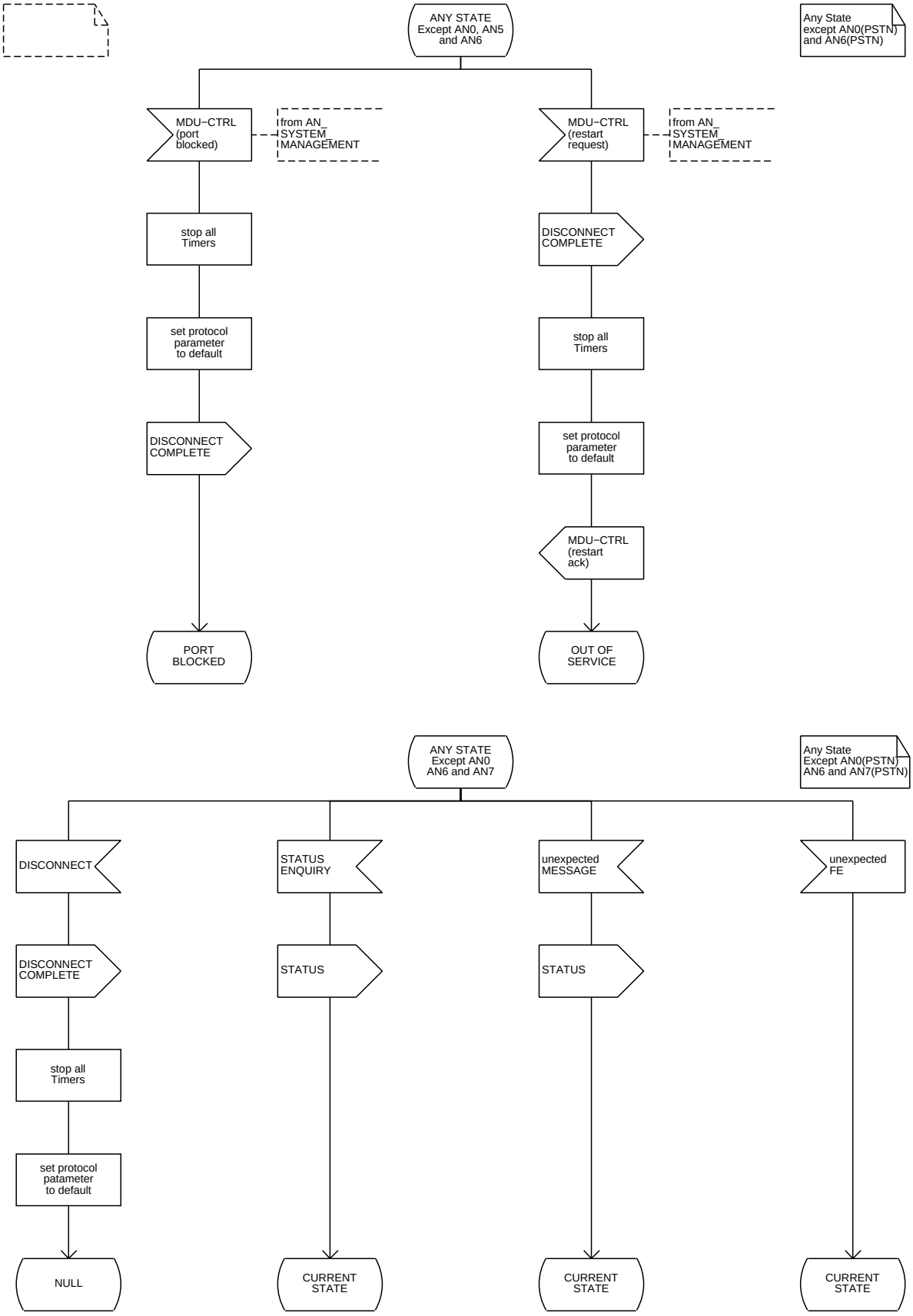

PATH ACTIVE
continues sheet 2
State AN5(PSTN) sheet 1+
SIGNAL
FE− line_ signal
yes
no
M(S) = S(R)
set M(S) = S(S)
FE− line_ signal
DISCONNECT
SIGNAL
increment S(R)
start T3
autonom ack
no
yes
Tr running
yes
stop Tr, Tt
FE− line_ signal
no
start Tr
MDU−error_ indication
increment S(S)
S(S) valid
no
yes
Tt running
no
stop all Timers
yes
start Tt
MDU−error_ indication
DISCONNECT
start T3
PATH ACTIVE
DISCONNECT REQUEST
PATH ACTIVE
DISCONNECT REQUEST

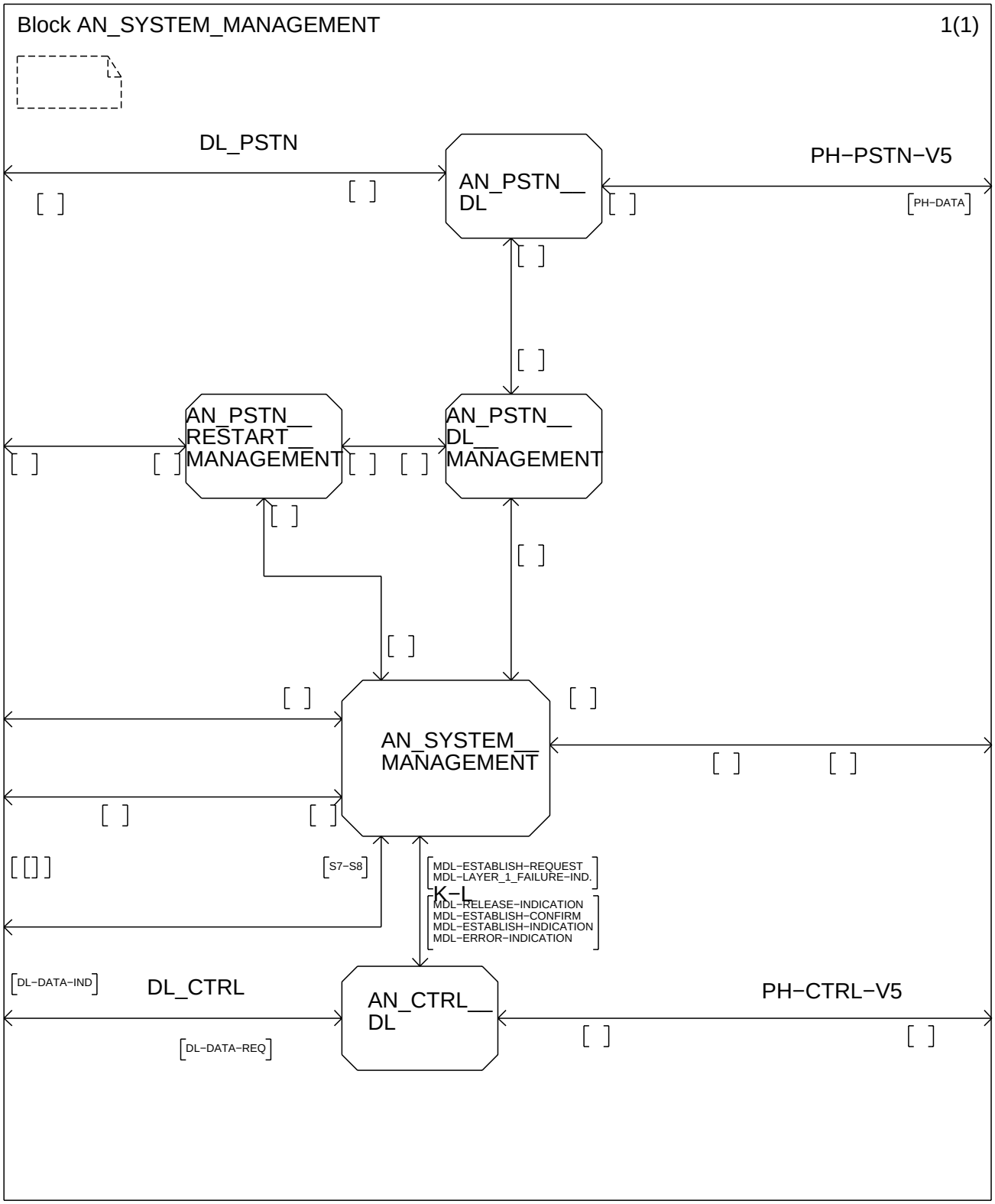

State
AN5(PSTN)
sheet 2−
PATH
ACTIVE
continued
from sheet 1
timeout
Tr
timeout
Tt
DISCONNECT
COMPLETE
SIGNAL ACK
SIGNAL ACK
stop
all Timers
stop all
Timers
M(R)
valid
no
yes
DISCONNECT
set protocol
parameter
to default
set
S(A) =M(R)
stop
all Timers
start
T3
S(A) = S(S)
no
yes
MDU−error_
indication
MDU−error_
indication
stop
Tt
restart
Tt
DISCONNECT
start
T3
PATH
ACTIVE
DISCONNECT
REQUEST
NULL
PATH
ACTIVE
DISCONNECT
REQUEST


State
AN5(PSTN)
sheet 3
PATH
ACTIVE
continued
from sheet 2
MDU−CTRL
(port blocked)
From AN_System_
management
PROTOCOL
PARAMETER
MDU−CTRL
restart request)
From AN_System_
management
SIGNAL
yes
M(S) = S(R)
no
DISCONNECT
COMPLETE
Stop all timers
update
protocol
parameter
DISCONNECT
Stop all timers
Set protocol
parameter to default
increment
S(R)
start
T3
Set protocol
parameter to default
DISCONNECT
COMPLETE
Tr
running
yes
no
stop
Tr, Tt
MDU−CTRL
restart ackt)
start
Tr
MDU−error_
indication
PATH
BLOCKED
PATH
ACTIVE
DISCONNECT
REQUEST
OUT OF
SERVICE


State
AN6(PSTN)
PORT
BLOCKED
MDU−CTRL
(port
unblocked)
any
FE
STATUS
ENQUIRY
unexpected
MESSAGE
MDU−CTRL
(restart
request)
MDU−CTRL
(restart
complete)
set protocol
parameter
to default
STATUS
STATUS
MDU−CTRL
(restart
ack)
NULL
PORT
BLOCKED
PORT
BLOCKED
PORT
BLOCKED
PORT
BLOCKED
PORT
BLOCKED

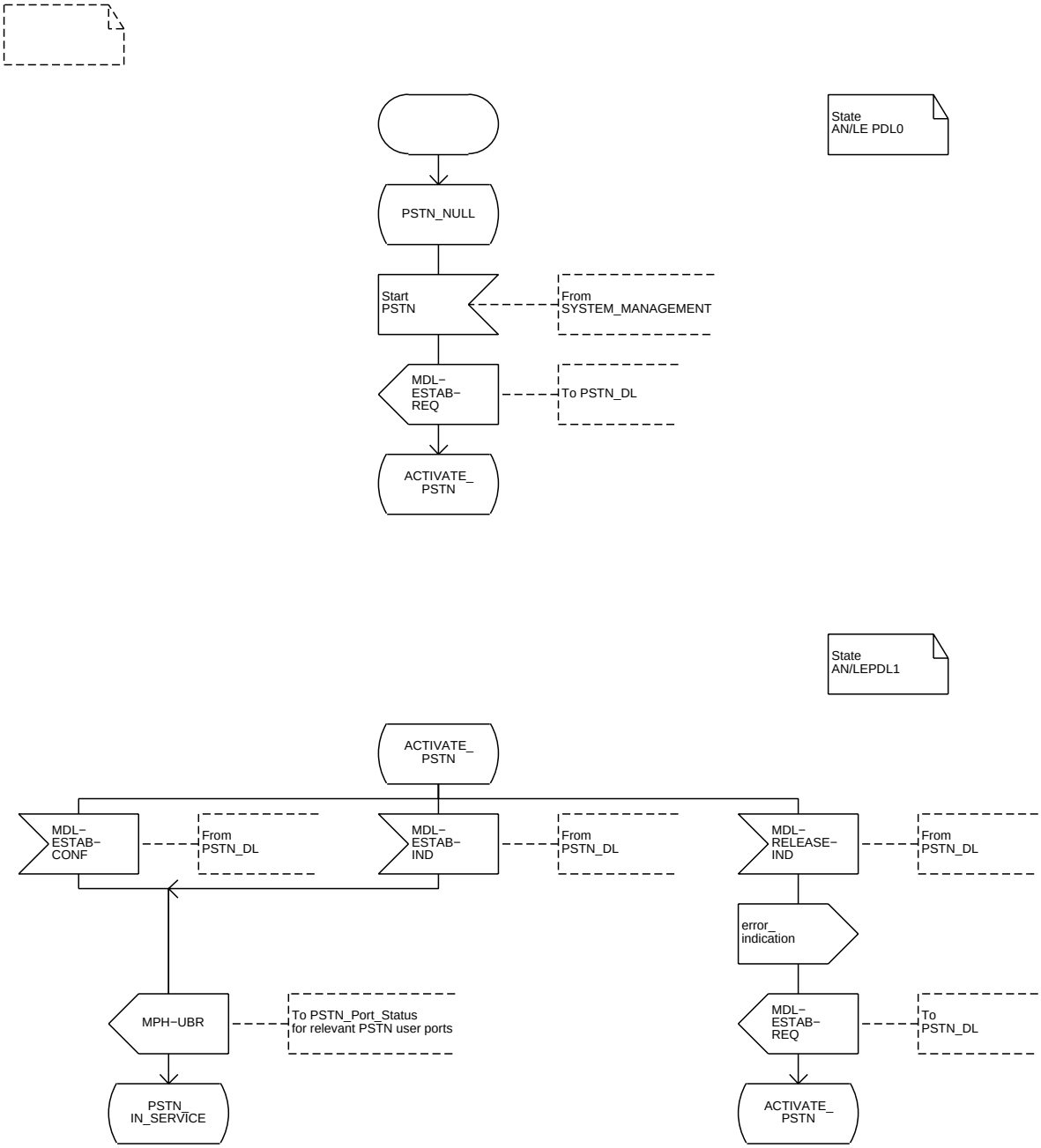

State
AN7(PSTN)
DISCONNECT
REQUEST
DISCONNECT
COMPLETE
DISCONNECT
PROTOCOL
PARAMETER
STATUS
ENQUIRY
timeout
T3
unexpected
MESSAGE
any
FE
stop
all Timers
stop
all Timers
STATUS
STATUS
set protocol
parameter
to default
set protocol
parameter
to default
third
time
yes
no
DISCONNECT
MDU−error_
indication
start
T3
set protocol
parameter
to default
NULL
NULL
DISCONNECT
REQUEST
DISCONNECT
REQUEST
DISCONNECT
REQUEST
NULL
DISCONNECT
REQUEST


ANY STATE
Except AN0, AN5
and AN6
Any State
except AN0(PSTN)
and AN6(PSTN)
MDU−CTRL
(port
blocked)
from AN_
SYSTEM_
MANAGEMENT
MDU−CTRL
(restart
request)
from AN_
SYSTEM_
MANAGEMENT
stop all
Timers
DISCONNECT
COMPLETE
set protocol
parameter
to default
stop all
Timers
DISCONNECT
COMPLETE
set protocol
parameter
to default
MDU−CTRL
(restart
ack)
PORT
BLOCKED
OUT OF
SERVICE
ANY STATE
Except AN0
AN6 and AN7
Any State
Except AN0(PSTN)
AN6 and AN7(PSTN)
DISCONNECT
STATUS
ENQUIRY
unexpected
MESSAGE
unexpected
FE
DISCONNECT
COMPLETE
STATUS
STATUS
stop all
Timers
set protocol
patameter
to default
NULL
CURRENT
STATE
CURRENT
STATE
CURRENT
STATE


Block AN_SYSTEM_MANAGEMENT
1(1)
DL_PSTN
AN_PSTN__
DL
PH−PSTN−V5
PH−DATA
AN_PSTN__
RESTART__
MANAGEMENT
AN_PSTN__
DL__
MANAGEMENT
AN_SYSTEM__
MANAGEMENT
S7−S8
MDL−ESTABLISH−REQUEST
MDL−LAYER_1_FAILURE−IND.
K−L
MDL−RELEASE−INDICATION
MDL−ESTABLISH−CONFIRM
MDL−ESTABLISH−INDICATION
MDL−ERROR−INDICATION
DL−DATA−IND
DL_CTRL
DL−DATA−REQ
AN_CTRL__
DL
PH−CTRL−V5

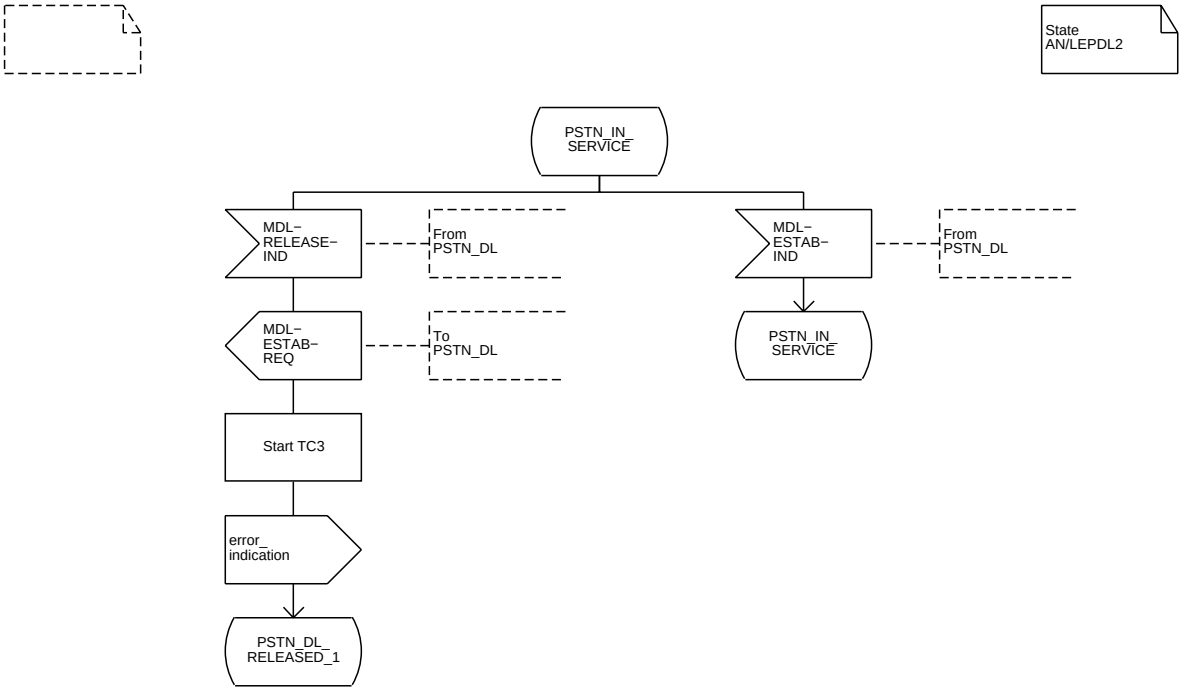
Process AN_PSTN_DL_MANAGEMENT

PDL0_1_Start_Activate_PSTN(3)



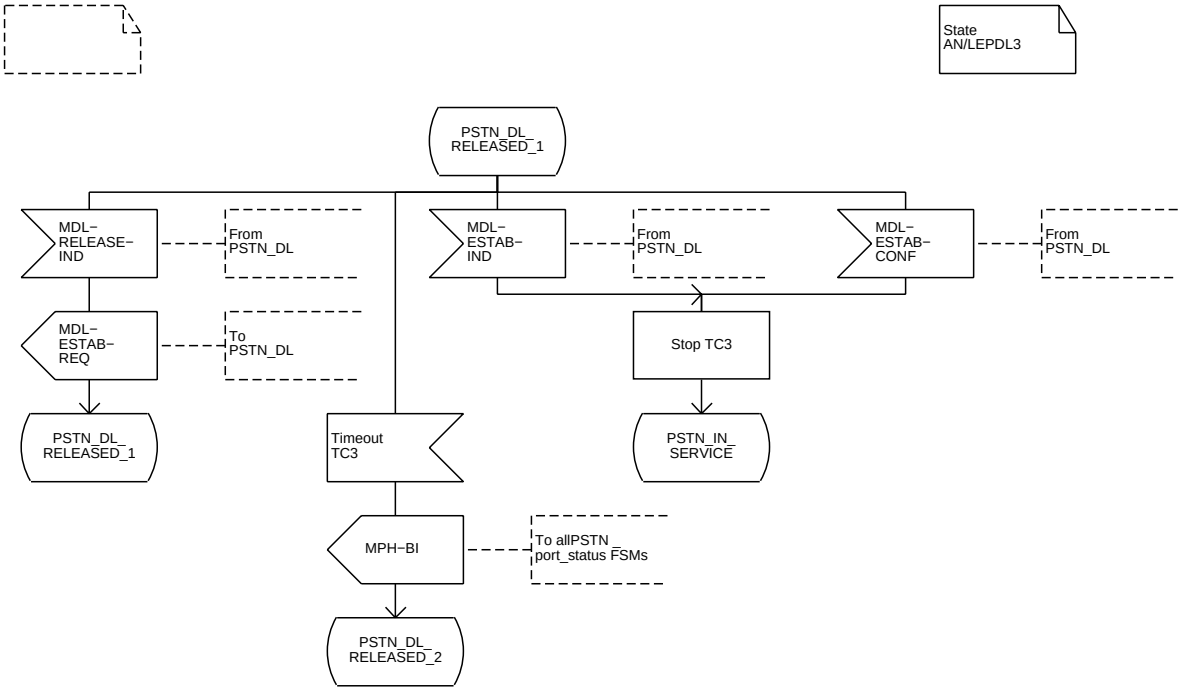
Process AN_PSTN_DL_MANAGEMENT

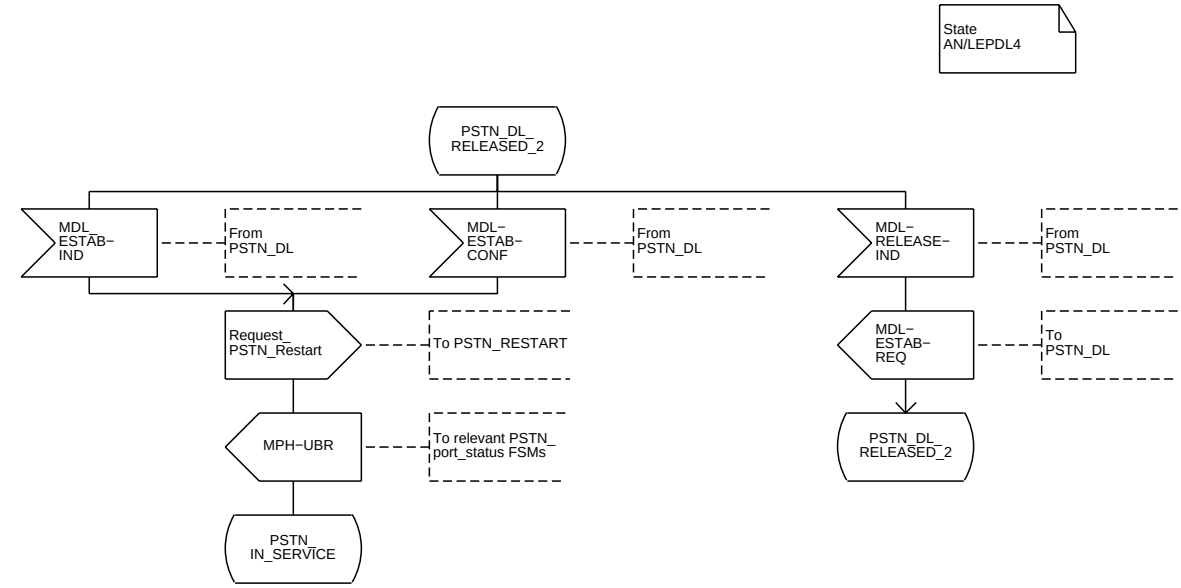
PDL2_PSTN_In_Service(3)



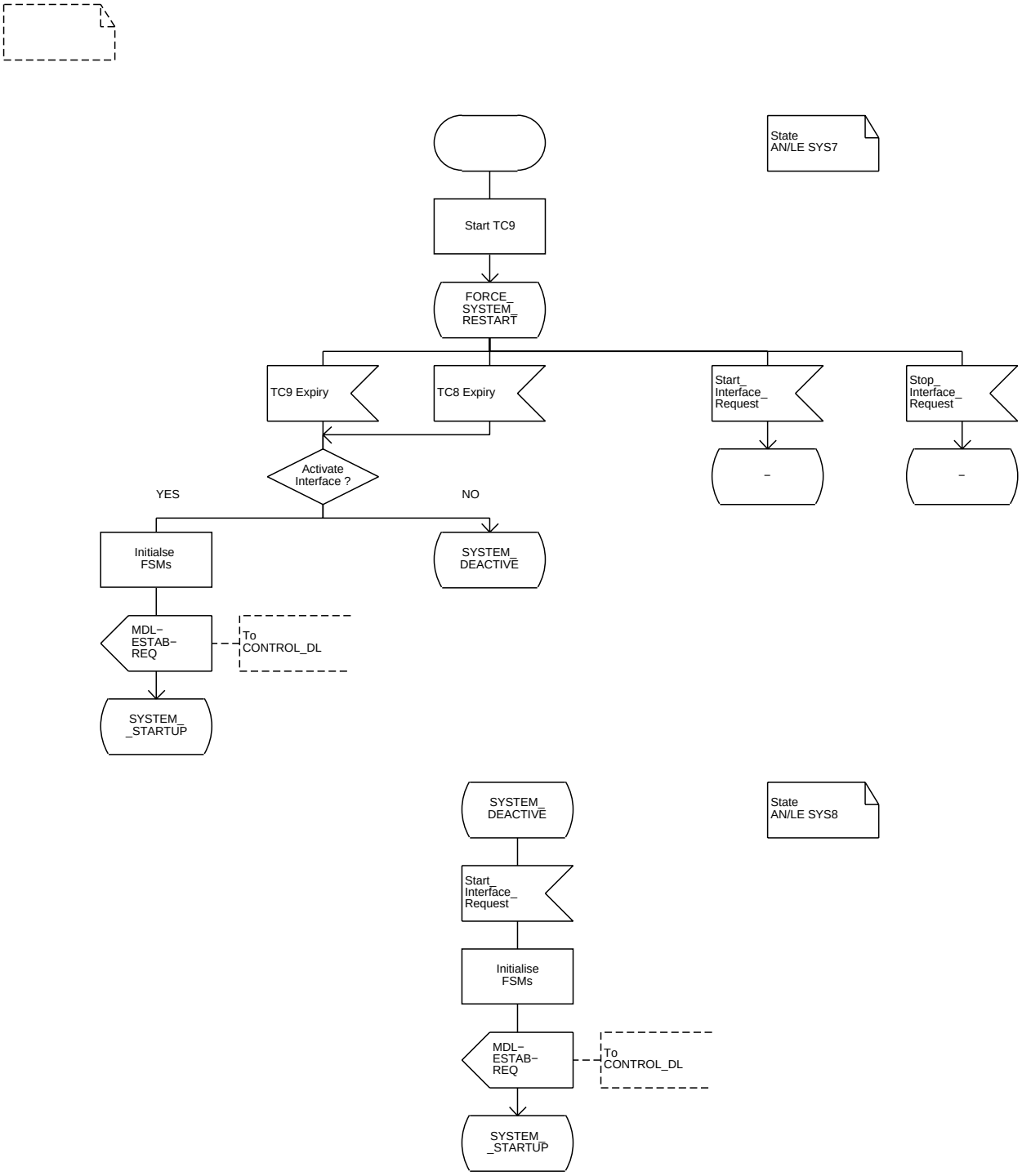
Process AN_PSTN_DL_MANAGEMENT

PDL3_4_PSTN_DL_Relased(3)

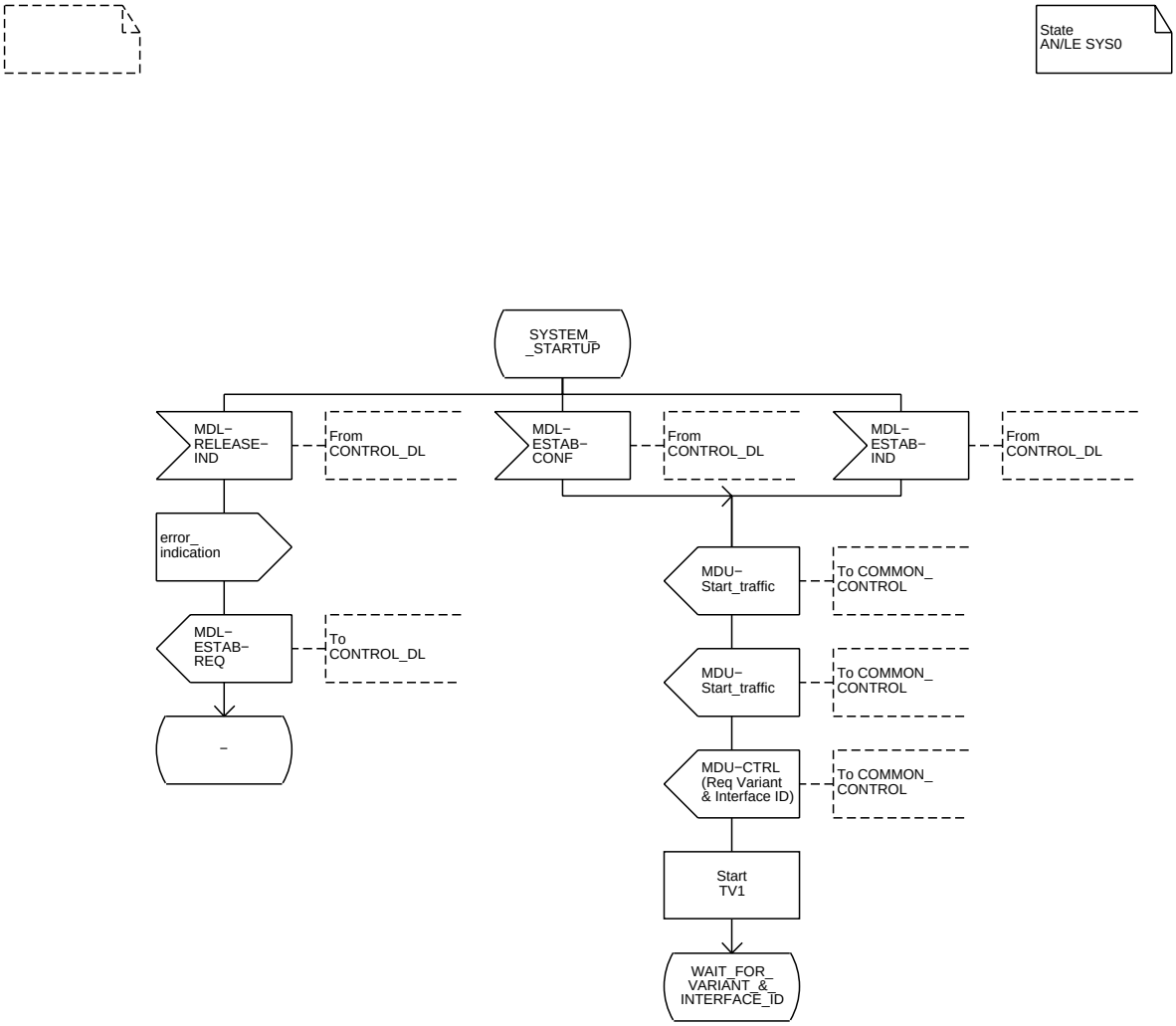




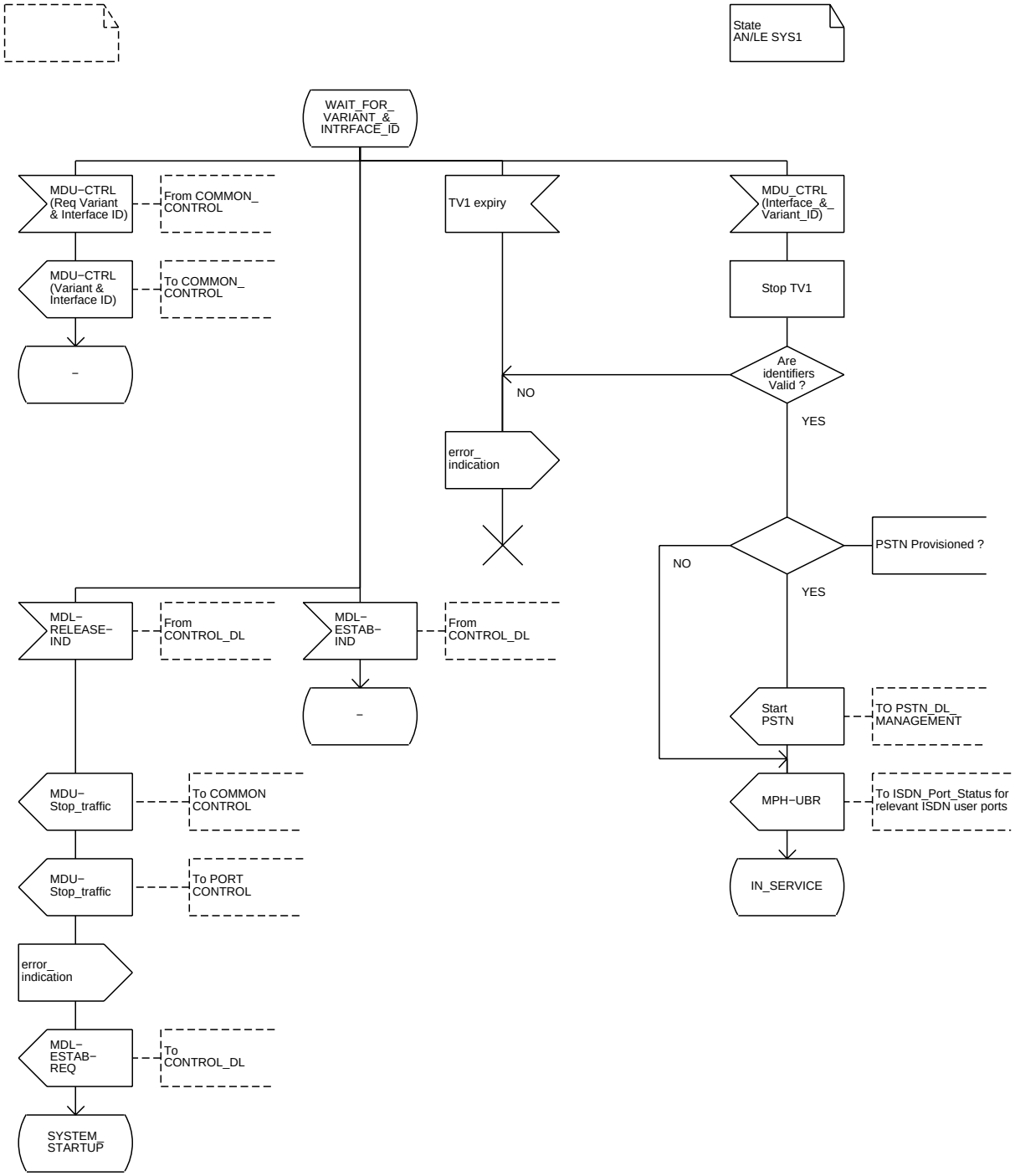
Process AN_SYSTEM_MANAGEMENT SYS7_8_Force_System_Restart(7)



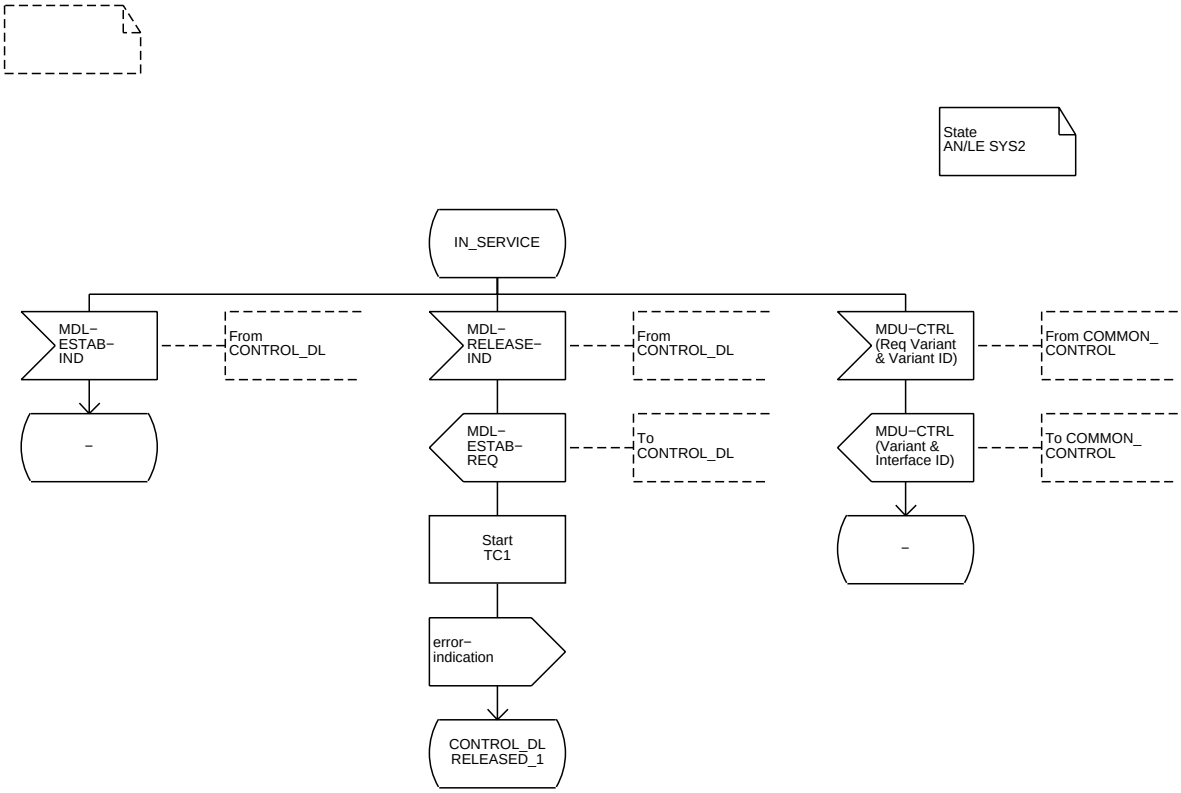
Process AN_SYSTEM_MANAGEMENT SYS0_System_Startup(7)



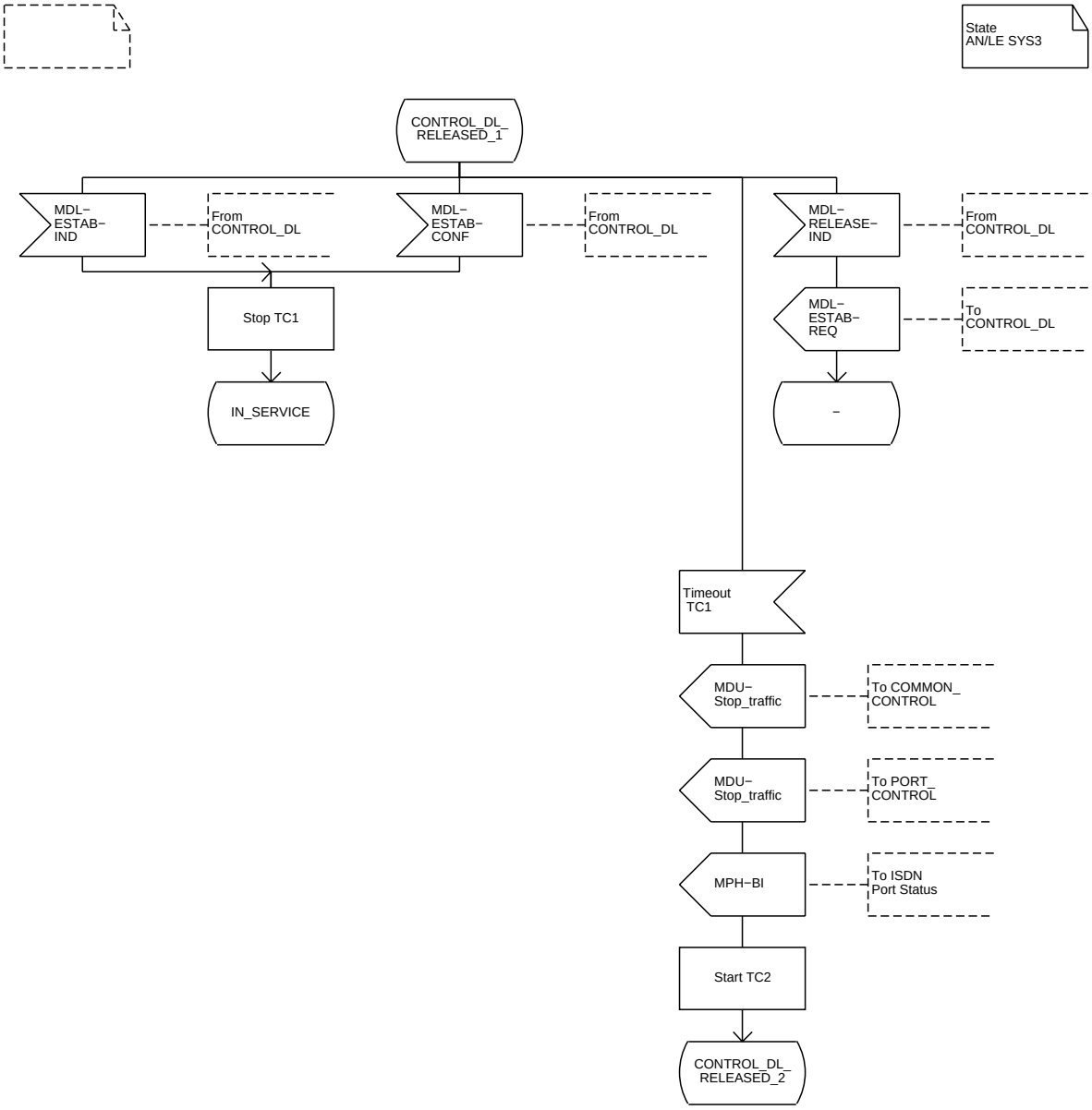
Process AN_SYSTEM_MANAGEMENT SYS1_Wait_Var_and_if_ID(7)

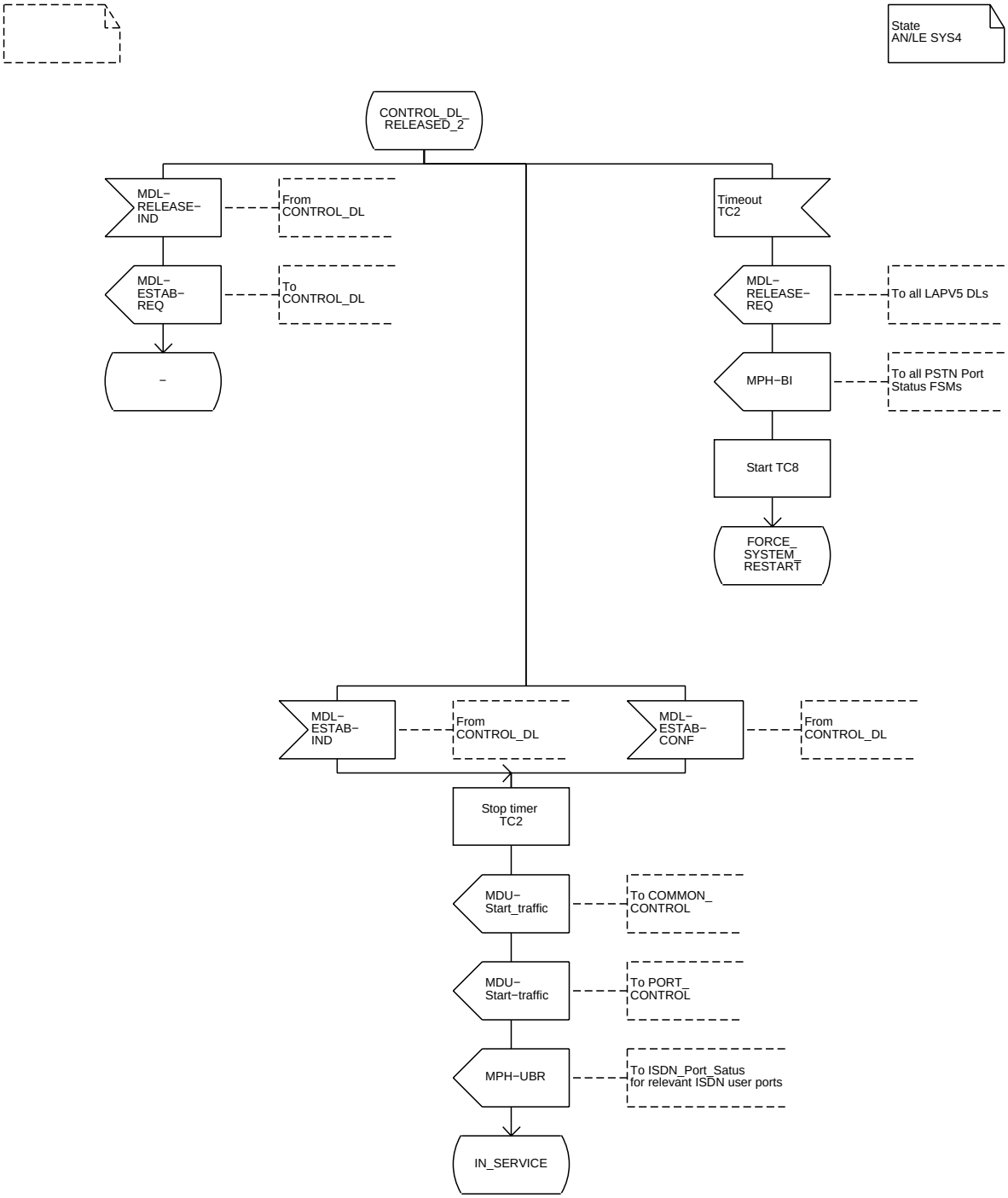


Process AN_SYSTEM_MANAGEMENT SYS2_In_Service(7)

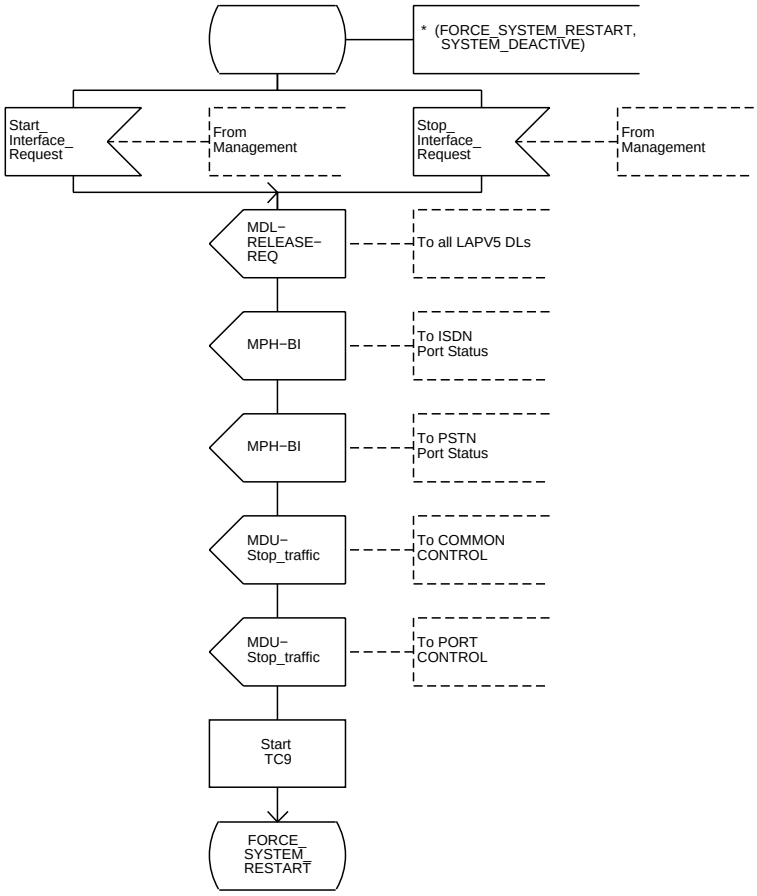


Process AN_SYSTEM_MANAGEMENT SYS3_Control_DL_Released1(7)

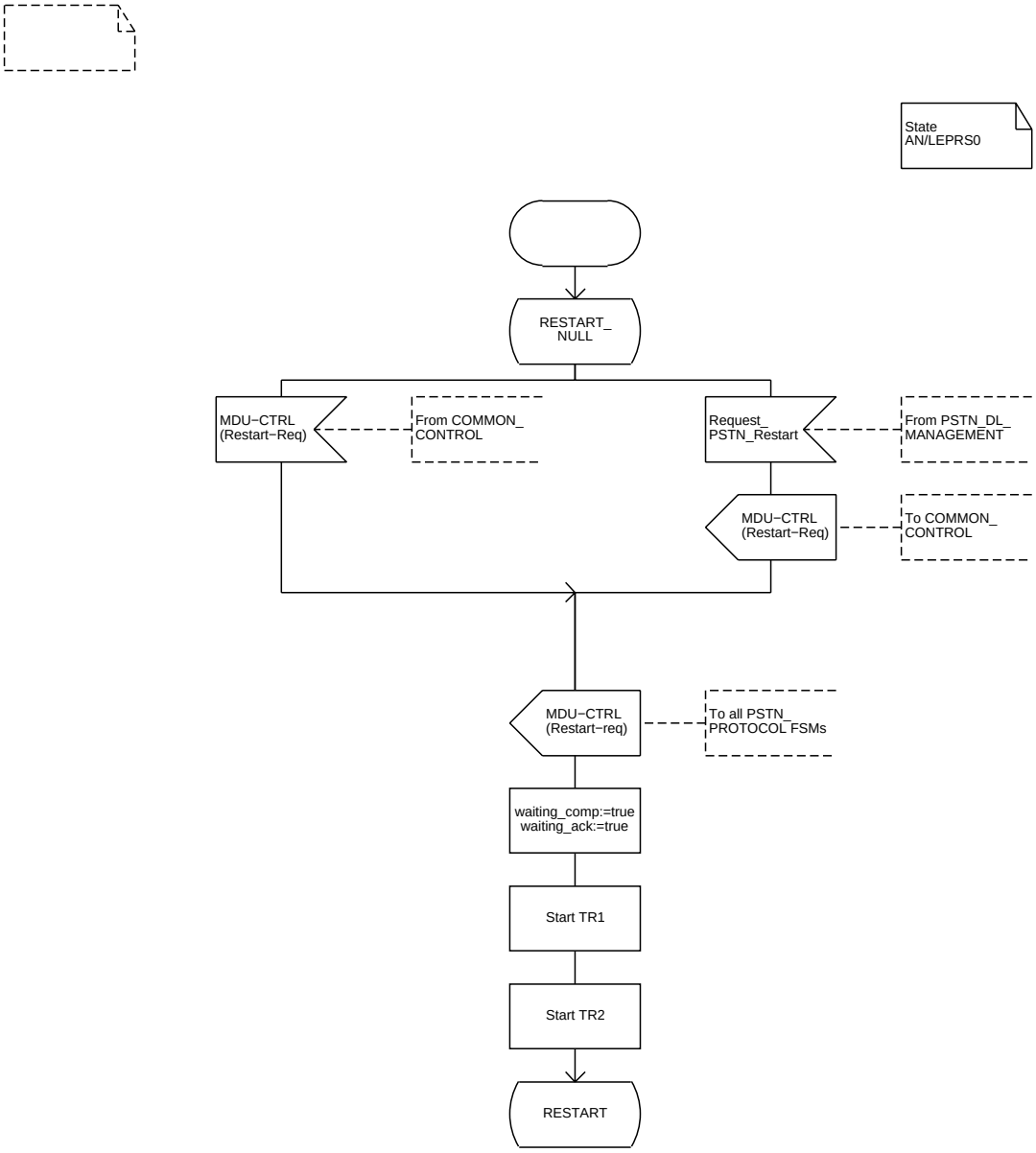



State
AN/LE SYS4
CONTROL_DL_
RELEASED_2
MDL−
RELEASE−
IND
From
CONTROL_DL
MDL−
ESTAB−
REQ
To
CONTROL_DL
−
Timeout
TC2
MDL−
RELEASE−
REQ
To all LAPV5 DLs
MPH−BI
To all PSTN Port
Status FSMs
Start TC8
FORCE_
SYSTEM_
RESTART
MDL−
ESTAB−
IND
From
CONTROL_DL
MDL−
ESTAB−
CONF
From
CONTROL_DL
Stop timer
TC2
MDU−
Start_traffic
To COMMON_
CONTROL
MDU−
Start−traffic
To PORT_
CONTROL
MPH−UBR
To ISDN_Port_Satus
for relevant ISDN user ports
IN_SERVICE

Process AN_SYSTEM_MANAGEMENT SYS_Any_State(7)

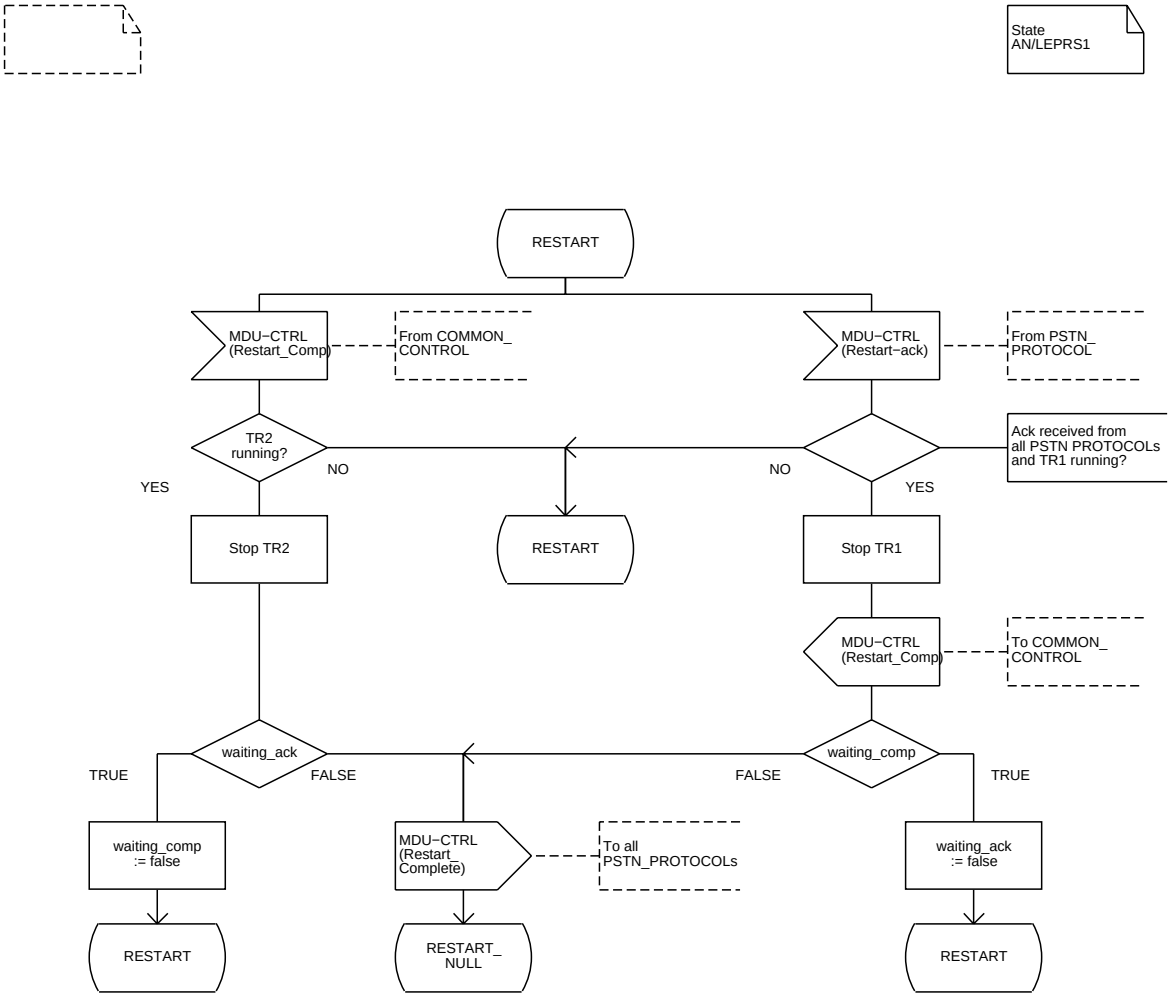


Process AN_PSTN_RESTART_MANAGEMENT PRS0_Restart_Null(3)

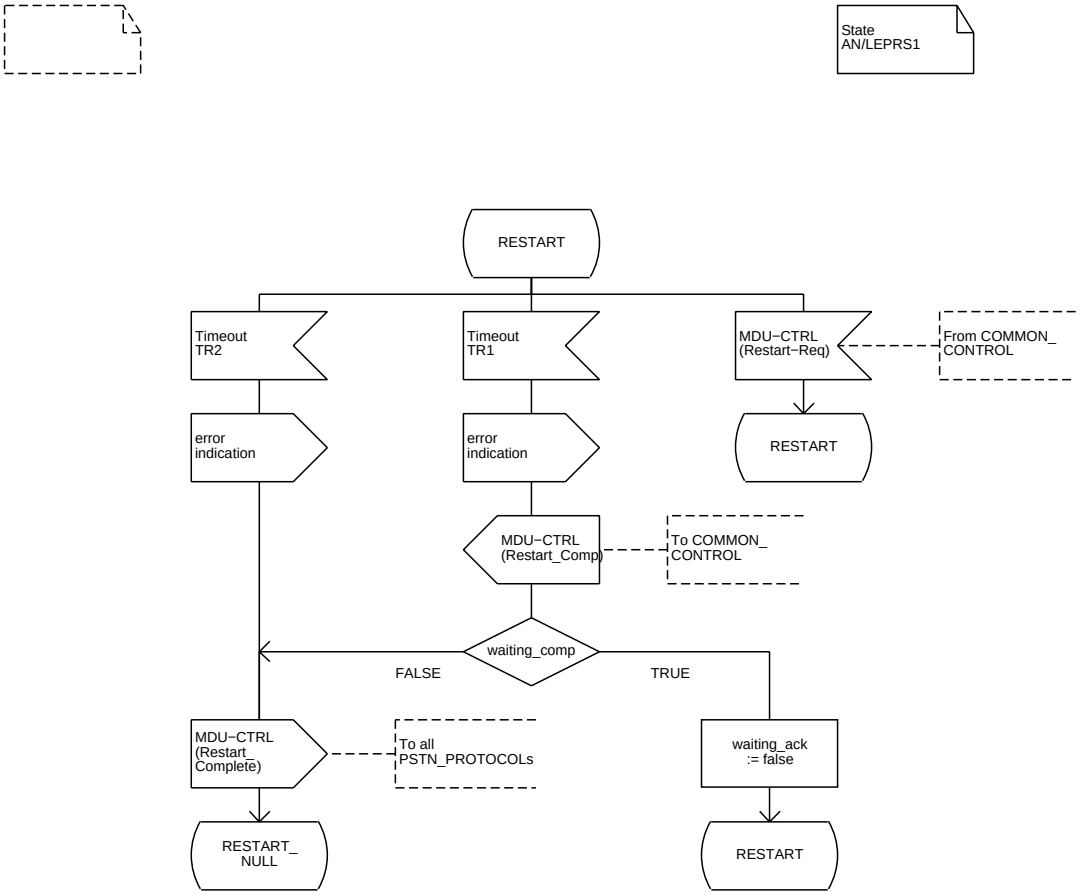


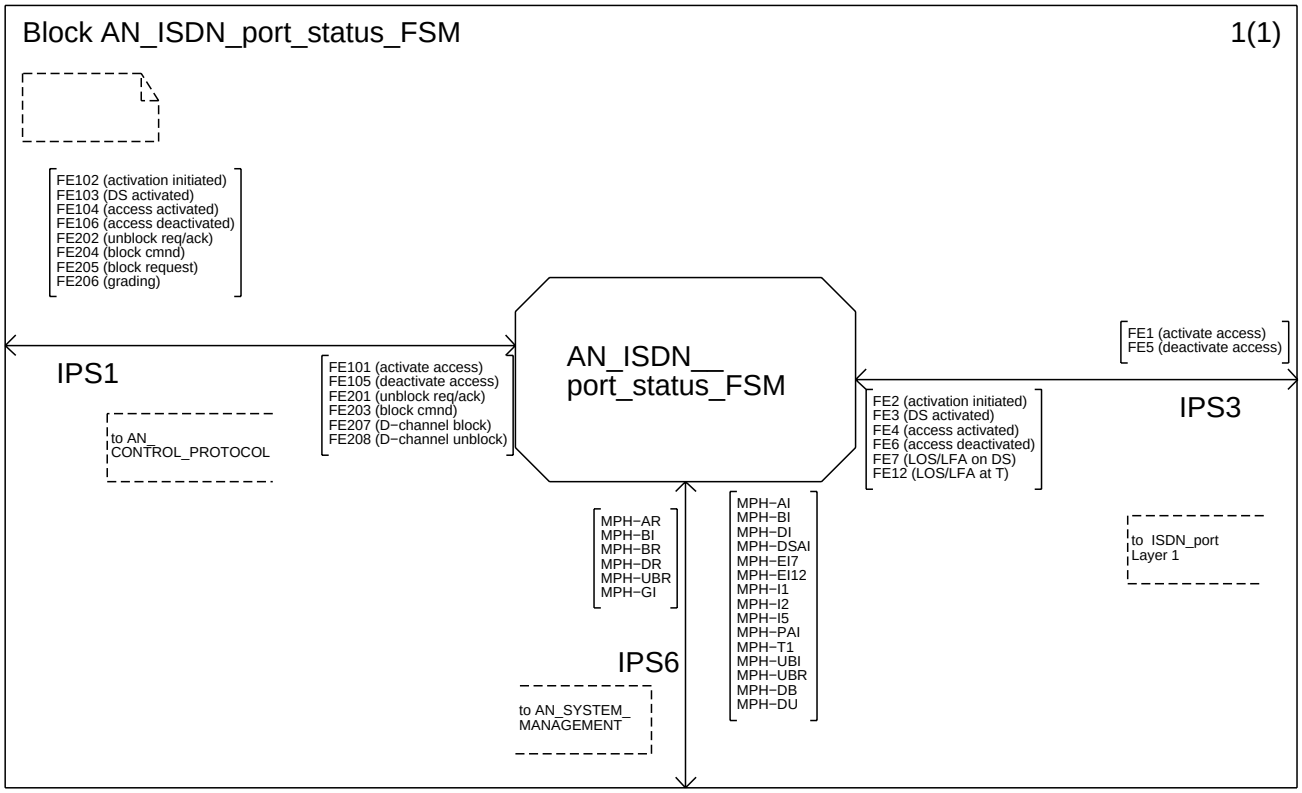
Process AN_PSTN_RESTART_MANAGEMENT

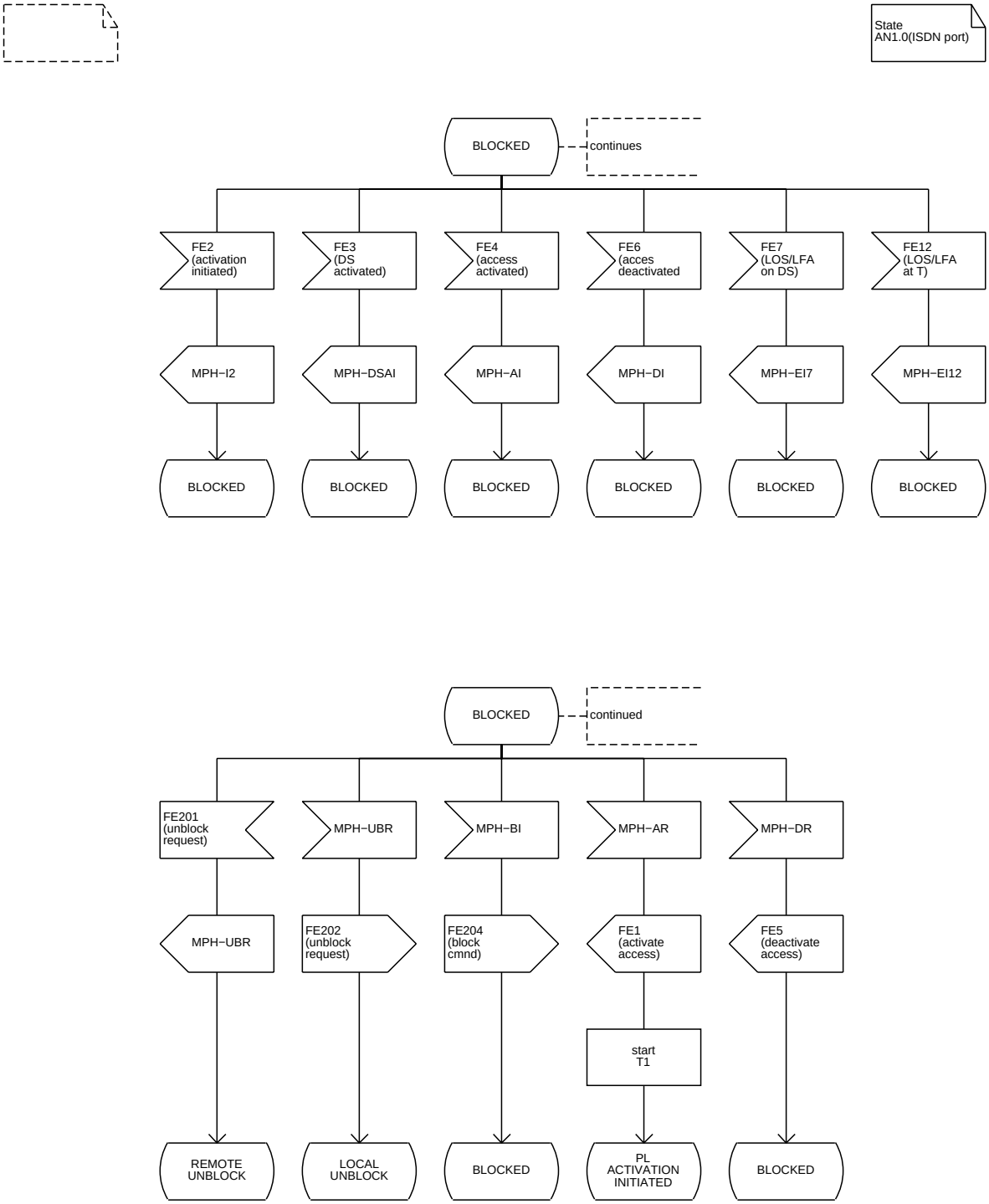
PRS1_Restart1(3)

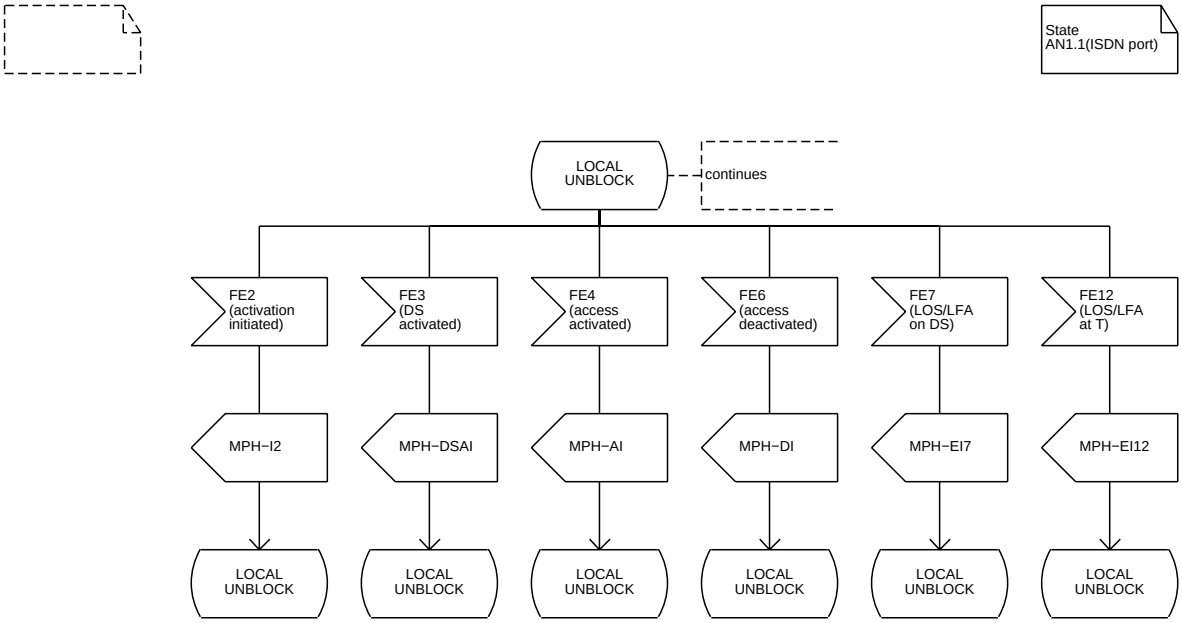


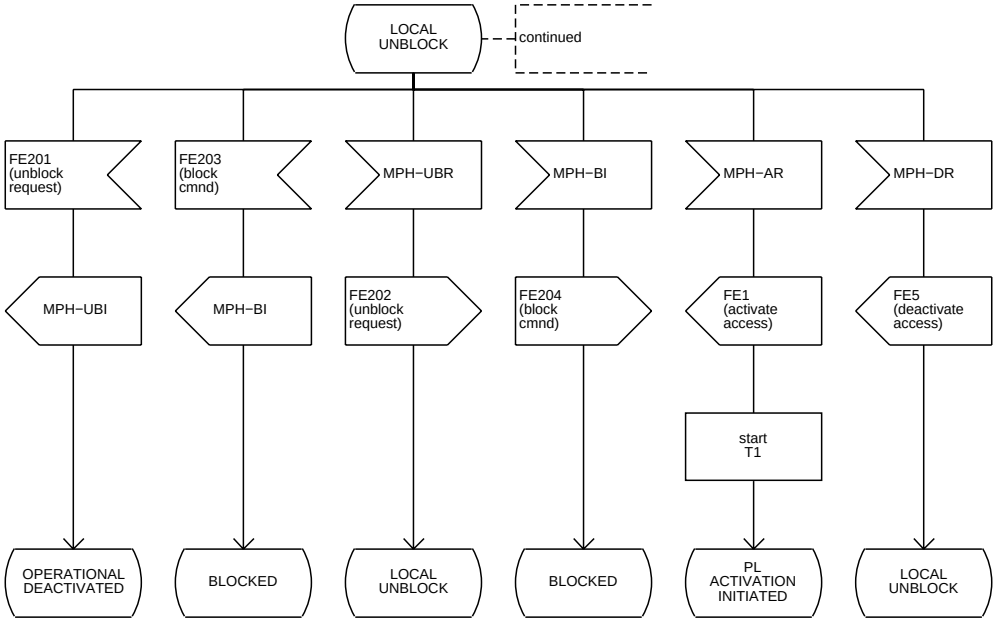
Process AN_PSTN_RESTART_MANAGEMENT PRS1_Restart2(3)

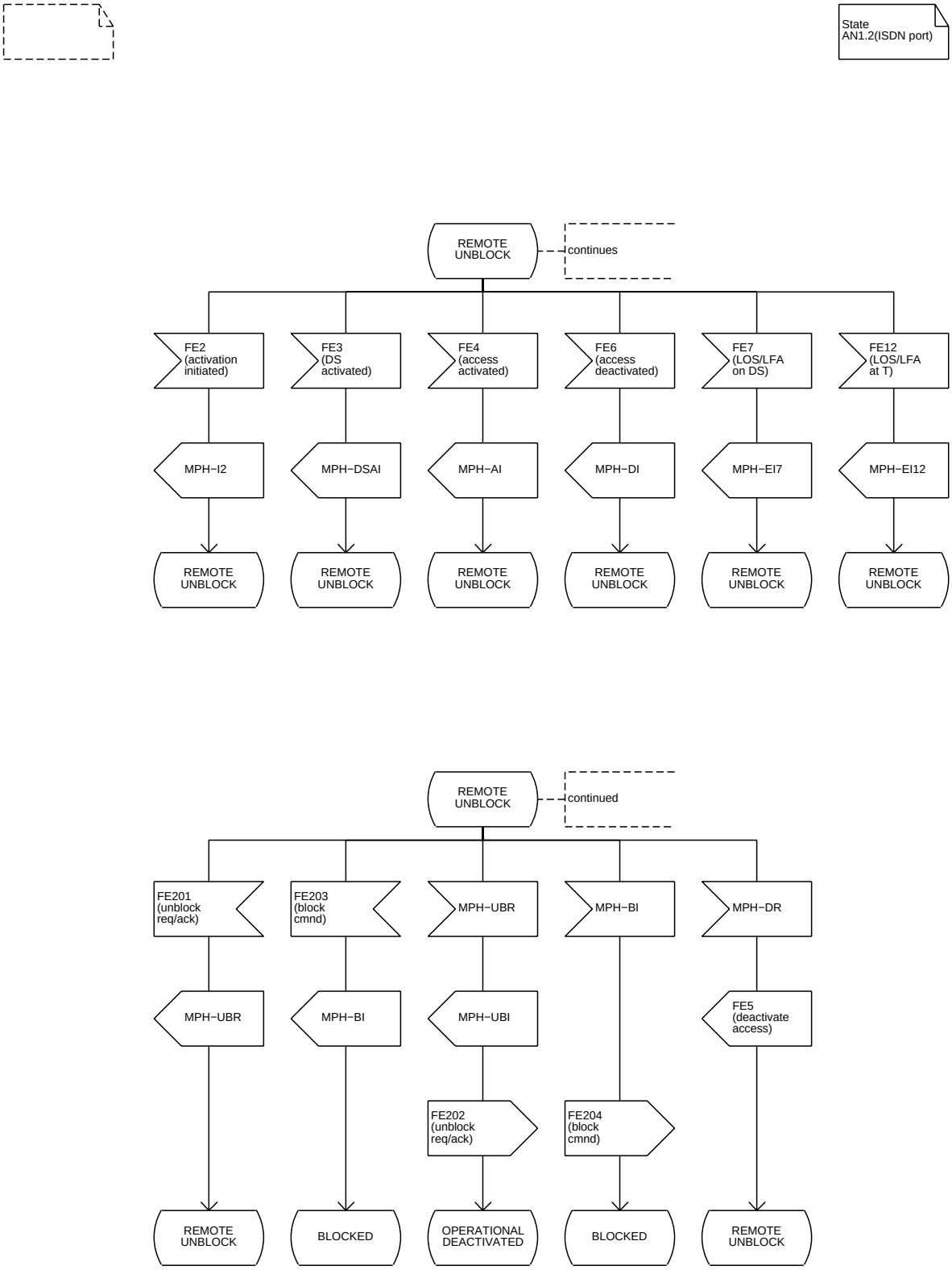


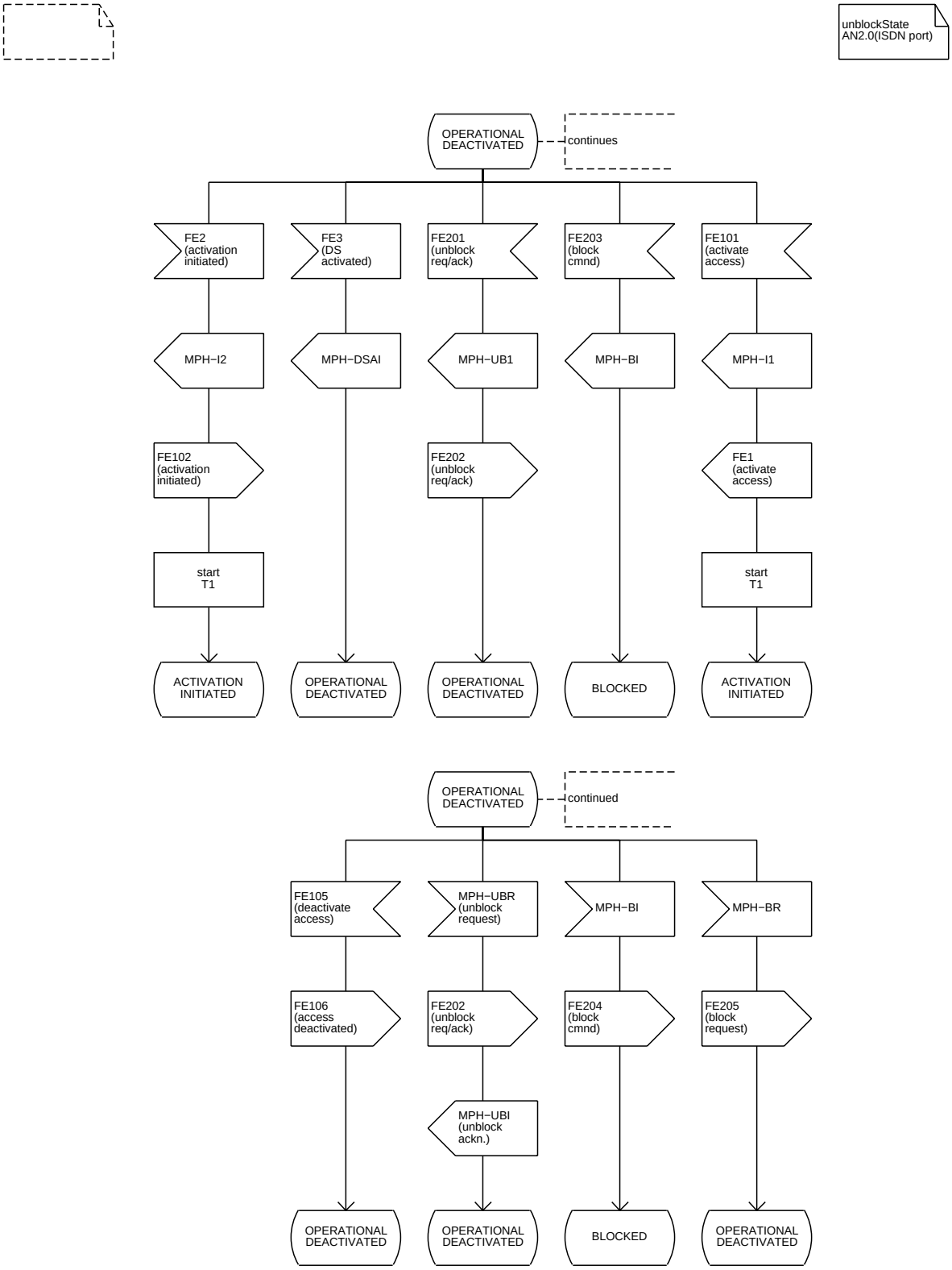

Block AN_ISDN_port_status_FSM
1(1)
FE102 (activation initiated)
FE103 (DS activated)
FE104 (access activated)
FE106 (access deactivated)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE206 (grading)
IPS1
to AN_
CONTROL_PROTOCOL
FE101 (activate access)
FE105 (deactivate access)
FE201 (unblock req/ack)
FE203 (block cmnd)
FE207 (D−channel block)
FE208 (D−channel unblock)
AN_ISDN__
port_status_FSM
FE1 (activate access)
FE5 (deactivate access)
IPS3
FE2 (activation initiated)
FE3 (DS activated)
FE4 (access activated)
FE6 (access deactivated)
FE7 (LOS/LFA on DS)
FE12 (LOS/LFA at T)
to ISDN_port
Layer 1
MPH−AR
MPH−BI
MPH−BR
MPH−DR
MPH−UBR
MPH−GI
MPH−AI
MPH−BI
MPH−DI
MPH−DSAI
MPH−EI7
MPH−EI12
MPH−I1
MPH−I2
MPH−I5
MPH−PAI
MPH−T1
MPH−UBI
MPH−UBR
MPH−DB
MPH−DU
IPS6
to AN_SYSTEM_
MANAGEMENT

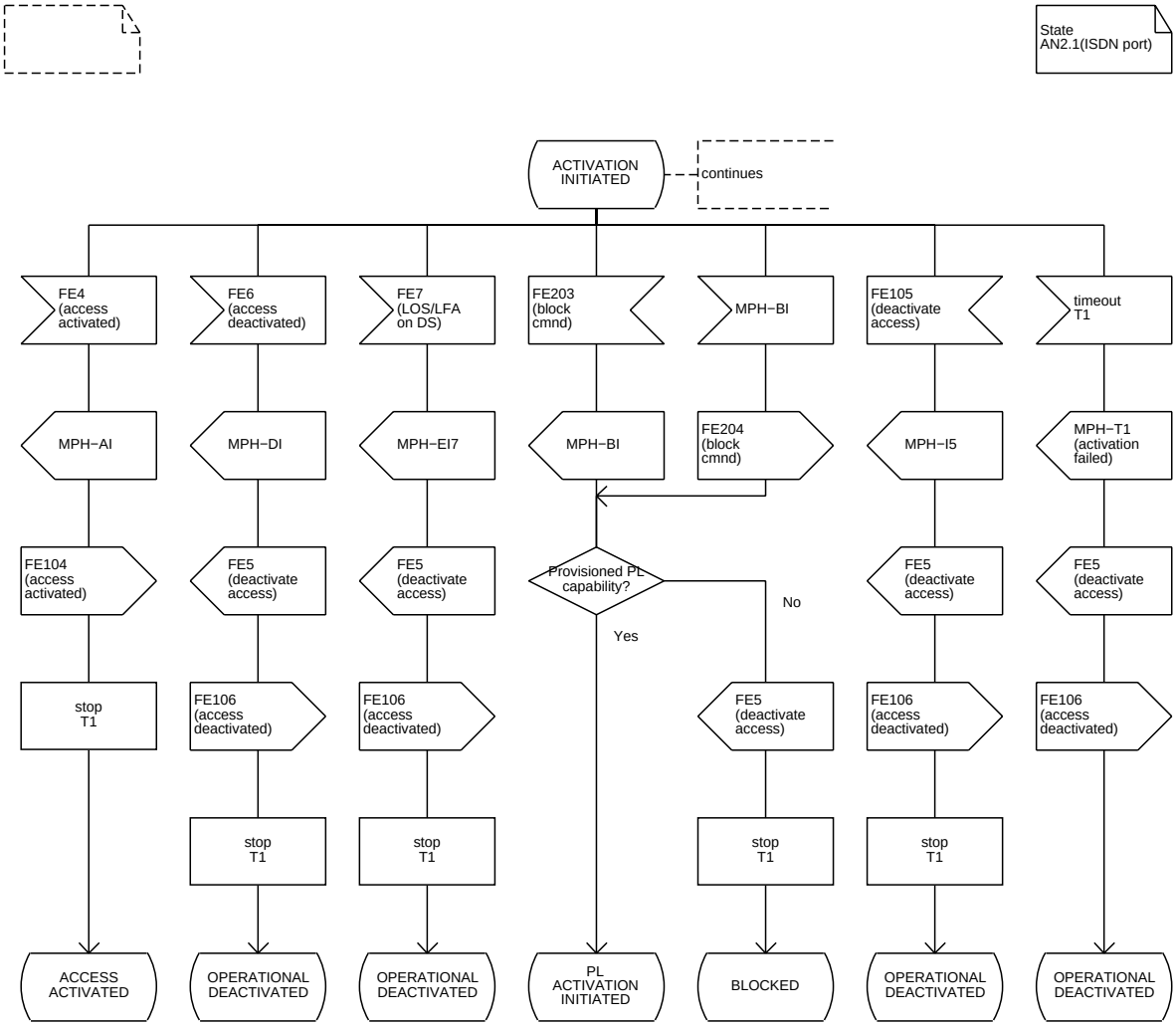

State
AN1.0(ISDN port)
BLOCKED
continues
FE2
(activation
initiated)
FE3
(DS
activated)
FE4
(access
activated)
FE6
(acces
deactivated
FE7
(LOS/LFA
on DS)
FE12
(LOS/LFA
at T)
MPH−I2
MPH−DSAI
MPH−AI
MPH−DI
MPH−EI7
MPH−EI12
BLOCKED
BLOCKED
BLOCKED
BLOCKED
BLOCKED
BLOCKED
BLOCKED
continued
FE201
(unblock
request)
MPH−UBR
MPH−BI
MPH−AR
MPH−DR
MPH−UBR
FE202
(unblock
request)
FE204
(block
cmnd)
FE1
(activate
access)
FE5
(deactivate
access)
start
T1
REMOTE
UNBLOCK
LOCAL
UNBLOCK
BLOCKED
PL
ACTIVATION
INITIATED
BLOCKED

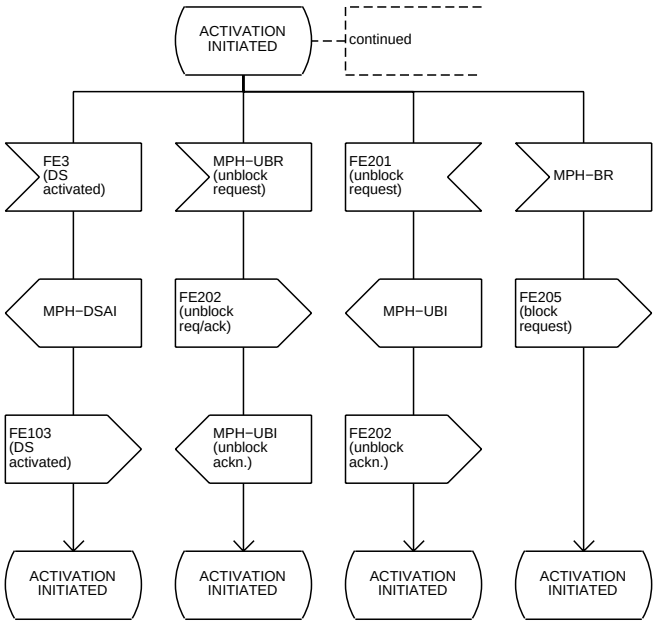

State
AN1.1(ISDN port)
LOCAL
UNBLOCK
continues
FE2
(activation
initiated)
FE3
(DS
activated)
FE4
(access
activated)
FE6
(access
deactivated)
FE7
(LOS/LFA
on DS)
FE12
(LOS/LFA
at T)
MPH−I2
MPH−DSAI
MPH−AI
MPH−DI
MPH−EI7
MPH−EI12
LOCAL
UNBLOCK
LOCAL
UNBLOCK
LOCAL
UNBLOCK
LOCAL
UNBLOCK
LOCAL
UNBLOCK
LOCAL
UNBLOCK

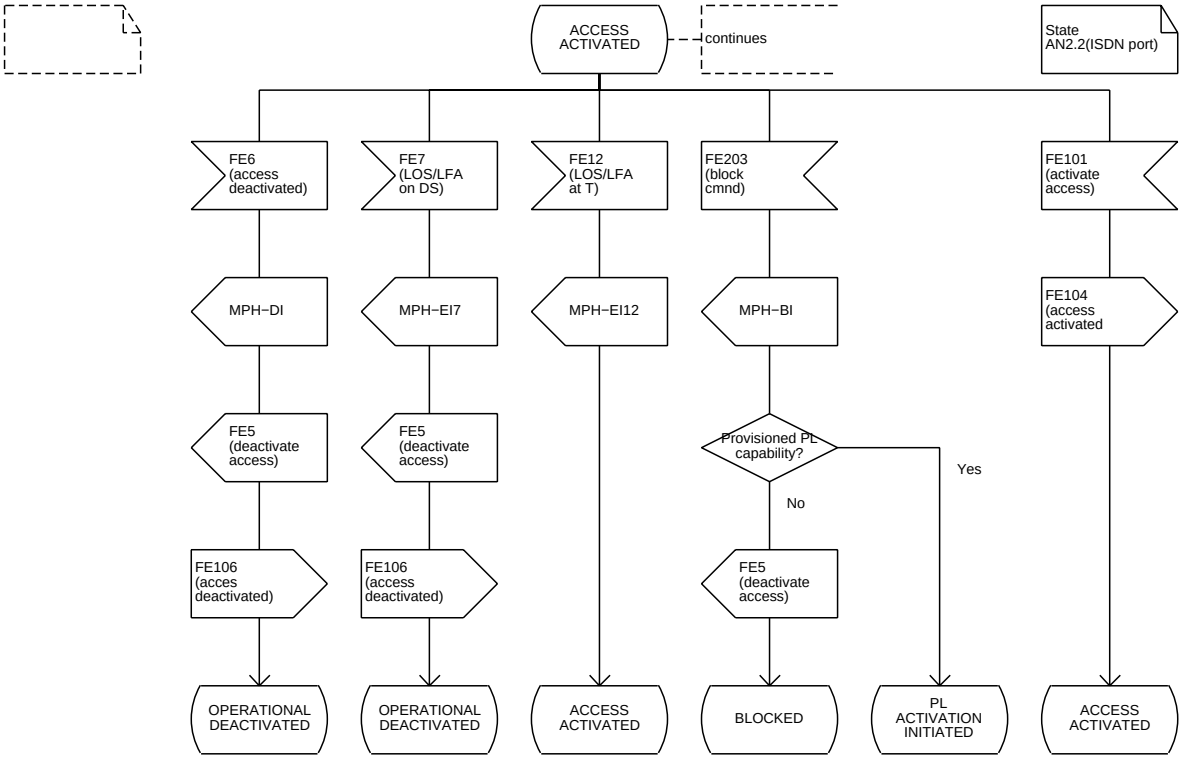

LOCAL
UNBLOCK
continued
FE201
(unblock
request)
FE203
(block
cmnd)
MPH−UBR
MPH−BI
MPH−AR
MPH−DR
MPH−UBI
MPH−BI
FE202
(unblock
request)
FE204
(block
cmnd)
FE1
(activate
access)
FE5
(deactivate
access)
start
T1
OPERATIONAL
DEACTIVATED
BLOCKED
LOCAL
UNBLOCK
BLOCKED
PL
ACTIVATION
INITIATED
LOCAL
UNBLOCK

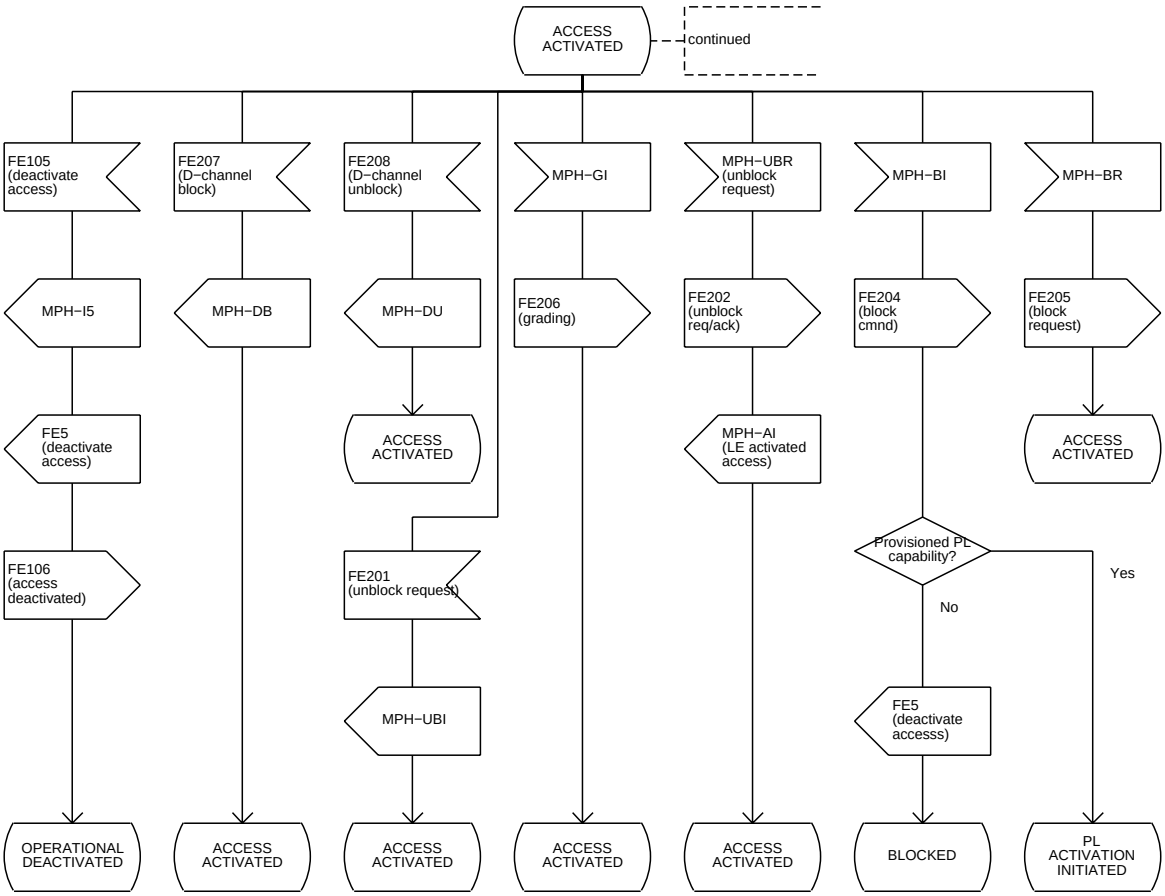

State
AN1.2(ISDN port)
REMOTE UNBLOCK
continues
FE2 (activation initiated)
FE3 (DS activated)
FE4 (access activated)
FE6 (access deactivated)
FE7 (LOS/LFA on DS)
FE12 (LOS/LFA at T)
MPH−I2
MPH−DSAI
MPH−AI
MPH−DI
MPH−EI7
MPH−EI12
REMOTE UNBLOCK
REMOTE UNBLOCK
REMOTE UNBLOCK
REMOTE UNBLOCK
REMOTE UNBLOCK
REMOTE UNBLOCK
REMOTE UNBLOCK
continued
FE201 (unblock req/ack)
FE203 (block cmnd)
MPH−UBR
MPH−BI
MPH−DR
MPH−UBR
MPH−BI
MPH−UBI
FE5 (deactivate access)
FE202 (unblock req/ack)
FE204 (block cmnd)
REMOTE UNBLOCK
BLOCKED
OPERATIONAL DEACTIVATED
BLOCKED
REMOTE UNBLOCK

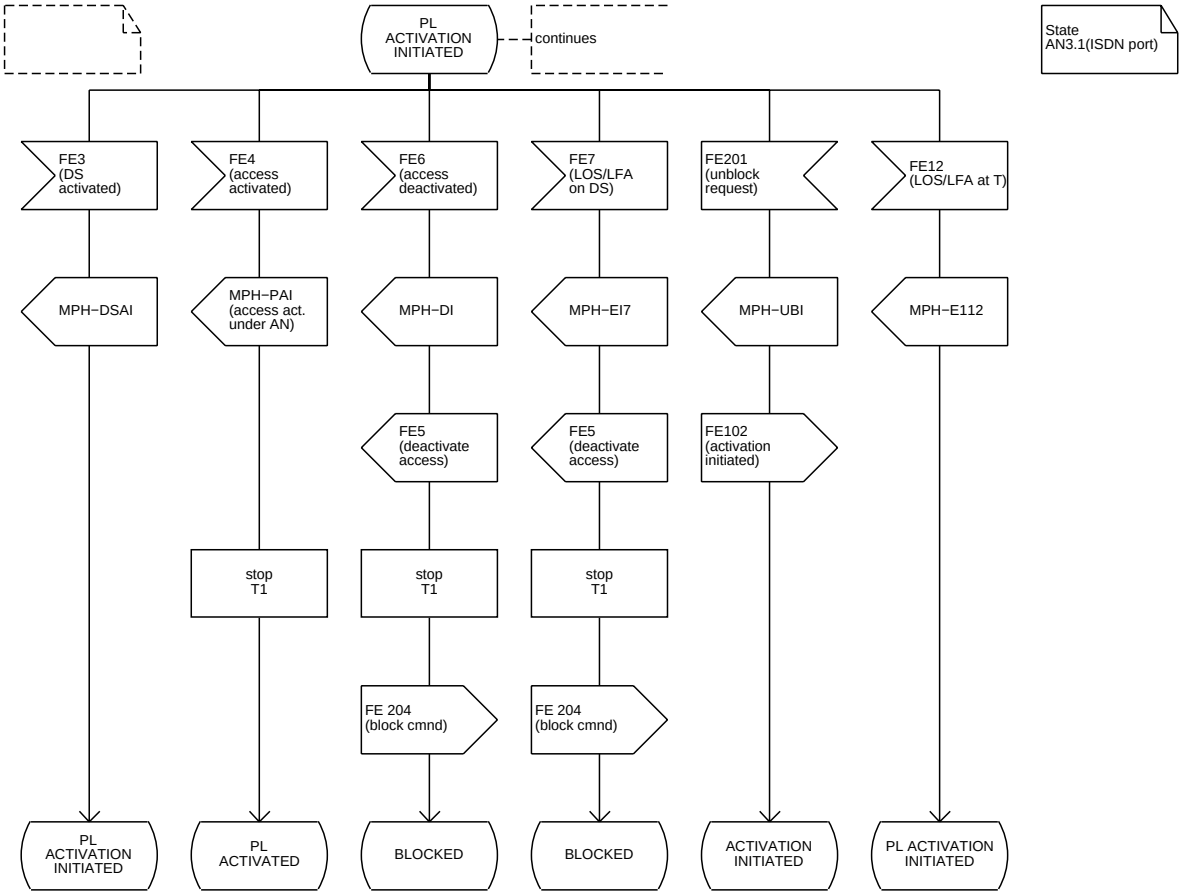

unblockState
AN2.0(ISDN port)
OPERATIONAL DEACTIVATED
continues
FE2 (activation initiated)
FE3 (DS activated)
FE201 (unblock req/ack)
FE203 (block cmnd)
FE101 (activate access)
MPH−I2
MPH−DSAI
MPH−UB1
MPH−BI
MPH−I1
FE102 (activation initiated)
FE202 (unblock req/ack)
FE1 (activate access)
start T1
start T1
ACTIVATION INITIATED
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED
BLOCKED
ACTIVATION INITIATED
OPERATIONAL DEACTIVATED
continued
FE105 (deactivate access)
MPH−UBR (unblock request)
MPH−BI
MPH−BR
FE106 (access deactivated)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
MPH−UBI (unblock ackn.)
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED
BLOCKED
OPERATIONAL DEACTIVATED

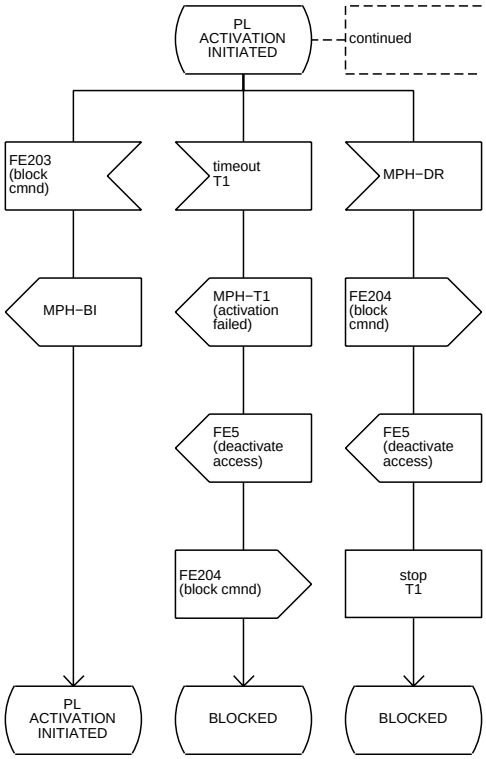

State
AN2.1(ISDN port)
ACTIVATION INITIATED
continues
FE4 (access activated)
FE6 (access deactivated)
FE7 (LOS/LFA on DS)
FE203 (block cmnd)
MPH−BI
FE105 (deactivate access)
timeout T1
MPH−AI
MPH−DI
MPH−EI7
MPH−BI
FE204 (block cmnd)
MPH−I5
MPH−T1 (activation failed)
FE104 (access activated)
FE5 (deactivate access)
FE5 (deactivate access)
Provisioned PL capability?
No
Yes
FE5 (deactivate access)
FE5 (deactivate access)
stop T1
FE106 (access deactivated)
FE106 (access deactivated)
FE5 (deactivate access)
FE106 (access deactivated)
FE106 (access deactivated)
stop T1
stop T1
stop T1
stop T1
ACCESS ACTIVATED
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED
PL ACTIVATION INITIATED
BLOCKED
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED

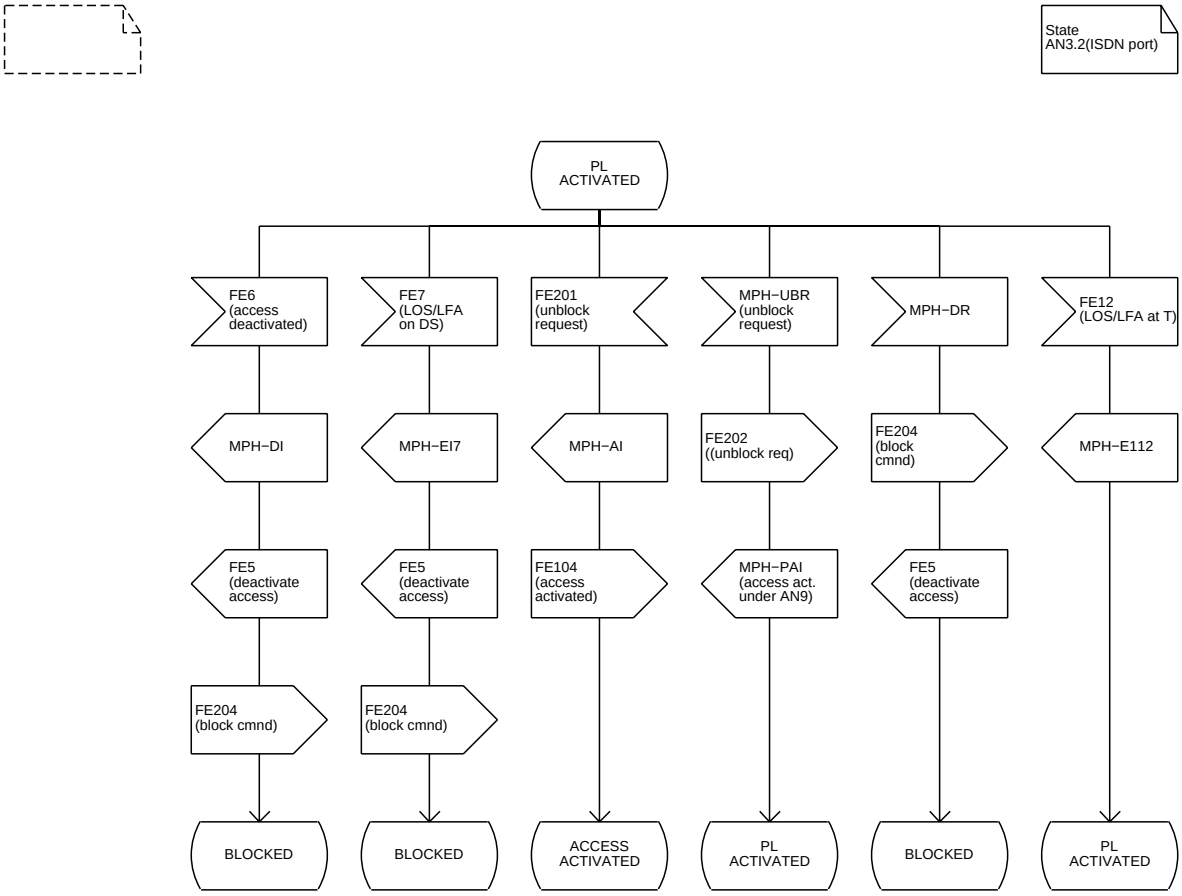

ACTIVATION INITIATED
continued
FE3 (DS activated)
MPH−UBR (unblock request)
FE201 (unblock request)
MPH−BR
MPH−DSAI
FE202 (unblock req/ack)
MPH−UBI
FE205 (block request)
FE103 (DS activated)
MPH−UBI (unblock ackn.)
FE202 (unblock ackn.)
ACTIVATION INITIATED
ACTIVATION INITIATED
ACTIVATION INITIATED
ACTIVATION INITIATED

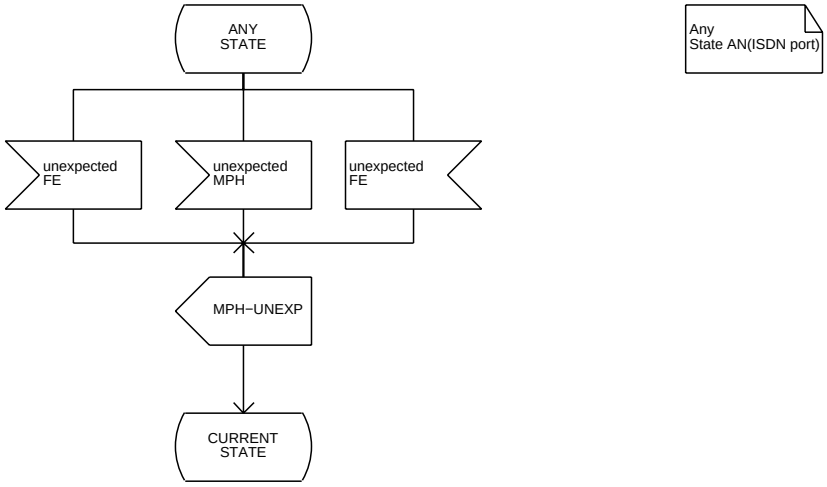

ACCESS ACTIVATED
continues
State AN2.2(ISDN port)
FE6 (access deactivated)
FE7 (LOS/LFA on DS)
FE12 (LOS/LFA at T)
FE203 (block cmnd)
FE101 (activate access)
MPH−DI
MPH−EI7
MPH−EI12
MPH−BI
FE104 (access activated
FE5 (deactivate access)
FE5 (deactivate access)
Provisioned PL capability?
Yes
No
FE106 (acces deactivated)
FE106 (access deactivated)
FE5 (deactivate access)
OPERATIONAL DEACTIVATED
OPERATIONAL DEACTIVATED
ACCESS ACTIVATED
BLOCKED
PL ACTIVATION INITIATED
ACCESS ACTIVATED

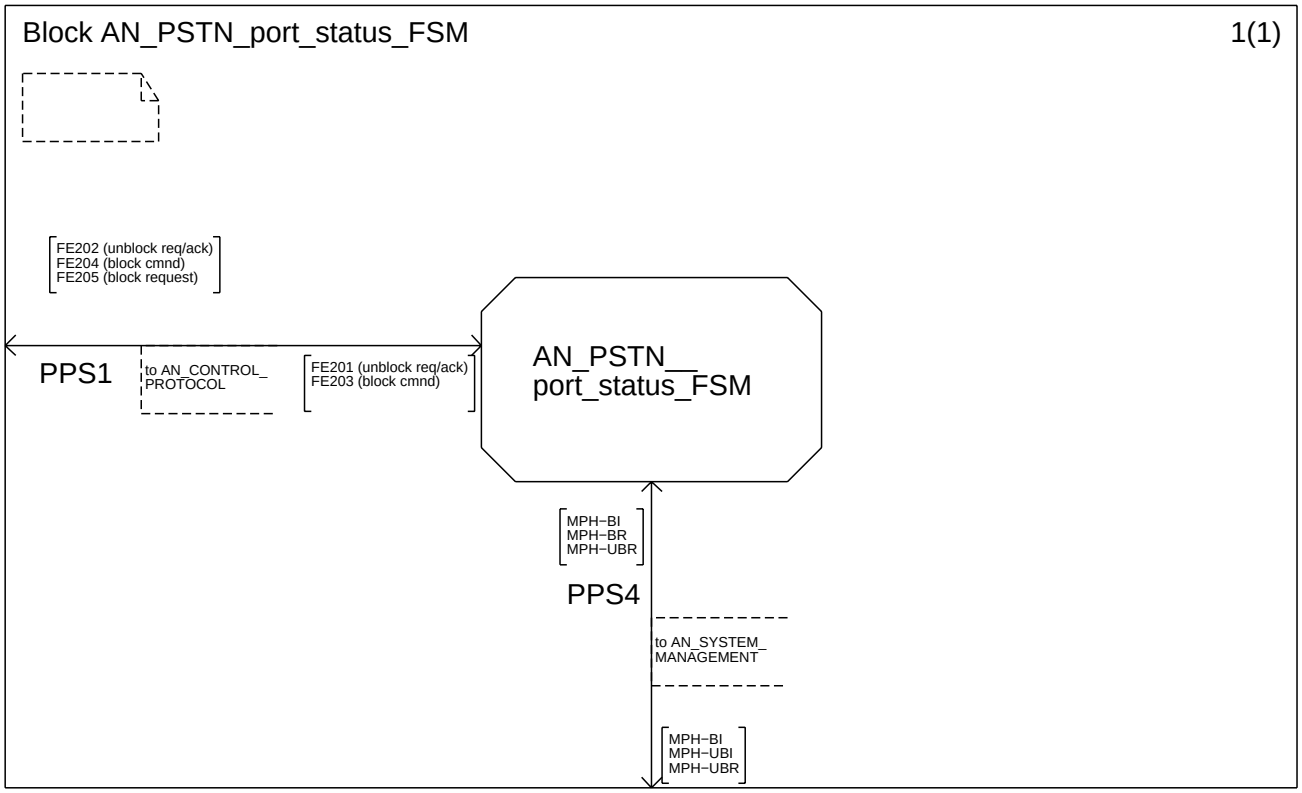

ACCESS ACTIVATED
continued
FE105 (deactivate access)
FE207 (D−channel block)
FE208 (D−channel unblock)
MPH−GI
MPH−UBR (unblock request)
MPH−BI
MPH−BR
MPH−I5
MPH−DB
MPH−DU
FE206 (grading)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE5 (deactivate access)
ACCESS ACTIVATED
MPH−AI (LE activated access)
ACCESS ACTIVATED
Provisioned PL capability?
Yes
No
FE106 (access deactivated)
FE201 (unblock request)
MPH−UBI
FE5 (deactivate accesss)
OPERATIONAL DEACTIVATED
ACCESS ACTIVATED
ACCESS ACTIVATED
ACCESS ACTIVATED
ACCESS ACTIVATED
BLOCKED
PL ACTIVATION INITIATED

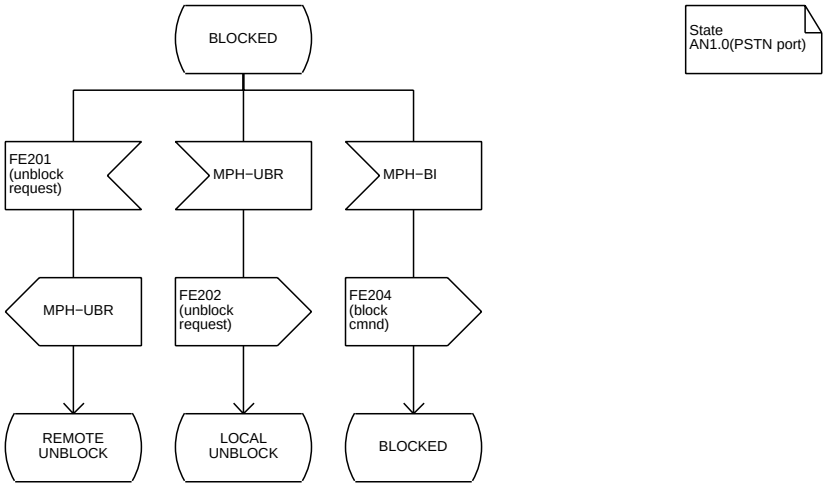

PL ACTIVATION INITIATED
continues
State AN3.1(ISDN port)
FE3 (DS activated)
FE4 (access activated)
FE6 (access deactivated)
FE7 (LOS/LFA on DS)
FE201 (unblock request)
FE12 (LOS/LFA at T)
MPH−DSAI
MPH−PAI (access act. under AN)
MPH−DI
MPH−EI7
MPH−UBI
MPH−E112
FE5 (deactivate access)
FE5 (deactivate access)
FE102 (activation initiated)
stop T1
stop T1
stop T1
FE 204 (block cmnd)
FE 204 (block cmnd)
PL ACTIVATION INITIATED
PL ACTIVATED
BLOCKED
BLOCKED
ACTIVATION INITIATED
PL ACTIVATION INITIATED

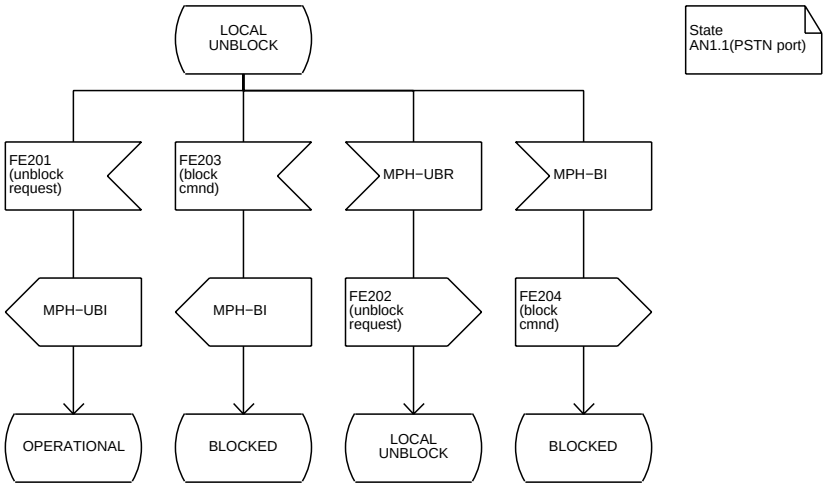

PL ACTIVATION INITIATED
continued
FE203 (block cmnd)
timeout T1
MPH−DR
MPH−BI
MPH−T1 (activation failed)
FE204 (block cmnd)
FE5 (deactivate access)
FE5 (deactivate access)
FE204 (block cmnd)
stop T1
PL ACTIVATION INITIATED
BLOCKED
BLOCKED

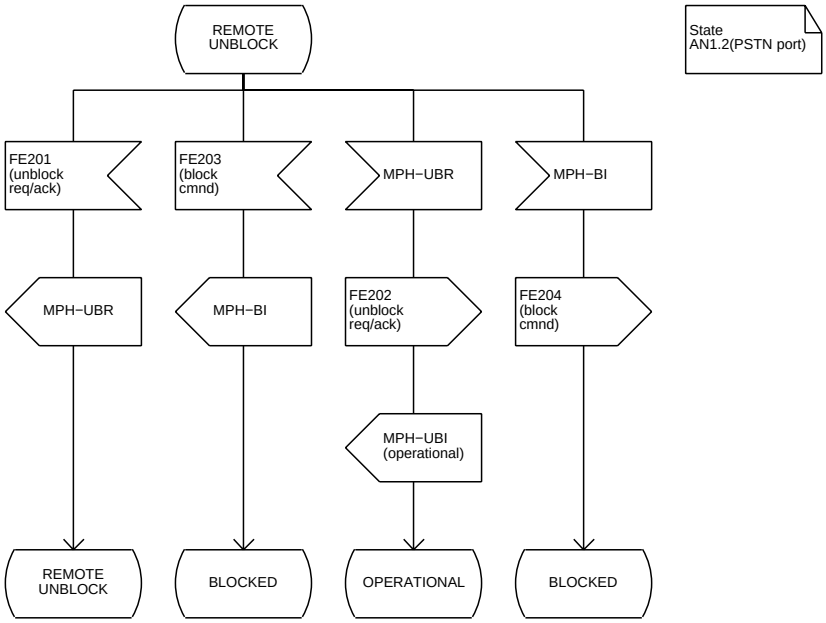

State
AN3.2(ISDN port)
PL
ACTIVATED
FE6
(access
deactivated)
FE7
(LOS/LFA
on DS)
FE201
(unblock
request)
MPH−UBR
(unblock
request)
MPH−DR
FE12
(LOS/LFA at T)
MPH−DI
MPH−EI7
MPH−AI
FE202
((unblock req)
FE204
(block
cmnd)
MPH−E112
FE5
(deactivate
access)
FE5
(deactivate
access)
FE104
(access
activated)
MPH−PAI
(access act.
under AN9)
FE5
(deactivate
access)
FE204
(block cmnd)
FE204
(block cmnd)
BLOCKED
BLOCKED
ACCESS
ACTIVATED
PL
ACTIVATED
BLOCKED
PL
ACTIVATED

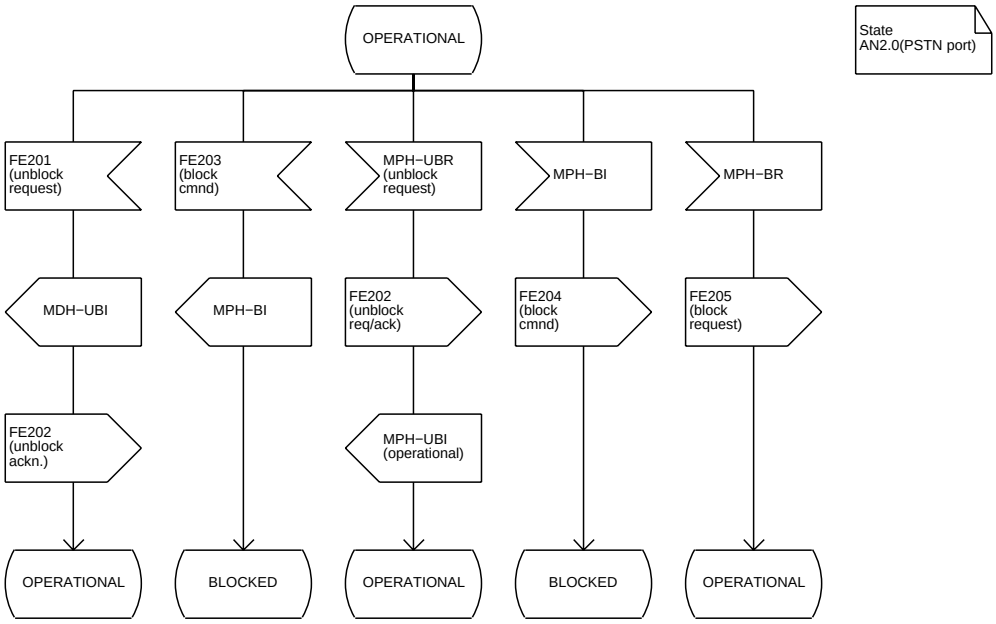

ANY
STATE
Any
State AN(ISDN port)
unexpected
FE
unexpected
MPH
unexpected
FE
MPH−UNEXP
CURRENT
STATE

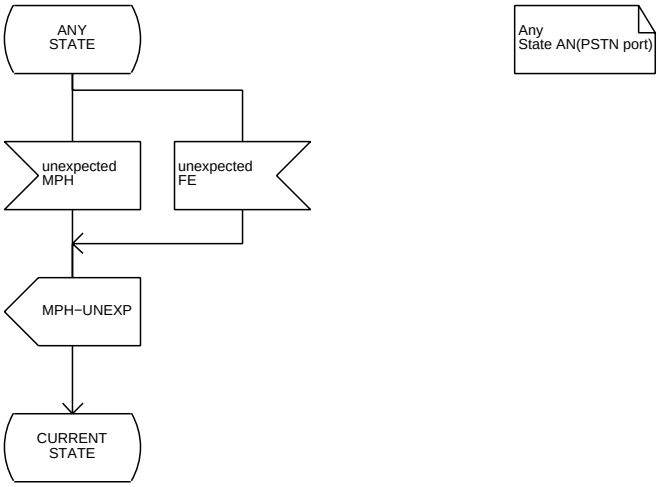

Block AN_PSTN_port_status_FSM
1(1)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
PPS1
to AN_CONTROL_
PROTOCOL
FE201 (unblock req/ack)
FE203 (block cmnd)
AN_PSTN__
port_status_FSM
MPH−BI
MPH−BR
MPH−UBR
PPS4
to AN_SYSTEM_
MANAGEMENT
MPH−BI
MPH−UBI
MPH−UBR

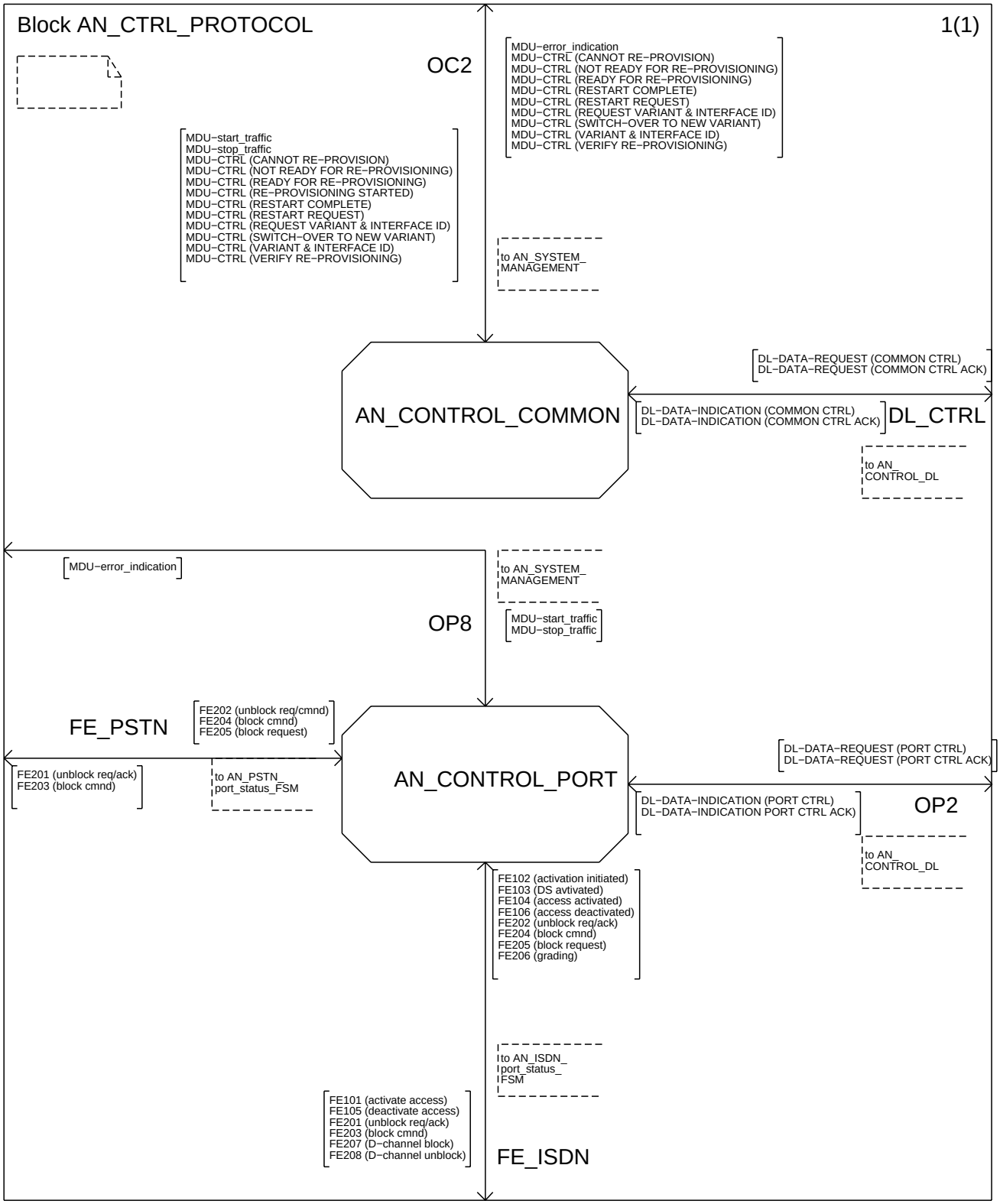

BLOCKED
State
AN1.0(PSTN port)
FE201
(unblock
request)
MPH−UBR
MPH−BI
MPH−UBR
FE202
(unblock
request)
FE204
(block
cmnd)
REMOTE
UNBLOCK
LOCAL
UNBLOCK
BLOCKED


LOCAL
UNBLOCK
State
AN1.1(PSTN port)
FE201
(unblock
request)
FE203
(block
cmnd)
MPH−UBR
MPH−BI
MPH−UBI
MPH−BI
FE202
(unblock
request)
FE204
(block
cmnd)
OPERATIONAL
BLOCKED
LOCAL
UNBLOCK
BLOCKED

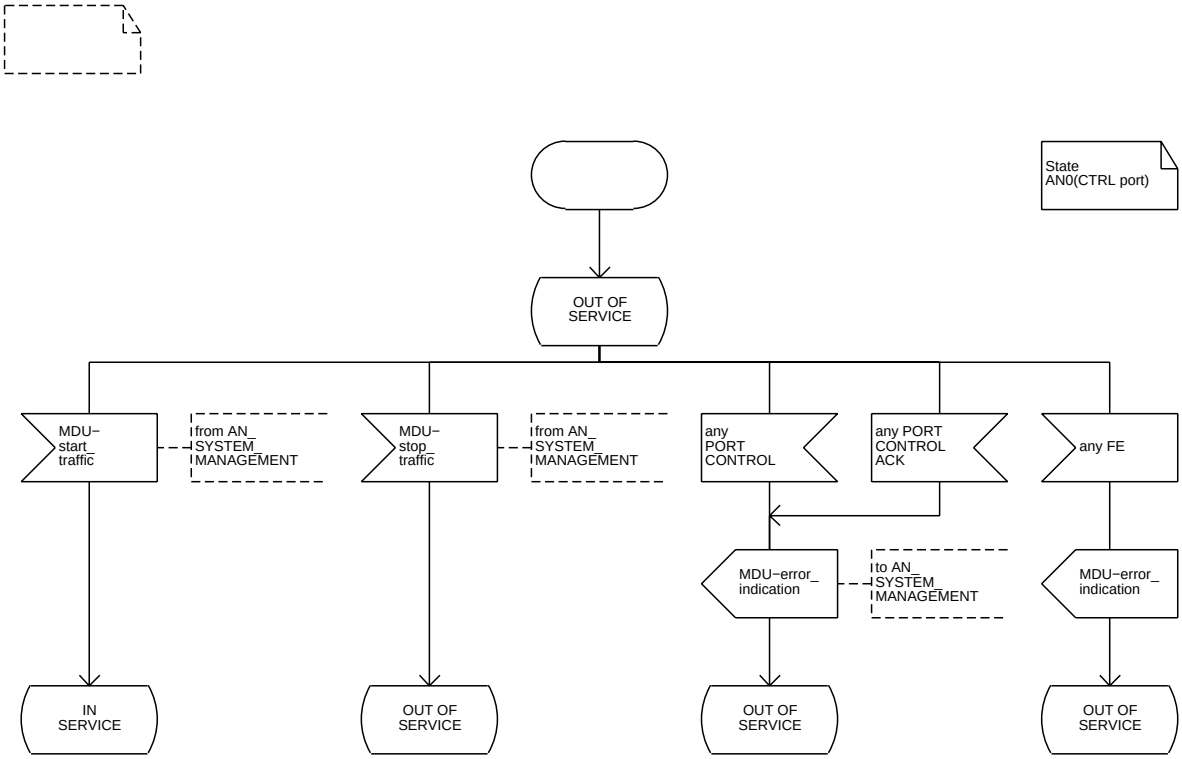

REMOTE UNBLOCK
State AN1.2(PSTN port)
FE201 (unblock req/ack)
FE203 (block cmnd)
MPH−UBR
MPH−BI
MPH−UBR
MPH−BI
FE202 (unblock req/ack)
FE204 (block cmnd)
MPH−UBI (operational)
REMOTE UNBLOCK
BLOCKED
OPERATIONAL
BLOCKED

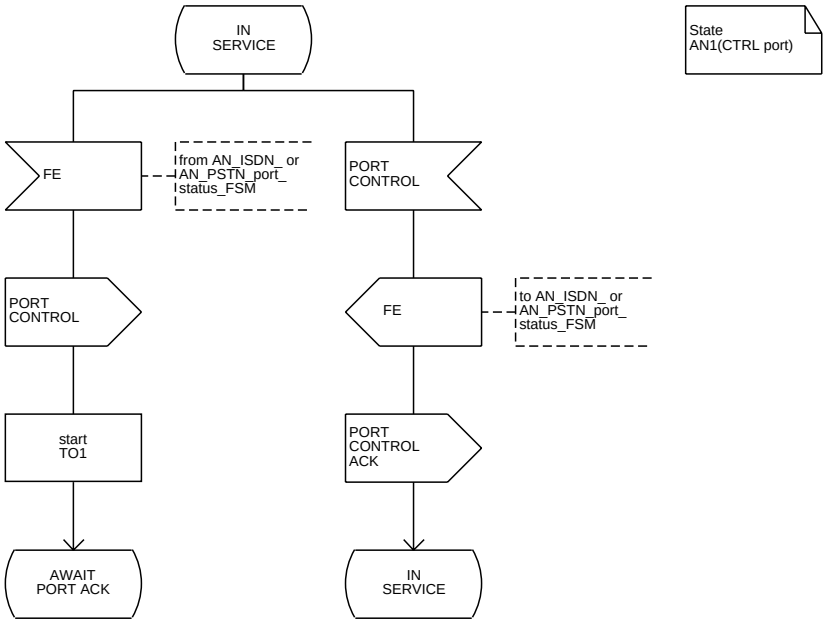

OPERATIONAL
State AN2.0(PSTN port)
FE201 (unblock request)
FE203 (block cmnd)
MPH−UBR (unblock request)
MPH−BI
MPH−BR
MDH−UBI
MPH−BI
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE202 (unblock ackn.)
MPH−UBI (operational)
OPERATIONAL
BLOCKED
OPERATIONAL
BLOCKED
OPERATIONAL

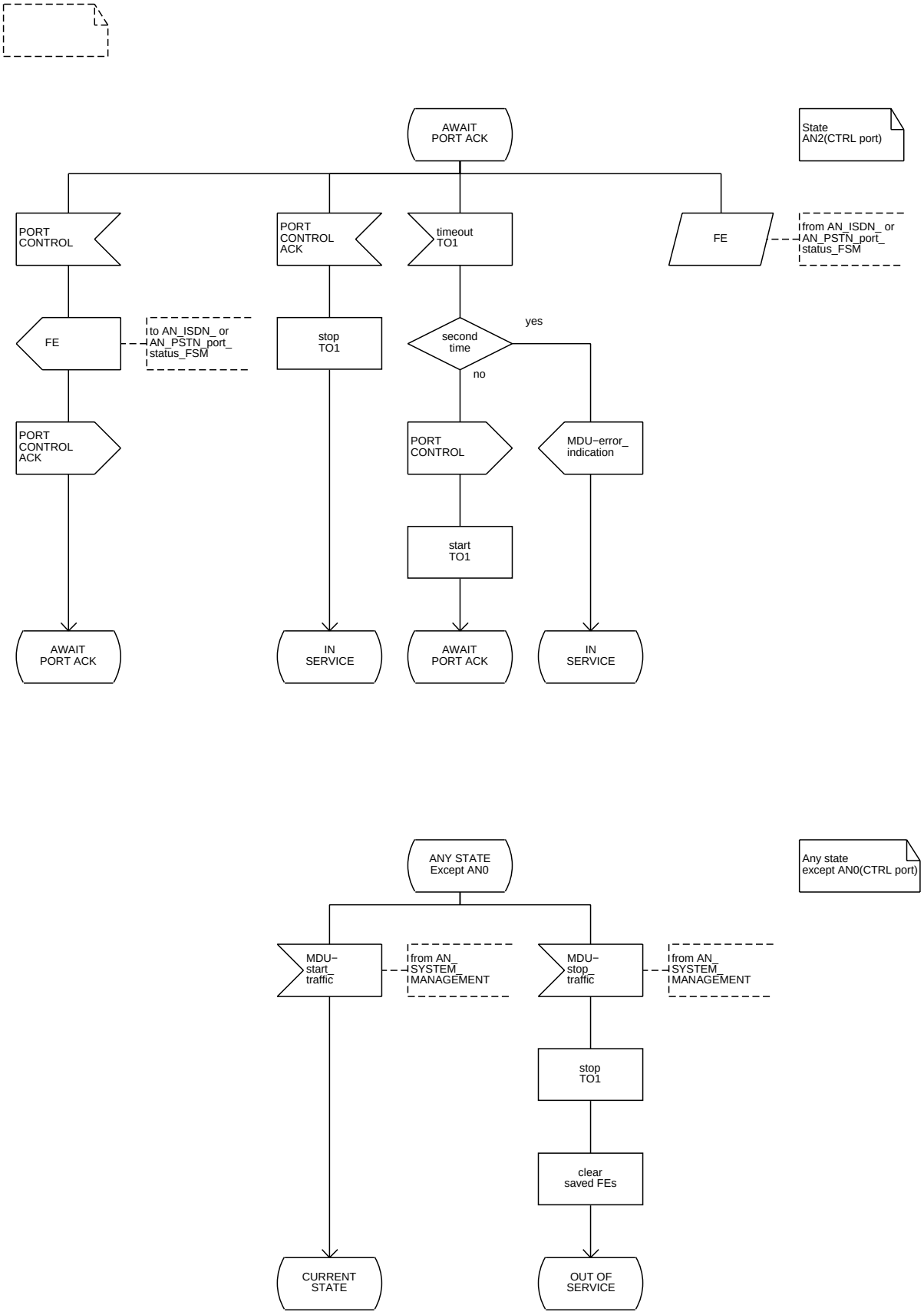

ANY
STATE
Any
State AN(PSTN port)
unexpected
MPH
unexpected
FE
MPH−UNEXP
CURRENT
STATE


Block AN_CTRL_PROTOCOL
1(1)
OC2
MDU−error_indication
MDU−CTRL (CANNOT RE−PROVISION)
MDU−CTRL (NOT READY FOR RE−PROVISIONING)
MDU−CTRL (READY FOR RE−PROVISIONING)
MDU−CTRL (RESTART COMPLETE)
MDU−CTRL (RESTART REQUEST)
MDU−CTRL (REQUEST VARIANT & INTERFACE ID)
MDU−CTRL (SWITCH−OVER TO NEW VARIANT)
MDU−CTRL (VARIANT & INTERFACE ID)
MDU−CTRL (VERIFY RE−PROVISIONING)
MDU−start_traffic
MDU−stop_traffic
MDU−CTRL (CANNOT RE−PROVISION)
MDU−CTRL (NOT READY FOR RE−PROVISIONING)
MDU−CTRL (READY FOR RE−PROVISIONING)
MDU−CTRL (RE−PROVISIONING STARTED)
MDU−CTRL (RESTART COMPLETE)
MDU−CTRL (RESTART REQUEST)
MDU−CTRL (REQUEST VARIANT & INTERFACE ID)
MDU−CTRL (SWITCH−OVER TO NEW VARIANT)
MDU−CTRL (VARIANT & INTERFACE ID)
MDU−CTRL (VERIFY RE−PROVISIONING)
to AN_SYSTEM_ MANAGEMENT
AN_CONTROL_COMMON
DL−DATA−REQUEST (COMMON CTRL)
DL−DATA−REQUEST (COMMON CTRL ACK)
DL−DATA−INDICATION (COMMON CTRL)
DL−DATA−INDICATION (COMMON CTRL ACK)
DL_CTRL
to AN_ CONTROL_DL
MDU−error_indication
to AN_SYSTEM_ MANAGEMENT
OP8
MDU−start_traffic
MDU−stop_traffic
FE_PSTN
FE202 (unblock req/cmnd)
FE204 (block cmnd)
FE205 (block request)
FE201 (unblock req/ack)
FE203 (block cmnd)
to AN_PSTN_ port_status_FSM
AN_CONTROL_PORT
DL−DATA−REQUEST (PORT CTRL)
DL−DATA−REQUEST (PORT CTRL ACK)
DL−DATA−INDICATION (PORT CTRL)
DL−DATA−INDICATION PORT CTRL ACK)
OP2
to AN_ CONTROL_DL
FE102 (activation initiated)
FE103 (DS avtivated)
FE104 (access activated)
FE106 (access deactivated)
FE202 (unblock req/ack)
FE204 (block cmnd)
FE205 (block request)
FE206 (grading)
to AN_ISDN_ port_status_ FSM
FE101 (activate access)
FE105 (deactivate access)
FE201 (unblock req/ack)
FE203 (block cmnd)
FE207 (D−channel block)
FE208 (D−channel unblock)
FE_ISDN

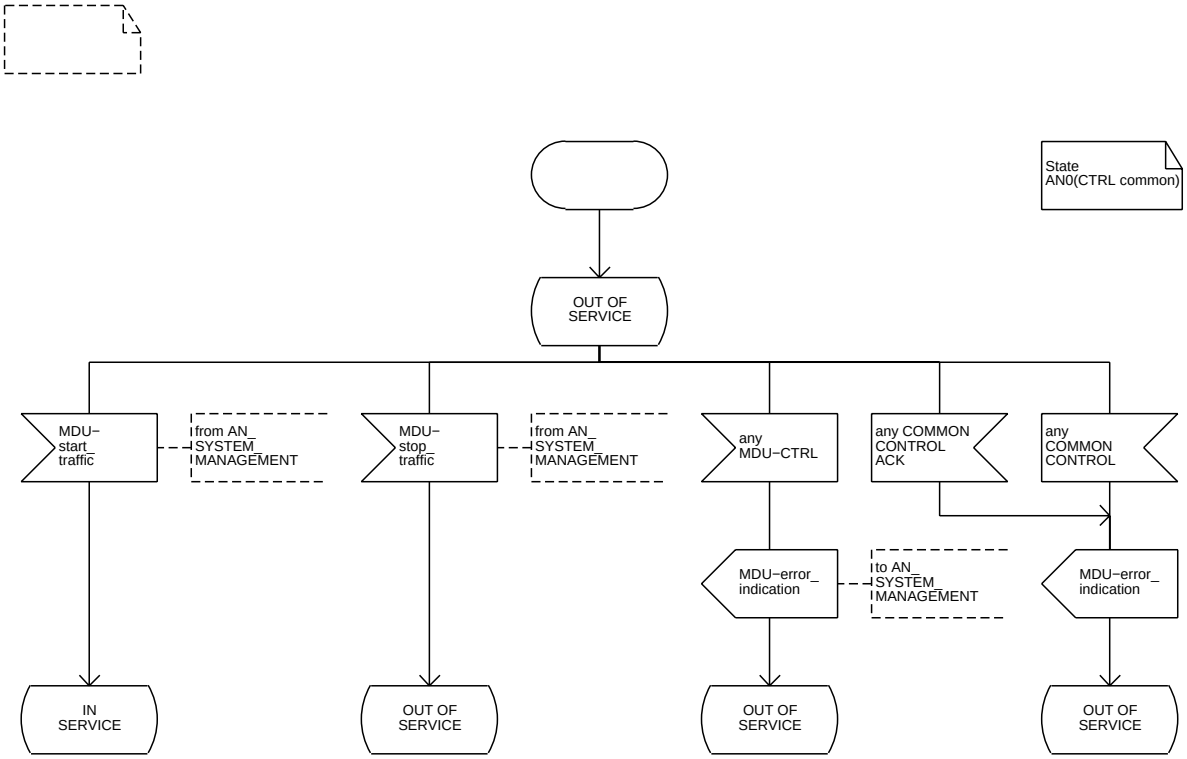
Process AN_CONTROL_PORT 1(2)

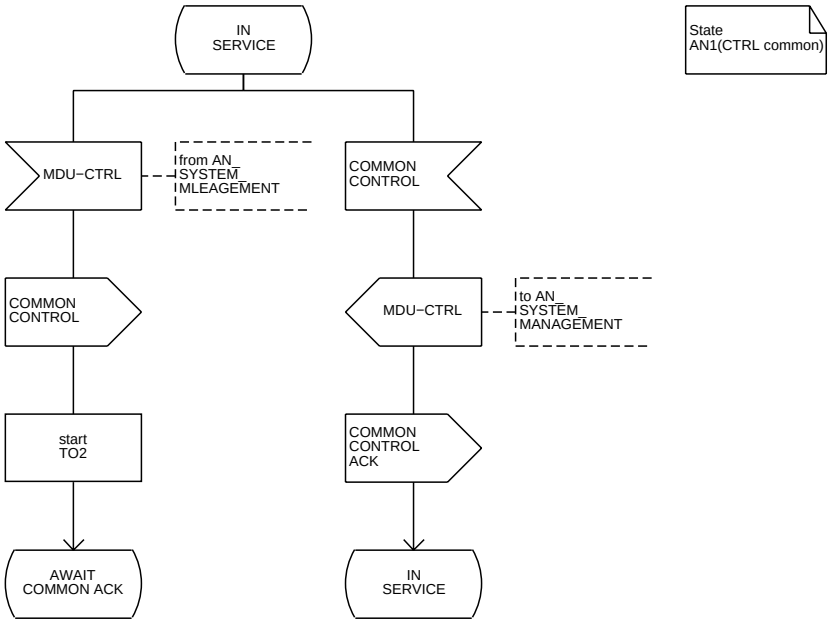


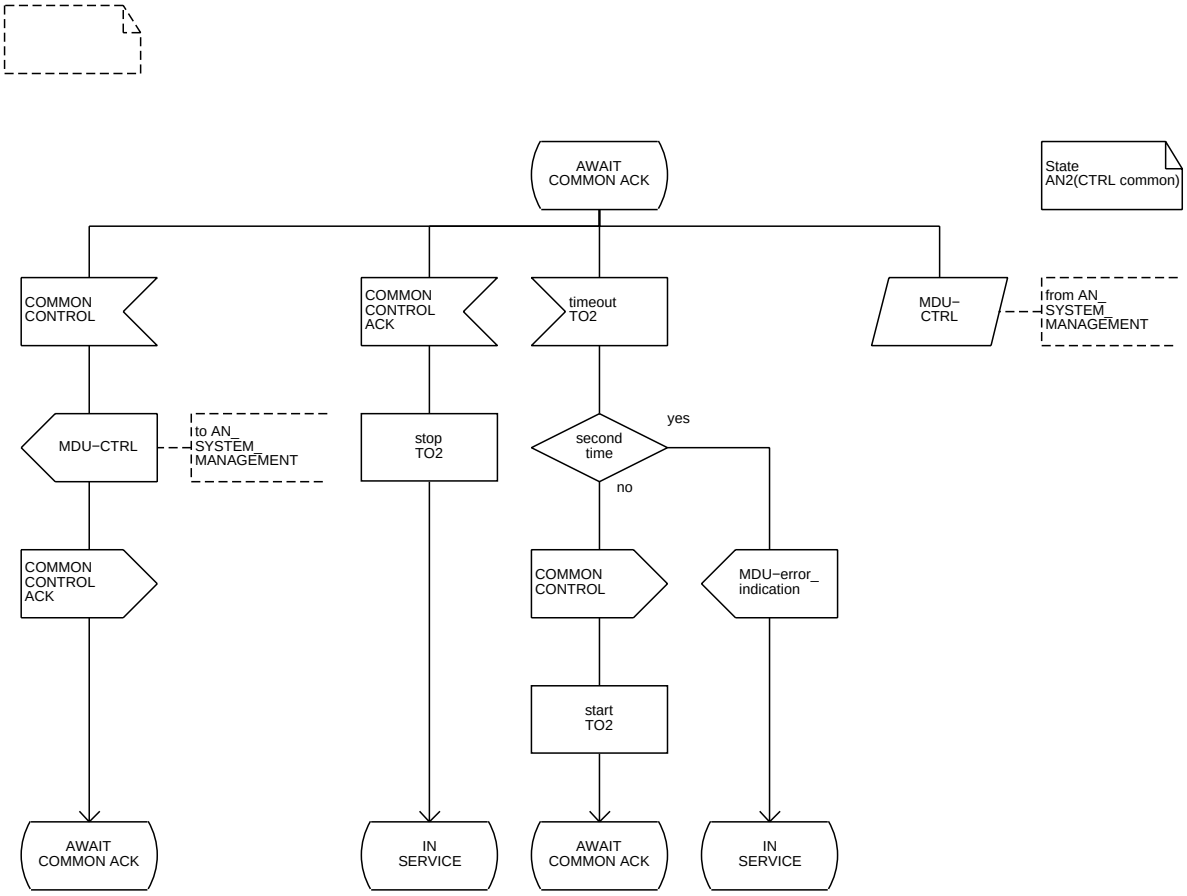


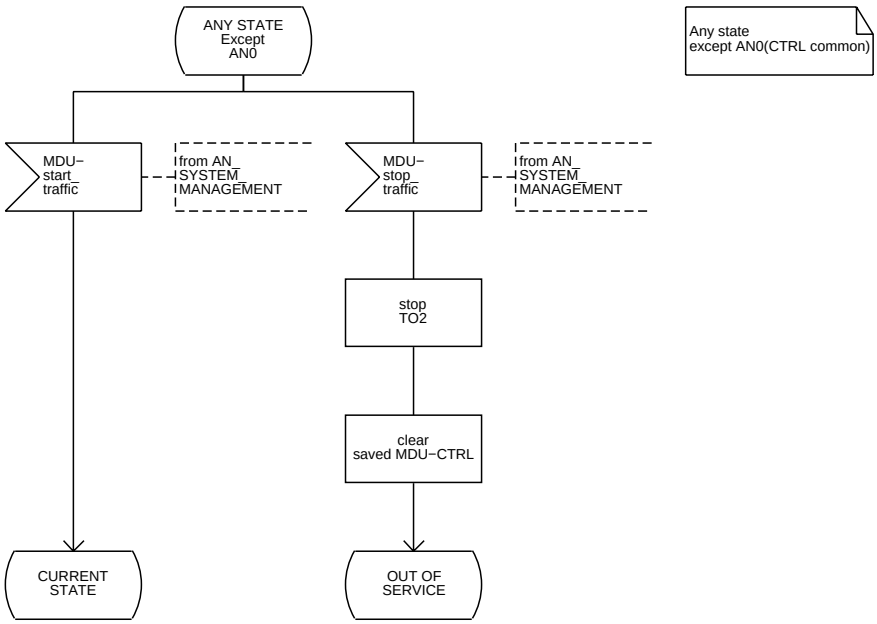

AWAIT PORT ACK
State AN2(CTRL port)
PORT CONTROL
PORT CONTROL ACK
timeout TO1
FE
from AN_ISDN_ or AN_PSTN_port_ status_FSM
FE
to AN_ISDN_ or AN_PSTN_port_ status_FSM
stop TO1
second time
yes
no
PORT CONTROL ACK
PORT CONTROL
MDU−error_ indication
start TO1
AWAIT PORT ACK
IN SERVICE
AWAIT PORT ACK
IN SERVICE
ANY STATE Except AN0
Any state except AN0(CTRL port)
MDU− start_ traffic
from AN_ SYSTEM_ MANAGEMENT
MDU− stop_ traffic
from AN_ SYSTEM_ MANAGEMENT
stop TO1
clear saved FEs
CURRENT STATE
OUT OF SERVICE

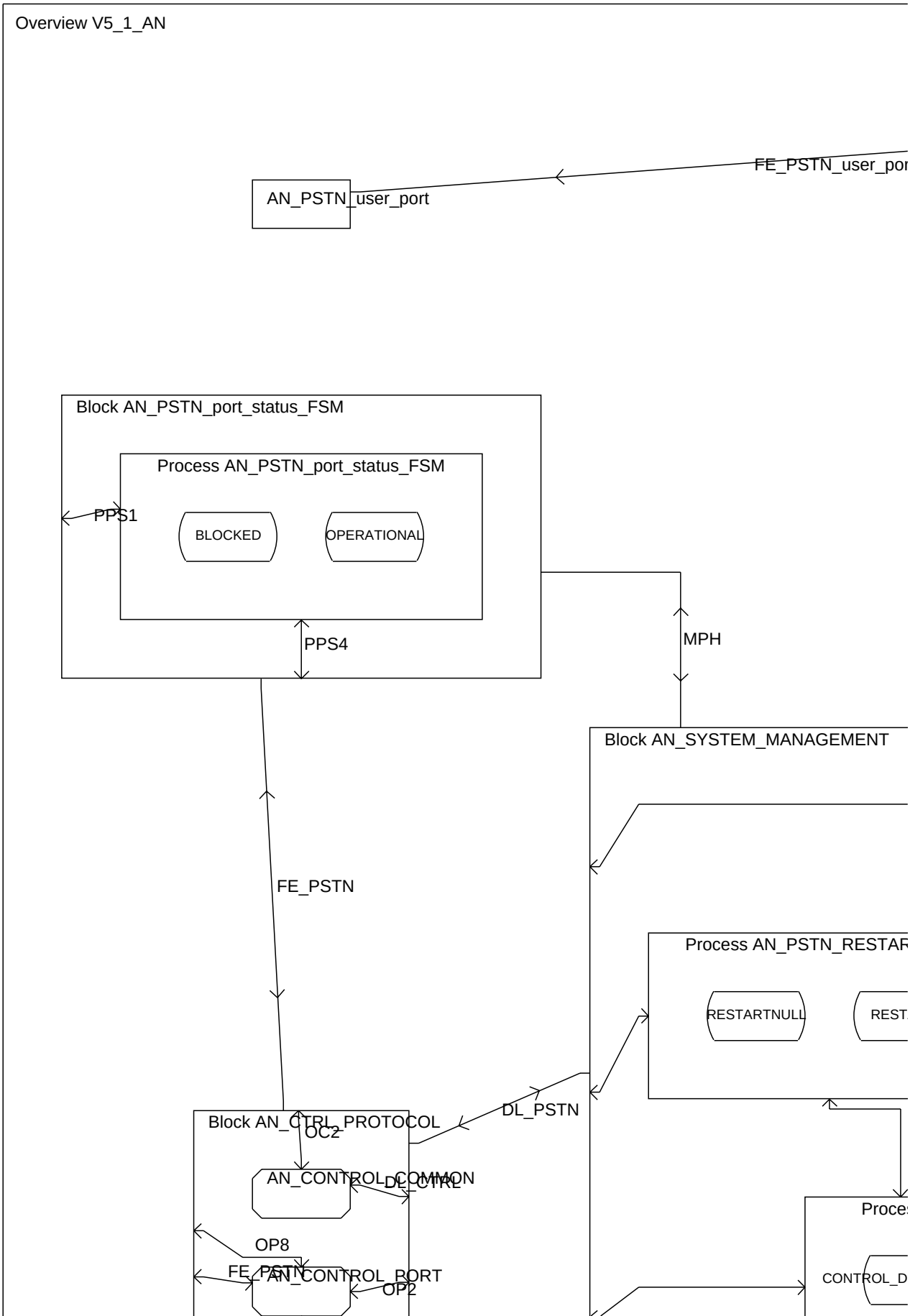
Process AN_CONTROL_COMMON 1(2)

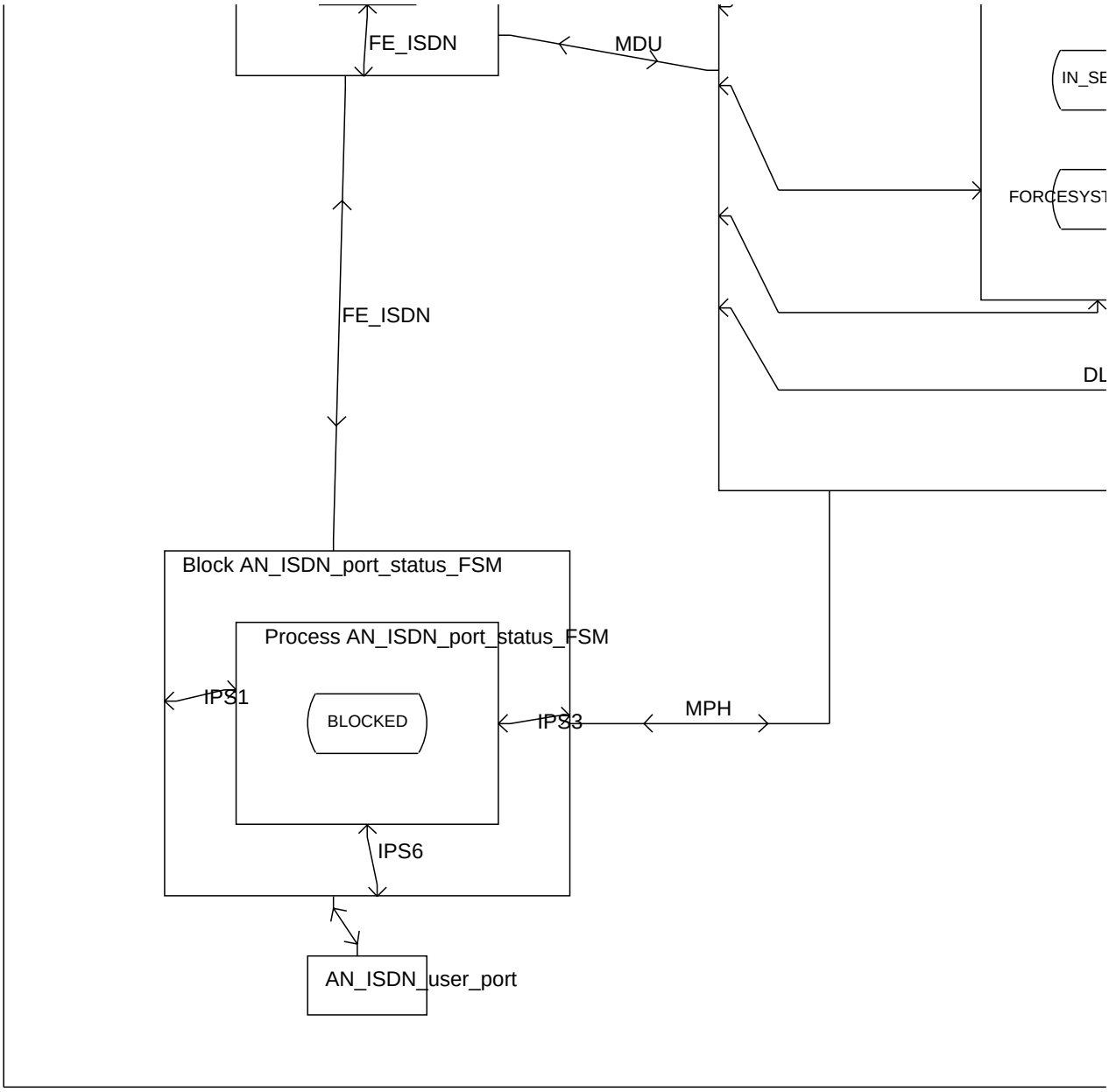


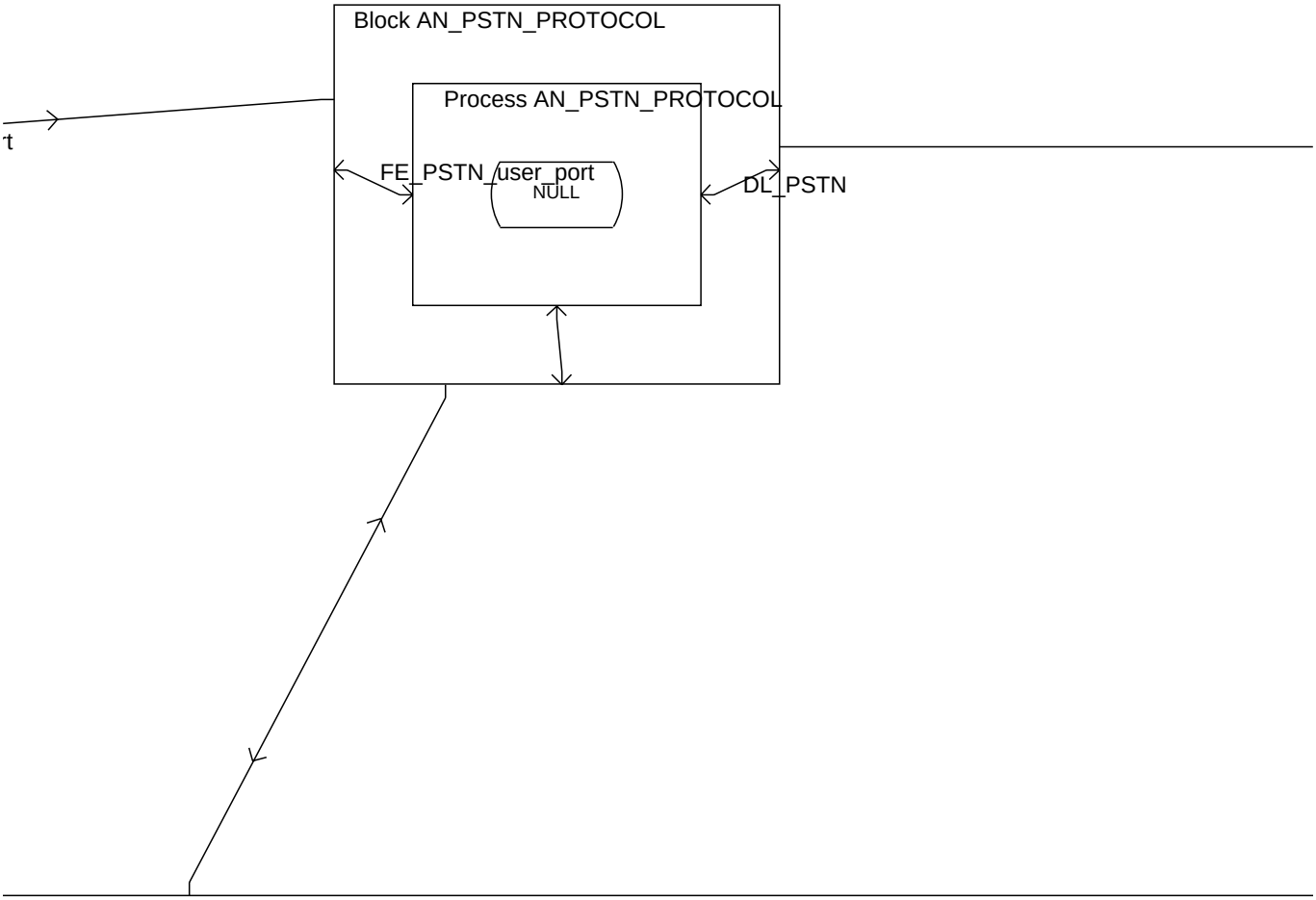


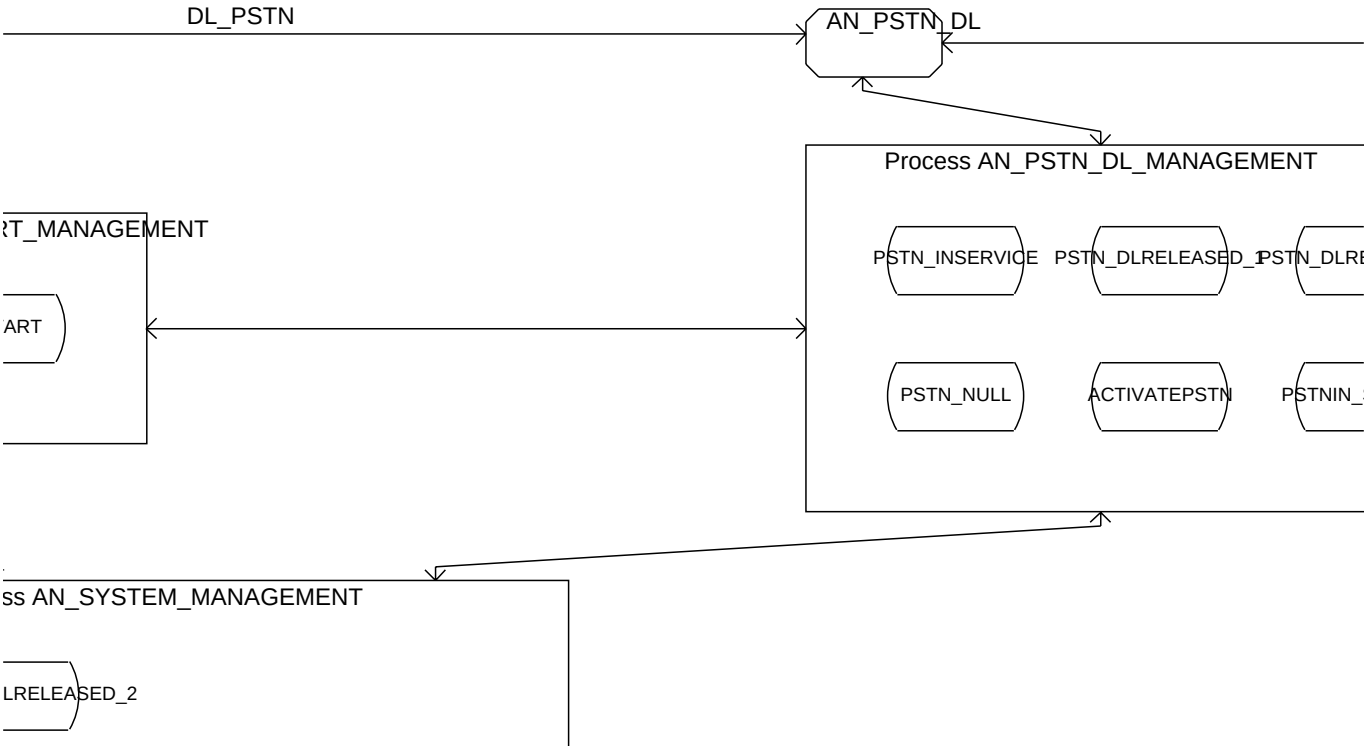

AWAIT
COMMON ACK
State
AN2(CTRL common)
COMMON
CONTROL
COMMON
CONTROL
ACK
timeout
TO2
MDU−
CTRL
from AN_
SYSTEM_
MANAGEMENT
MDU−CTRL
to AN_
SYSTEM_
MANAGEMENT
stop
TO2
second
time
yes
no
COMMON
CONTROL
ACK
COMMON
CONTROL
MDU−error_
indication
start
TO2
AWAIT
COMMON ACK
IN
SERVICE
AWAIT
COMMON ACK
IN
SERVICE

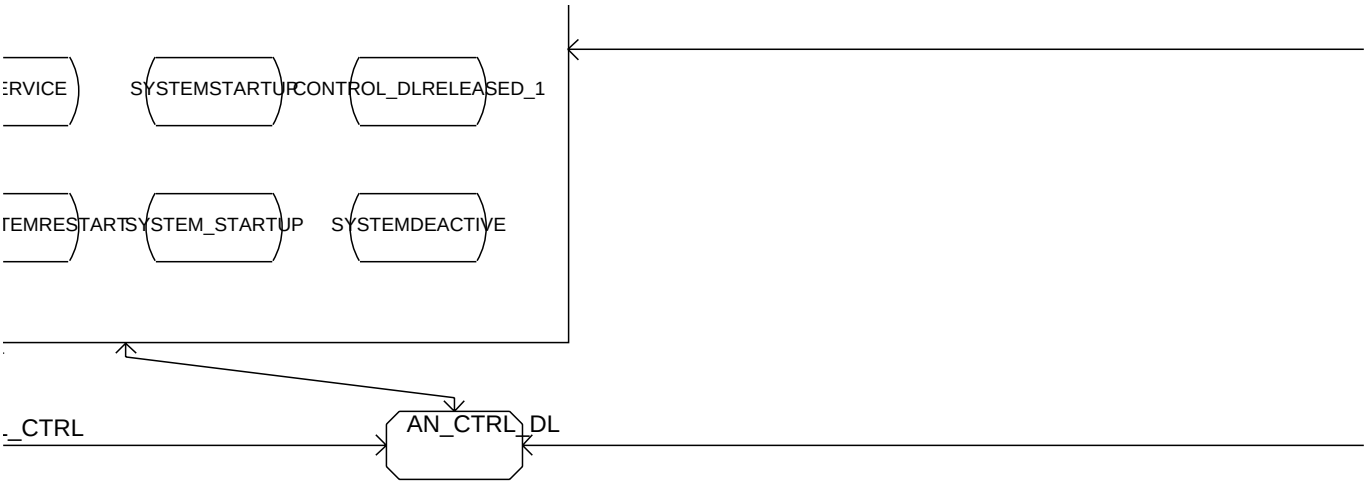

ANY STATE
Except
AN0
Any state
except AN0(CTRL common)
MDU−
start_
traffic
from AN_
SYSTEM_
MANAGEMENT
MDU−
stop_
traffic
from AN_
SYSTEM_
MANAGEMENT
stop
TO2
clear
saved MDU−CTRL
CURRENT
STATE
OUT OF
SERVICE

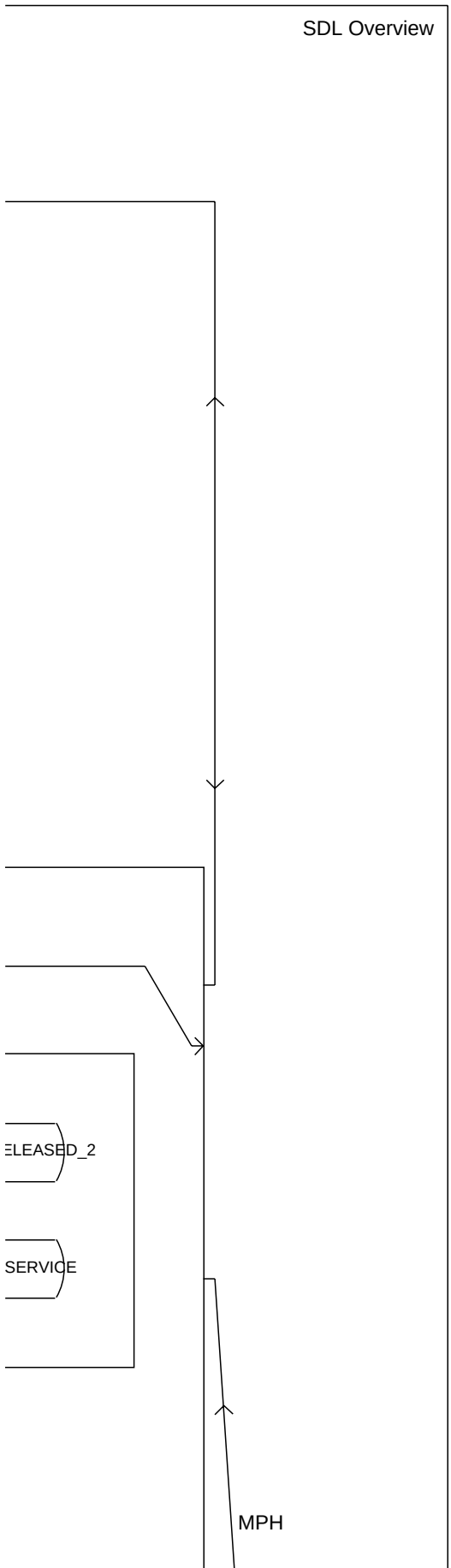

Overview V5_1_AN
AN_PSTN_user_port
FE_PSTN_user_por
Block AN_PSTN_port_status_FSM
Process AN_PSTN_port_status_FSM
PPS1
BLOCKED
OPERATIONAL
PPS4
MPH
Block AN_SYSTEM_MANAGEMENT
FE_PSTN
Process AN_PSTN_RESTAR
RESTARTNULL
REST
DL_PSTN
Block AN_CTRL_PROTOCOL
OC2
AN_CONTROL_COMMON
DL_CTRL
Proces
OP8
FE_PSTN
AN_CONTROL_PORT
OP2
CONTROL_D

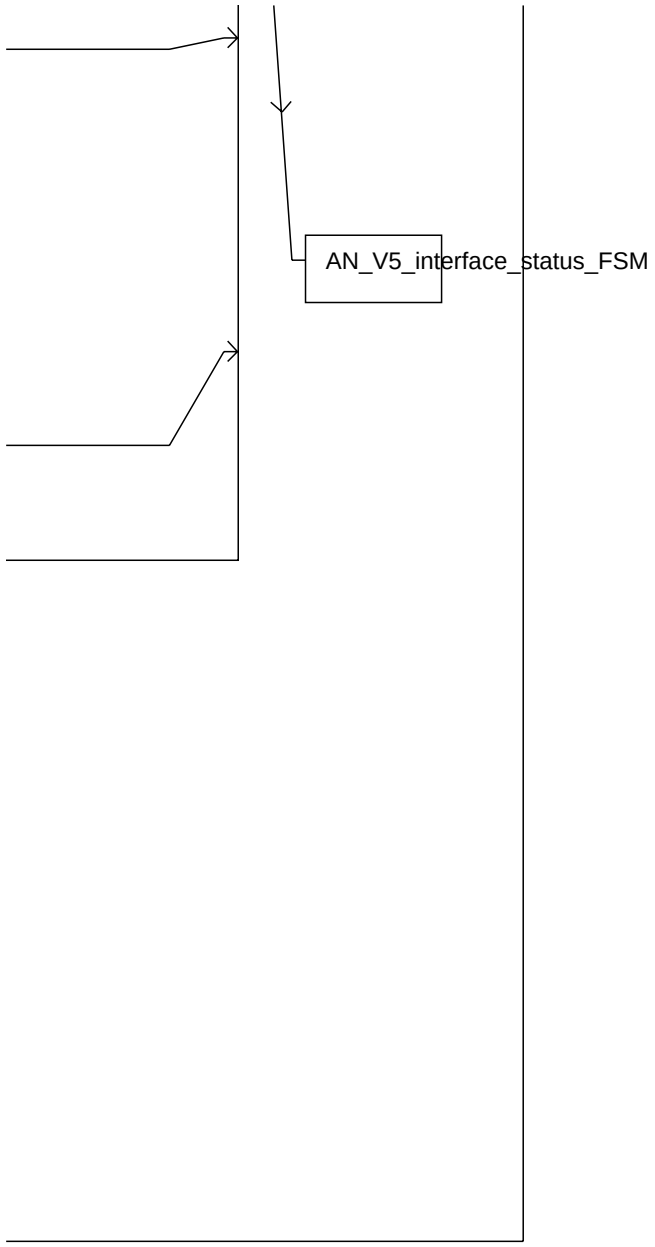

FE_ISDN
MDU
IN_SE
FORCESYST
FE_ISDN
DL
Block AN_ISDN_port_status_FSM
Process AN_ISDN_port_status_FSM
IPS1
BLOCKED
IPS3
MPH
IPS6
AN_ISDN_user_port


Block AN_PSTN_PROTOCOL
Process AN_PSTN_PROTOCOL
t
FE_PSTN_user_port
NULL
DL_PSTN


DL_PSTN
AN_PSTN_DL
Process AN_PSTN_DL_MANAGEMENT
RT_MANAGEMENT
ART
PSTN_INSERVICE
PSTN_DLRELEASED_1
PSTN_DLRE
PSTN_NULL
ACTIVATEPSTN
PSTNIN_
ss AN_SYSTEM_MANAGEMENT
LRELEASED_2


ERVICE
SYSTEMSTARTUP
CONTROL_DLRELEASED_1
TEMRESTART
SYSTEM_STARTUP
SYSTEMDEACTIVE
_CTRL
AN_CTRL_DL


SDL Overview
ELEASED_2
SERVICE
MPH


AN_V5_interface_status_FSM