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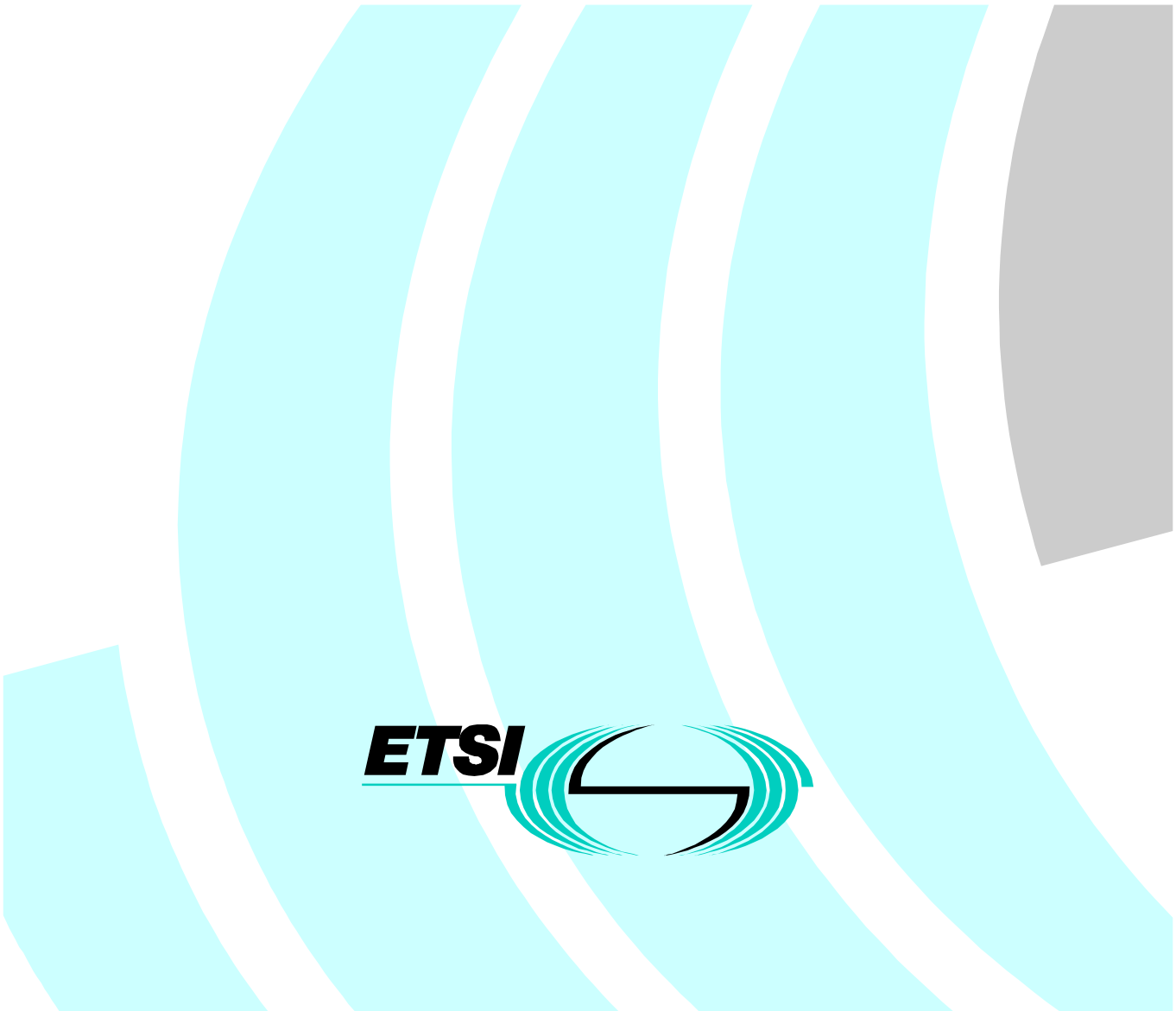
European Standard (Telecommunications series)

V interfaces at the digital Service Node (SN); Interfaces at the VB5.1 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs); Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification



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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS), and is now submitted for the Voting phase of the ETSI standards Two-step Approval Procedure.

The present document is part 3 of a multi-part EN covering the V interfaces at the digital Service Node (SN); Interfaces at the VB5.1 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs) as identified below:

Part 1: "Interface specification";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
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Introduction

General

The work on a new broadband VB reference point concept was initiated by ETSI Technical Committee SPS to consider possible new structures and reference points for the connection of new broadband and combined narrowband/broadband access arrangements to Service Nodes (SN), in co-operation with other TCs.

The VB5 reference point concept, based on ITU-T Recommendation G.902 [5], was split into two variants. The first variant based on an ATM cross-connect with provisioned connectivity, called the VB5.1 reference point, is described in the present document. The other variant which further enables on-demand connectivity within the AN, called the VB5.2 reference point, is covered by EN 301 217-1 [7].

Relationship between the VB5.1 and VB5.2 reference point concepts

VB5.2 extends the capabilities at the VB5.1 reference point to include on-demand connectivity in the AN under the control of SN. The major common features between the VB5.1 and VB5.2 interfaces are:

- both VB5 interfaces support B-ISDN as well as narrowband and other non-B-ISDN customer access types;
- both VB5 interfaces support ATM multiplexing/cross-connecting in the AN at the VP and/or VC level.

It is anticipated that the Real Time Management Co-ordination (RTMC) protocol for the VB5.1 reference point will be a subset of the RTMC protocol for the VB5.2 reference point.

1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) and an example of test architecture for testing the conformity of an implementation to the specification of interfaces at the VB5.1 reference point between an Access Network (AN) and a Service Node (SN).

The test architecture proposed here is used for the design of the Message Sequence Charts (MSCs) produced as test purpose documentation.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] ETSI EN 301 005-1 (V1.1): "V interfaces at the digital Service Node (SN); Interfaces at the VB5.1 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs); Part 1: Interface specification".

[2] ETSI EN 301 005-2 (V1.1): "V interfaces at the digital Service Node (SN); Interfaces at the VB5.1 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs); Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[4] ISO/IEC 9646-2: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".

[5] ITU-T Recommendation G.902: "Framework Recommendation on functional access networks (AN) – Architecture and functions, access types, management and service node aspects".

[6] ITU-T Recommendation M.3010: "Principles for a Telecommunications management network".

[7] ETSI EN 301 217-1: "V interfaces at the digital Service Node (SN); Interfaces at the VB5.2 reference point for the support of broadband or combined narrowband and broadband Access Networks (ANs); Part 1: Interface specification".

3 Definitions and abbreviations

3.1 Definitions

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

- terms defined in EN 301 005-1 [1];
- terms defined in ISO/IEC 9646-1 [3] and in ISO/IEC 9646-2 [4].

In particular, the following terms defined in ISO/IEC 9646-1 [3] apply:

- Abstract Test Suite (ATS);
- Implementation Under Test (IUT);
- System Under Test (SUT);
- Protocol Implementation Conformance Statement (PICS).

3.2 Abbreviations

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

AAL	ATM Adaptation Layer
AAL-SAP	AAL - Service Access Point
AN	Access Network
ATM	Asynchronous Transfer Mode
B-ISDN	Broadband ISDN
B-ISUP	Broadband ISDN Signalling User Part
B-UNI	Broadband UNI
BA	Basic (rate) Access
CPE	Customer Premises Equipment
CPN	Customer Premises Network
ET	Equipment Terminal
FSM	Finite State Machine
ID	Identity
IE	Information Element
INI	Inter-Network Interface
ISDN	Integrated Services Digital Network
LAN	Local Area Network
LE	Local Exchange
LME	Layer Management Entity
LMI	Local Management Interface
LSP	Logical Service Port
LUP	Logical User Port
MIB	Management Information Base
MSC	Message Sequence Chart
N-ISDN	Narrowband ISDN
NNI	Network-to-Network Interface
OAM	Operations Administration and Maintenance
PDH	Plesiochronous Digital Hierarchy
PDU	Protocol Data Units
PSP	Physical Service Port
PSTN	Public Switched Telephone Network
PUP	Physical User Port
Q3	"Q" management interface reference point as ITU-T Recommendation M.3010 [6]
RTMC	Real Time Management Co-ordination
SAAL	Signalling ATM Adaptation Layer
SAP	Service Access Point
SAR	Segmentation and Reassembly
SDH	Synchronous Digital Hierarchy
SDL	Specification and Description Language
SDU	Service Data Units
SN	Service Node
SNI	Service Node Interface
SP	Service Port
SPS	Signalling Protocols and Switching
SSCF	Service Specific Co-ordination Function
SSCOP	Service Specific Connection Oriented Protocol
TC	Technical Committees

TE	Terminal Equipment
TMN	Telecommunications Management Network
TP	Transmission Path
UNI	User-Network Interface
VB	Broadband "V" reference point
VC	Virtual Channel (ATM)
VCE	Virtual Channel Entity
VP	Virtual Path
VPC	VP Connection
VPCI	VP Connection Identifier
VPCI-CC	VP Connection Identifier - Consistency Check
VPI	VP Identifier
VPL	VP Link

4 Test Suite Structure

Figure 1 shows the structure of the V5.1 RTMC test suite when the AN is the IUT.

Figure 2 shows the structure of the V5.1 RTMC test suite when the SN is the IUT.

The first level is structured according to the RTMC procedures. The second level is structured according to test category. The meaning of the codes in the tree is given in subclause 5.2.

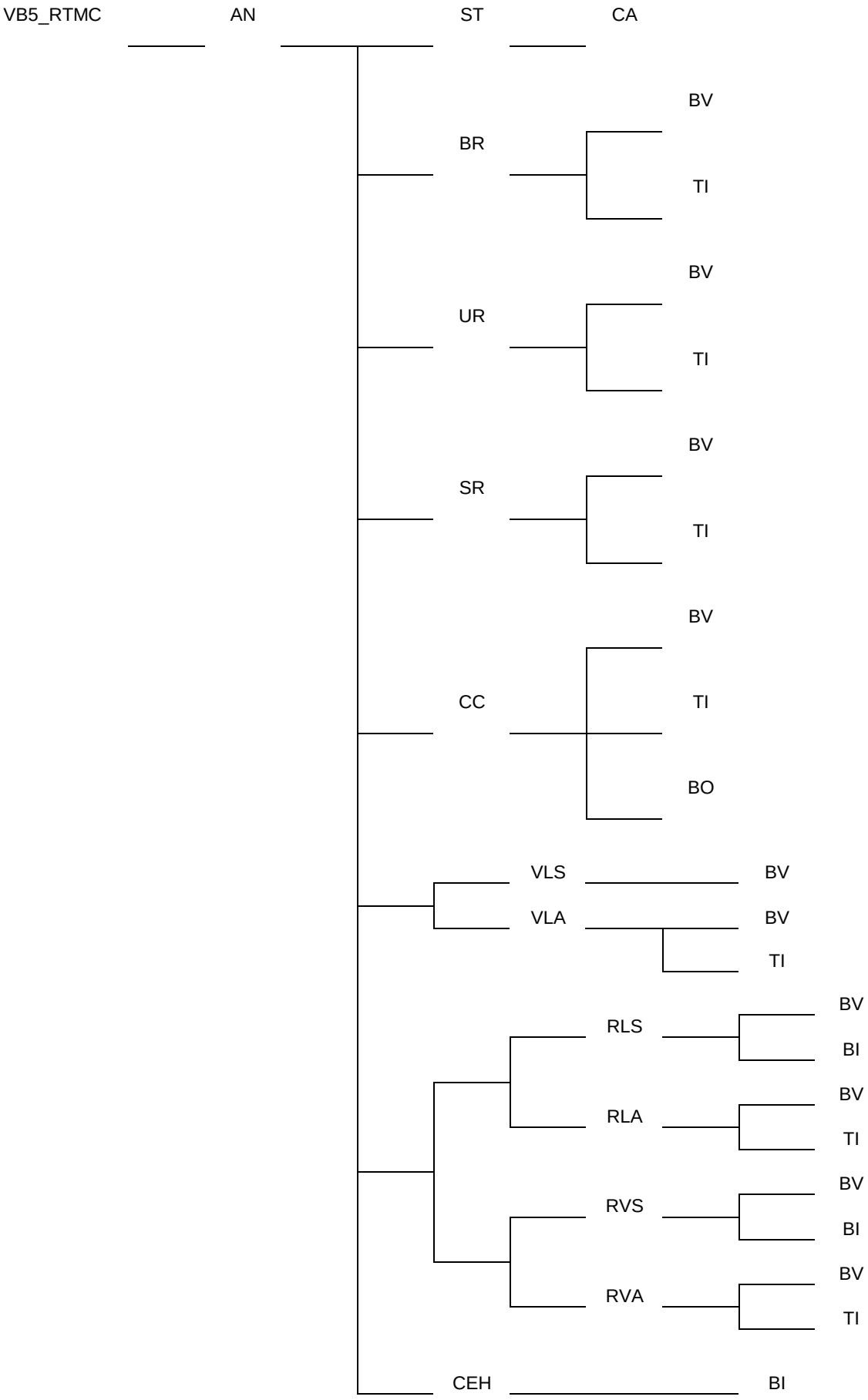


Figure 1: VB5 RTMC AN TSS

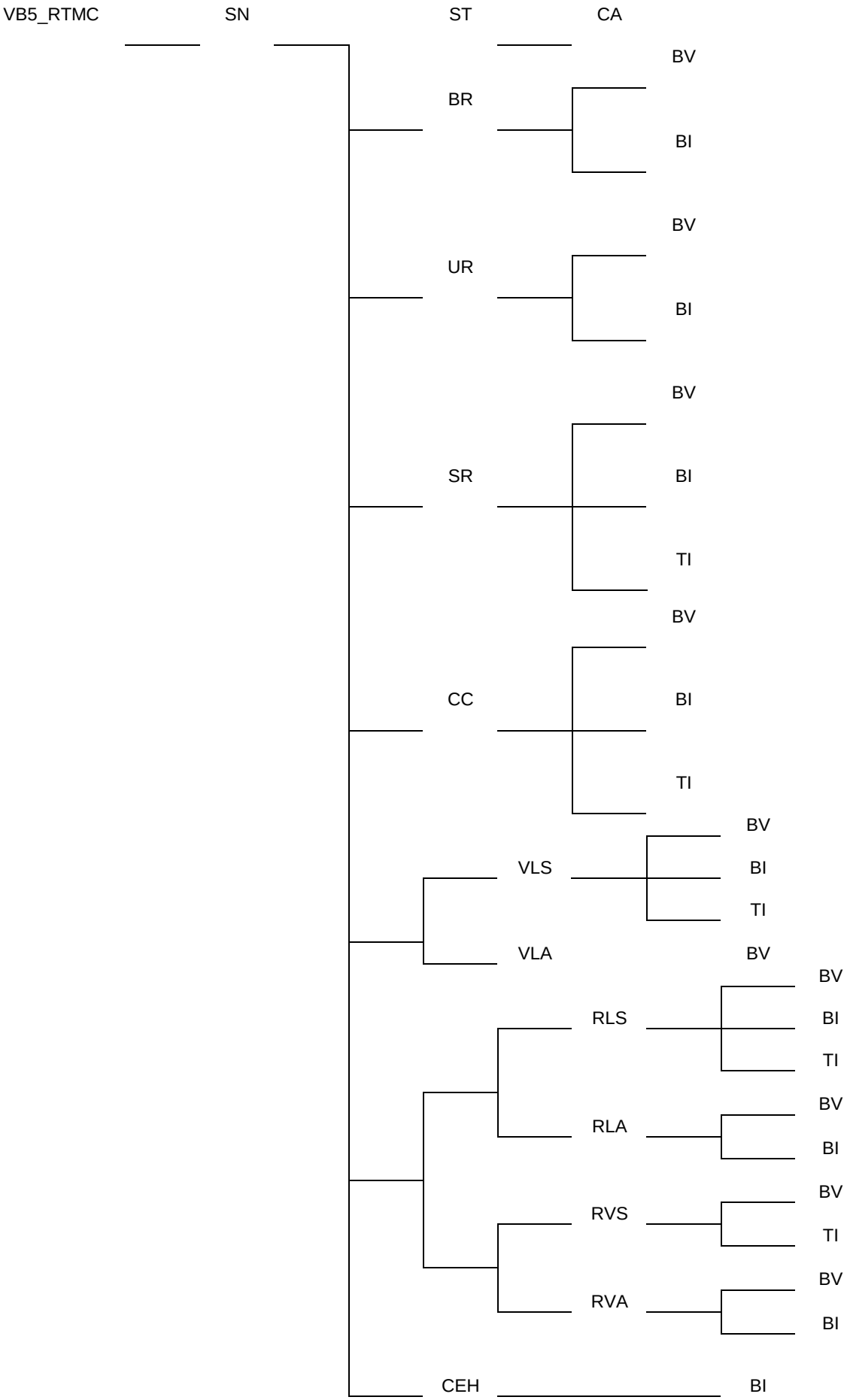


Figure 2: VB5 RTMC SN TSS

Invalid behaviour of the tester comprises: reference to unknown resources, unknown message type, errors in common message fields (protocol discriminator, transaction identifier, message length).

RTMC timer tests and inopportune behaviour tests are related to a number of specific RTMC procedures and the test suite has been structured accordingly.

5 Test Purposes description and naming

5.1 Method used for the description of the TPs

Each TP is described using textual information presented in a table. This table is followed by an MSC representing the test scenario.

The table describing each TP is as follows:

TP-Name is a unique identifier, created according to the TP naming conventions (also the name of the corresponding test case)	**Reference to the paragraph number of specification EN 301 005-1 [1] stating the conformance requirement**
Purpose	Purpose of the test performed against a requirement of the protocol.
Test description	Information on the test body, describing actions and parameters
Pass criteria	Visible action to be observed at PCO to declare that the IUT passes the test and conforms to the specifications
Selection	"None" or expression based on EN 301 005-2 [2] PICS statements, used to select or deselect the corresponding test case according to the options of the implementation.
Preamble	"None" or name of the preamble procedure bringing the IUT from idle state to the state required to run the test.
Postamble	"None" or name of the postamble to bring the IUT back to idle state.
Additional testing	Additional information, present in specification, for possible informal testing beyond RTMC protocol (for instance, if tester is capable of observation/action via additional interface like Q3 or signalling interfaces)

An MSC follows each TP tabulated description. The MSC is produced by exercising the SDL model, whenever possible, i.e. each time the function or procedure is modelled. These MSCs are then validated and are verified in accordance with the specification. If the procedure is not modelled, then the corresponding MSC is drawn manually and cannot be validated.

The columns identified in the MSC represent, from left to right, the IUT environment, the tester, the lower layer interface relevant only when starting the test itself, and the IUT.

As an MSC is focusing on the body of the test, the preamble is represented by a single line in the MSC.

Each following line represents an exchange of PDU at the VB5 interface, and shows the modelled parameters most relevant for a given test purpose. The values of these parameters are either mandatory and imposed by the specifications, or they are informative only and chosen arbitrarily in ranges compatible with the specifications.

The list of the informative parameters, for which a value is to be assigned by the implementer of the IUT for the execution of a test suite, is included in the PIXIT proforma of the RTMC protocol.

Annex A of the present document contains a copy of this PIXIT proforma parameter table. This proforma table is filled up and contains the parameter values used for the definition of the MSCs and TPs.

5.2 Test purpose naming convention

The identifier of the TP is built according to the following scheme.

Table 1: TP identifier naming convention scheme

Identifier:	**VB5_<i>_<IUT>_<pp>_<cc>_<nn>**		
VB5	VB5.1 reference point specification		
<i>	RTMC		protocol at interface
<IUT>	AN	Access Network is the IUT	
	SN	Service Node is the IUT	
<pp> =	procedure identifier like		
	ST		StartUp
	BR		Blocking Resource
	UR		Unblocking Resource
	SR		Shut down Resource
	CC		VPCI Consistency Check
	VLS		Verify LSPId (SN initiated)
	VLA		Verify LSPId (AN initiated)
	RLS		Reset LSPId (SN initiated)
	RLA		Reset LSPId (AN initiated)
	RVS		Reset VPC (SN initiated)
	RVA		Reset VPC (AN initiated)
	CEH		Common Error Handling
<cc> =	test category:		
	CA		Capability tests
	BV		Valid Behaviour tests
	BI		Invalid Behaviour tests
	BO		Inopportune Behaviour tests
	TI		Timer tests
<nn> =	sequential number:		(01-99)

Example of test purpose and test case name: **VB5_RTMC_AN_CC_BV_02**

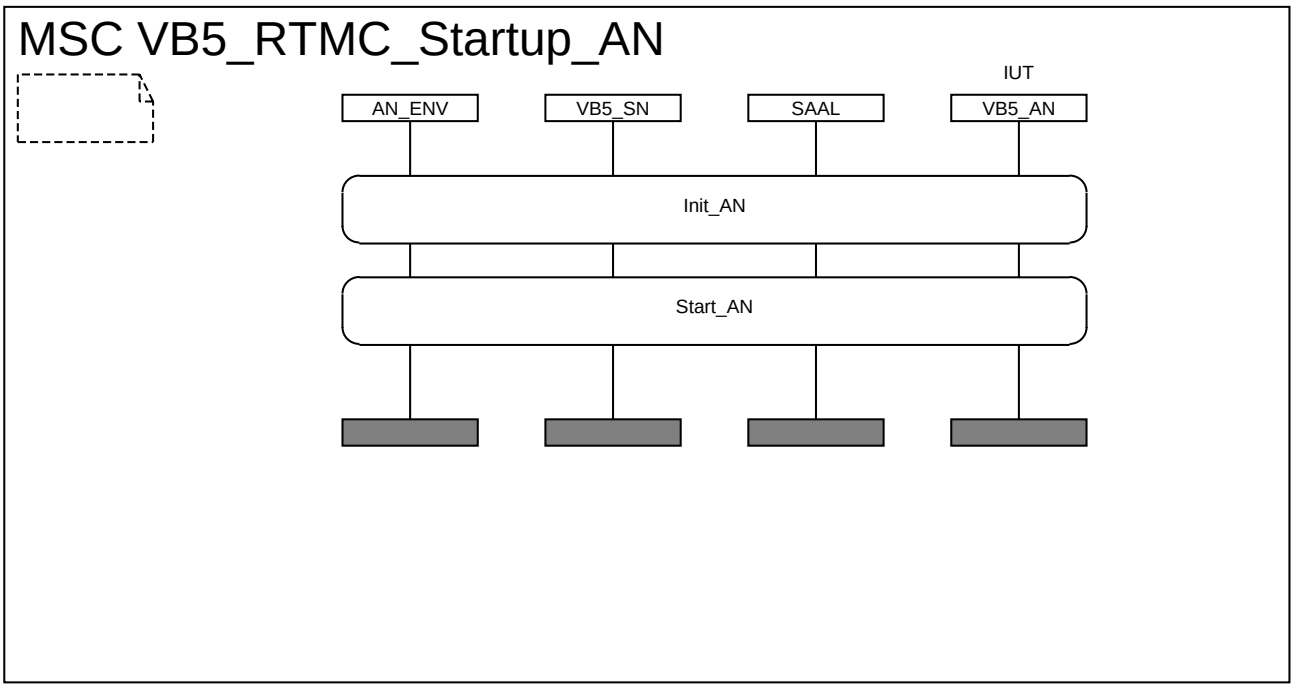
5.3 Preambles and postambles

5.3.1 Preamble descriptions

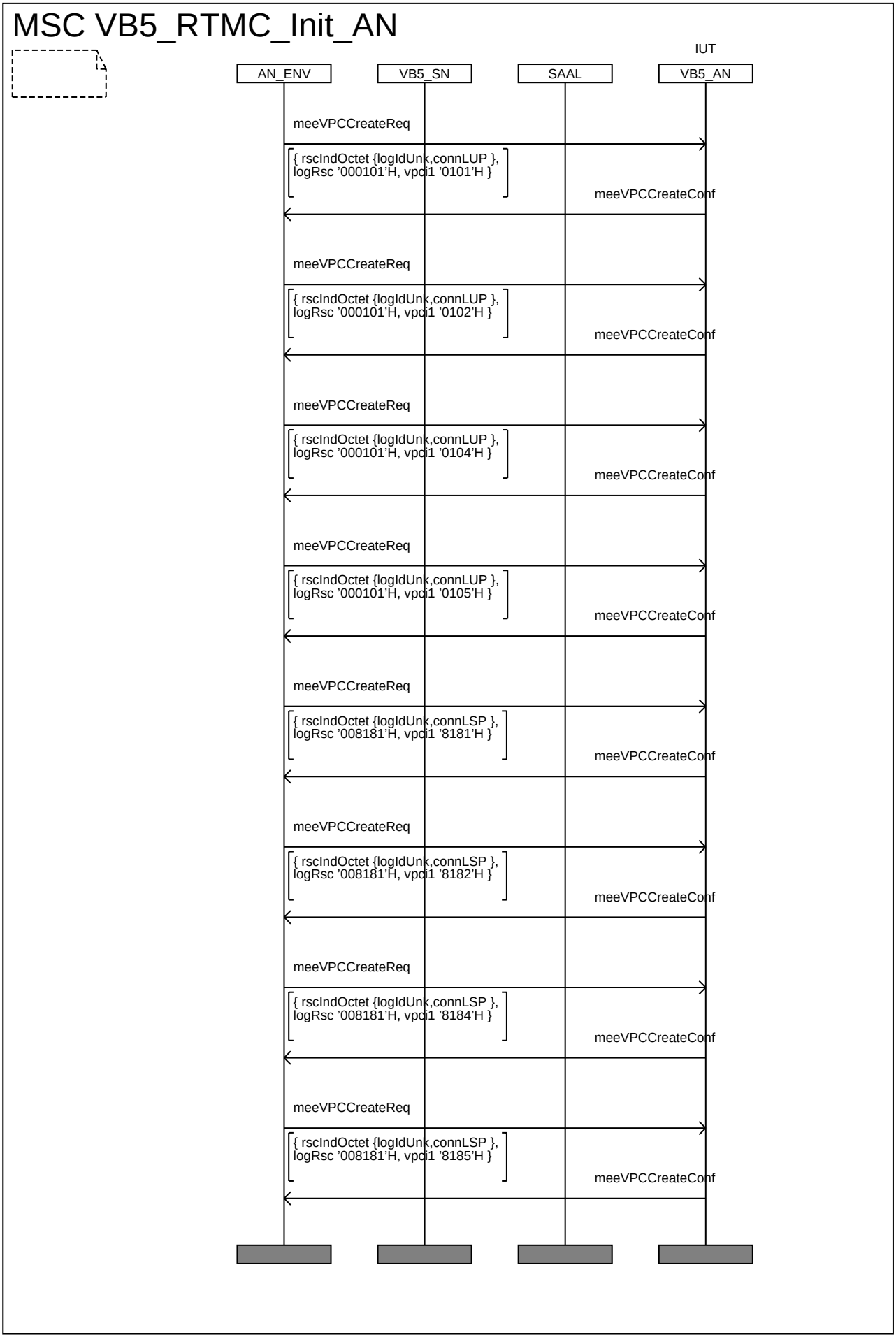
The preambles are used to bring the IUT from power-on state to the correct state where a test can take place. They differ whether the IUT is an AN or an SN.

5.3.1.1 AN is the IUT

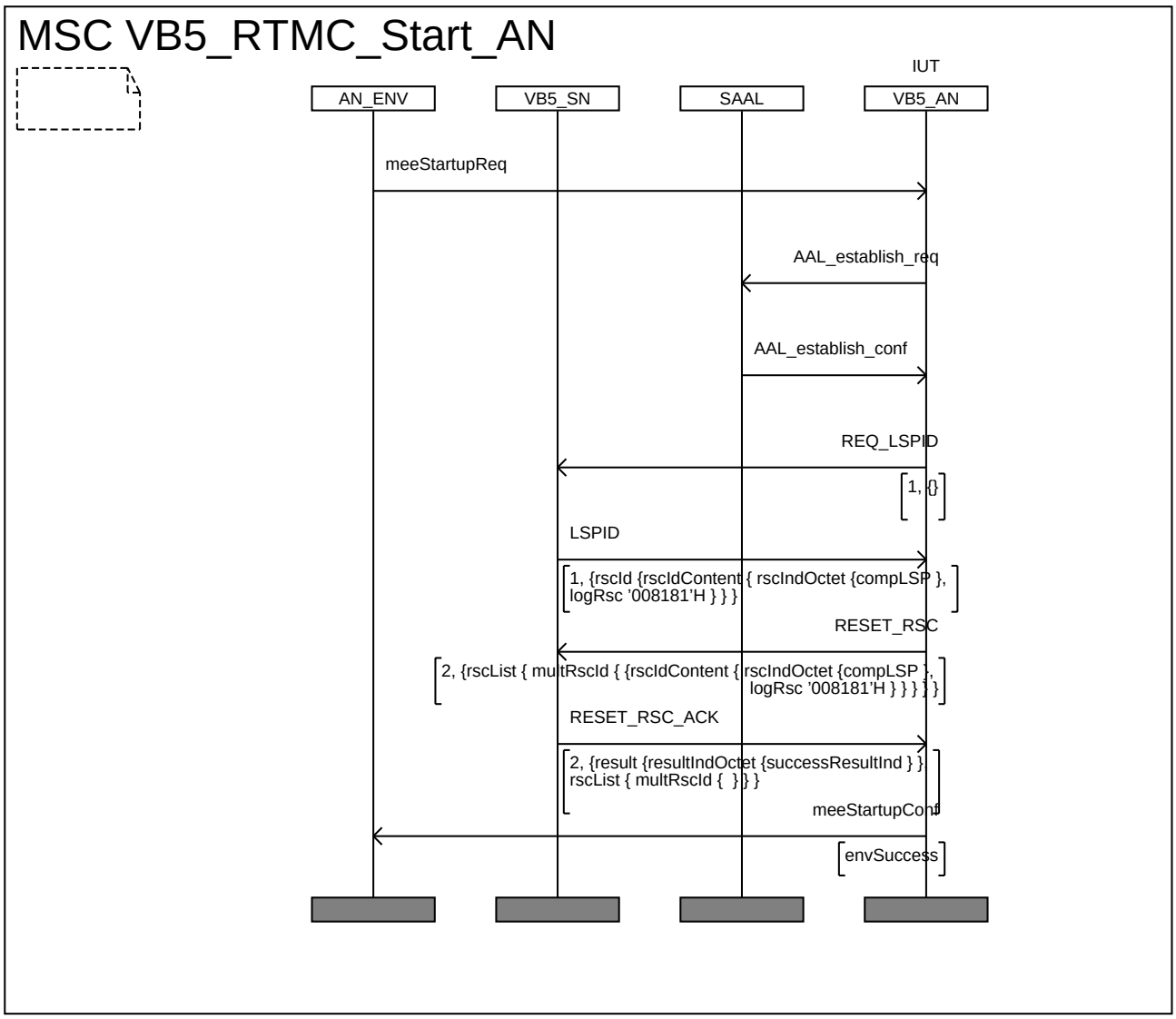
Startup_AN: initializes and starts the AN configuration (all resources unblocked).



The first component , Init_AN, initializes the resources used for testing the AN. The way to initialize depends upon the implementation, but if made through the environment interface (Q3), it is equivalent to the following MSC.

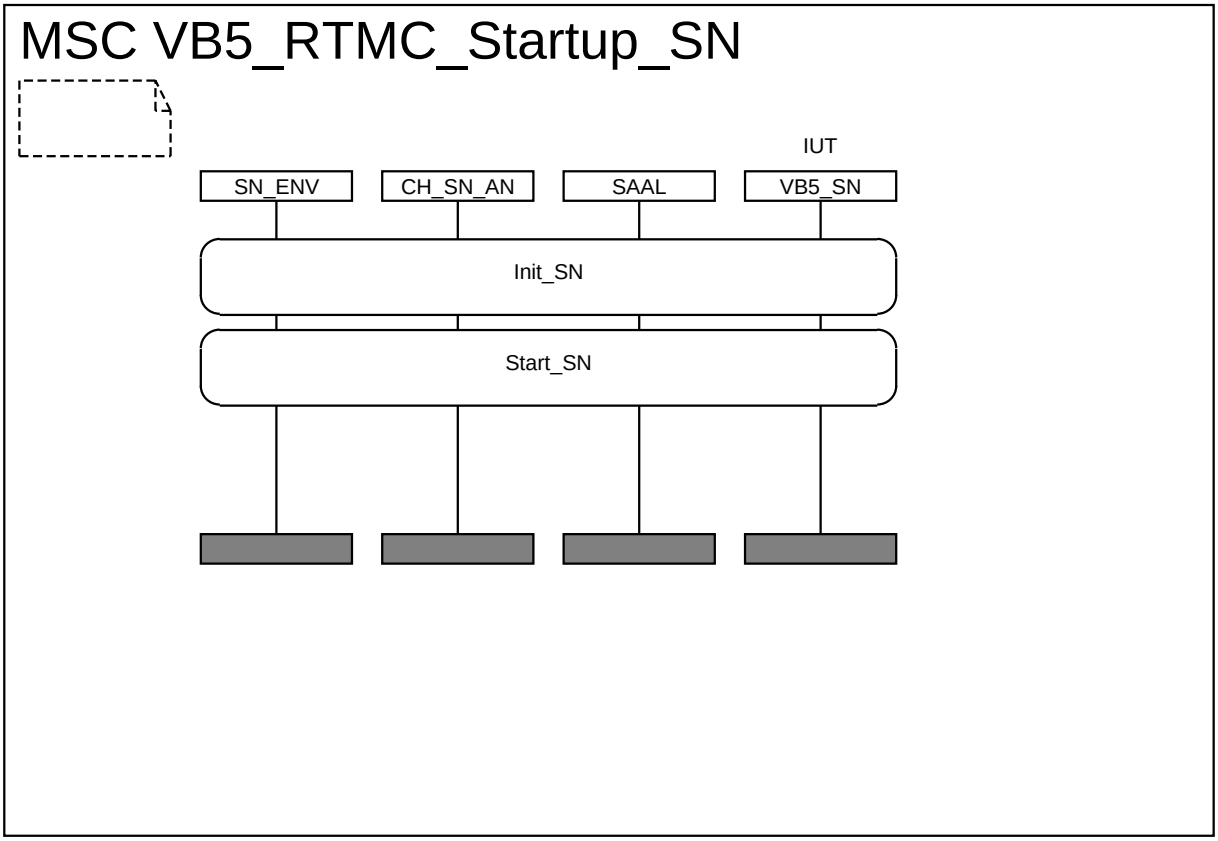

MSC VB5_RTMC_Init_AN
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0101'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0102'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0104'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0105'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8181'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8184'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8185'H }
meeVPCCreateConf

The second component , Start_AN, starts effectively the AN.

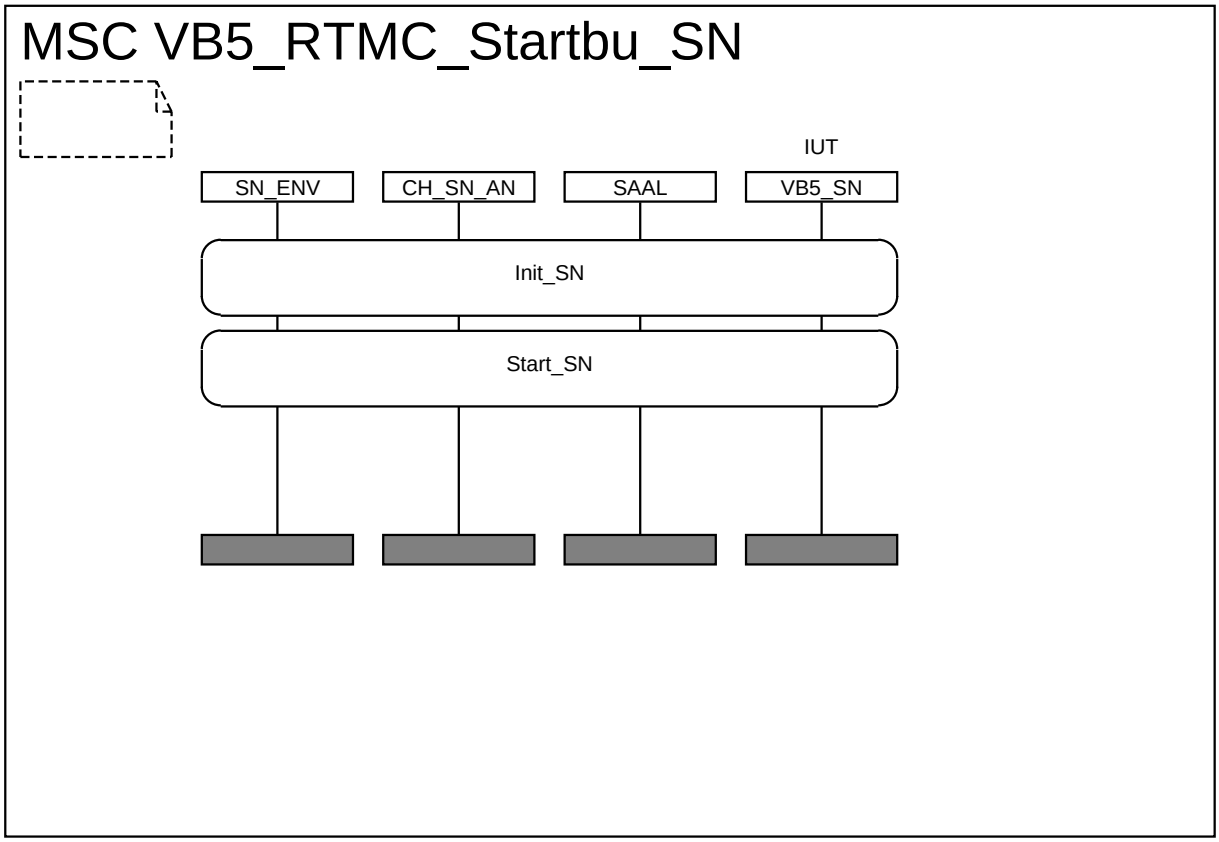


5.3.1.2 SN is the IUT

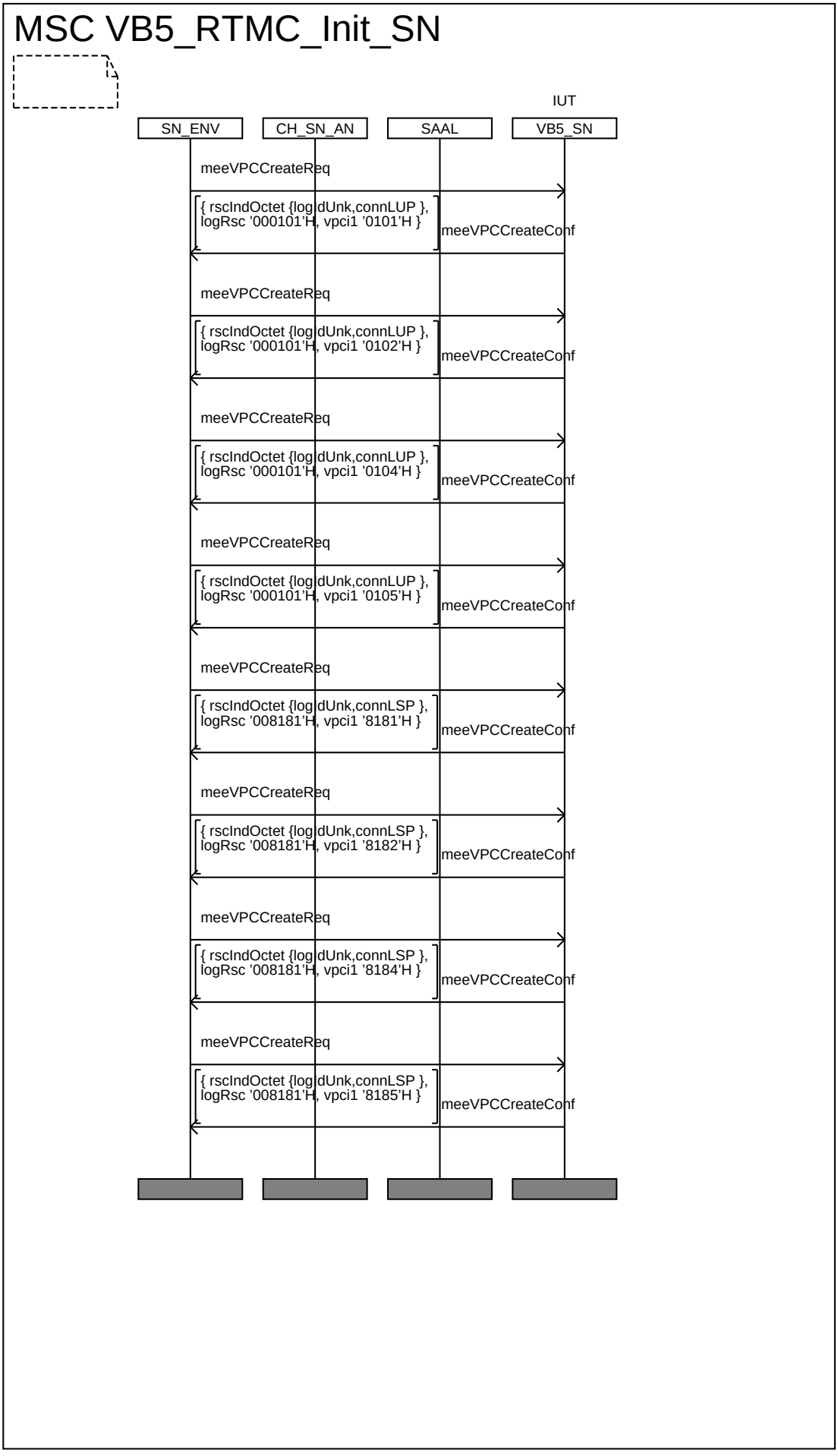
Startup_SN: initializes and starts the SN configuration (all resources are unblocked).



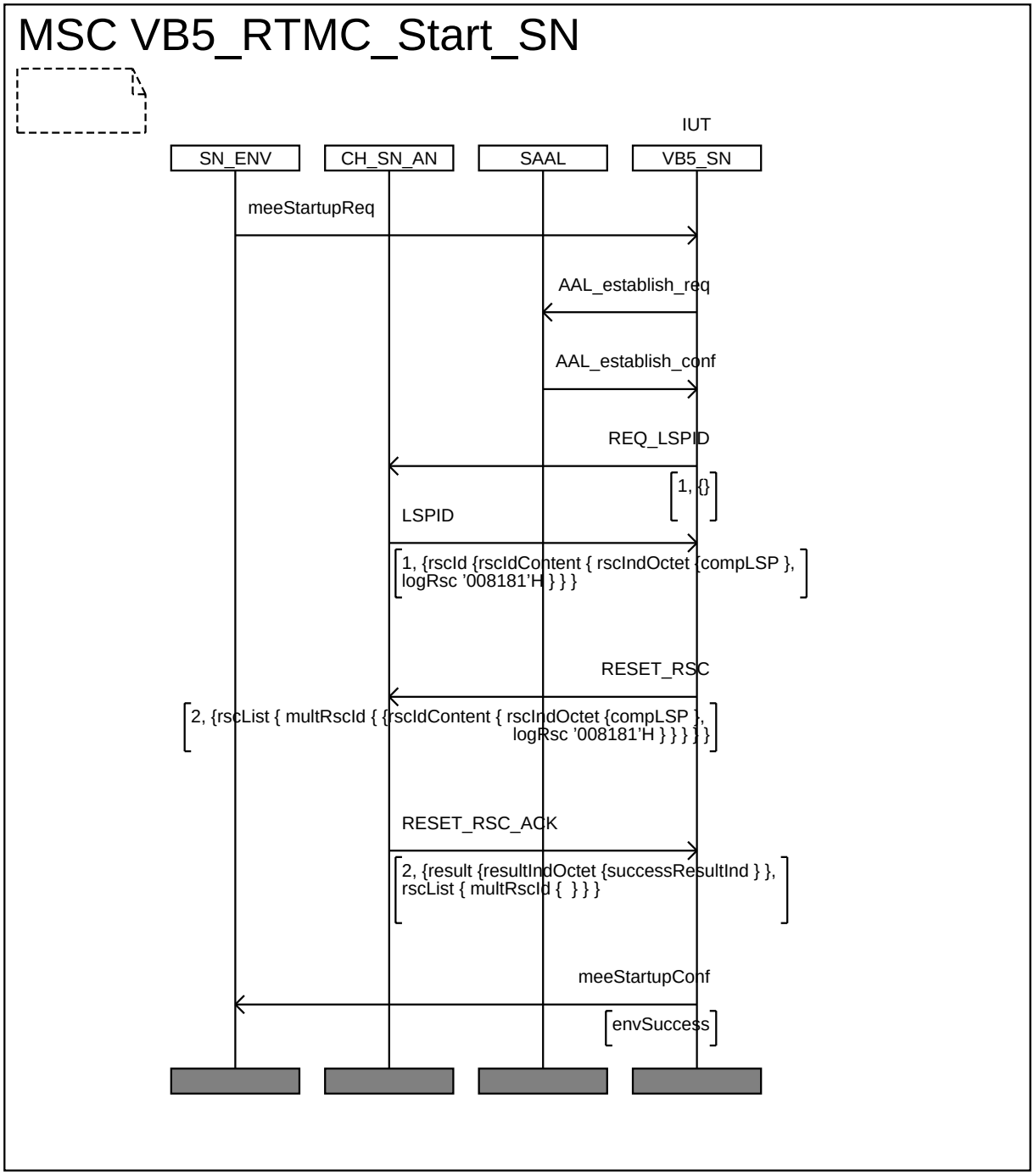
Startbu_SN: initializes and starts the SN configuration (some resources are busy carrying connections)



The first component of each preamble, Init_SN, initializes the resources used for testing the SN. The way to initialize depends upon the implementation, but if made through the environment interface (Q3), it is equivalent to the following MSC.


MSC VB5_RTMC_Init_SN
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
meeVPCCreateReq
{ rscIndOctet {logUnk,connLUP },
logRsc '000101'H, vpci1 '0101'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLUP },
logRsc '000101'H, vpci1 '0102'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLUP },
logRsc '000101'H, vpci1 '0104'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLUP },
logRsc '000101'H, vpci1 '0105'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLSP },
logRsc '008181'H, vpci1 '8181'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLSP },
logRsc '008181'H, vpci1 '8184'H }
meeVPCCreateConf
meeVPCCreateReq
{ rscIndOctet {logUnk,connLSP },
logRsc '008181'H, vpci1 '8185'H }
meeVPCCreateConf

The second component , Start_SN, starts effectively the SN.



5.3.2 Postamble descriptions

No preamble is used in this test suite.

6 Test Purposes definitions

6.1 AN is the IUT

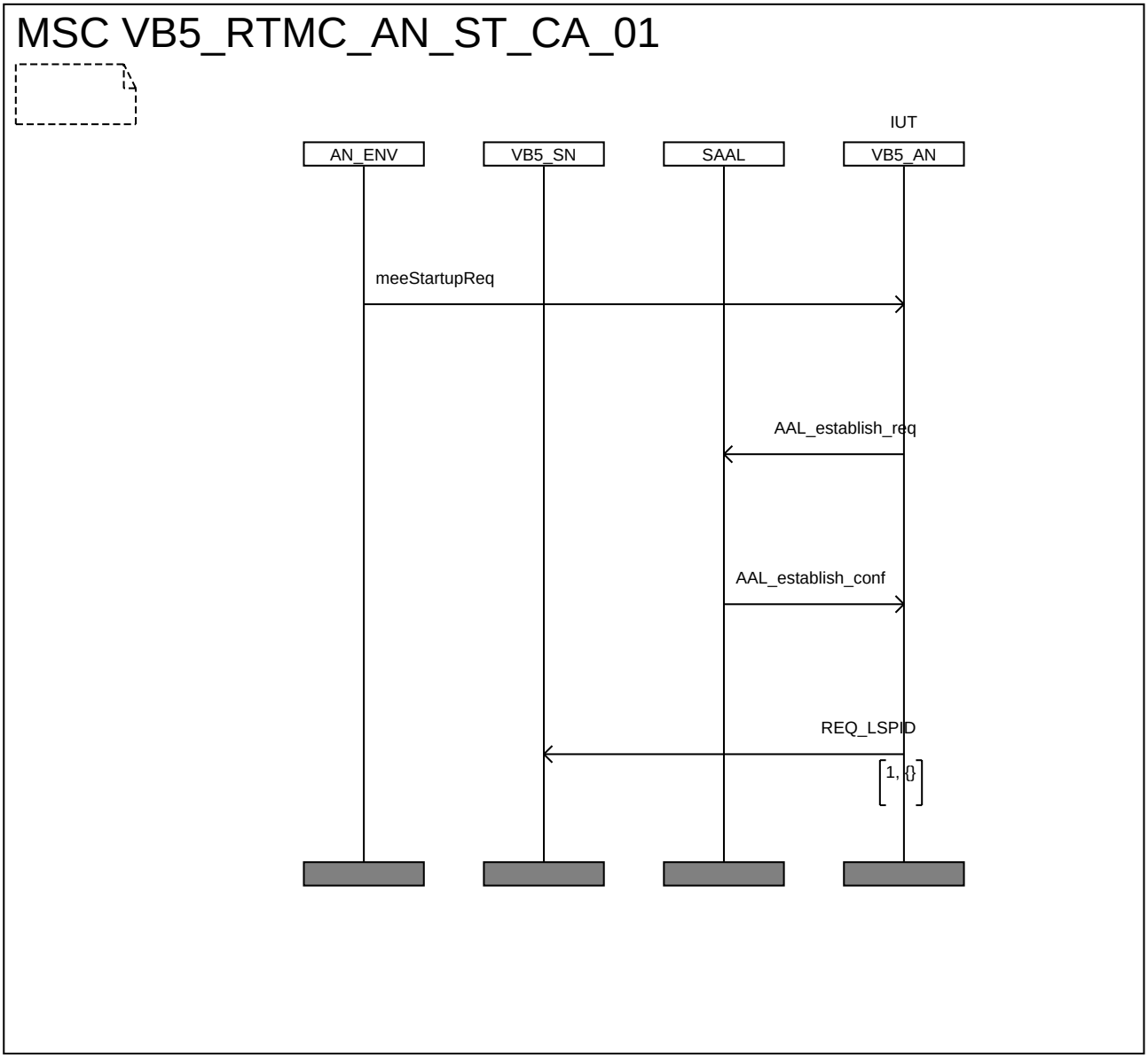
6.1.1 Basic capability tests (CA)

These tests verify the capability of the AN to exchange valid messages with the tester. The first step consists of starting up the AN RTMC. Subsequently, a number of valid messages are sent by the tester, in response to the requests sent by the AN during start-up.

Start Up procedure (ST).

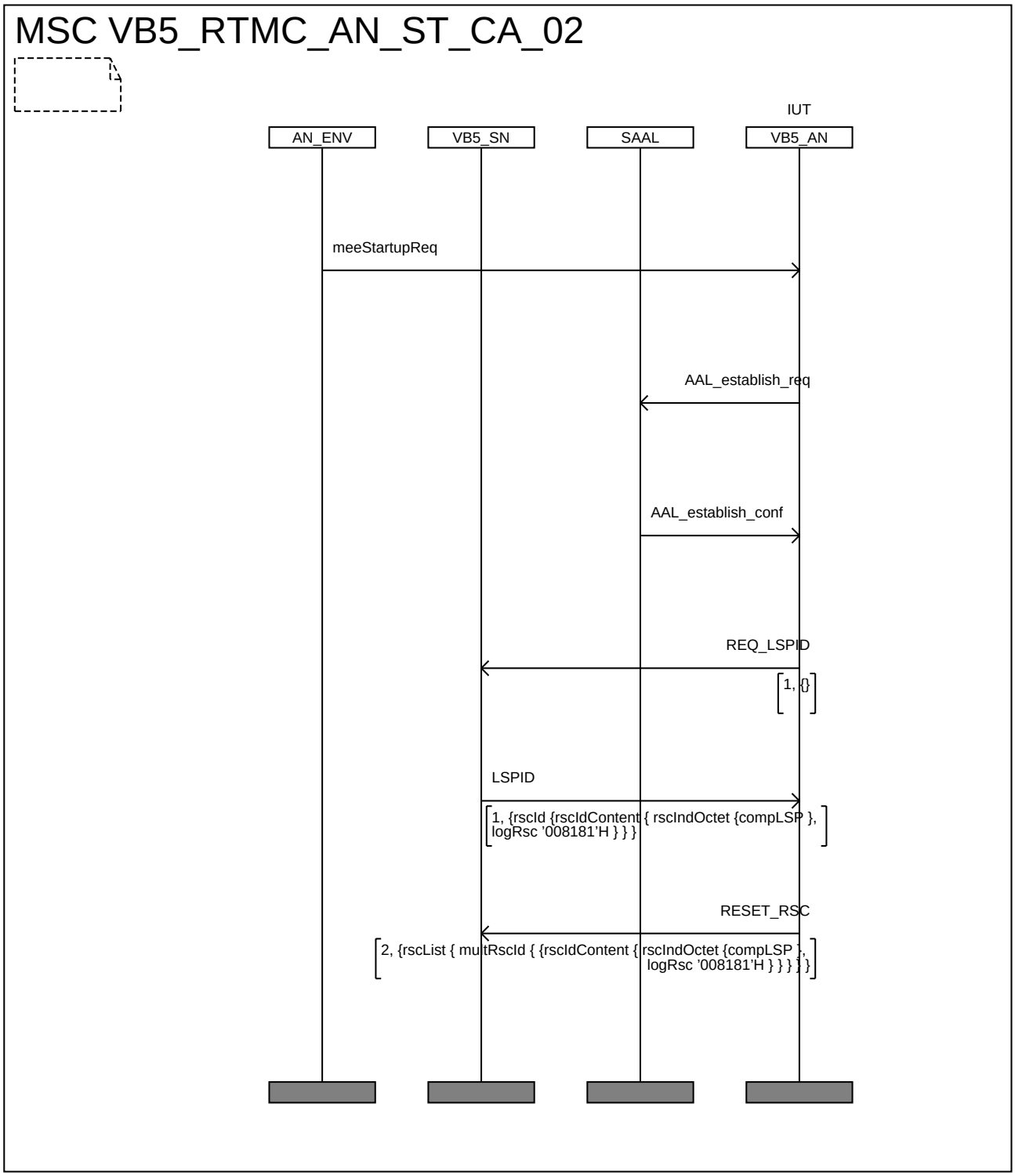
Start Up initiated by AN, first step.

VB5_RTMC_AN_ST_CA_01	**Reference EN 301 005-1 [1] : 13.3.4.1.2**
Purpose	Check start up of RTMC, on request of operator associated with AN.
Test description	The tester sets up the layer 2 then issues an implicit send to cause the IUT to initiate a start up procedure.
Pass criteria	Check that the tester is receiving successively the SAAL PDU to set up the layer 2 and subsequently the RTMC PDU **REQ_LSPID**
Selection	None
Preamble	None
Postamble	None
Additional testing	None

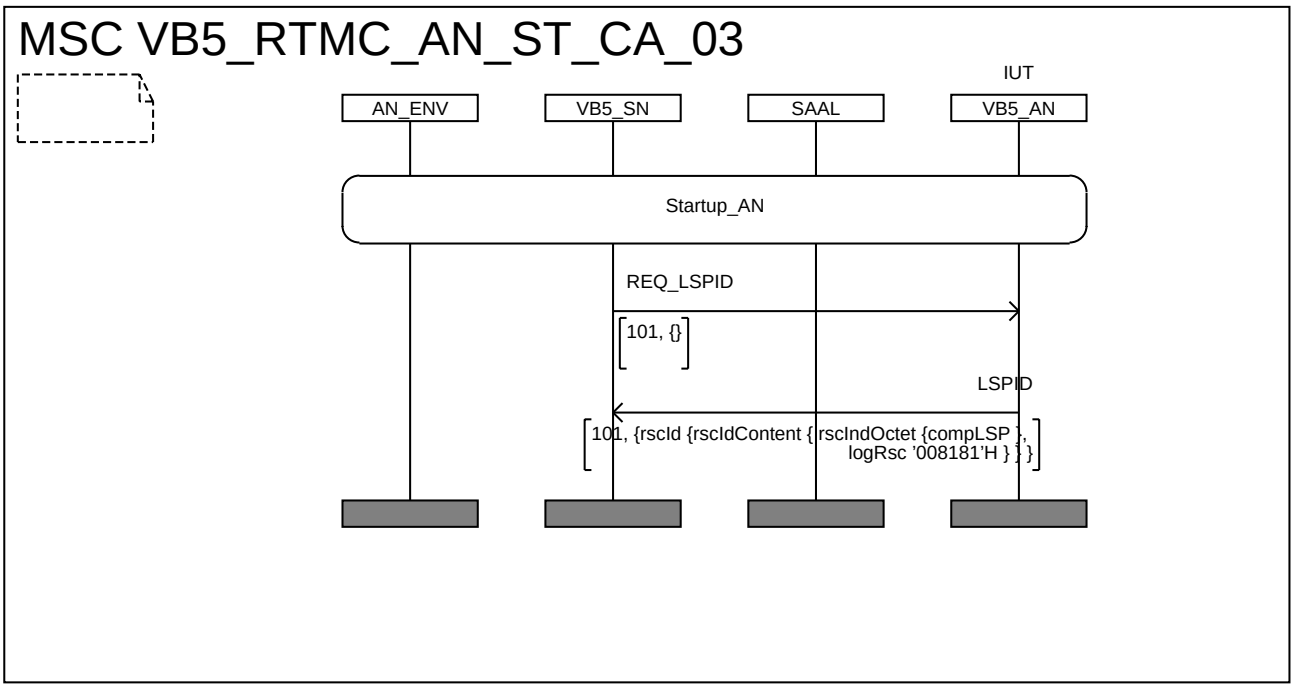


Start Up initiated by AN, complete.

VB5_RTMC_AN_ST_CA_02	Reference EN 301 005-1 [1] : 13.3.4.1.2
Purpose	Check start up of RTMC, on request of operator associated with AN.
Test description	The tester sets up the layer 2 then issues an implicit send to cause the IUT to initiate a start up procedure. The tester is receiving successively the SAAL PDU to set up the layer 2 and subsequently the RTMC PDU **REQ_LSPID.** The tester sends back its **LSPID**
Pass criteria	Check that the tester receives **RESET_RSC** with resource indicator = complete LSP and valid LSPId.
Selection	None
Preamble	None
Postamble	None
Additional testing	When tester has completed the sending of the RESET_RSC_ACK PDU meeStartupConf is sent to the AN environment



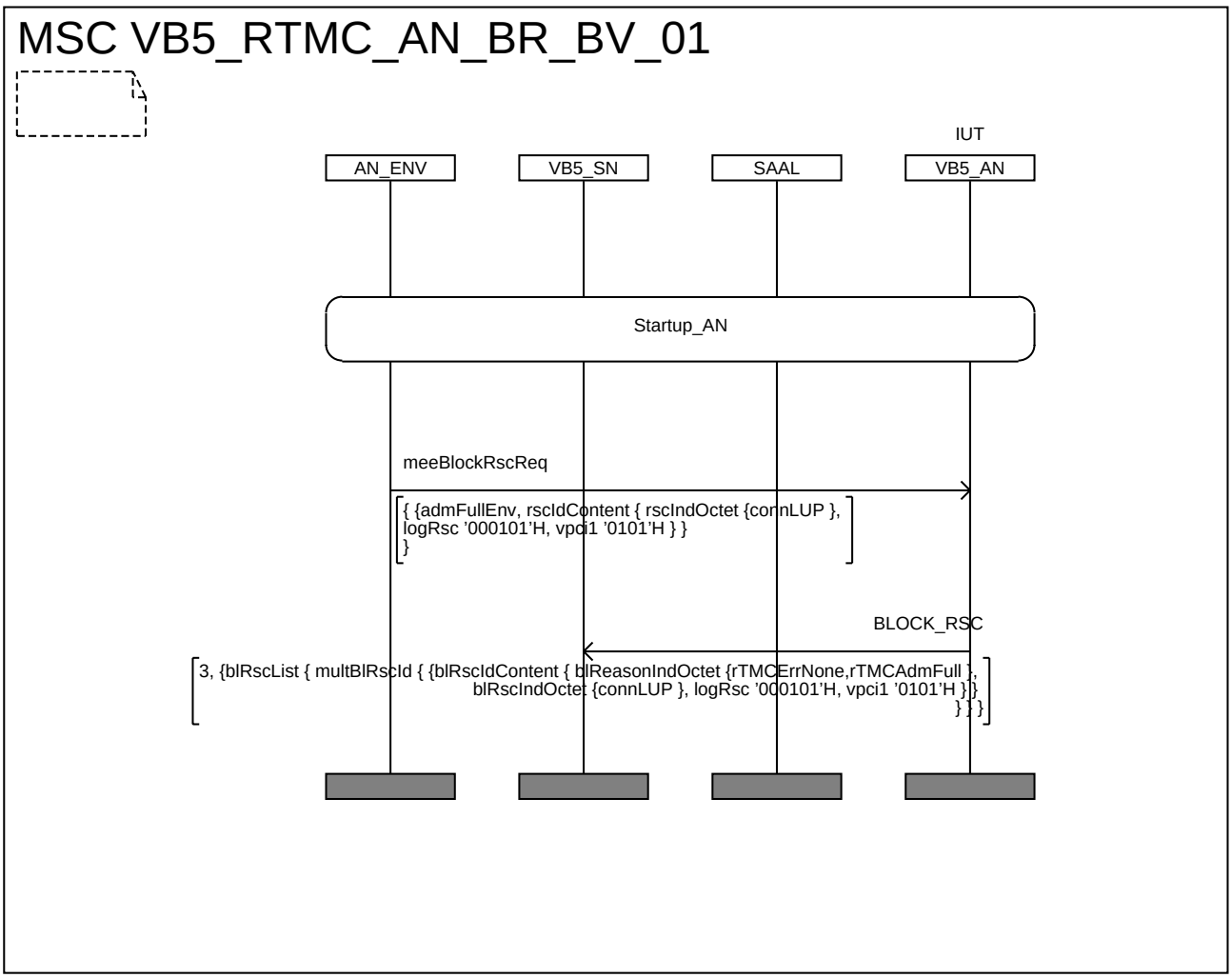
VB5_RTMC_AN_ST_CA_03	Reference EN 301 005-1 [1] : 13.3.1.4
Purpose	Check that the AN is answering to a tester command using same transaction Identifier
Test description	The tester sends **REQ_LSPID** PDU to the IUT.
Pass criteria	Check that the tester is receiving **LSPID** PDU containing the correct transaction identifier
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	None



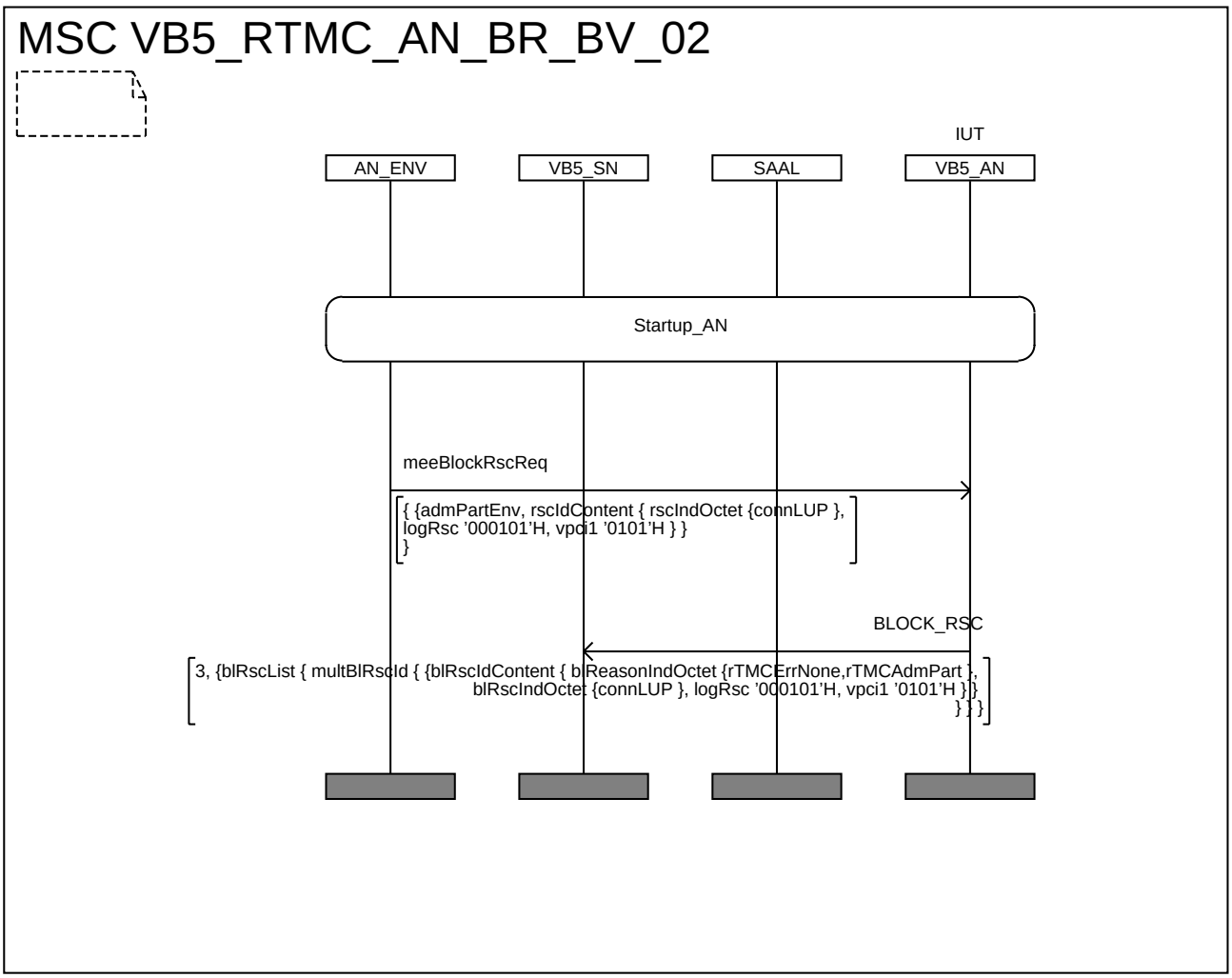
6.1.2 Blocking resource procedure (BR)

- VPC at LUP.

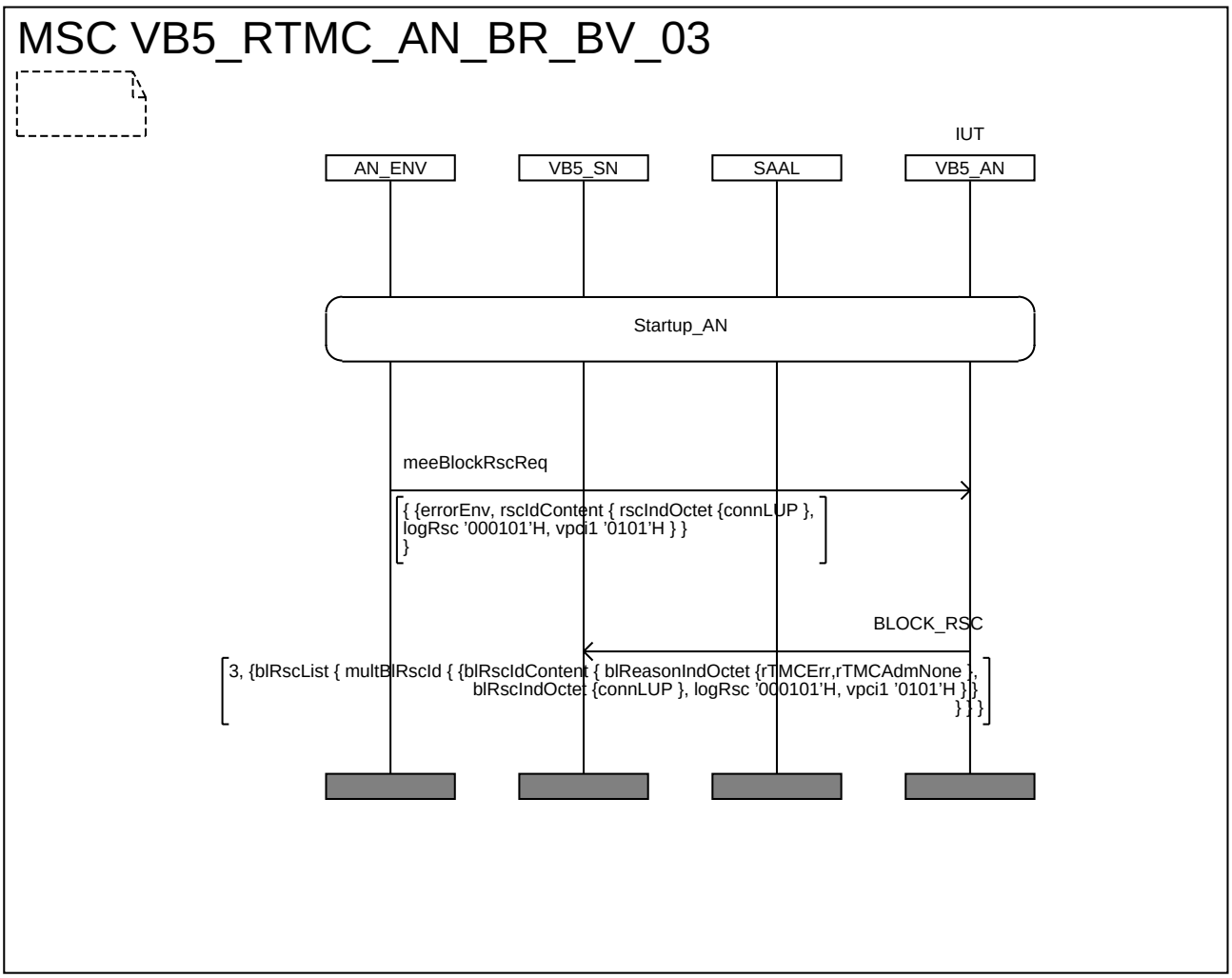
VB5_RTMC_AN_BR_BV_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, with valid parameters, reason = admFull
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid parameters: LUPId and VPCI, reason = AdmFull
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment. The cell flow on the blocked resource is inhibited in all cases, also when the resource is used in (semi-)permanent connections.
NOTE: This inhibition is activated in the AN independently from the initiation of the block resource procedure in the VB5.1 interface, as a parallel action.	



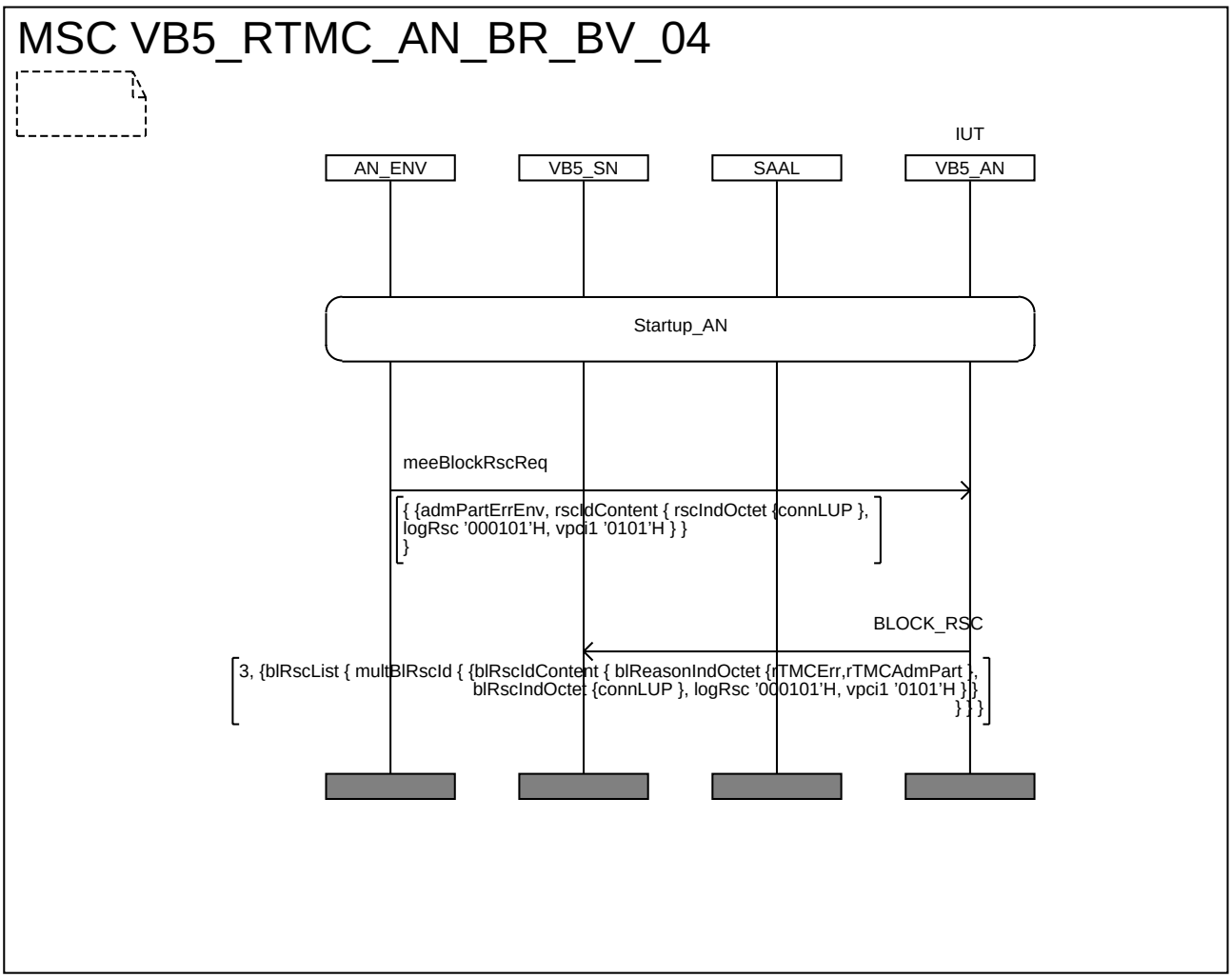
VB5_RTMC_AN_BR_BV_02	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, with valid parameters, reason = admPart
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid parameters: LUPId and VPCI, reason = AdmPart
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment



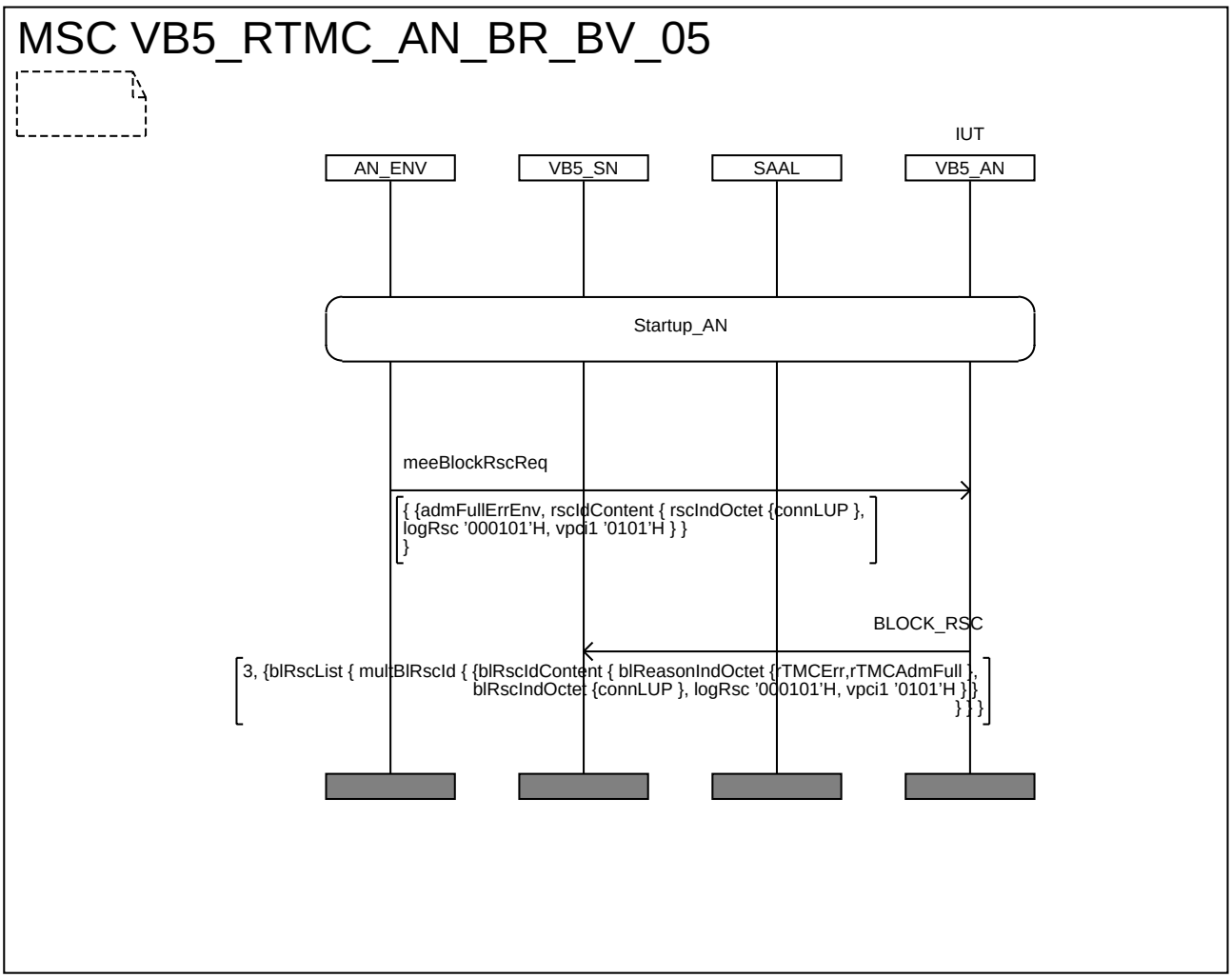
VB5_RTMC_AN_BR_BV_03	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, with valid parameters, reason = error
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid parameters: LUPId and VPCI, reason = Err
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment

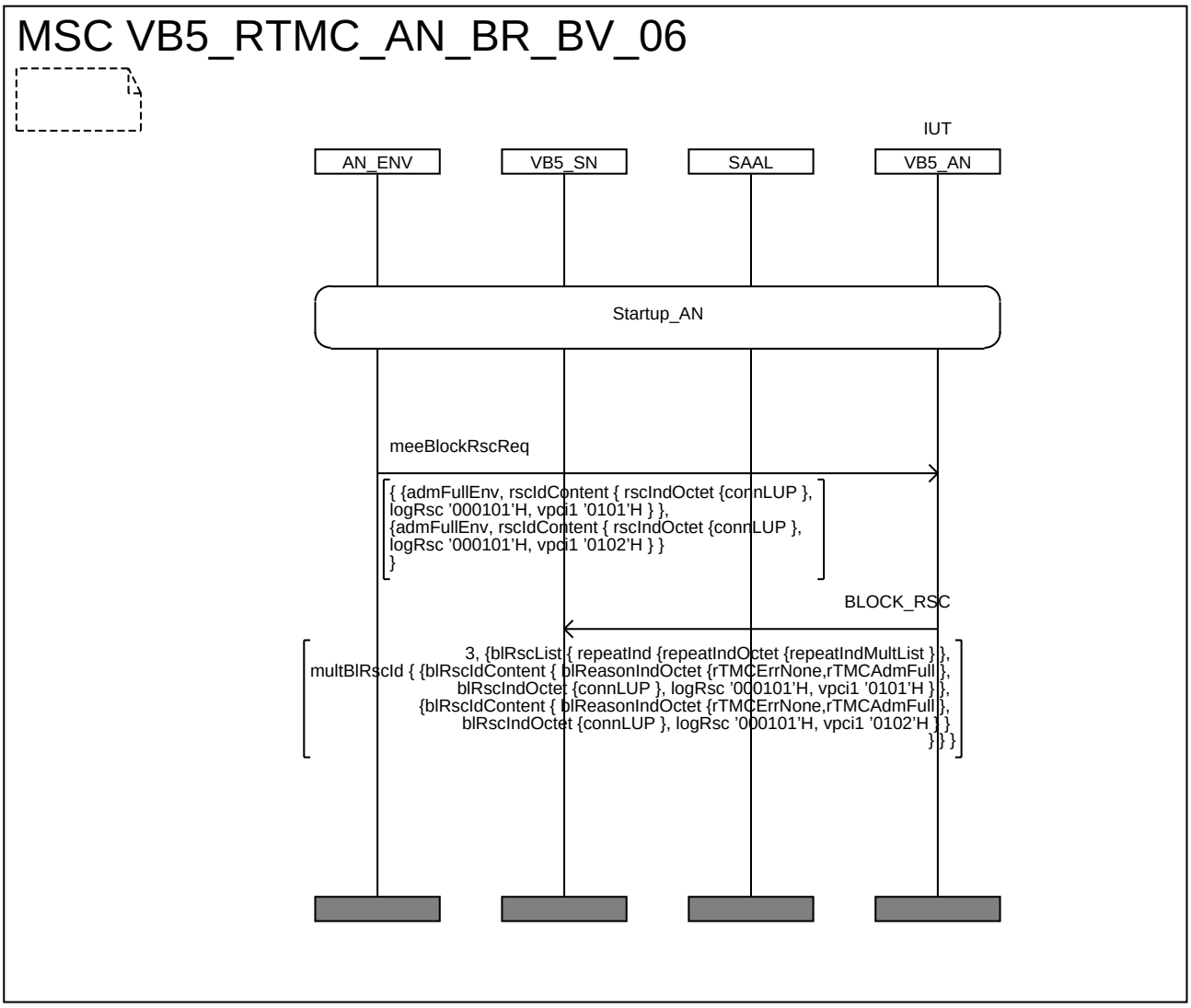


VB5_RTMC_AN_BR_BV_04	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, with valid parameters, reason = error + admPart
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid parameters: LUPId and VPCI, reason = Err + admPart
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment

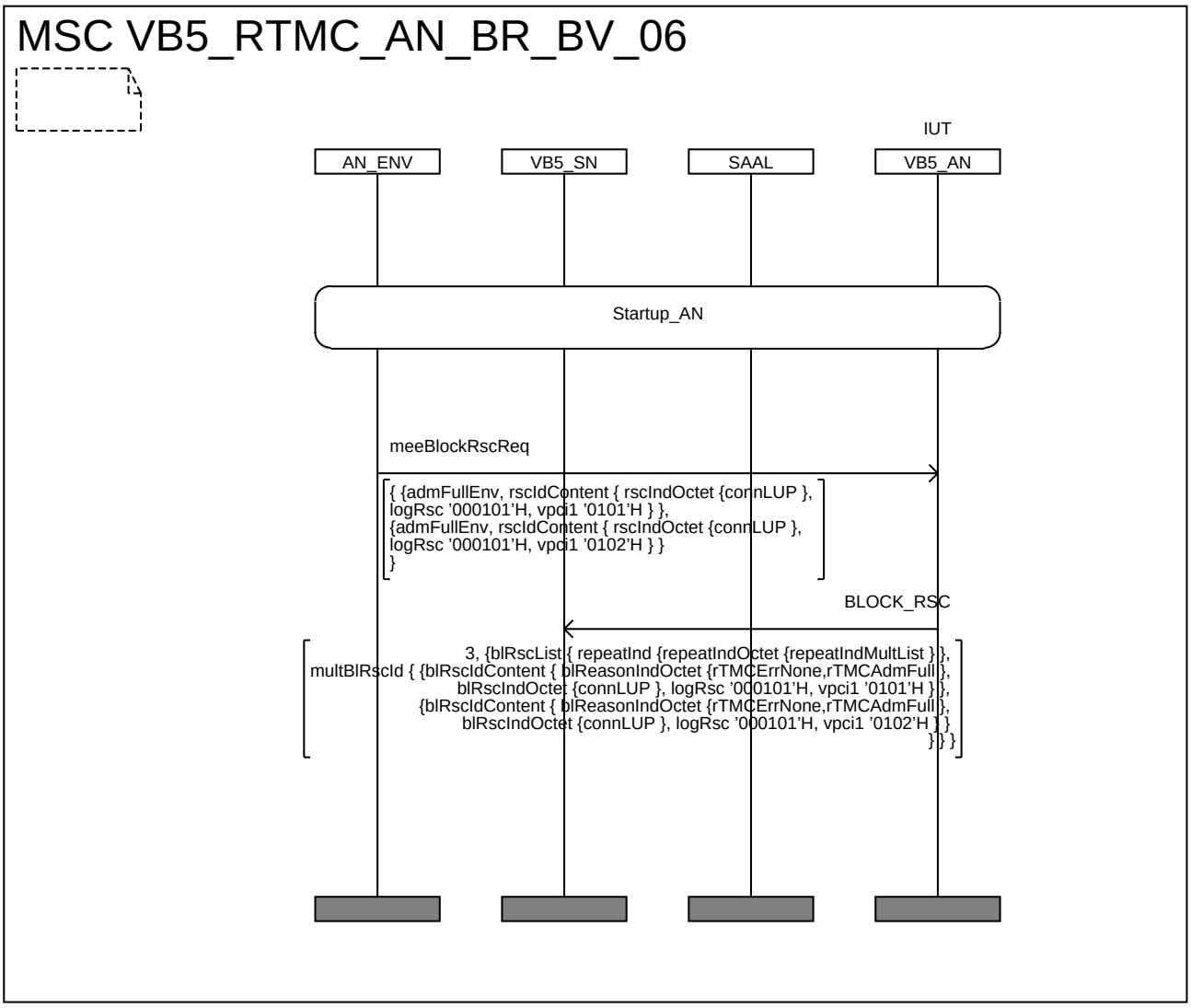


VB5_RTMC_AN_BR_BV_05	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, with valid parameters, reason = error + admFull
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid parameters: LUPId and VPCI, reason = Err + admFull
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment

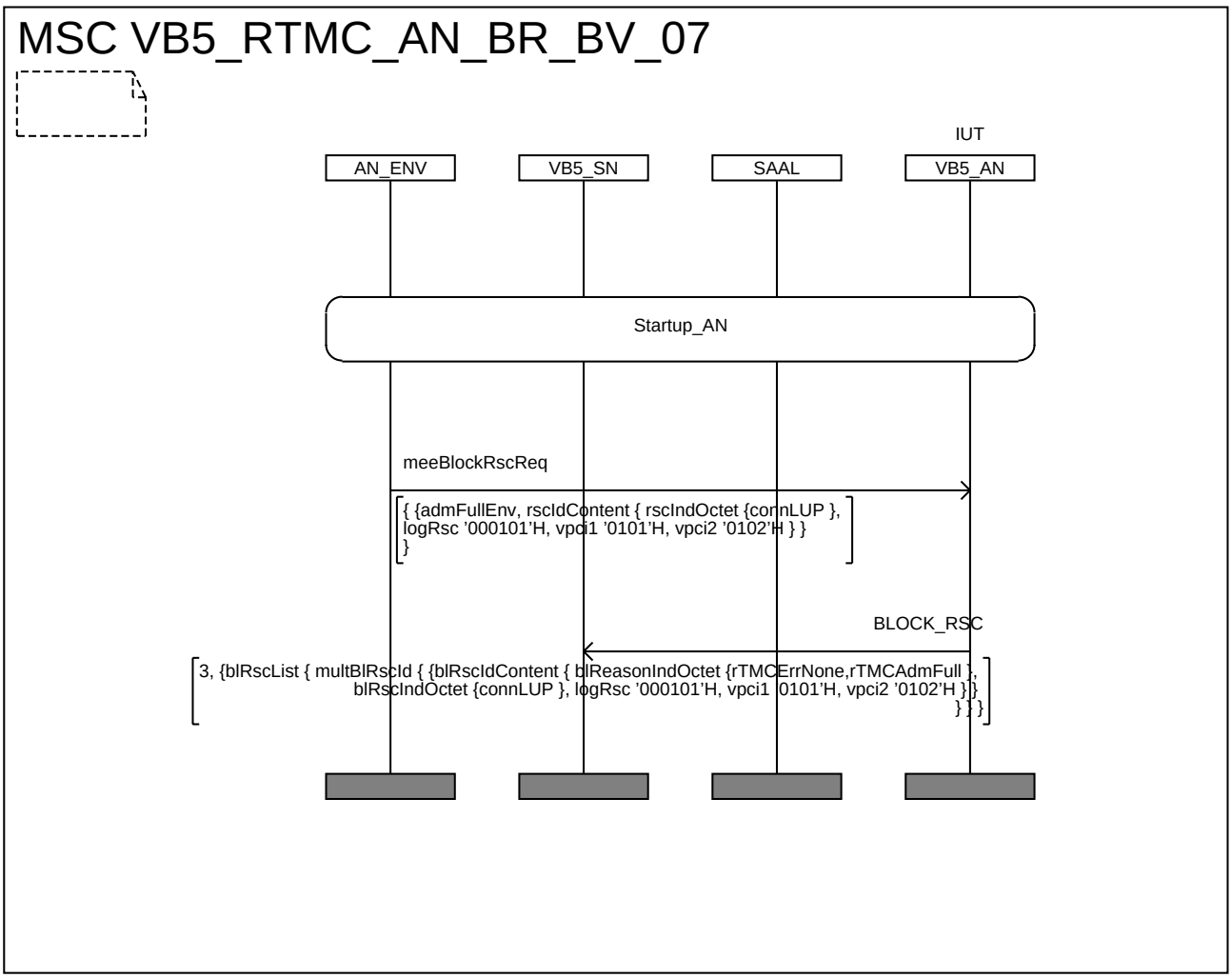

MSC VB5_RTMC_AN_BR_BV_05
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
meeBlockRscReq
{ {admFullErrEnv, rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } }
}
BLOCK_RSC
3, {blRscList { multiBlRscId { {blRscIdContent { blReasonIndOctet {rTMCErr,rTMCAdmFull },
blRscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0101'H } }
} } }



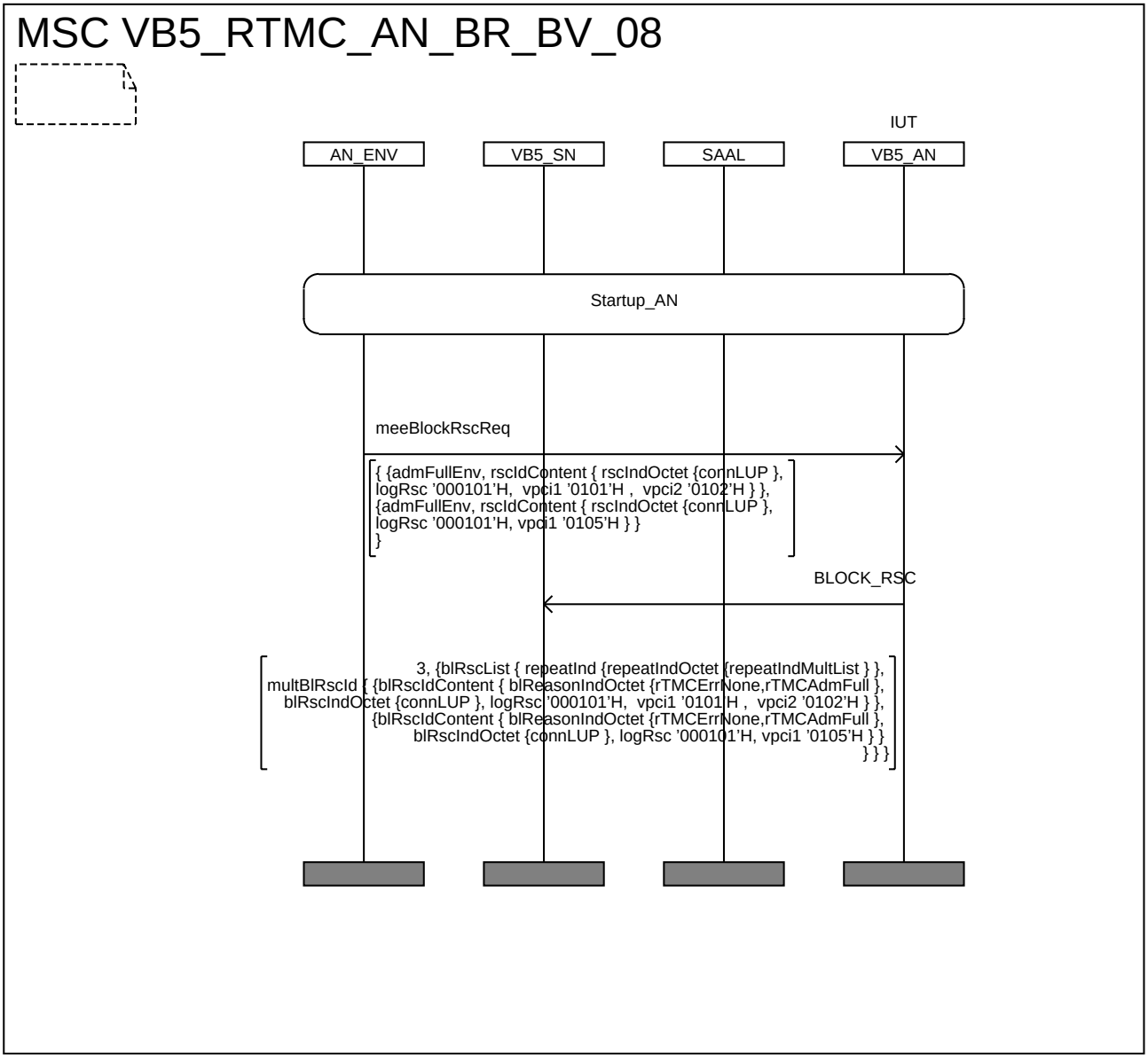
VB5_RTMC_AN_BR_BV_06	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of several VPCs, using list of valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing a list of blocked resource identifiers, containing valid parameters: LUPId and known VPCIs, reason = AdmFull
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment



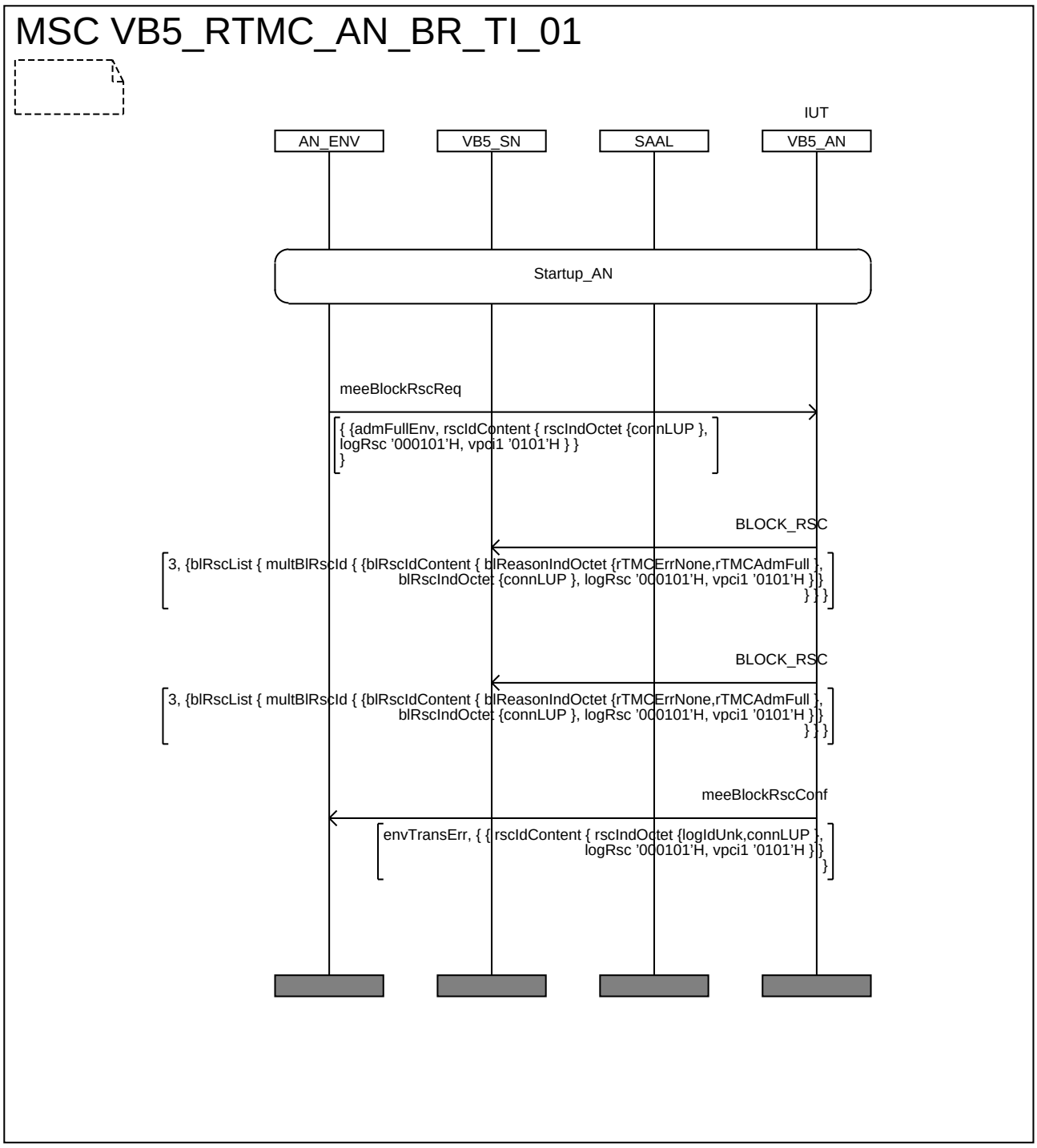
VB5_RTMC_AN_BR_BV_07	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of part of a PUP (several VPC), using valid parameter boundaries to define a range
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid parameters: LUPId and first and last of a list of consecutive known VPCIs, reason = AdmFull
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment



VB5_RTMC_AN_BR_BV_08	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of several VPCs, using a list of blocked resource identifiers containing valid parameters, one of them including boundaries to define a range of VPCIs
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure.
Pass criteria	Check that the tester is receiving **BLOCK_RSC** PDU containing valid mixture of parameters: LUPId and VPCIs, reason = AdmFull
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = success is sent to AN environment



VB5_RTMC_AN_BR_TI_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check time out on "blocking resource" of a single VPC
Test description	The tester issues an implicit send to cause the IUT to initiate a BLOCK resource procedure. Then the IUT sends **BLOCK_RSC** PDU to the tester with valid LUPId and VPCI, reason = AdmFull . The tester does not respond with **BLOCK_RSC_ACK** PDU within **T_block** time
Pass criteria	Check that the tester is receiving a second **BLOCK_RSC** PDU containing same correct parameters
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Block_RSC_ACK, meeBlockRscConf with Result indicator = transmission error is sent to AN environment



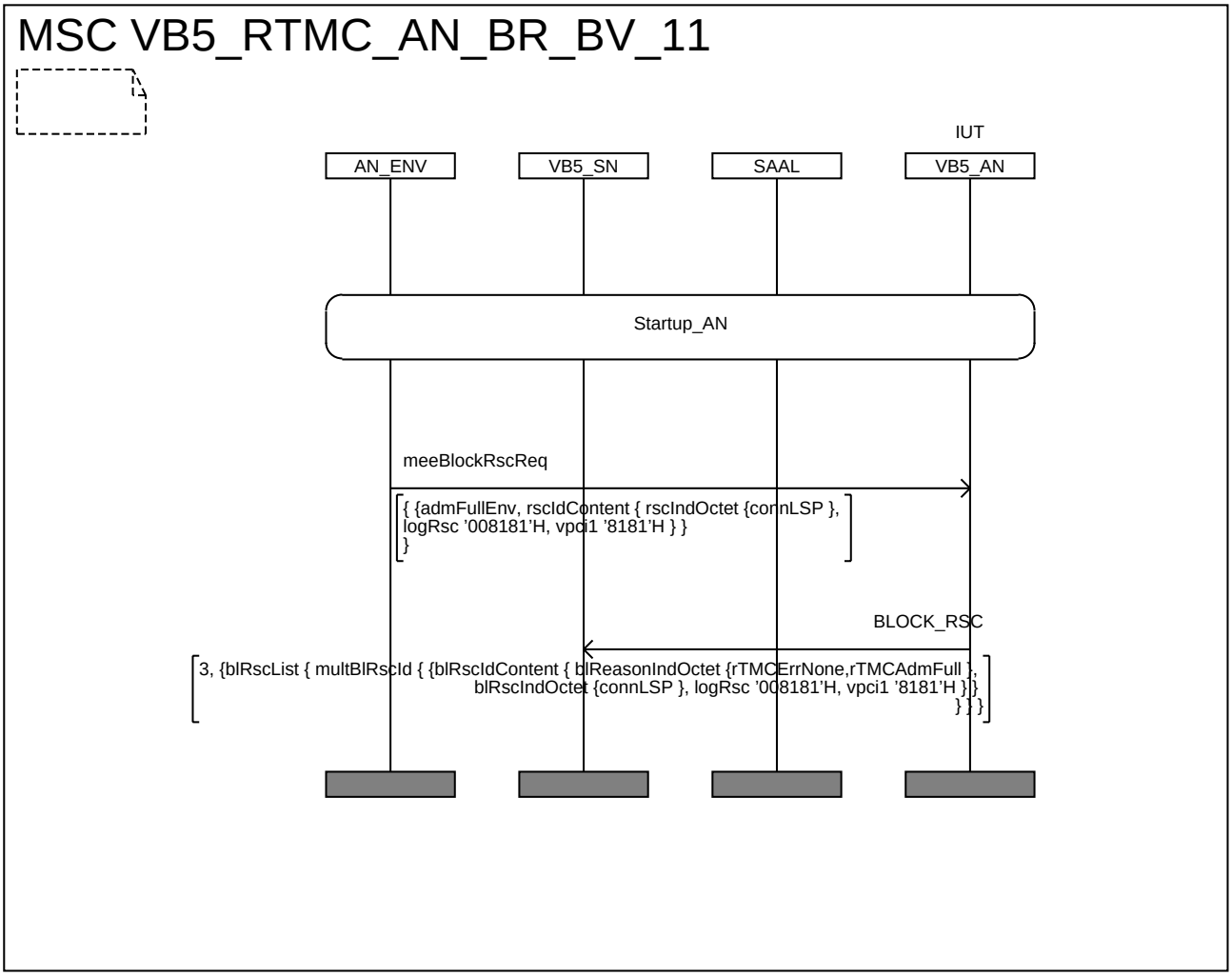
- VPC at LSP.

It is possible to block a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that a set of TPs, identical to the previous one, is made by replacing LUPId by LSPId.

Test purpose naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_AN_BR_BV_01	VB5_RTMC_AN_BR_BV_11
VB5_RTMC_AN_BR_BV_02	VB5_RTMC_AN_BR_BV_12
VB5_RTMC_AN_BR_BV_03	VB5_RTMC_AN_BR_BV_13
VB5_RTMC_AN_BR_BV_04	VB5_RTMC_AN_BR_BV_14
VB5_RTMC_AN_BR_BV_05	VB5_RTMC_AN_BR_BV_15
VB5_RTMC_AN_BR_BV_06	VB5_RTMC_AN_BR_BV_16
VB5_RTMC_AN_BR_BV_07	VB5_RTMC_AN_BR_BV_17
VB5_RTMC_AN_BR_BV_08	VB5_RTMC_AN_BR_BV_18
VB5_RTMC_AN_BR_TI_01	VB5_RTMC_AN_BR_TI_11

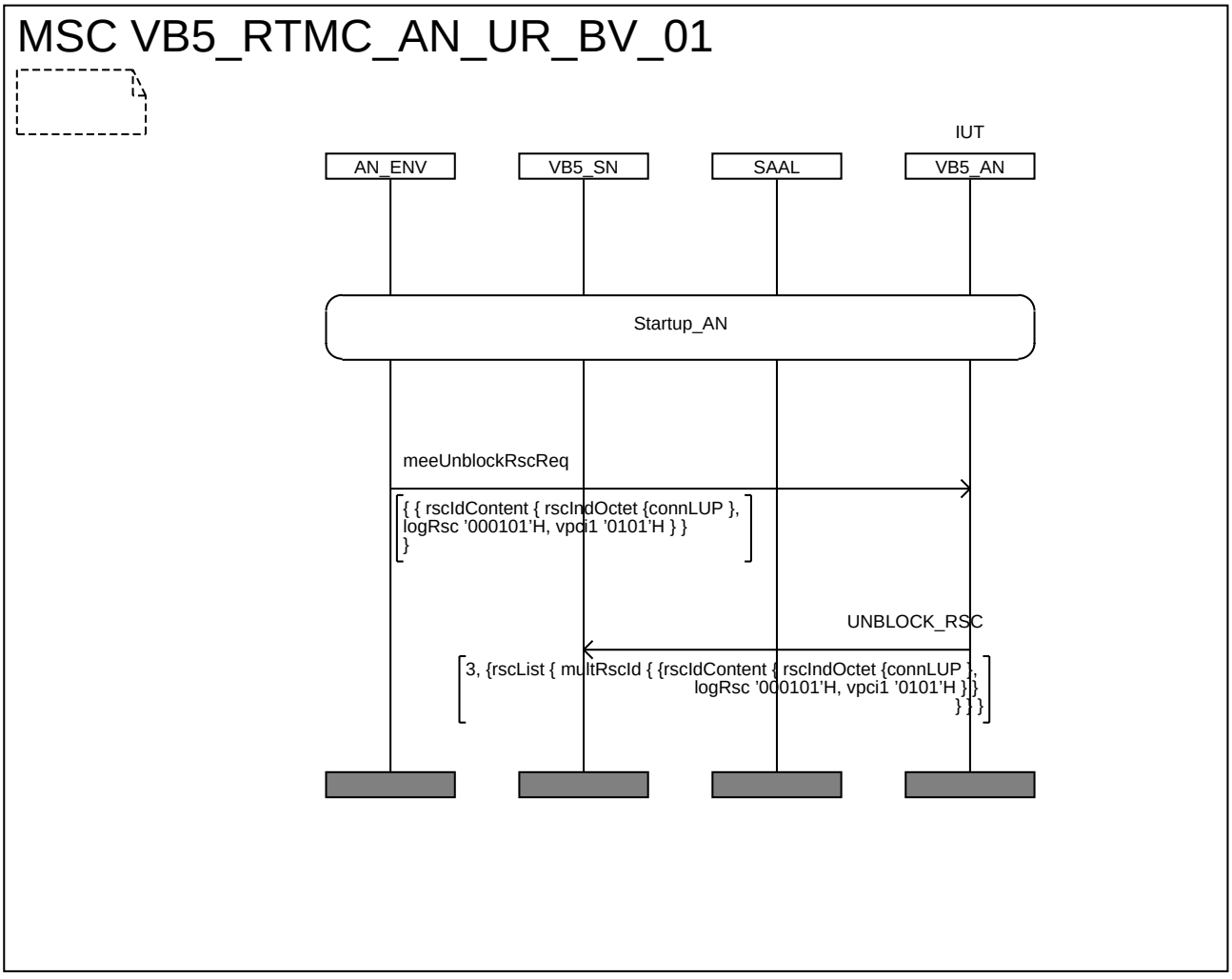
The MSCs for the set of TPs relative to VPC at LSP are not included in this present document. The following MSC gives an example of the changes due when going from VPC at LUP to VPC at LSP.



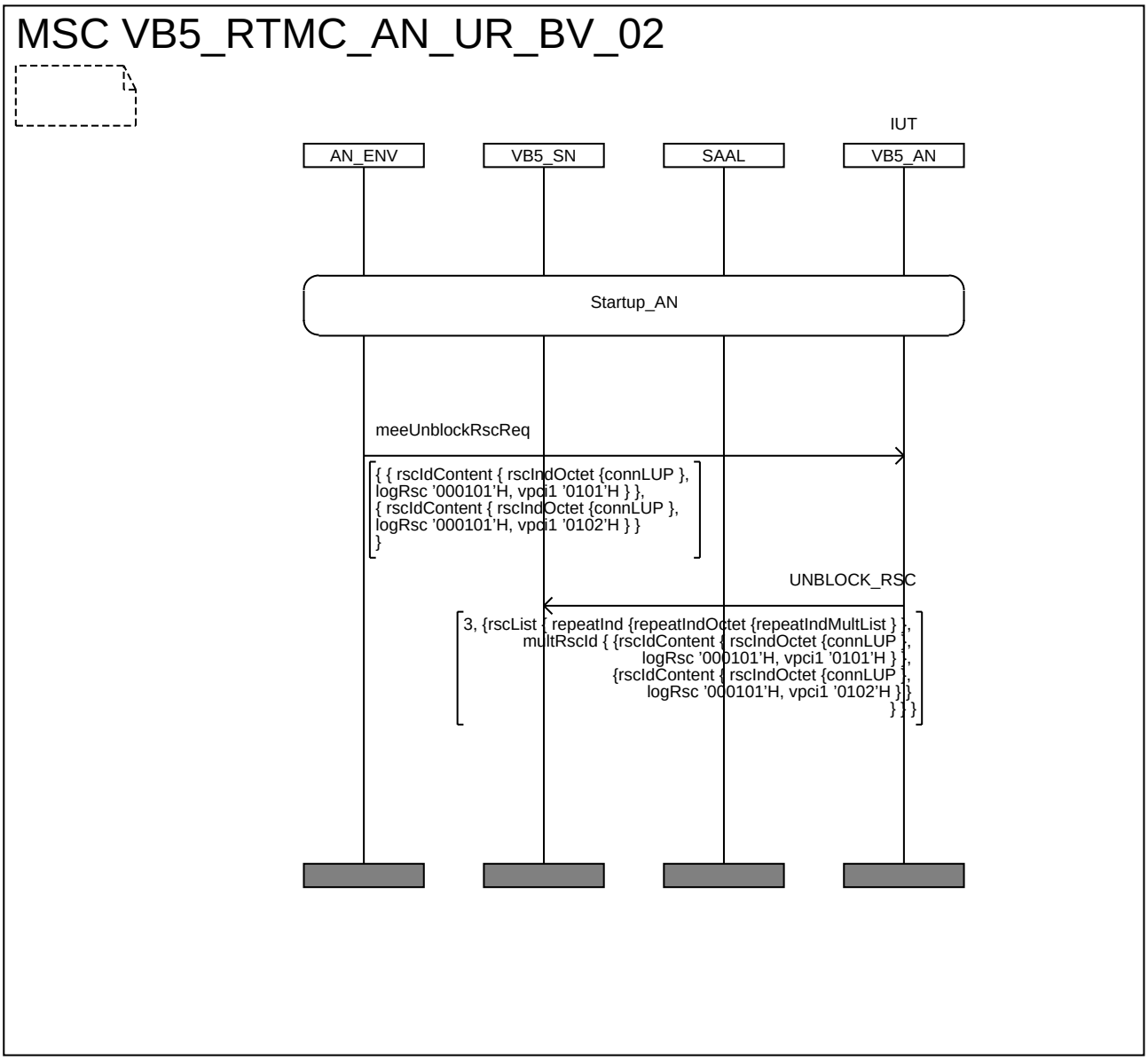
6.1.3 Unblocking resource procedure (UR)

- VPC at LUP.

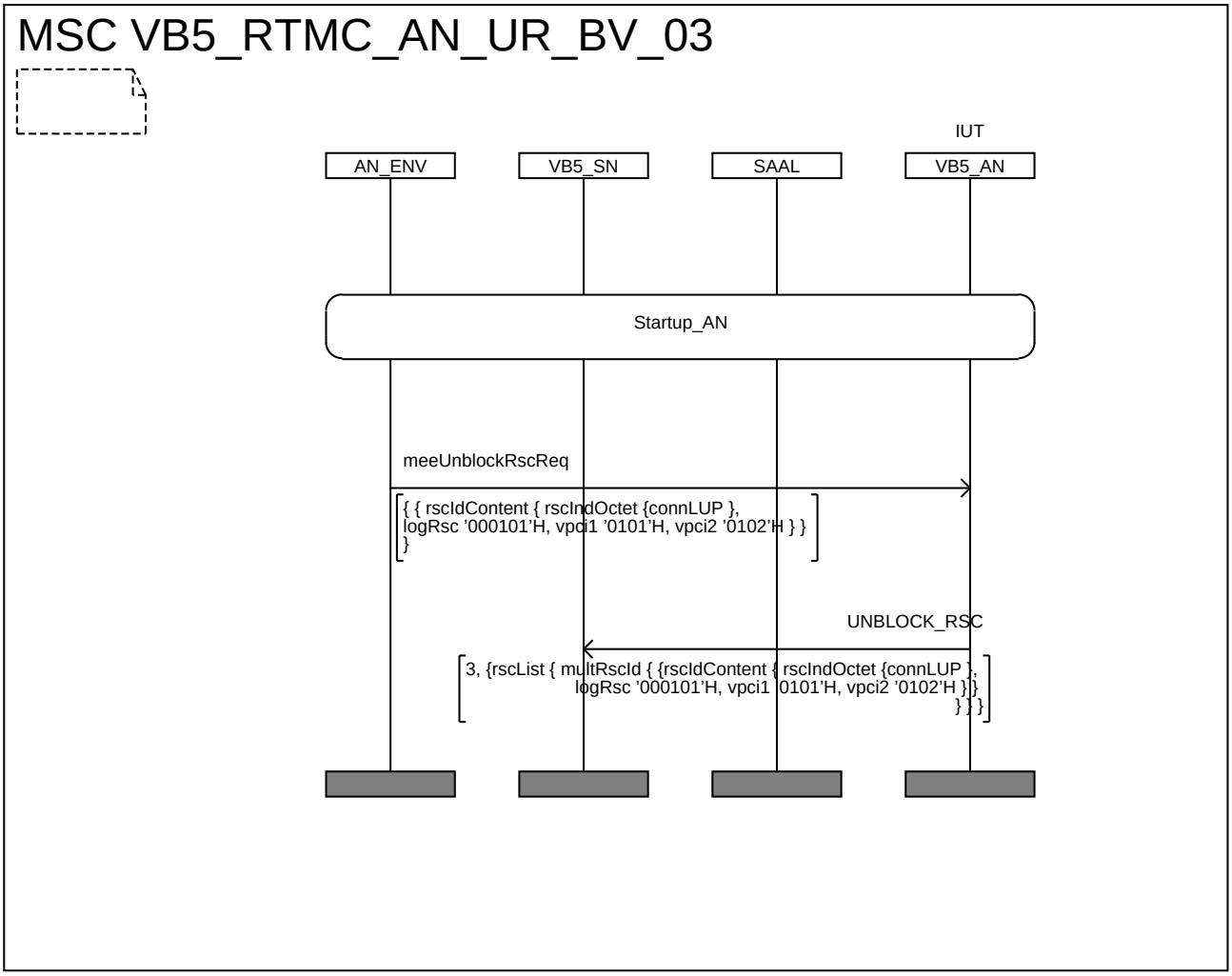
VB5_RTMC_AN_UR_BV_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of a single VPC, with valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate an UNBLOCK resource procedure.
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC** PDU containing correct parameters LUPId and VPCI
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Unblock_RSC_ACK, meeUnblockRscConf with Result indicator = success is sent to AN environment



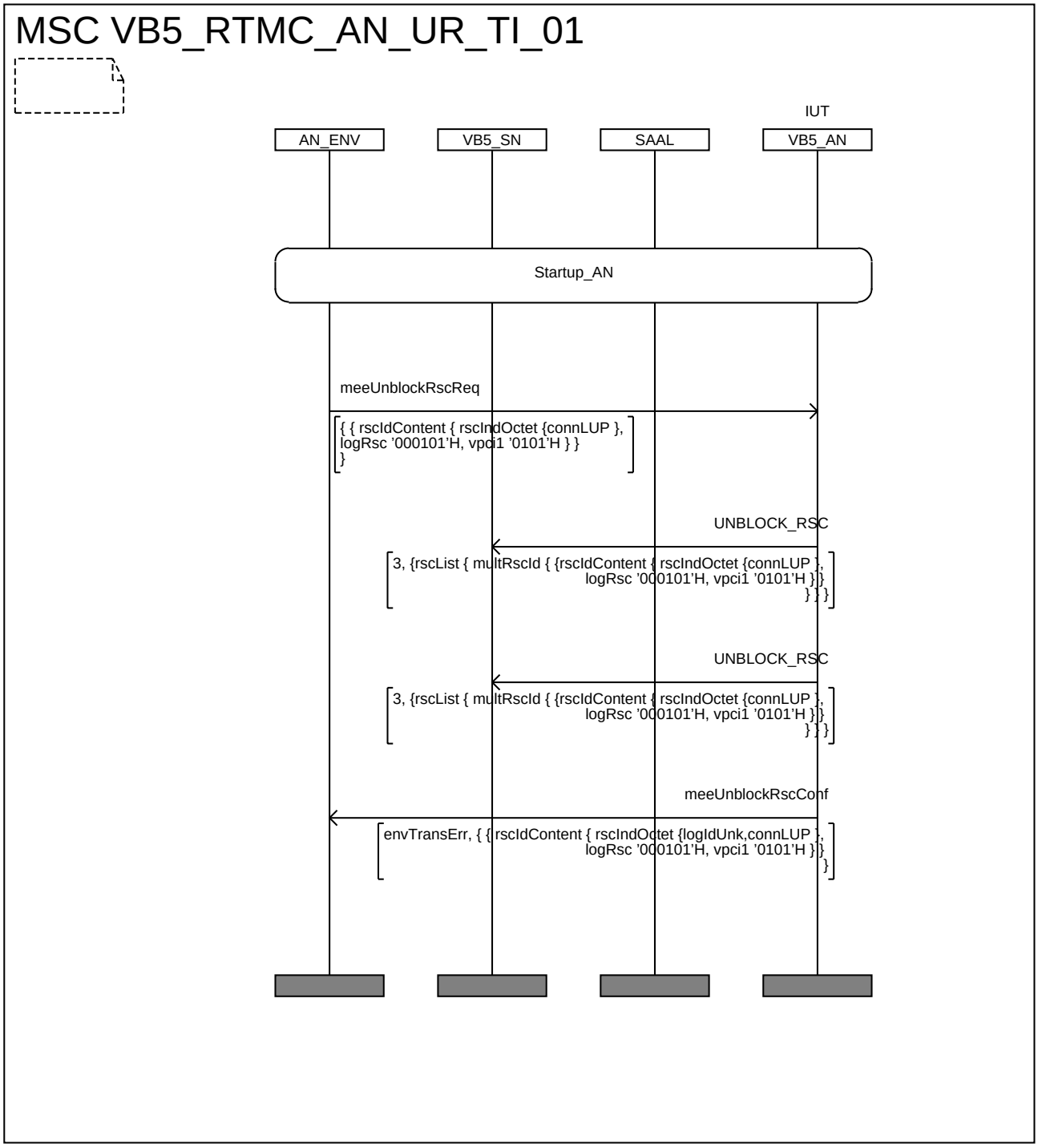
VB5_RTMC_AN_UR_BV_02	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of several VPCs, using list of valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate an UNBLOCK resource procedure.
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC** PDU containing correct parameters: list of resource identifiers containing known LUPId and VPCIs
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Unblock_RSC_ACK, meeUnblockRscConf with Result indicator = success is sent to AN environment



VB5_RTMC_AN_UR_BV_03	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of a part of a PUP (several VPC), using valid parameter boundaries to define a range
Test description	The tester issues an implicit send to cause the IUT to initiate an UNBLOCK resource procedure.
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC** PDU containing correct parameters: LUPId and first and last of a list of consecutive known VPCIs
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Unblock_RSC_ACK, meeUnblockRscConf with Result indicator = success is sent to AN environment



VB5_RTMC_AN_UR_TI_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check time out on "unblocking resource" of a single VPC
Test description	The tester issues an implicit send to cause the IUT to initiate an UNBLOCK resource procedure. Then the IUT sends **UNBLOCK_RSC** PDU to the tester with valid LUPId and VPCI. The tester does not respond with **UNBLOCK_RSC_ACK** PDU within **T_unblock** time
Pass criteria	Check that the tester is receiving a second **UNBLOCK_RSC** PDU containing same correct parameters
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with Unblock_RSC_ACK, meeUnblockRscConf with Result indicator = transmission error is sent to AN environment



- VPC at LSP.

It is possible to unblock a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that a set of TPs identical to the previous one, is made by replacing LUPId by LSPId.

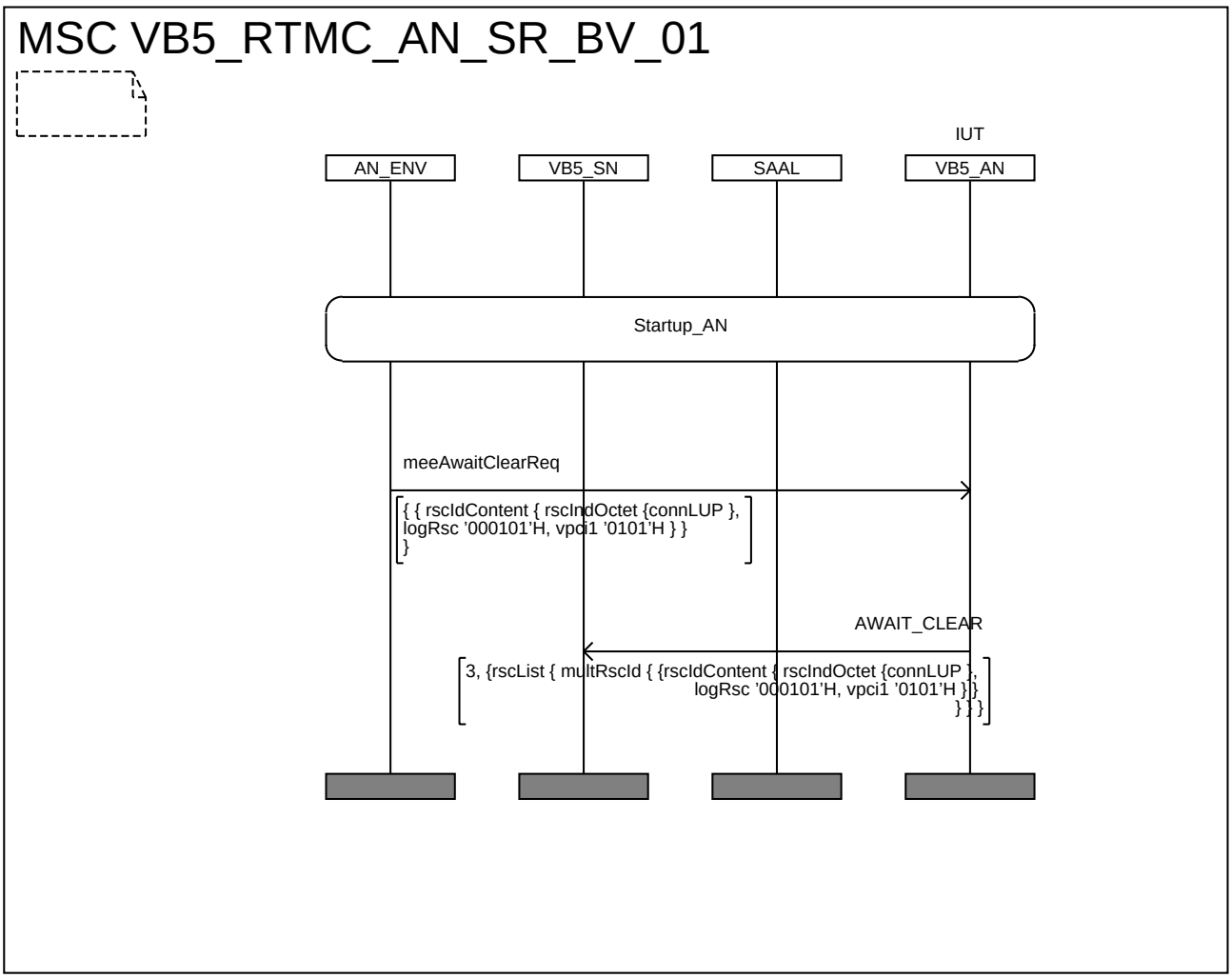
Test purpose naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_AN_UR_BV_01	VB5_RTMC_AN_UR_BV_11
VB5_RTMC_AN_UR_BV_02	VB5_RTMC_AN_UR_BV_12
VB5_RTMC_AN_UR_BV_03	VB5_RTMC_AN_UR_BV_13
VB5_RTMC_AN_UR_TI_01	VB5_RTMC_AN_UR_TI_11

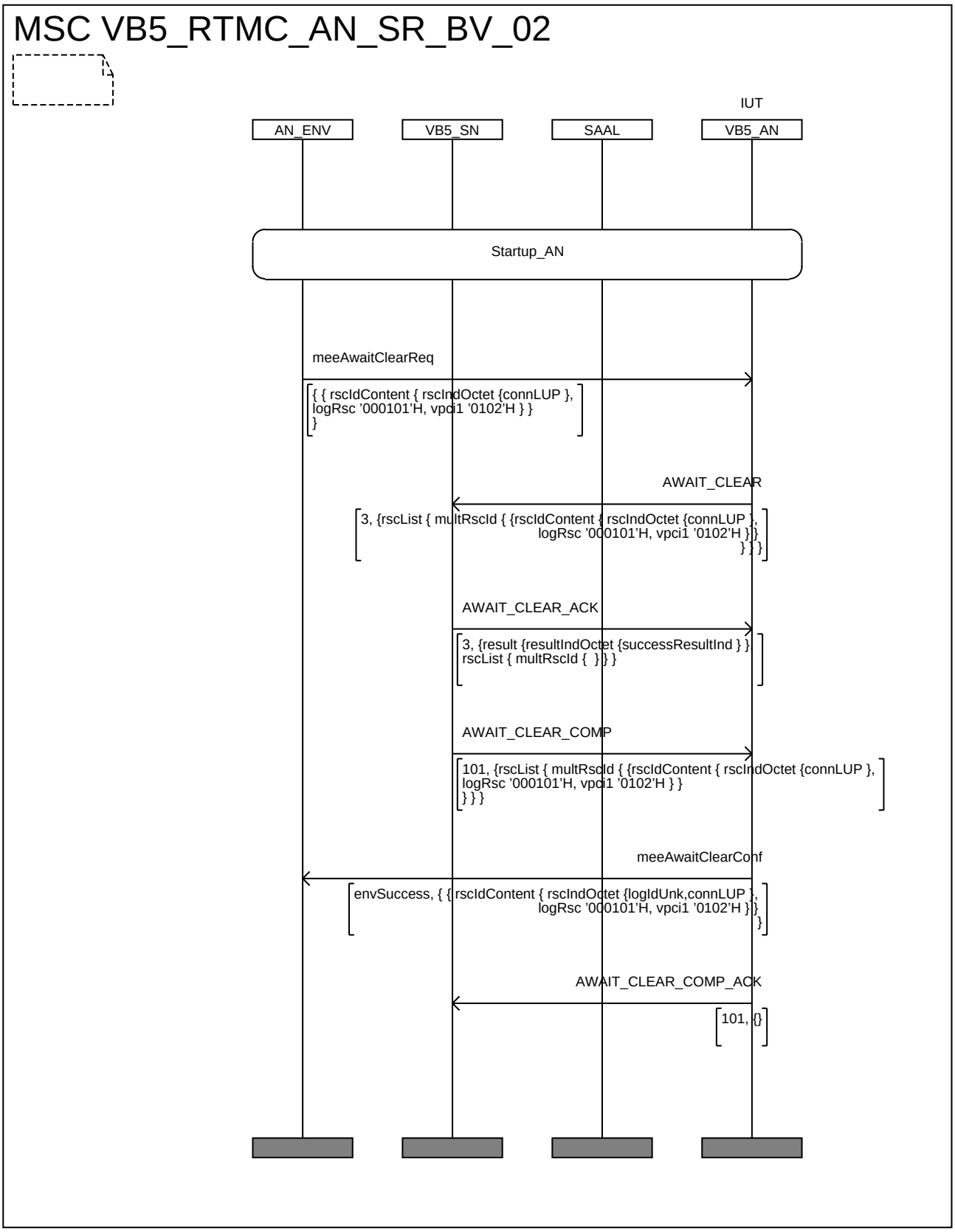
6.1.4 Shut down resource procedure (SR)

- VPC at LUP.

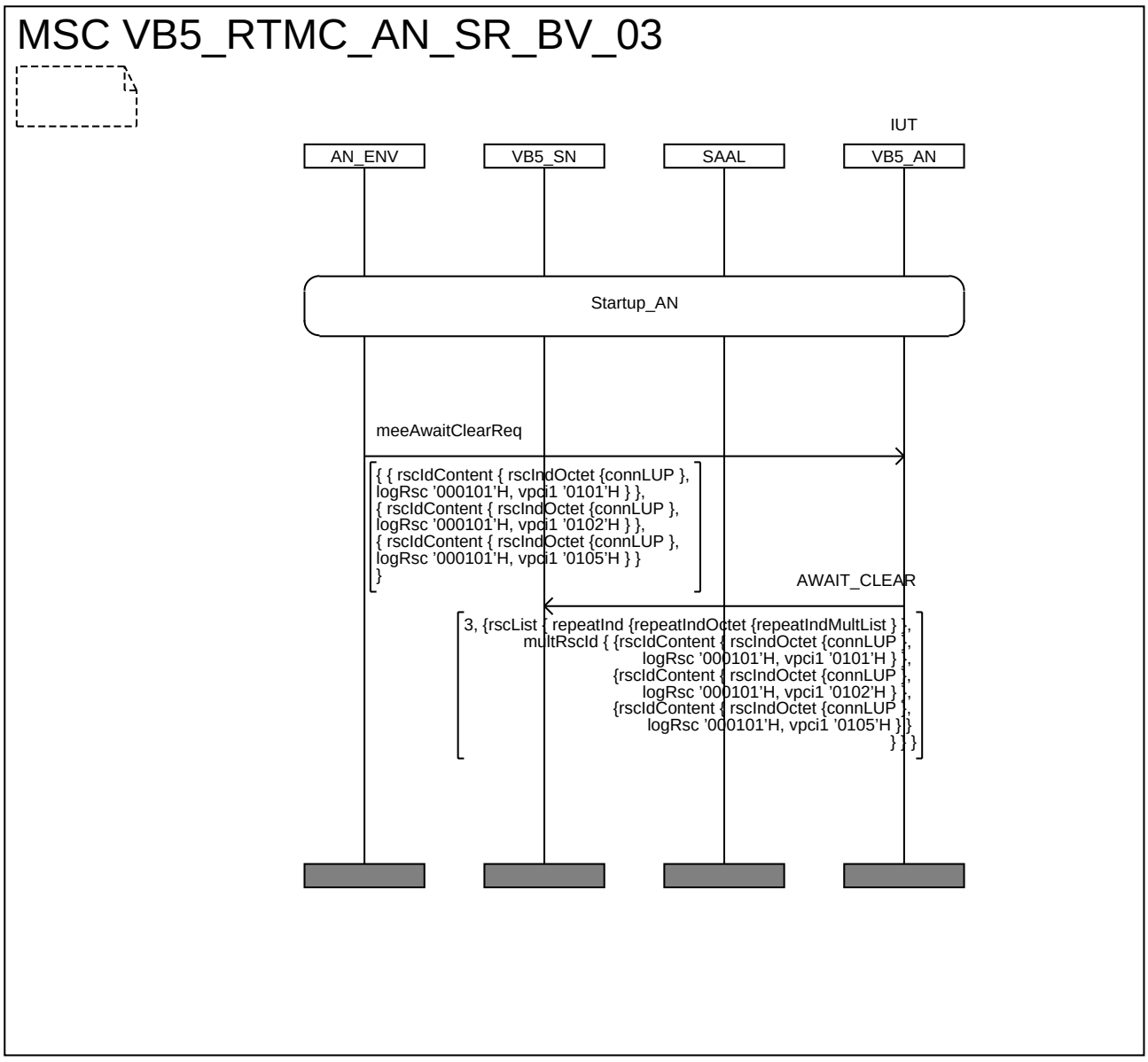
VB5_RTMC_AN_SR_BV_01	**Reference EN 301 005-1 [1] : 13.3.2.2**
Purpose	Check initialization of shut down procedure of a single VPC, with valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a SHUT DOWN resource procedure.
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR** PDU containing correct parameters: valid LUPId and VPCI
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	None



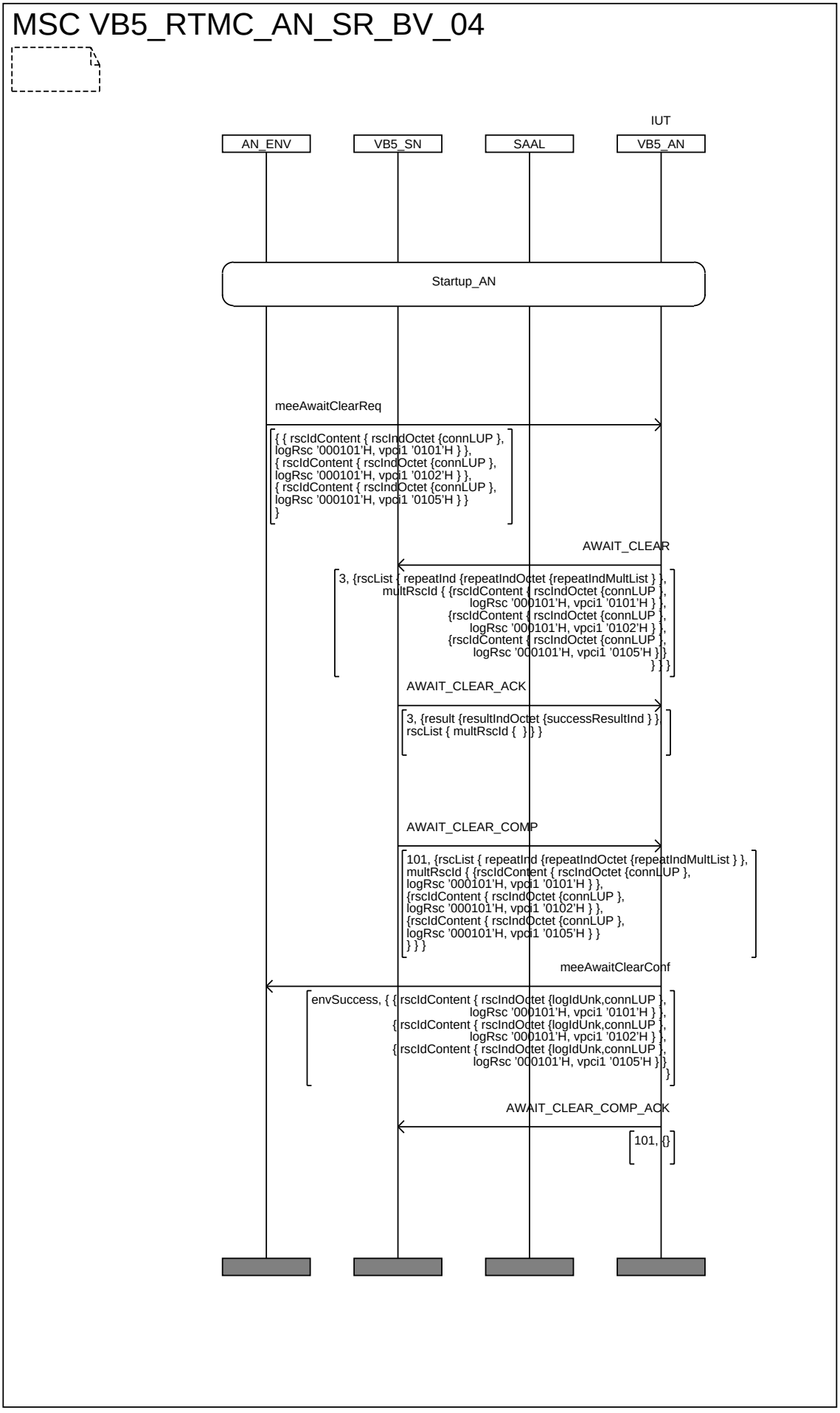
VB5_RTMC_AN_SR_BV_02	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a single VPC, with valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a SHUT DOWN resource procedure. Then the IUT sends **AWAIT_CLEAR** PDU to the tester with valid LUPId and VPCI. The tester answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester sends **AWAIT_CLEAR_COMP** PDU with same valid parameters
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP ACK** PDU with no parameters
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeAwaitClearConf with Result indicator = success and LUPId/VPCI parameters are sent to AN environment


MSC VB5_RTMC_AN_SR_BV_02
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
meeAwaitClearReq
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } }
}
AWAIT_CLEAR
3, {rscList { multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } }
} } }
AWAIT_CLEAR_ACK
3, {result {resultIndOctet {successResultInd } }
rscList { multRscId { } } }
AWAIT_CLEAR_COMP
101, {rscList { multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } }
} } }
meeAwaitClearConf
envSuccess, { { rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0102'H } }
}
AWAIT_CLEAR_COMP_ACK
101, {}

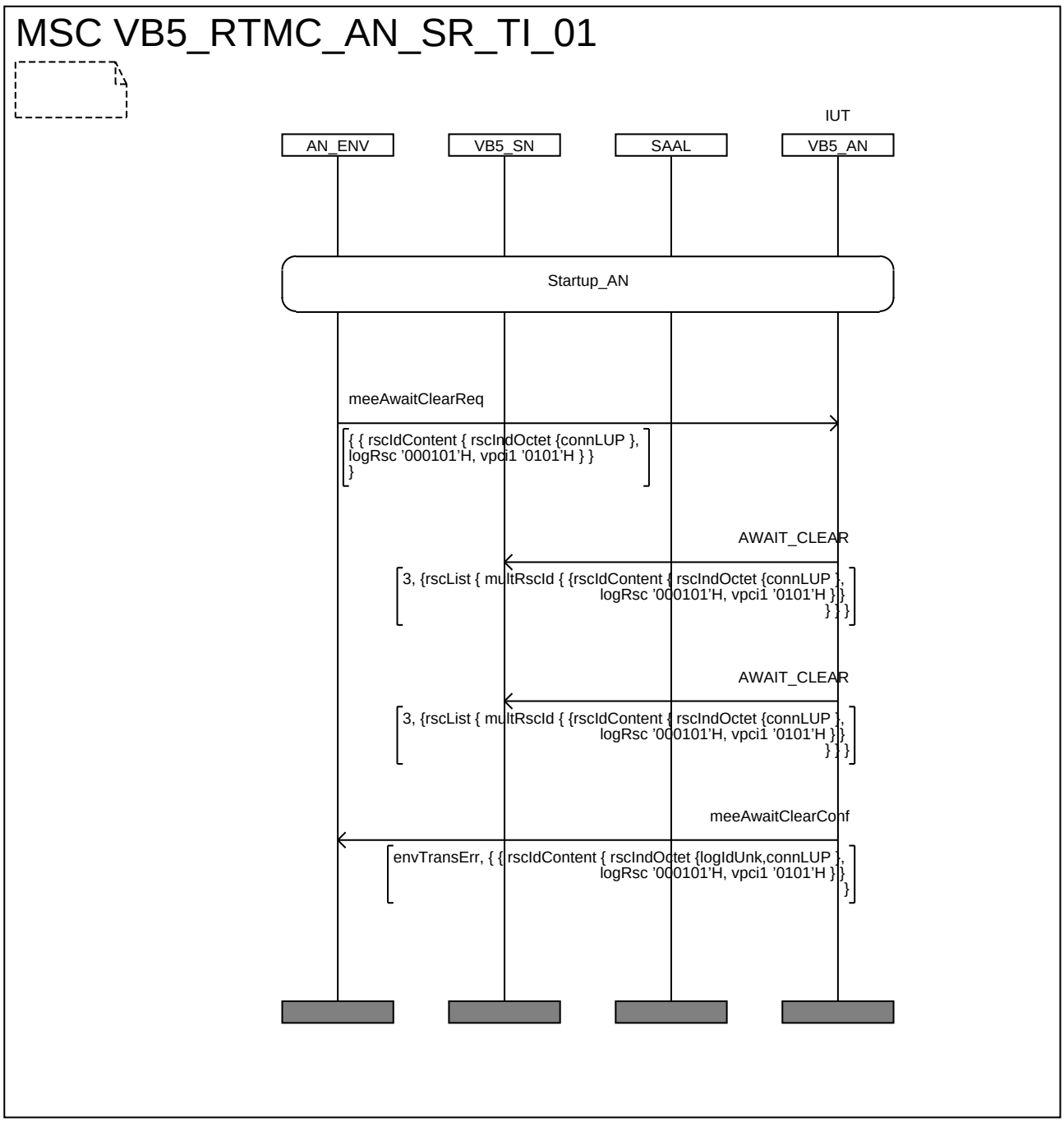
VB5_RTMC_AN_SR_BV_03	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check initialization of shut down procedure of several VPC, using list of valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a SHUT DOWN resource procedure.
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR** PDU containing correct parameters: list of valid LUPId and VPCI
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	None



VB5_RTMC_AN_SR_BV_04	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of several VPC, using list of valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a SHUT DOWN resource procedure. Then the IUT sends **AWAIT_CLEAR** PDU to the tester with list of valid LUPId and VPCI parameters. The tester answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester sends **AWAIT_CLEAR_COMP** PDU with same valid parameters
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP ACK** PDU with no parameters
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeAwaitClearConf with Result indicator = success and LUPId/VPCI parameters are sent to AN environment


MSC VB5_RTMC_AN_SR_BV_04
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
meeAwaitClearReq
{ { rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0101'H } }, { rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0102'H } }, { rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0105'H } } }
AWAIT_CLEAR
3, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } }, multRscId { {rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0101'H } }, {rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0102'H } }, {rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0105'H } } } } }
AWAIT_CLEAR_ACK
3, {result {resultIndOctet {successResultInd } } rscList { multRscId { } } }
AWAIT_CLEAR_COMP
101, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } }, multRscId { {rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0101'H } }, {rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0102'H } }, {rscIdContent { rscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0105'H } } } } }
meeAwaitClearConf
envSuccess, { { rscIdContent { rscIndOctet {logIdUnk,connLUP }, logRsc '000101'H, vpci1 '0101'H } }, { rscIdContent { rscIndOctet {logIdUnk,connLUP }, logRsc '000101'H, vpci1 '0102'H } }, { rscIdContent { rscIndOctet {logIdUnk,connLUP }, logRsc '000101'H, vpci1 '0105'H } } }
AWAIT_CLEAR_COMP_ACK
101, {}

VB5_RTMC_AN_SR_TI_01	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check time out on shut down procedure
Test description	The tester issues an implicit send to cause the IUT to initiate a SHUT DOWN resource procedure. Then the IUT sends **AWAIT_CLEAR** PDU to the tester with valid LUPId and VPCI. The tester does not answer with **AWAIT_CLEAR_ACK** PDU within T_acl time
Pass criteria	Check that the tester is receiving again **AWAIT_CLEAR** PDU with same parameters
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeAwaitClearConf with Result indicator = transmissionError is sent to AN environment



- PC at LSP.

It is possible to shut down a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that another set of TPs identical to the previous one is made by replacing LUPId by LSPId.

Test purpose naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_AN_SR_BV_01	VB5_RTMC_AN_SR_BV_11
VB5_RTMC_AN_SR_BV_02	VB5_RTMC_AN_SR_BV_12
VB5_RTMC_AN_SR_BV_03	VB5_RTMC_AN_SR_BV_13
VB5_RTMC_AN_SR_BV_04	VB5_RTMC_AN_SR_BV_14
VB5_RTMC_AN_SR_TI_01	VB5_RTMC_AN_SR_TI_11

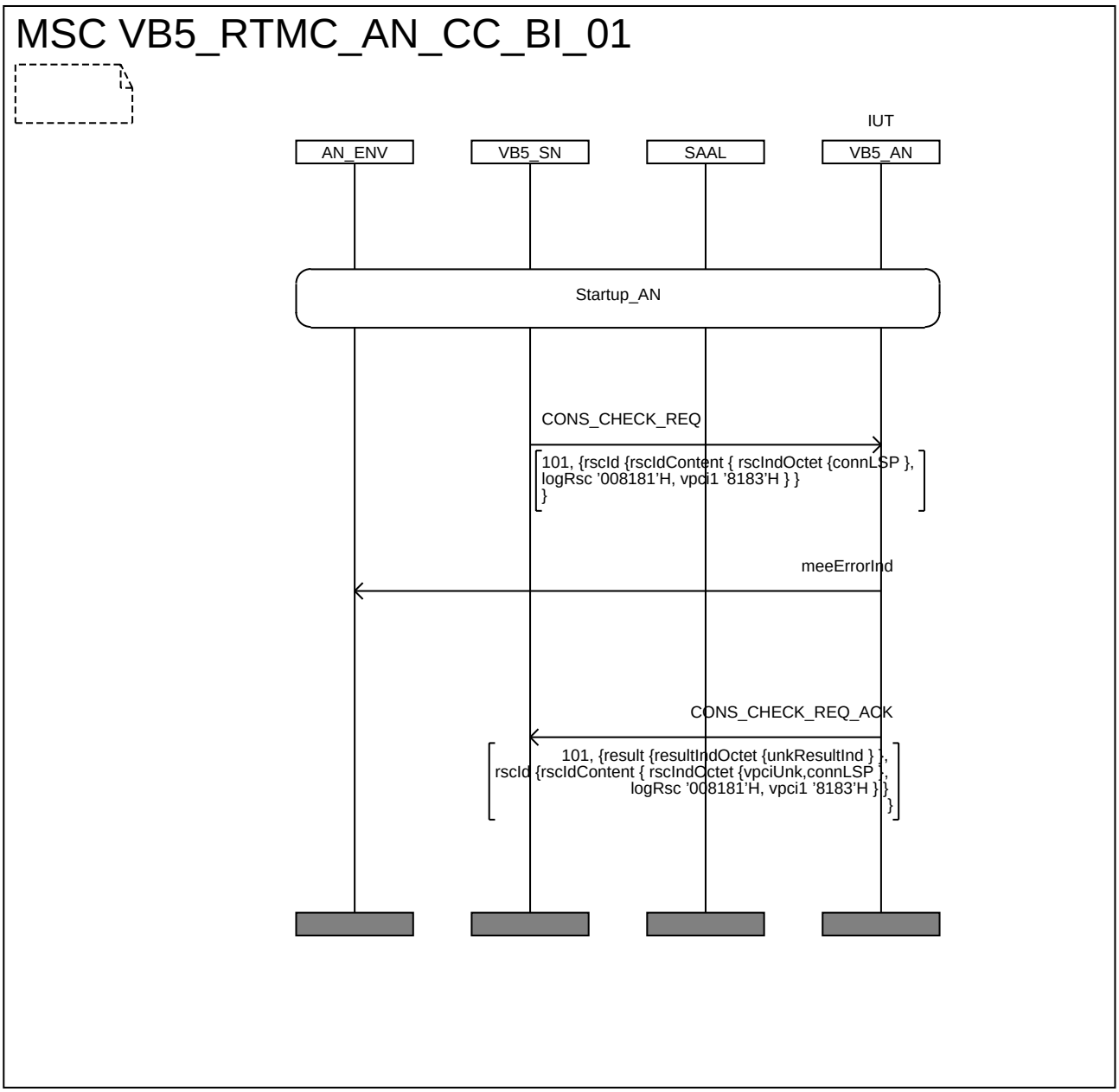
6.1.5 VPCI consistency check procedure (CC)

Except for test purpose **VB5_RTMC_AN_CC_BI_01,** the test purposes and consequently the corresponding test cases differ whether the IUT and its environment are able to provide automatically the results of a loopback monitoring function, or not. If the IUT environment does not provide the results, implicit functions are to be sent by the tester to get the results.

Selection of the correct test cases applicable to the IUT is made based on a PIXIT parameter, named:

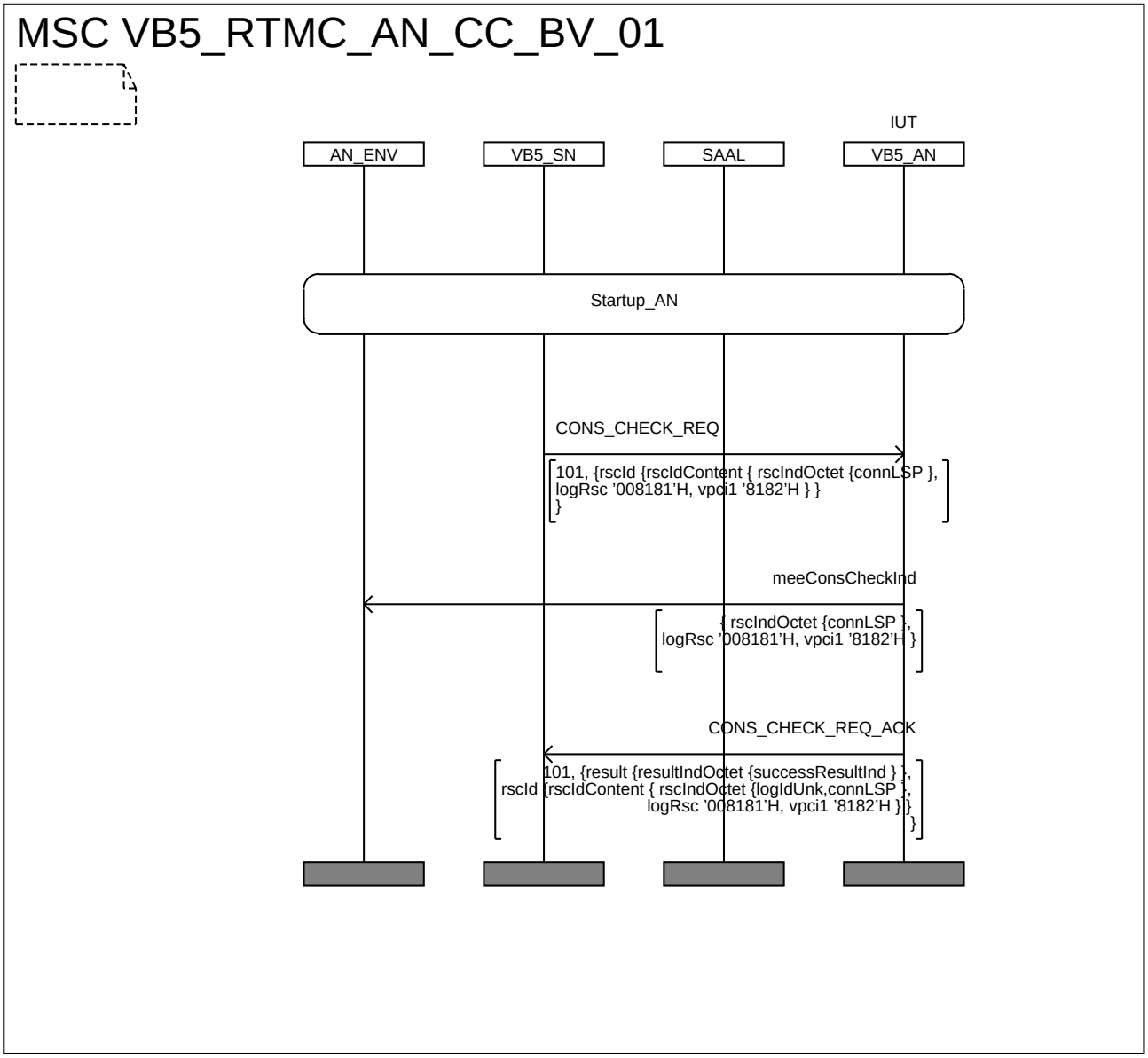
PIX_automatic_loopback_results, taking value **YES** or **NO**.

VB5_RTMC_AN_CC_BI_01	**Reference EN 301 005-1 [1] : 13.3.3**
Purpose	Check initiating consistency check of a VPC, using unknown resource parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with unknown LSPId and VPCI parameters.
Pass criteria	Check that the tester is receiving **CONS_CHECK_REQ_ACK** PDU containing Result indicator = unknown resource
Selection	**none**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function

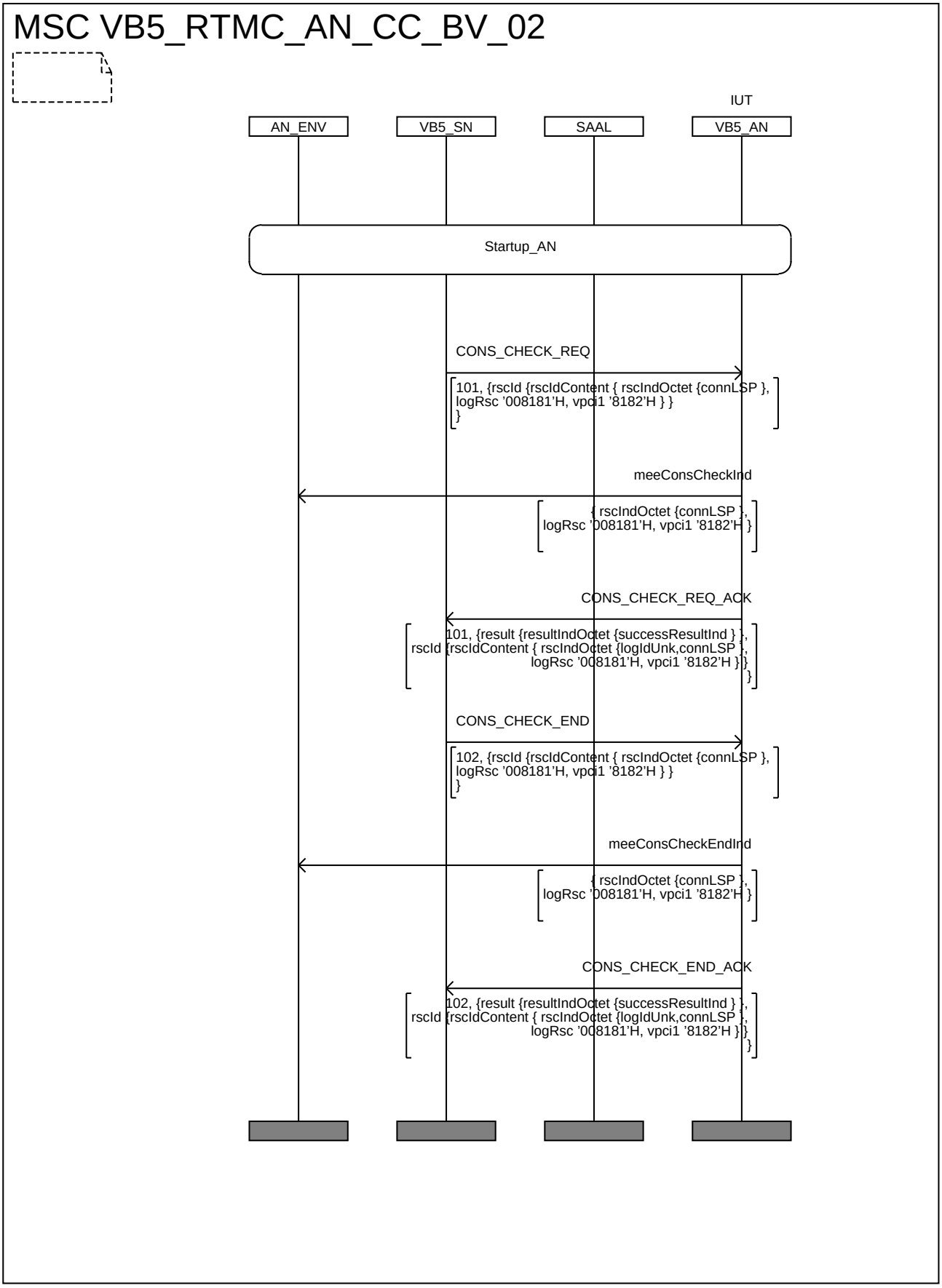


- Test purposes if loopback results are provided.

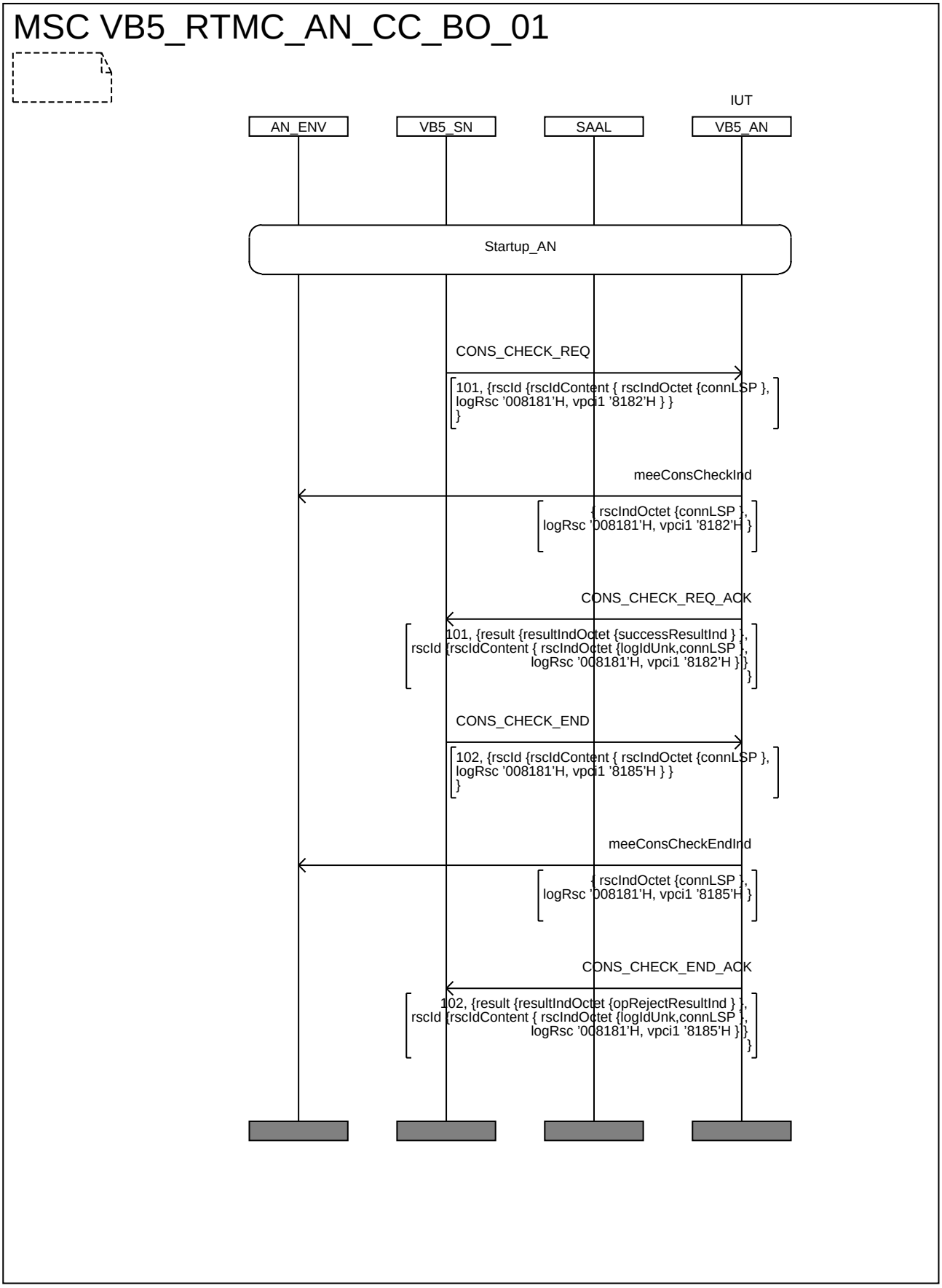
VB5_RTMC_AN_CC_BV_01	**Reference EN 301 005-1 [1] : 13.3.3**
Purpose	Check initiating consistency check of a VPC, using valid parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI parameters.
Pass criteria	Check that the tester is receiving **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success
Selection	**PIX_automatic_loopback_results** = **YES**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function



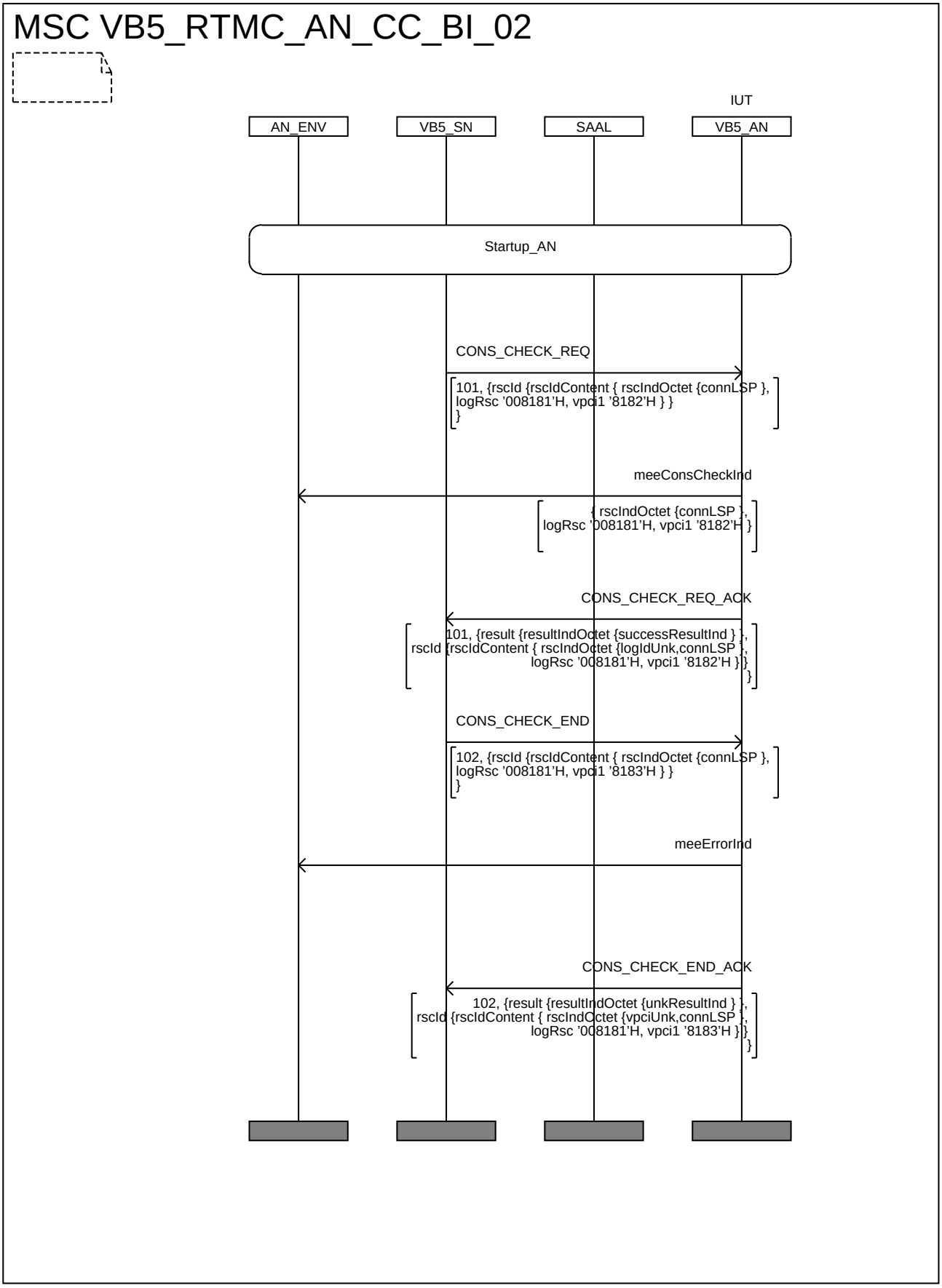
VB5_RTMC_AN_CC_BV_02	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using valid parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI. The IUT answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. The tester sends **CONS_CHECK_END** PDU with same LSPId and VPCI parameters
Pass criteria	Check that the tester is receiving **CONS_CHECK_END_ACK** PDU containing Result indicator = Success
Selection	**PIX_automatic_loopback_results** = **YES**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function then meeConsCheckEndInd with LSPId and VPCI parameters is sent to AN environment Deactivate loop back monitoring function


MSC VB5_RTMC_AN_CC_BV_02
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
CONS_CHECK_REQ
101, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_REQ_ACK
101, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }}
}
CONS_CHECK_END
102, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckEndInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_END_ACK
102, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }}
}

VB5_RTMC_AN_CC_BO_01	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using different resource parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI. The IUT answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. The tester sends **CONS_CHECK_END** PDU with different LSPId and VPCI parameters
Pass criteria	Check that the tester is receiving **CONS_CHECK_END_ACK** PDU containing Result indicator = operationRejected
Selection	**PIX_automatic_loopback_results** = **YES**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function meeConsCheckEndInd with LSPId and VPCI parameters is sent to AN environment Deactivate loop back monitoring function

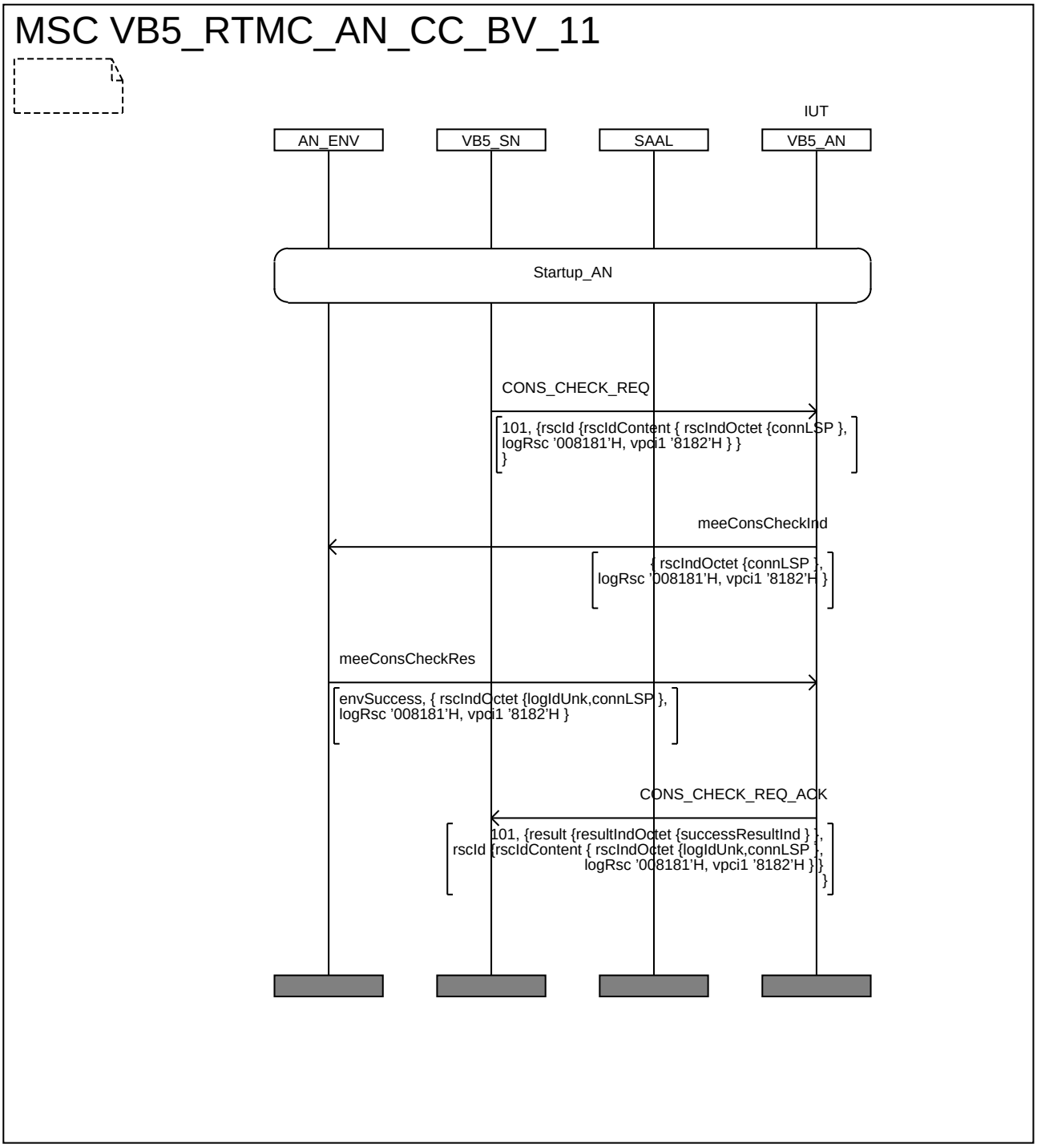

MSC VB5_RTMC_AN_CC_BO_01
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
CONS_CHECK_REQ
101, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_REQ_ACK
101, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }}
}
CONS_CHECK_END
102, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8185'H } }
}
meeConsCheckEndInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8185'H }
CONS_CHECK_END_ACK
102, {result {resultIndOctet {opRejectResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8185'H }}
}

VB5_RTMC_AN_CC_BI_02	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using unknown resource parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI. The IUT answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. The tester sends **CONS_CHECK_END** PDU with unknown resource LSPId and VPCI parameters
Pass criteria	Check that the tester is receiving **CONS_CHECK_END_ACK** PDU containing Result indicator = unknownResources
Selection	**PIX_automatic_loopback_results** = **YES**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function meeConsCheckEndInd with LSPId and VPCI parameters is sent to AN environment Deactivate loop back monitoring function

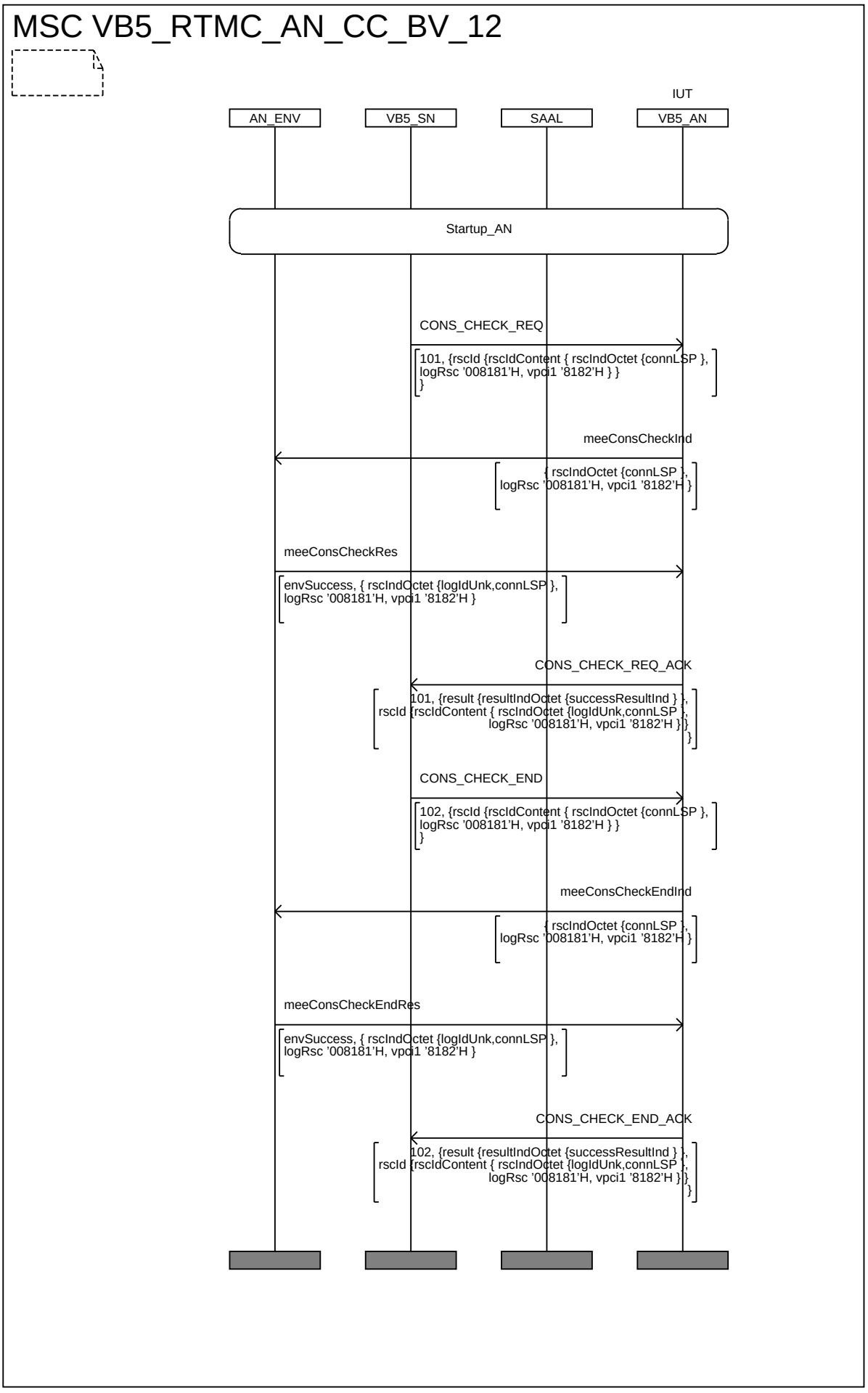


- Test purposes if loopback results are NOT provided automatically.

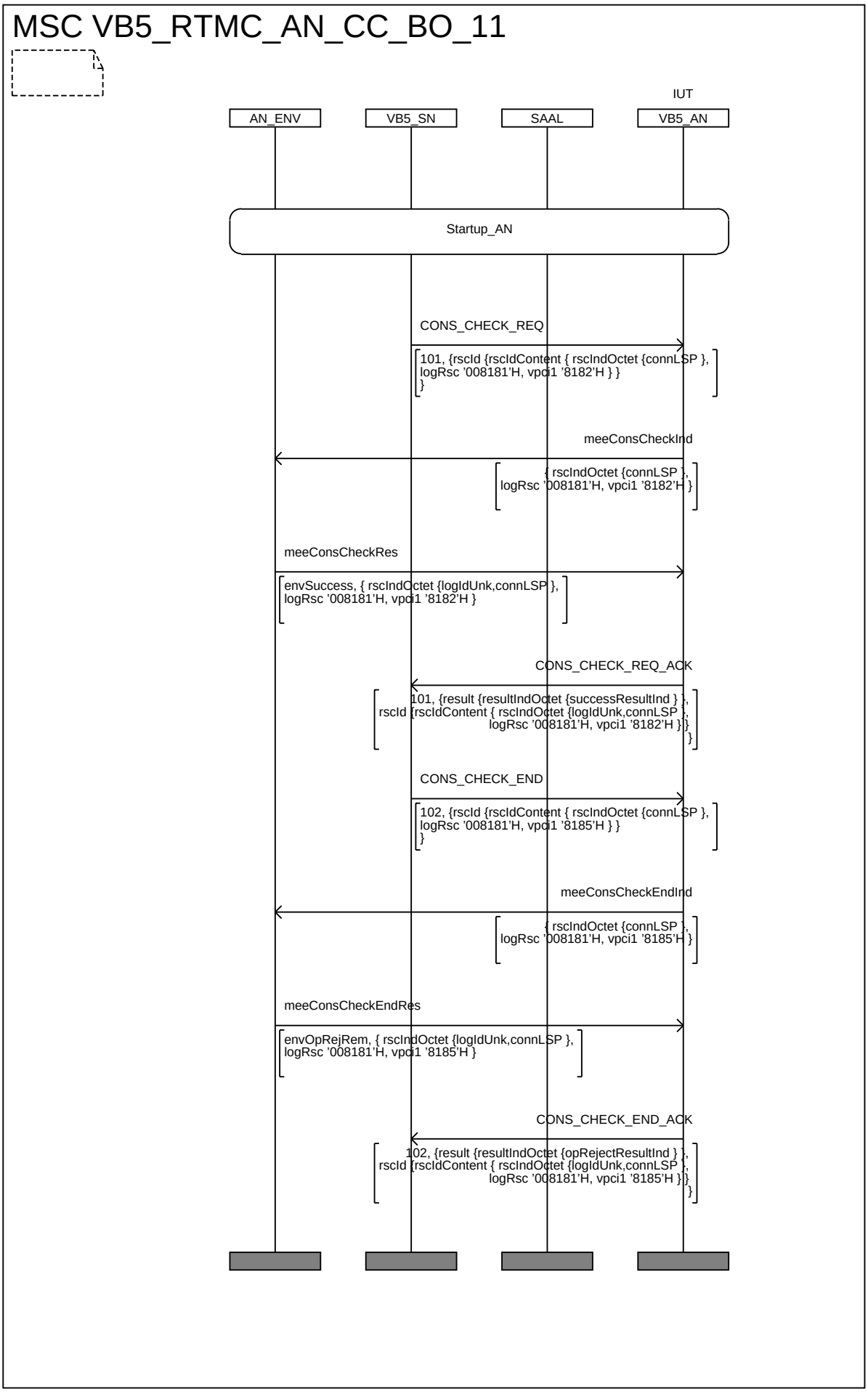
VB5_RTMC_AN_CC_BV_11	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check initiating consistency check of a VPC, using valid parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI parameters. Then the tester issues an implicit send to cause the IUT to initiate a **CONS_CHECK_REQ_ACK** response
Pass criteria	Check that the tester is receiving **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success
Selection	**PIX_automatic_loopback_results** = **NO**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function



VB5_RTMC_AN_CC_BV_12	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using valid parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI. Then the tester issues an implicit send to cause the IUT to initiate a **CONS_CHECK_REQ_ACK** response The IUT answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. The tester sends **CONS_CHECK_END** PDU with same LSPId and VPCI parameters. Then the tester issues an implicit send to cause the IUT to initiate a **CONS_CHECK_END_ACK** response
Pass criteria	Check that the tester is receiving **CONS_CHECK_END_ACK** PDU containing Result indicator = Success
Selection	**PIX_automatic_loopback_results** = **NO**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function then meeConsCheckEndInd with LSPId and VPCI parameters is sent to AN environment Deactivate loop back monitoring function

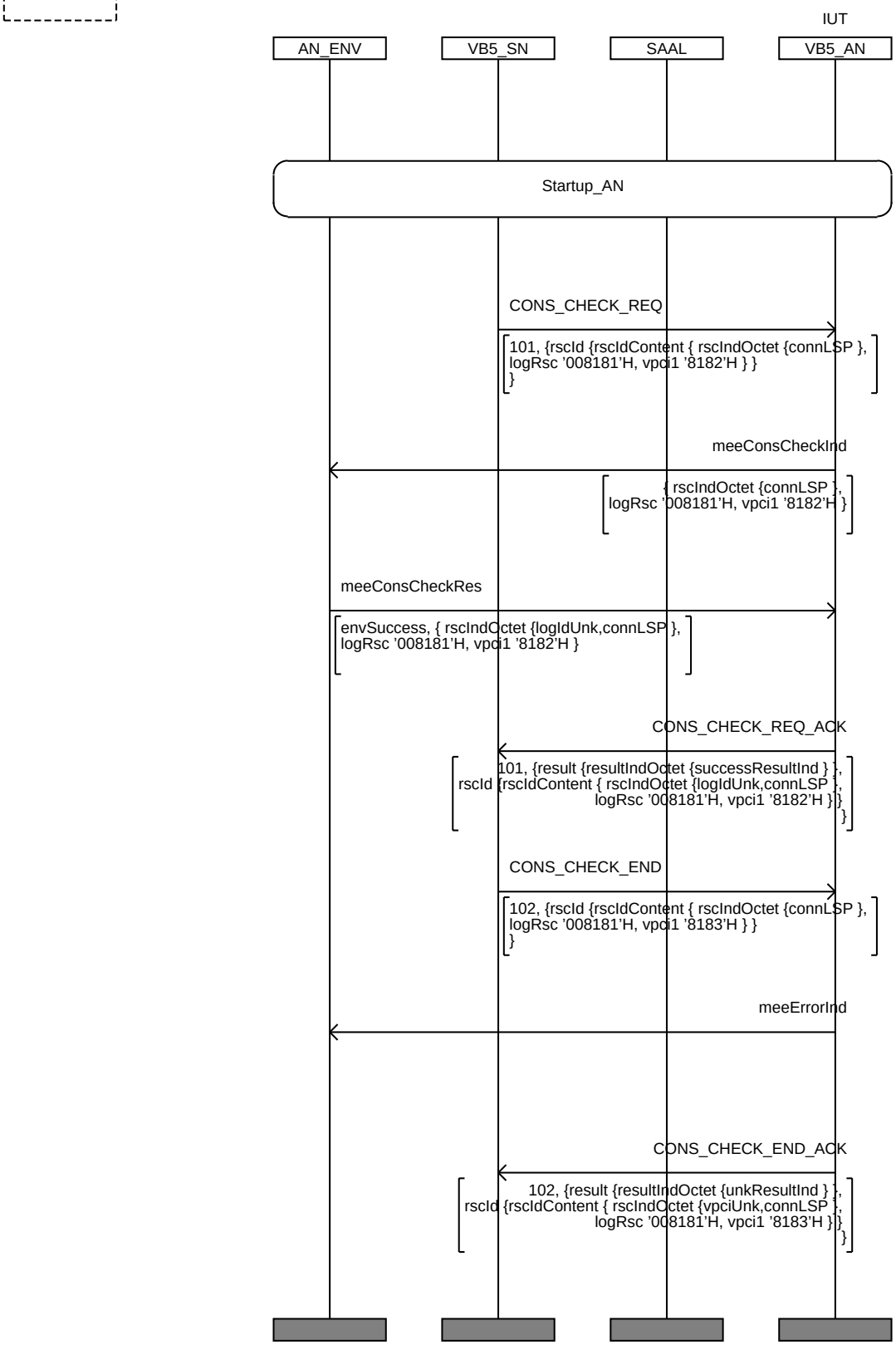

MSC VB5_RTMC_AN_CC_BV_12
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
CONS_CHECK_REQ
101, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeConsCheckRes
envSuccess, { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_REQ_ACK
101, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }}
}
CONS_CHECK_END
102, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckEndInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeConsCheckEndRes
envSuccess, { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_END_ACK
102, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }}
}

VB5_RTMC_AN_CC_BO_11	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using different resource parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI. Then the tester issues an implicit send to cause the IUT to initiate a **CONS_CHECK_REQ_ACK** response The IUT answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. The tester sends **CONS_CHECK_END** PDU with different LSPId and VPCI parameters. Then the tester issues an implicit send to cause the IUT to initiate a **CONS_CHECK_END_ACK** response
Pass criteria	Check that the tester is receiving **CONS_CHECK_END_ACK** PDU containing Result indicator = operationRejected
Selection	**PIX_automatic_loopback_results** = **NO**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function meeConsCheckEndInd with LSPId and VPCI parameters is sent to AN environment Deactivate loop back monitoring function


MSC VB5_RTMC_AN_CC_BO_11
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
CONS_CHECK_REQ
101, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeConsCheckRes
envSuccess, { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_REQ_ACK
101, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }}
}
CONS_CHECK_END
102, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8185'H } }
}
meeConsCheckEndInd
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8185'H }
meeConsCheckEndRes
envOpRejRem, { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8185'H }
CONS_CHECK_END_ACK
102, {result {resultIndOctet {opRejectResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8185'H }}
}

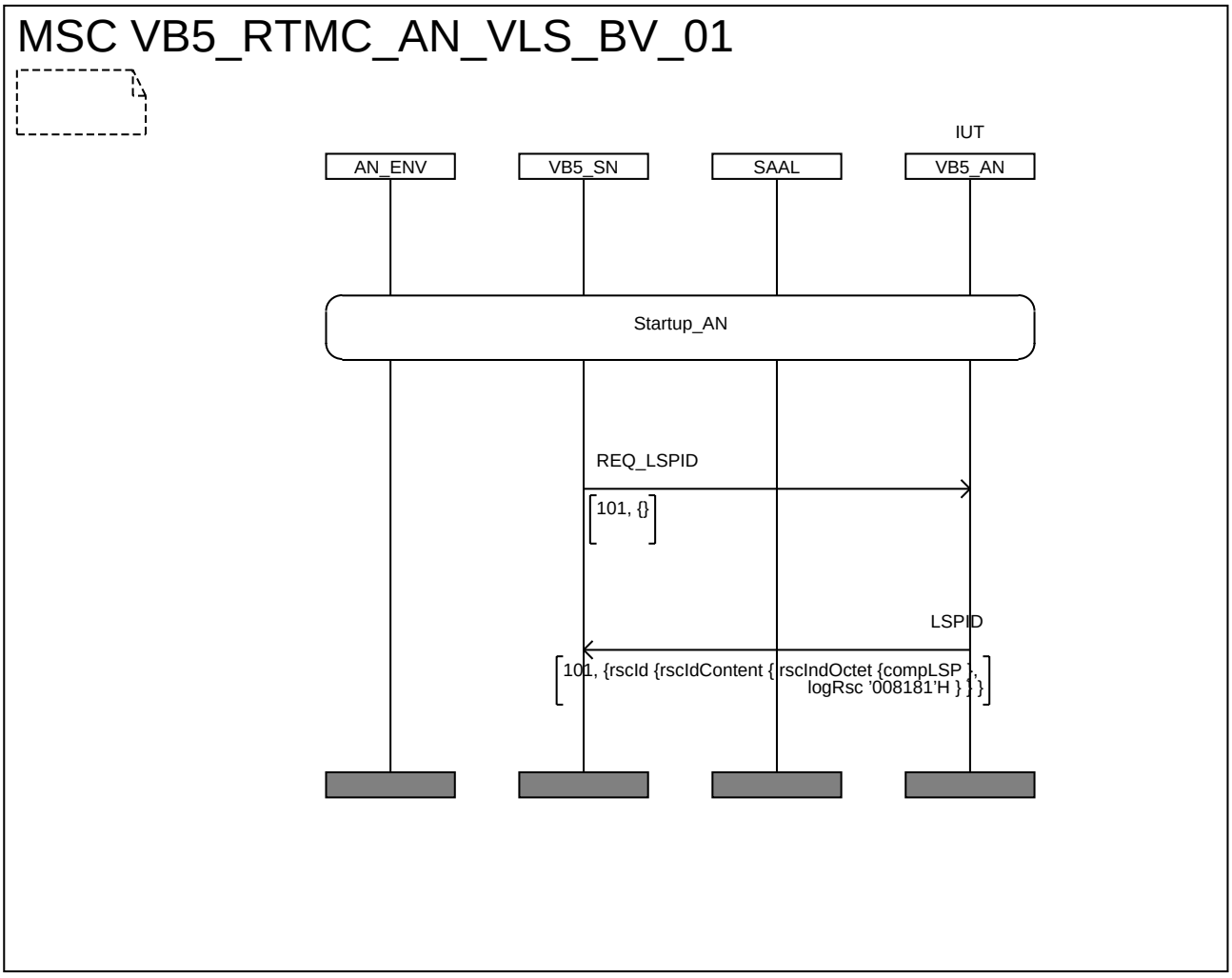
VB5_RTMC_AN_CC_BI_12	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using unknown resource parameters
Test description	The tester sends **CONS_CHECK_REQ** PDU to the IUT with valid LSPId and VPCI. Then the tester issues an implicit send to cause the IUT to initiate a **CONS_CHECK_REQ_ACK** response . The IUT answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. The tester sends **CONS_CHECK_END** PDU with unknown resource LSPId and VPCI parameters
Pass criteria	Check that the tester is receiving **CONS_CHECK_END_ACK** PDU containing Result indicator = unknownResources
Selection	**PIX_automatic_loopback_results** = **NO**
Preamble	Startup_AN
Postamble	None
Additional testing	meeConsCheckInd with LSPId and VPCI parameters is sent to AN environment Activate loop back monitoring function meeConsCheckEndInd with LSPId and VPCI parameters is sent to AN environment Deactivate loop back monitoring function

MSC VB5_RTMC_AN_CC_BI_12



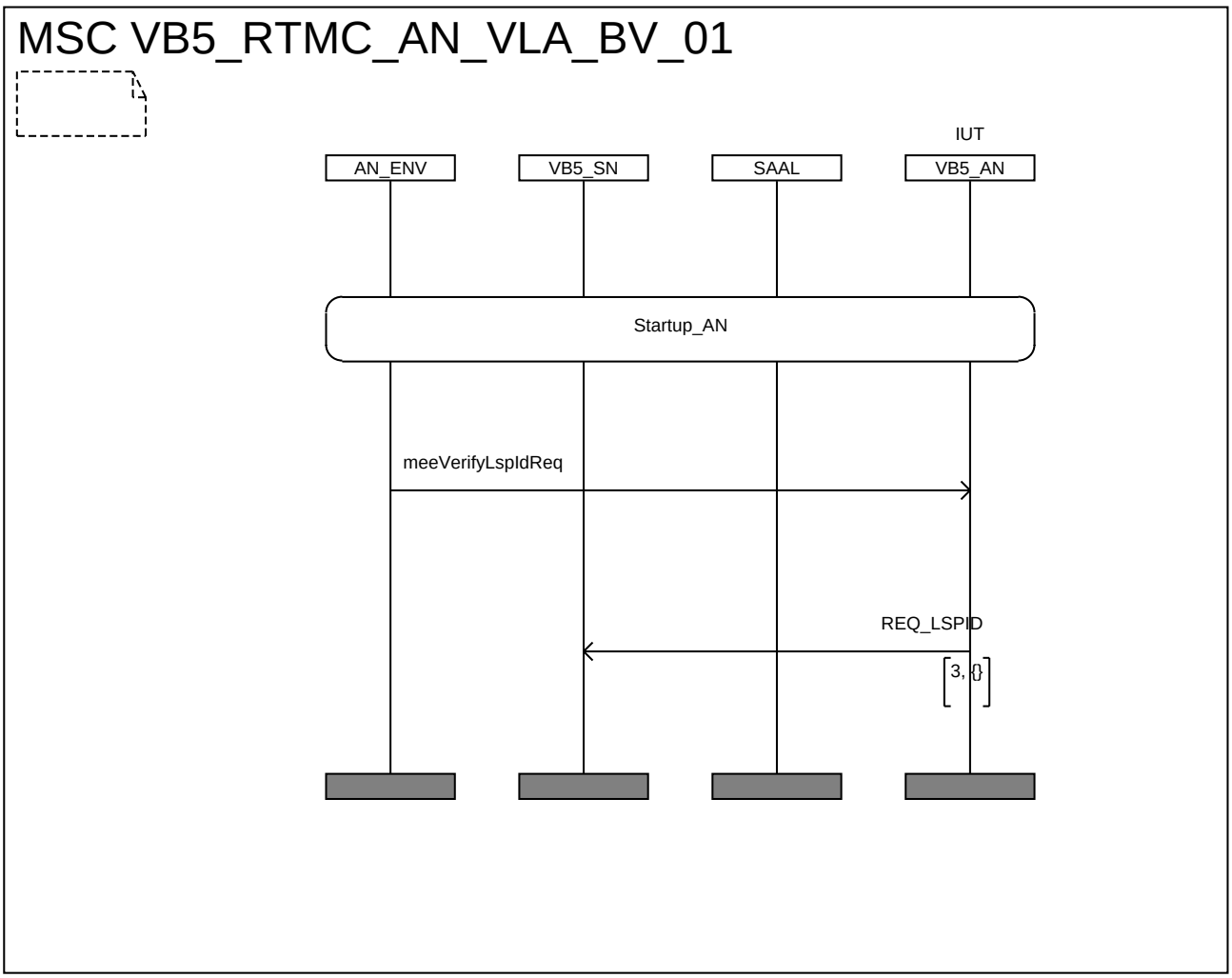
6.1.6 Verify logical service port Id (LSPId) procedure, SN initiated (VLS)

VB5_RTMC_AN_VLS_BV_01	Reference EN 301 005-1 [1] : 13.3.4.2
Purpose	Check verify LSPId procedure triggered by the SN
Test description	The tester sends **REQ_LSPID** PDU to the IUT.
Pass criteria	Check that the tester is receiving **LSPID** PDU containing the correct identifier
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	None

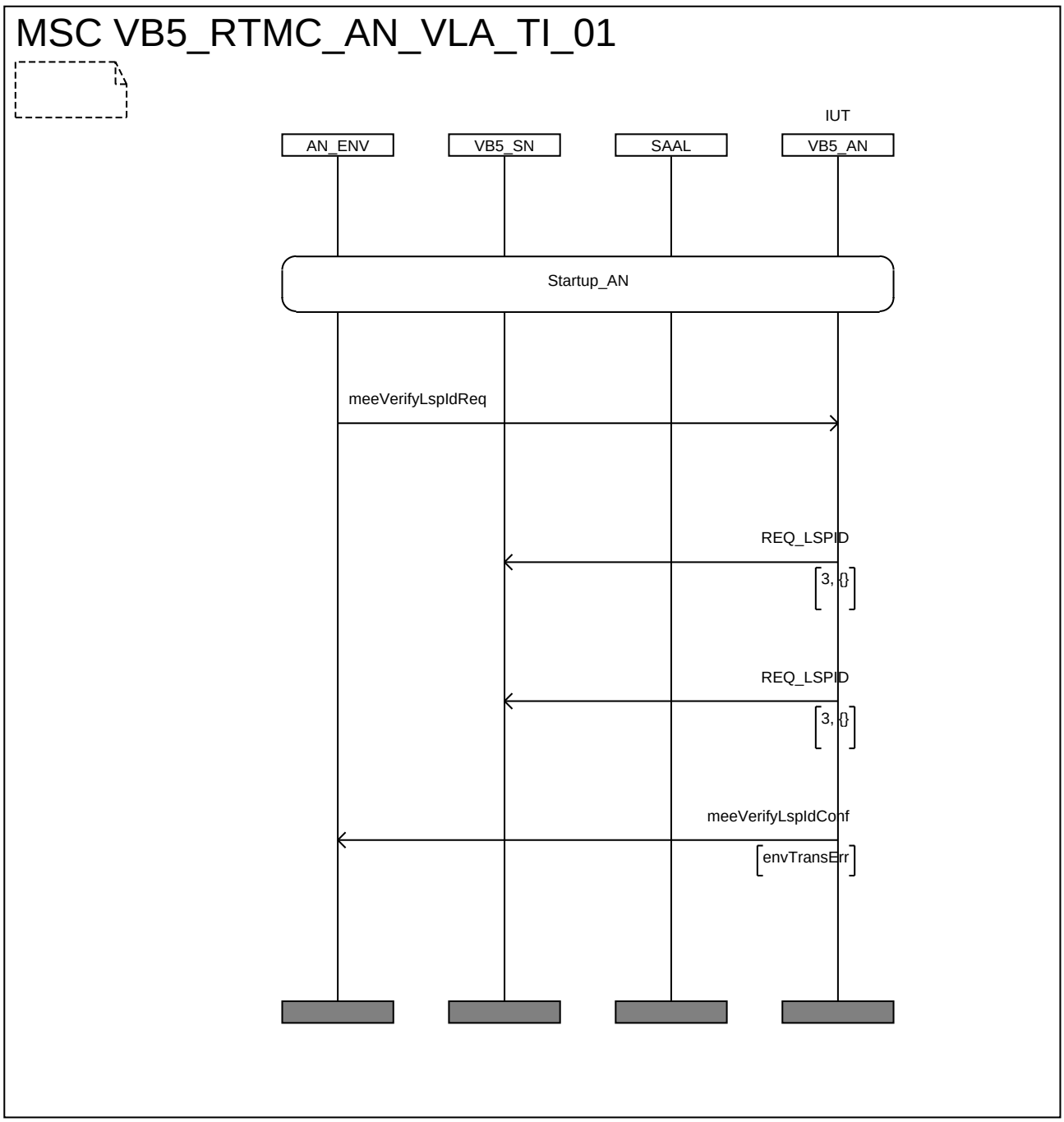


6.1.7 Verify logical service port Id (LSPId) procedure, AN initiated (VLA)

VB5_RTMC_AN_VLA_BV_01	Reference EN 301 005-1 [1] : 13.3.4.2
Purpose	Check verify LSPId procedure triggered by the AN
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure.
Pass criteria	Check that the tester is receiving **REQ_LSPID** PDU.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with LSPID PDU, meeVerifyLspIdConf with return result = success is sent to AN environment

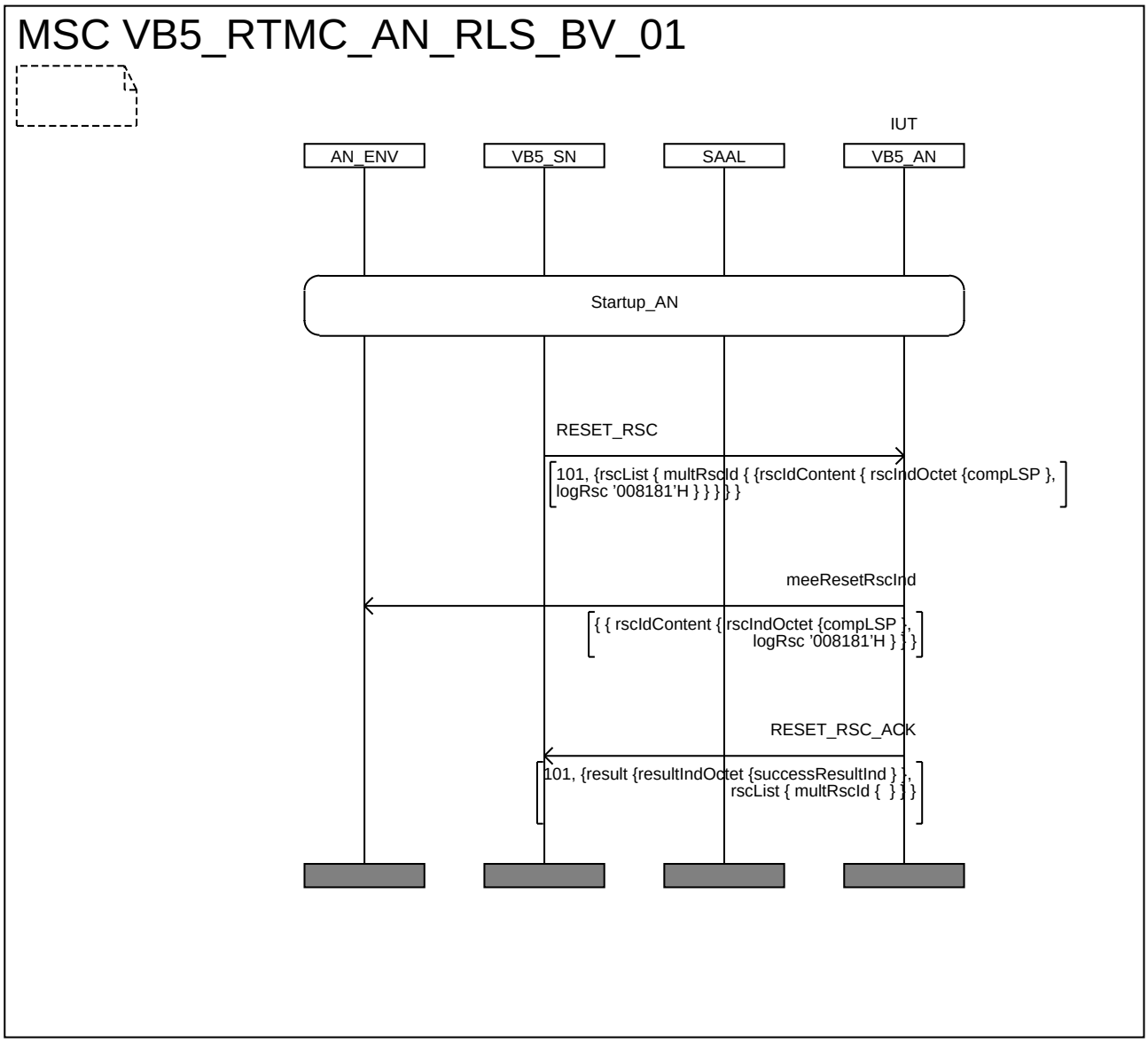


VB5_RTMC_AN_VLA_TI_01	Reference EN 301 005-1 [1] : 13.3.4.2
Purpose	Check time out on verify LSPId procedure triggered by the AN
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure. The tester is receiving **REQ_LSPID** PDU then It does not answer with **LSPID** PDU within **T_lspid** time
Pass criteria	Check that the tester is receiving **REQ_LSPID** PDU again.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeVerifyLspIdConf with result parameter transmissionError is sent to AN environment after the maximum number of message repetitions

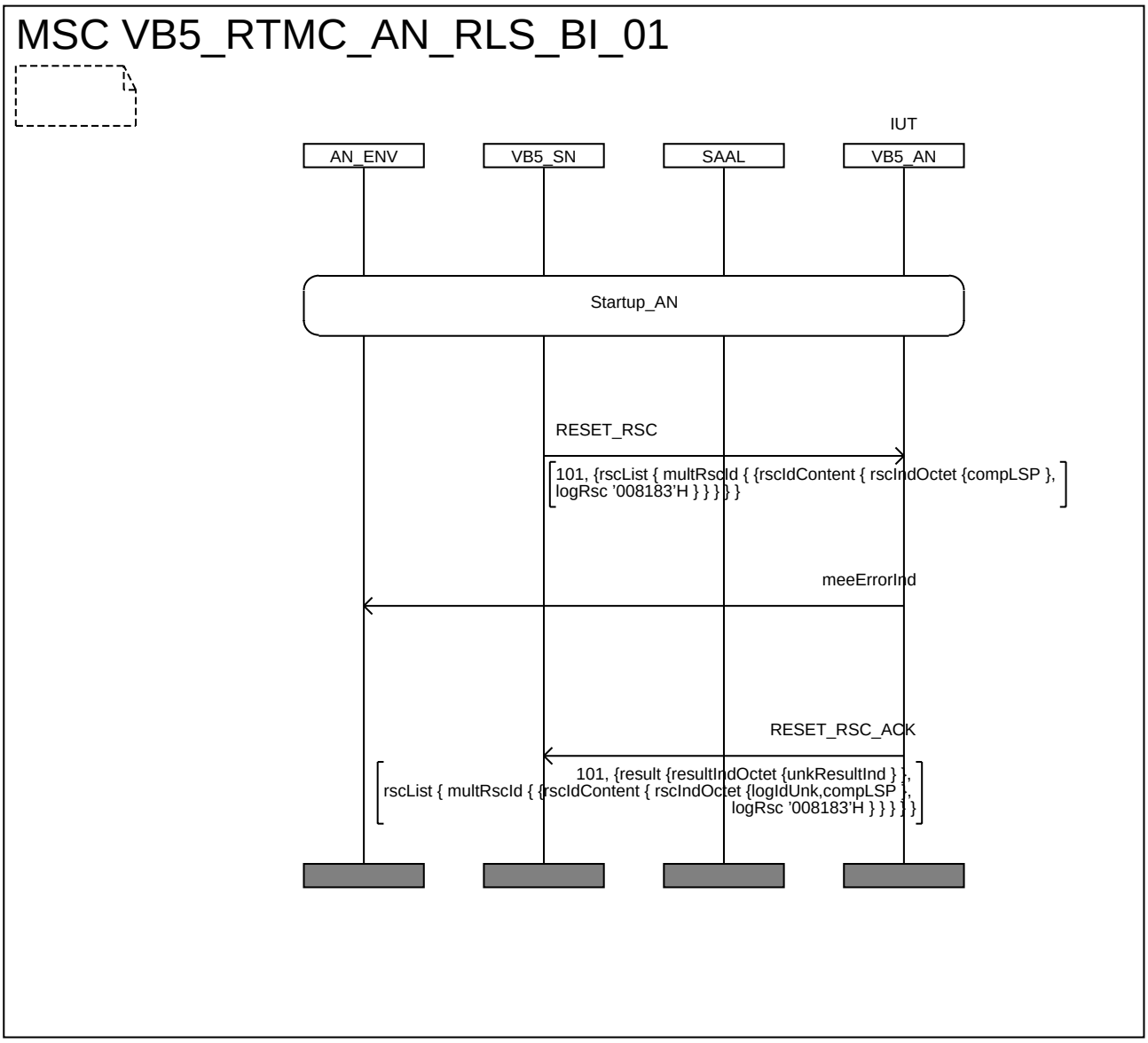


6.1.8 Reset Logical Service Port (LSP) procedure, SN initiated (RLS)

VB5_RTMC_AN_RLS_BV_01	**Reference EN 301 005-1 [1] : 13.3.4.3**
Purpose	Check reset LSP procedure triggered by SN, valid parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = complete LSP, and valid LSPId.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = success
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscInd with parameters resource indicator = complete LSP and LSPId is sent to AN environment

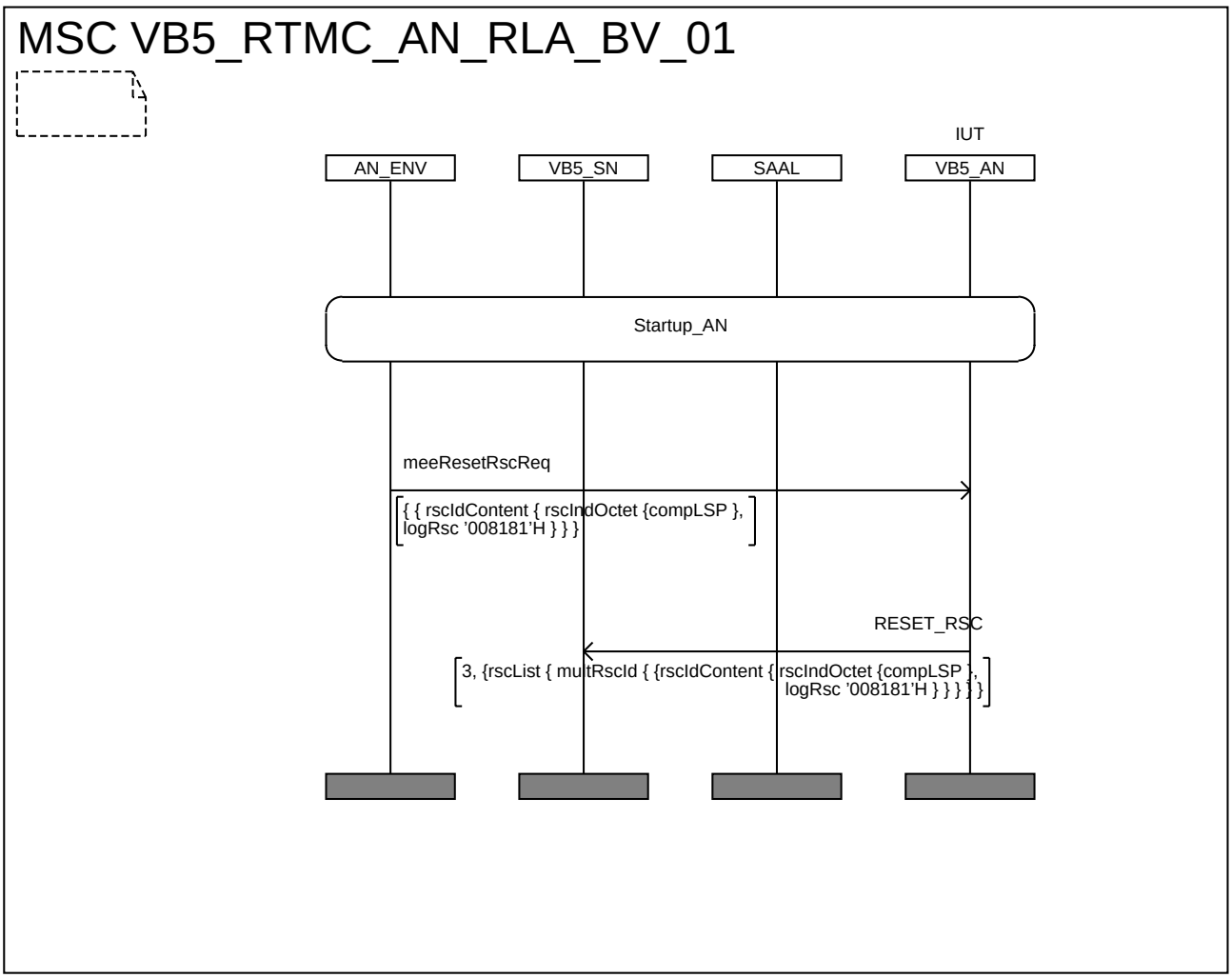


VB5_RTMC_AN_RLS_ BI_01	Reference EN 301 005-1 [1] : 13.3.4.3
Purpose	Check reset LSP procedure triggered by SN, unknown parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = complete LSP, and unknown LSPId.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = unknownResources
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscInd with parameters resource indicator = complete LSP and LSPId is sent to AN environment

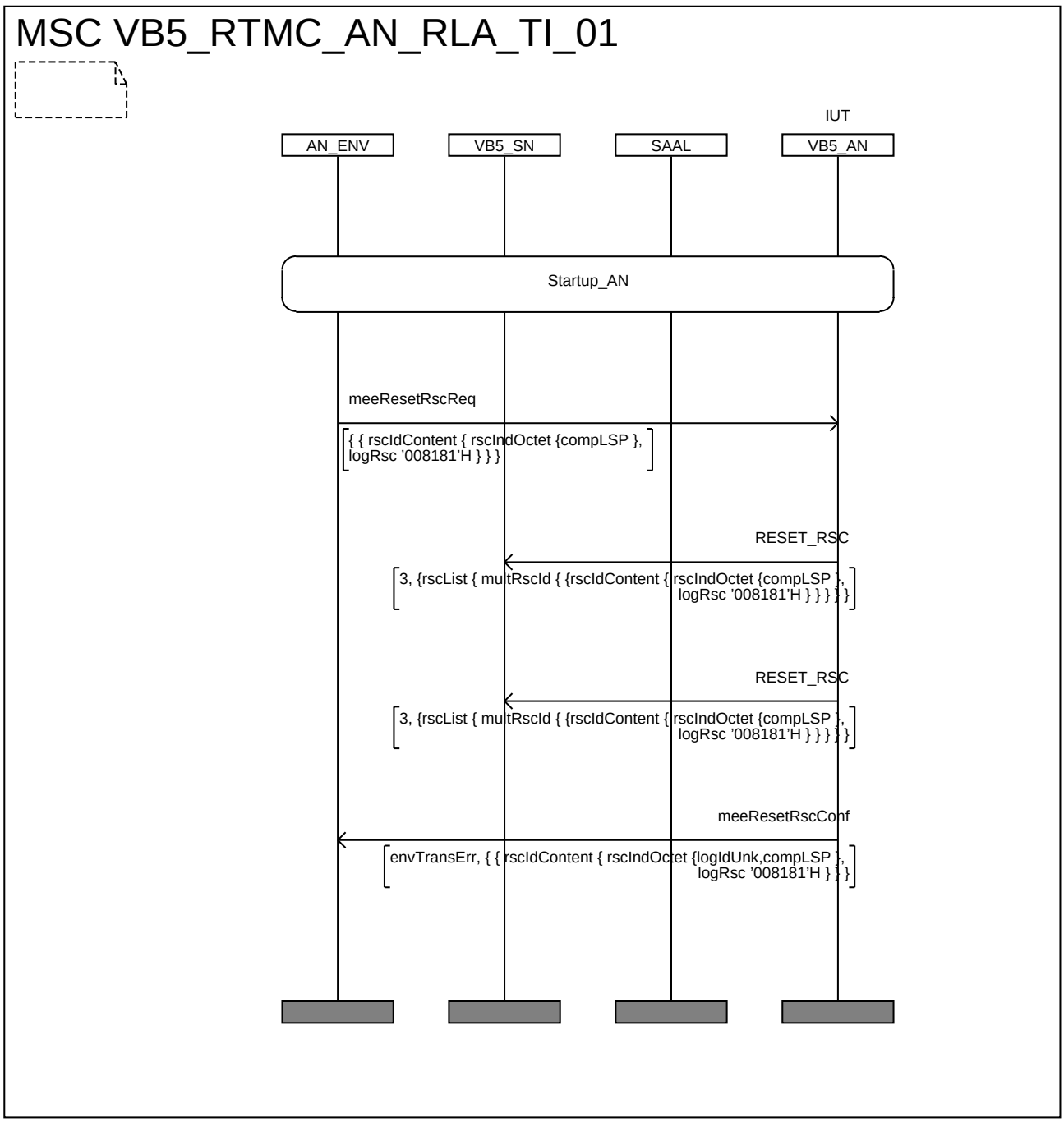


6.1.9 Reset Logical Service Port (LSP) procedure, AN initiated (RLA)

VB5_RTMC_AN_RLA_ BV_01	**Reference EN 301 005-1 [1] : 13.3.4.3**
Purpose	Check reset LSP procedure triggered by AN
Test description	The tester issues an implicit send to cause the IUT to initiate a Reset LSP procedure.
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU with valid parameters.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK PDU, meeResetRscConf with return result = success is sent to AN environment



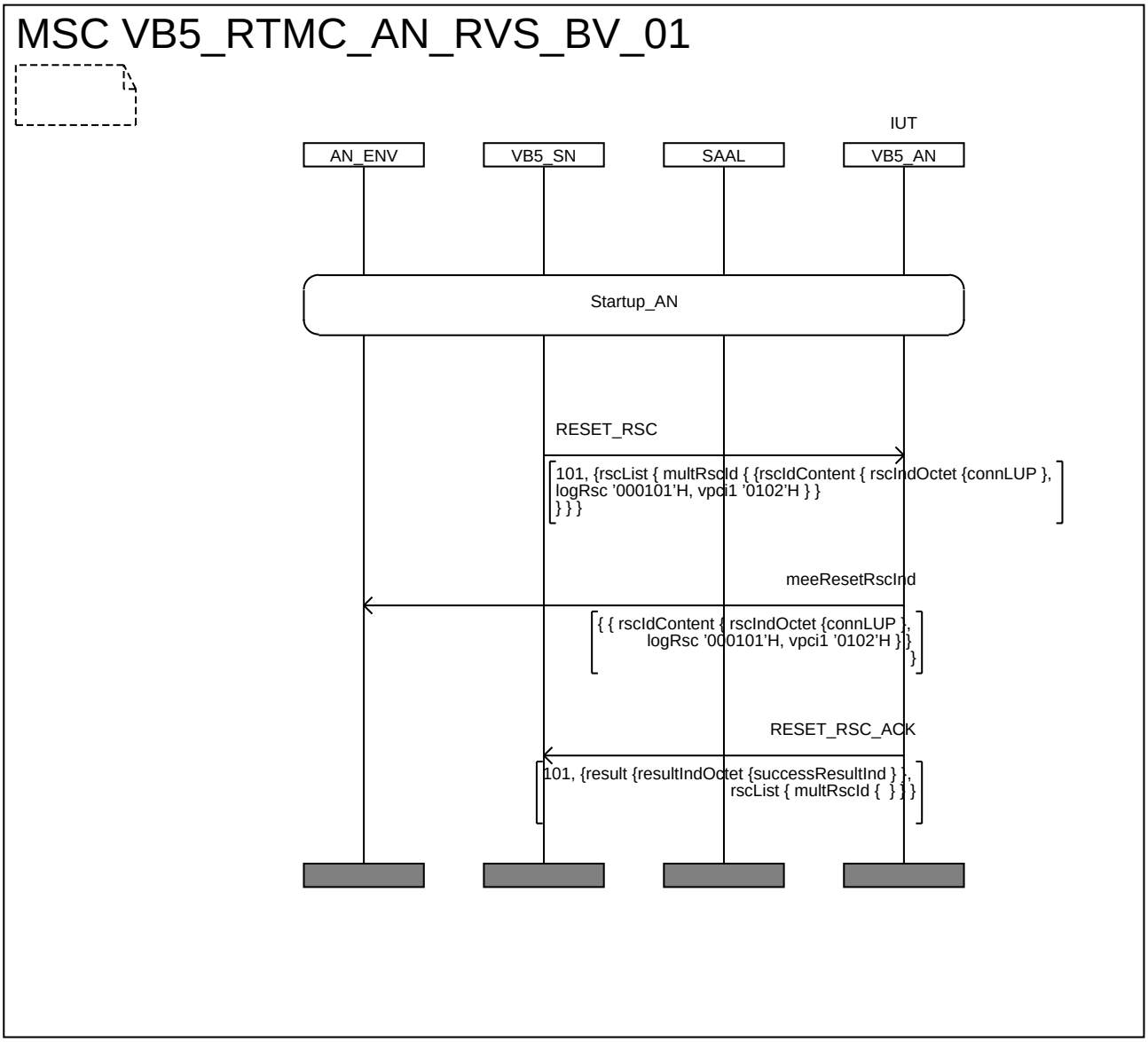
VB5_RTMC_AN_RLA_ TI_01	Reference EN 301 005-1 [1] : 13.3.4.3
Purpose	Check time out on Reset LSP procedure triggered by AN
Test description	The tester issues an implicit send to cause the IUT to initiate a reset LSP procedure. The tester is receiving **RESET_RSC** PDU then does not answer with **RESET_RSC_ACK** PDU within **T_reset** time
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU again.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscConf with return result = transmissionError is sent to AN environment



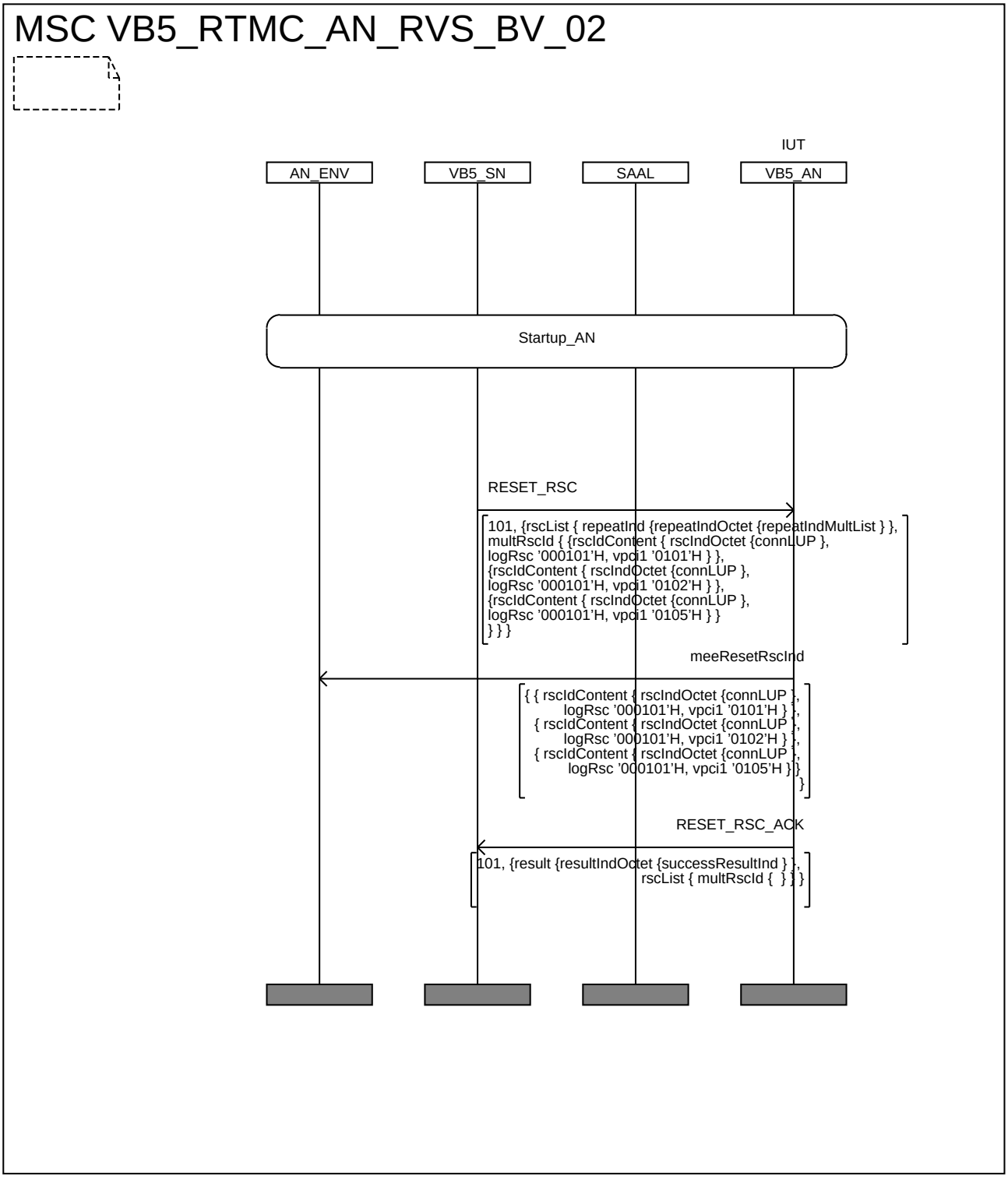
6.1.10 Reset Virtual Path Connection (VPC) procedure, SN initiated (RVS)

- VPC at LUP.

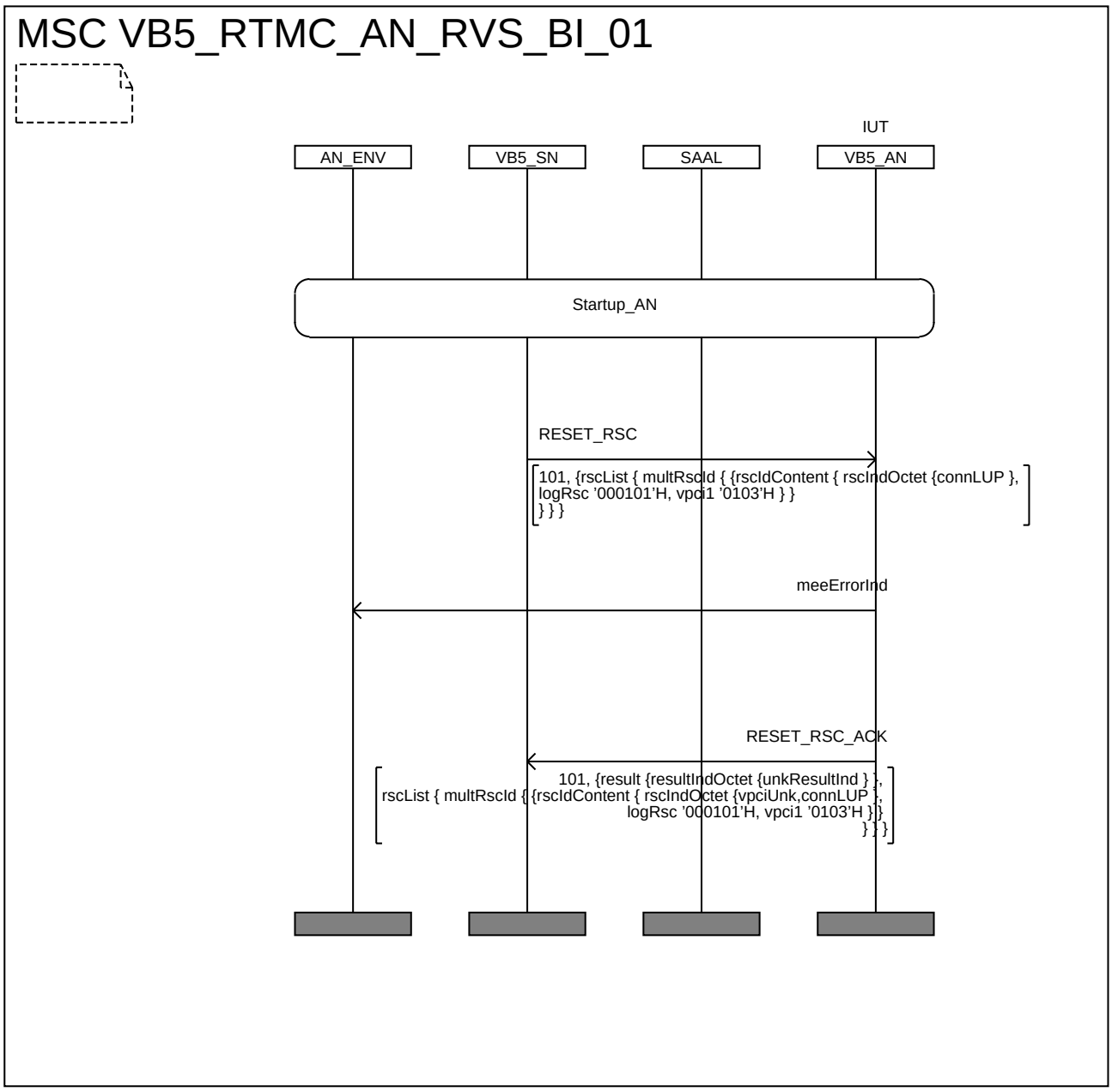
VB5_RTMC_AN_RVS_BV_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a single VPC at LUP, triggered by SN, valid parameters
Test description	The tester sends RESET_RSC PDU to the IUT, with Resource indicator = connection at LUP, and valid VPCI.
Pass criteria	Check that the tester is receiving RESET_RSC_ACK PDU containing Result indicator = success
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscInd with parameters resource indicator = connection at LUP and VPCI is sent to AN environment



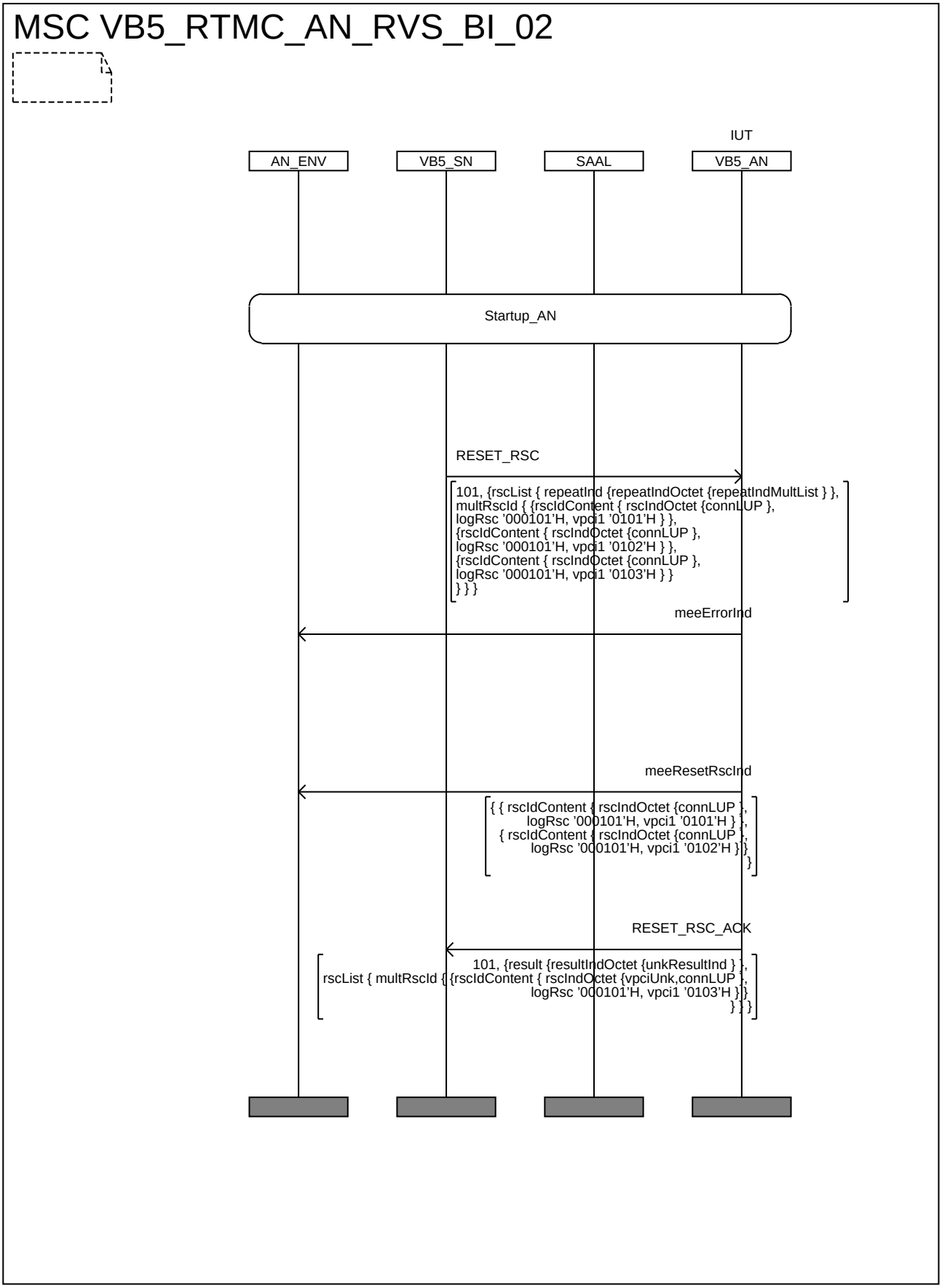
VB5_RTMC_AN_RVS_BV_02	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a list of VPC at LUP, triggered by SN, valid parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and list of VPCI.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = success
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscInd with parameters resource indicator = connection at LUP and VPCIs is sent to AN environment



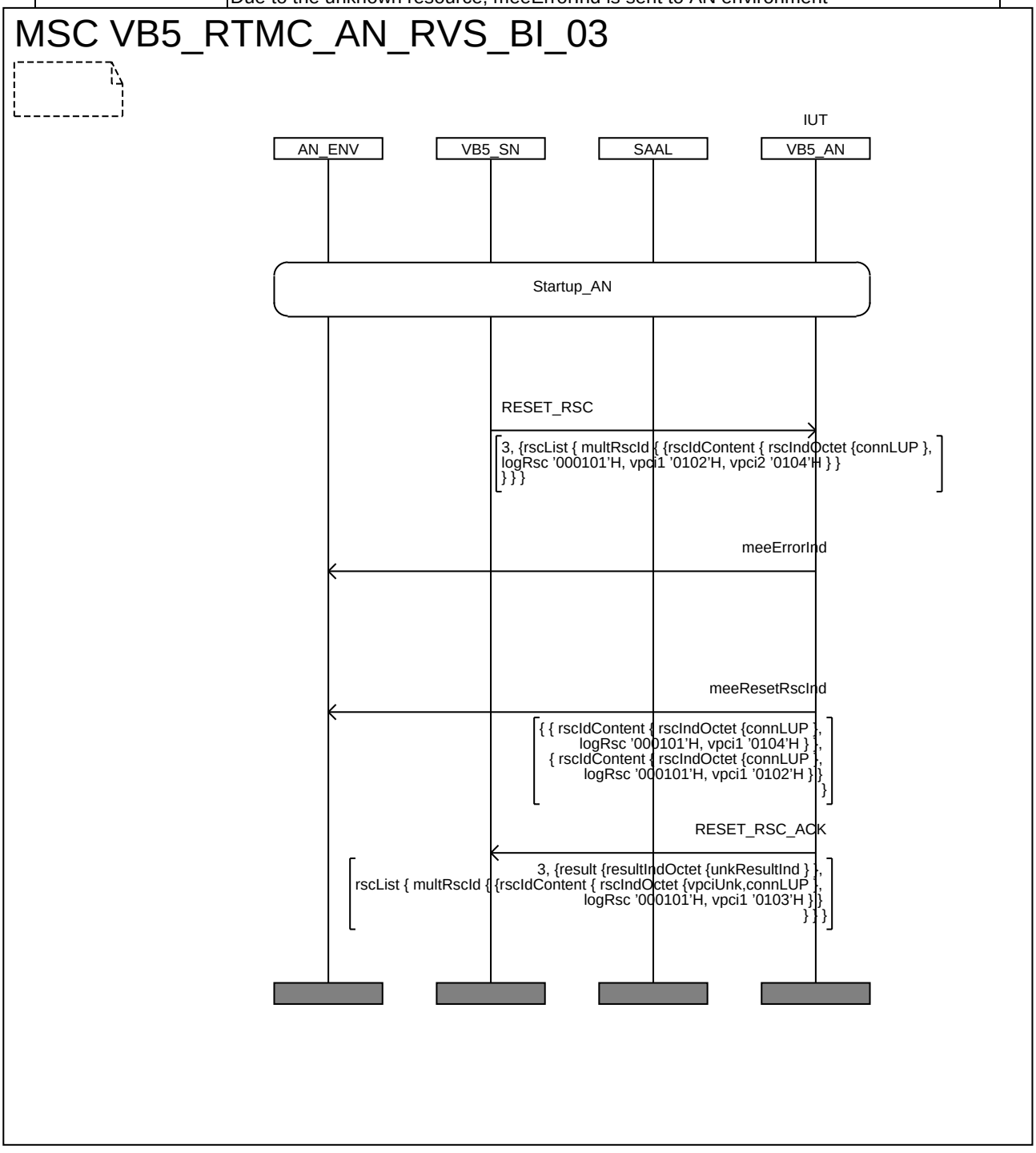
VB5_RTMC_AN_RVS_BI_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a single VPC at LUP, triggered by SN, unknown parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and unknown VPCI.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing ResultInd = unknown Resource value for the unknown VPCI
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	Due to the unknown resource, meeErrorInd is sent to AN environment



VB5_RTMC_AN_RVS_BI_02	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a list of VPC at LUP, triggered by SN, one of them being unknown
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and a list of valid and one unknown VPCI
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing ResultInd = unknown Resource value for the unknown VPCI
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscInd with parameters resource indicator = connection at LUP and VPCIs for known resources is sent to AN environment Due to the unknown resource, meeErrorInd is sent to AN environment


MSC VB5_RTMC_AN_RVS_BI_02
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
RESET_RSC
101, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0103'H } }
} } }
meeErrorInd
meeResetRscInd
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } }
}
RESET_RSC_ACK
101, {result {resultIndOctet {unkResultInd } },
rscList { multRscId {{rscIdContent { rscIndOctet {vpciUnk,connLUP },
logRsc '000101'H, vpci1 '0103'H } }
} } }

VB5_RTMC_AN_RVS_BI_03	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a range of VPC at LUP, triggered by SN, one of them being unknown
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and a range of valid and one unknown VPCI
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing ResultInd = unknown Resource value for the unknown VPCI
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeResetRscInd with parameters resource indicator = connection at LUP and VPCIs for known resources is sent to AN environment Due to the unknown resource, meeErrorInd is sent to AN environment



- VPC at LSP.

It is possible to reset a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that another set of TPs identical to the previous one, is made by replacing "Resource indicator = connection at LUP" with "connection at LSP".

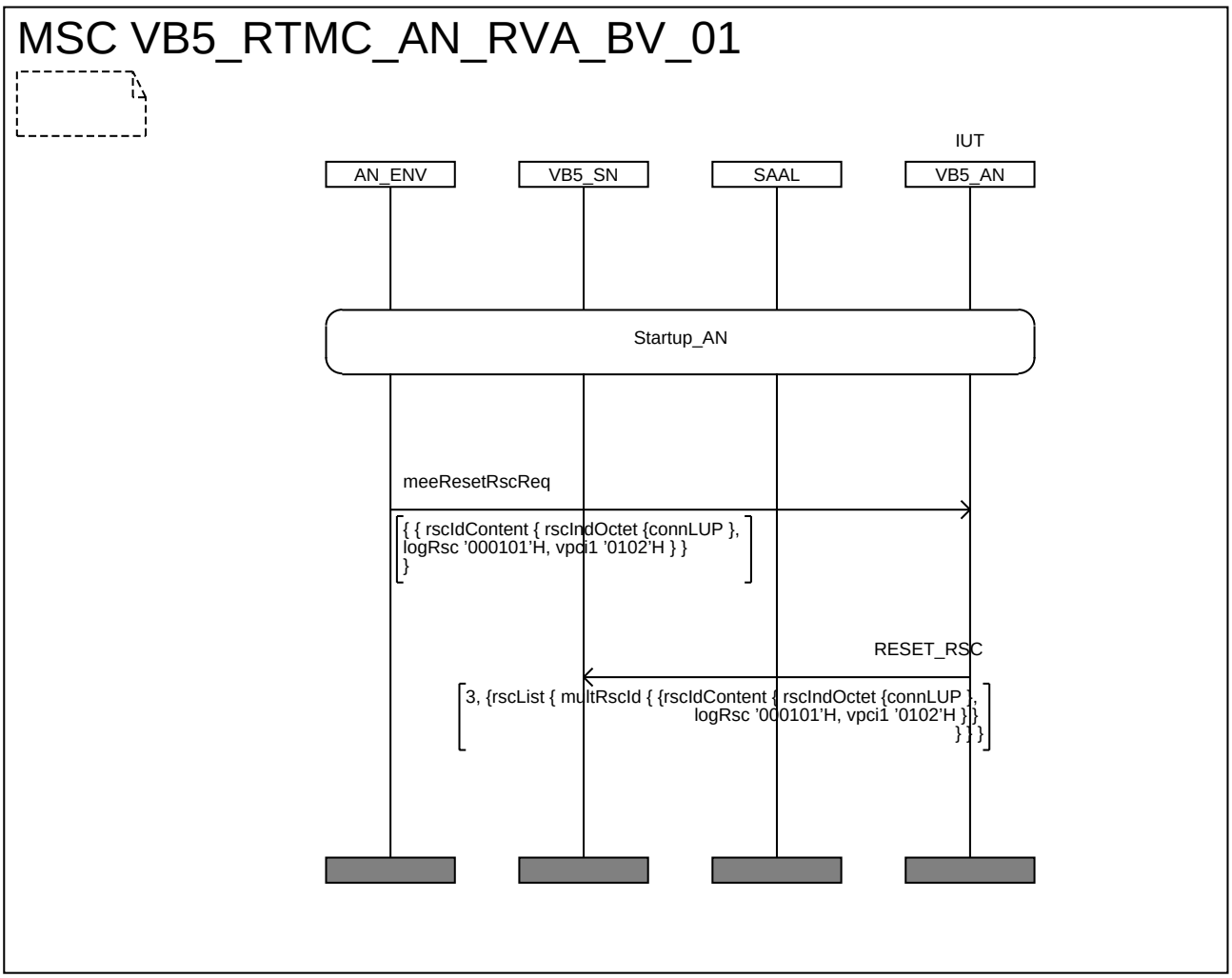
TP naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_AN_RVS_BV_01	VB5_RTMC_AN_RVS_BV_11
VB5_RTMC_AN_RVS_BV_02	VB5_RTMC_AN_RVS_BV_12
VB5_RTMC_AN_RVS_BI_01	VB5_RTMC_AN_RVS_BI_11
VB5_RTMC_AN_RVS_BI_02	VB5_RTMC_AN_RVS_BI_12
VB5_RTMC_AN_RVS_BI_03	VB5_RTMC_AN_RVS_BI_13

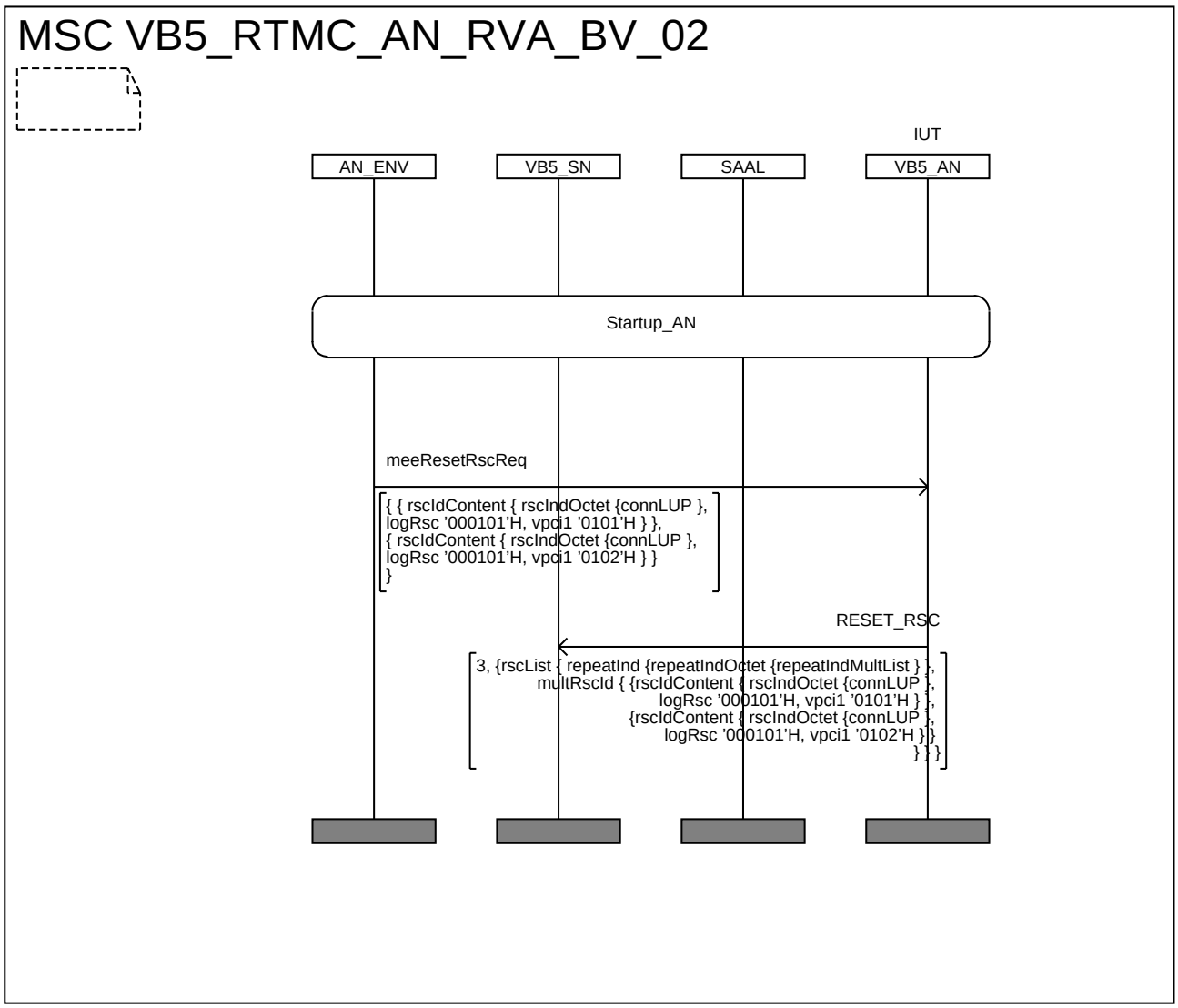
6.1.11 Reset Virtual Path Connection (VPC) procedure, AN initiated (RVA)

- VPC at LUP.

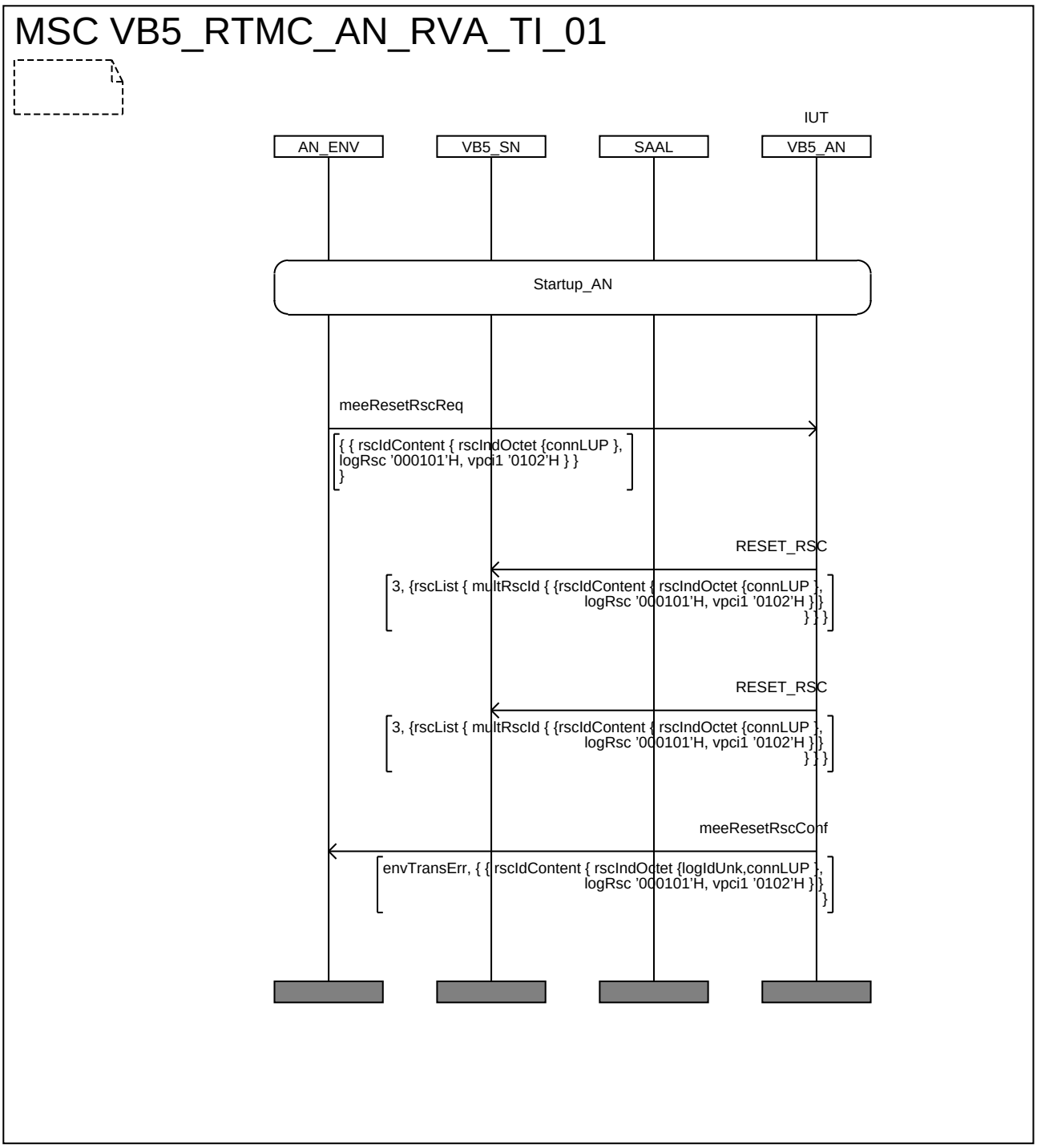
VB5_RTMC_AN_RVA_BV_01	**Reference EN 301 005-1 [1] : 13.3.4.4**
Purpose	Check reset procedure of a single VPC at LUP, triggered by AN
Test description	The tester issues an implicit send to cause the IUT to initiate Reset procedure of a single VPC.
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU with valid parameters.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK PDU, meeResetRscConf with return result = success is sent to AN environment



VB5_RTMC_AN_RVA_BV_02	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a list of VPC at LUP, triggered by AN
Test description	The tester issues an implicit send to cause the IUT to initiate Reset procedure of a list of VPC.
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU with valid parameters.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK PDU, meeResetRscConf with return result = success is sent to AN environment



VB5_RTMC_AN_RVA_TI_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check time out on Reset procedure of a single VPC at LUP triggered by AN
Test description	The tester issues an implicit send to cause the IUT to initiate a reset VPC procedure. The tester is receiving **RESET_RSC** PDU then it does not answer with **RESET_RSC_ACK** PDU within **T_reset** time
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU again.
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK PDU, meeResetRscConf with return result = transmissionError is sent to AN environment



- VPC at LSP.

It is possible to reset a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that another set of TPs identical to the previous one is made by replacing "Resource indicator = connection at LUP" with "connection at LSP".

TP naming correspondence is as follows:

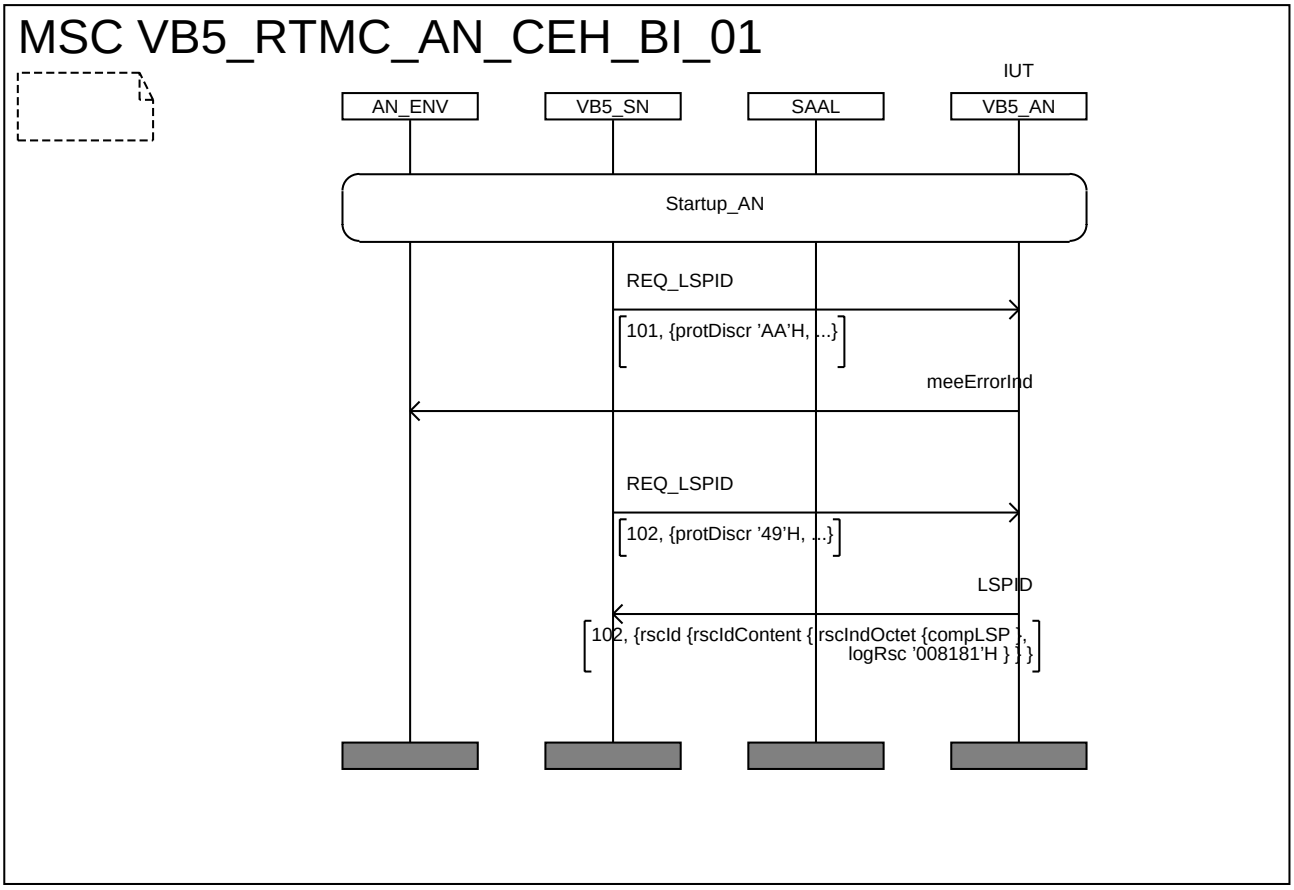
VPC at LUP	VPC at LSP
VB5_RTMC_AN_RVA_BV_01	VB5_RTMC_AN_RVA_BV_11
VB5_RTMC_AN_RVA_BV_02	VB5_RTMC_AN_RVA_BV_12
VB5_RTMC_AN_RVA_TI_01	VB5_RTMC_AN_RVA_TI_11

6.1.12 Common Error Handling (CEH) procedure

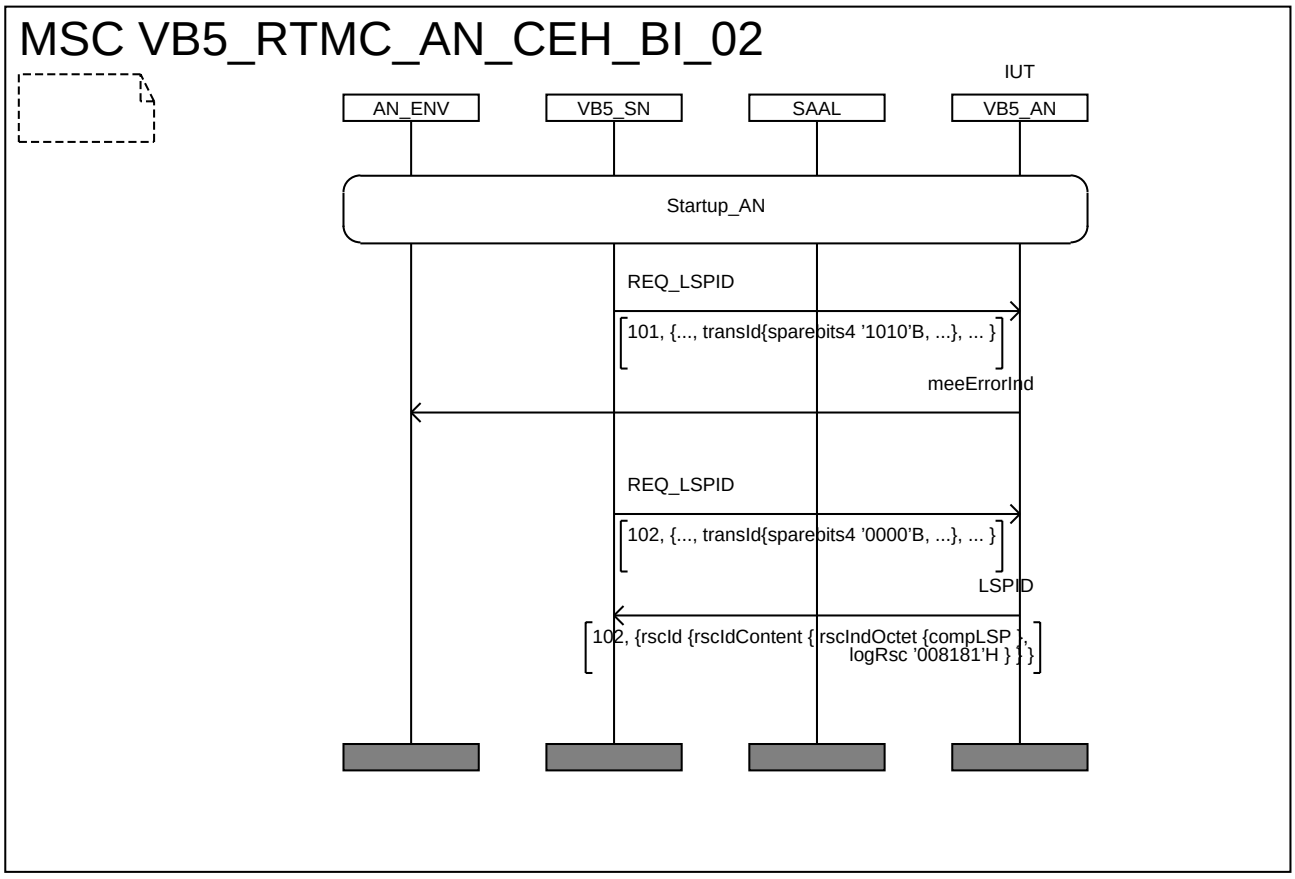
6.1.12.1 Error Handling on Message Header

This subclause includes the checking of miscellaneous protocol error detection's by the IUT, the errors being provoked by the tester.

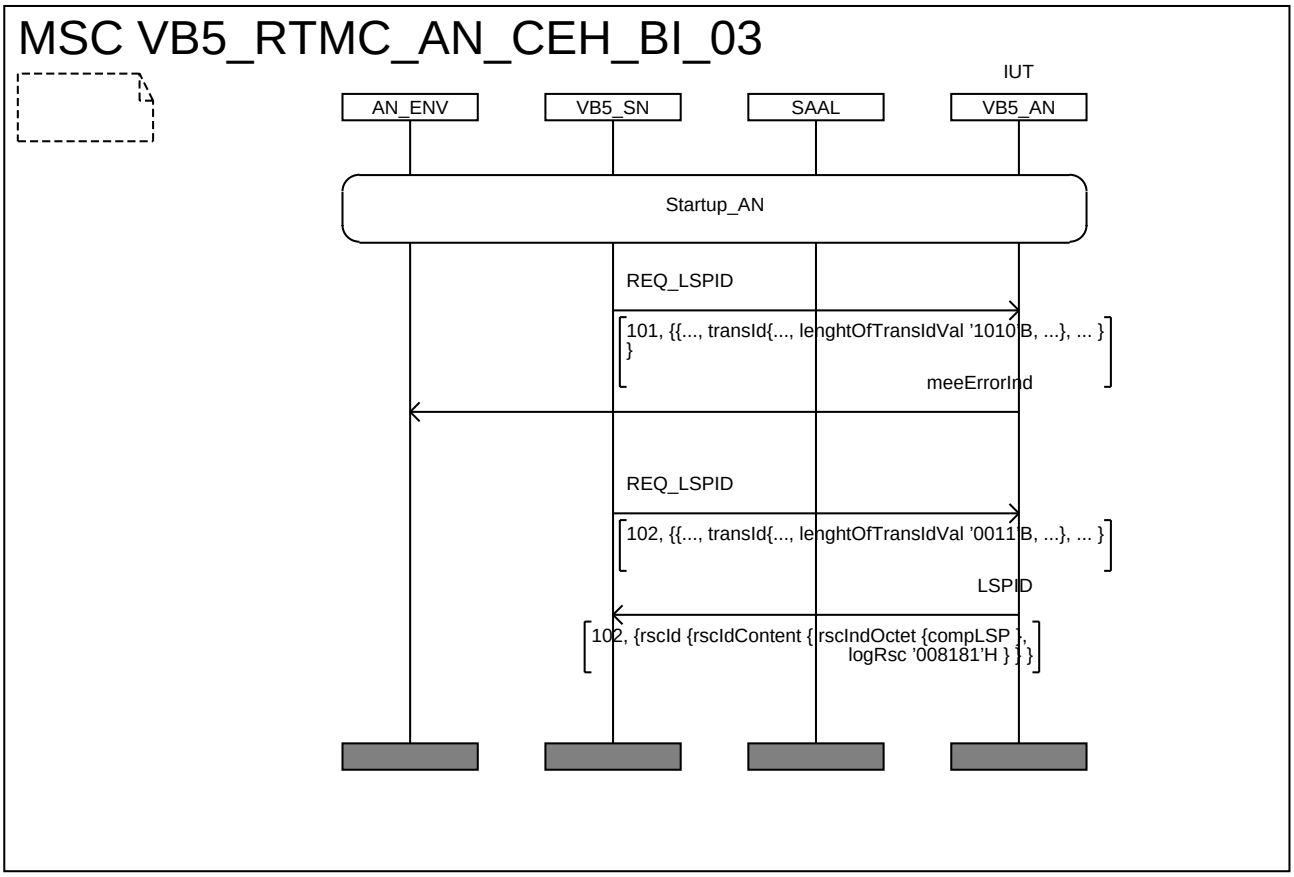
VB5_RTMC_AN_CEH_BI_01	**Reference EN 301 005-1 [1] : 13.3.1.5**
Purpose	Check detection of wrong protocol discriminator
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with protocol discriminator set to invalid value (value 'AA'H is used)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with protocol discriminator set to valid value (value '49'H)
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong protocol discriminator is detected



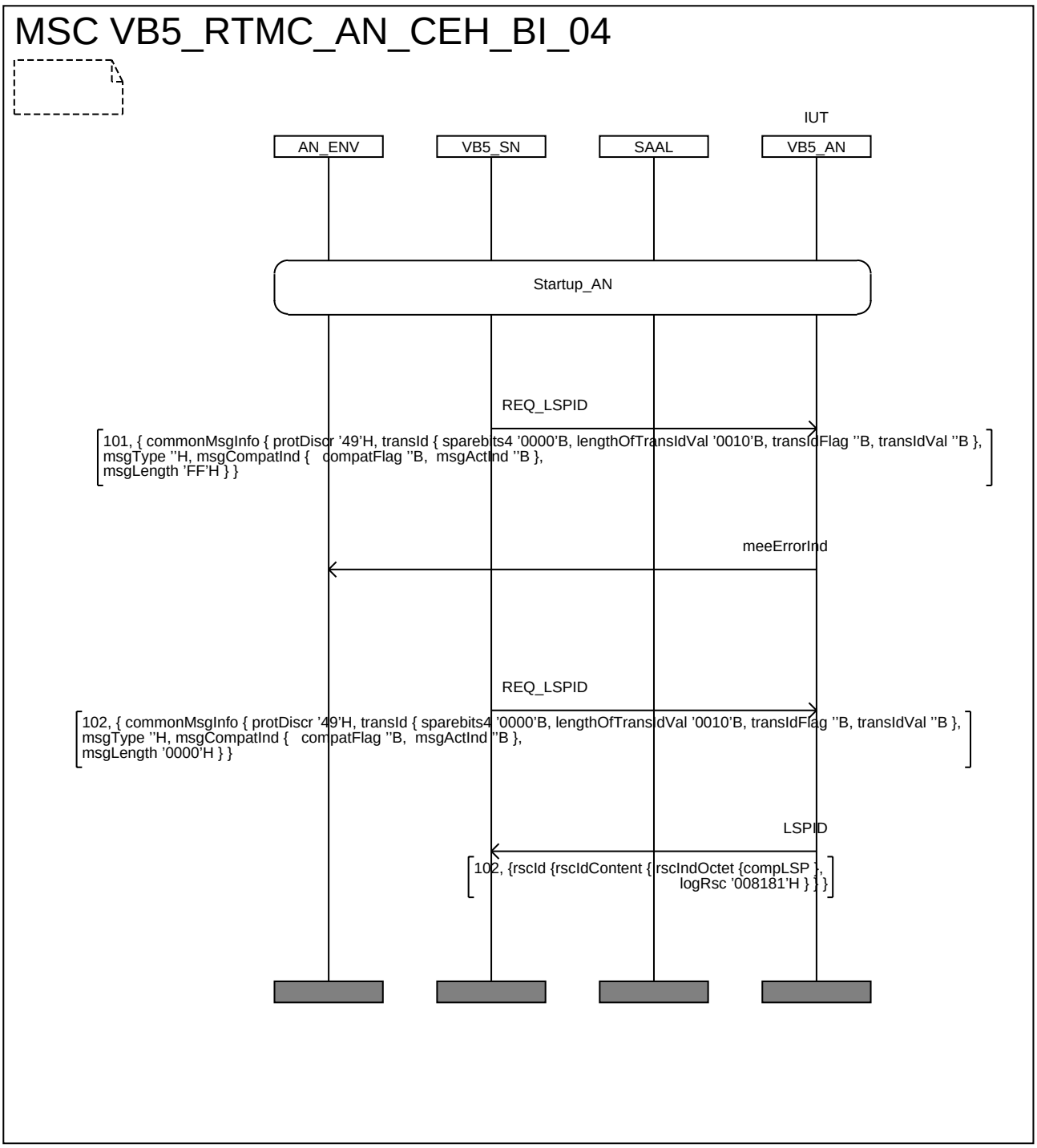
VB5_RTMC_AN_CEH_BI_02	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of wrong transaction identifier format
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with bits 5 to 8 of element octet 1 are different from 0000 (set to 1010)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct transaction identifier
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong transaction identifier format is detected



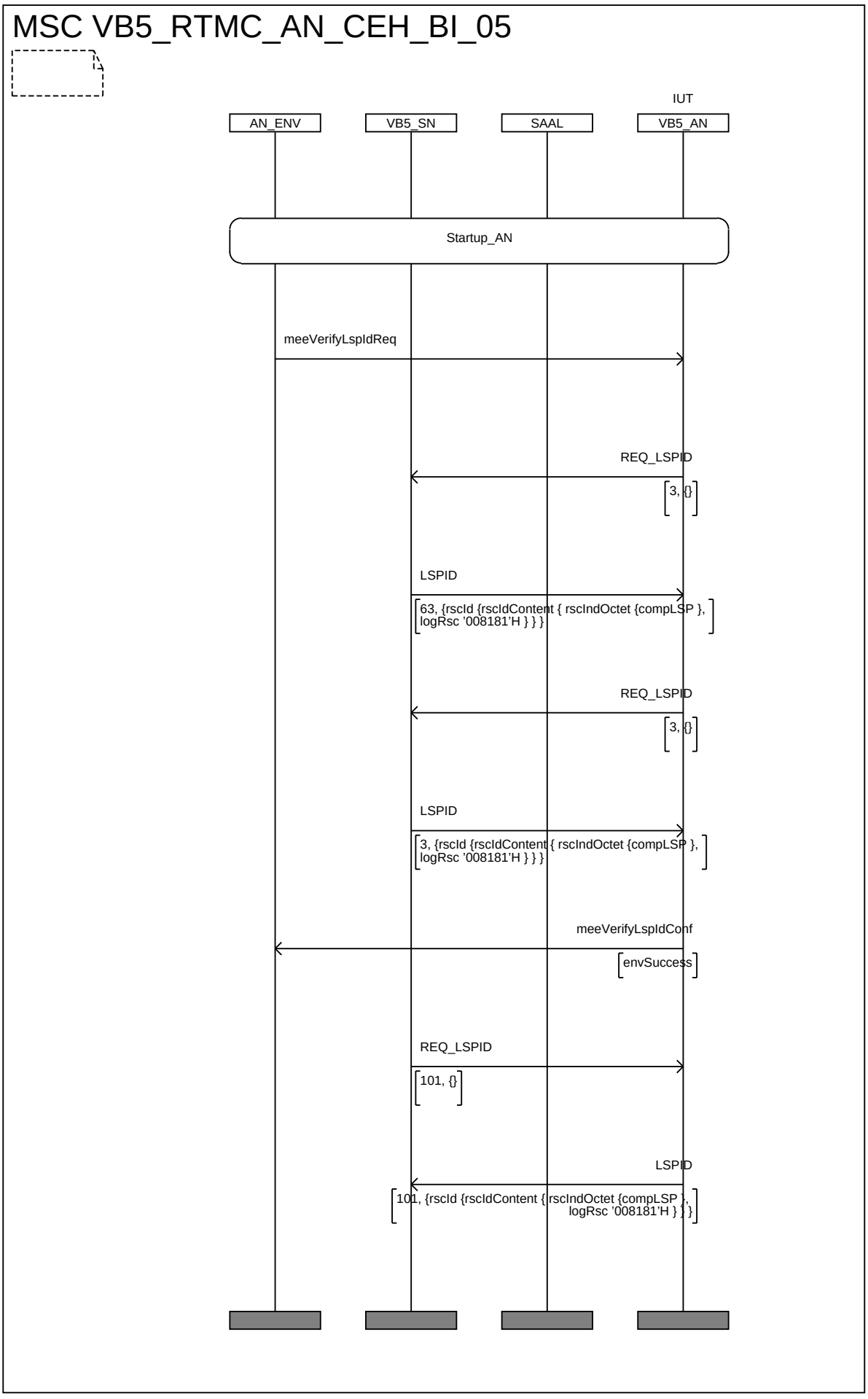
VB5_RTMC_AN_CEH_BI_03	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of wrong length of transaction identifier
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with bits 1 to 4 of element octet 1 are different from length = 3 (set to 1010)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct length of transaction identifier
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong length off transaction identifier format is detected



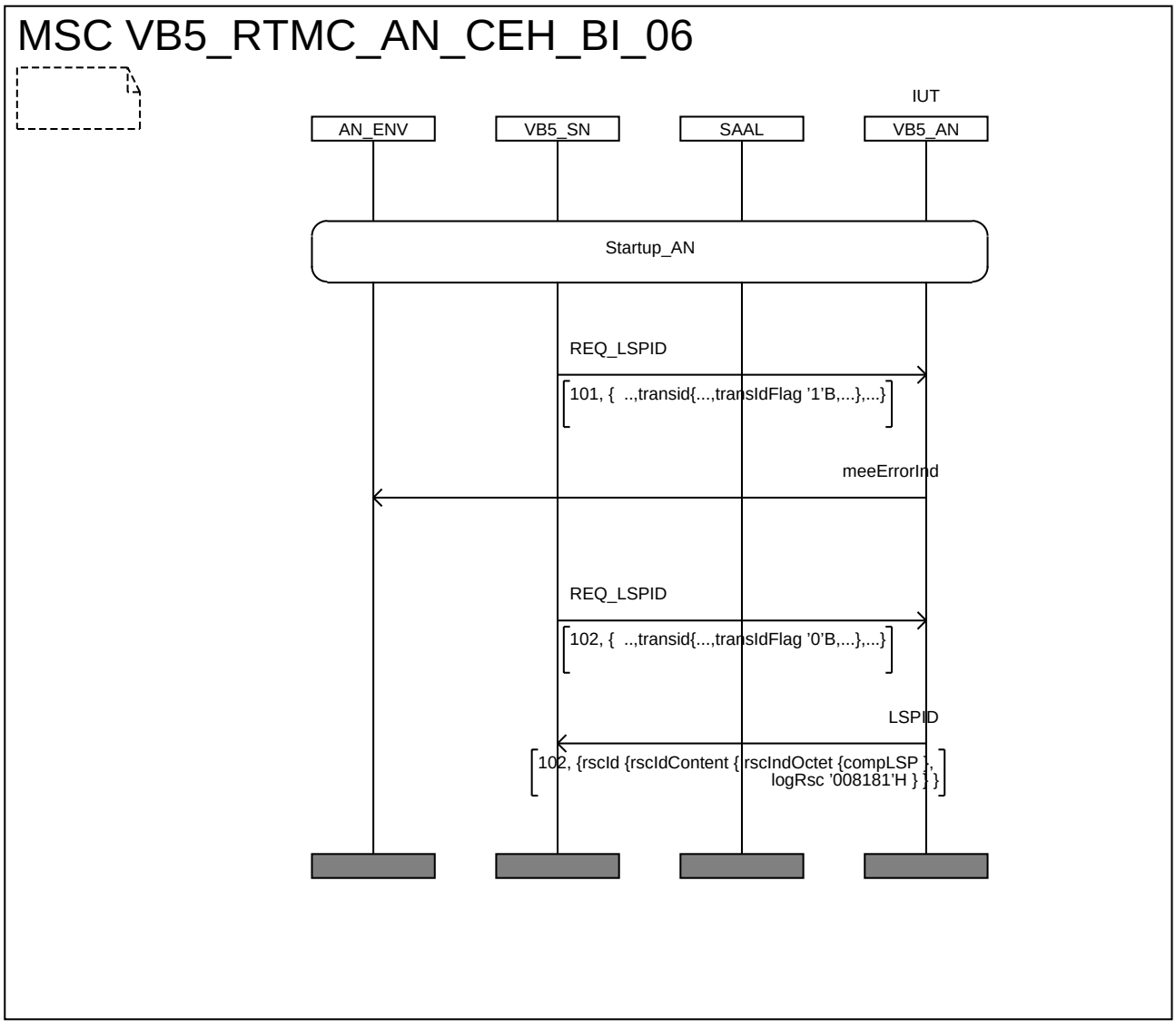
VB5_RTMC_AN_CEH_BI_04	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a message too short
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with data truncated (1 byte only for msg length instead of 2, then nothing)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct length and parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong length of message is detected


MSC VB5_RTMC_AN_CEH_BI_04
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
REQ_LSPID
101, { commonMsgInfo { protDiscr '49'H, transId { sparebits4 '0000'B, lengthOfTransIdVal '0010'B, transIdFlag ''B, transIdVal ''B },
msgType ''H, msgCompatInd { compatFlag ''B, msgActInd ''B },
msgLength 'FF'H } }
meeErrorInd
REQ_LSPID
102, { commonMsgInfo { protDiscr '49'H, transId { sparebits4 '0000'B, lengthOfTransIdVal '0010'B, transIdFlag ''B, transIdVal ''B },
msgType ''H, msgCompatInd { compatFlag ''B, msgActInd ''B },
msgLength '0000'H } }
LSPID
102, {rscId {rscIdContent { rscIndOctet {compLSP },
logRsc '008181'H } } }

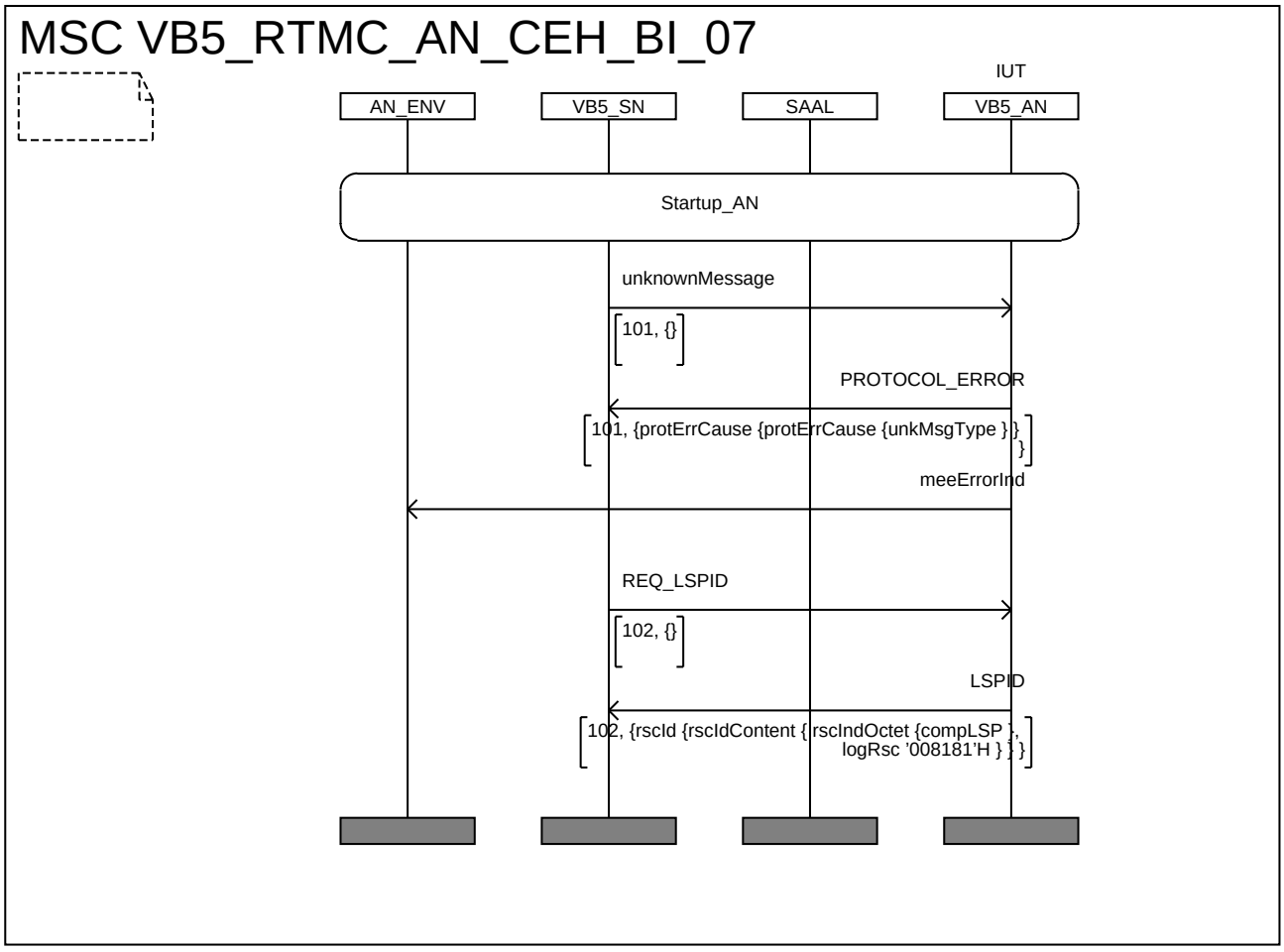
VB5_RTMC_AN_CEH_BI_05	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a wrong transaction identifier
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure. The tester is receiving **REQ_LSPID** PDU then it answers with **LSPID** PDU including a wrong transaction identifier (set to 63)
Pass criteria 1	Check that the tester is receiving a second **REQ_LSPID** PDU , meaning that the **LSPID** PDU was ignored and a time out on **REQ_LSPID** occurred
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	


MSC VB5_RTMC_AN_CEH_BI_05
IUT
AN_ENV
VB5_SN
SAAL
VB5_AN
Startup_AN
meeVerifyLspIdReq
REQ_LSPID
3, {}
LSPID
63, {rscId {rscIdContent { rscIndOctet {compLSP },
logRsc '008181'H } } }
REQ_LSPID
3, {}
LSPID
3, {rscId {rscIdContent { rscIndOctet {compLSP },
logRsc '008181'H } } }
meeVerifyLspIdConf
envSuccess
REQ_LSPID
101, {}
LSPID
101, {rscId {rscIdContent { rscIndOctet {compLSP },
logRsc '008181'H } } }

VB5_RTMC_AN_CEH_BI_06	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a wrong transaction identifier flag
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with transaction identifier flag set to 1 as for an ACK
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong transaction identifier flag is detected

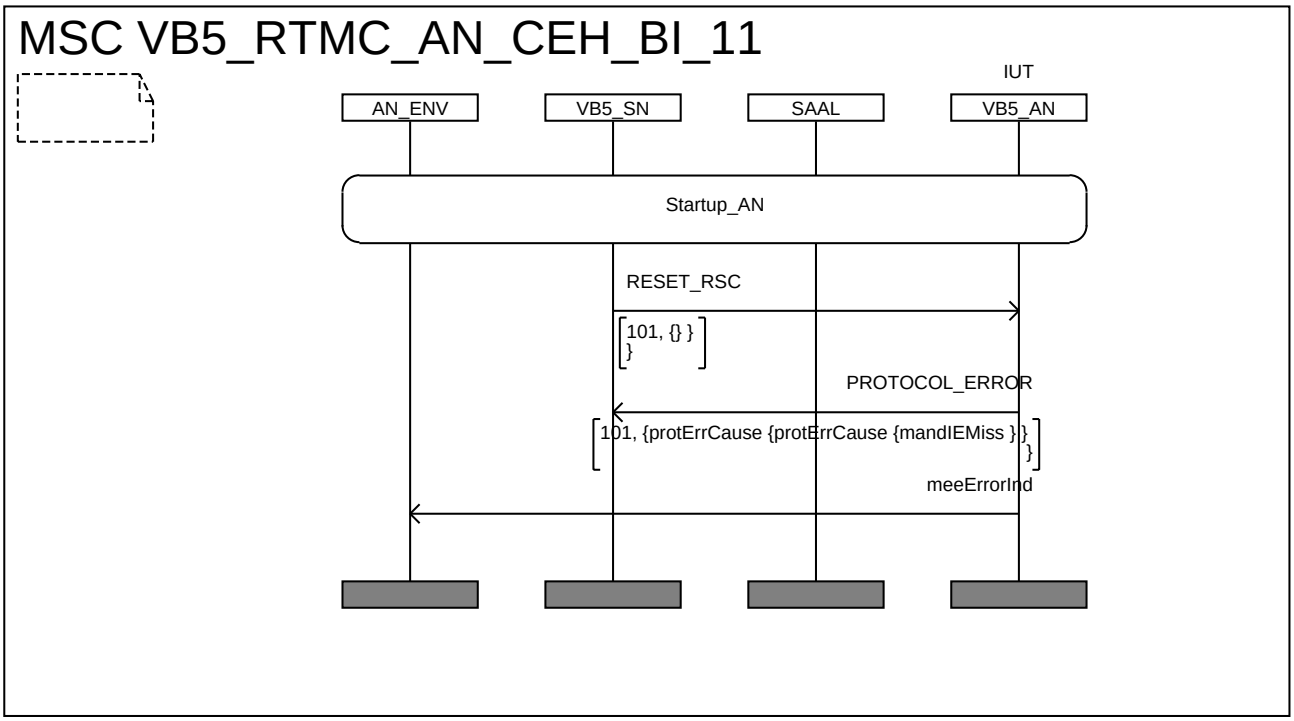


VB5_RTMC_AN_CEH_BI_07	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a wrong message type
Test description	The tester sends **an unknown** PDU to the IUT
Pass criteria 1	Check that the tester is receiving **PROTOCOL_ERROR** , with Protocol error cause value = unrecognized message type, meaning that the PDU is unknown
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was rejected properly
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong message type is detected



6.1.12.2 Error Handling on Information Element (IE)

VB5_RTMC_AN_CEH_BI_11	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a missing Information Element (IE)
Test description	The tester sends **RESET RSC** PDU to the IUT, which has no IE, msg length null
Pass criteria 1	Check that the tester is receiving **PROTOCOL_ERROR** , with Protocol error cause value = mandatory IE missing, meaning that the PDU is incomplete
Selection	None
Preamble	Startup_AN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when error is detected



6.2 SN is the IUT

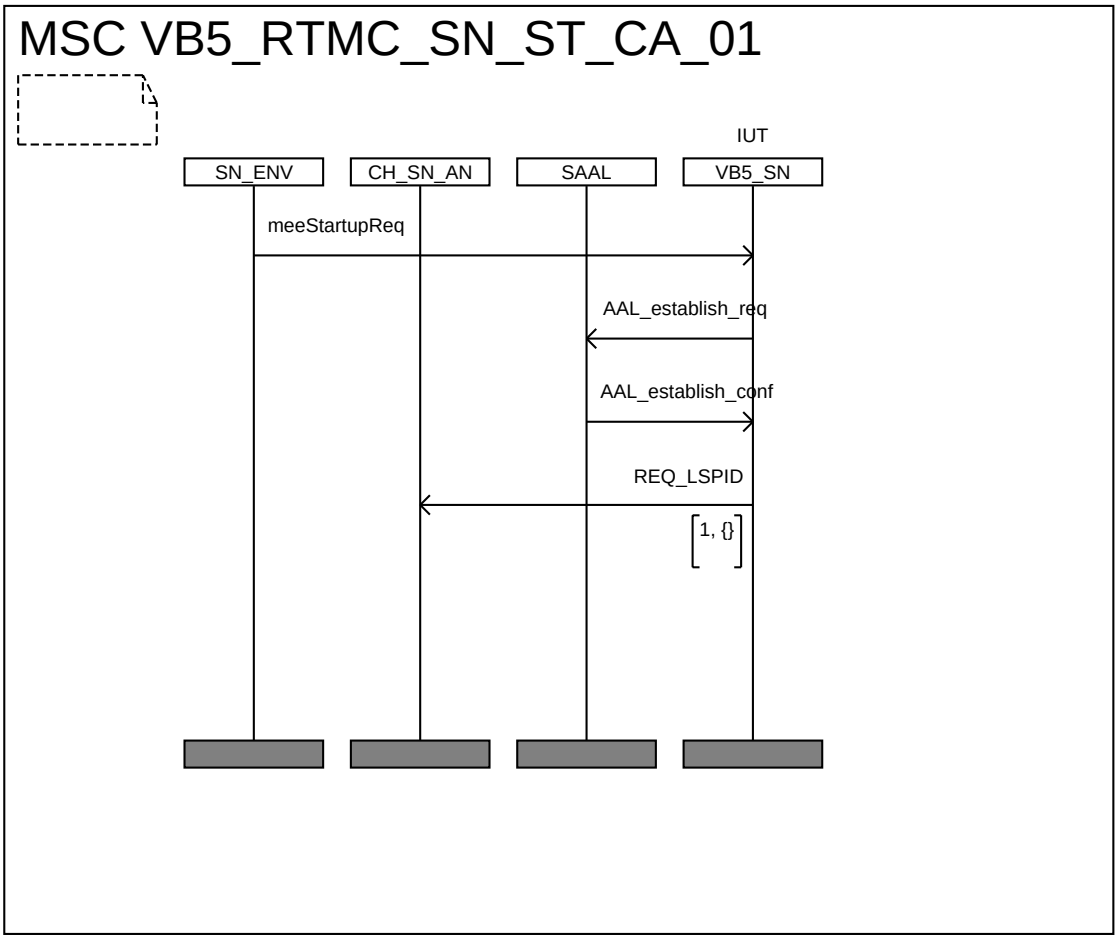
6.2.1 Basic capability tests (CA)

These tests verify the capability of the SN to exchange valid RTMC messages with the tester. The first step consists of starting up the SN RTMC. Subsequently, a number of valid messages are sent by the tester,. in response to the requests sent by the SN during start-up.

Start Up procedure (ST).

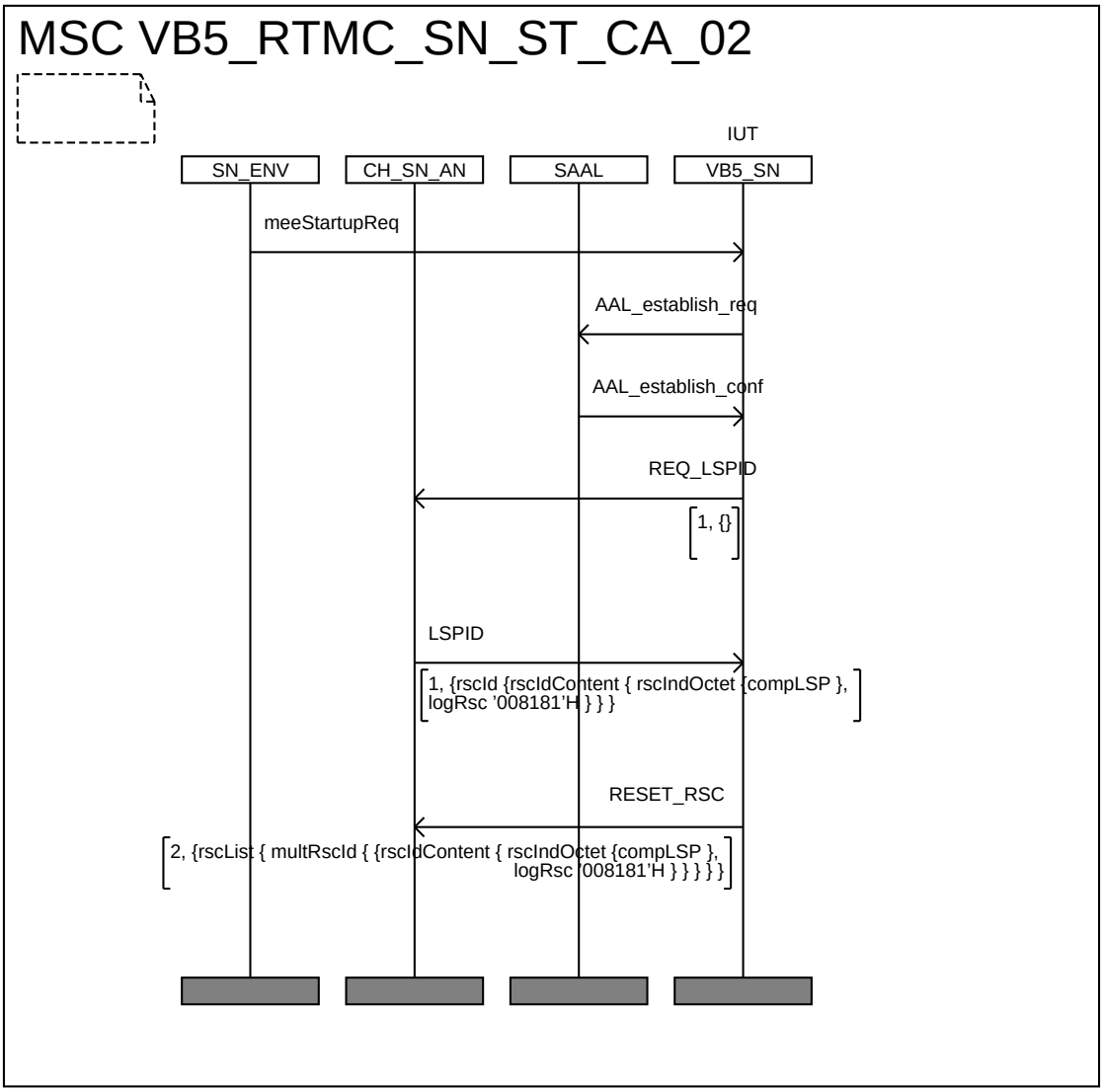
Start Up initiated by SN, first step.

VB5_RTMC_SN_ST_CA_01	**Reference EN 301 005-1 [1] : 13.3.4.1.2**
Purpose	Check start up of RTMC, on request of operator associated with SN.
Test description	The tester sets up the layer 2 then issues an implicit send to cause the IUT to initiate a start up procedure.
Pass criteria	Check that the tester is receiving successively the SAAL PDU to set up the layer 2 and subsequently the RTMC PDU **REQ_LSPID**
Selection	None
Preamble	None
Postamble	None
Additional testing	None

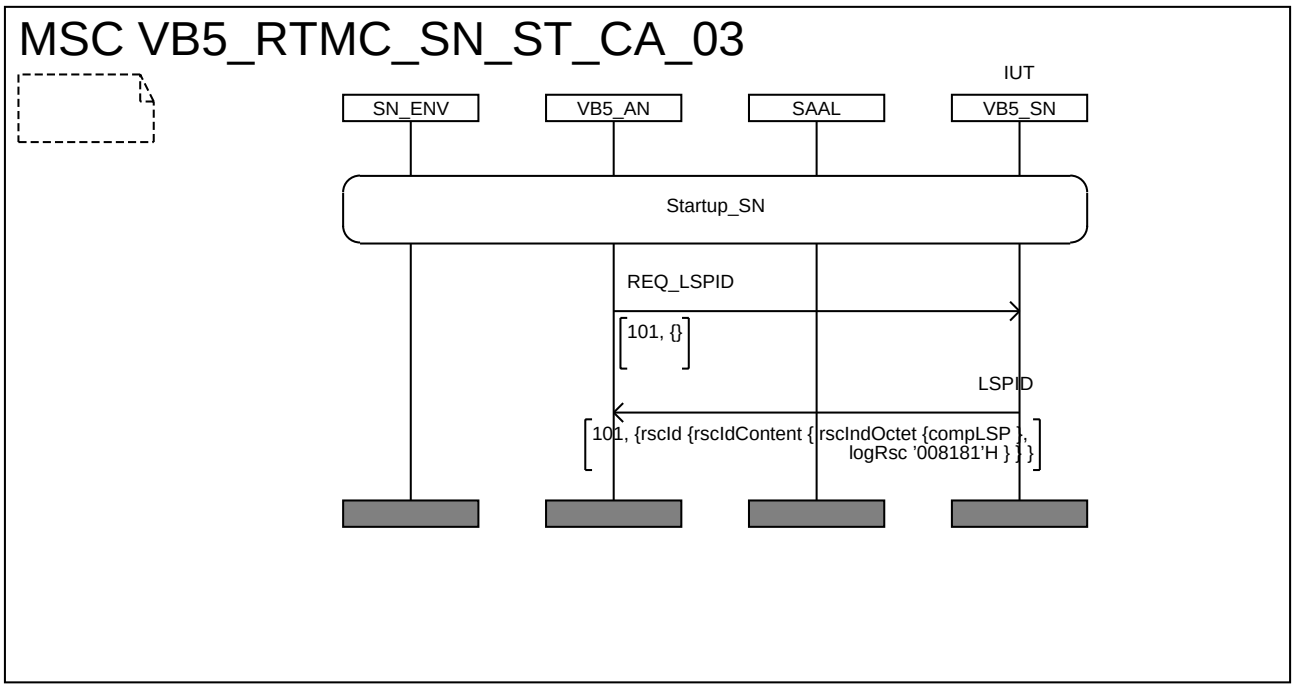


Start Up initiated by SN, complete.

VB5_RTMC_SN_ST_CA_02	Reference EN 301 005-1 [1] : 13.3.4.1.2
Purpose	Check start up of RTMC, on request of operator associated with SN.
Test description	The tester sets up the layer 2 then issues an implicit send to cause the IUT to initiate a start up procedure. The tester is receiving successively the SAAL PDU to set up the layer 2 and subsequently the RTMC PDU **REQ_LSPID.** The tester sends back its **LSPID**
Pass criteria	Check that the tester receives **RESET_RSC** with resource indicator = complete LSP and valid LSPId.
Selection	None
Preamble	None
Postamble	None
Additional testing	When tester has completed the sending of the RESET_RSC_ACK PDU meeStartupConf is sent to the SN environment



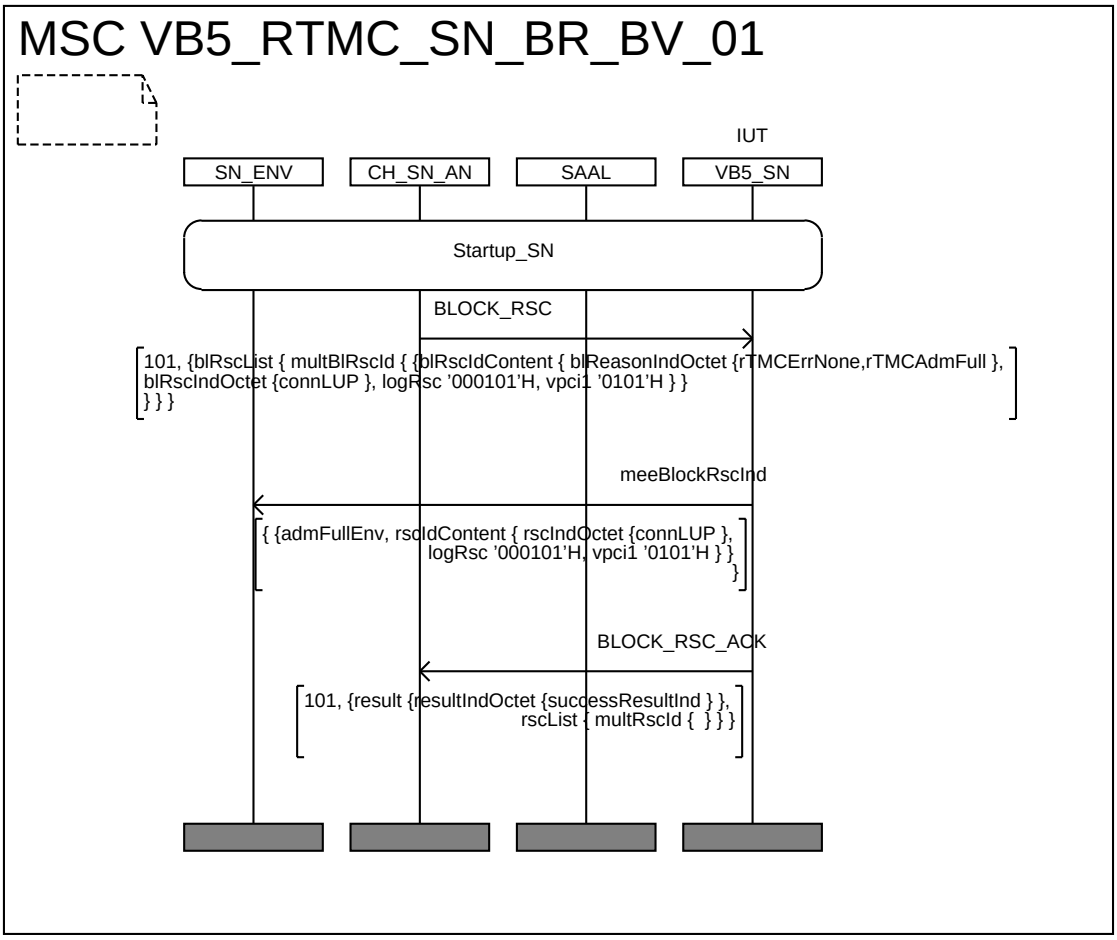
VB5_RTMC_SN_ST_CA_03	Reference EN 301 005-1 [1] : 13.3.1.4
Purpose	Check that the SN is answering to a tester command using same transaction Identifier
Test description	The tester sends **REQ_LSPID** PDU to the IUT.
Pass criteria	Check that the tester is receiving **LSPID** PDU containing the correct transaction identifier
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	None



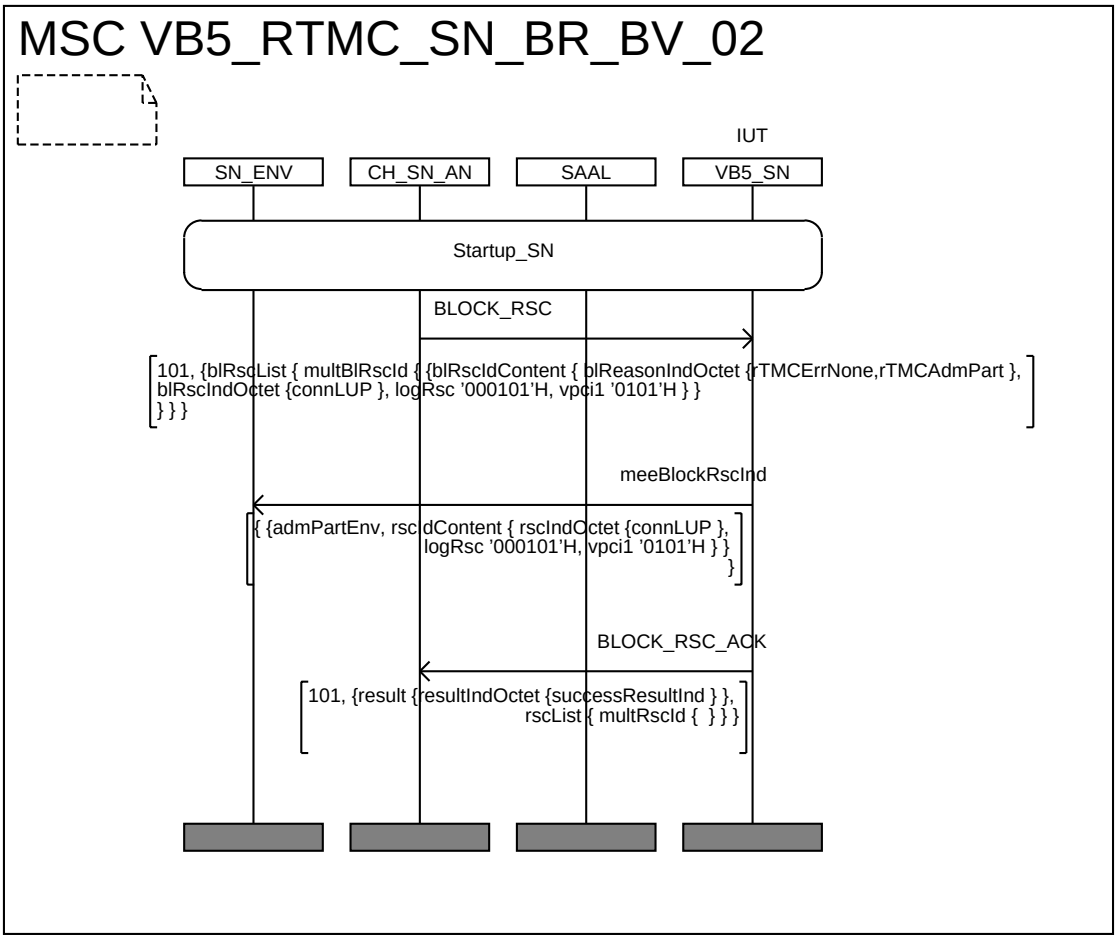
6.2.2 Blocking resource procedure (BR)

- VPC at LUP.

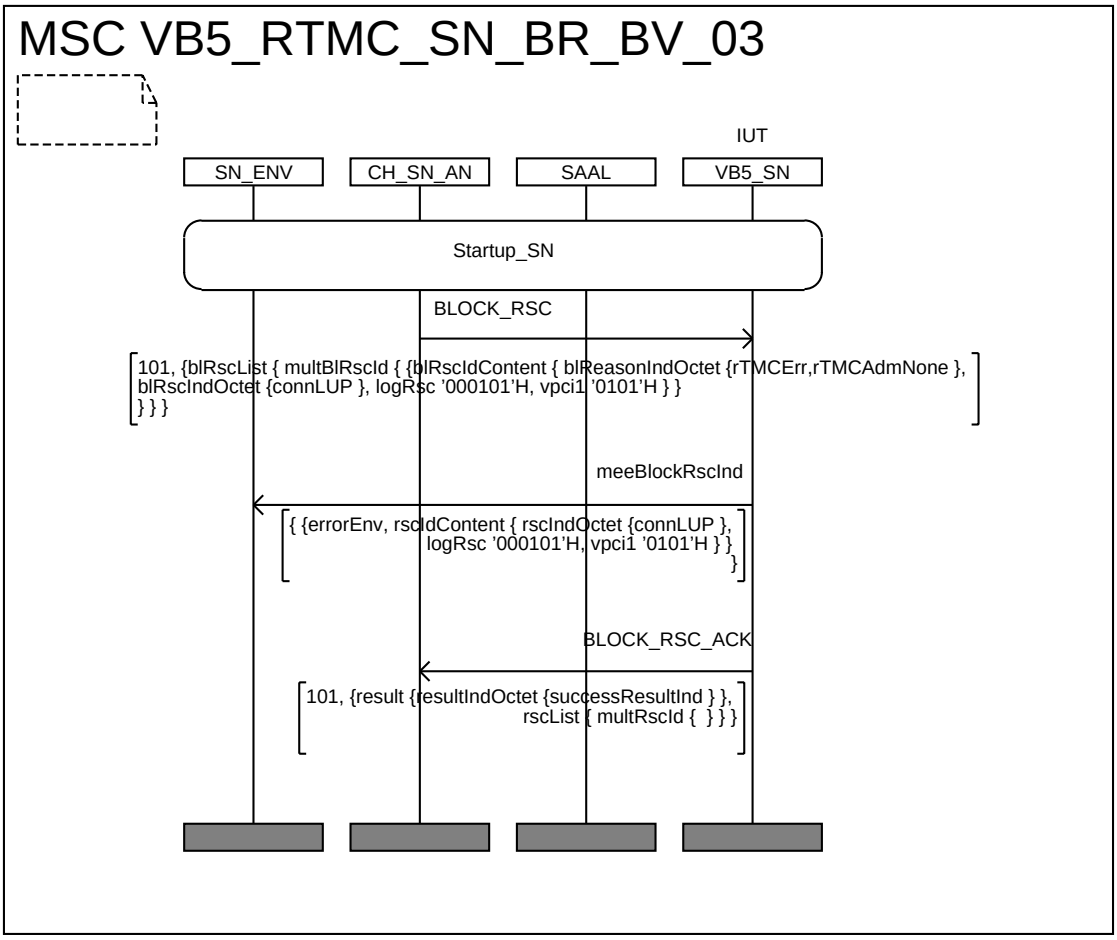
VB5_RTMC_SN_BR_BV_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, using valid parameters, reason = admFull
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and VPCI, reason = AdmFull
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed



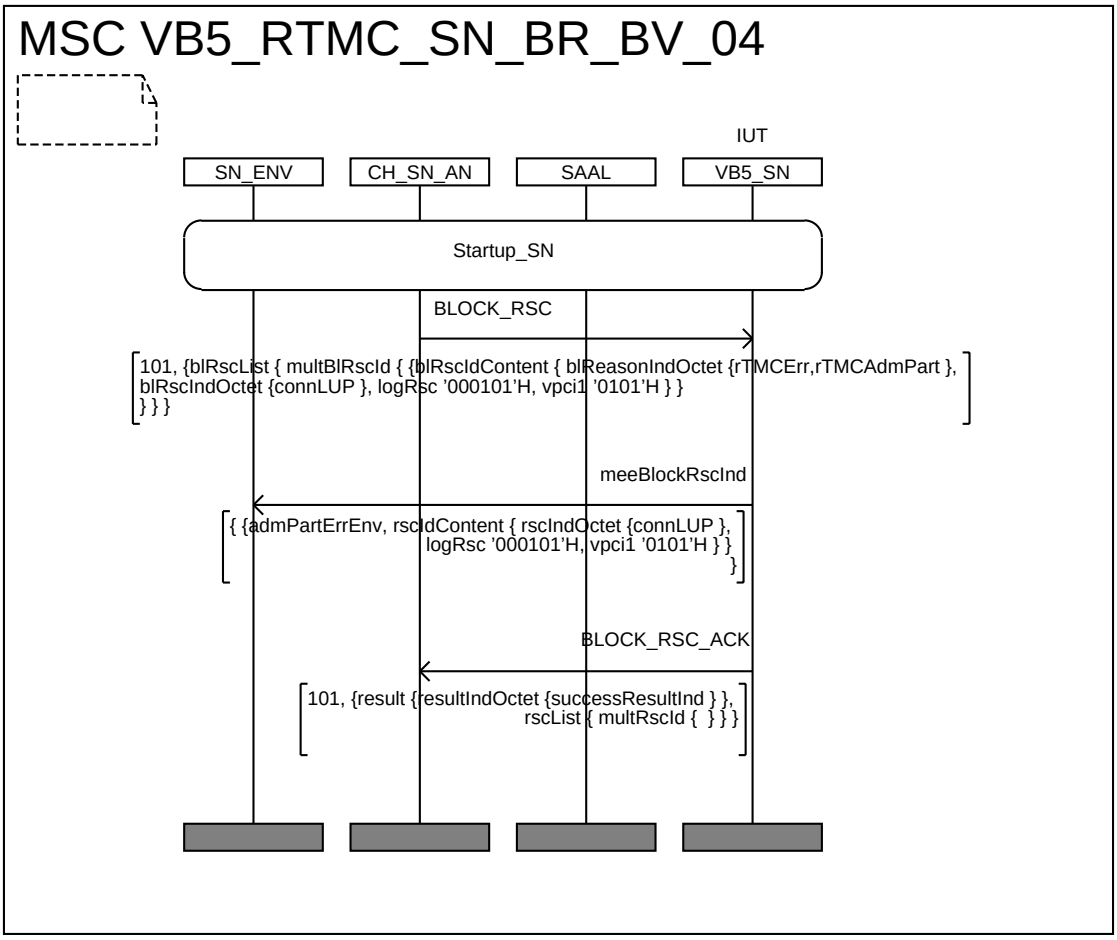
VB5_RTMC_SN_BR_BV_02	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, using valid parameters, reason = admPart
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and VPCI, reason = AdmPart
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed, except for test



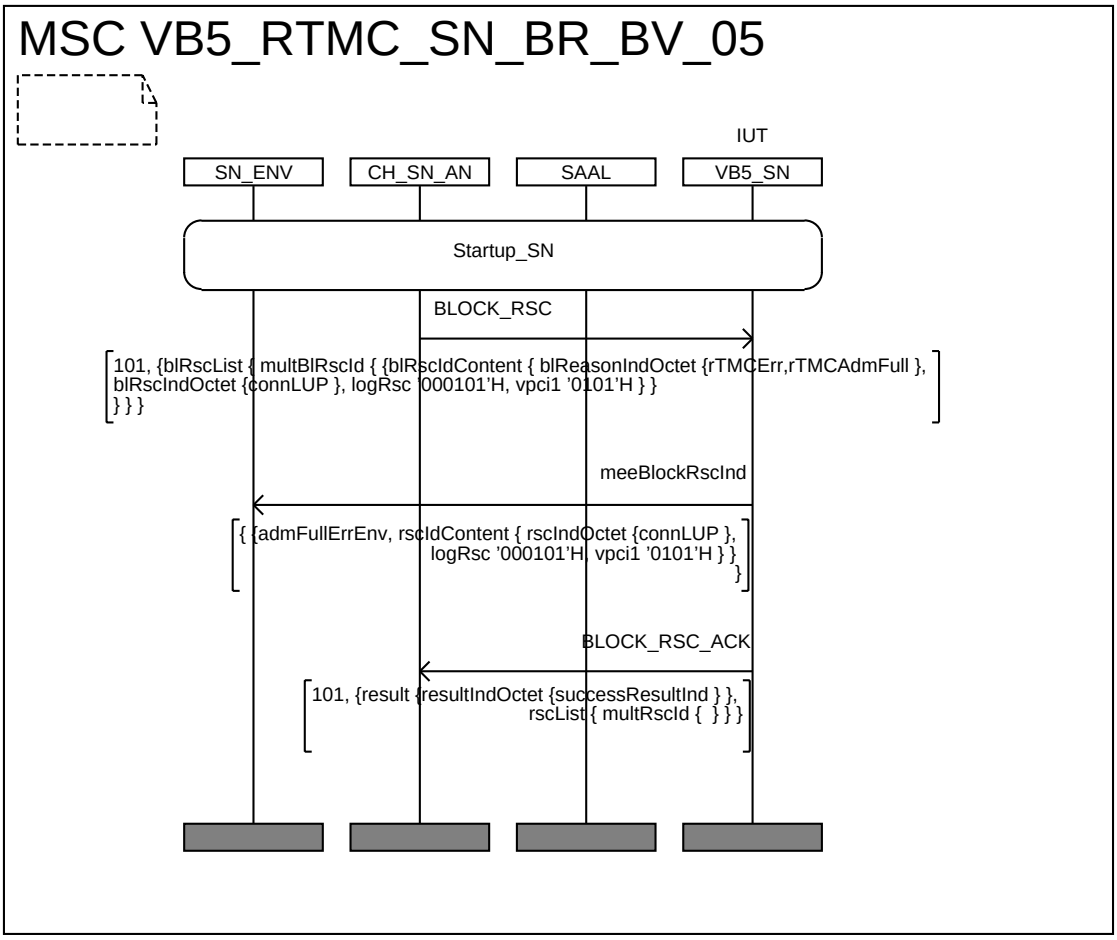
VB5_RTMC_SN_BR_BV_03	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, using valid parameters, reason = error
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and VPCI, reason = Err
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed



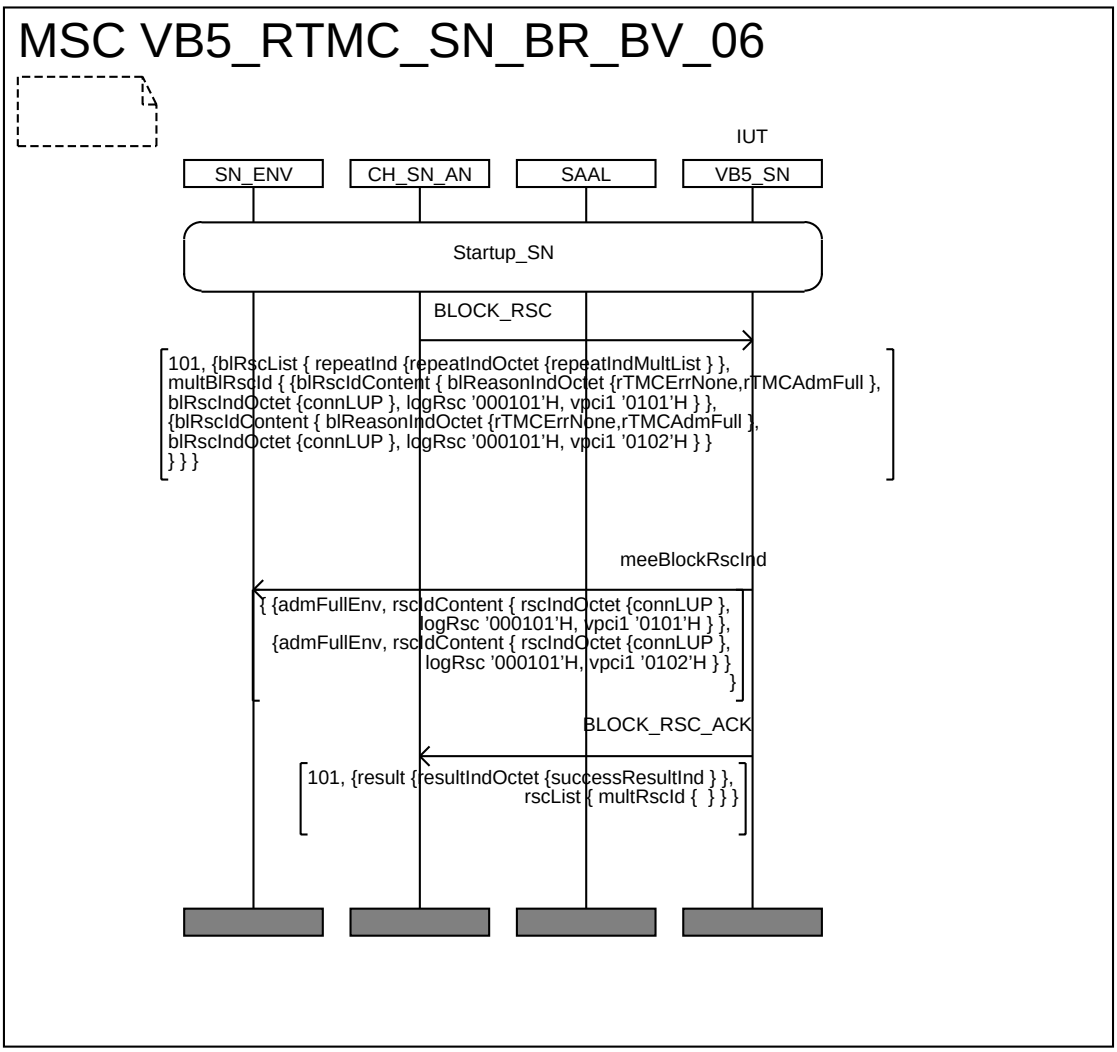
VB5_RTMC_SN_BR_BV_04	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, using valid parameters, reason = error + admPart
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and VPCI, reason = Err + admPart
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed except for test



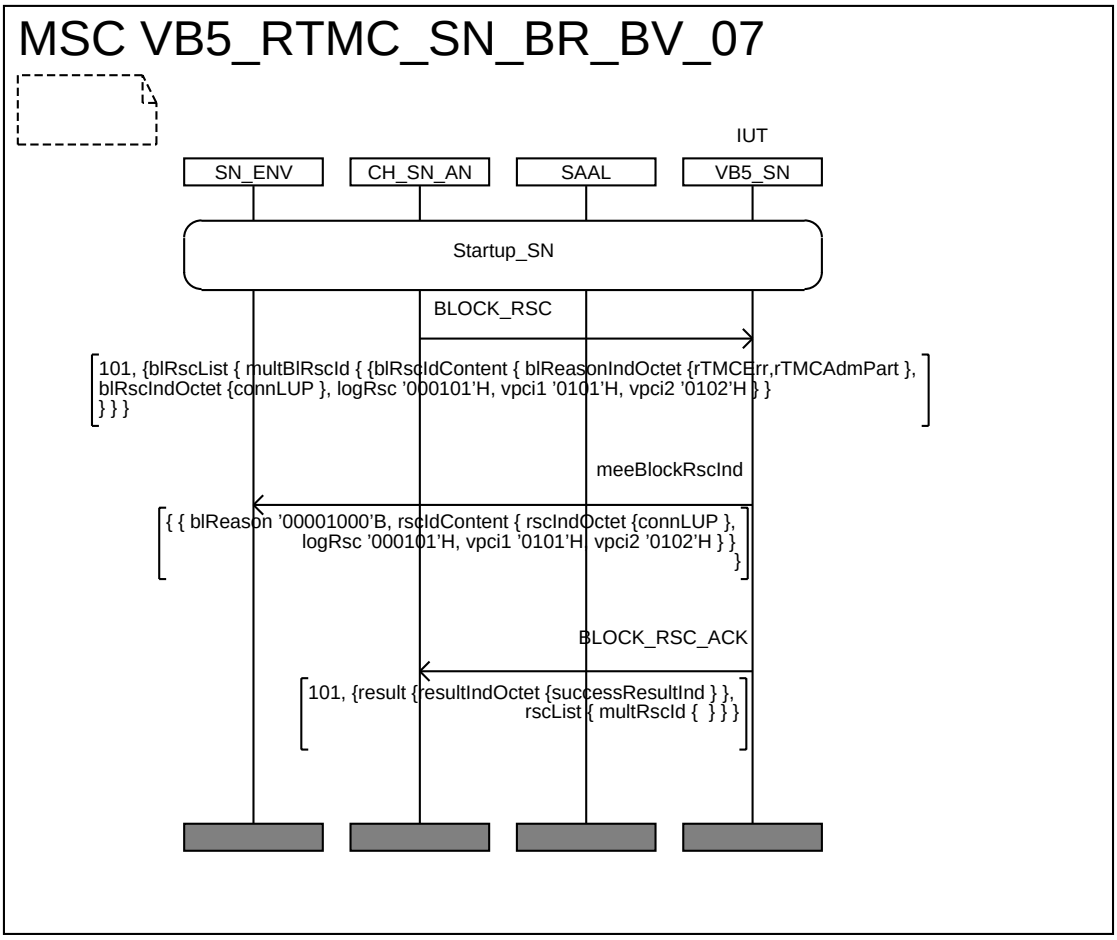
VB5_RTMC_SN_BR_BV_05	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC, using valid parameters, reason = error + admFull
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and VPCI, reason = Err + admFull
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed



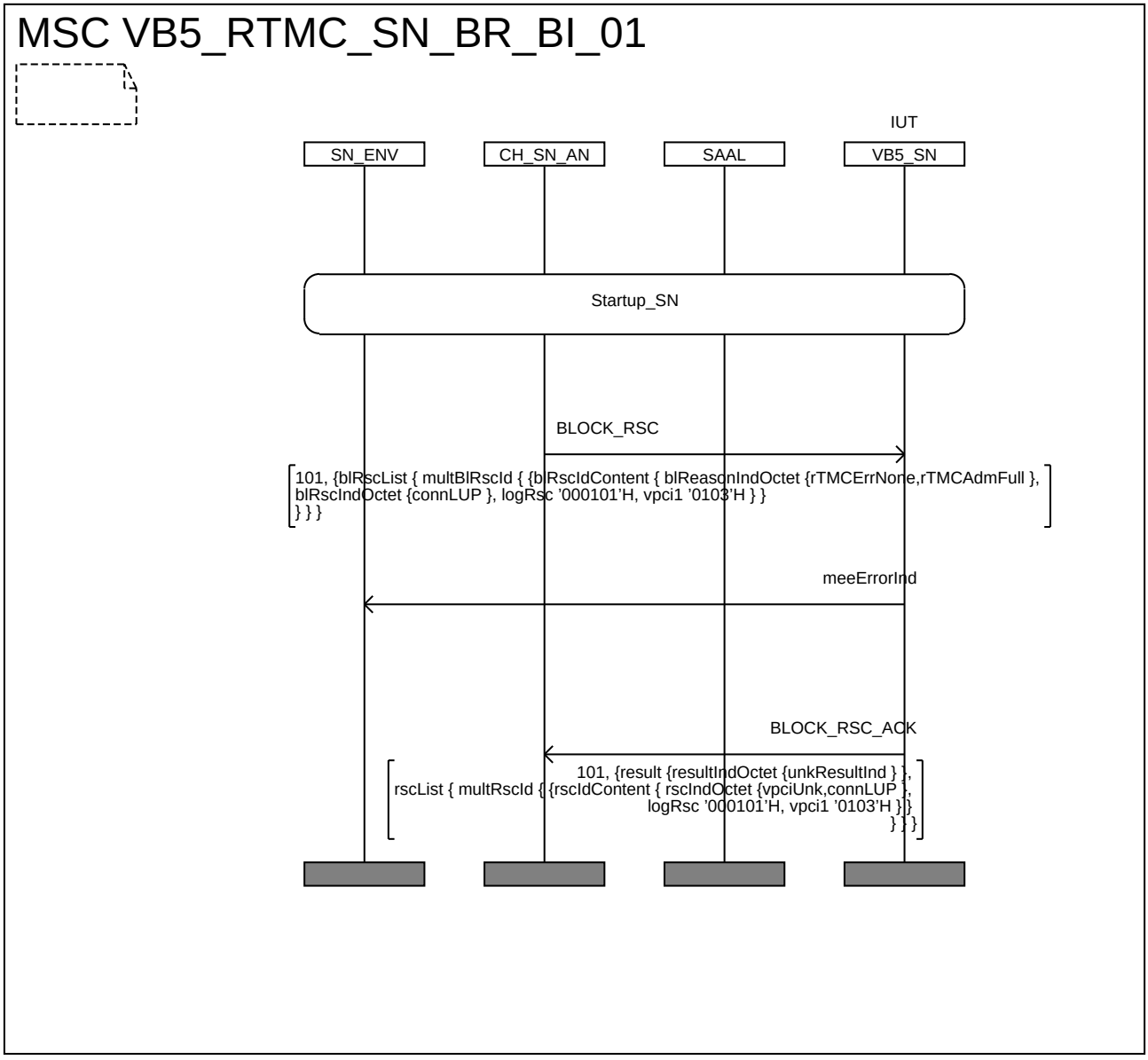
VB5_RTMC_SN_BR_BV_06	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of several VPCs, using list of valid parameters
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with a list of blocked resource identifiers containing valid LUPId and known VPCIs, reason = AdmFull
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed, except for test



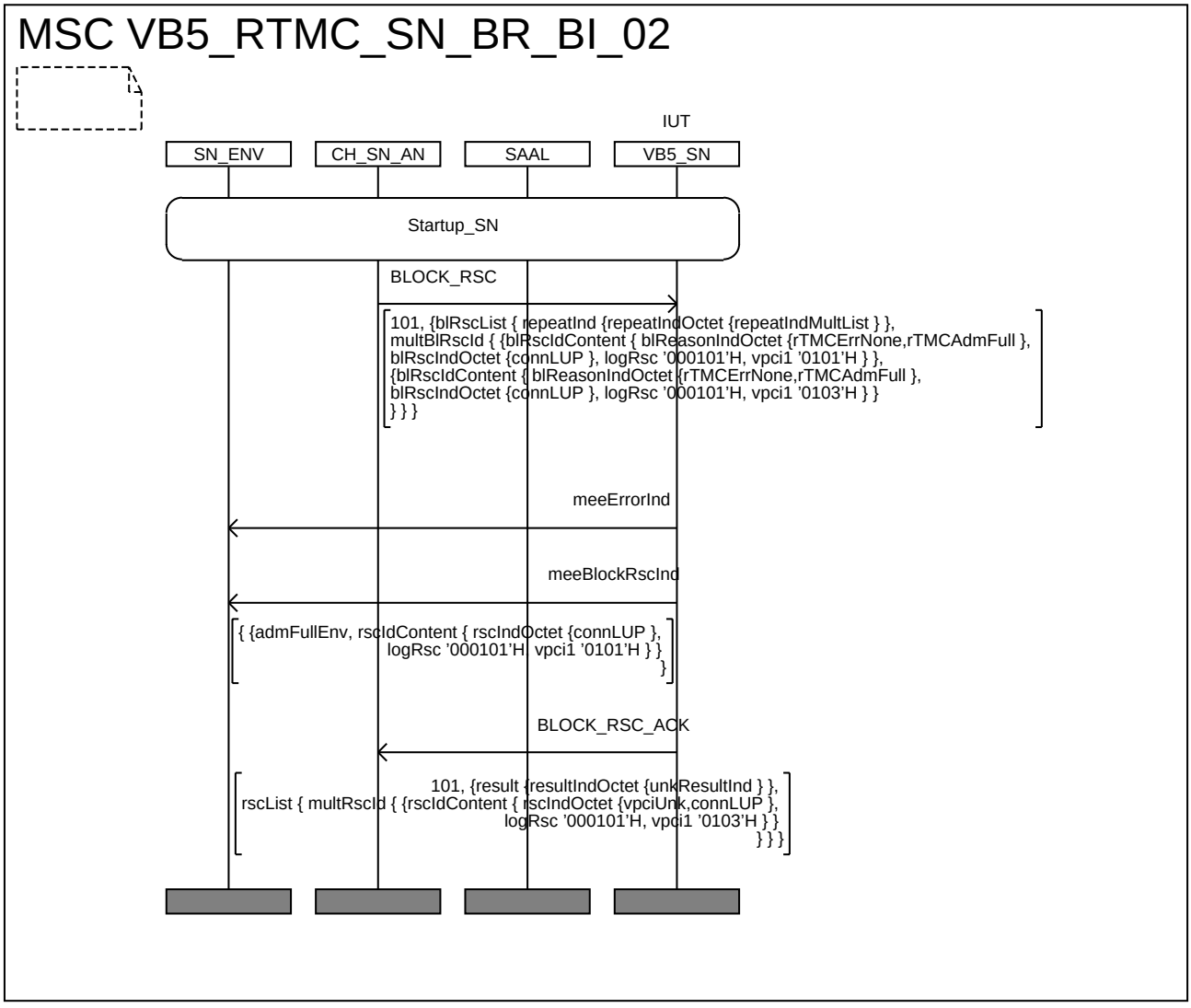
VB5_RTMC_SN_BR_BV_07	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a part of a PUP (several VPCs), using valid parameter boundaries to define a range
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and first and last of a list of consecutive known VPCIs, reason = AdmPart + error
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed, except for test


MSC VB5_RTMC_SN_BR_BV_07
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startup_SN
BLOCK_RSC
101, {blRscList { multBlRscId { {blRscIdContent { blReasonIndOctet {rTMCErr,rTMCAdmPart },
blRscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0101'H, vpci2 '0102'H } }
} } }
meeBlockRscInd
{ { blReason '00001000'B, rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H vpci2 '0102'H } }
}
BLOCK_RSC_ACK
101, {result { resultIndOctet {successResultInd } },
rscList { multRscId { } } }

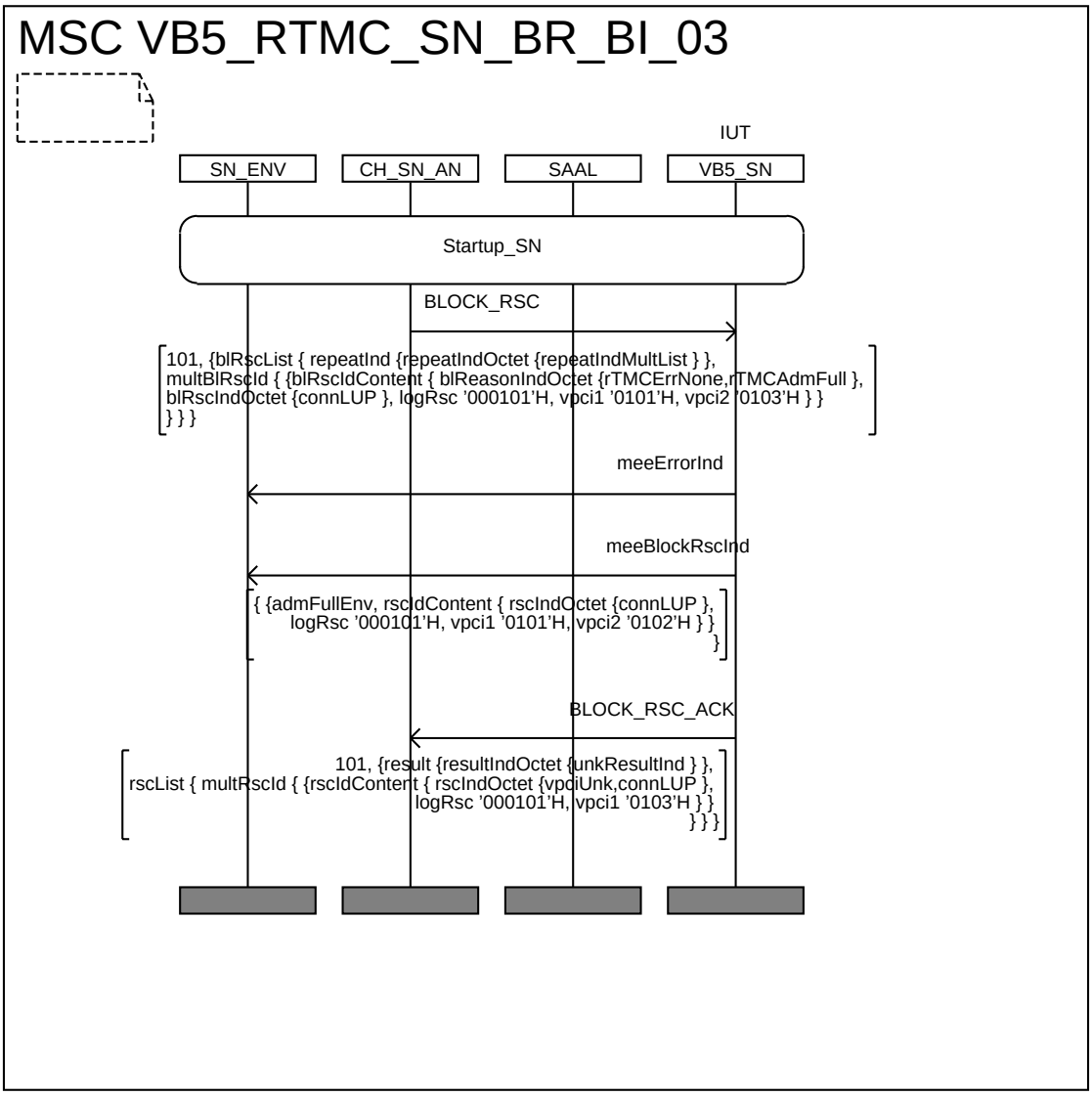
VB5_RTMC_SN_BR_BI_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a single VPC using unknown VPCI
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and unknown VPCI, reason = AdmFull
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = unknown resource
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment



VB5_RTMC_SN_BR_BI_02	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of several VPCs, using list of valid parameters and one unknown VPC
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with list of blocked resource identifiers, valid LUPId and known VPCI except one which is unknown, reason = AdmFull
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = unknown resource associated with the unknown VPCI
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	For the valid parameters only: meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed



VB5_RTMC_SN_BR_BI_03	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check blocking of a part of a PUP (several VPC), using valid parameter boundaries where one VPC is unknown
Test description	The tester sends **BLOCK_RSC** PDU to the IUT with valid LUPId and first and last of a range of VPCIs, one of the VPCI of the range being unknown, reason = AdmFull
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU containing Result indicator = unknown resource associated with the unknown VPCI
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	For the valid parameters only: meeBlockRscInd with appropriate parameters is sent to SN environment If VPC was busy, switched connection is released No new connection is allowed, except for test



- VPC at LSP.

It is possible to block a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that a set of TPs identical to the previous one, is made by replacing LUPId by LSPId.

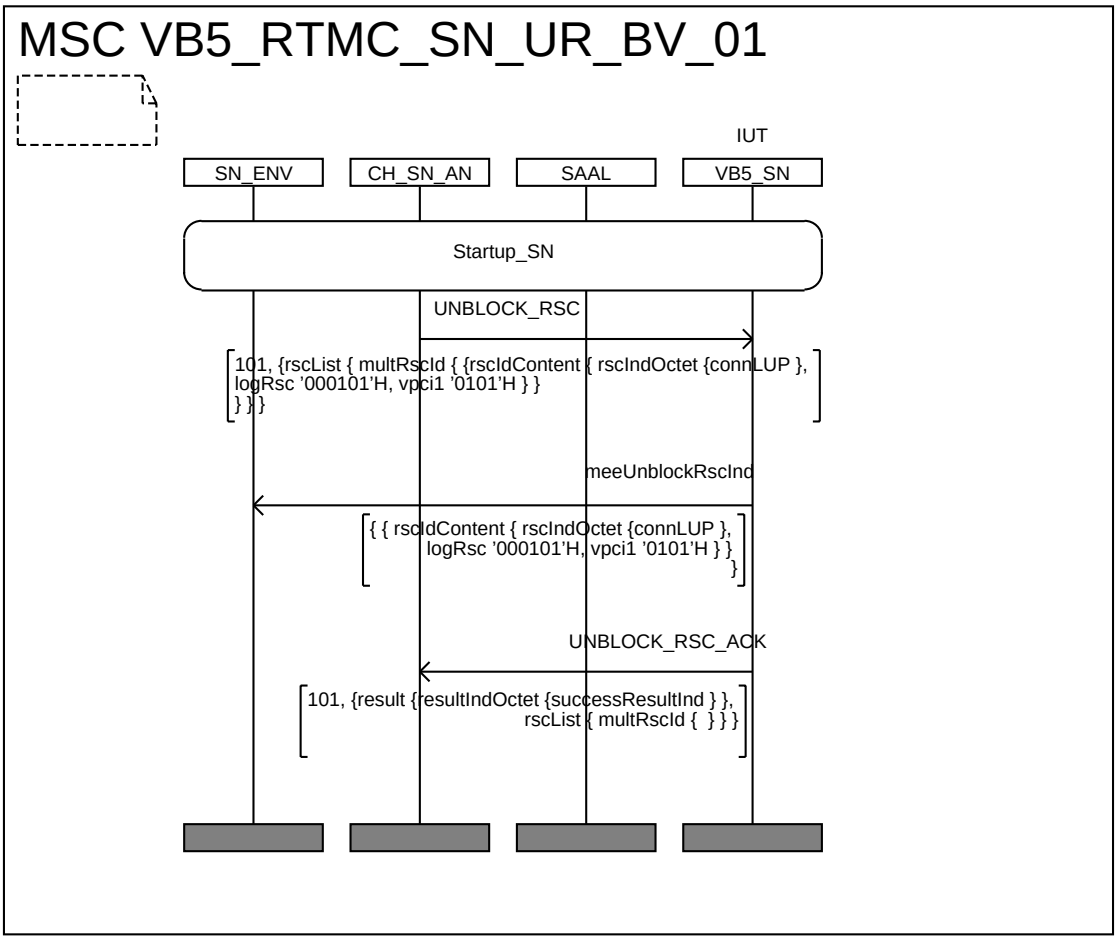
Test purpose naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_SN_BR_BV_01	VB5_RTMC_SN_BR_BV_11
VB5_RTMC_SN_BR_BV_02	VB5_RTMC_SN_BR_BV_12
VB5_RTMC_SN_BR_BV_03	VB5_RTMC_SN_BR_BV_13
VB5_RTMC_SN_BR_BV_04	VB5_RTMC_SN_BR_BV_14
VB5_RTMC_SN_BR_BV_05	VB5_RTMC_SN_BR_BV_15
VB5_RTMC_SN_BR_BV_06	VB5_RTMC_SN_BR_BV_16
VB5_RTMC_SN_BR_BV_07	VB5_RTMC_SN_BR_BV_17
VB5_RTMC_SN_BR_BI_01	VB5_RTMC_SN_BR_BI_11
VB5_RTMC_SN_BR_BI_02	VB5_RTMC_SN_BR_BI_12
VB5_RTMC_SN_BR_BI_03	VB5_RTMC_SN_BR_BI_13

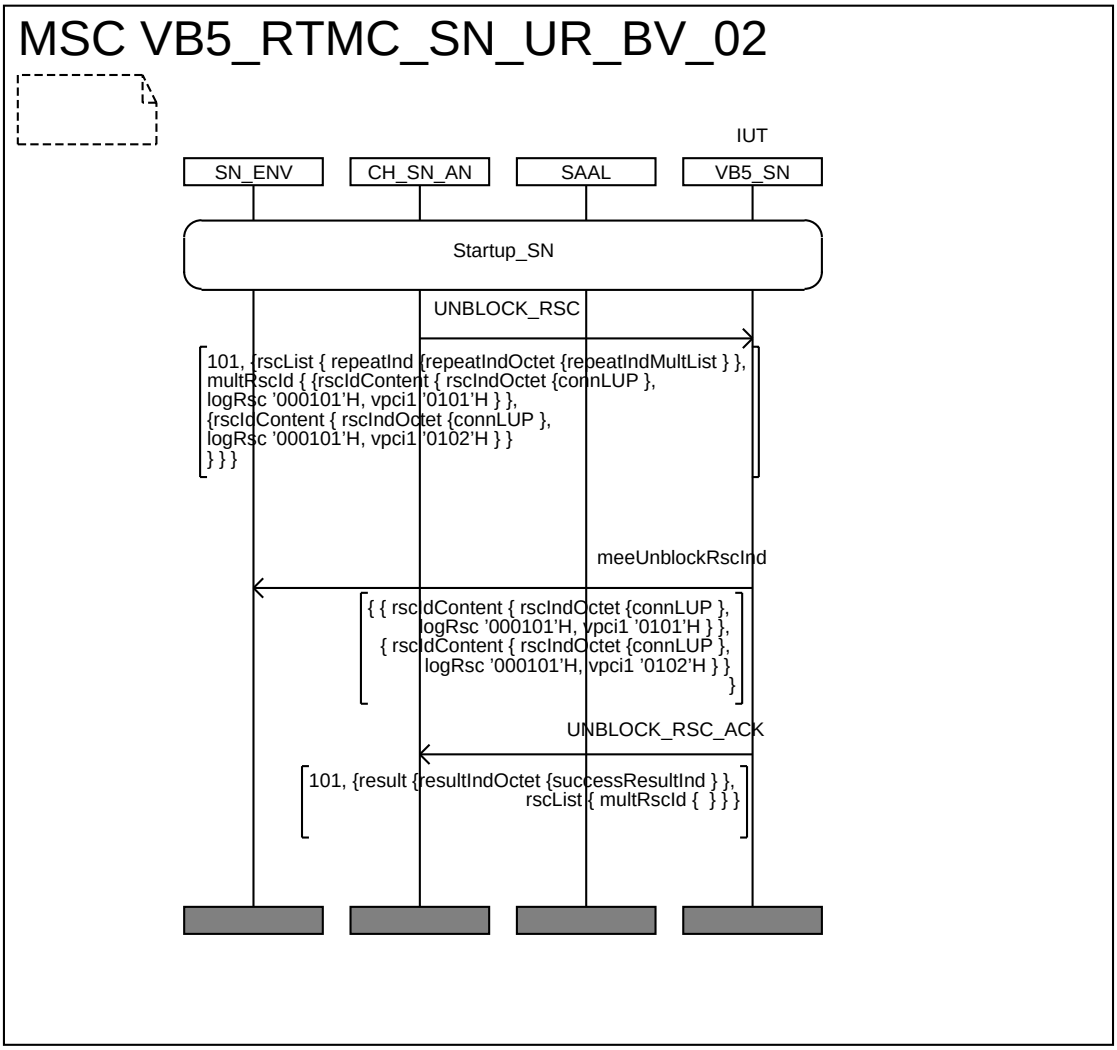
6.2.3 Unblocking resource procedure (UR)

- VPC at LUP.

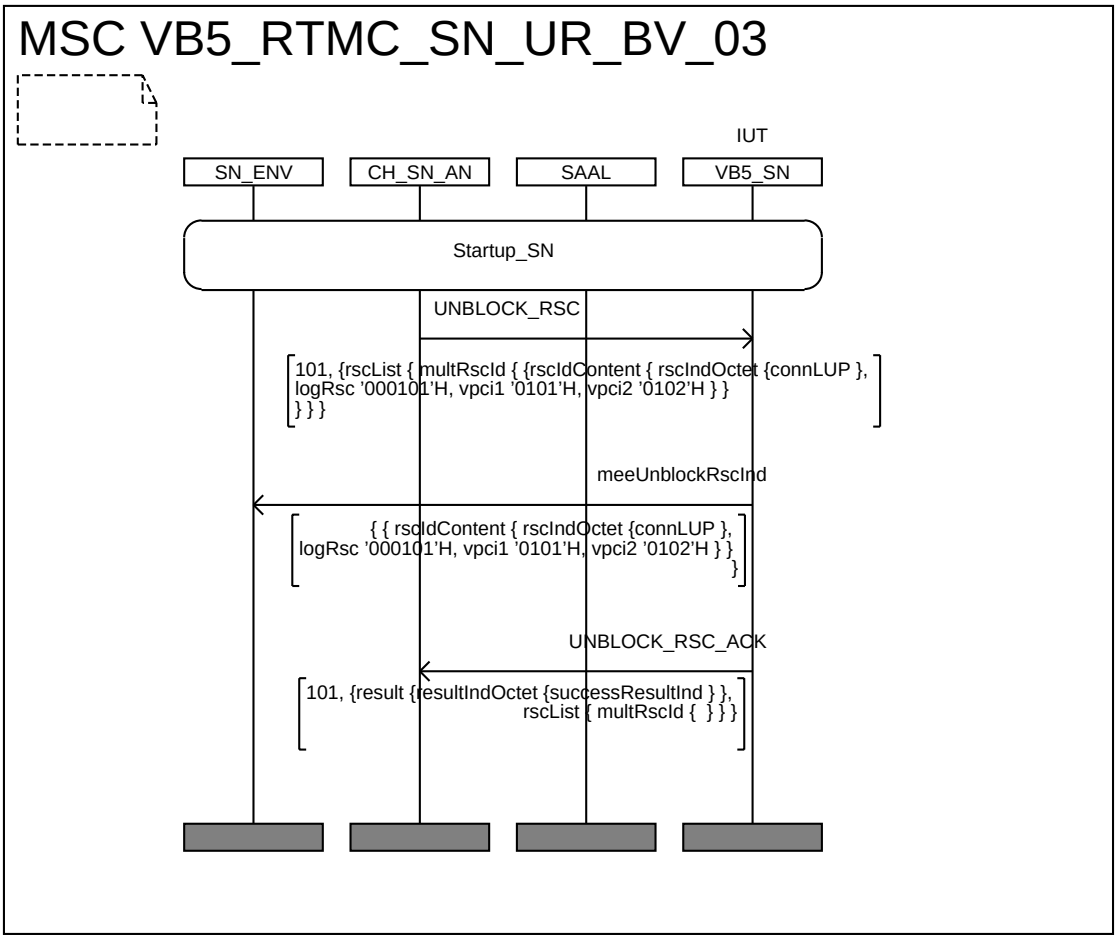
VB5_RTMC_SN_UR_BV_01	**Reference EN 301 005-1 [1] : 13.3.21**
Purpose	Check unblocking of a single VPC, using valid parameters
Test description	The tester sends **UNBLOCK_RSC** PDU to the IUT with valid LUPId and VPCI
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeUnblockRscInd with appropriate parameters is sent to SN environment New on demand connection is allowed



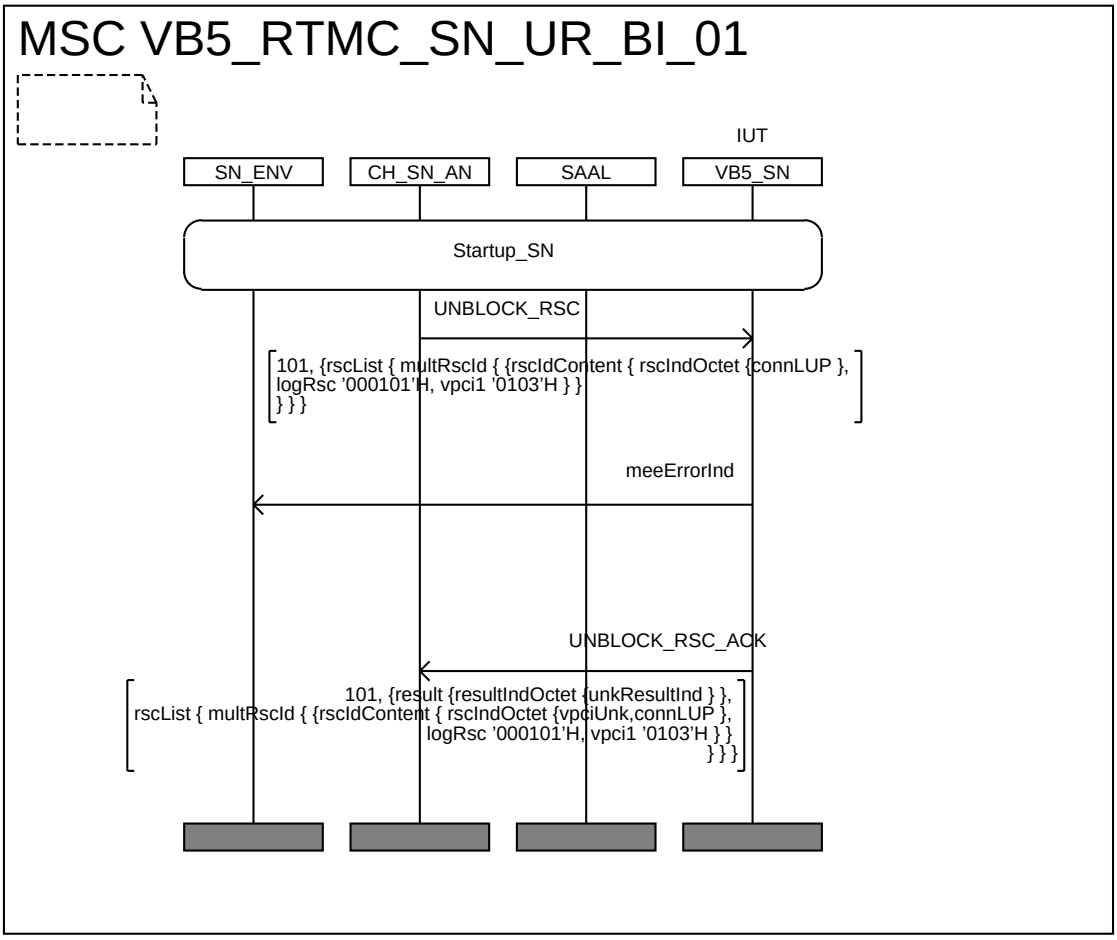
VB5_RTMC_SN_UR_BV_02	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of several VPCs, using list of valid parameters
Test description	The tester sends **UNBLOCK_RSC** PDU to the IUT with valid resource identifiers (known LUPId and VPCIs)
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeUnblockRscInd with appropriate parameters is sent to SN environment New on demand connection is allowed



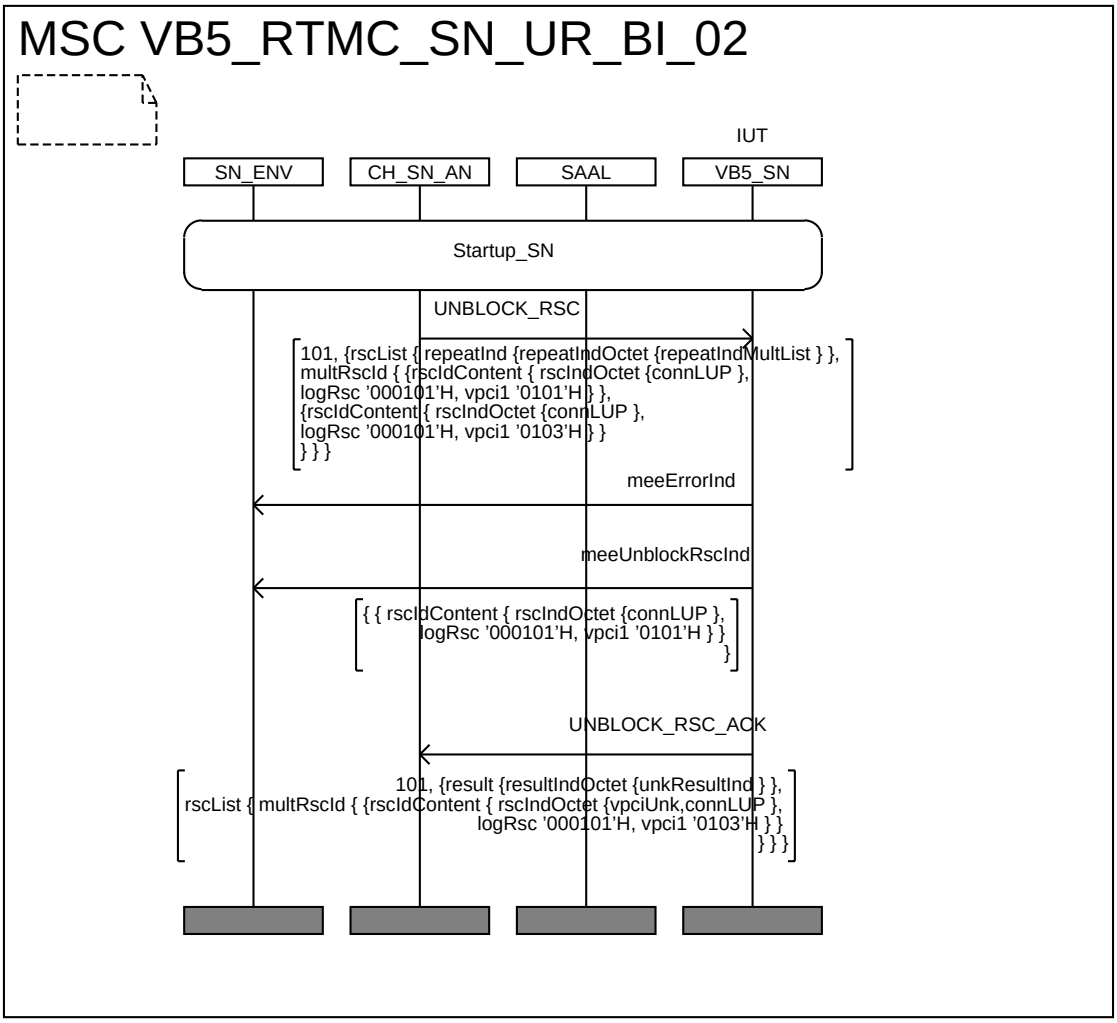
VB5_RTMC_SN_UR_BV_03	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of a part of a PUP (several VPC), using valid parameter boundaries to define a range
Test description	The tester sends **UNBLOCK_RSC** PDU to the IUT with valid LUPId and first and last of a list of consecutive known VPCIs
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC_ACK** PDU containing Result indicator = Success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeUnblockRscInd with appropriate parameters is sent to SN environment New on demand connection is allowed


MSC VB5_RTMC_SN_UR_BV_03
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startup_SN
UNBLOCK_RSC
101, {rscList { multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H, vpci2 '0102'H } }
} } }
meeUnblockRscInd
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H, vpci2 '0102'H } }
}
UNBLOCK_RSC_ACK
101, {result {resultIndOctet {successResultInd } },
rscList { multRscId { } } }

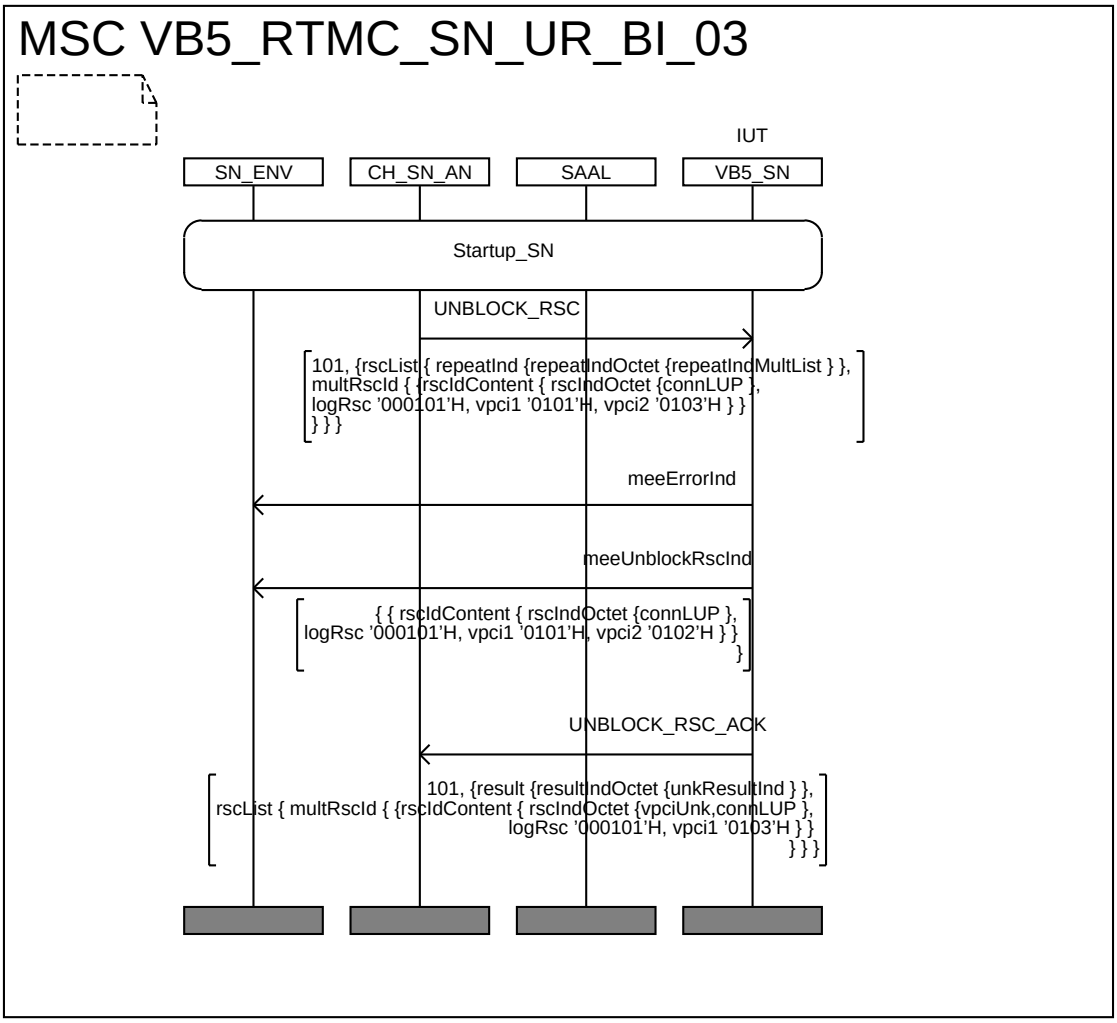
VB5_RTMC_SN_UR_BI_01	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of a single VPC using unknown VPCI
Test description	The tester sends **UNBLOCK_RSC** PDU to the IUT with valid LUPId and unknown VPCI
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC_ACK** PDU containing Result indicator = unknown resource
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment



VB5_RTMC_SN_UR_BI_02	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of several VPCs, using list of resource identifiers containing valid parameters and one unknown one
Test description	The tester sends **UNBLOCK_RSC** PDU to the IUT containing list of resource identifiers with valid LUPId and VPCI among which one is unknown
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC_ACK** PDU containing Result indicator = unknown resource associated with the unknown VPCI
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	For the valid parameters only: meeUnblockRscInd with appropriate parameters is sent to SN environment New on demand connection is allowed



VB5_RTMC_SN_UR_BI_03	Reference EN 301 005-1 [1] : 13.3.2.1
Purpose	Check unblocking of a part of a PUP (several VPC), using valid parameter boundaries where one VPC is unknown
Test description	The tester sends **UNBLOCK_RSC** PDU to the IUT with valid LUPId and first and last of a list of consecutive VPCIs, one of them being unknown
Pass criteria	Check that the tester is receiving **UNBLOCK_RSC_ACK** PDU containing Result indicator = unknown resource associated with the unknown VPCI
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	For the valid parameters only: meeUnblockRscInd with appropriate parameters is sent to SN environment New on demand connection is allowed



- VPC at LSP.

It is possible to unblock a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that a set of TPs identical to the previous one, is made by replacing LUPId by LSPId.

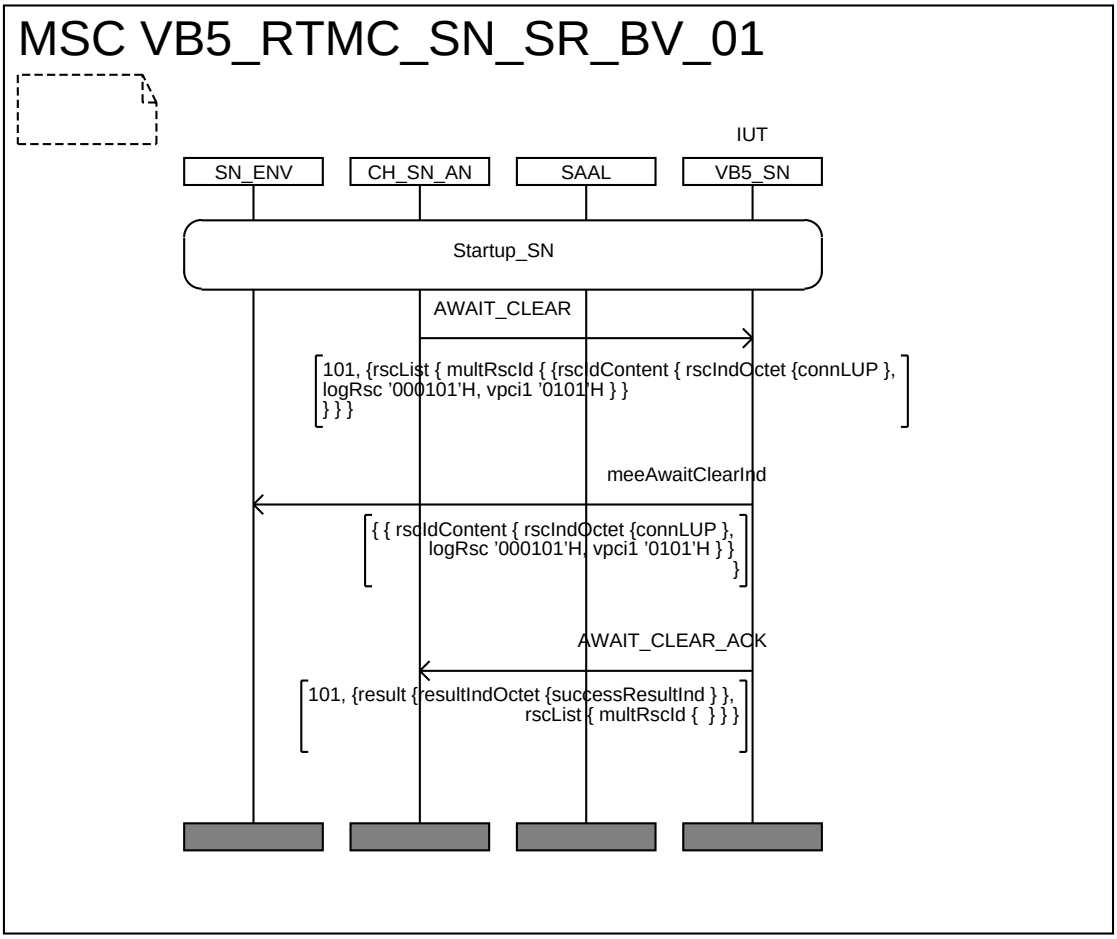
Test purpose naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_SN_UR_BV_01	VB5_RTMC_SN_UR_BV_11
VB5_RTMC_SN_UR_BV_02	VB5_RTMC_SN_UR_BV_12
VB5_RTMC_SN_UR_BV_03	VB5_RTMC_SN_UR_BV_13
VB5_RTMC_SN_UR_BI_01	VB5_RTMC_SN_UR_BI_11
VB5_RTMC_SN_UR_BI_02	VB5_RTMC_SN_UR_BI_12
VB5_RTMC_SN_UR_BI_03	VB5_RTMC_SN_UR_BI_13

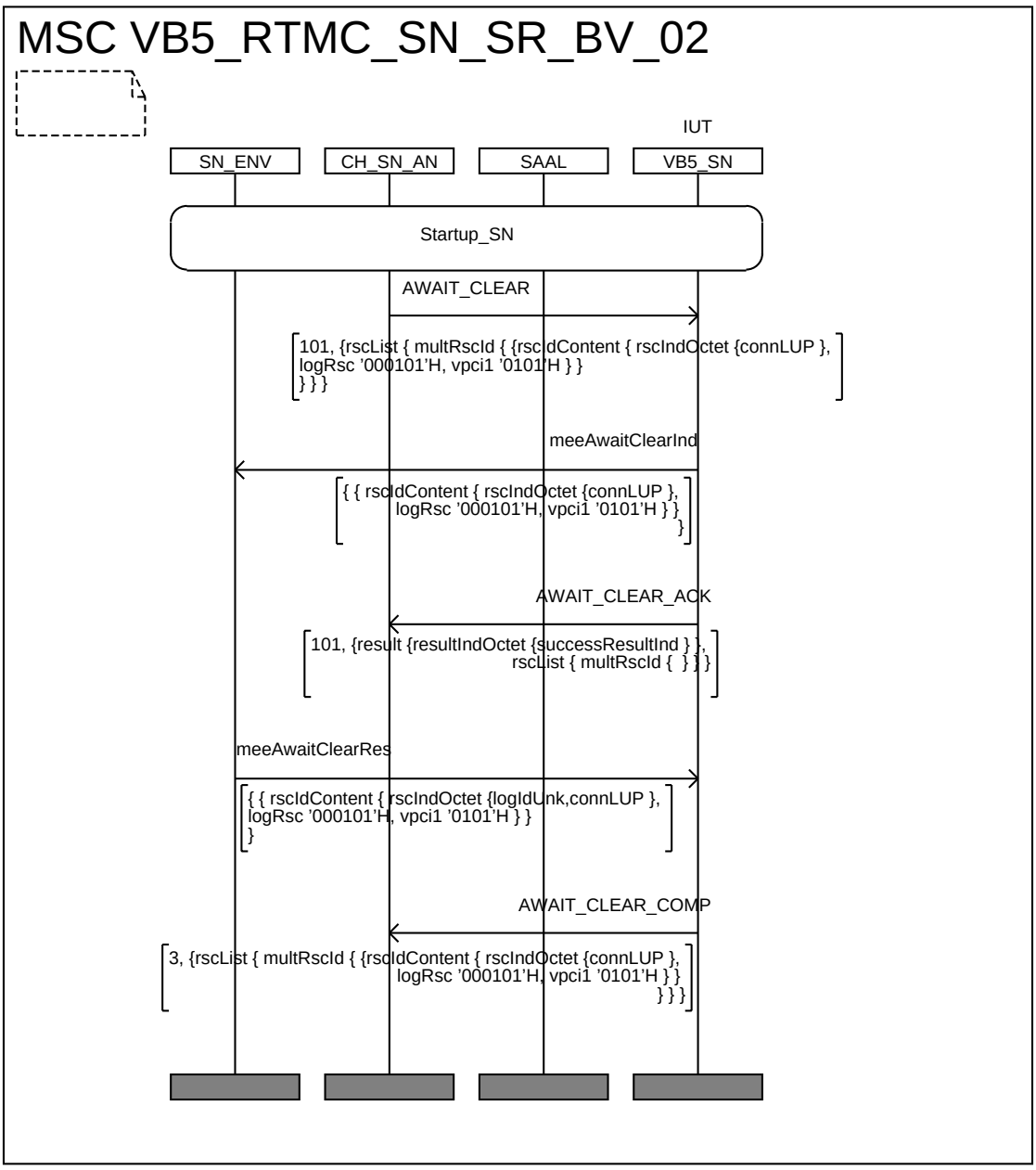
6.2.4 Shut down resource procedure (SR)

- VPC at LUP.

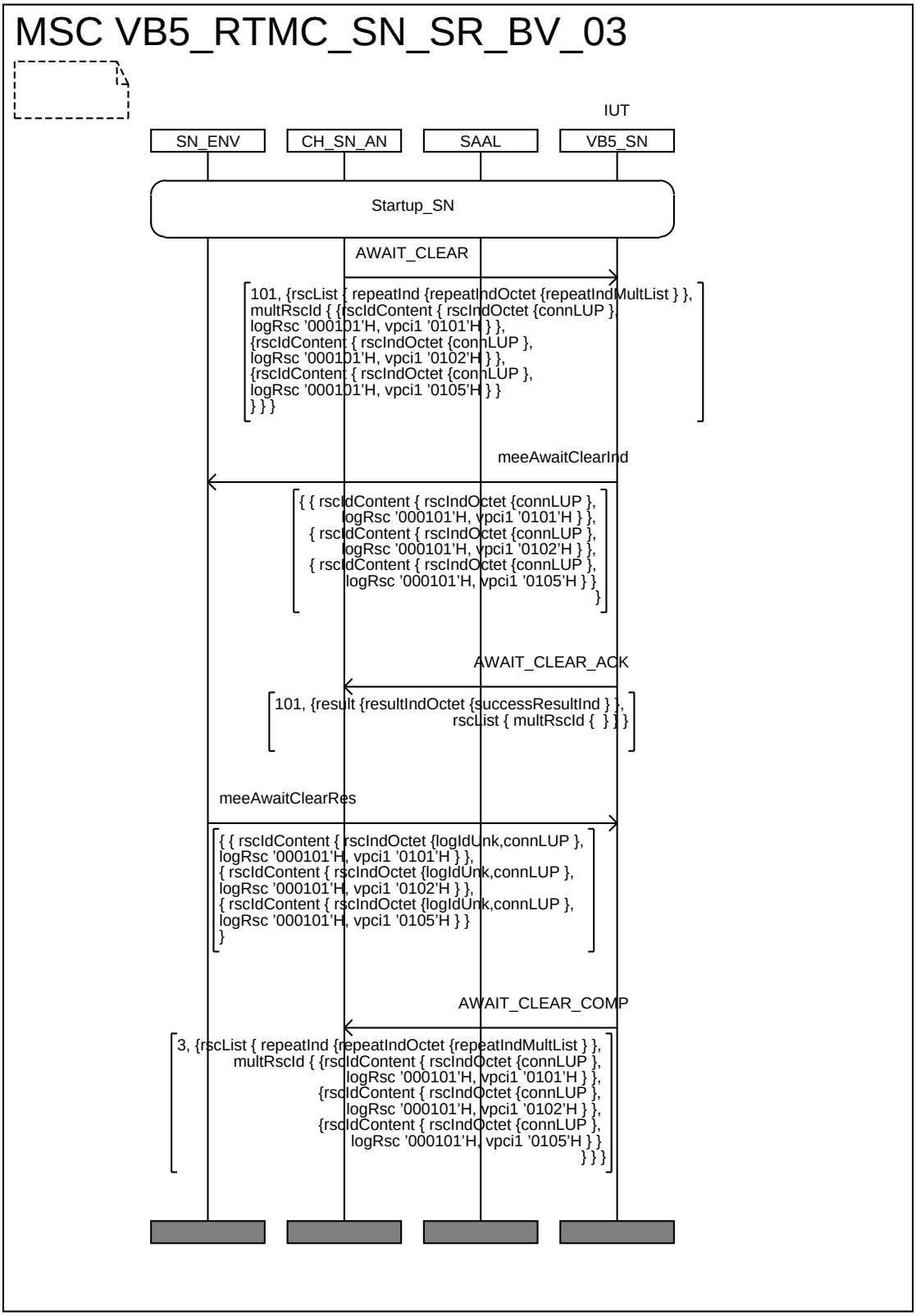
VB5_RTMC_SN_SR_BV_01	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check initialization of shut down procedure of a single VPC, with valid parameters
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_ACK** PDU with Result indicator = success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC



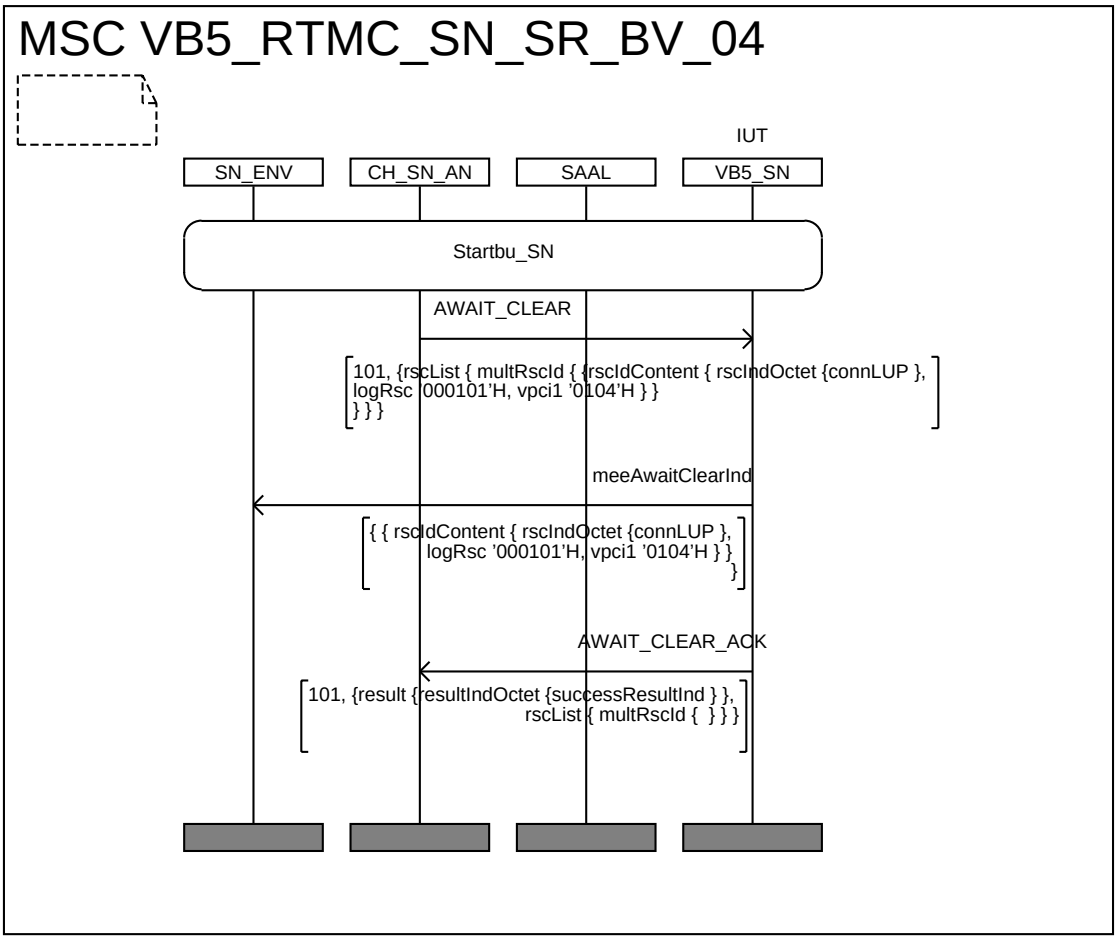
VB5_RTMC_SN_SR_BV_02	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a single free VPC, with valid parameters
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester issues an implicit send to cause the SN environment to initiate the second step of a shutdown procedure
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP** PDU with same valid initial parameters as VPCI is not busy
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC



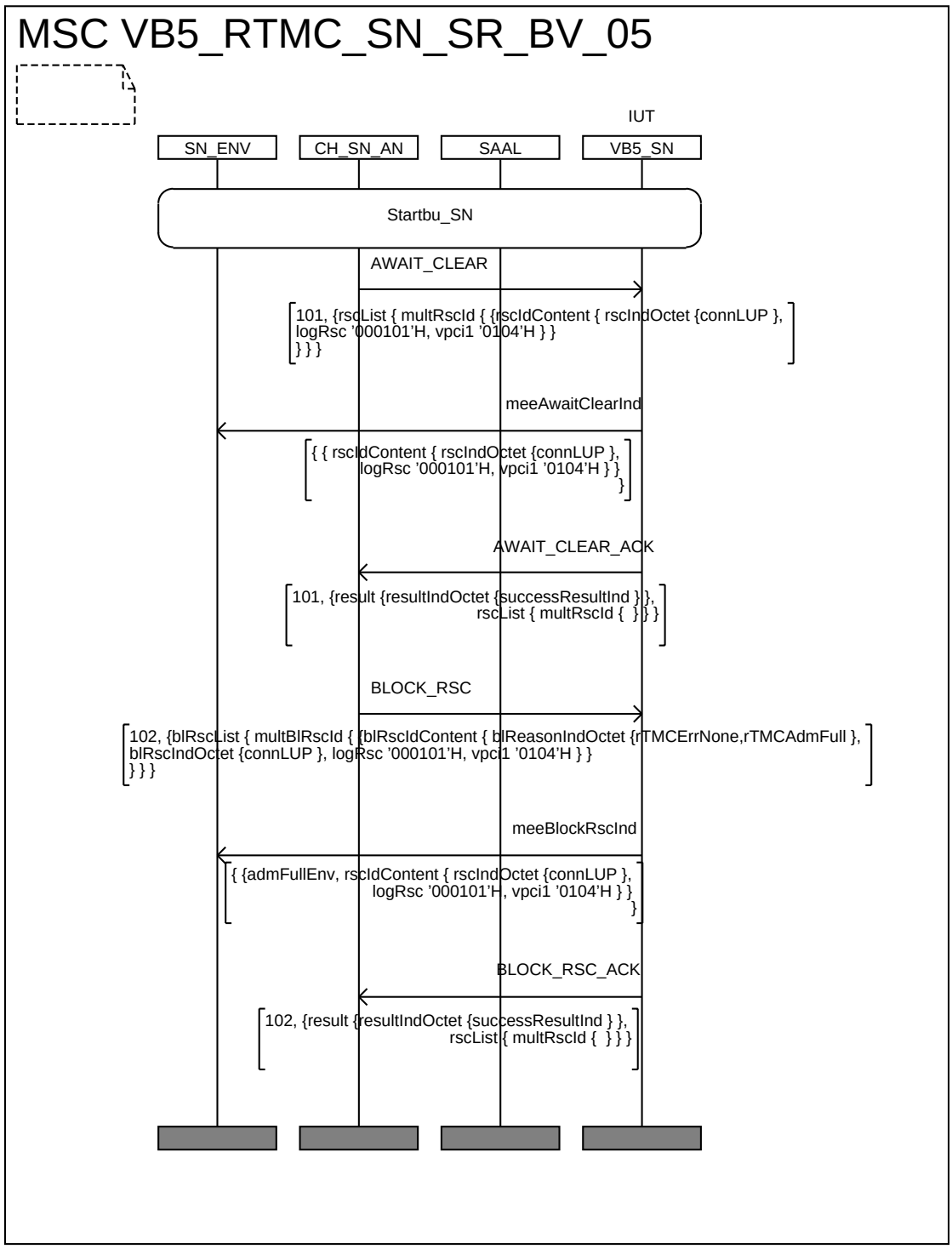
VB5_RTMC_SN_SR_BV_03	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a list of VPCs, with valid parameters
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with a list of valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester issues an implicit send to cause the SN environment to initiate the second step of a shutdown procedure.
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP** PDU with same valid initial list of parameters
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC


MSC VB5_RTMC_SN_SR_BV_03
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startup_SN
AWAIT_CLEAR
101, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
} } }
meeAwaitClearInd
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
}
AWAIT_CLEAR_ACK
101, {result {resultIndOctet {successResultInd } },
rscList { multRscId { } } }
meeAwaitClearRes
{ { rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0102'H } },
{ rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0105'H } }
}
AWAIT_CLEAR_COMP
3, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0102'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
} } }

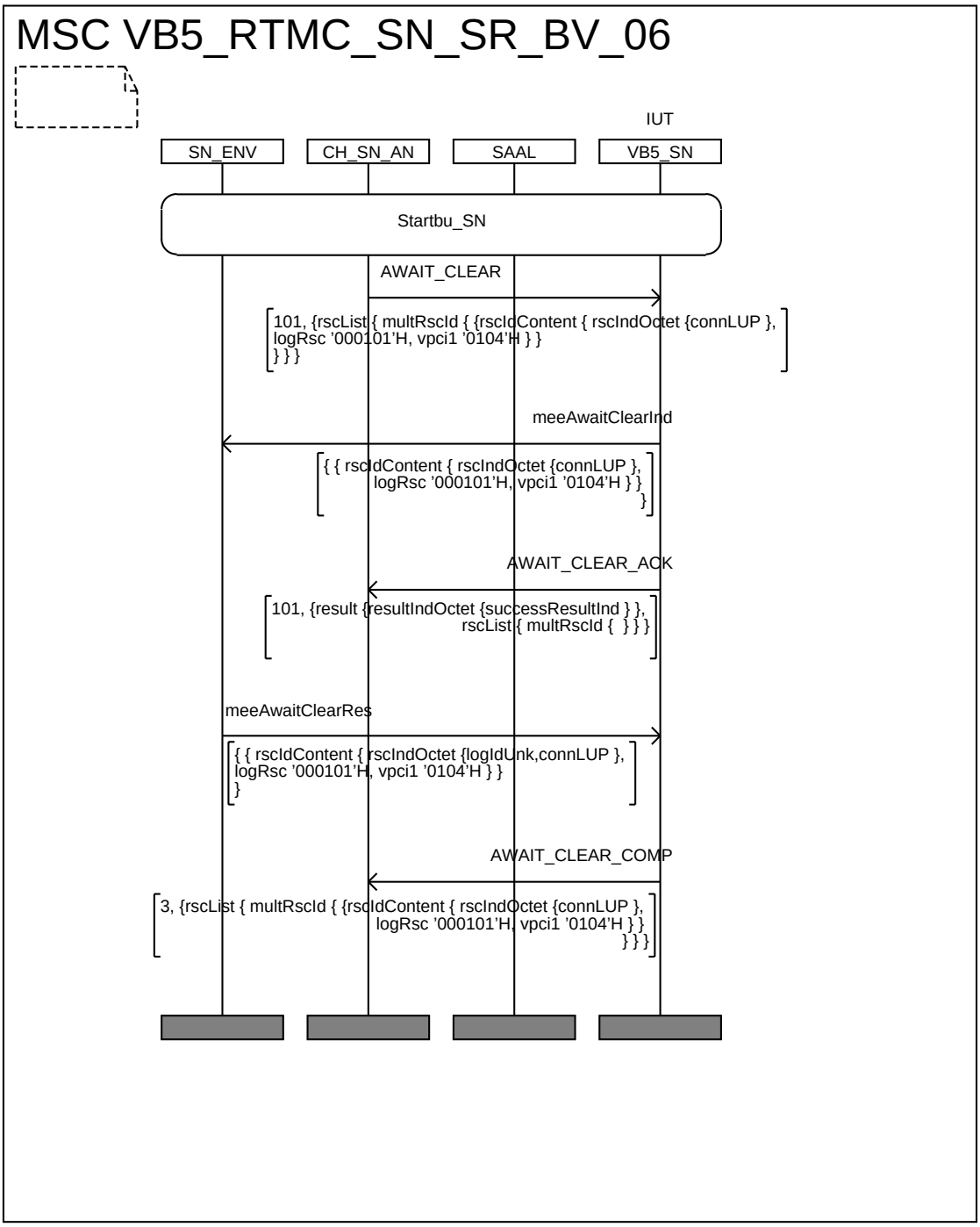
VB5_RTMC_SN_SR_BV_04	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a single busy VPC, with valid parameters
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester does not issue an implicit send to cause the SN environment to initiate the second step of a shutdown procedure
Pass criteria	Check that the tester is not receiving **AWAIT_CLEAR_COMP** PDU with same valid initial parameters as VPCI is busy
Selection	None
Preamble	Startbu_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC



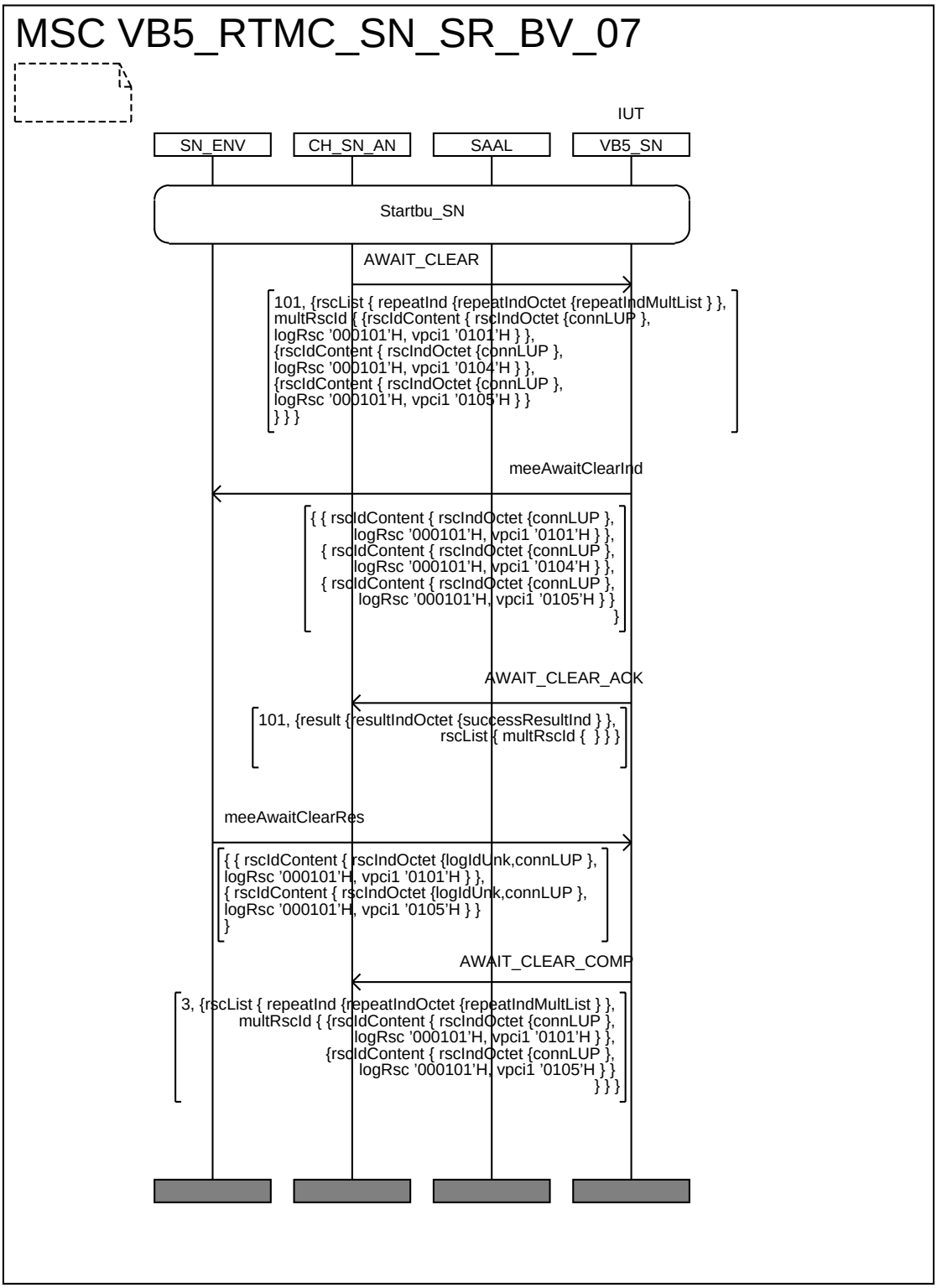
VB5_RTMC_SN_SR_BV_05	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a single busy VPC, becoming blocked
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester does not issue an implicit send to cause the SN environment to initiate the second step of a shutdown procedure. The tester is not receiving **AWAIT_CLEAR_COMP** PDU with same valid initial parameters as VPCI is busy. The tester issues **BLOCK_RSC** PDU with same LUPId and VPCI
Pass criteria	Check that the tester is receiving **BLOCK_RSC_ACK** PDU Then check that the tester is not receiving **AWAIT_CLEAR_COMP** PDU for the busy VPCI which is now blocked
Selection	None
Preamble	Startbu_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment then meeBlockRscInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC


MSC VB5_RTMC_SN_SR_BV_05
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startbu_SN
AWAIT_CLEAR
101, {rscList { multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } }
} } }
meeAwaitClearInd
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } }
}
AWAIT_CLEAR_ACK
101, {result {resultIndOctet {successResultInd } },
rscList { multRscId { } } }
BLOCK_RSC
102, {blRscList { multBlRscId { {blRscIdContent { blReasonIndOctet {rTMCErrNone,rTMCAdmFull },
blRscIndOctet {connLUP }, logRsc '000101'H, vpci1 '0104'H } }
} } }
meeBlockRscInd
{ {admFullEnv, rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } }
}
BLOCK_RSC_ACK
102, {result {resultIndOctet {successResultInd } },
rscList { multRscId { } } }

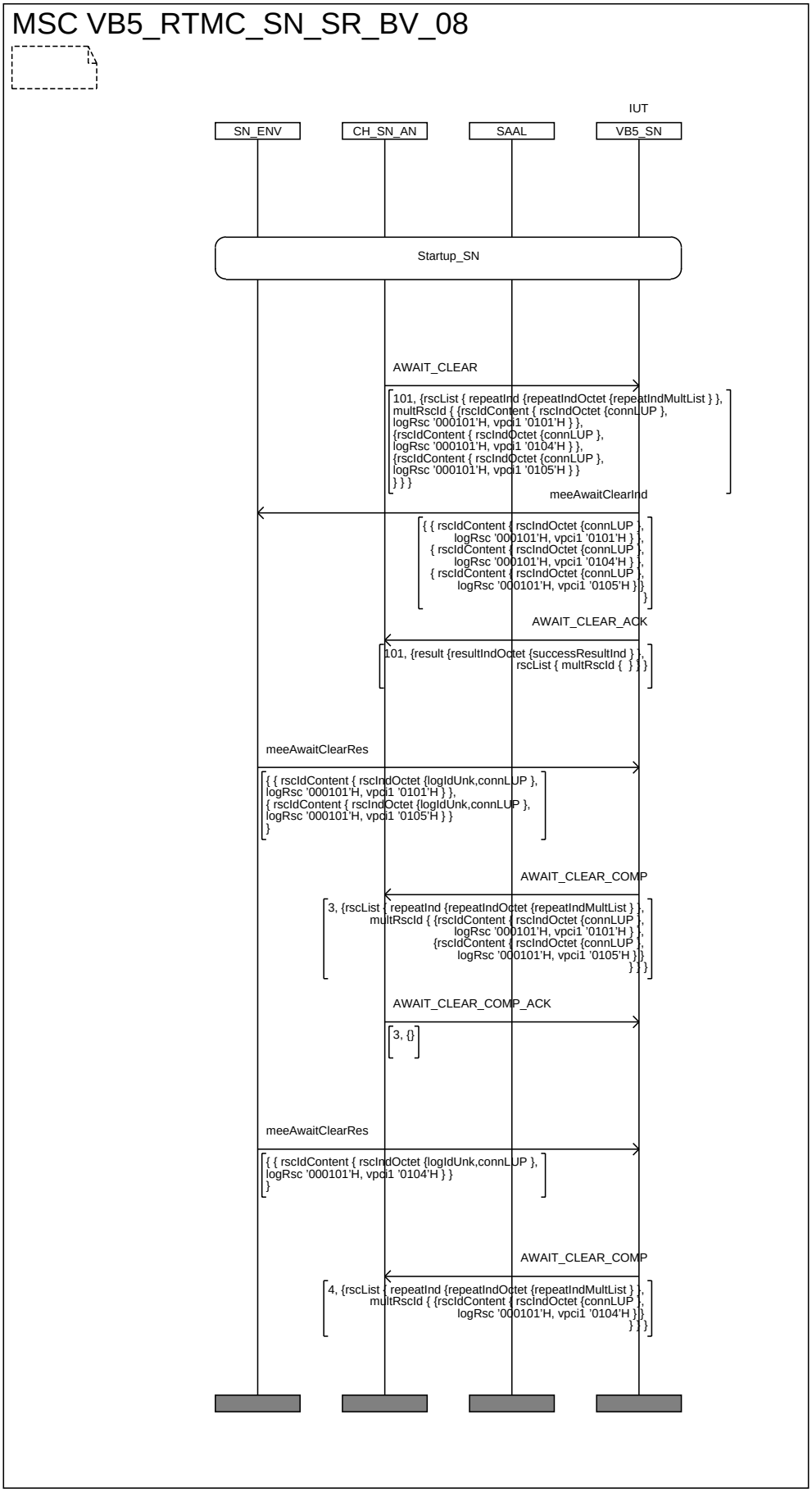
VB5_RTMC_SN_SR_BV_06	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a single busy VPC becoming free, with valid parameters
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester issues an implicit send to cause the SN environment to free the VPC
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP** PDU with same valid initial parameters as soon as VPC is free
Selection	None
Preamble	Startbu_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC



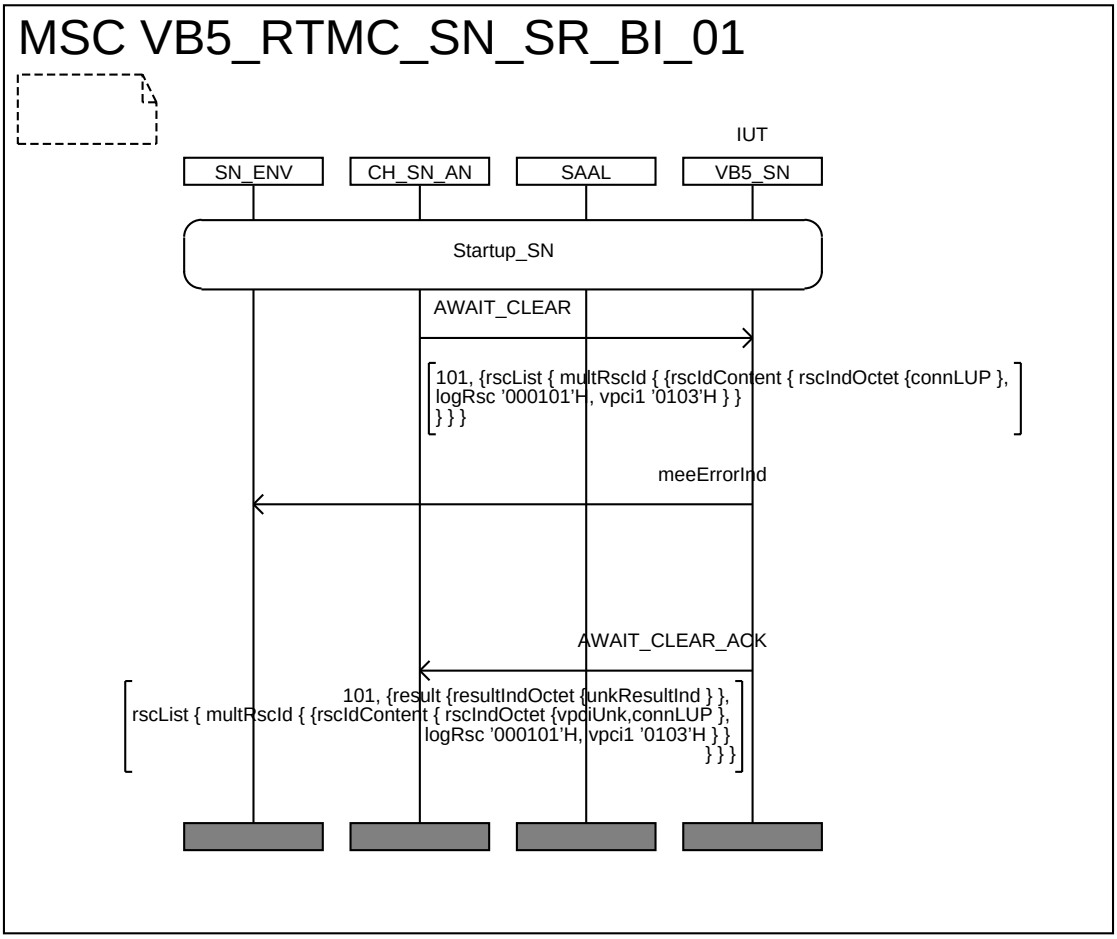
VB5_RTMC_SN_SR_BV_07	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a list of VPCs, with valid parameters, one VPCI being busy
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with a list of valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester issues an implicit send to cause the SN environment to initiate the second step of a shutdown procedure.
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP** PDU with same valid initial list of parameters except for the busy VPCI
Selection	None
Preamble	Startbu_SN
Postamble	None
Additional testing	For non busy VPC meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC


MSC VB5_RTMC_SN_SR_BV_07
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startbu_SN
AWAIT_CLEAR
101, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
} } }
meeAwaitClearInd
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
}
AWAIT_CLEAR_ACK
101, {result { resultIndOctet {successResultInd } },
rscList { multRscId { } } }
meeAwaitClearRes
{ { rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0105'H } }
}
AWAIT_CLEAR_COMP
3, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
} } }

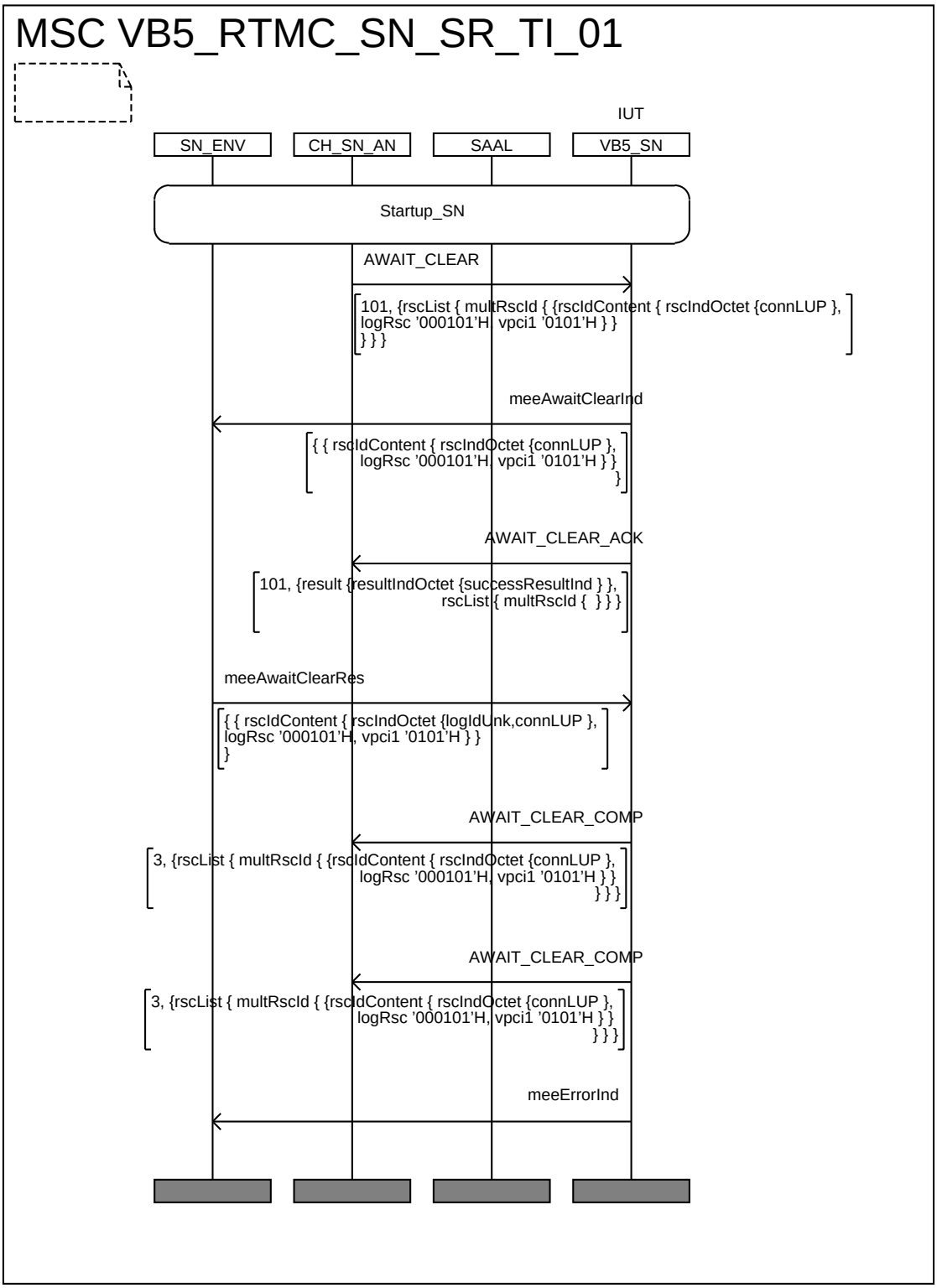
VB5_RTMC_SN_SR_BV_08	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check complete shut down procedure of a list of VPCs, with valid parameters, one VPCI being busy and becoming free
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester issues an implicit send to cause the SN environment to initiate the second step of a shutdown procedure. The tester is receiving **AWAIT_CLEAR_COMP** PDU with same valid initial list of parameters except for the busy VPCI. The tester is not receiving **AWAIT_CLEAR_COMP** PDU for VPCI busy. Then the tester issues **AWAIT_CLEAR_COMP_ACK** followed by an implicit send to cause the SN environment to free the VPC
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_COMP** PDU for the previously busy VPCI as soon as VPC is free
Selection	None
Preamble	Startbu_SN
Postamble	None
Additional testing	For non busy VPC: meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC


MSC VB5_RTMC_SN_SR_BV_08
1
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startup_SN
AWAIT_CLEAR
101, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
} } }
meeAwaitClearInd
{ { rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } },
{ rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
}
AWAIT_CLEAR_ACK
101, {result {resultIndOctet {successResultInd } },
rscList { multRscId { } } }
meeAwaitClearRes
{ { rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{ rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0105'H } }
}
AWAIT_CLEAR_COMP
3, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0101'H } },
{rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0105'H } }
} } }
AWAIT_CLEAR_COMP_ACK
3, {}
meeAwaitClearRes
{ { rscIdContent { rscIndOctet {logIdUnk,connLUP },
logRsc '000101'H, vpci1 '0104'H } }
}
AWAIT_CLEAR_COMP
4, {rscList { repeatInd {repeatIndOctet {repeatIndMultList } },
multRscId { {rscIdContent { rscIndOctet {connLUP },
logRsc '000101'H, vpci1 '0104'H } }
} } }

VB5_RTMC_SN_SR_BI_01	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check shut down procedure of a single unknown VPC
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with unknown LUPId and VPCI
Pass criteria	Check that the tester is receiving **AWAIT_CLEAR_ACK** PDU with Result indicator = unknown resource
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment



VB5_RTMC_SN_SR_TI_01	Reference EN 301 005-1 [1] : 13.3.2.2
Purpose	Check time out on shut down procedure
Test description	The tester sends **AWAIT_CLEAR** PDU to the IUT with valid LUPId and VPCI. The IUT answers with **AWAIT_CLEAR_ACK** PDU within T_acl time with Result indicator = success. Then the tester issues an implicit send to cause the SN environment to initiate the second step of a shutdown procedure. The IUT sends **AWAIT_CLEAR_COMP** PDU with same parameters but the tester does not answer with **AWAIT_CLEAR_COMP ACK** PDU within T_acl time
Pass criteria	Check that the tester is receiving again **AWAIT_CLEAR_COMP** PDU with same parameters
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeAwaitClearInd with appropriate parameters is sent to SN environment New on demand connection is not allowed on shut down VPC meeErrorInd is sent to SN environment



- VPC at LSP.

It is possible to shut down a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that an identical set of TPs is made by replacing LUPId by LSPId.

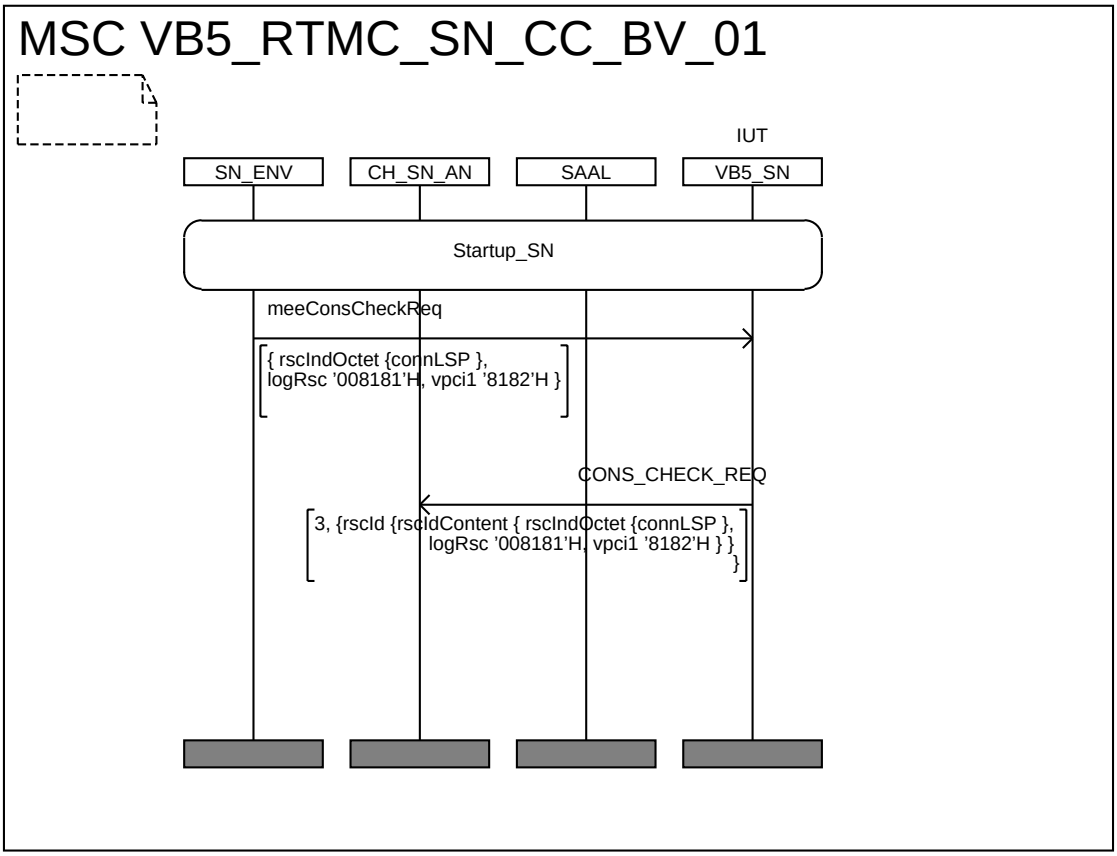
Test purpose naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_SN_SR_BV_01	VB5_RTMC_SN_SR_BV_11
VB5_RTMC_SN_SR_BV_02	VB5_RTMC_SN_SR_BV_12
VB5_RTMC_SN_SR_BV_03	VB5_RTMC_SN_SR_BV_13
VB5_RTMC_SN_SR_BV_04	VB5_RTMC_SN_SR_BV_14
VB5_RTMC_SN_SR_BV_05	VB5_RTMC_SN_SR_BV_15
VB5_RTMC_SN_SR_BV_06	VB5_RTMC_SN_SR_BV_16
VB5_RTMC_SN_SR_BV_07	VB5_RTMC_SN_SR_BV_17
VB5_RTMC_SN_SR_BV_08	VB5_RTMC_SN_SR_BV_18
VB5_RTMC_SN_SR_BI_01	VB5_RTMC_SN_SR_BI_11
VB5_RTMC_SN_SR_TI_01	VB5_RTMC_SN_SR_TI_11

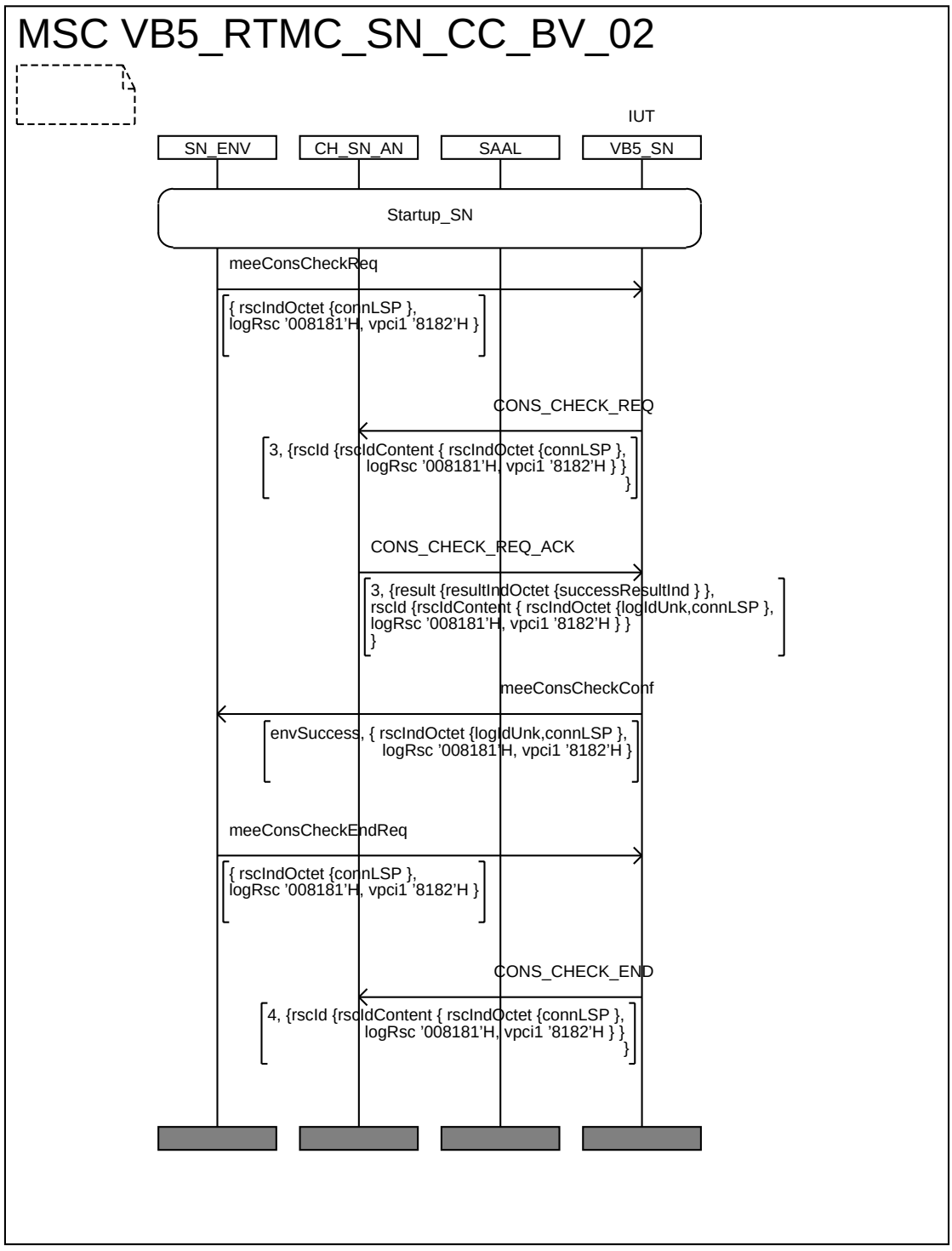
6.2.5 VPCI consistency check procedure (CC)

It is possible to check consistency of a single VPC at LSP only.

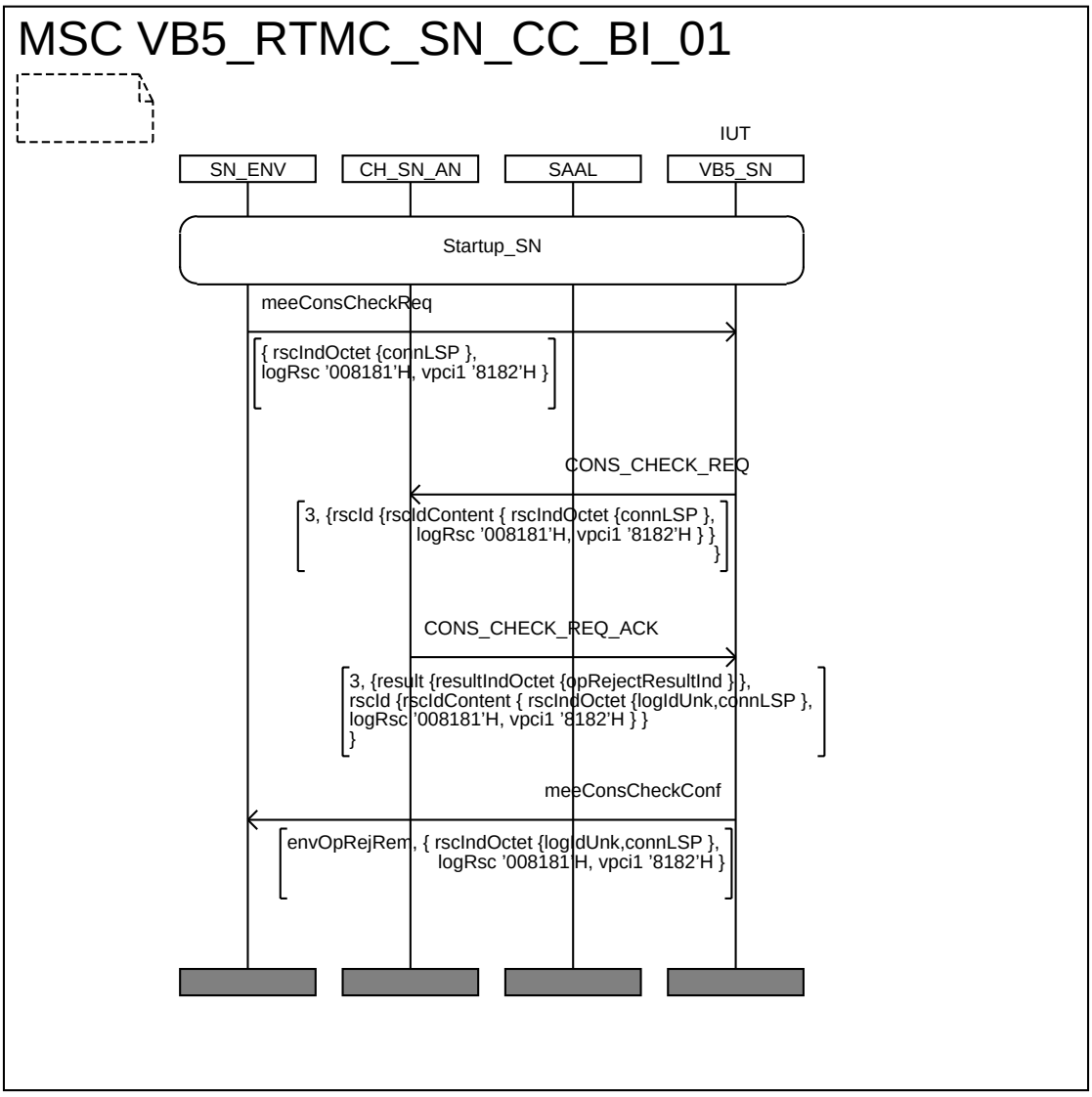
VB5_RTMC_SN_CC_BV_01	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check initiating consistency check of a VPC, using valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a VPCI Consistency Check procedure.
Pass criteria	Check that the tester is receiving **CONS_CHECK_REQ** PDU containing valid LSPId and VPCI parameters
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	When tester answers with CONS_CHECK_REQ_ACK, meeConsCheckConf with result parameter success is sent to SN environment



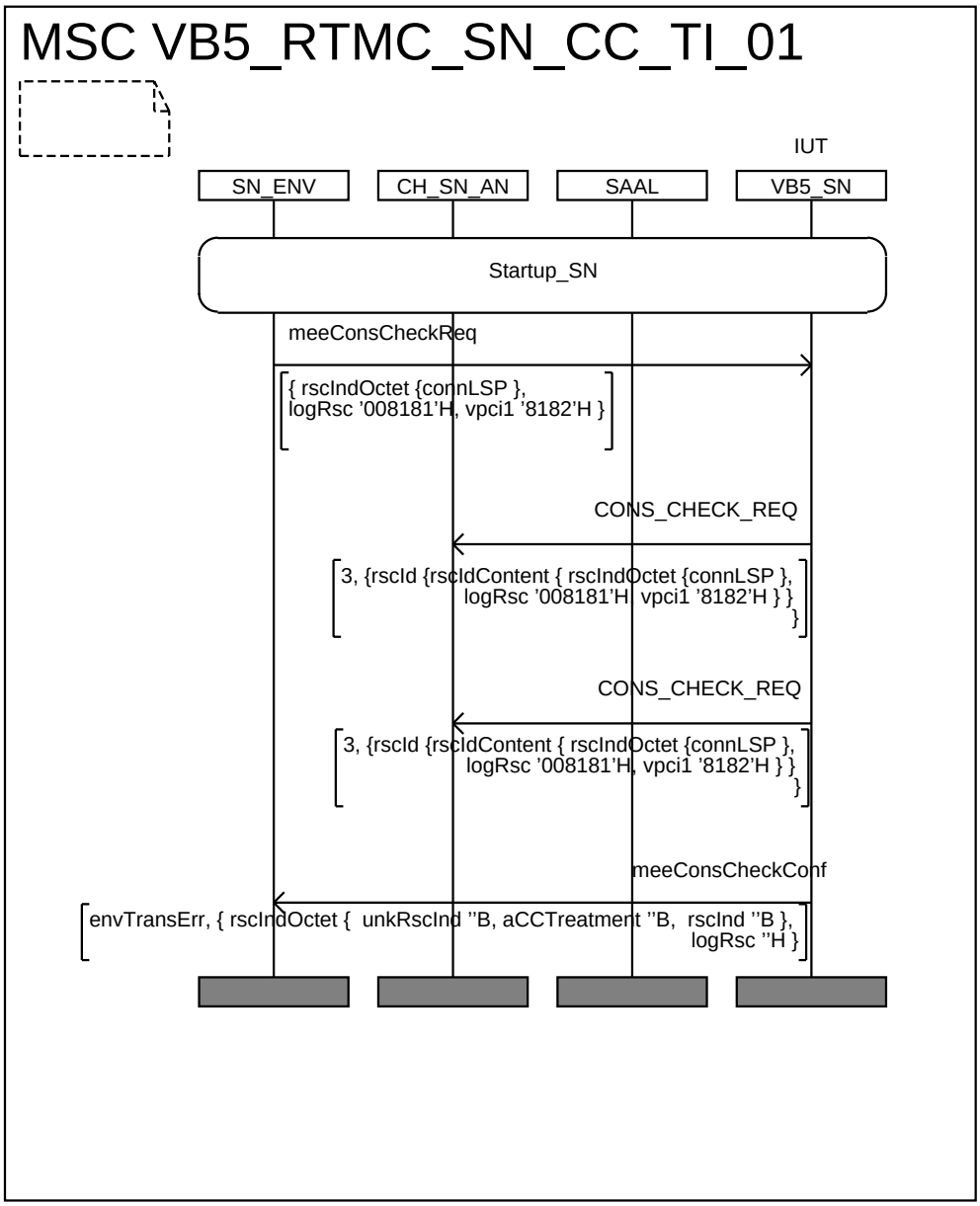
VB5_RTMC_SN_CC_BV_02	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check complete consistency check of a VPC, using valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a VPCI Consistency Check procedure. Then the IUT sends **CONS_CHECK_REQ** PDU to the tester with valid LSPId and VPCI parameters. The tester answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. Then the tester issues an implicit send to cause the IUT to terminate a VPCI Consistency Check procedure
Pass criteria	Check that the tester is receiving **CONS_CHECK_END** PDU containing same valid parameters
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeConsCheckConf with result parameter is sent to SN environment. When tester sends CONS_CHECK_END_ACK, meeConsCheckEndConf with result parameter is sent to SN environment


MSC VB5_RTMC_SN_CC_BV_02
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startup_SN
meeConsCheckReq
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_REQ
3, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
CONS_CHECK_REQ_ACK
3, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckConf
envSuccess, { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeConsCheckEndReq
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_END
4, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}

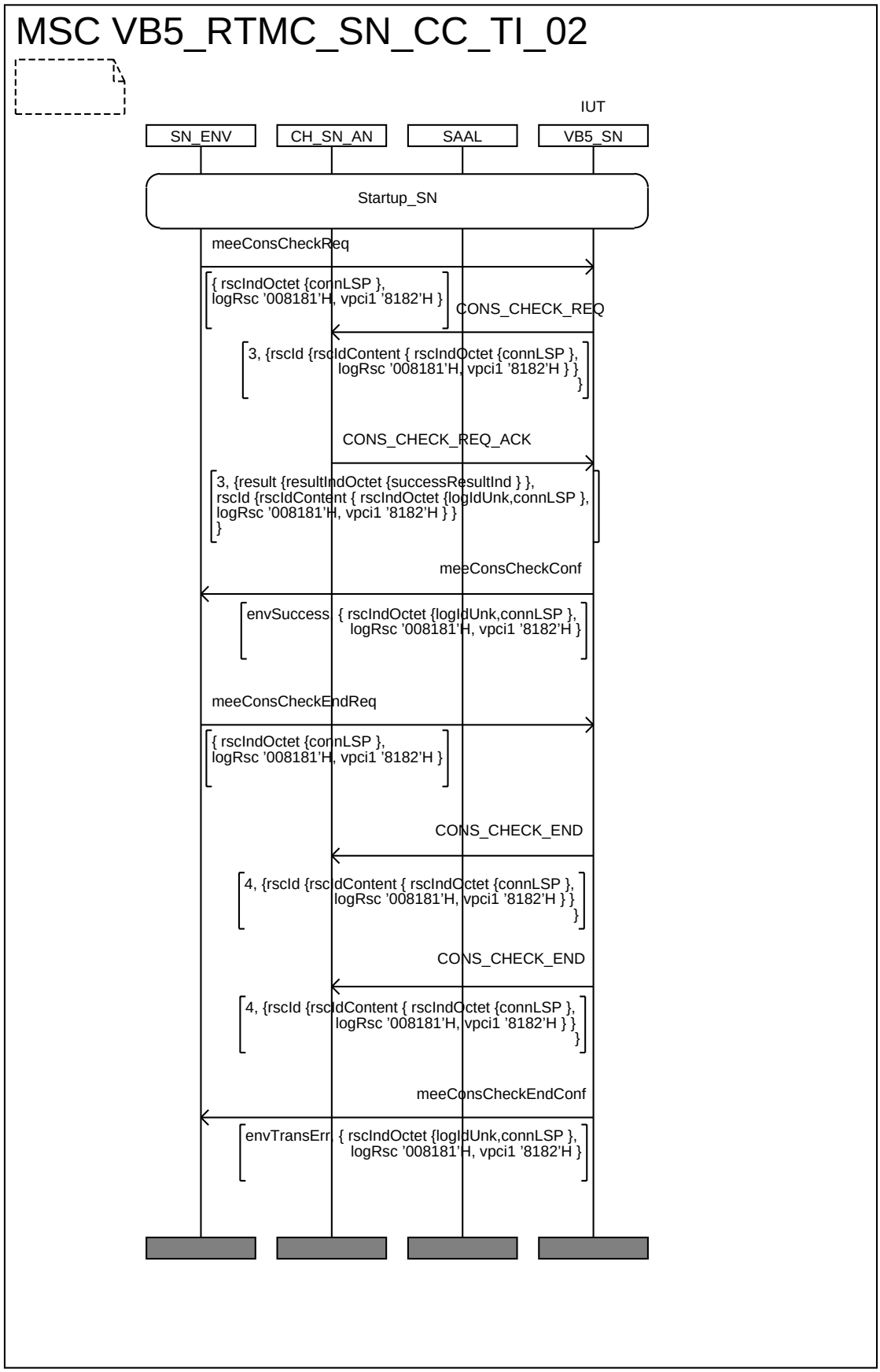
VB5_RTMC_SN_CC_BI_01	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check consistency check of a VPC, not ending due to an operationRejected error during initialization
Test description	The tester issues an implicit send to cause the IUT to initiate a VPCI Consistency Check procedure. Then the IUT sends **CONS_CHECK_REQ** PDU to the tester with valid LSPId and VPCI parameters. The tester answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = operationRejected.
Pass criteria	No formal pass criteria
Selection	None
Preamble	Startup_SN.
Postamble	None
Additional testing	meeConsCheckConf with result parameter rejected by AN is sent to SN environment



VB5_RTMC_SN_CC_TI_01	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check time out on initiating consistency check of a VPC, using valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a VPCI Consistency Check procedure. Then the IUT sends **CONS_CHECK_REQ** PDU to the tester with valid LSPId and VPCI parameters. The tester does not respond with **CONS_CHECK_REQ_ACK** PDU within T_consreq time
Pass criteria	Check that the tester is receiving again **CONS_CHECK_REQ**_ PDU containing valid parameters
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeConsCheckConf with result parameter transmissionError is sent to SN environment after the maximum number of message repetitions



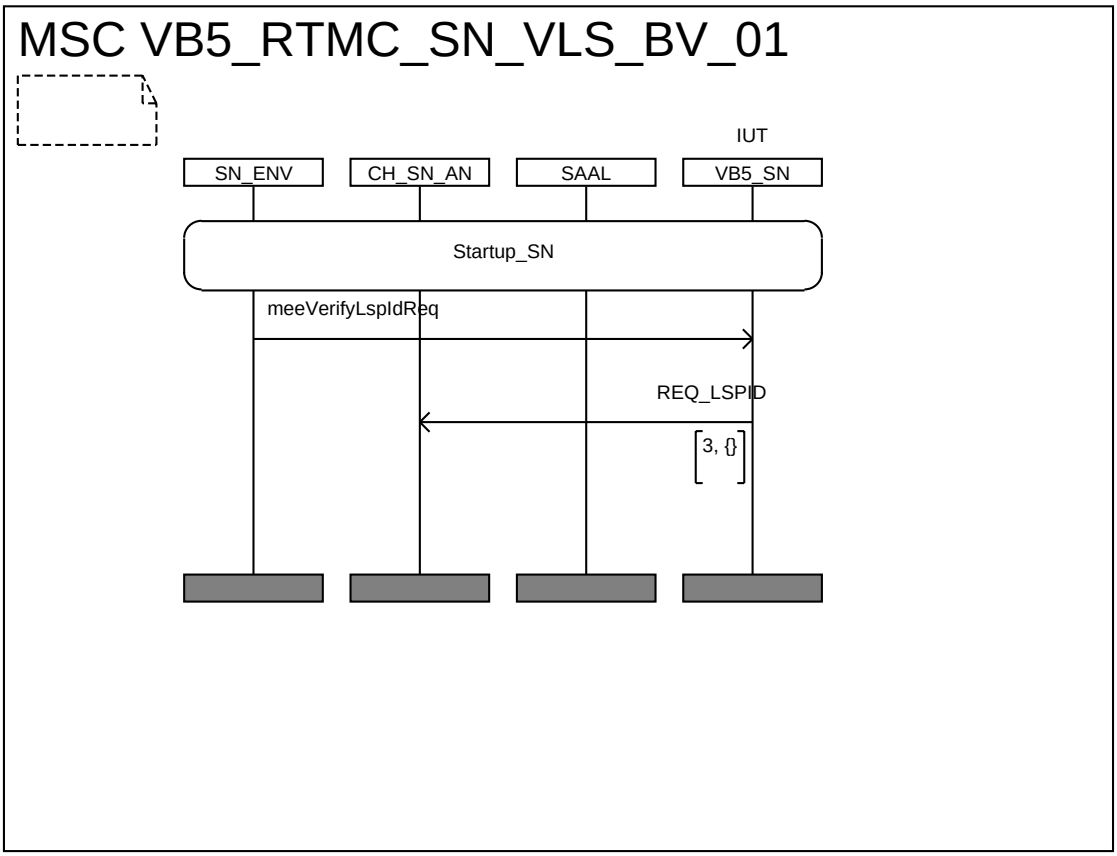
VB5_RTMC_SN_CC_TI_02	Reference EN 301 005-1 [1] : 13.3.3
Purpose	Check time out on complete consistency check of a VPC, using valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate a VPCI Consistency Check procedure. Then the IUT sends **CONS_CHECK_REQ** PDU to the tester with valid LSPId and VPCI parameters. The tester answers with **CONS_CHECK_REQ_ACK** PDU containing Result indicator = Success. Then the tester issues an implicit send to cause the IUT to terminate a VPCI Consistency Check procedure. The tester is receiving **CONS_CHECK_END** PDU containing same valid parameters. The tester does not answer with **CONS_CHECK_END_ACK** PDU within T_consend time
Pass criteria	Check that the tester is receiving again **CONS_CHECK_END** PDU containing same valid parameters
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeConsCheckEndConf with result parameter transmissionError is sent to SN environment after the maximum number of message repetitions


MSC VB5_RTMC_SN_CC_TI_02
IUT
SN_ENV
CH_SN_AN
SAAL
VB5_SN
Startup_SN
meeConsCheckReq
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_REQ
3, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
CONS_CHECK_REQ_ACK
3, {result {resultIndOctet {successResultInd } },
rscId {rscIdContent { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckConf
envSuccess { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }
meeConsCheckEndReq
{ rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H }
CONS_CHECK_END
4, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
CONS_CHECK_END
4, {rscId {rscIdContent { rscIndOctet {connLSP },
logRsc '008181'H, vpci1 '8182'H } }
}
meeConsCheckEndConf
envTransErr { rscIndOctet {logIdUnk,connLSP },
logRsc '008181'H, vpci1 '8182'H }

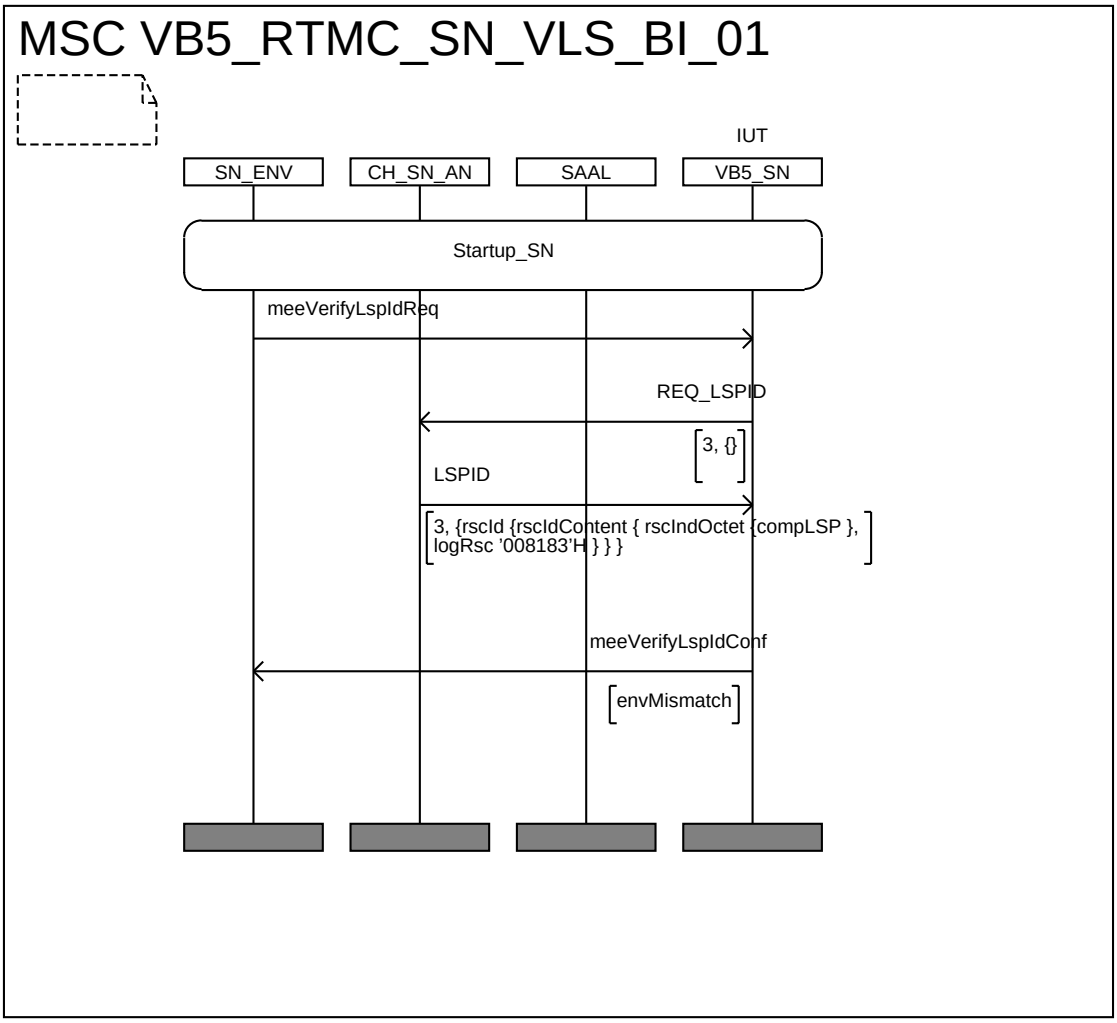
6.2.6 Verify logical service port Id (LSPId) procedure, SN initiated (VLS)

There is only one LSPId between a pair of AN and SN running an instance of VB5.1 protocol.

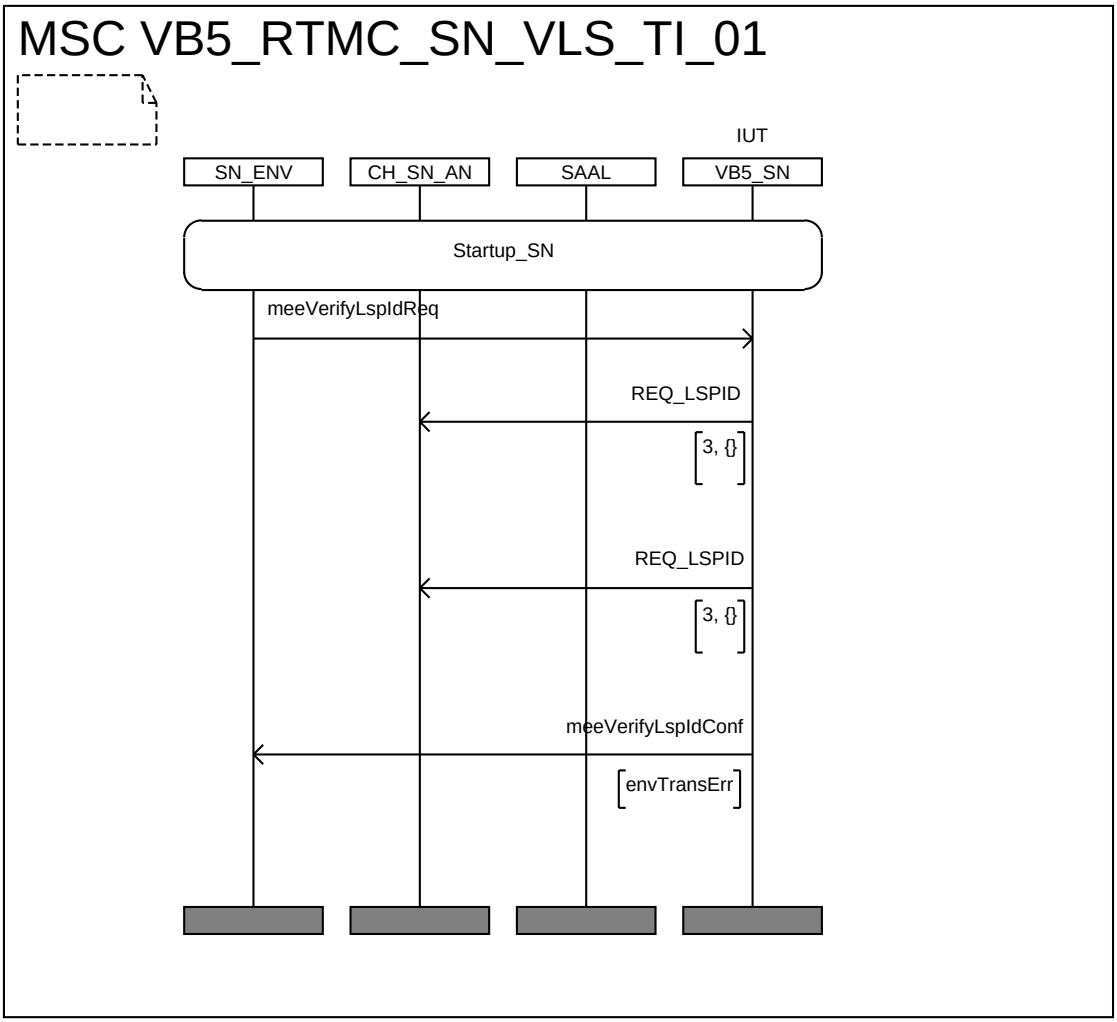
VB5_RTMC_SN_VLS_BV_01	Reference EN 301 005-1 [1] : 13.3.4.2
Purpose	Check verify LSPId procedure triggered by SN
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure.
Pass criteria	Check that the tester is receiving **REQ_LSPID** PDU.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	When tester answers with LSPID PDU, meeVerifyLspIdConf with result parameter success is sent to SN environment



VB5_RTMC_SN_VLS_BI_01	Reference EN 301 005-1 [1] : 13.3.4.2
Purpose	Check verify LSPId procedure triggered by SN, tester issues a wrong LSPId
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure. The tester is receiving **REQ_LSPID** PDU then it answers with **LSPID** PDU including a wrong LSPId parameter
Pass criteria	{no formal pass criteria}
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeVerifyLspIdConf with result parameter mismatch is sent to SN environment



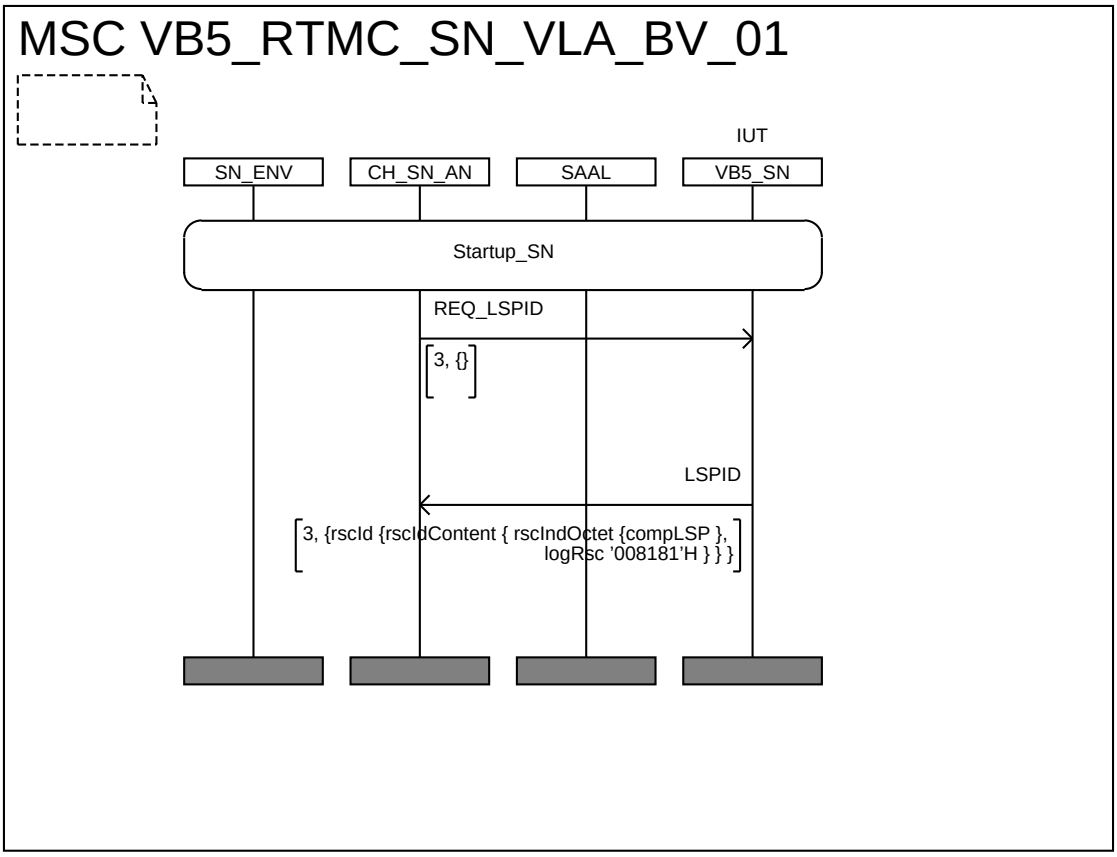
VB5_RTMC_SN_VLS_TI_01	Reference EN 301 005-1 [1] : 13.3.4.2
Purpose	Check time out on verify LSPId procedure triggered by the SN
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure. The tester is receiving **REQ_LSPID** PDU then it does not answer with **LSPID** PDU within **T_lspid** time
Pass criteria	Check that the tester is receiving **REQ_LSPID** PDU again.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeVerifyLspIdConf with result parameter transmissionError is sent to SN environment after the maximum number of message repetitions



6.2.7 Verify logical service port Id (LSPId) procedure, AN initiated (VLA)

There is only one LSPId between a pair of AN and SN running an instance of VB5.1 protocol.

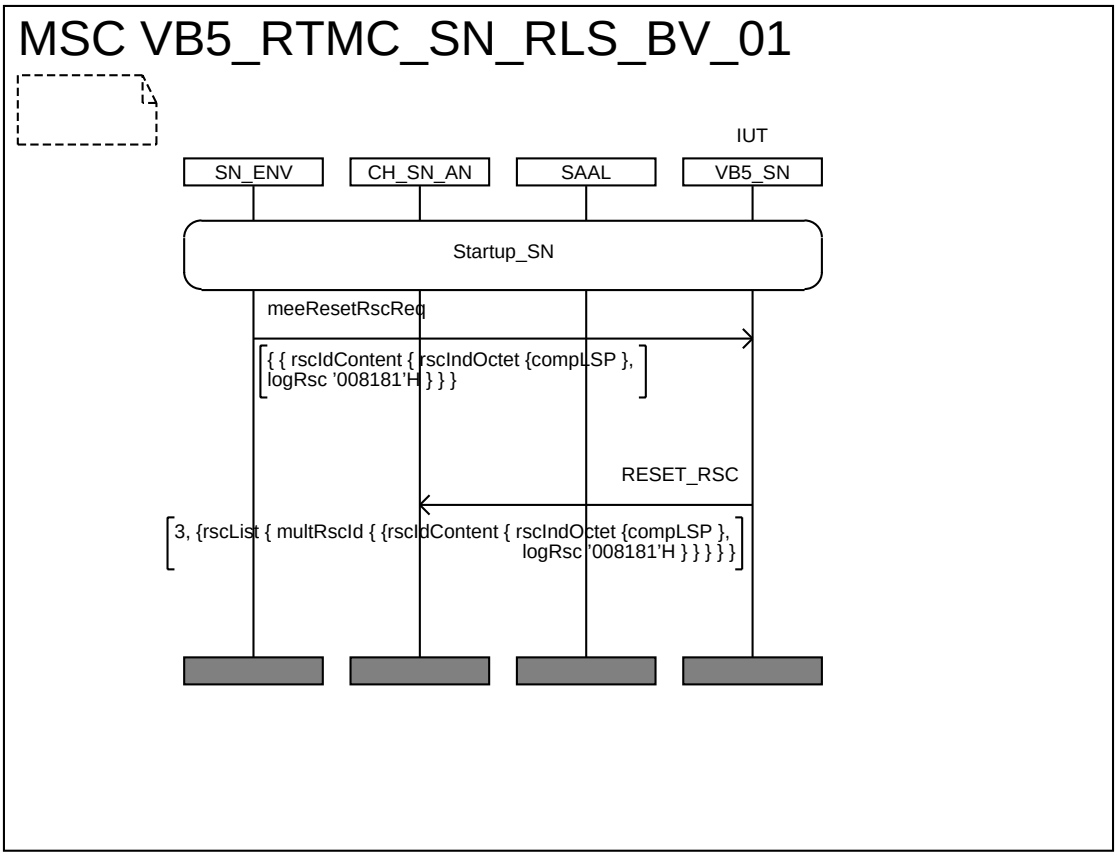
VB5_RTMC_SN_VLA_BV_01	**Reference EN 301 005-1 [1] : 13.3.4.2**
Purpose	Check verify LSPId procedure triggered by the AN
Test description	The tester sends **REQ_LSPID** PDU to the IUT.
Pass criteria	Check that the tester is receiving **LSPID** PDU containing the correct identifier
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	None



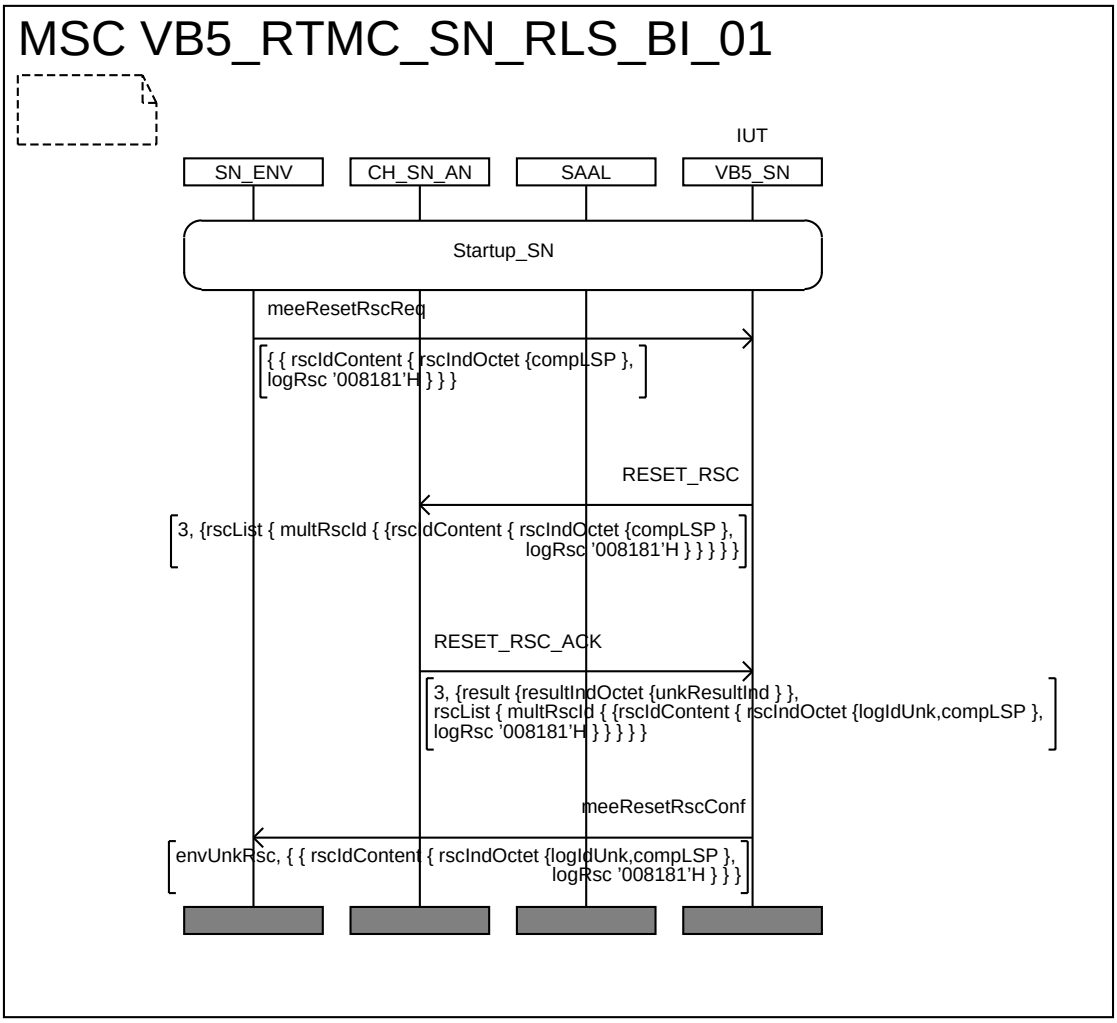
6.2.8 Reset Logical Service Port (LSP) procedure, SN initiated (RLS)

It is possible to reset a complete LSP only, but not a complete LUP.

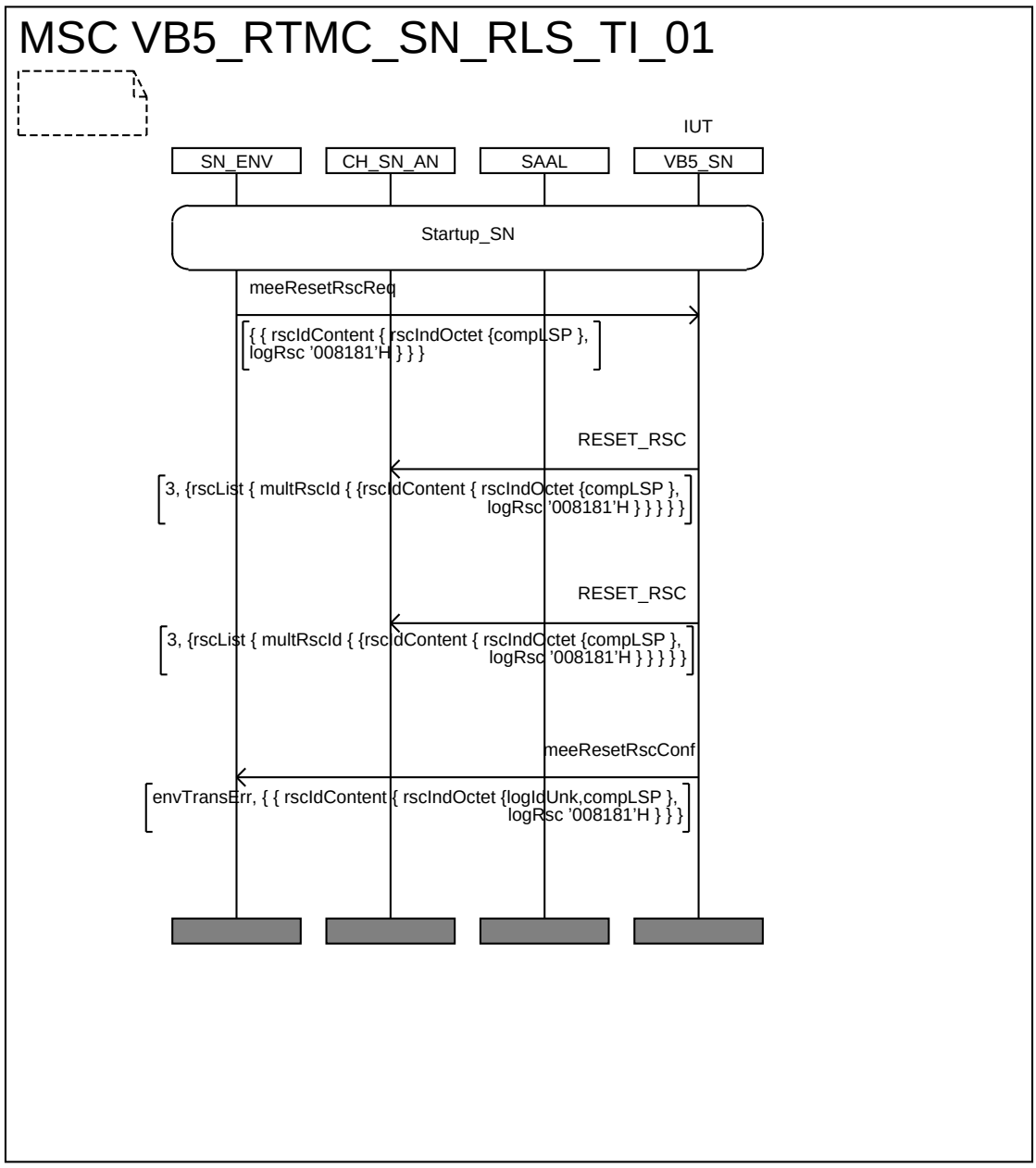
VB5_RTMC_SN_RLS_BV_01	**Reference EN 301 005-1 [1] : 13.3.4.3**
Purpose	Check reset LSP procedure triggered by SN
Test description	The tester issues an implicit send to cause the IUT to initiate a Reset complete LSP procedure.
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU with valid parameters: resource indicator = complete LSP, valid LSPId.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK, meeResetRscConf with Result indicator = success is sent to SN environment



VB5_RTMC_SN_RLS_ BI_01	Reference EN 301 005-1 [1] : 13.3.4.3
Purpose	Check error on Reset LSP procedure triggered by SN
Test description	The tester issues an implicit send to cause the IUT to initiate a reset LSP procedure. The tester is receiving **RESET_RSC** PDU then it answers with **RESET_RSC_ACK** PDU with result indicator = unknownResource
Pass criteria	{No formal pass criteria}
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscConf with result parameter unknownResource is sent to SN environment



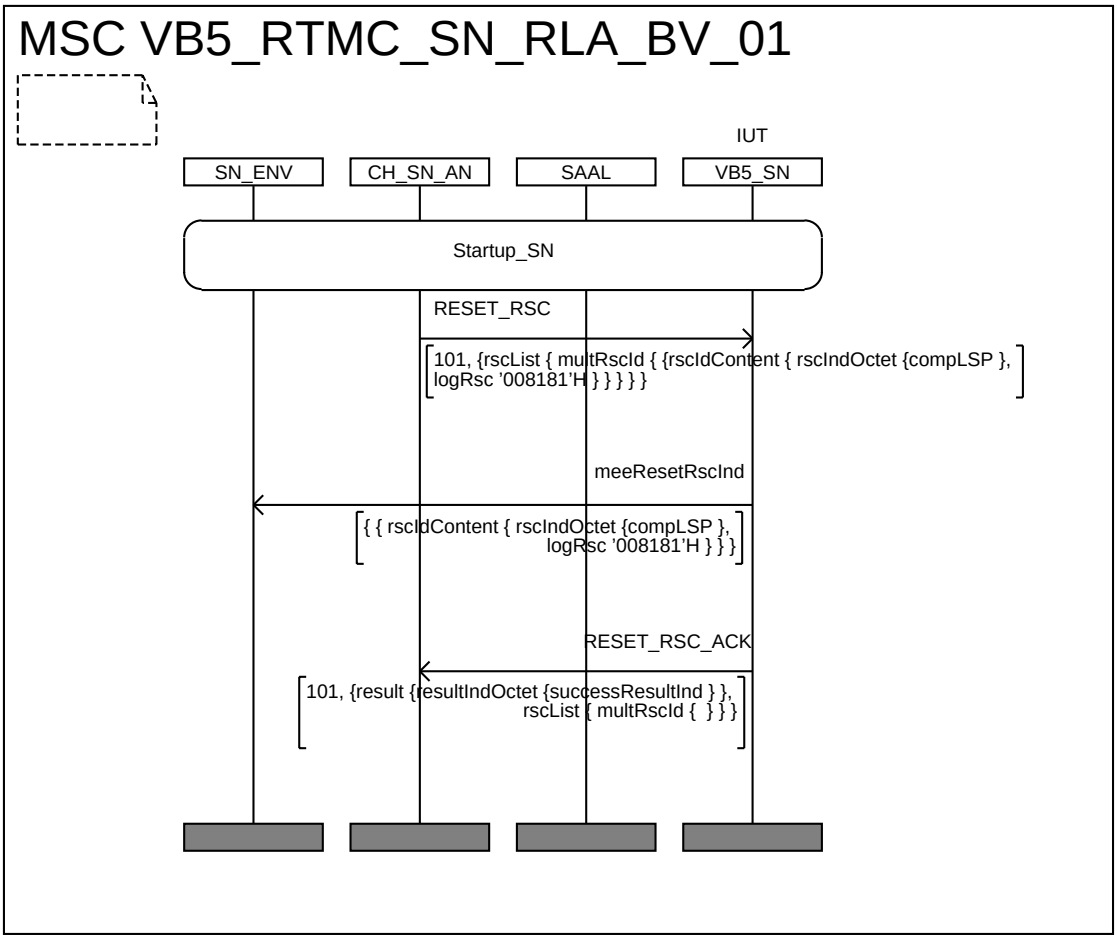
VB5_RTMC_SN_RLS_ TI_01	Reference EN 301 005-1 [1] : 13.3.4.3
Purpose	Check time out on Reset LSP procedure triggered by SN
Test description	The tester issues an implicit send to cause the IUT to initiate a reset LSP procedure. The tester is receiving **RESET_RSC** PDU then it does not answer with **RESET_RSC_ACK** PDU within **T_reset** time
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU again.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscConf with result parameter transmissionError is sent to SN environment after the maximum number of message repetitions



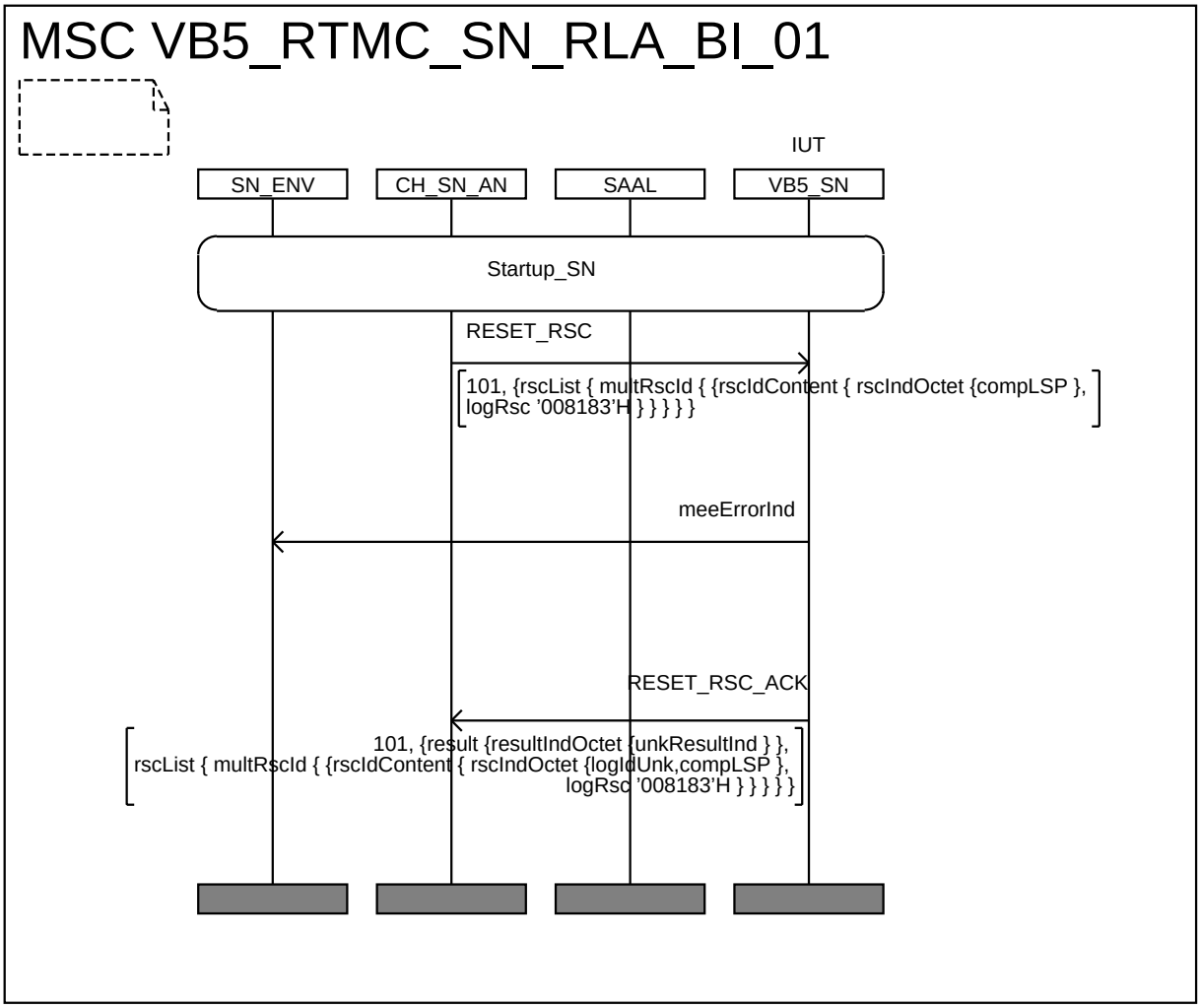
6.2.9 Reset Logical Service Port (LSP) procedure, AN initiated (RLA)

It is possible to reset a complete LSP only, and not a complete LUP.

VB5_RTMC_SN_RLA_BV_01	**Reference EN 301 005-1 [1] : 13.3.4.3**
Purpose	Check reset LSP procedure triggered by AN, valid parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = complete LSP, and valid LSPId.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscInd with appropriate parameter Resource indicator = complete LSP, and valid LSPId. is sent to SN environment



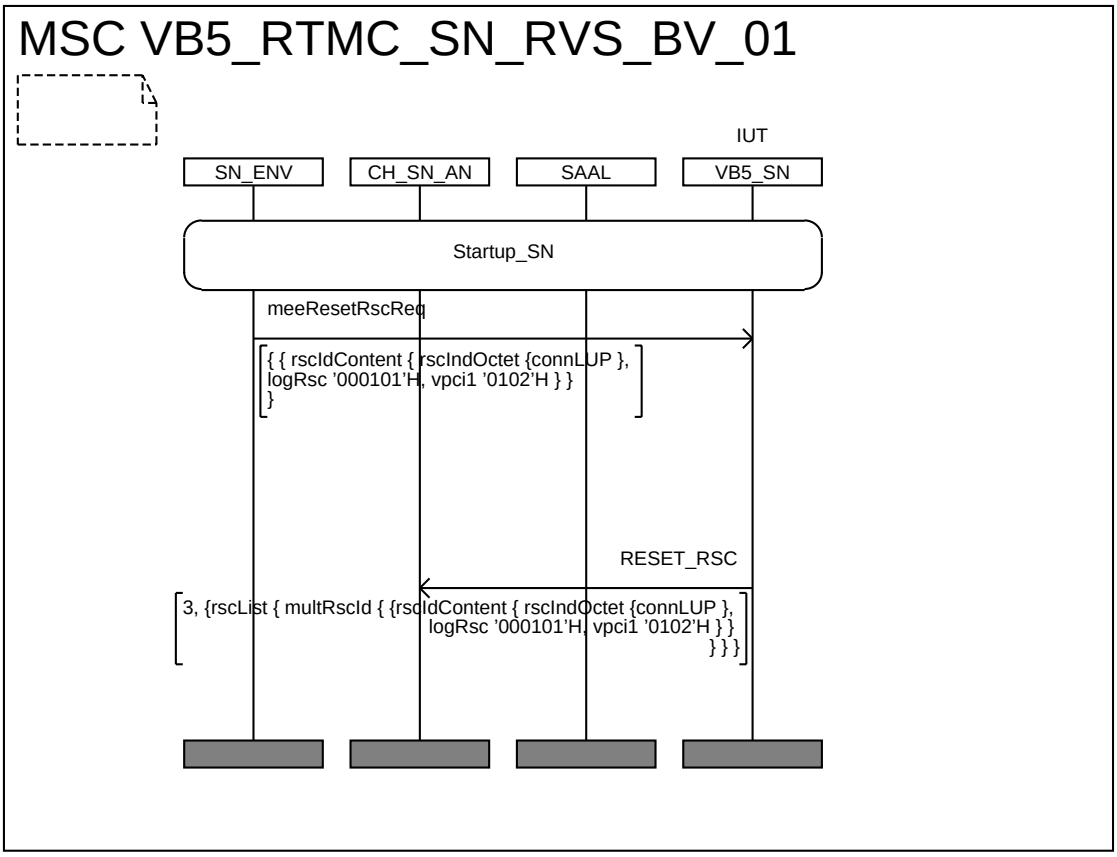
VB5_RTMC_SN_RLA_BI_01	Reference EN 301 005-1 [1] : 13.3.4.3
Purpose	Check reset LSP procedure triggered by AN, unknown parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = complete LSP, and unknown LSPId.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = unknownResources
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment



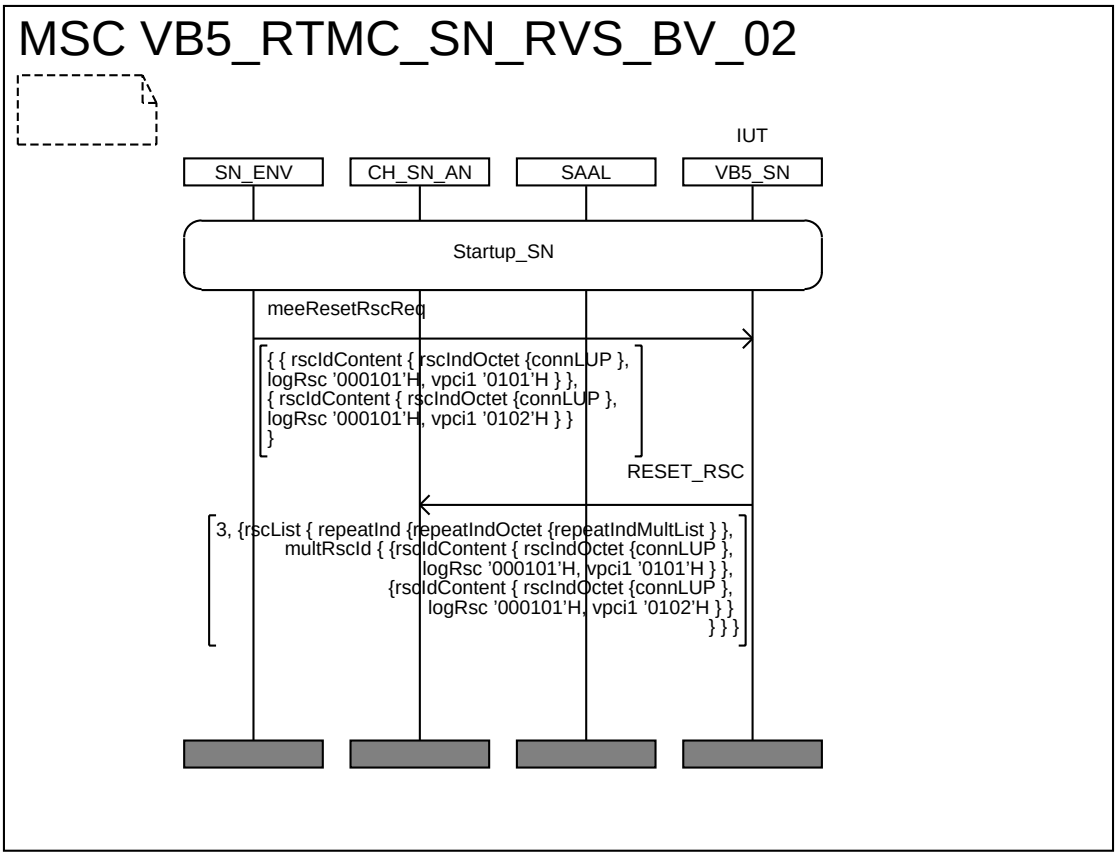
6.2.10 Reset Virtual Path Connection (VPC) procedure, SN initiated (RVS)

VPC at LUP.

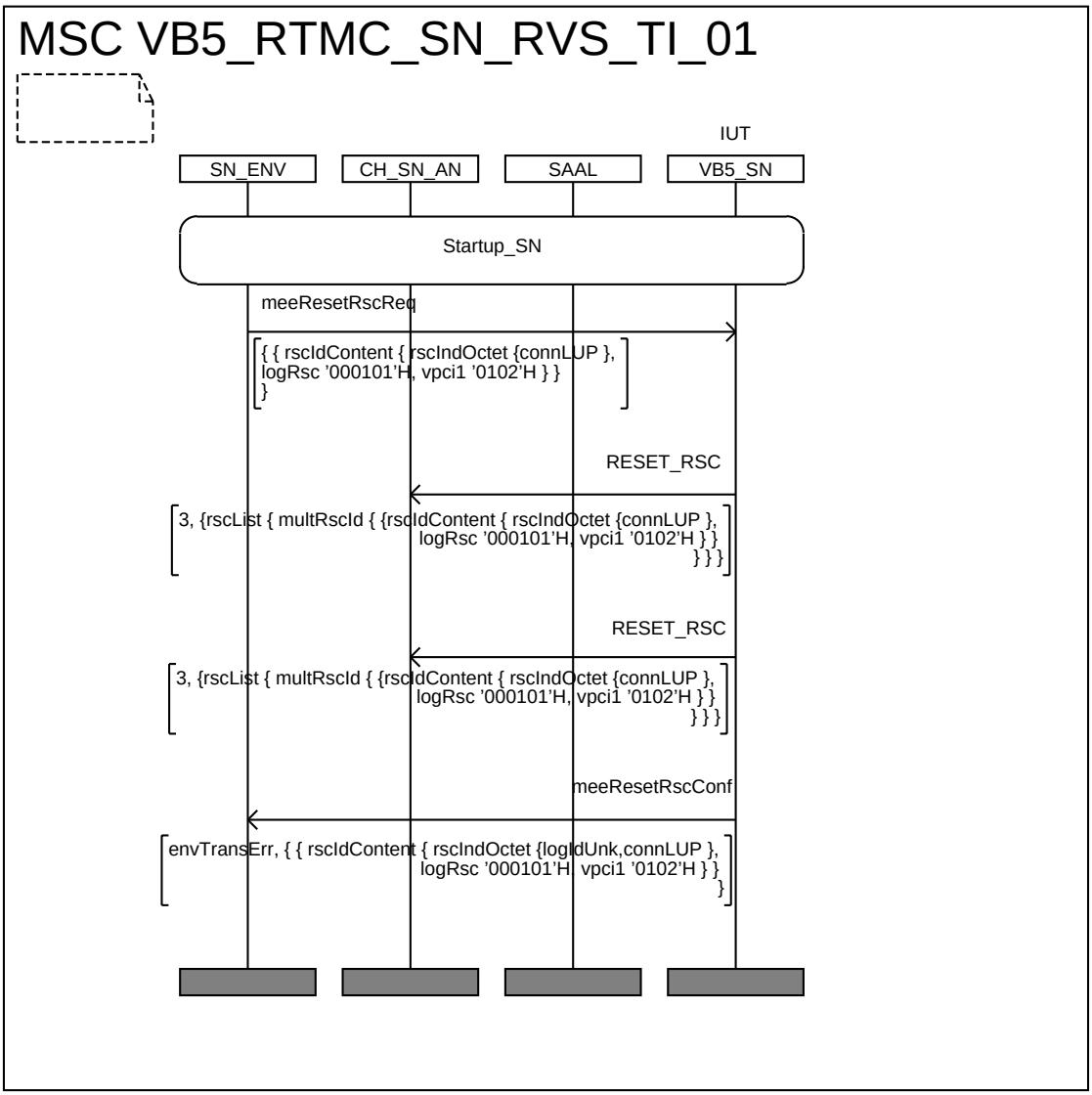
VB5_RTMC_SN_RVS_BV_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a single VPC at LUP, triggered by SN, valid parameters
Test description	The tester issues an implicit send to cause the IUT to initiate Reset procedure of a single VPC.
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU with valid parameters: resource indicator = connection at LUP, valid VPCI.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK, meeResetRscConf with Result indicator = success is sent to SN environment



VB5_RTMC_SN_RVS_BV_02	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a list of VPC at LUP, triggered by SN
Test description	The tester issues an implicit send to cause the IUT to initiate Reset procedure of a list of VPC.
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU with list of valid parameters: resource indicator = connection at LUP, valid VPCI.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	When tester answers with RESET_RSC_ACK, meeResetRscConf with Result indicator = success is sent to SN environment



VB5_RTMC_SN_RVS_TI_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check time out on Reset procedure of a single VPC at LUP triggered by SN
Test description	The tester issues an implicit send to cause the IUT to initiate a reset VPC procedure. The tester is receiving **RESET_RSC** PDU then it does not answer with **RESET_RSC_ACK** PDU within **T_reset** time
Pass criteria	Check that the tester is receiving **RESET_RSC** PDU again.
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscConf with result parameter transmissionError is sent to SN environment after the maximum number of message repetitions



- VPC at LSP.

It is possible to reset a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that another set of TPs identical to the previous one, is made by replacing "Resource indicator = connection at LUP" with "connection at LSP".

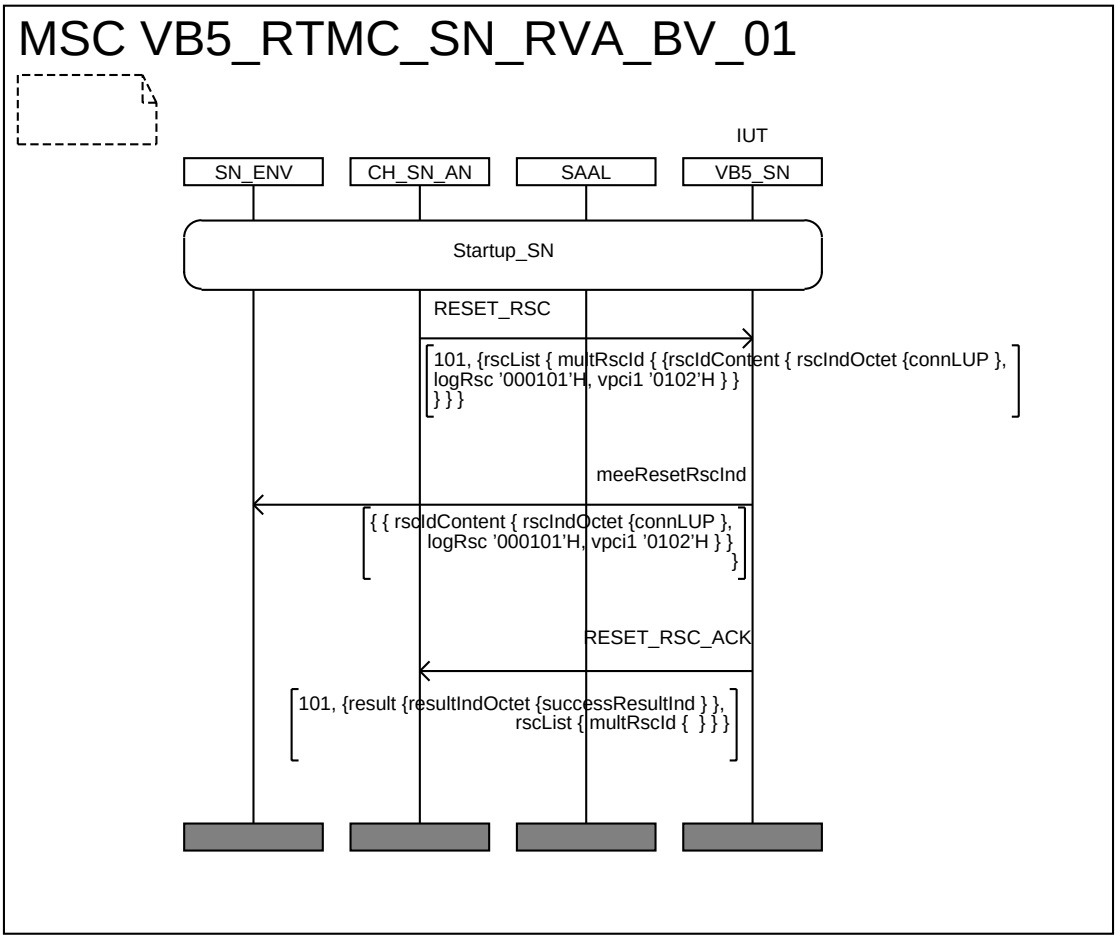
TP naming correspondence is as follows:

VPC at LUP	VPC at LSP
VB5_RTMC_SN_RVS_BV_01	VB5_RTMC_SN_RVS_BV_11
VB5_RTMC_SN_RVS_BV_02	VB5_RTMC_SN_RVS_BV_12
VB5_RTMC_SN_RVS_TI_01	VB5_RTMC_SN_RVS_TI_11

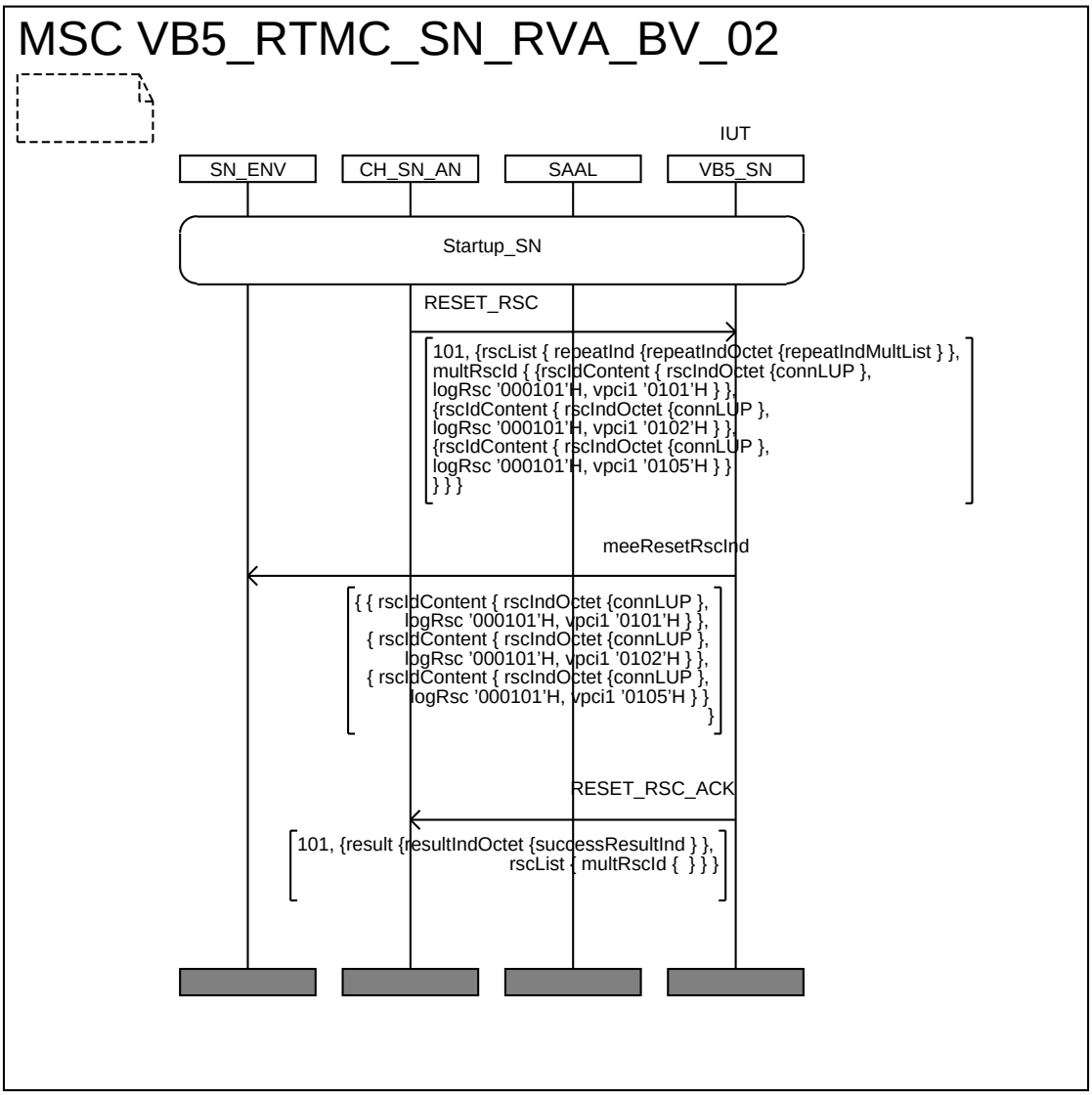
6.2.11 Reset Virtual Path Connection (VPC) procedure, AN initiated (RVA)

- VPC at LUP.

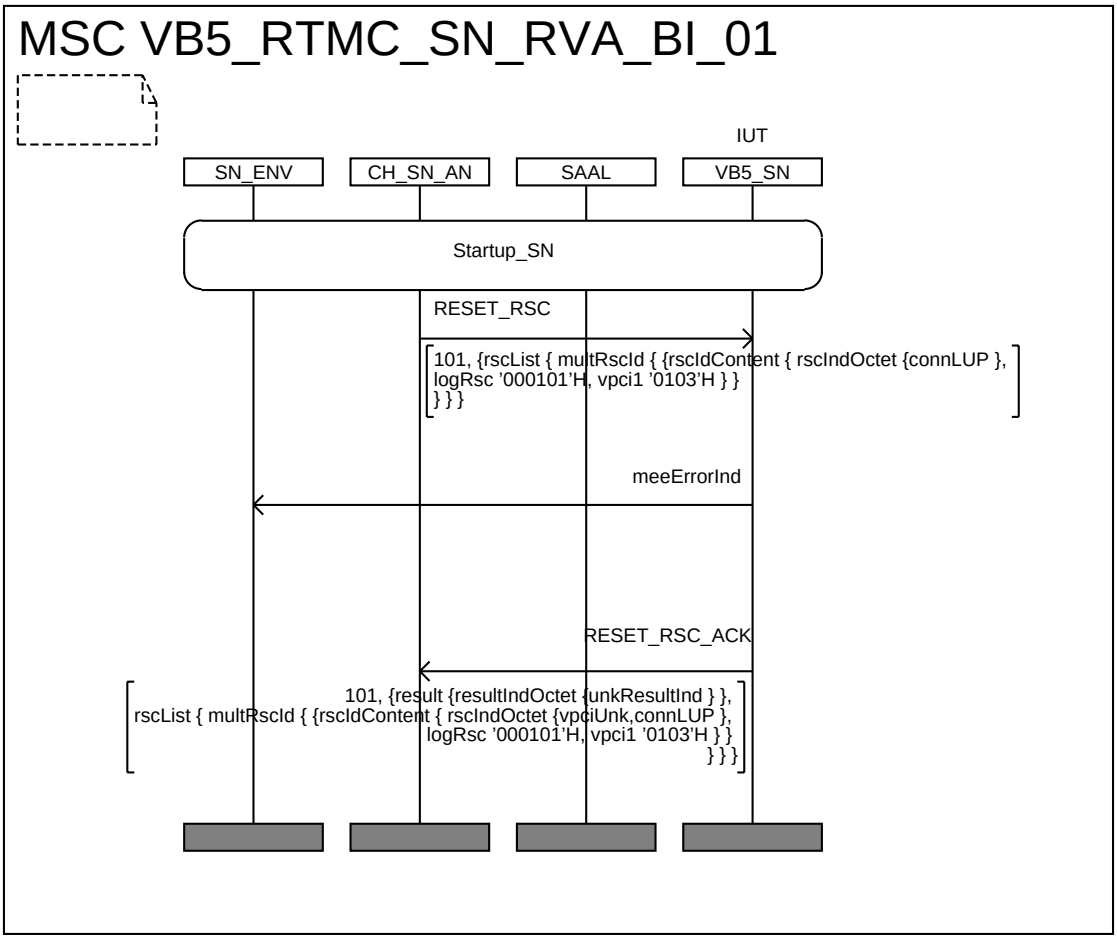
VB5_RTMC_SN_RVA_BV_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a single VPC at LUP, triggered by AN the tester
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and valid VPCI.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscInd with appropriate parameter Resource indicator = connection at LUP, and valid VPCI is sent to SN environment



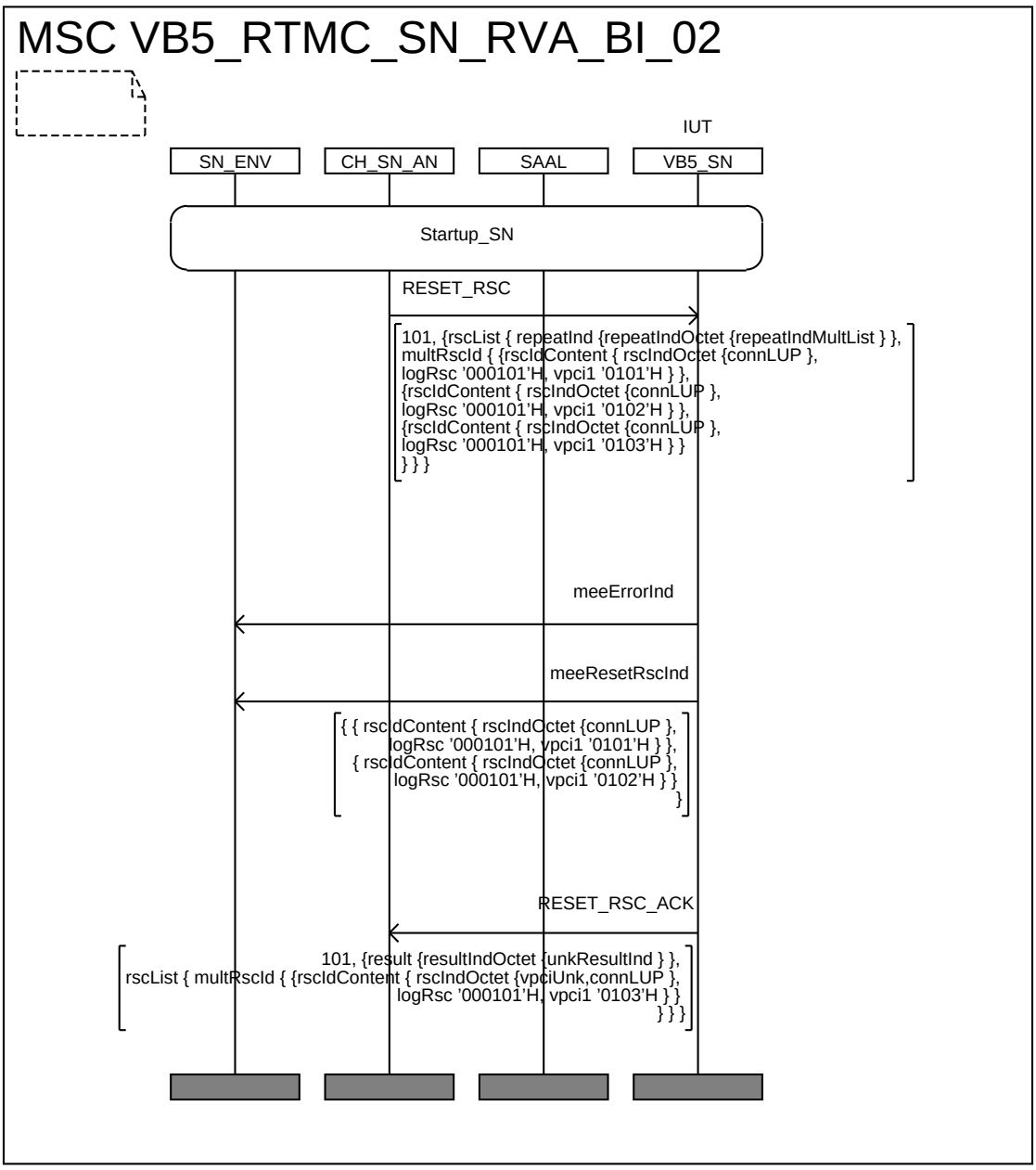
VB5_RTMC_SN_RVA_BV_02	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a list of VPC at LUP, triggered by AN the tester
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and list of valid VPCI.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = success
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscInd with list of appropriate parameter Resource indicator = connection at LUP, and valid VPCI is sent to SN environment



VB5_RTMC_SN_RVA_BI_01	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a single VPC at LUP, triggered by AN the tester, unknown parameters
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and unknown VPCI.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = unknownResources
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscConf with result parameter unknownResources and unknown VPCI value, is sent to SN environment



VB5_RTMC_SN_RVA_BI_02	Reference EN 301 005-1 [1] : 13.3.4.4
Purpose	Check reset procedure of a list of VPC at LUP, triggered by AN the tester, one of them being unknown
Test description	The tester sends **RESET_RSC** PDU to the IUT, with Resource indicator = connection at LUP, and a list of valid VPCI, the list including an unknown VPCI.
Pass criteria	Check that the tester is receiving **RESET_RSC_ACK** PDU containing Result indicator = unknownResources with the unknown VPCI value
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeResetRscInd with list of appropriate parameter Resource indicator = connection at LUP, and valid VPCIs only, is sent to SN environment



- VPC at LSP.

It is possible to reset a single, a list or a range of VPC belonging either to a LUP or to a LSP. This means that another set of TPs identical to the previous one, is made by replacing "Resource indicator = connection at LUP" with "connection at LSP".

TP naming correspondence is as follows:

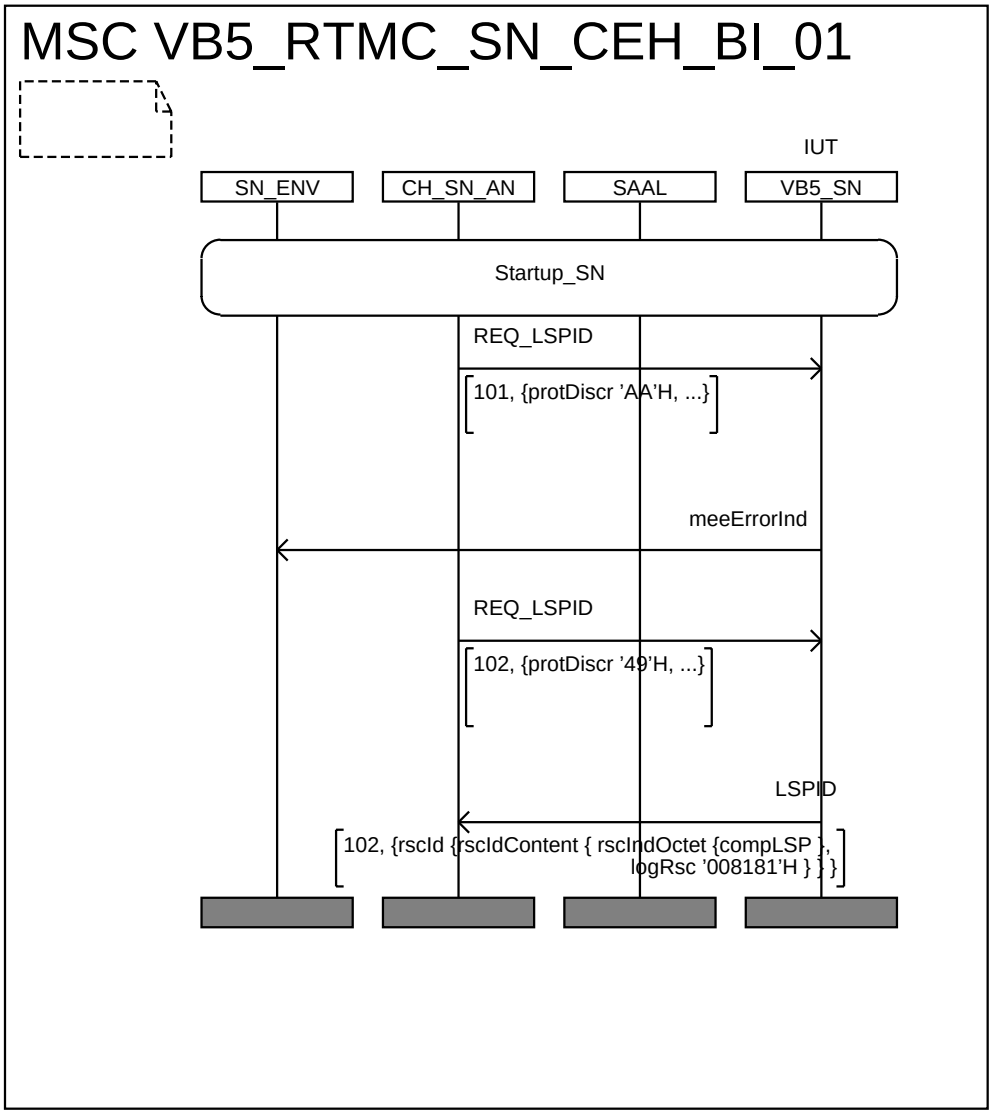
VPC at LUP	VPC at LSP
VB5_RTMC_SN_RVA_BV_01	VB5_RTMC_SN_RVA_BV_11
VB5_RTMC_SN_RVA_BV_02	VB5_RTMC_SN_RVA_BV_12
VB5_RTMC_SN_RVA_BI_01	VB5_RTMC_SN_RVA_BI_11
VB5_RTMC_SN_RVA_BI_02	VB5_RTMC_SN_RVA_BI_12

6.2.12 Common Error Handling (CEH) procedure

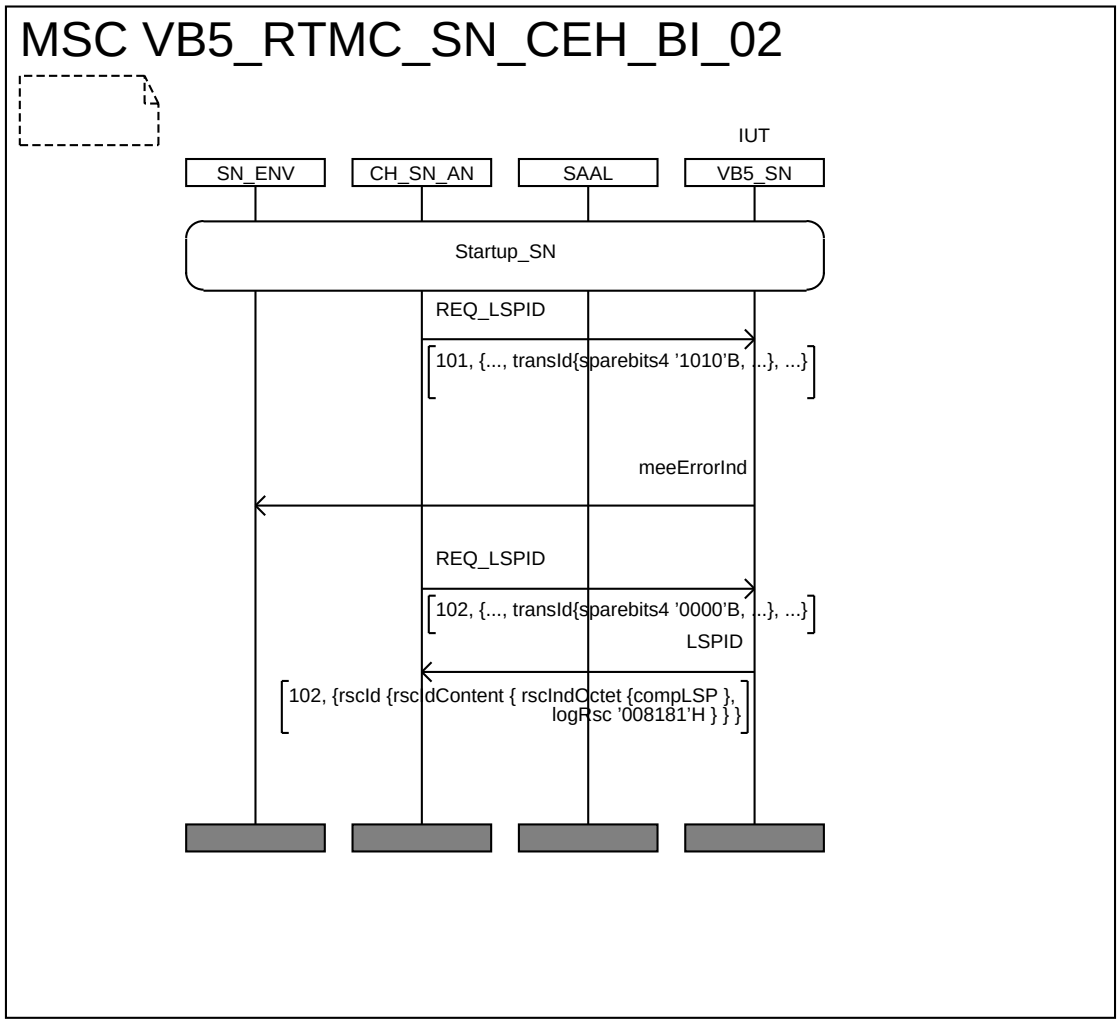
This subclause includes the checking of miscellaneous protocol error detections by the IUT, the errors being provoked by the tester.

6.2.12.1 Error Handling on Message Header

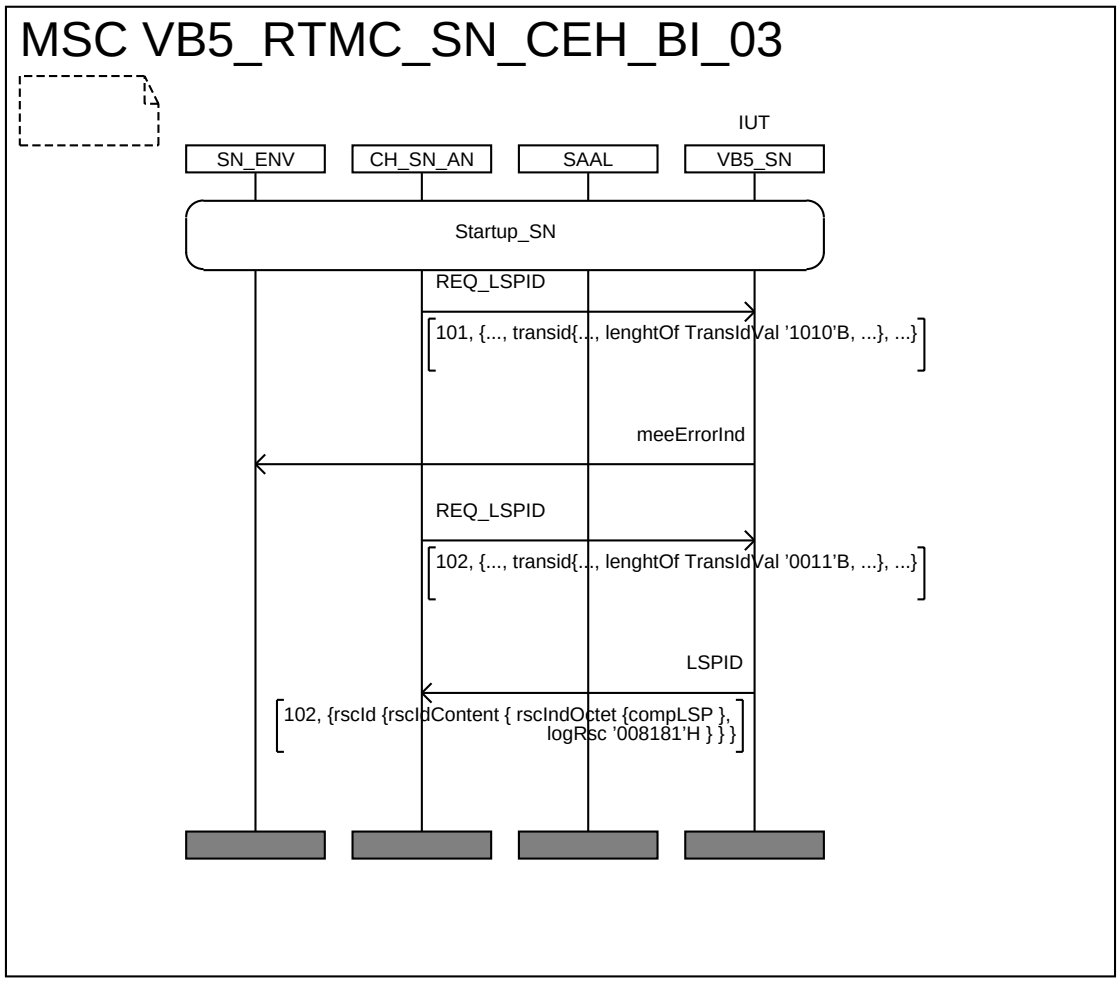
VB5_RTMC_SN_CEH_BI_01	Reference EN 301 005-1 [1] : 13.3.15
Purpose	Check detection of wrong protocol discriminator
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with protocol discriminator set to invalid value (value 'AA'H is used)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with protocol discriminator set to valid value (value '49'H)
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong protocol discriminator is detected



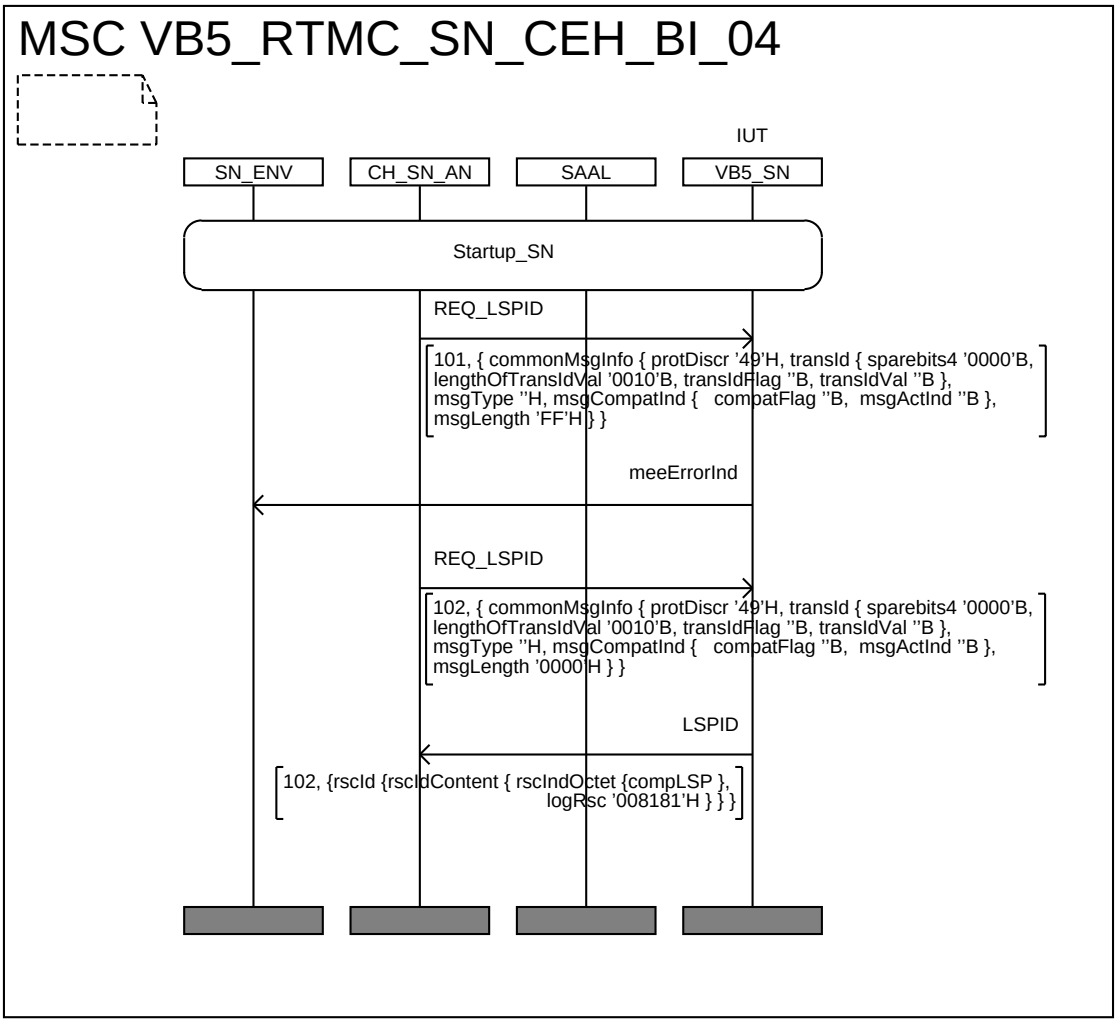
VB5_RTMC_SN_CEH_BI_02	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of wrong transaction identifier format
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with bits 5 to 8 of element octet 1 are different from 0000 (set to 1010)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct transaction identifier
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong transaction identifier format is detected



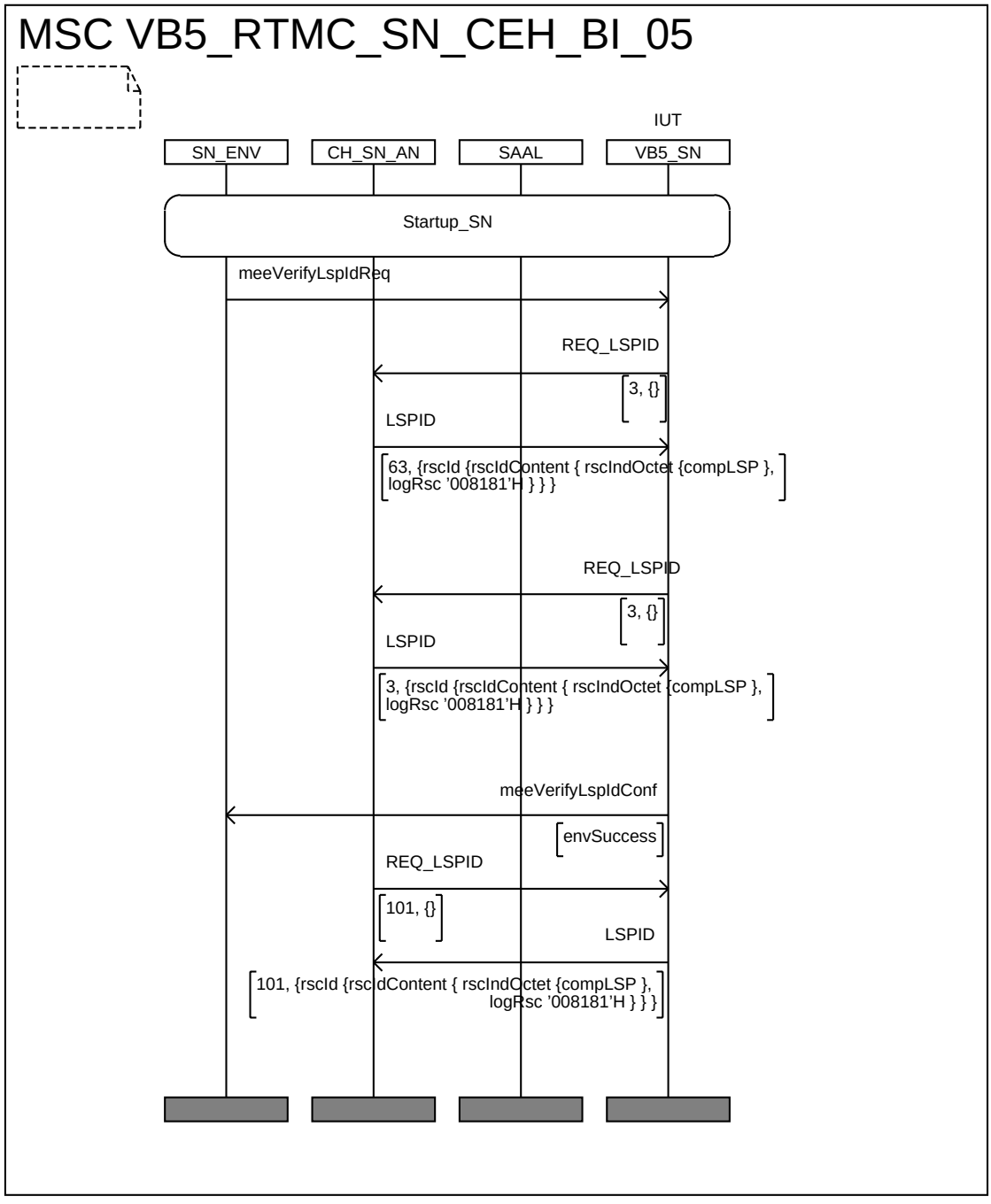
VB5_RTMC_SN_CEH_BI_03	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of wrong length of transaction identifier
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with bits 1 to 4 of element octet 1 are different from length = 3 (set to 1010)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct length of transaction identifier
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong length off transaction identifier format is detected



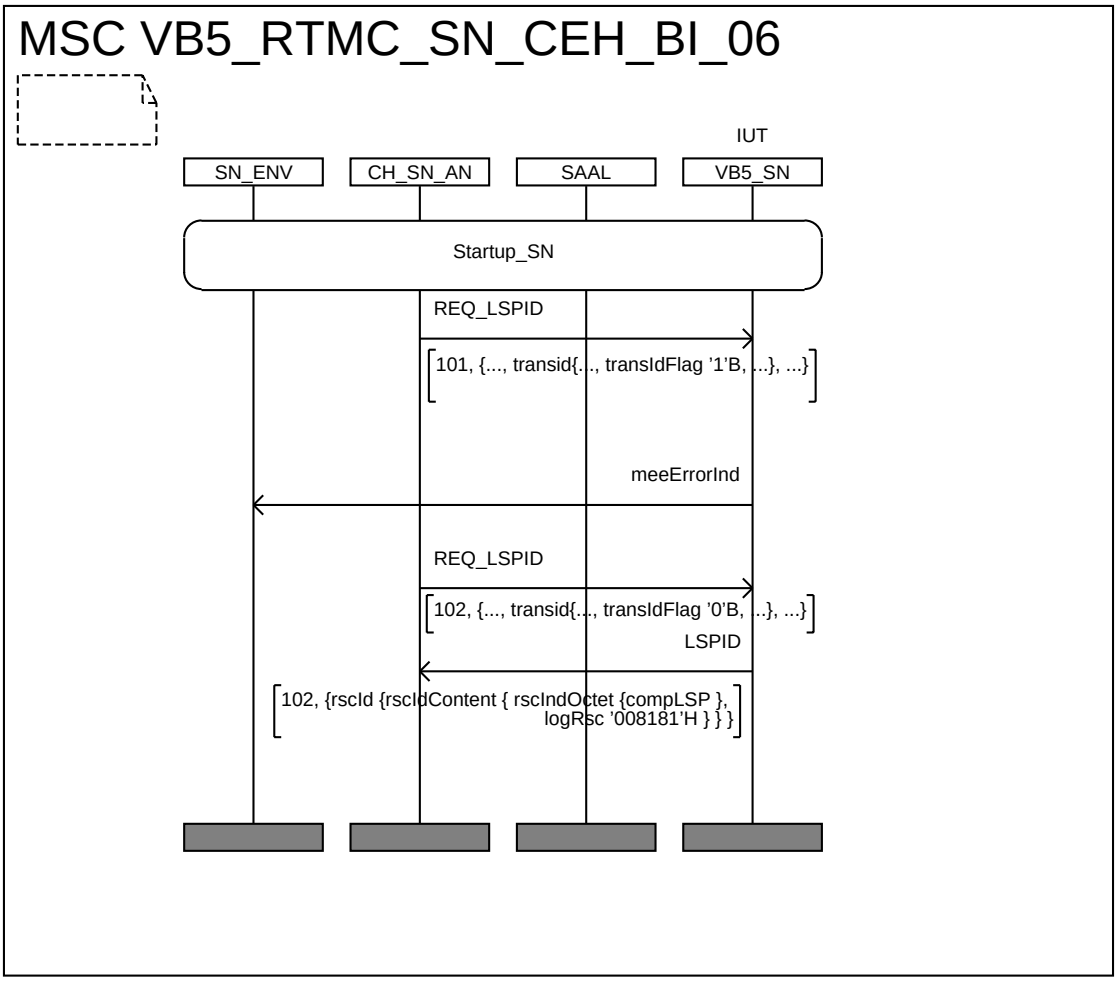
VB5_RTMC_SN_CEH_BI_04	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a message too short
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with data truncated (1 byte only for msg length instead of 2, then nothing)
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct length and parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong length of message is detected



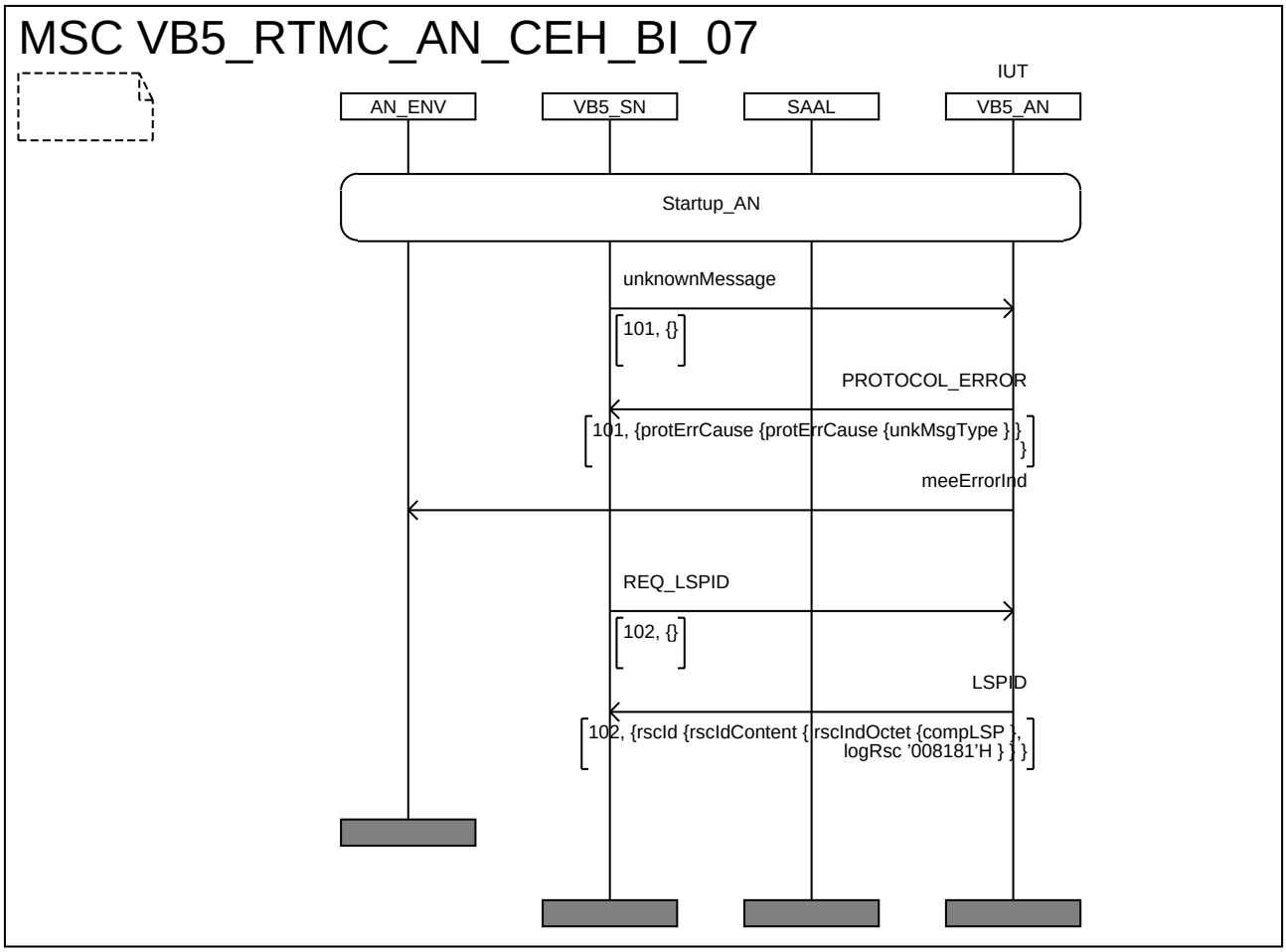
VB5_RTMC_SN_CEH_BI_05	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a wrong transaction identifier
Test description	The tester issues an implicit send to cause the IUT to initiate a verify LSPId procedure. The tester is receiving **REQ_LSPID** PDU then it answers with **LSPID** PDU including a wrong transaction identifier
Pass criteria 1	Check that the tester is receiving a second **REQ_LSPID** PDU , meaning that the **LSPID** PDU was ignored and a time out on **REQ_LSPID** occurred
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	



VB5_RTMC_SN_CEH_BI_06	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a wrong transaction identifier flag
Test description	The tester sends **REQ_LSPID** PDU to the IUT, with transaction identifier flag set to 1 as for an ACK
Pass criteria 1	Check that the tester is not receiving **LSPID** PDU , meaning that the PDU is ignored
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong transaction identifier flag is detected



VB5_RTMC_SN_CEH_BI_07	Reference EN 301 005-1 [1] : 13.3.1.5
Purpose	Check detection of a wrong message type
Test description	The tester sends **an unknown** PDU to the IUT
Pass criteria 1	Check that the tester is receiving **PROTOCOL_ERROR** , with Protocol error cause value = unrecognized message type, meaning that the PDU is unknown
Test description	The tester now sends **REQ_LSPID** PDU to the IUT, with correct parameters
Pass criteria 2	Check that the tester is receiving **LSPID** PDU , meaning that the previous PDU was ignored properly
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to SN environment when wrong message type is detected



6.2.12.2 Error Handling on Information Element (IE)

VB5_RTMC_SN_CEH_BI_11	**Reference EN 301 005-1 [1] : 13.3.1.5**
Purpose	Check detection of a missing Information Element (IE)
Test description	The tester sends **RESET RSC** PDU to the IUT, which has no IE, msg length null
Pass criteria 1	Check that the tester is receiving **PROTOCOL_ERROR** , with Protocol error cause value = mandatory IE missing, meaning that the PDU is incomplete
Selection	None
Preamble	Startup_SN
Postamble	None
Additional testing	meeErrorInd is sent to AN environment when error is detected

Annex A (informative): PIXIT parameters and the informative values used

A.1 Parameter values as used in the MSCs

The following table is extracted from the PIXIT proforma for the test suite, and completed with the arbitrary values used to create the MSCs.

Table A.1: Parameter values

Item	Parameter name	Parameter type (ASN1)	Explanation	Value in MSCs
1.	PIX_LUP_address	LogId	LUP of PUP01	000101
2.	PIX_LUP_unkaddr	LogId	Unknown LUP of PUP01	000103
3.	PIX_LUP_VPCI_1	VPCI	First VPCI of LUP01 of PUP01	0101
4.	PIX_LUP_VPCI_2	VPCI	2nd VPCI of LUP01 of PUP01	0102
5.	PIX_LUP_VPCI_unk	VPCI	unknown VPCI of LUP01 of PUP01	0103
6.	PIX_LUP_VPCI_busy	VPCI	Busy VPCI of LUP01 of PUP01	0104
7.	PIX_LUP VPCI_last	VPCI	Last VPCI of LUP01 of PUP01	0105
8.	PIX_LSP_address	LogId	LSP id	008181
9.	PIX_LSP_unkaddr	LogId	unknown LSP id	008183
10.	PIX_LSP_VPCI_1	VPCI	First VPCI of LSP81 of PSP81	8181
11.	PIX_LSP_VPCI_2	VPCI	2nd VPCI of LSP	8182
12.	PIX_LSP_VPCI_unk	VPCI	unknown VPCI of LSP	8183
13.	PIX_LSP_VPCI_busy	VPCI	Busy VPCI of LSP	8184
14.	PIX_LSP VPCI_last	VPCI	Last VPCI of LSP	8185
15.	PIX_automatic_loopback_results	Boolean	choice dictated by implementation	

Note on transaction identifier values

In the MSCs and by pure convention, the values taken for the transaction identifiers show the direction;

it takes values starting at 01 when the IUT initiates the PDU exchange, while it takes the values starting at 101 when the tester initiates the PDU exchange. In the case of ACK PDUs, this rule does not apply as the transaction Id value is taken from the incoming PDU.

Note on timer values

Most of the sendings of PDUs are protected by timers. When the answers to such PDUs are not received within this timer limit, the originating PDUs are sent again a second time.

All these timer values are part of the PIXIT definition.

Table A.2: Timer values

Item	Parameter	Parameter type	Explanation	Value in MSCs
	PIX_T_acl	integer	Timer value	1 000 ms
	PIX_T_block	integer	Timer value	1 000 ms
	PIX_T_consreq	integer	Timer value	1 000 ms
	PIX_T_consend	integer	Timer value	1 000 ms
	PIX_T_lspid	integer	Timer value	1 000 ms
	PIX_T_reset	integer	Timer value	1 000 ms
	PIX_T_start	integer	Timer value	1 000 ms
	PIX_T_unblock	integer	Timer value	1 000 ms
	PIX_T_supervision	integer	supervision timer used for Timeout tests	5 sec

Annex B (informative): Test methods

B.1 Abstract test method for the RTMC protocol

This clause describes the Abstract Test Method (ATM) and the Point of Control and Observation (PCO) used to test the VB5.1 RTMC protocol for the AN and SN components.

The remote test method is used for VB5.1 RTMC conformance testing, since the VB5.1 implementations are not mandated to offer a direct access to the upper service boundary (i.e. to the "mee" service primitives). The co-ordination procedures can only be expressed in an informal way.

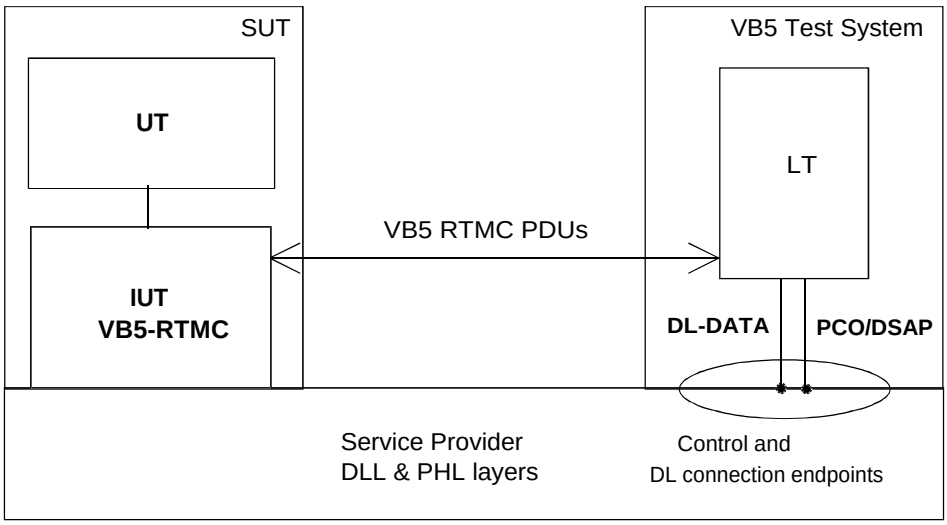


Figure B.1: Remote single layer test method applied to the VB5.1 RTMC testing

LT: A Lower Tester (LT) is located in the VB5.1 test system. It controls and observes the behaviours of the IUT.

DSAP: A unique Data link Service Access Point (DSAP) is defined at the VB5.1 interface and commonly used for exchanging service data of the RTMC protocol functional entities.

PCO: The PCO for RTMC testing is located on the DSAP. All test events at the PCO are specified in terms of data link Abstract Service Primitives (ASPs) and network layer PDUs.

UT: No explicit Upper Tester (UT) exists in the test system. However, the SUT needs to carry out some UT functions to achieve some effects of test co-ordination procedures. Designing ATS, the capability of the system management functions, such as controls of the IUT, its interactions with the Q3 interface may be taken into account. The controls of the IUT will be implied or informally expressed in the ATS, but no assumption shall be made regarding their feasibility or realization. An example of such controls could be to provoke start up of the IUT through the Q3 interface.

VB5-RTMC: The PDU conveying this information will be transferred to and from the tester via a single, dedicated virtual connection.

B.2 Scope of test purposes and additional testing

Behaviour which cannot be fully controlled and observed via the RTMC protocol alone, such as the checking of completion of certain actions of the system on the managed resources, has been included, when appropriate, in individual VB5.1 test purposes in an additional requirement section.

Taking the example of blocking, a need may arise to verify that the status of a resource has actually been changed, as specified in the standard, by checking that it can no longer be allocated to a call. This may require the execution of a call attempt via the signalling protocols at a UNI or NNI. Such test purposes are not testable in the scope of the RTMC protocol alone. An architecture has to be defined for system level tests requiring the combination of two or more interfaces or protocols. Such tests are outside the scope of the ATS for RTMC. The approach taken is to append a short description of such requirements to the related RTMC test purposes.

The actual testing of these requirements can only be performed if additional means are provided to access internal data which cannot be interrogated via RTMC procedures. One way of performing this is to use an ad-hoc tester loaded into the SUT, if available. This is not typically the case. A generic approach is to consider that any system of the Network Element type comprises several interfaces and protocols, each of which is first tested at the individual protocol level. These tests typically have to leave out a number of requirements which are not testable within a single protocol.

A second hierarchical level of testing (see fig. B2) could cover a substantial number of such requirements by checking interactions between two or more protocols which have passed individual conformance testing. This is however outside the scope of the present testing standard.

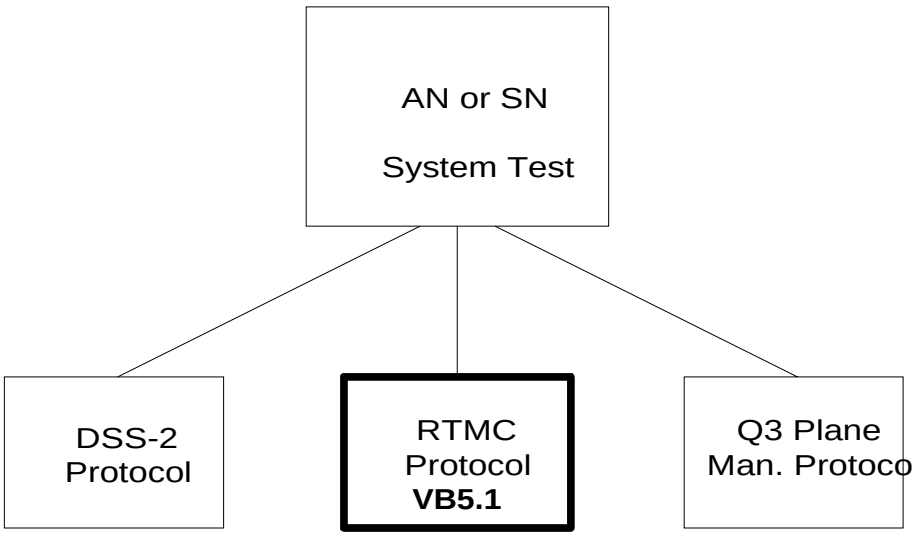


Figure B.2: Example of hierarchical test architecture applied beyond VB5.1 testing

NOTE: The example of blocking described above is an illustration of such an approach. It could also be applied in extending the testing of the Q3 management protocol beyond the mere reception of an acknowledgement at the Q3 interface: the full execution a blocking request issued from the Operation System could be checked via DDS-2 to verify that the resource is actually blocked, and via RTMC to verify that real time co-ordination between AN and SN has taken place.

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

History

Document history				
V1.1.1	June 1999	Public Enquiry	PE 9945:	1999-06-09 to 1999-11-05
V1.1.2	February 2000	Vote	V 200017:	2000-02-28 to 2000-04-28