TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU

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SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

SIGNALLING SYSTEM No. 7 - MTP LEVEL 3 TEST SPECIFICATION

ITU-T Recommendation Q.782

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.782 was revised by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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SIGNALLING SYSTEM No. 7 – MTP LEVEL 3 TEST SPECIFICATION

(Melbourne, 1988; modified at Helsinki, 1993)

1 Introduction

This Recommendation contains a set of detailed tests of Signalling System No. 7 MTP level 3 protocol. These tests intend to validate the protocol specified in Q.704 and Q.707 Recommendations. The level 3 performance aspects specified in Recommendation Q.706 are also partly checked whenever possible. This Recommendation conforms to the Recommendation Q.780. However, in addition to the objectives and guidelines of the latter Recommendation, other general principles specific to level 3 tests are presented below.

2 General principles of level 3 tests

2.1 Presentation of test descriptions

Each test description mentions the type of SP involved in the test. Three cases are possible:

test applicable to an SP having no STP function:

test applicable to an SP having STP function:

test applicable to all types of SPs:
 ALL.

Each test description includes the environment in which the point under test must be inserted in order to pass the test. Four test configurations are necessary (named A, B, C and D); they are presented in clause 3.

Each test is precisely described. Nevertheless, some events not directly concerning the point under test, or without direct link with the test nature, are not explicitly described. This is, for example, the case of TFPs propagation when a point becomes isolated, or of the changeover procedure in a test concerning transfer allowed procedure.

In order to preserve the test description implementation independence, a certain flexibility has been left in the test descriptions. This is particularly the case when it is necessary to deactivate a link (where it is only mentioned "Deactivate" with no more precision). The operator will choose, according to the implementation particularities and the events expected in the test description, the appropriate deactivation means (MML, provoked failure, etc.).

In the test descriptions, the signalling links are identified as follows: "number of linkset" – "number of link in the linkset" (e.g. 1-1 means link 1 of the linkset 1). This identification is independent of SLC attributed to these links. When the number of the link is X, that means that the concerned message can use any link of the linkset. When the field "number of link in the linkset" is, for example, "1, 2, . . .", that means that the traffic uses all indicated links. Finally, when the links are identified by the mention ALL, that means that the traffic will use all available links of the point.

The orders "Start traffic", "Wait" and "Stop traffic" apply to the test configuration. They are placed at the beginning of the line.

2.2 Presentation of the test list

These tests, as a whole, aim at a complete validation of the level 3 protocol without redundancies.

The test list is presented in clause 4. The national options and the various signalling link management "policies" are not included in this Recommendation.

The first set of tests in the list checks that, before some more precise tests, the point under test can perform the basic functions, i.e. can connect itself to the external environment and exchange signalling messages.

The second set basically validates the signalling message handling function of the point under test. A main point of this part concerns the validation of load sharing procedures. If an implementation does not use the load sharing between linksets, some tests would not be applicable, and other should be adapted.

The third and fourth sets check changeover and changeback procedures. They include tests like changeover and changeback to/from two linksets which will be performed only if the point under tests allows this possibility.

Rerouting procedures are checked using the tests in clauses 5 and 6.

Clause 7 concerns tests to check inhibition and uninhibition procedures. To limit the test numbers, it was not considered that the messages used in these procedures can be transferred via STPs.

Clause 8 concerns tests to check transfer controlled procedure and MTP user flow control for the international signalling network.

Clause 9 concerns tests to check signalling route management functions in a point having an STP function. To limit the test numbers and to avoid to complicate the test configuration, it was not considered that TFPs and TFAs can be transferred via STPs.

Clause 10 concerns tests for the point restart procedure.

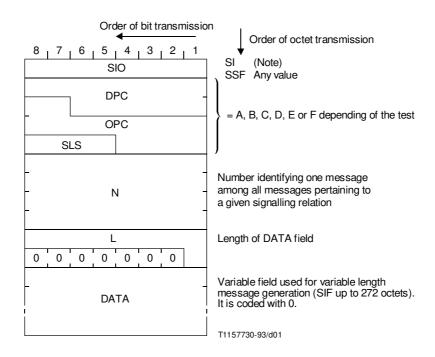
Clause 11 deals with STP traffic test.

Clause 12 checks the signalling link test procedure.

Finally, clause 13 contains solely validation tests and aims at checking the actions of the tested system on reception of invalid level 3 messages.

2.3 Test traffic

Running the tests described in this Recommendation requires the exchange of traffic between the point under test and its environment. The traffic used is a test traffic especially generated for the test of the system. It uses variable length messages, structured as described below:



The mechanisms of generation and reception of this test traffic may be internal to the point under test or external (using a simulator for example). The tests presented here do not impose the choice of one of these mechanisms except for the tests of the STP function itself (tests 2.7, 8.2, 10 and 11) where the test traffic is necessarily generated outside the STP. The test traffic should be recorded and analysed subsequently for each described test.

NOTE-For compatibility testing (CPT), use SI value for MTP testing user part, for validation testing (VAT) value is to be chosen as required.

3 Test configurations

3.1 Definition

The set of tests described in this Recommendation assumes that the point under test is inserted in a test environment called "test configuration". A **test configuration** is defined as being:

- a) the set of points, real or simulated, linked between them by signalling linksets, real or simulated, and of which some are connected to the point under test by one or several signalling linksets;
- b) the set of routing rules applied in different points and also in point under test;
- c) the flows of test traffic generated and received by
- d) a set of generation and reception means (see 2.3);
- e) the means (program, operator interface, etc.) to run the described tests; notably the possibilities of storage and analysis of test traffic and level 3 messages and, in the case of validation tests, the possibility to send at any stage of a test, any messages (level 3 or test) valid or not.

3.2 Presentation of test configurations

3.2.1 General

The set of tests described in this Recommendation requires 4 different configurations named A, B, C and D. For each test, only the three first aspects of the above definition are precisely defined (set of points, set of routing rules and test traffic flows, see 3.1).

3.2.2 Configuration A

This simple configuration is adapted to the validation of all procedures concerning only one or more signalling links belonging to one linkset. It is used for the tests

- of activation and deactivation of links;
- of changeover and changeback procedures;
- of inhibition and uninhibition of links;
- invalid messages.

Configuration A is shown in Figure 1.

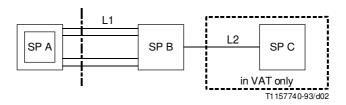


FIGURE 1/Q.782 Configuration A

Configuration A makes use of a point C in all validation tests in order to check the impact of the procedures on various traffic flows. Point C is not used in configuration A in the case of compatibility tests.

Linkset 1 has four signalling links in order to check, for example, changeover procedure to several links within a linkset (test 3.15).

In real networks, the procedures checked with this configuration act on the traffic carried in both directions of a link. Consequently, the flows of test traffic used are, regarding the routing label of messages:

- OPC = A, DPC = B and OPC = B, DPC = A
- OPC = A, DPC = C and OPC = C, DPC = A (in validation test only).

TABLE 1/Q.782

Routing rules in configuration A

 	A	В	С
A	-	L1	L1
В	L1	-	L2
С	L2	L2	-

3.2.3 Configuration B

Configuration B is adapted to the validation of all procedures concerning several signalling linksets. It is used for the tests

- of signalling message handling;
- of changeover and changeback;
- of forced and controlled rerouting.

Configuration B is shown in Figure 2.

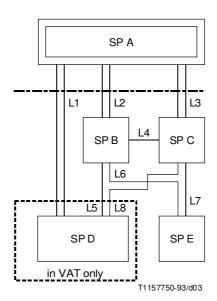


FIGURE 2/Q.782

Configuration B

In configuration B, Table 2, the point under test A is linked to the external world with 3 signalling linksets. This is the minimum required number of linksets in order to check

- load sharing between three linksets;
- changeover and changeback from/to two linksets (see 5.3.1/Q.704).

TABLE 2/Q.782

Routing rules in configuration B

——>	A	В	С	D	Е
A	-	L2, L3	L3, L2	L1-L2-L3	L2-L3
В	L2, L4	-	L4	L5, L4	L6, L4
С	L3, L4	L4	-	L8, L4	L7, L4
D	L1, L5, L8	L5, L8	L8, L5	_	Any
Е	L7, L6	L6, L7	L7, L6	Any	-

Li, Lj Li normal linkset and Lj alternative linkset

Li-Lj Load sharing between Li and Lj

When the SP A is an SP having no STP function, this configuration is also the minimum to run the tests in a network situation where associated mode and quasi-associated mode are used (see 3.1.2/Q.701).

This configuration comprises point D in all validation tests in order to check the impact of the procedures on various traffic flows (relations A-D and A-E). The point D is not used in configuration B in case of compatibility tests.

In a real network, some procedures (changeover, changeback) checked with this configuration act on the traffic in both directions on the concerned linksets. Consequently, the test traffic flows used are, regarding the routing label of messages:

- OPC = A, DPC = E and OPC = E, DPC = A
- OPC = A, DPC = D and OPC = D, DPC = A (in validation test only).

3.2.4 Configuration C

This configuration is adapted to the validation of some functions specific to an STP like

- message transfer function;
- sending of TFC;
- traffic test.

Configuration C is shown in Figure 3.

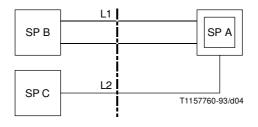


FIGURE 3/Q.782

Configuration C

In configuration C, Table 3, the point under test A carries the test traffic from B to C and from C to B. The linkset 1 has two links, this a minimum to create an overload situation to trigger the sending of TFC independently of the implementation of the flow control procedure.

TABLE 3/Q.782

Routing rules in configuration C

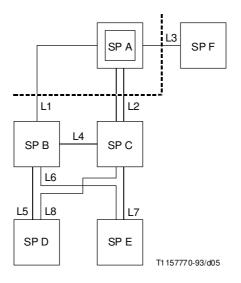
<u> </u>	A	В	С
A	-	L1	L2
В	L1	-	L1
С	L2	L2	_

The tests performed with this configuration require that the traffic crosses the STP under test in both directions. Consequently the test traffic flows are, regarding the routing label of messages:

3.2.5 Configuration D

This configuration is adapted to the validation of all procedures concerning exclusively the points having an STP function. It is used to check the signalling route management procedures.

Configuration D is shown in Figure 4.



NOTE - The SPs E, D and F have not STP function.

FIGURE 4/Q.782 Configuration D

Configuration D, Table 4, is used only to check the signalling route management: transfer prohibited and transfer allowed procedures. Consequently, all linksets of this configuration have only one signalling link.

TABLE 4/Q.782

Routing rules in configuration D

<u> </u>	A	В	С	D	E	F
A	-	L1, L2	L2, L1	L1, L2	L1, L2	L3
В	L1, L4	-	L4	L5, L4	L6, L4	L1
С	L2, L4	L4	-	L8, L4	L7, L4	L2
D		Any			A	ny
Е		Any			-	Any
F	L3	L3	L3	L3	L3	-

The STP under test is linked to the external world with three linksets: one terminal linkset (to an SP without STP function) and two inter STP linksets. This structure is minimal to check the various aspects of the broadcasting of TFPs and TFAs:

- TFPs or TFAs concerning several destinations;
- TFPs or TFAs to several destinations.

This configuration includes points D and E. This is necessary in order to check the sending of TFP on an alternative linkset: in A the routing rules are such that the linksets 1 and 2 are used to reach D using normal/alternative routing and to reach E using load sharing routing (sending of TFP in the first case and not in the second).

The tests performed with this configuration, which check the signalling route procedures, require that the test traffic uses the concerned signalling routes. The test traffic flows used in this Recommendation are, regarding the routing label messages:

OPC = F, DPC = D
 OPC = D, DPC = F
 OPC = F, DPC = E
 OPC = E, DPC = F
 OPC = A, DPC = D
 OPC = A, DPC = E
 OPC = A, DPC = F

4 Test list

All tests with the indication "*" are validation and compatibility tests. The tests without asterisk are validation test only.

- 1 Signalling link management
- * 1.1 First signalling link activation
- * 1.2 Signalling linkset deactivation
- * 1.3 Signalling linkset activation
 - 2 Signalling message handling
 - 2.1 Message received with an invalid SSF (discrimination function)
 - 2.2 Message received with an invalid DPC (discrimination function)
 - 2.3 Message received with an invalid SI (distribution function)
 - 2.4 Load sharing within a linkset
 - 2.4.1 All links available
 - 2.4.2 With one link unavailable
 - 2.5 Load sharing between linksets
- 2.5.1 Between two linksets
 - 2.5.2 Between three linksets
 - 2.5.3 Between three linksets and one route unavailable
 - 2.5.4 Between three linksets and one linkset unavailable

2.6 Inaccessible destination

- 2.6.1 Due to a linkset failure
- 2.6.2 Due to a route failure
- 2.6.3 Due to a linkset and route failures

2.7 Message transfer function

3 Changeover

- 3.1 Changeover initiated at one side of a linkset (COO <-> COA)
- 3.2 Changeover initiated at the both ends at the same time (COO <-> COO)
- 3.3 Changeover on expiration of timer T2 (COO or ECO \rightarrow –)
- 3.4 Unreasonable FSN in COO/COA
- 3.5 Reception of a changeover acknowledgement without sending a changeover order (- <- COA or ECA)
- 3.6 Reception of an additional changeover order ($\leftarrow COO$ or ECO)
- 3.7 Emergency changeover at one side of a linkset (COO <-> ECA)
- 3.8 Emergency changeover at one side of a linkset (COO <-> ECO)
- 3.9 Emergency changeover at one side of a linkset (ECO <-> COA)
- 3.10 Emergency changeover at one side of a linkset (ECO <-> ECA)
- 3.11 Emergency changeover at one side of a linkset (ECO <-> COO)
- 3.12 Emergency changeover initiated at the both ends at the same time (ECO <-> ECO)
- 3.13 Reactivation of a link during a changeover procedure
- 3.14 Simultaneous changeover
- 3.15 Changeover to several alternative links within a linkset
- 3.16 Changeover to another linkset with the adjacent SP accessible
- 3.17 Changeover to another linkset with the adjacent SP inaccessible
- 3.18 Changeover to two linksets
- 3.19 Changeover due to various reasons
- 3.20 Changeover as compatibility test
- 3.21 Reception of a changeover order on an available link

4 Changeback

- 4.1 Changeback within a linkset
 - 4.2 Additional CBA
 - 4.3 Additional CBD
 - 4.4 No acknowledgement to first CBD
 - 4.5 No acknowledgement of repeat changeback declaration
 - 4.6 Simultaneous changeback
 - 4.7 Changeback from several alternative links within a linkset
- 4.8 Changeback from another linkset
- 4.9 Changeback from two linksets
- 4.10 Changeback due to various reasons
- 4.11 Time controlled diversion procedure
- * 5 Forced rerouting
- 6 Controlled rerouting
 - 7 Management inhibiting
 - 7.1 Inhibition of a link
 - 7.1.1 Available link
- 7.1.2 Unavailable link
 - 7.2 Inhibition not permitted
- * 7.2.1 Local reject on an available link
 - 7.2.2 Local reject on an unavailable link
 - 7.2.3 Sending of LID
 - 7.2.4 Reception of LID

- 7.3 Expiration of T14
 - 7.3.1 On an available link
 - 7.3.2 On an unavailable link
- 7.4 Additional inhibition messages (LIA, LID, LIN)
- 7.5 Inhibition asked by the both ends
- 7.6 Manual uninhibition of a link
 - 7.6.1 With changeback
 - 7.6.2 Without changeback
- 7.7 Expiration of T12
- 7.8 Not possible uninhibition
 - 7.9 Automatic uninhibition of a link
 - 7.10 Forced uninhibition of a link
 - 7.10.1 Sending of LFU
 - 7.10.2 Reception of LFU
 - 7.11 Expiration of T13
 - 7.12 Additional uninhibition messages (LUA, LUN, LFU)
 - 7.13 Uninhibition at one side after test 7.5
 - 7.14 Automatic uninhibition after test 7.5
 - 7.15 Automatic uninhibition when two links are inhibited
 - 7.16 Reception of traffic on an inhibited link
 - 7.17 Management inhibiting test
 - 7.17.1 Normal procedure
 - 7.17.2 Reception of an LLT or LRT on an uninhibited link
 - 7.17.3 Reception of an LLT on a link locally inhibited
 - 7.17.4 Reception of an LRT on a link remotely inhibited
 - 8 Signalling traffic flow control
 - 8.1 Reception of a TFC
 - 8.2 Sending of TFCs
 - 8.3 Reception of an UPU
 - 8.4 Sending of an UPU
 - 9 Signalling route management
 - 9.1 Sending of a TFP on an alternative route
 - 9.1.1 Failure of normal linkset
 - 9.1.2 On reception of a TFP
 - 9.2 Broadcast of TFPs
 - 9.2.1 On one linkset failure
 - 9.2.2 On multiple failures
 - 9.3 Reception of a message for an unaccessible destination
 - 9.4 Sending of a TFA on an alternative route
- 9.4.1 Recovery of normal linkset
- 9.4.2 On reception of a TFA

- 9.5 Broadcast of TFAs
- 9.5.1 On one linkset recovery
 - 9.5.2 Various reasons
 - 9.6 Periodic sending of signalling-route-set-test messages
 - 9.7 Reception of signalling-route-set-test messages
 - 10 Signalling point restart
 - 10.1 Recovery of a linkset (SP A has not the STP function)
 - 10.1.1 With use of point restart procedure
 - 10.1.2 Without use of point restart procedure
 - 10.2 Recovery of a linkset (SP A has the STP function)
 - 10.2.1 With use of point restart procedure
 - 10.2.2 Without use of point restart procedure
 - 10.3 An adjacent signalling point becomes accessible via another signalling point (SP A has not STP function)
 - 10.4 An adjacent signalling point becomes accessible via another signalling point (SP A has STP function)
- * 10.5 Restart of an SP having no STP function
- * 10.6 Restart of an SP having STP function
 - 10.7 Reception of an unexpected TRA
 - 10.7.1 In an SP having no STP function
 - 10.7.2 In an SP having STP function
 - 11 Traffic test
 - 12 Signalling link test
 - 12.1 After activation of a link
 - 12.2 No acknowledgement to first SLTM
 - 12.3 No acknowledgement to second SLTM
 - 12.4 Unreasonable field in an SLTA
 - 12.5 Reception of an SLTM in an attempt state
 - 12.6 Additional SLTA, SLTM
 - 13 Invalid messages
 - 13.1 Invalid H0.H1 in a signalling network management message
 - 13.2 Invalid changeover messages
 - 13.3 Invalid changeback messages
 - 13.4 Invalid changeback code
 - 13.5 Invalid inhibition messages
 - 13.6 Invalid transfer control messages
 - 13.7 Invalid signalling route management messages
 - 13.8 Invalid signalling-route-set-test messages
 - 13.9 Invalid traffic restart allowed message
 - 13.10 Invalid H0-H1 in a signalling network testing and maintenance message
 - 13.11 Invalid signalling link test messages
 - 13.12 Invalid user part unavailable messages

TEST NUMBER: 1.1				PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 3 Fig	g. 7, Fig. 36, Fig. 37, Fig. 3	8		
TITLE: S	Signalling link management				
SUBTITL	E: First signalling link activation	ion			
PURPOSE	E: To put into service a signall	ing linkset with 1 signallin	g link		
PRE-TES	Γ CONDITIONS: Signalling	links deactivated			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT, CPT	TYPE OI	F SP: ALL
MESSAG	E SEQUENCE:				
	SP A				SP B
Link			Link		
LIIIK			1 – 1		:Activate
1 – 1	:Activate				
		<	1 – 1	SLTM	
1 – 1	SLTA	>			
1 – 1	SLTM	>			
		<	1 – 1	SLTA	
:Start traf	fic				·
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
:Wait					
:Stop traf	fic				
TEGT DE					
TEST DE	EST DESCRIPTION				
1.	Check that the signalling link	becomes available.			
2.	Check the reception and sendi of this linkset (and, in case of	ing of variable length mess VAT, from/to other SP cro	ages on the actions of the SP at	vated linkset from/to the other end of this link	e SP at the other end kset).
3.	Check that, after the alignmen	nt, the level 2 does not send	any message re	eceived before or during	the deactivation.
4.	Check that all messages are co	orrectly received (no loss o	f messages, no d	luplication and no misse	equencing).
5.	Stop traffic.				
6.	Repeat the test with different	SLC values.			

TEST NUI	MBER: 1.2			PAGE: 1 of 1	
REFEREN	CE: Q.704 clause 3 Fig	g. 7, Fig. 36, Fig. 37, Fig. 38			
TITLE: Si	gnalling link management				
SUBTITLE	E: Signalling linkset deactivat	ion			
PURPOSE	To remove from service a si	gnalling linkset with 1 signalling link	ζ		
PRE-TEST	CONDITIONS: One signal	ling link (1 – 1) activated			
CO	NFIGURATION: A	TYPE OF TEST: VAT, CF	Υ	TYPE OF SP: ALL	
MESSAGE	SEQUENCE:				
	SP A			SP B	
Link			Link		
1 – 1	:Deactivate				
TEST DESCRIPTION					
1.	Check that the signalling link	set becomes unavailable.			

PAGE: 1 of 1 TEST NUMBER: 1.3 REFERENCE: Q.704 clause 3, subclause 12.2.4.1 Fig. 7, Fig. 36, Fig. 37, Fig. 38 TITLE: Signalling link management SUBTITLE: Signalling linkset activation PURPOSE: To put into service a signalling linkset with 4 signalling links PRE-TEST CONDITIONS: Signalling links deactivated TYPE OF TEST: VAT, CPT TYPE OF SP: ALL CONFIGURATION: A MESSAGE SEQUENCE: SP A SP B Link Link 1 - 1:Activate 1 - 1:Activate 1 - 2:Activate 1 - 2:Activate :Activate 1 - 31 - 3:Activate 1 - 4:Activate :Activate 1 - 4:Start traffic 1 - 1**TRAFFIC** ----> <-----**TRAFFIC** 1 - 1.____> 1 - 2**TRAFFIC** <-----**TRAFFIC** 1 - 21 - 3**TRAFFIC** <-----1 - 3**TRAFFIC TRAFFIC**> 1 - 4TRAFFIC 1 - 4:Wait :Stop traffic NOTE - This test describes the activation of a linkset. The signalling link activation order is given simultaneously to all signalling links of the signalling linkset (see 12.2.4.1/Q.704). However, depending on in which order the links are getting aligned, changeback procedures will be performed. This test does not describe the transitory states (changeback procedure is checked in other tests). TEST DESCRIPTION 1. Check that the signalling links become available and start traffic between A and B (and A and C in VAT). 2. Check the reception and sending of variable length messages on the activated linkset from/to the SP at the other end of this linkset (and, in case of VAT, from/to other SP crossing the SP at the other end of this linkset). 3. Check that, after the alignment, the level 2 does not send any message received before or during the deactivation. 4. Check that all messages are correctly received (no loss of messages, no duplication and no missequencing). 5. Stop traffic.

TEST NU	JMBER: 2.1		PAGE: 1 of 1		
REFEREN	NCE: Q.704 clause 3 Fig	. 24, subclause 2.4			
TITLE: S	Signalling message handling				
SUBTITL	E: Message received with an i	nvalid SSF (discrimination function	1)		
PURPOSI	E: To check the response to a r	nessage with an invalid SSF			
PRE-TES	Γ CONDITIONS: Signalling	linkset activated			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	1	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			·	
	SP A			SP B	
Link			Link		
Lilik			1 – 1	:Invalid SLTM	
				(invalid SSF)	
				<u>. </u>	
TEST DE	TEST DESCRIPTION				
1.	Send an SLTM with an errone	eous SSF.			
2.	Check that no response is rece	eived.			

TEST NU	UMBER: 2.2		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 2 Fig	z. 24, Fig. 26		
TITLE: S	Signalling message handling			
SUBTITL	E: Message received with an i	nvalid DPC		
PURPOSE	E: To check the response to a r	nessage with an invalid DPC		
PRE-TEST	Γ CONDITIONS: Signalling	linkset activated		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAGI	E SEQUENCE:			
	SP A		SP B	
Link		Link		
Link		< 1 – 1	:Invalid ECO	
1 – 1	TFP	> (only if the t	(erroneous DPC) tested point A has an STP function)	
		, , , , , , , , , , , , , , , , , , ,	,	
TEST DESCRIPTION				
1.	Send a ECO message with an	erroneous DPC.		
2.	Check that no response is received if the tested point has not STP function. If the tested point has the STP function, check that a TFP is received.			

TEST NU	JMBER: 2.3		PAGE: 1 of 1		
REFERE	NCE: Q.704 subclause 2.4	Fig. 24, Fig. 25			
TITLE: S	Signalling message handling				
SUBTITL	E: Message received with an o	erroneous SI (distribution function)			
PURPOSI	E: To check the response to a r	message received with an erroneous	SI		
PRE-TES	T CONDITIONS: Signalling	linkset activated			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	ſ	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
Lilik			1 – 1	:Invalid SLTM	
				(invalid SI)	
TEST DE	TEST DESCRIPTION				
1.	Send an SLTM message with				
2.	Check that no response is reco	eived.		į	

TECT NI	IMPED: 2.4.1	DACE: 1 of 1		
IESI NU	JMBER: 2.4.1		PAGE: 1 of 1	
REFEREN	NCE: Q.704 Fig. 26; sub	oclause 2.3 Q.705 subclause 4.4		
TITLE: S	Signalling message handling			
SUBTITL	E: Load sharing within a link	set – All links available		
PURPOSE	E: To check the load sharing v	within a linkset with all the links available		
PRE-TES	Γ CONDITIONS: Signalling	linkset activated		
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			
	SP A		SP B	
Link		Link		
:Start traff				
1 – 1		>		
		< 1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>		
		< 1 − 2	TRAFFIC	
1 – 3	3 TRAFFIC	>		
		< 1 – 3	TRAFFIC	
1 – 4	4 TRAFFIC	>		
		< 1 − 4	TRAFFIC	
:Wait				
:Stop traf	пс			
TEST DESCRIPTION				
1.	Start traffic to B (and C in VAT) for all SLS.			
2.		essages have been transmitted on the corre	ct link in accordance with the SLS field.	
3.	Check that there was no loss of messages, no duplication and no missequencing.			
-				

TEST NU	JMBER: 2.4.2			PAGE: 1 of 1	
REFERE	REFERENCE: Q.704 Fig. 26; subclause 2.3 Q.705 subclause 4.4				
TITLE: S	Signalling message handling				
SUBTITL	E: Load sharing within a links	set – One link unavailable			
PURPOSI	E: To check the load sharing w	vithin a linkset when one link is	unavailable		
PRE-TES	T CONDITIONS: Signalling	link 1 – 3 deactivated			
CO	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	-		Link		
:Start traff			LIIK		
1 – 1	I TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>			
1 – 4	4 TRAFFIC	<>	1 – 2	TRAFFIC	
1 - 2	+ IRAFFIC	< <i>></i>	1 – 4	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DE	TEST DESCRIPTION				
1.	Start the traffic to B and C for	r all SLS, wait and stop.			
2.	Check that the messages have links.	e been transmitted on the correc	t link in acco	ordance with the SLS field on the remaining	

TEST NUMBER: 2.5.1 PAGE: 1 of 1 REFERENCE: Q.704 Fig. 26; subclause 2.3 Q.705 subclause 4.4 TITLE: Signalling message handling SUBTITLE: Load sharing between linksets – Between two linksets PURPOSE: To check the load sharing between two linksets under normal conditions PRE-TEST CONDITIONS: All linksets and routes available CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP E SP A SP B SP C Link Link Link Link :Start traffic TRAFFIC -----> 7-1 -----> 3 - 1<----- 7-1</pre> **TRAFFIC** TRAFFIC -----> 7-1 -----> 3 - 2TRAFFIC 2 - 1TRAFFIC -----> 6-1 -----> TRAFFIC -----> 6-1 -----> 2 - 2:Wait :Stop traffic TEST DESCRIPTION 1. Start the traffic to E for all SLS. 2. Stop the traffic and check that the messages have been transmitted on the correct linkset in accordance with the SLS and DPC. Check that there was no loss of messages, no duplication and no missequencing. 3.

TEST NU	JMBER: 2.5.2		1	PAGE: 1 of 1	
REFEREN	REFERENCE: Q.704 Fig. 26; subclause 2.3 Q.705 subclause 4.4				
TITLE: S	Signalling message handling				
SUBTITL	E: Load sharing between link	sets – Between three linksets			
PURPOSE	E: To check the load sharing b	between three linksets under nor	mal conditior	ns	
PRE-TES	Γ CONDITIONS: All linkset	s and routes available			
CC	ONFIGURATION: B	TYPE OF TEST: \	VAT	TYPE	OF SP: ALL
MESSAG	E SEQUENCE:				
	SP A	SP B	SP C	;	SP D
Link		Link Li	nk	Link	
:Start traff		Ellik El	iik		
1 – 1	TRAFFIC			>	
	<			1 – 1	TRAFFIC
1 – 2	TRAFFIC			>	
	<			1 – 2	TRAFFIC
3 – 1	TRAFFIC	> 8 –	1	>	
3 – 2		·····> 8 –			
2 – 1		·····> 5-1 ······			
2 – 2	2 TRAFFIC	·····> 5-1 ······		>	
:Wait :Stop traf	Fi.o.				
.Stop tran	nc				
TEST DE	SCRIPTION				
1.	Start the traffic to D for all S	LS.			
2.	Stop the traffic and check the accordance with the SLS.	at the messages have been trans	smitted on the	e correct linkset and	d on the correct link in
3.	Check that there was no loss	of messages, no duplication and	no misseque	ncing.	

TEST NU	MBER: 2.5.3		PAGE: 1 of 1	
REFEREN	NCE: Q.704 Fig. 26; su	bclause 2.3 Q.705 subclause 4.4		
TITLE: S	Signalling message handling			
SUBTITL	E: Load sharing between linl	csets – Between three linksets and one route	e unavailable	
PURPOSE	E: To check the load sharing	between three linksets when one route is un	available	
PRE-TES	Γ CONDITIONS: Linksets 4	and 8 unavailable (TFP, PC = D from C to	A)	
CC	ONFIGURATION: B	TYPE OF TEST: VAT	TYPE	OF SP: ALL
MESSAGI	E SEQUENCE:			
	SP A	SP B SP	С	SP D
Link			Link	
:Start traff		Link Link	Lilik	
1 – 1			>	
	<		1 – 1	TRAFFIC
1 – 2			•	
2 – 1		> 5 – 1		TRAFFIC
2 - 2		······> 5 - 1 ······		
:Wait				
:Stop traff	fic			
TEST DE	SCRIPTION			
1.	Start the traffic for all SLS,	wait and stop.		
2.		a C has been shared on the remaining links	ets.	

TEST NU	UMBER: 2.5.4		PAGE: 1 of 1		
REFEREN	REFERENCE: Q.704 Fig. 26; subclause 2.3 Q.705 subclause 4.4				
TITLE: S	Signalling message handling				
SUBTITL	E: Load sharing between linl	ksets – Between three linksets and one links	set unavailable		
PURPOSE	E: To check the load sharing	between two linksets after the unavailability	y of the third linkset		
PRE-TES	Γ CONDITIONS: Linkset 1	deactivated			
CO	ONFIGURATION: B	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAG	E SEQUENCE:				
	SP A	SP B SP C	SP D		
Link		***	Link		
:Start traff		Link Link	Lilik		
.Start train 3 – 1		> 8 – 1	>		
3 – 2		·····> 8-1 ·····			
2 – 1		······> 5-1			
		2 – 1 <			
2 - 2		·> 5-1			
		······ 2 – 2 <			
:Wait					
:Stop traffic					
•					
TEST DESCRIPTION					
1.	Start the traffic for all SLS to	D, wait and stop.			
2.	Check that the traffic has been	en shared on the remaining linksets.			

TEST NU	JMBER: 2.6.1		PAGE: 1 of 1
REFEREN	NCE: Q.704 Fig. 26		
TITLE: S	Signalling message handling		
SUBTITL	E: Inaccessible destination –	Due to a linkset failure	
PURPOSE	E: To check the signalling mes	ssage handling when a destination becomes	inaccessible due to a linkset failure
PRE-TES	Γ CONDITIONS: Signalling	linkset with one link available	
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:		
	SP A		SP B
I :1.		T :nl.	
Link		Link	
:Start traff		>	
1 – 1	TRAFFIC	< 1 – 1	TRAFFIC
1 – 1	:Deactivate	\	TRAFFIC
	.Deactivate		
TEST DE	SCRIPTION		
1.	Start the traffic for all SLS to	B and C.	
2.	Deactivate the last link 1 – 1	and check that the linkset becomes unavail	able.
3.	Check that the SPs B and C b	ecome inaccessible.	
4.	Check that all messages store	d or received after the unavailability of the	linkset are discarded.

TEST NU	JMBER: 2.6.2		PAGE: 1 of 1
REFEREN	NCE: Q.704 Fig. 26		
TITLE: S	Signalling message handling		
SUBTITL	E: Inaccessible destination – I	Due to a route failure	
PURPOSE	E: To check the signalling mes	sage handling when a destination become	nes inaccessible on reception of a TFP
PRE-TES	Γ CONDITIONS: All links ar	nd routes available	
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:		
	SP A		SP B
Link		Lin	
:Start traff		Lili	
:Start train 1 – 1		>	
1-1	IRATIC	<	1 TRAFFIC
1 – 2	2 TRAFFIC	>	THURTTE.
		< 1 -	2 TRAFFIC
1 – 3	3 TRAFFIC	>	
		< 1 -	3 TRAFFIC
1 – 4	TRAFFIC	>	
		< 1 -	4 TRAFFIC
		< 1 – i	X TFP, PC = C
TEST DE	SCRIPTION		
1.	Start the traffic to B and C for	all SLS.	
2.		(PC = C) from SP B to SP A.	
3.	Check that the SP C becomes	s inaccessible.	
4.	Stop traffic.		
5.	Check that all messages store	d or received after the inaccessibility ha	ve been discarded.
6.	Check that traffic to B has not been disturbed.		

TEST NU	MBER: 2.6.3			PAGE: 1 of 1	
REFEREN	REFERENCE: Q.704 Fig. 26				
TITLE: S	TITLE: Signalling message handling				
SUBTITL	E: Inaccessible destination – Γ	Oue to a linkset and a route	failure		
PURPOSE: To check the signalling message handling when a destination becomes inaccessible due to a linsket and a route failure					
PRE-TEST CONDITIONS: Linkset 4 unavailable					
CC	ONFIGURATION: B	TYPE OF TES	T: VAT	TYPE OF SP: ALL	
MESSAGI	E SEQUENCE:				
	SP A		SP B	SP C	
Link		Link		Link	
:Start traff	ic				
1 – 1,	2 TRAFFIC	<		> SP D	
3 – 1	TRAFFIC			102 41102	
3 – 2	TRAFFIC	<<		To D and E	
2 – 1	TRAFFIC	>	To D and E	· ,	
2 - 2	TRAFFIC	>	To D and E		
		<		7-1:Deactivate $3-X$ TFP, PC = E	
2 – 1	TRAFFIC	<>	To D and E 2 – 1 TRAFFIC (from E)		
2 - 2	TRAFFIC	>	To D and E		
		<	2 – 1 TRAFFIC (from E)		
2 - 1	:Deactivate				
2 - 2					
1 - 1,	2 TRAFFIC	<		> SP D	
:Wait					
:Stop traffi	c				
	the transitory states (signalling message handling.	network management proc	cedures) are not d	escribed in this test which checks only the	
TEST DE	SCRIPTION				
1.	Start the traffic to the SPs D a	nd E for all SLS.			
2.	Initiate the sending of a TFP (the traffic to D is not disturbed		A, check that the	e traffic to E is routed via B and check that	
3.	Deactivate the linkset 2 and cl	neck that the destination E	becomes inaccess	sible. Stop traffic.	
4.	Check that all messages stored or received during the inaccessibility have been discarded.				

TEST NU	JMBER: 2.7		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 2 Fig	g. 26		
TITLE: S	Signalling message handling			
SUBTITL	E: Message transfer function			
PURPOSI	E: To test the transfer function	n in an STP		
PRE-TES	T CONDITIONS: All links a	vailable		
CO	ONFIGURATION: C	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:		-	
	SP B	SP	A SP C	
Link Link Link Start traffic 1 – 1, 2 TRAFFIC				
TEST DESCRIPTION				
1.	Start traffic between B and C	in both directions via A.		
2.	Check that transfer function i	s correctly performed.		
3.	Stop traffic and check that the information field of these means	here were no loss of messages, no duplica ssages has not been corrupted.	ation and no missequencing. Check that the	

TEST NU	MBER: 3.1		PAGE: 1 of 1	
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30				
TITLE: C	Changeover			
SUBTITL	E: Changeover initiated at one	e side of a linkset (COO <-> COA)		
PURPOSE	: To check the normal change	over procedure		
PRE-TES	Γ CONDITIONS: Linkset wit	th two available links		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			
	SP A		SP B	
Link		Link		
:Start traff	ic			
1 – 1	TRAFFIC	>		
		< 1 – 1	TRAFFIC	
1 - 2	TRAFFIC	>		
		< 1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML o	command or failure)		
1 – 2	COO, SLC 1 – 1	>		
		< 1 – 2	COA, SLC 1 – 1	
1 – 2	. TRAFFIC	>	,	
1 – 2	(from 1 – 1)			
		< 1 – 2	TRAFFIC (from 1 – 1)	
:Wait			(
:Stop trafi	fic			
1				
TEST DE	SCRIPTION			
1.	Start traffic to B and C on all	the links.		
2.	Deactivate link 1 – 1, check the	hat a COO is sent (from A) for 1 – 1 on 1 -	- 2 and respond with a COA within T2.	
3.	Check that the time between Recommendation Q.706).	n the deactivation and the sending of the	he COO is inside the specified value (see	
4.	Check that the traffic from line passed over to $1-2$.	nk $1 - 1$ is changed over to $1 - 2$ and chec	k that the traffic normally carried by $1 - 2$ is	
5.	Stop traffic and check it has b	een received correctly (no lost messages no	o duplication and no missequencing).	
6.	Repeat the test by sending the COO from B (instead of A). In addition, check that the time between the reception of the COO and the sending of the COA is inside the specified value (see Recommendation Q.706).			

TEST NU	JMBER: 3.2			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30	<u>,</u>		
TITLE: (Changeover				
SUBTITL	E: Changeover initiated at bot	h ends at the same time (COO <->	COO)		
PURPOSE	E: To check the changeover pro	ocedure when the changeover is in	itiated at	the both ends simultaneously	
PRE-TES	Γ CONDITIONS: Linkset wit	h two available links			
CC	ONFIGURATION: A	TYPE OF TEST: VA	Т	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	i.		Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 - 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML o	command or failure)			
1 – 2		>			
	,	<	1 – 2	COO (SLC 1 – 1)	
1 – 2	2 COA (SLC 1 – 1)	>			
		<	1 – 2	COA (SLC 1 – 1)	
1 – 2	2 TRAFFIC	· >	1 2	CON (SEC 1 1)	
1 – 2	(from 1 – 1)				
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start the traffic to B and C on	all the links.			
2.	Deactivate the link $1 - 1$, chec	ck that the COOs and COAs for 1	– 1 are re	eceived on link 1 – 2.	
3.	Check that the traffic from lin	k 1 - 1 changed over to $1 - 2$ and s	stop trafi	fic.	
4.	Repeat the test without sending	g of COA from SP B to SP A.			

TEST NU	JMBER: 3.3				PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause	e 5 Fig	g. 28, Fig. 29, Fig. 30			
TITLE: C	Changeover					
SUBTITL	E: Changeover on	expiration of	of timer T2 (COO or ECO –>	· –)		
PURPOSE	E: To check the ch	angeover pr	ocedure when no COA is rec	eived in respo	onse of a COO previously sent	
PRE-TES	Γ CONDITIONS:	Linkset wit	th two available links			
CO	ONFIGURATION:	A	TYPE OF TEST	: VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:					
		SP A			SP B	
Link	:			Link		
:Start traff	ïc					
1 – 1	TRAFFIC	C	>			
			<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	2	>			
			<	1 – 2	TRAFFIC	
1 – 1	:Deactiv	ate (MML	command or failure)			
1 – 2	COO, SL	.C 1 – 1	>			
		T2				
1 – 2			>			
	(from 1 –	- 1)				
			<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait :Stop traf	fic					
.Stop tran	iic					
TEST DE	SCRIPTION					
1.	Start traffic to B a	and C on all	the links.			
2.	Deactivate link 1	- 1, check t	hat a COO is received for 1 -	– 1 on link 1 –	- 2.	
3.	After the expiration	on of T2, ch	eck that the changeover proc	edure is perfo	rmed.	
4.	Check that the du	ration of T2	is inside the specified range			
5.	Stop traffic and cl should not perform	neck that the m retrieval.	ere was no duplication and no	o missequencii	ng, some messages may be lost as the system	
6.	Repeat the test but replacing COO by ECO.					

TEST NU	UMBER: 3.4			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30			
TITLE: C	Changeover				
SUBTITL	E: Unreasonable FSN in COO	/COA			
PURPOSE	E: To check the changeover pro	ocedure on reception of a COO	/COA conta	ining an unreasonable FSN	
PRE-TEST	PRE-TEST CONDITIONS: Linkset with two available links				
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAGI	E SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML c	ommand or failure)			
1 – 2	COO, SLC 1 – 1	>			
		<	1 – 2	COA, SLC 1 – 1 (unreasonable FSN)	
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traff	fic				
TECT DE	SCRIPTION				
1.	Start traffic to B and C on all	the links			
2.			1 on link	1 − 2 and respond within T2 with a COA	
۷.	containing an unreasonable FS		- 1 OII IIIIK	1 – 2 and respond within 12 with a COA	
3.	Stop traffic, check that the cha	ingeover procedure has been p	erformed.		
4.	Check that there was no dupl perform retrieval.	ication and no missequencing	. Some mes	ssages may be lost as the system should not	
5.	Check that an indication is give	en by the system.			
6.	Repeat the test with a COO sent from B (instead COA) containing an unreasonable FSN.				

TEST NU	JMBER: 3.5	PAGE: 1 of 1					
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30							
TITLE: Changeover							
SUBTITLE: Reception of a changeover acknowledgement without sending a changeover order (- <- COA or ECA)							
PURPOSE: To check the changeover procedure on reception of an unexpected changeover acknowledgement							
PRE-TEST CONDITIONS: Linkset with two available links							
CONFIGURATION: A		TYPE OF TEST: VAT		TYPE OF SP: ALL			
MESSAGE SEQUENCE:							
SP A SP B							
I inle			Link				
Link			Link				
:Start traff		>					
1-1	IMITIC	<	1-1	TRAFFIC			
1 – 2	2 TRAFFIC	>					
		<	1 – 2	TRAFFIC			
		<	1 – 2	COA, SLC 1 – 1			
1 – 1	TRAFFIC	>					
		<	1 – 1	TRAFFIC			
1 - 2	2 TRAFFIC	>					
		<	1 – 2	TRAFFIC			
:Wait							
:Stop traffic							
1.	DESCRIPTION State of the Providence of the Prov						
2.	Start traffic to B and C on all the links. Send a COA for 1 – 1 on link 1 – 2, check that this message is ignored.						
3.	Stop traffic and check that it has been received correctly.						
4.	Repeat the test with an ECA instead of a COA.						
<u>.</u>	-						

TEST NUMBER: 3.6				PAGE: 1 of 1			
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30							
TITLE: Changeover							
SUBTITLE: Reception of an additional changeover order (- <- COO or ECO)							
PURPOSE: To check the action of the system when a changeover order relating to a particular link is received after completion of changeover							
PRE-TEST CONDITIONS: Linkset with only the link 1 – 2 available							
CONFIGURATION: A		TYPE OF TEST: VAT		TYPE OF SP: ALL			
MESSAGE SEQUENCE:							
	SP A			SP B			
Link	3		Link				
:Start traff							
1 - 2		>					
		<	1 – 2	TRAFFIC			
		<	1 – 1	COO, SLC 1 – 1			
1 - 2	2 ECA, SLC 1 – 1	>					
1 - 2	2 TRAFFIC	>					
		<	1 – 2	TRAFFIC			
:Wait							
:Stop traffic							
	DESCRIPTION						
1.	Start traffic to B and C on link 1 – 2.						
2.	Send a COO for 1 – 1 on link 1 – 2 and check that an ECA is received in T2.						
3. 4.	Stop traffic and check that it has been received correctly. Repeat the test with an ECO instead of a COO.						
₹.	Repeat the test with an ECO	mstead of a COO.					

TEST NU	JMBER: 3.7			PAGE: 1 of 1
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30		
TITLE: C	Changeover			
SUBTITL	E: Emergency changeover at o	one side of a linkset (COO <	> ECA)	
PURPOSE	E: To check the emergency cha	ingeover procedure when a Co	OO is acknow	rledged by an ECA
PRE-TES	Γ CONDITIONS: Linkset wit	h two available links		
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:			
	SP A			SP B
Link	<u>.</u>		Link	
:Start traff	ïc			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 – 2	2 TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 1	:Deactivate (MML o	command or failure)		
1 – 2	2 COO, SLC 1 – 1	>		
		<	1 – 2	ECA, SLC 1-1
		<	1 – 2	TRAFFIC (from 1 – 1)
1 – 2	TRAFFIC (from 1 – 1)	>		
:Wait				
:Stop traf	fic			
TEST DE	ESCRIPTION			
1.	Start traffic to B and C on all	links.		
2.	Check the sending of a COO	(from A) for 1 - 1 on 1 - 2 and 1 - 2 on 1 - 2	d check that	an ECA is sent inside T2.
3.	Check that the traffic is chang	ted over from $1-1$ to $1-2$.		
4.	Stop traffic and check that it he be lost as the system should n	nas been received correctly; not perform retrieval.	o duplication	and no missequencing. Some messages may
5.	Repeat the test by sending CC	OO from B (instead of A).		

TEST NU	UMBER: 3.8			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	g. 28, Fig. 29, Fig. 30			
TITLE: C	Changeover				
SUBTITL	E: Emergency changeover at o	one side of a linkset (COO <	> ECO)		
PURPOSE	E: To check the emergency cha	angeover procedure when a Co	OO is acknow	vledged by an ECO	
PRE-TES	Γ CONDITIONS: Linkset wit	th two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML o	command or failure)			
1 - 2	COO, SLC 1 – 1	>			
		<	1 – 2	ECO, SLC 1 – 1	
1 - 2	COA, SLC 1 – 1	>			
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all	links.			
2.	Check the sending of a COO COA is received.	(from A) for $1 - 1$ on $1 - 2$	and check the	at an ECO is sent (before T2 expires) and a	
3.	Check that the traffic is changed over from $1 - 1$ to $1 - 2$.				
4.	Stop traffic and check that it le be lost as the system should n		o duplication	and no missequencing. Some messages may	
5.	Repeat the test but send COO	from B (instead of A).			

TEST NU	JMBER: 3.9			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig. 23	8, Fig. 29, Fig. 30			
TITLE: C	Changeover				
SUBTITL	E: Emergency changeover at one	side of a linkset (ECO <->	COA)		
PURPOSE	E: To check the emergency change	eover procedure when an E	CO is acknow	wledged by a COA	
PRE-TES	T CONDITIONS: Linkset with t	wo available links			
CO	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	i.		Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (failure)				
1 – 2	2 ECO, SLC 1 – 1	>			
		<	1 – 2	COA, SLC 1 – 1	
		<	1 – 2	TRAFFIC (from 1 – 1)	
1 – 2	TRAFFIC (from 1 – 1)	>			
:Wait					
:Stop traf	fic				
TEST DI	ESCRIPTION				
1.	Start traffic to B and C on all lin	ks.			
2.	2. Check that an ECO is received for 1 − 1 on 1 − 2 and that a COA is sent before T2 expires.				
3.	Check that traffic is changed ove	er from $1 - 1$ to $1 - 2$.			
4.	Stop traffic and check that it has be lost as the system should not p	been received correctly; no perform retrieval.	o duplication	and no missequencing, some messages may	
5.	Repeat the test but send ECO fro	om B (instead of A).			

TEST NU	JMBER: 3.10			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30			
TITLE: (Changeover				
SUBTITL	E: Emergency changeover at o	one side of a linkset (ECO <->	ECA)		
PURPOSE	E: To check the emergency cha	ngeover procedure when an E	CO is acknow	wledged by an ECA	
PRE-TES	Γ CONDITIONS: Linkset wit	h two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	ξ		Link		
:Start traff	ĭc				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (failure)				
1 – 2	2 ECO, SLC 1 – 1	>			
		<	1 – 2	ECA, SLC 1 – 1	
		<	1 - 2	TRAFFIC (from 1 – 1)	
1 – 2	TRAFFIC (from 1 – 1)	>			
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all	links.			
2.	Check that an ECO is received	d for $1 - 1$ on $1 - 2$ and that an	ECA is sen	at before T2 expires.	
3.	Check that traffic is changed of	over from $1-1$ to $1-2$.			
4.	Stop traffic and check that it he lost as the system should no	nas been received correctly; no ot perform retrieval.	duplication	and no missequencing. Some messages may	
5.	Repeat the test but send ECO	from B (instead of A).			

TEST NU	JMBER: 3.11			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30			
TITLE: C	Changeover				
SUBTITL	E: Emergency changeover at o	ne side of a linkset (ECO <->	COO)		
PURPOSE	E: To check the emergency cha	ngeover procedure when an C	COO is receiv	red in response to an ECO	
PRE-TES	Γ CONDITIONS: Linkset wit	h two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	ī		Link		
:Start traff	ïc				
1 – 1	TRAFFIC	·····>			
		<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (failure)				
1 – 2	ECO, SLC 1 – 1	>			
		<	1 – 2	COO, SLC 1 – 1	
1 – 2	2 ECA, SLC 1 – 1	>			
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all	links.			
2.	Check that an ECO is received an ECA.	d for $1-1$ on $1-2$ and that	a COO is ser	nt before T2 expires and acknowledged with	
3.	Check that traffic is changed of	over from $1-1$ to $1-2$.			
4.	Stop traffic and check that it he lost as the system should no	nas been received correctly; no ot perform retrieval.	o duplication	and no missequencing. Some messages may	
5.	Repeat the test but sent ECO f	From B (instead of A).			

TEST NU	JMBER: 3.12			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	g. 28, Fig. 29, Fig. 30			
TITLE: C	Changeover				
SUBTITL	E: Emergency changeover init	tiated at both ends at the same	time (ECO <	<-> ECO)	
PURPOSE	E: To check the emergency cha	angeover procedure when it is	initiated at tl	he both ends simultaneously	
PRE-TES	Γ CONDITIONS: Linkset wit	th two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traff	ïc				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 - 2	2 TRAFFIC	>			
1 – 1	:Deactivate (failure)	<	1 – 2	TRAFFIC	
1 – 1		· >			
1 – 2	ECO, SEC 1-1	<	1 – 2	ECO, SLC 1 – 1	
1 – 2	2 ECA, SLC 1 – 1	· >	1 2	100,010	
	,	<	1 – 2	ECA, SLC 1 – 1	
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all	links			
2.			ot on ECO:	s sant hafora T2 avnires and salmouled and	
۷.	with ECA.	Cu 101 1 - 1 011 1 - 2 and th	at all ECU l	s sent before T2 expires and acknowledged	
3.	Check that traffic is changed of	over from $1-1$ to $1-2$.			
4.	Stop traffic and check that it he lost as the system should n		duplication	and no missequencing. Some messages may	
5.	Repeat the test without sending	ng ECA from SP B to SP A.			

TEST NU	JMBER: 3.13		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30		
TITLE: C	Changeover			
SUBTITL	E: Reactivation of a link durin	g a changeover procedure		
PURPOSE	E: To check the changeover pr	ocedure when the link failure causing the c	hangeover is removed during the procedure	
PRE-TEST	Γ CONDITIONS: Linkset wit	h two available links		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAGI	E SEQUENCE:			
	SP A		SP B	
Link		Link		
:Start traff		LIIIK		
1 – 1		>		
1 – 1	IKAFFIC	< 1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	·	IKAFFIC	
1 – 2	LIKATTIC	< 1 – 2	TRAFFIC	
1 – 1	:Deactivate (failure)		TRAFFIC	
1 – 1				
:Wait		idio)		
:Stop traff	fic			
.5ար սասա				
NOTE – T	This test will be performed if a	applicable (some systems may terminate	the changeover procedure, then perform the	
NOTE – This test will be performed if applicable (some systems may terminate the changeover procedure, then perform the changeback).				
TEST DESCRIPTION				
1.	Start traffic to B and C on all	links.		
2.	Deactivate the link 1 – 1 and	reactivate this link immediately.		
3.				
4.	Check that the traffic used the	e links $1-1$ and $1-2$ normally.		
			į	

TEST NU	JMBER: 3.14			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	28, Fig. 29, Fig. 30			
TITLE: (Changeover				
SUBTITL	E: Simultaneous changeover				
PURPOSE	E: To check that the system ca	n correctly handle simultaneous fai	lures of	several links	
PRE-TES	Γ CONDITIONS: Linkset wit	th three available links			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	Γ	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 - 2	TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 3	TRAFFIC	>			
			1 – 3	TRAFFIC	
1 - 1, 1					
1 – 3	, , ,	>			
1 – 3	COD, SLC 1 – 2	>			
			1 - 3	COA, SLC 1 - 1	
1 0	TDAFFIC	<	1 – 3	COA, SLC 1 – 2	
1 – 3	(from $1-1$ and	>			
	1 – 2)	<	1 – 3	TRAFFIC (from 1 – 1 and 1 – 2)	
:Wait					
:Stop traf	fic				
TEST DESCRIPTION					
1.	Start traffic to B and C on all	links.			
2.	Deactivate the links 1 – 1 and	1 – 2 simultaneously.			
3.		d on $1 - 3$ for $1 - 1$ and $1 - 2$, and	respond	d with COAs inside T2s. Check that traffic is	
4.	-		messag	ges, no duplication and no missequencing).	

TEST NUMBER: 3.15 PAGE: 1 of 1				
REFEREN	CE: Q.704 clause 5 Fig	g. 28, Fig. 29, Fig. 30		
TITLE: C	hangeover			
SUBTITLE	E: Changeover to several alter	rnative links within a linkset		
PURPOSE	: To check the changeover pr	ocedure when there are seve	ral alternative	links
PRE-TEST	CONDITIONS: Linkset with	th all links available		
СО	NFIGURATION: A	TYPE OF TEST	: VAT	TYPE OF SP: ALL
MESSAGE	SEQUENCE:			
	SP A			SP B
Link			Link	
:Start traffi	c			
1 – 1	TRAFFIC	>		
1 1	TRAIT IC			
		<	1 – 1	TRAFFIC
1 - 2	TRAFFIC	>		
		<	1 – 2	TD A FEIC
		\	1-2	TRAFFIC
1 – 3	TRAFFIC	>		
		<	1 - 3	TRAFFIC
		•	1 3	Train Tre
1 – 4	TRAFFIC	>		
		<	1 - 4	TRAFFIC
1 – 1	:Deactivate (MML)	command or failure)		
1 - 2, 3	or 4 COO, SLC 1 – 1	>		
		<	1 - 2, 3 or 4	COA, SLC 1 – 1
1 – 2	TRAFFIC	>		
1 – 2	(from 1 – 1)	,		
	,	<	1 – 2	TD A EEIC (from 1 1)
		\	1-2	TRAFFIC (from 1 – 1)
1 – 3	TRAFFIC (from 1 – 1)	>		
		<	1 – 3	TRAFFIC (from 1 – 1)
1 – 4	TRAFFIC (from 1 – 1)	>		
	(<	1 – 4	TRAFFIC (from 1 – 1)
:Wait				
:Stop traffic				
Stop traine				
TEST DESCRIPTION				
1.	Start traffic to B and C on all	links		
ł				
2.	Deactivate the link $1 - 1$ and		_	
3.	Stop traffic and check that it has been shared on the alternative links according to the load sharing policy of this linkset.			

Check that, for each destination and for each SLS, there was no lost messages, no duplication and no missequencing.

4.

TEST NUMBER: 3.16 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Changeover to another linkset with adjacent SP accessible PURPOSE: To check that the system performs changeover to an alternative route when the last link of a linkset becomes unavailable PRE-TEST CONDITIONS: Linkset 1 and link 3 – 1 unavailable CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic 3 - 2TRAFFIC 7 - 1SP E 8 - 1<-----SP D 3 - 27 - 1SP E 2 - 1, 2**TRAFFIC** 6 - 1SP E 5 - 1SP D <----- 2 – 1, 2 <------5 - 1SP D 3 - 2:Deactivate (MML command or failure) 2 - XCOO, SLC ----> 4 - 1----> 3 - 2<-----2-X<----- 4-1 COA, SLC 3-2 6 - 12 - 1, 2TRAFFIC ----> ----> SP E (from 3 - 2)5 - 1-----> SP D <----- 2 – 1, 2 **<-----**5 - 1SP D <----- 2 – 1, 2 <------6 - 1SP E :Wait :Stop traffic TEST DESCRIPTION 1. Start traffic to E (and D in VAT). 2. Deactivate link 3-2 and check that a COO (for 3-2) is sent from A to C via B and that a COA (from 3-2) is sent from C to A via B within T2. 3. Stop traffic and check that it has been shared on the alternative links 2-1 and 2-2 according to the load sharing rules of linkset 2. 4. Check that, for each SLS, there was no lost messages, no duplication and no missequencing. 5. Repeat the test but replace COO with ECO (some messages may have been lost).

TEST NU	JMBER: 3.17			PAGE: 1 of 1		
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30				
TITLE: C	Changeover					
SUBTITL	E: Changeover to another link	set with adjacent SP inac	ccessible			
PURPOSE	E: To check that the system res	ponds correctly when th	ere is no path bety	ween the ends of an u	unavailable link	
PRE-TES	Γ CONDITIONS: Linkset 4 u	navailable				
CC	ONFIGURATION: B	TYPE OF TEST	: VAT, CPT	TYPE	OF SP: ALL	
MESSAG	E SEQUENCE:					
	SP A	SP B	SP C		SP E	
Link		Link	Link	Link		
:Start traff	ic					
2 - 1		> 6 – 1				
2 - 2		·····> 6-1 ······				
3– 1	110.11.110	>	, -		TRAFFIC	
3 – 2	TRAFFIC	>	7 – 1	>		
2 – 1		ommand or failure)	- 3-2 \	7 – 1	TRAFFIC	
2 - 2						
	T1					
3 – 1	TRAFFIC (from 2 – 1, 2)	>	7 – 1	>		
			- 3 – 1 <	7 – 1	TRAFFIC	
3 – 2	TRAFFIC(from 2 – 1, 2)	>	7 – 1	>		
			- 3 – 2 <	7 – 1	TRAFFIC	
:Wait						
:Stop traf	fic					
TEST DE	SCRIPTION					
1.	Start traffic to E on linkset 2 a	and 3.				
2.	Deactivate the linkset 2.					
3.	Check that traffic continues or	_				
4.	Stop traffic and check that it h 3.	as been shared on links 3	3 - 1 and $3 - 2$ acc	ording to the load sh	aring rules of the linkset	
5.	Check that the traffic has be missequenced or duplicated.	een received correctly.	Some messages	may have been lo	ost but none should be	
6.	Check that the duration of T1	is inside the specified ra	inge.			

TEST NUMBER: 3.18 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Changeover to two linksets PURPOSE: To check the changeover procedure when it is performed to several links pertaining to two linksets PRE-TEST CONDITIONS: Link 1 – 1 unavailable, all other available TYPE OF TEST: VAT CONFIGURATION: B TYPE OF SP: ALL MESSAGE SEQUENCE: SP B SP A SP C SP D Link Link Link Link :Start traffic 1 - 2TRAFFIC <----- 1 – 2 TRAFFIC 1 - 2:Deactivate (MML command or failure) ----> 5 – 1 2-XSLC 1-2-----> 8-1 -----> or 3 - X<----- 2 - X <----- 5 - 1 COA, SLC 1-2TRAFFIC -----> 5-1 -----> 2 - 1(from 1 - 2)TRAFFIC (from 1 - 2)2 - 2TRAFFIC -----> 5-1 -----> (from 1 - 2)3 - 1TRAFFIC -----> 8-1 -----> (from 1-2)TRAFFIC -----3 - 2-----> 8 – 1 -----> (from 1 - 2):Wait :Stop traffic TEST DESCRIPTION Start traffic to D. 1. 2. Deactivate the link 1 – 2 and check that a COO for 1 – 2 is sent to D via B or C and that a COA is sent from D to A via B or C inside T2. Stop traffic and check that it has been shared on the alternative links 2-1, 2-2, 3-1 and 3-2 according to the 3. load sharing rules in A. 4. Check that, for each SLS, there were no lost messages, no duplication and no missequencing. 5. Repeat the test but replace COO with ECO (some messages may have been lost).

TEST NU	UMBER: 3.19		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5; subclaus	e 3.2.2		
TITLE: C	Changeover			
SUBTITL	E: Changeover due to various	reasons		
PURPOSE	E: To check the interface L2-L	3		
PRE-TEST	Γ CONDITIONS: Linkset wit	h two available links		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAGI	E SEQUENCE:			
	SP A		SP B	
Link		Link		
:Start traff	ic			
1 – 1	TRAFFIC	>		
		< 1 − 1	TRAFFIC	
1 – 2	. TRAFFIC	>		
		< 1 – 2	TRAFFIC	
1 – 1	:Deactivation due to	various reasons (see Note)		
	CHANGEOVER			
1 – 2		>		
1 – 2	(from 1 – 1)	 /		
		< 1 − 2	TRAFFIC (from 1 – 1)	
:Wait				
:Stop traff	fic			
NOTE – The object of this test is to check the interface L2-L3 by invoking a changeover by the different means listed in 3.2.2/Q.704. These reasons are: high error rate, expiration of timer T1, T2, T6 and T7 of L2, equipment failure, erroneous BSN or FIB, reception of SIOS, SIN, SIE, SIO and SIPO of L2, and management request. The goal of this test is not to check the changeover procedure itself, but only that the COO is generated for each of these reasons.				
TEST DESCRIPTION				
1.	Start traffic to B and C on all	links.		
2.	Invoke the deactivation of the	link 1 – 1 (see Note above).		
3.	Check that traffic is changed of	over from $1-1$ to $1-2$.		
4.	Stop traffic and check that it h	as been received correctly.		
5.	Repeat the test for each reason	n.		

TEST NU	JMBER: 3.20		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig	z. 28, Fig. 29, Fig. 30		
TITLE: C	Changeover			
SUBTITL	E: Changeover as compatibilit	y test		
PURPOSE	E: To check the changeover pro	ocedure as compatibility test		
PRE-TES	Γ CONDITIONS: Linkset wit	h two available links		
CC	ONFIGURATION: A	TYPE OF TEST: CPT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			
	SP A		SP B	
Link		Link		
:Start traff	ïc			
1 – 1	TRAFFIC	>		
		←−−−− 1 − 1	TRAFFIC	
1 – 2	2 TRAFFIC	>		
		< 1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML o	command or failure)		
	CHANGEOVER			
1 – 2	TRAFFIC (from 1 – 1)	>		
		< 1 – 2	TRAFFIC (from 1 – 1)	
:Wait				
:Stop traf	fic			
NOTE – In	n a compatibility test it is in	possible to describe precisely the excharation of the link and of the time necessary	anges of changeover messages because the	
description	n depends of the type of deactiv	ation of the link and of the time necessary	to detect the deactivation.	
TEST DE	TEST DESCRIPTION			
1.	Start traffic to B on links 1 –	1 and 1 – 2.		
2.	Deactivate link 1 – 1 and chec	ck that the changeover is performed.		
3.	Check that the sequence of ch	angeover messages conforms to one of the	descriptions 3.1 to 3.12. Stop traffic.	
4.	Repeat the test by invoking th	ne different reasons listed in the Note in tes	st 3.19.	

TEST NU	MBER: 3.21	PAGE: 1 of	PAGE: 1 of 1		
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30					
TITLE: C	Changeover				
SUBTITL	E: Reception of a changeover of	order on an available link			
PURPOSE	E: To check the changeover pro	ocedure on reception of a COO or ECO for	a link in servi	ice	
PRE-TES	Γ CONDITIONS: Linkset with	h two available links			
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAG	E SEQUENCE:		·		
	SP A			SP B	
Link			Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 - 2	TRAFFIC	>			
		ζ	1 – 2	TRAFFIC	
		<	1 – 2	COO, SLC 1 – 1 (FSN corresponding to the last received message)	
1 – 2	COA, SLC 1 – 1	·····>			
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all	the links.			
2.	Send a COO from B to A for 1	-1 on link $1-2$ and check that the COA	is received.		
3.	Check that the link 1 – 1 become	mes unavailable.			
4.	Stop traffic and check that the	changeover procedure has been performed	1.		
5.	Check that there was no loss o	f messages, no duplication and no missequ	iencing.		
6.	Repeat the test but send an ECO (instead of a COO) and check that an ECA is received (instead of a COA). Some messages may be lost.				

TEST NUMBER: 4.1			PAGE: 1 of 1	PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 6, Fig. 2	28, Fig. 29, Fig. 31			
TITLE:	Changeback				
SUBTITI	LE: Changeback within a links	et			
PURPOS	E: To check that the changeba	ck procedure is correctly performed on res	storation of a link	in a linkset	
PRE-TES	ST CONDITIONS: Linkset wi	th one available link (end of test 3.1)			
C	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TY	PE OF SP: ALL	
MESSAC	GE SEQUENCE:		·		
	SP A			SP B	
Link	3		Link		
:Start traf	fic				
1 - 2	2 TRAFFIC	>	1 – 2	TRAFFIC	
		\	1-2	IRAFFIC	
1 – 1	:Activate (depending of	of the deactivation mean previously used)			
1 - 2	2 CBD, SLC 1 – 1	>			
1 – 1	TRAFFIC (from 1 – 2)	·>	1 – X	CBA, SLC 1 – 1	
1 – Σ	CBA, SLC 1 – 1	<>	1 – 2	CBD, SLC 1 – 1	
		<································	1 – 1	TRAFFIC (from 1 – 2)	
1 – 2	2 TRAFFIC	<>	1 – 2	TRAFFIC	
:Wait :Stop traf	fic				
.Stop trui					
TEST D	ESCRIPTION				
1.	Start traffic to B (and C in VA	T) on link 1 – 2.			
2.	Activate the link 1 – 1 and cho	eck that it enters the correct in service stat	e.		
3.	Check that a CBD for SLC 1 – 1 is received and that traffic for link 1 – 1 is switched back after a CBA is sent.				
4.	Stop traffic and check that it h	as been received correctly, no lost messag	es, no duplication	and no missequencing.	
5.	Continue the test by activating	g the link $1-3$, then $1-4$.			
6.	As a compatibility test, repeat the test for several reasons chosen among those listed in test 4.10.				

TEST NUMBER: 4.2		PAGE: 1 of 1		
REFERENCE: Q.704 clause 6, Fig.	28, Fig. 29, Fig. 31			
TITLE: Changeback				
SUBTITLE: Additional CBA				
PURPOSE: To check the actions of the	e system on reception of an additional CBA			
PRE-TEST CONDITIONS: Linkset w	rith all links available			
CONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL	
MESSAGE SEQUENCE:				
SP A			SP B	
Link		Link		
:Start traffic				
ALL TRAFFIC	>			
	<	ALL	TRAFFIC	
	ζ	1 – X	CBA, SLC 1 – X	
ALL TRAFFIC	·····>			
	<	ALL	TRAFFIC	
:Wait				
:Stop traffic				
TEST DESCRIPTION				
1. Start traffic to B and C on all	l links.			
	A and check that this message is discarded	without action or	the traffic.	
3. Stop traffic.				

TEST NUMBER: 4.3			PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 6, Fig. 2	28, Fig. 29, Fig. 31			
TITLE: (Changeback				
SUBTITL	E: Additional CBD				
PURPOS	E: To check the action of the s	ystem on reception of an additional CBD			
PRE-TES	T CONDITIONS: Linkset wi	th all links available			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL	
MESSAG	SE SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traf	fic				
ALL	TRAFFIC	>			
7122		<	ALL	TRAFFIC	
		<	1 – X	CBD, SLC 1 – X	
1 - X	CBA, SLC 1 – X	>			
ALL	TRAFFIC	<>	ALL	TRAFFIC	
:Wait					
:Stop traff	fic				
TECT DI	ESCRIPTION				
1. 2.	Start traffic to B and C on all		nonce without im	inact on the traffic	
3.	Stop traffic and check that it h	A and check that a CBA is send back in res	ponse without im	pact on the traffic.	
J.	stop darie and check that it is	and other root contoury.			

TEST N	TEST NUMBER: 4.4			PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 6, Fig.	28, Fig. 29, Fig. 31				
TITLE:	Changeback					
SUBTITI	LE: No acknowledgement to	First CBD				
PURPOS	E: To check that a second CI	BD is sent if the first is not acknowledged				
PRE-TES	ST CONDITIONS: Linkset v	vith one available link				
CO	ONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf	fic					
1 - 2	2 TRAFFIC	>	1 – 2	TRAFFIC		
1 – 1		,	1 2	TIVILITE.		
1 - 2	2 CBD, SLC 1 – 1	·>				
	T4					
1 – 2	2 CBD, SLC 1 – 1	>				
1 – 1	1 TRAFFIC (from 1 –	2)	1 – X	CBA, SLC 1 – 1		
	· ·	<	1 – 1	TRAFFIC (from 1 – 2, see Note)		
1 – 2	2 TRAFFIC	>				
		<	1 – 2	TRAFFIC		
:Wait :Stop traf	fic					
	B may perform a changeback of	or not.				
TEST DI	ESCRIPTION					
1.	Start traffic to B and C on lin	nk 1 – 2.				
2.	Activate link 1 – 1 and checl	that a CBD is received (no CBA in respon	ise).			
3.	Check that after T4 a second	CBD is received and CBA is sent in respon	nse before T5 exp	vires.		
4.	Check that the traffic is char	ged back on link $1-1$.				
5.	Stop traffic and check that the	ere were no lost messages, no duplication a	and no missequen	cing.		
6.	Check that the duration of T	4 is inside the specified range.				

TEST N	TEST NUMBER: 4.5			PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 6, Fig.	28, Fig. 29, Fig. 31			
TITLE:	Changeback				
SUBTITI	LE: No acknowledgement of re	epeat changeback declaration			
PURPOS	E: To check that traffic is cha	nged back after a repeat changeback declar	ation is not ackn	owledged	
PRE-TES	ST CONDITIONS: Linkset w	ith one available link			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	Т	YPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
1 – 2	2 TRAFFIC	> <	1 – 2	TRAFFIC	
1 – 1 1 – 2		>			
1 – 2		·····>			
1 – 1	TRAFFIC (from 1 – 2	<>	1 – 1	TRAFFIC (from 1 – 2, see Note)	
1 – 2	2 TRAFFIC	<>	1 – 2	TRAFFIC	
:Wait :Stop traffic NOTE – B may perform a changeback or not.					
TEST DI	ESCRIPTION				
1.	Start traffic to B and C on lin	k 1 – 2.			
2.	Check that a CBD is received	and not acknowledged.			
3.	Check that after T4, a CBD is	repeated and not acknowledged by a CBA	۸.		
4.	Check that after T5, the traffi	c is changed back on link $1 - 1$.			
5.	Stop traffic and check that the	ere were no lost messages, no duplication a	nd no missequer	ncing.	
6.	Check that the duration of T5	is inside the specified range.			

TEST N	TEST NUMBER: 4.6			PAGE: 1 of 1		
REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31						
TITLE:	Changeback					
SUBTITI	LE: Simultaneous changeback					
PURPOS	E: To check simultaneous char	gebacks of traffic onto two links				
PRE-TES	T CONDITIONS: Linkset wi	th one available link (end of test 3.14)				
CO	ONFIGURATION: A	TYPE OF TEST: VAT	Т	YPE OF SP: ALL		
MESSAC	SE SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf	fic					
1 – 3	3 TRAFFIC	>				
		<	1 – 3	TRAFFIC		
1 – 1		of the deactivation mean				
1 - 2	r					
1 – 3	- ,	>				
1 – 3	CBD, SLC 1 – 2	>				
		<	1 – X	CBA, SLC 1 – 1		
		<	1 – X	CBA, SLC $1-2$		
1 – 1	TRAFFIC (from 1 – 3)	·>				
		<	1 – 1	TRAFFIC (from $1 - 3$, see Notes)		
1 - 2	2 TRAFFIC (from 1 – 3)	·>				
		<	1 – 2	TRAFFIC (from $1 - 3$, see Notes)		
1 - 3	3 TRAFFIC	>	1 2	TD A CEIC		
:Wait		<	1 – 3	TRAFFIC		
	ei o					
:Stop traf NOTES	ne					
	perform changebacks or not.					
2 Changeback procedures may be performed in sequence. The traffic sequence presented here, after the changebacks, is the final situation.						
TEST DI	ESCRIPTION					
1.	Start traffic to B and C on link	1 – 3.				
2.	Simultaneously activate links $1-1$ and $1-2$.					
3.	Check that CBDs are received on links $1-1$ and $1-2$.	and CBAs are sent (within T4) for $1 - 1$	and $1-2$ and that	at the traffic is changed back		
4.	Stop traffic and check that the	re were no lost messages, no duplication a	and no missequen	ncing.		

TEST NU	EST NUMBER: 4.7			PAGE: 1 of 1		
REFEREN	NCE: Q.7	704 clause 6, Fig. 2	28, Fig. 29, Fig. 31			
TITLE: C	Changebac	:k				
SUBTITL	E: Chang	geback from several	alternative links within a linkset			
PURPOSE	E: To che	eck the changeback p	procedure when it is performed to several	links in a same link	eset	
PRE-TEST	T COND	ITIONS: Linkset wi	ith one unavailable link (end of test 3.15)			
CO	NFIGURA	ATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL	
MESSAGI	E SEQUE	ENCE:				
	S	SP A			SP B	
Link				Link		
:Start traff	ïc					
1 – 2,	3, 4 T	RAFFIC	>			
1 – 1			g of the deactivation mean previously used	1-2, 3, 4	TRAFFIC	
1 - 2	C	CBD, SLC 1 – 1	>			
1 – 3		CBD, SLC 1 – 1	>			
1 – 4	C	CBD, SLC 1 – 1	>			
			<	1 – X	CBA, SLC 1 – 1	
			<	1 – X	CBA, SLC 1 – 1	
			<	1 – X	CBA, SLC 1 – 1	
1 – 1		RAFFIC	>			
	(1	from $1 - 2, 3, 4$)	<	1 – 1	TRAFFIC (from 1 – 2, 3, 4, see Note)	
1 - 2,	3, 4 T	RAFFIC	>		3, 4, see (1010)	
			<	1-2, 3, 4	TRAFFIC	
:Wait						
:Stop traffi	ic					
NOTE – B	NOTE – B may perform changebacks or not.					
TEST DESCRIPTION						
1.	Start traf	fic to B and C on linl	ks 1 – 2, 1 – 3 and 1 – 4.			
2.	Activate different	link 1 – 1 and check changeback code.	t that a CBD is sent on links $1 - 2$, $1 - 3$	3 and $1-4$. Check	that each CBD contains a	
3.	Check that	at the traffic is chang	ged back on link 1 – 1.			
4.	Stop traffic and check that there were no lost messages, no duplication and no missequencing.					

TEST NUMBER: 4.8 PAGE: 1 of 1 REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31 TITLE: Changeback SUBTITLE: Changeback from another linkset PURPOSE: To check the changeback procedure when it is performed from another linkset PRE-TEST CONDITIONS: Linksets 1 and 3 unavailable (end of test 3.16) CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic -----> 5 - 12 - 1, 2TRAFFIC SP D -----> SP E 6 - 12 – 1, 2 <-----5 - 1SP D 2 – 1, 2 <-----6 - 1SP E 3 - 2:Activate (depending of the deactivation mean previously used) 2 - 1CBD, SLC 3-2----> 4 – 1 -----> ----> 2 - 2CBD, SLC 3-24 – 1 -----> <----- 3 - 2 CBA, SLC 3 - 2 3-2 CBA, SLC 3-2**CHANGEBACK** 2 - 1, 2TRAFFIC 5 - 1-----> SP D 6-1 -----> SP E 2 – 1, 2 <-----5 - 1SP D 3 - 2**TRAFFIC** -----> 8 – 1 -----> SP D 7 – 1 -----> (from 2 - X)SP E :Wait :Stop traffic **NOTES** 1 It is possible that A and/or B prefers to perform a time controlled diversion procedure. $2\quad \text{After activation of link 3-2, CBDs are sent from C to A via B and acknowledged by A. These messages are not presented}$ to simplify the test description. TEST DESCRIPTION 1. Start traffic to E (and D in VAT). Activate link 3 – 2 and check that CBDs are received and that CBAs are sent before T4 expires in A. 2. 3. Check that the traffic is changed back on linkset 3 in accordance with the load sharing rules in A. 4. Stop traffic and check that there were no lost messages, no duplication and no missequencing.

TEST NUMBER: 4.9 PAGE: 1 of 1 REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31 TITLE: Changeback SUBTITLE: Changeback from two linksets PURPOSE: To check the changeback procedure when it is performed from two linksets PRE-TEST CONDITIONS: Linkset 1 unavailable (end of test 3.18) CONFIGURATION: B TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP В SP C SP D Link Link Link Link :Start traffic 5 – 1 -----> 2 - 1**TRAFFIC** ----> 2 – 1 <-----<-----TRAFFIC 5 - 1TRAFFIC ----> 5 – 1 -----> 2 - 22 – 2 <-----<-----5 - 1**TRAFFIC** TRAFFIC 8 – 1 -----> 3 - 13 - 2**TRAFFIC** -----> 8 – 1 -----> 1 - 2:Activate (depending of the deactivation mean previously used) CBD, SLC 1-2----> 5 – 1 -----> 2 - 1----> 5 – 1 -----> 2 - 2CBD, SLC 1-2-----> 8 – 1 -----> 3 - 1CBD, SLC 1-2-----> 8-1 ----> 3 - 2CBD, SLC 1-2**CBAs** 2 – X <-----<-----SLC 1-25 - 12 - X <-----5 - 1SLC1-2<----- 2 - X <-----SLC 1-25 - 12 - X <-----SLC1-25 - 1(from linksets 2 and 3) -----> 1 - 2**TRAFFIC** TRAFFIC 1 - 2(from linksets 5, see Notes) ----> 5 – 1 -----> 2 - 1, 2**TRAFFIC** -----> 8 – 1 -----> 3 - 1, 2**TRAFFIC** :Wait :Stop traffic **NOTES** 1 D may perform changebacks or not. 2 It is possible that A and/or B prefers to perform a time controlled diversion procedure. TEST DESCRIPTION 1. Start traffic on linksets 2 and 3 to D. Activate the link 1 – 2 and check that CBDs are received and that CBAs are sent before T4 expires in A. Check that 2. each CBD has a different changeback code. 3. Check that the traffic is changed back to link 1-2 in accordance with the load sharing rules in A.

Stop traffic and check that there were no lost messages, no duplication and no missequencing.

4.

TEST N	NUMBER: 4.10			PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 6, Fig.	28, Fig. 29, Fig. 31				
TITLE:	Changeback					
SUBTITI	LE: Changeback due to variou	s reasons				
PURPOS	E: To check the interface L2-I	_3				
PRE-TES	ST CONDITIONS: Linkset w	ith one available link (end of 3.19)				
CO	ONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link	ζ		Link			
:Start traf	fic					
1 – 2	2 TRAFFIC	>				
		<	1 – 2	TRAFFIC		
1 – 1	:Activation due to var	rious reasons (see Note)				
1 – 2	2 CBD, SLC 1 – 1	<>	1 – 2	CBA, SLC 1 – 1		
1 – 1	TRAFFIC (from 1 – 2)>				
1 – 2	CBA, SLC 1 – 1	<>	1 – 2	CBD, SLC 1 – 1		
1 – 2	2 TRAFFIC	<>	1 – 1	TRAFFIC (from 1 – 2)		
		<	1 – 2	TRAFFIC		
:Wait :Stop traf	fic					
•		check the interface L2-L3 by provokin	o a chanoehack	by different means listed		
NOTE – The object of this test is to check the interface L2-L3 by provoking a changeback by different means listed in 3/Q.704. These reasons are: initial alignment procedure completed with success, processor outage condition has ceased at the remote signalling terminal and management request.						
TEST DI	ESCRIPTION					
1.	Start traffic to B and C on lin	k 1 – 2.				
2.	Provoke the activation of the	link 1 – 1 (see Note above).				
3.	Check that the traffic is changed back to $1-1$.					
4.	Stop traffic and check that it l	nas been received correctly.				
5.	Repeat the test for each reaso	n.				

TEST NUMBER: 4.11			PAGE: 1 of 1	PAGE: 1 of 1		
REFEREN	REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31					
TITLE: C	Changeback					
SUBTITL	E: Time controlled diversion p	rocedure				
PURPOSE	E: To check the correct operation	on of the time controlled diversion proced	lure			
PRE-TEST	Γ CONDITIONS: Linksets 1,	2 and 4 unavailable				
CO	NFIGURATION: B	TYPE OF TEST: VAT, CPT	TYI	PE OF SP: ALL		
MESSAGI	E SEQUENCE:					
	SP A	SP B		SP C		
Link		Link	Link			
:Start traff	ic					
3 – 1	TRAFFIC (to D and E)	>				
	(,	<	3 – 1	TRAFFIC		
				(from D and E)		
3 - 2	TRAFFIC (to D and E)	>				
	(to D and E)	<	3 – 2	TRAFFIC (from D and E)		
2 – 1	:Activate (depending of	f the deactivation mean previously used)		(Holli D and L)		
	½ T21	1				
	½ TRA	>				
	1/2	< 2 – 1 «TRA»				
3 - 1, 2	2 TRAFFIC STOPPED					
	1/2					
	½ T3					
	1/2					
2 – 1	TRAFFIC (from 3 – 1, 2)	>				
		< 2 – 1 TRAFFIC (f	rom D, see Note)			
2-1, 2	2 TRAFFIC	>				
		<	3 - 1, 2	TRAFFIC (from E)		
:Wait						
:Stop traffi	ic					
-		redure and D on reception of a TFA for A	A reroutes its traffi	c to A. These procedures		
NOTE – B performs the point restart procedure and D on reception of a TFA for A reroutes its traffic to A. These procedures are not presented to simplify the test description.						
TEST DE	SCRIPTION					
	Start traffic to E (and D in VA	Γ) on linkset 3.				
2. 3.	Activate link 2 – 1. Check that T21 is started in A	and is stopped on recention of TD A f	SDR (see Meter)			
		and is stopped on reception of TRA from ceased in A and that after expiration T3 to				
	the load sharing rules in A.	in 11 and that area expiration 13 th	and diverse to illi	1 III decordance with		
5.	-	e were no lost messages, no duplication a	nd no missequenci	ng.		
6.	Check that the duration of T3 is inside the specified range.					

Repeat the test (in VAT) without sending TRA from B to A and check that the time controlled diversion is performed when T21 expires.

7.

TEST N	NUMBER: 5			PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 7, Fig.	29, Fig. 32			
TITLE:	Forced rerouting				
SUBTITI	LE:				
PURPOS	E: To check that the system ca	an perform forced rerouting	g		
PRE-TES	ST CONDITIONS: Linksets 1	and 4 unavailable			
CC	ONFIGURATION: B	TYPE OF TEST:	VAT, CPT	TYI	PE OF SP: ALL
MESSAC	GE SEQUENCE:				
	SP A		SP B		SP C
Link	S.	Link		Link	
:Start traf	fic				
2-1, $3-1$,		> to D and E < 2 – 1, 2	TRAFFIC (from D) to D and E	
,	2 114.41.10	<	:Desactivate	3 – 1, 2	TRAFFIC (from E)
3-1, (to D	2 TRAFFIC and from 2 – 1, 2 to E)		>		
2 – 1,		<> to D < 2 – 1, 2		3 – 1, 2	TRAFFIC (from E)
:Wait :Stop traf	fic				
TEST DI	ESCRIPTION				
1.	Start traffic on linksets 2 and	3 to E (and D in VAT).			
2.	Deactivate the linkset 6 and c	theck the sending of a TFP	concerning E from	B to A.	
3.	Stop traffic and check that the forced rerouting has been performed correctly, messages may have been lost but not missequenced or duplicated.				
4.	Check that the traffic to D ca and no missequencing).	arried by the linksets 2 and	d 3 has not been dis	sturbed (no lost	messages, no duplication
5.	Check that an indication was given by the system.				

TEST N	NUMBER: 6			PAGE: 1 of 1	PAGE: 1 of 1	
REFERE	NCE: (Q.704 clause 8, Fig. 2	29, Fig. 33			
TITLE:	Controll	ed rerouting				
SUBTITL	Æ:					
PURPOS	Е: Тос	check that the system ca	nn perform controlled rero	outing		
PRE-TES	ST CON	DITIONS: Linksets 1	, 4 and 6 unavailable (end	l of test 5)		
CC	ONFIGU	RATION: B	TYPE OF TEST	: VAT, CPT	TY	PE OF SP: ALL
MESSAC	GE SEQ	UENCE:				
		SP A		SP B		SP C
Link	<u> </u>		Link		Link	
:Start traf	fic					
3 – 1,	2	TRAFFIC			to D and E 3 – 1, 2	TRAFFIC (from E)
2 – 1,	2	TRAFFIC	> to D < 2 - 1, 2 6 - 1 < 2 - X	TRAFFIC (from :Activate TFP, PC = E		Tre ii Tre (iroiii 2)
		Т6				
	and fron	TRAFFIC n 3 – 1, 2 to E)	,	TRAFFIC (from	D)	
3 – 1,	, 2	TRAFFIC	<		3 – 1, 2	TRAFFIC (from E)
:Wait :Stop trafi	fic					
TEST DI	ESCRIP	ΓΙΟΝ				
1.	Start tr	affic to E (and D in VA	AT).			
2.	Activa	te the linkset 6 and chec	ck the sending of a TFA c	concerning E from	B to A.	
3.	Stop to messag	raffic and check that tges, no duplication and	the controlled rerouting no missequencing).	has been perforn	ned correctly (for	all traffic flows, no lost
4.	Check that the duration of T6 is inside the specified range.					

TEST N	TEST NUMBER: 7.1.1		PAGE: 1 of 1		
REFERI	ENCE: Q.704 clause 10,	Fig. 28			
TITLE:	Management inhibiting				
SUBTIT	LE: Inhibition of a link – A	vailable link			
PURPO	SE: To check for the correc	t response when link inhibition is requ	ested for an avai	ilable link	
PRE-TE	ST CONDITIONS: Linkse	t with two available links			
CO	CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL				
MESSA	GE SEQUENCE:		•		
	SP A			SP B	
Link			Link		
:Start tra	affic	<			
1 – 1	1 TRAFFIC	>			
1 – 3	2 TRAFFIC	<>	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	<	1 – 2	TRAFFIC	
1 – 1	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	>			
1 – 2	X LIN, SLC 1 – 1	< <i>></i>	1 – X	LIA, SLC 1 – 1	
	TIME CONTRO	LLED CHANGEOVER (see Note)			
	TIME - CONTRO	LLED CHANGEOVER (see Note)			
1 - 2	TRAFFIC (from 1 –	- 1)	-		
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop tra	ffic				
-		I after the inhibition of link $1 - 1$ by	ut it is not descr	ribed in this test which	
checks only the inhibition procedure.					
TEST D	DESCRIPTION				
1.	Start traffic to B (and C in VAT) on links 1 – 1 and 1 – 2.				
2.	Initiate inhibition of link $1-1$ and check that LIN is received and an LIA is received in A within T14.				
3.	Check that the traffic normally carried by link $1-1$ is transferred to link $1-2$.				
4.	Check that the link $1 - 1$ enters in the "Local inhibiting" state.				
5.	Repeat test in the reverse direction.				

TEST N	UMBER: 7.1.2	PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE: Management inhibiting				
SUBTITLE: Inhibition of a link – Unavailable link				
PURPOSE: To check for the correct response when link inhibition is requested for an unavailable link				
PRE-TEST CONDITIONS: Linkset with one available link				
CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: AL			TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:			
	SP A		SP B	
Link			Link	
:Start traf	fic			
1 – 1	TRAFFIC	>		
	S	<	1 – 1 TRAFFIC	
1-2 $1-1$	1	>		
1 – 1	LIN, SLC 1 – 2	< <i>></i>	1 – 1 LIA, SLC 1 – 2	
1-2 :Activate (depending of the deactivation mean previously used)				
1 – 1	TRAFFIC	<>	1 – 1 TRAFFIC	
:Wait				
:Stop traf	fic			
TEST DESCRIPTION				
1.	Start traffic to B (and C in VAT) on link 1 – 1.			
2.	Request inhibition of link 1 – 2, check the reception of LIN at B and send LIA in response within T14.			
3.	Check that the inhibition was performed.			
4.	Activate link $1-2$ and check that it stays in inhibited state.			
5.	Stop traffic and check that it was not disturbed.			
6.	Repeat test in reverse direction.			

TEST NUMBER: 7.2.	TEST NUMBER: 7.2.1		PAGE: 1 of 1	
REFERENCE: Q.704	REFERENCE: Q.704 clause 10, Fig. 28			
TITLE: Management in	nhibiting			
SUBTITLE: Inhibition	not permitted – l	Local reject on available link		
PURPOSE: To check t	he inhibition pro	cedure in case of local reject on an availab	le link	
PRE-TEST CONDITIONS: Linkset with one available link				
CONFIGURATIO	ON: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL	
MESSAGE SEQUENC	E:			
SP	A		SP B	
Link			Link	
:Start traffic				
1 – 1 TRAI	FFIC	>		
1 – 1 :Requ	vaat inhihitian	<	1 – 1 TRAFFIC	
1 – 1 : Requ	est inhibition	>		
		<	1 – 1 TRAFFIC	
:Wait				
:Stop traffic				
TECATE DESCRIPTION				
TEST DESCRIPTION				
	Start traffic to B (and C in VAT) on link 1 – 1.			
2. Request inhib	Request inhibition of link $1-1$ and check that this request is not permitted.			
3. Stop traffic at	Stop traffic and check that it has not been disturbed.			
4. Repeat the tes	Repeat the test but modify pre-test conditions as follows: link $1-1$ available and link $1-2$ inhibited by B.			

TEST NUMBER: 7.2.2	PAGE: 1 of 1			
REFERENCE: Q.704 clause 10, Fig. 28				
TITLE: Management inhibiting				
SUBTITLE: Inhibition not permitted –	Local reject on unavailable link			
PURPOSE: To check the inhibition pro	ocedure in case of local reject on an unavail	lable link		
PRE-TEST CONDITIONS: All links u	unavailable			
CONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL		
MESSAGE SEQUENCE:				
SP A		SP B		
Link		Link		
1 – 1 :Request inhibition				
TEST DESCRIPTION				
1. Request inhibition of link 1 -	- 1 and check that it is rejected.			

TEST NUMBER: 7.2.3	TEST NUMBER: 7.2.3		PAGE: 1 of 1		
REFERENCE: Q.704 clar	use 10, Fig. 2	28			
TITLE: Management inhib	iting				
SUBTITLE: Inhibition not	permitted – Se	ending of LID			
PURPOSE: To check the re	eject of an inhi	ibition asked on reception of an LIN			
PRE-TEST CONDITIONS:	PRE-TEST CONDITIONS: Linkset with one available link				
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL			PE OF SP: ALL		
MESSAGE SEQUENCE:			·		
SP A				SP B	
Link			Link		
:Start traffic					
1 – 1 TRAFFIO		>			
		<	1 – 1	TRAFFIC	
		<	1 – 1	LIN, SLC 1 – 1	
1 – 1 LID, SLC	21-1	>			
1 – 1 TRAFFIC		> <	1 – 1	TRAFFIC	
				-	
:Wait					
:Stop traffic					
TEST DESCRIPTION					
1. Start traffic to B	Start traffic to B and C on link 1 – 1.				
	Send an LIN, SLC 1 – 1 from B to A and check the reception of an LID.				
3. Check that the inl	Check that the inhibition is not performed.				
4. Stop traffic and c	Stop traffic and check that it has not been disturbed.				

TEST NUMBER: 7.2.4		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE: 1	Management inhibiting			
SUBTITL	E: Inhibition not permitted –	Reception of LID		
PURPOSI	E: To check the reject of an in	hibition asked on sending of an LIN		
PRE-TEST CONDITIONS: Linkset with two available links				
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALI			PE OF SP: ALL	
MESSAG	E SEQUENCE:		•	
	SP A			SP B
Link			Link	
:Start traff	fic			
1 – 1	, 2 TRAFFIC	>		
		<	1 – 1, 2	TRAFFIC
1 – 1	:Request inhibition			
1 – X	LIN, SLC 1 – 1	> <	1 – X	LID SLC 1 1
		·	I – X	LID, SLC 1 – 1
1 – 1	, 2 TRAFFIC	<>	1 – 1, 2	TRAFFIC
:Wait	No.			
:Stop traff	ic			
TEST DESCRIPTION				
1.	Start traffic to B and C on links 1 – 1 and 1 – 2.			
2.	Request the inhibition of link 1 – 1 and check the reception of LIN and response with an LID before T14 expires in A.			
3.	Check that the inhibition is not performed.			
4.	Stop traffic and check that it was not disturbed.			

TEST N	UMBER:	7.3.1		PAGE: 1 of 1	
REFERE	NCE: Q.7	704 clause 10, Fig	z. 28		
TITLE:	Manageme	ent inhibiting			
SUBTITI	LE: Expir	ation of T14 – Avai	lable link		
PURPOS	SE: To che	eck that the inhibition	on procedure asked for an available link is re	estarted when T14	expires
PRE-TES	ST COND	TIONS: Linkset v	vith two available links		
CO	ONFIGUR	ATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAC	GE SEQUE	ENCE:			
	S	SP A			SP B
Link	k			Link	
:Start traf	ffic				
1 – 1	1 Т	RAFFIC	>		
1 – 2	2 т	RAFFIC	<>	1 – 1	TRAFFIC
			<	1 – 2	TRAFFIC
1 – 1	1 :1	Request inhibition			
1 – Σ	X L	IN, SLC 1 – 1	>		
		T14			
		Di GLO 1			
1 – Σ	X L	IN, SLC 1 – 1	<>	1-1	LIA, SLC 1 – 1
	Т	IME-CONTROLLI	ED CHANGEOVER (see Note)		,
1 – 2	2 T	RAFFIC (from 1 –	1)>		
			ζ	1 – 2	TRAFFIC (from 1 – 1)
:Wait					
:Stop traf	fic				
NOTE – A changeover is performed after the inhibition of link $1-1$ but it is not described in this inhibition test.					
TEST DI	ESCRIPTION OF THE PROPERTY OF	ON			
1.	Start traf	fic to B and C on li	nks 1 – 1 and 1 – 2.		
2.	Request the inhibition of link $1-1$, check that an LIN is received without response. Check that a new LIN is received after T14 expires and that an LIA is sent in response.				
3.	Check th	at the inhibition is p	performed. Stop traffic and check that it was	s not disturbed.	
4.	Repeat the stopped.	ne test but without	sending of an LIA. Check that after the	second expiration	n of T14 the procedure is
5.		at the duration of T	14 is inside the specified range.		

TEST N	UMBER: 7.3.2		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Expiration of T14 – Unava	ailable link		
PURPOS	E: To check that the inhibition	n procedure asked for an unavailable link is	s restarted when T	14 expires
PRE-TES	ST CONDITIONS: Linkset w	ith one available link		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link	ζ		Link	
:Start traf	fic			
1 – 1	I TRAFFIC	>		
1 – 2	Paguast inhibition	<	1 – 1	TRAFFIC
1 – 2	1	>		
	T14			
1 – 1	LIN, SLC 1 – 2	·>	1 – 1	LIA CLC 1 2
1 - 2	2 :Activate	\	1 – 1	LIA, SLC 1 – 2
1 – 1	1 TRAFFIC	>		
		<	1 – 1	TRAFFIC

:Wait :Stop traf	fic			
.Stop tran	nc			
TEST DI	TEST DESCRIPTION			
1.	Start traffic to B and C on lin	k 1 – 1.		
2.	Request inhibition of link $1-2$, check that an LIN is received without response. Check that a new LIN is received after T14 expires and that an LIA is sent in response.			
3.	Check that the inhibition is po	erformed.		
4.	Activate link 1 – 2 and check	that it stays unavailable.		İ
5.	Stop traffic and check that it	was not disturbed.		
6.	Repeat the test but without stopped.	sending of an LIA. Check that after the	second expiration	n of T14 the procedure is

TEST N	UMBER: 7.4		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Additional inhibition mess	ages (LIA, LID, LIN)		
PURPOS	E: To check the action of the s	system on reception of an additional LIA, L	ID or LIN	
PRE-TES	ST CONDITIONS: End of tes	t 7.1.1		
CO	ONFIGURATION: A	TYPE OF TEST: VAT	Т	YPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
T 11			T 1.1	-
Link			Link	
:Start traf	ffic			
1 – 2	2 TRAFFIC	·>	1 2	TD A FEIG
		<	1-2 $1-2$	TRAFFIC LIA, SLC 1 – 1
		<	1 - 2 $1 - 2$	LIA, SLC 1 – 1 LID, SLC 1 – 1
1 - 2	2 TRAFFIC	>	1-2	LID, SEC 1 - 1
	114.1110	<	1 – 2	TRAFFIC
		<	1 - 2	LIN, SLC 1 – 1
1 – 1	1 LIA, SLC 1 – 1	>		
1 - 2	2 TRAFFIC	>		
		<	1 – 2	TRAFFIC
:Wait				
:Stop traf	fic			
TEST DI	ESCRIPTION			
1.	Start traffic to B and C on lin	k 1 – 2.		
2.	Send an additional LIA and L	ID on link $1-2$.		
3.	Check that these messages are	e ignored without impact on the traffic.		
4.	Send an additional LIN on lin	k 1 – 2.		
5.	Check that an LIA is received and remote inhibiting" state.	d in response without impact on the traffic	e and that the lin	nk 1 – 1 enters in the "Local
6.	Stop traffic.			

TEST NU	JMBER: 7.5		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 10, Fig	. 28		
TITLE: N	Management inhibiting			
SUBTITL	E: Inhibition asked by the bo	th ends of a link		
PURPOSE	E: To check the action of the	system on reception of an LIN after sending	g of an LIN	
PRE-TES	Γ CONDITIONS: Linkset w	ith two available links		
СО	NFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAG	E SEQUENCE:			
	SP A			SP B
Link			Link	-
:Start traff	īc			
1 - 1, 1	2 TRAFFIC	>		
1 1,		<	1 – 1, 2	TRAFFIC
1 – 1	:Request inhibition			
1 – X	LIN, SLC 1 – 1	>		
1 1	IIA CICA A	<>	1 – X	LIN, SLC 1 – 1
1 – 1	LIA, SLC 1 – 1	<>	1 – X	LIA, SLC 1 – 1
	TIME-CONTROLLE	D CHANGEOVER (see Note)		Bit 1, 520 1 1
1 – 2	TRAFFIC (from 1 – 1			
	`	´	1 – 2	TRAFFIC (from 1 – 1)
:Wait				
:Stop traff	ie			
NOTE – A	A changeover procedure is peri	formed but not described in this inhibition	test.	
TEST DE	SCRIPTION			
1.	Start traffic to B and C on link 1 – 1 and 1 – 2.			
2.	Request inhibition of link 1 – 1. Check the reception of LIN and response with an LIN.			
3.	Check the reception of an LIA	and send an LIA.		
4.	Check that the inhibition is co	orrectly performed and that the link enters	in the "Local and	remote inhibiting" state.
5.	Stop traffic and check that it	was not disturbed.		

TEST N	UMBER: 7.6.1		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Manual uninhibition of a l	ink – With changeback		
PURPOS	E: To check for correct restor	ation when link uninhibition is requested by	y an operator	
PRE-TES	T CONDITIONS: End of tes	t 7.1.1		
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYI	PE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	51 B
:Start traf	fic			
1 – 2	2 TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 1	:Request uninhibition			
1 - 2	2 LUN, SLC 1 – 1	>		
		<	1 - 2	LUA, SLC 1 – 1
CHANGI	EBACK (see Note)	CHANGEBA	CK (see Note)	
1 – 1	TRAFFIC (from 1 – 2			
1 0		<································	1 – 1	TRAFFIC (from 1 – 2)
1 – 2	2 TRAFFIC	<>	1 – 2	TRAFFIC
:Wait				
:Stop traf	fic			
NOTE -		formed after uninhibition of link 1 – 1 but	it is not described	in this test which checks
TEST DESCRIPTION				
1.	Start traffic to B and C on link 1 – 2.			
2.	Request uninhibition of link 1 – 1, check the reception of an LUN and response with an LUA inside T12.			
3.	Check that the uninhibition is	performed and stop traffic.		
4.	Check that the traffic was shared on links $1-1$ and $1-2$ according to the load sharing rules.			
5.	Check that an uninhibition indication was given by the system.			
6.	When B has initiated inhibiti possible when it is requested	on (point 5, test 7.1.1), repeat test in revel by an operation in A.	rse direction. Chec	ck that uninhibition is not

UMBER: 7.6.2		PAGE: 1 of 1	
NCE: Q.704 clause 10, Fig.	. 28		
Management inhibiting			
LE: Manual uninhibition of a l	ink – Without changeback		
E: To check manual uninhibit	ion procedure when the uninhibited link sta	ays unavailable	
GT CONDITIONS: End of te	st 7.1.2 without activation of link 1 – 2 (lin	k 1 – 2 deactivated and inhibited)	
ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL	
GE SEQUENCE:			
SD A		SP B	
SI A		Link	
fic			
l TRAFFIC	>		
i iii ii	<	1 – 1 TRAFFIC	
2 :Request uninhibition			
LUN, SLC 1 – 2	<>	1 – 1 LUA, SLC 1 – 2	
TRAFFIC	>		
	<	1 – 1 TRAFFIC	
fic			
ESCRIPTION			
Start traffic B (and C in VAT) on link 1 – 1.		
Request uninhibition of link T12.	1 - 2 and check that an LUN is received	and that an LUA is sent in response inside	
Check that uninhibition is per	formed correctly and that link $1-2$ stays ι	unavailable.	
Stop traffic and check that it v	was not disturbed.		
When B has initiated inhibition (point 6, test 7.1.2), repeat test in reverse direction. Check that uninhibition is not possible when it is requested by an operator in A.			
	Management inhibiting LE: Manual uninhibition of a l E: To check manual uninhibit CT CONDITIONS: End of test CONFIGURATION: A GE SEQUENCE: SP A Traffic TRAFFIC TRAFFIC TRAFFIC TRAFFIC TRAFFIC TRAFFIC Condition of link To check that uninhibition is person of the link To check that	Management inhibiting LE: Manual uninhibition of a link – Without changeback E: To check manual uninhibition procedure when the uninhibited link st. ST. CONDITIONS: End of test 7.1.2 without activation of link 1 – 2 (link 2) (link 3) (link 3) (link 4) (link 4) (link 4) (link 5) (link 5) (link 6) (

TEST NU	MBER: 7.7		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 10, Fig	. 28		
TITLE: N	Management inhibiting			
SUBTITL	E: Expiration of T12			
PURPOSE	E: To check uninhibition proc	redure on expiration of time T12		
PRE-TEST	Γ CONDITIONS: End of tes	t 7.1.1 (1 – 1 inhibited by A)		
CO	NFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAGI	E SEQUENCE:			
	SP A			SP B
Link	or A		Link	51 B
:Start traff	ic		2	
.Start train				
1 – 2	TRAFFIC	>		
		ζ	1 – 2	TRAFFIC
1 – 1	:Request uninhibition			
1 – 2	LUN, SLC 1 – 1	>		
	T12			
1 – 2	 LUN, SLC 1 – 1	>		
_		<	1 – 2	LUA, SLC 1 – 1
CHANGE	BACK (see Note)	CHANGEBA	CK (see Note)	
1 – 1	TRAFFIC (from 1 – 2)>		
		ζ	1 – 1	TRAFFIC (from 1 – 2)
1 – 2	TRAFFIC	<>	1 – 2	TRAFFIC
:Wait		•	1 2	TIVILLE.
:Stop traffi				
NOTE – A	changeback procedure is per	formed but not described in this uninhibition	on test.	
TEST DE	SCRIPTION			
1.	Start traffic B and C on link 1	1 − 2.		
2.	Request uninhibition of link	1 − 1 and check that an LUN is received.		
3.				
4.	Check that uninhibition is per	formed correctly.		
	Stop traffic and check it was disturbed.	shared on links $1 - 1$ and $1 - 2$ according v	vith the load shari	ng rules and that it was not
6.	Repeat the test but without stopped and an indication is g	sending of an LUA. Check that after the given to the management.	second expiration	n of T12 the procedure is
7.	Check that the duration of T1	2 is inside the specified range.		

TEST NUMBER: 7.8			PAGE: 1 of 1	PAGE: 1 of 1	
REFERENCE: Q.704 cl	ause 10, Fig	. 28			
TITLE: Management inhi	biting				
SUBTITLE: Not possible	uninhibition				
PURPOSE: To check the	actions of the	system when the uninhibition is not po	ossible		
PRE-TEST CONDITION	S: Link 1 – 2	2 unavailable and inhibited and link 1 –	1 available		
CONFIGURATION	: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL		
MESSAGE SEQUENCE:					
SP A			SP B		
Link			Link		
1-1 :Desacti	vate				
1 – X :Reques	t uninhibition				
TEST DESCRIPTION					
1. Deactivate link	1 – 1.				
2. Check that unin	hibition is not	performed.			

TEST N	UMBER: 7.9		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Automatic uninhibition of	a link		
PURPOS	E: To check that the system p	erforms uninhibition procedure when a poi	nt becomes unacce	essible
PRE-TES	ST CONDITIONS: End of tes	t 7.1.1		
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	Si D
:Start traf	fic			
1 /		>		
1 – 2	2 TRAFFIC	<	1 – 2	TRAFFIC
1 - 2	2 :Deactivate (failure)			
1 – 1	LUN, SLC 1 – 1	>		
		<	1 – 1	LUA, SLC 1 – 1
	POINT RESTART I	PROCEDURE IS APPLIED IN A AND	B (see Note)	
1 – 1	TRAFFIC	<>	1 – 1	TRAFFIC
				114 11 10
:Wait :Stop traf	fic			
-		ailable, point restart procedure is applied	in A and B but i	t is not described in this
	n test to simplify the test descri		in 11 and 2 out 1	is not described in this
TEST DI	ESCRIPTION			
1.	Start traffic to B and C on lin	k 1 – 2.		
2.	Deactivate link 1 – 2 and che	ck that an LUN is received on link 1 – 1 an	d response with ar	n LUA within T12.
3.	Check that uninhibition is per	rformed and that the traffic is restarted on l	link 1 – 1 (see Not	e).
4.	Stop traffic, some messages h	ave been lost.		
5.		sending of an LUA. Check that after the n to the OMAP and the link $1-1$ does not		n of T12 the procedure is

TEST NU	UMBER: 7.10.1		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Forced uninhibition of a li	nk – Sending of an LFU		
PURPOS	E: To check forced uninhibiting	on procedure when a point becomes unacce	essible	
PRE-TES	T CONDITIONS: Link 1 – 1	available, link 1 – 2 inhibited by B		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAG	GE SEQUENCE:			
	SP A		SP B	
Link			Link	
:Start traf	fic			
1 – 1	TRAFFIC	>		
		<	1 – 1 TRAFFIC	
1 – 1	:Deactivate (failure)			
1 – 2	LFU, SLC 1 – 2	·>	1 – 2 LUN, SLC 1 – 2	
1 – 2	LUA, SLC 1 – 2	>		
	POINT RESTART	PROCEDURE IS APPLIED IN A AND	B (see Note)	
1 – 2	2. TRAFFIC	>		
		<	1 – 2 TRAFFIC	
:Wait				
:Stop traff	fic			
NOTE – When link $1-2$ becomes available, point restart procedure is applied in A and B but it is not described in this inhibition test to simplify the test description.				
TEST DE	ST DESCRIPTION			
1.	Start traffic to B and C on link 1 – 1.			
2.	Deactivate link $1-1$ and check the reception of an LFU on link $1-2$. Response by an LUN. Check that T13 is stopped and that an LUA is received.			
3.	Check that uninhibition is performed and that the traffic is restarted on link $1-2$ (see Note).			
4.	Stop traffic, some messages h	nave been lost.		

TEST N	UMBER: 7.10.2		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Forced uninhibition of a li	nk – Reception of an LFU		
PURPOS	E: To check uninhibition proc	edure on reception of an LFU		
PRE-TES	ST CONDITIONS: Link 1 – 1	available, link 1 – 2 inhibited by A		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	Si B
:Start traf	fic			
1 – 1	TRAFFIC	>		
		<	1 - 1 $1 - 2$	TRAFFIC LFU, SLC 1 – 2
1 – 1	LUN, SLC 1 – 2	·>	1 – 1	
	CHANGEBACK (see	·	1-1	LUA, SLC 1 – 2
1 – 1	TRAFFIC	>		
1 – 1	TRAFFIC	<>	1 – 1	TRAFFIC
		<	1 – 2	TRAFFIC
:Wait :Stop traf	fic			
_		not described in this uninhibition test.		
TEST DESCRIPTION				
1.	Start traffic to B and C on lin			
2.	Send an LFU to A on link 1 – 2 and check that an LUN is received within T13 and acknowledged by an LUA inside T12.			
3.	Check that the uninhibition is	performed.		
4.	Stop traffic and check that it	was carried on $1 - 1$ and $1 - 2$.		

TEST N	UMBER: 7.11		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig	. 28		
TITLE:	Management inhibiting			
SUBTITI	LE: Expiration of T13			
PURPOS	E: To check uninhibition proc	redure when T13 expires		
PRE-TES	ST CONDITIONS: Link 1 – 1	available and link 1 – 2 inhibited by B		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:			
	SP A		SP B	
Link	S.		Link	
:Start traf	fic			
1 – 1	TRAFFIC	>		
	5 (6.11	<	1 – 1 TRAFFIC	
1 - 1 $1 - 2$		>		
	T13			
1 – 2	2 LFU, SLC 1 – 2	·>	1 – 2 LUN, SLC 1 – 2	
1 – 2	2 LUA, SLC 1 – 2	·>	1 2 Ech, see 1 2	
	POINT RESTART PI	ROCEDURE IS APPLIED IN A AND I	3 (see Note in 7.9)	
1 - 2	2 TRAFFIC	<>	1 – 2 TRAFFIC	
.W.:.				
:Wait :Stop traf	fic			
.Stop trai				
TEST DI	TEST DESCRIPTION			
1.	Start traffic to B and C on link 1 – 1.			
2.	Deactivate link 1 – 1 and check the reception of an LFU. After T13 expires, check the reception of a second LFU and send an LUN. Check the reception of an LUA.			
3.	Check that uninhibition is per	formed correctly.		
4.	Stop traffic and check that it	has been restarted on link 1 – 2. Some mess	sages have been lost.	
5.	Repeat the test but without se that an indication is given to	nding an LUN. Check that after the second the OMAP and that the link $1-2$ carries tra	expiration of T13 the procedure is stopped, ffic normally from A.	
6.	_	3 is inside the specified range.	-	

TEST N	UMBER: 7.12		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig	. 28			
TITLE:	Management inhibiting				
SUBTITI	LE: Additional uninhibition m	essages (LUA, LUN, LFU)			
PURPOS	E: To check the actions of the	system on reception of an additional LUA,	LUN or LFU		
PRE-TES	ST CONDITIONS: Linkset w	ith two available links			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	Т	PE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link	SI D	
:Start traf					
1 – 1,	2 TRAFFIC	> <	1 – 1, 2	TRAFFIC	
		<	1 - 2	LUA, SLC 1 – 1	
1 – 1,	2 TRAFFIC	>			
		ζ	1 - 1, 2	TRAFFIC	
1 37	THE GLOSS A	<································	1 – 2	LUN, SLC 1 – 1	
1 – X	,	>			
1 – 1,	2 TRAFFIC	<>	1 – 1, 2	TRAFFIC	
		<	1 – 2	LFU, SLC 1 – 1	
1 – X	LUN, SLC 1 – 1	>		,	
:Wait	r: a				
:Stop traf	IIC				
TEST DI	ESCRIPTION				
1.	Start traffic to B and C on lin	k 1 – 1 and 1 – 2.			
2.	Send an LUA (SLC $1-1$) on link $1-2$.				
3.	Check that this message has been ignored without impact on the traffic.				
4.	Send an LUN (SLC 1 – 1) on	link 1 – 2.			
5.	Check that an LUA is receive	ed in response without impact on the traffic			
6.	Send an LFU (SLC 1 – 1) on	link 1 – 2.			
7.	Check that an LUN is receive	ed in response without impact on the traffic			
8.	Stop traffic.				

TEST N	UMBER: 7.13	TEST NUMBER: 7.13			
REFERE	NCE: Q.704 clause 10, Fig	. 28			
TITLE:	Management inhibiting				
SUBTITI	LE: Uninhibition at one side a	fter test 7.5			
PURPOS	E: To check uninhibition proc	edure when the inhibition has been asked b	by the two ends of a link		
PRE-TES	T CONDITIONS: End of tes	t 7.5			
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:				
	SP A		SP B		
Link			Link		
:Start traf					
1 – 2	2 TRAFFIC	>			
1 – 2	Z IRAFFIC	<	1 – 2 TRAFFIC		
1 – 1	:Request uninhibition				
1 – 2 LUN, SLC 1 – 1					
1 – 2	TRAFFIC	<>	1 – 2 LUA, SLC 1 – 1		
1 2		<	1 – 2 TRAFFIC		
:Wait					
:Stop traf	fic				
TEST DI	ESCRIPTION				
		11.0			
1. 2.	Start traffic to B and C on link 1 – 2.				
3.	Request uninhibition of link 1 – 1. Check that an LUN is received and response with an LUA within T12. Check that the link stays inhibited (by B).				
4.	Stop traffic and check that it				
5.	Repeat test in reverse direction				

TEST N	UMBER: 7.14		PAGE: 1 of 1					
REFERE	NCE: Q.704 clause 10, Fig	. 28						
TITLE:	Management inhibiting							
SUBTITI	LE: Automatic uninhibition af	ter test 7.5						
PURPOS	E: To check automatic uninhi	bition of a link when the inhibition has bee	en initiated by the	both ends				
PRE-TES	PRE-TEST CONDITIONS: End of test 7.5							
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL				
MESSAC	GE SEQUENCE:							
	SP A			SP B				
Link	ζ.		Link					
:Start traf	fic							
1 – 2	2 TRAFFIC	>						
1 2	Descripto (foilos)	<	1 – 2	TRAFFIC				
1 – 2	` ,							
1 – 1	LFU, SLC 1 – 1	> <	1 – 1	LFU, SLC 1 – 1				
		<	1 – 1	LUN, SLC 1 – 1				
1 – 1	LUN, SLC 1 – 1	>						
1 – 1	LUA, SLC 1 – 1	>						
		<	1 – 1	LUA, SLC 1 – 1				
	POINT RESTART I	PROCEDURE IS APPLIED IN A AND	B (see Note in 7	9)				
1 – 1	TRAFFIC	>						
		<	1 – 1	TRAFFIC				
:Wait								
:Stop traf	fic							
TEST DI	ESCRIPTION							
1.	Start traffic to B and C on lin	k 1 – 2.						
2.	Deactivate link 1 – 2 and che	ck that forced uninhibition is requested by	the both ends whi	ch send LFU.				
3.	Check that LUNs are sent by	both ends in response and that LUAs are so	ent for acknowled	gement.				
4.	Check that the traffic is restar	rted on link $1-1$ and stop traffic.						

TEST NU	UMBE	ER: 7.15		PAGE: 1 of 1		
REFERE	NCE:	Q.704 clause 10, Fig	. 28			
TITLE:	Manag	gement inhibiting				
SUBTITL	LE: A	automatic uninhibition wi	ith two links inhibited			
PURPOS	E: To	check the actions of the	e system when two links are inhibited and v	when the third (an	d last) link is deactivated	
PRE-TES	ST CO	ONDITIONS: Links 1 –	1 and $1-2$ inhibited (by A) and link $1-3$	available		
CC	ONFIG	URATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL	
MESSAG	GE SE	QUENCE:				
		SP A			SP B	
Link	ζ			Link		
:Start traf	fic					
1 – 3	3	TRAFFIC	>			
			<	1 – 3	TRAFFIC	
1 – 3	3	:Deactivate (failure)				
1 – X and/o		LUN, SLC 1 – 1 LUN, SLC 1 – 2	> >			
		(implementation depen	dent: at least one link must be uninhibited)		
			<	1 – X 1 – X	LUA, SLC 1 – 1, and/or	
		POINT RESTART P	ROCEDURE IS APPLIED IN A AND I		LUA, SLC 1 – 2	
	_			(()	,	
1 – 1 and/o		TRAFFIC	<>	1 – 1	TRAFFIC	
1 - 2		TRAFFIC	>	and/or		
			<	1 – 2	TRAFFIC	
:Wait						
:Stop traffic						
TEST DESCRIPTION						
1.	Deactivate link 1 – 3.					
2.	Check that at least one LUN is received and acknowledged with an LUA.					
3.	Chec	k that the traffic is restar	ted on linkset 1. Some messages have been	ı lost.		
4.	Stop	traffic.				

TEST NUMBER: 7.16	EST NUMBER: 7.16		
REFERENCE: Q.704 clause 10, Fig	g. 28		
TITLE: Management inhibiting			
SUBTITLE: Reception of traffic on an	inhibited link		
PURPOSE: To check the actions of the	e system on reception of traffic on an inhibi	ted link	
PRE-TEST CONDITIONS: Link 1 –	1 inhibited by A, link 1 – 2 available		
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAGE SEQUENCE:			
SP A		SP B	
Link		Link	
:Start traffic			
1 – 2 TRAFFIC	>		
	<	1 – 2 TRAFFIC	
	<	1 – 1 TRAFFIC	
:Wait			
:Stop traffic			
TEST DESCRIPTION			
1. Start traffic on link 1 – 1.			
	the inhibited link $1 - 2$. Check that the mess	ages received in A are normally treated.	
3. Stop traffic.			

PAGE: 1 of 3 TEST NUMBER: 7.17.1 REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Management inhibiting test – Normal procedure PURPOSE: To check that the system performs correctly the management inhibiting test PRE-TEST CONDITIONS: Link 1 – 1 inhibited by A, other links are available TYPE OF TEST: VAT, CPT CONFIGURATION: A TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link LLT, SLC 1 – 1 1 – X 1 – X LRT, SLC 1-1T22 T23 1 – X LLT, SLC 1 – 1 LRT, SLC 1 - 1 1 – X TEST DESCRIPTION Check that an LLT is periodically sent by A and check (in VAT) that the duration of timer T22 is inside the 1. specified range. 2. Check that on the reception of an LRT, no action is taken in A. 3. As compatibility test, check that an LRT is periodically sent from B to A.

PAGE: 2 of 3 TEST NUMBER: 7.17.1 (continued) REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Inhibiting test procedure – Normal procedure PURPOSE: See page 1 PRE-TEST CONDITIONS: Link 1 – 1 inhibited by B, other links are available CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link 1 - XLRT, SLC 1 – 1 1 - XLLT, SLC 1 - 1 T23 T22 1 – X LRT, SLC 1 – 1 LLT, SLC 1 – 1 1 - XTEST DESCRIPTION Check that an LRT is periodically sent by A and, in VAT, check that the duration of the timer T23 is inside the 1. specified range. 2. Check that, on the reception of an LLT, no action is taken in A. As compatibility test, check that an LLT is periodically sent from B to A. 3.

TEST NUMBER: 7.17.1 (concluded) PAGE: 3 of 3 REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Inhibit test procedure - Normal procedure PURPOSE: See page 1 PRE-TEST CONDITIONS: Link 1 – 1 inhibited by A and B. The other links are available CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link 1 - XLLT, SLC 1 – 1 1 – X LRT, SLC 1 - 1 LRT 1 - X----> SLC 1 – 1 <-----1 - XT22 LLT, SLC 1 – 1 T23 T23 T22 1 - XLLT, SLC 1 – 1 SLC 1 – 1 1 - XLRT, 1 - XLRT, SLC 1 – 1 1 - XT22 LLT, SLC 1 – 1 T23 T23 T22 TEST DESCRIPTION 1. Check that the LLT and LRT messages are periodically sent from A to B and from B to A.

TEST NUMBER: 7.17.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Inhibit test procedure – Reception of an LLT or LRT on an uninhibited link PURPOSE: To check the actions of the system on reception of an LLT or LRT on an uninhibited link PRE-TEST CONDITIONS: Link 1 – 1 available CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link 1 - 1LLT, SLC 1-11 – 1 LFU, SLC 1 – 1 T13 1 – 1 LUN, SLC 1 – 1 1 - 1LUA, SLC 1-1LRT, SLC 1 – 1 1 - 11 - 1LUN, SLC 1 – 1 T12 1-1 LUA, SLC 1-1TEST DESCRIPTION 1. Send an LLT from B to A and check that an LFU is received. Then, send an LUN and check that an LUA is received. 2. Send an LRT from B to A and check that an LUN is received. Answer with an LUA.

TEST NUM	MBER: 7.17.3		PAGE: 1 of 1		
REFEREN	CE: Q.704 clause 10, Fig.	. 28			
TITLE: M	anagement inhibiting				
SUBTITLE	: Inhibit test procedure – Re	eception of an LLT on a link locally inhibite	ed		
PURPOSE:	To check the actions of the	system on reception of an LLT on a link lo	ocally (not remotely) inhibited		
PRE-TEST	CONDITIONS: Link 1 – 1	inhibited in A, other links are available			
CON	IFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAGE	SEQUENCE:				
	SP A		SP B		
Link	Q2 11		Link		
		<	1 – X LLT, SLC 1 – 1		
1 – X	TELL SLC 1 1	·>			
1 – A	LFU, SLC 1 – 1	/			
	T13				
		<	1 – X LUN, SLC 1 – 1		
1 – X	LUA, SLC 1 – 1	<			
TEST DES	CRIPTION				
1. S	Send an LLT from B to A and	I check that an LFU is received as described	d above.		

TEST NUMBER: 7.17.4		PAGE: 1 of 1				
REFERENCE: Q.704 clause 10, Fig.	z. 28					
TITLE: Management inhibiting						
SUBTITLE: Inhibit test procedure – R	eception of an LRT on a link remotely inhib	pited				
PURPOSE: To check the actions of the	e system on reception of an LRT on a link re	emotely inhibited				
PRE-TEST CONDITIONS: Link 1 –	1 inhibited by B, other links are available					
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL				
MESSAGE SEQUENCE:		·				
SP A		SP B				
Link		Link				
	<	1 – X LRT, SLC 1 – 1				
		I - A LKI, SLC I - I				
1 – X LUN, SLC 1 – 1	>					
T12						
1	<	1 – X LUA, SLC 1 – 1				
TEST DESCRIPTION						
1. Send an LRT from B to A ar	d check that an LUN is received as describe	ed above.				

TEST NUMBER: 8.1		PAGE: 1 of 1
REFERENCE: Q.704 clause	e 11, subclause 12.6, Fig. 46A	
TITLE: Signalling traffic flow	v control	
SUBTITLE: Reception of a T.	FC	
PURPOSE: To check the action	ons of the system on reception of a TF	FC
PRE-TEST CONDITIONS: (One or more link available	
CONFIGURATION: A	TYPE OF TEST	Γ: VAT TYPE OF SP: ALL
MESSAGE SEQUENCE:		
SP A		SP B
Link		Link
:Start traffic		
1 – 1 TRAFFIC		>
	<	1 – 1 TRAFFIC
	<	1-1 TFC, DPC = C
:Wait		
:Stop traffic NOTE – This test requires furt	her study.	
TEST DESCRIPTION		
Start traffic to B and	1 C.	
	ning C and check that this message is a	received correctly.

TEST NUMBER: 8.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 11, subclause 12.6, Fig. 46A TITLE: Signalling traffic flow control SUBTITLE: Sending of TFCs PURPOSE: To check the detection of a level 3 congestion PRE-TEST CONDITIONS: All links available CONFIGURATION: C TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP B SP A SP C Link Link Link :Start traffic 1 - 1**TRAFFIC** (> n/2 E) -----> 2-1 ---- (n E) -----> 1 – 1 <-----<-----2 - 1TRAFFIC $(\leq n E)$ (> n/2 E) -----> 2 – 1 ----- (n E) -----> 1 - 2TRAFFIC <-----1 – 2 <-----2 - 1TRAFFIC (< n E) :Wait 1 - X TFC, DPC = C . One TFC each 8 messages sent to C . or one TFC each 256 octets sent to C 1 - X TFC, DPC = C 2 – 1 -----> 1 - 1TRAFFIC (< n E) -----> 1 – 1 <-----**<-----**2 - 1**TRAFFIC** TRAFFIC (> n (< n E) -----> 2 – 1 -----> 2 - 1E) <----- 1 − 2 <------2 - 1TRAFFIC (< n E) :Wait :Stop traffic NOTE – n is the maximum load capacity of linkset 2. The traffic model used in this test is described in Table 2/Q.706. TEST DESCRIPTION 1. Start traffic to C with a load exceeding n/2 erlang on links 1-1 and 1-2 (n is the maximum load that the link 2 may carry without congestion). 2. Check that the signalling traffic flow control procedure is started in A. Check that a TFC message concerning C is received for each 8 messages received or each 256 octects received in B during the congestion. 3. Reduce the load to 0.1 erlang or less on links 1-1 and 1-2. Check that the congestion disappears and that no TFC is received. 4. Stop traffic. 5. Check that the traffic from C to B has not been disturbed. 6.

TEST NUMBER: 8.3		PAGE: 1 of 1				
REFERENCE: Q.704 subclause 11.2	7					
TITLE: Signalling traffic flow control						
SUBTITLE: Reception of a UPU						
PURPOSE: To check the actions of the	e system on reception of a UPU					
PRE-TEST CONDITIONS: One link	available					
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE (OF SP: see Note			
MESSAGE SEQUENCE:						
SP A			SP B			
Link		Link	31 B			
:Start traffic						
1-1 TRAFFIC (DPC = B, SI = X)	>					
1-1 TRAFFIC (DPC = C, SI = X)	>					
	<	1 – 1	TRAFFIC (OPC = C, SI = X)			
	<	1 – 1	UPU $(OPC = B, SI = X)$			
1-1 TRAFFIC (DPC = C, SI = X)	>					
	<	1 – 1	TRAFFIC (OPC = C, SI = X)			
:Wait :Stop traffic						
NOTE – The impact of the reception of a UPU on the traffic from A to B requires further study. The SPs having user part(s) are concerned.						
TEST DESCRIPTION						
1. Start traffic to B and C with	SI = X.					
2. Send a UPU from B to C wit	Send a UPU from B to C with SI = X with the cause "unknown".					
3. Check that the UPU message	Check that the UPU message is received correctly without impact on the traffic from A to C.					
4. Wait and stop traffic.						
5. Repeat the test with a UPU v	with the cause "unequipped", and with the c	ause "unavailable".				

TEST NUMBER: 8.4 PAGE: 1 of 1 REFERENCE: Q.704 subclause 11.2.7 TITLE: Signalling traffic flow control SUBTITLE: Sending of a UPU PURPOSE: To check the detection of an unavailability of a user part PRE-TEST CONDITIONS: One link available CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: See Note MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic 1 - 1TRAFFIC (to B and C, SI = X) **TRAFFIC** 1 - 1(from B and C, SI = X) :Deactivate user part X (see Note) 1 - 1**MESSAGE** (from B to A, SI = X) 1 - 1UPU (DPC = B, SI = X)MESSAGE 1 - 1(from C to A, SI = X) UPU 1 - 1(DPC = C, SI = X)MESSAGE 1 - 1(from B to A, SI = X) 1 - 1UPU (DPC = B, SI = X):Reactivate user part X TRAFFIC 1 - 1(from B and C to A, SI = X) 1 - 1TRAFFIC (to B and C, SI = X) :Wait :Stop traffic NOTE - The notion of unavailability of a user part is specific to the implementation, consequently, the ability to deactivate a user part is implementation dependent. The SPs having user part(s) are concerned. TEST DESCRIPTION 1. Start traffic to B and C with SI = X. 2. Deactivate the user part X. 3. Send a message from B to the user part X in A and check that this message is discarded and that a UPU is sent back with the cause "unavailable". 4. Send a message from C to the user part X in A and check that this message is discarded and that a UPU is sent back with the cause "unavailable". 5. Repeat point 3 and reactivate the user part. 6. Check that the messages sent from B and C are received correctly and that no UPU is sent back. Wait and stop traffic. 7. Repeat the test for an unequiped user part, and verify that a UPU is sent back with the cause "unequipped".

TEST NUMBER: 9.1.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Sending of a TFP on an alternative route - Failure of normal linkset PURPOSE: To check the sending of a TFP on the alternative route when the normal linkset becomes unavailable PRE-TEST CONDITIONS: All linksets available CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP Link Link Link Link :Start traffic -----> 5-1 -----> 1 - 1TRAFFIC SP D 6-1 -----> (from A and F) SP Ε -----> 7 - 1 -----> 2 - 1TRAFFIC SP E (from A and F) 1 - 1:Deactivate (MML command or failure) 2 - 1TFP, PC = B2 - 1TFA, PC = B(this TFA is sent via C) 2 - 1TFP, PC = D2 - 1TFA, PC = D(this TFA is sent via C) 2 - 1TRAFFIC -----> 7-1 ----> SP E (from 1 - 1)8-1 ----> SP D :Wait :Stop traffic NOTE – A changeover procedure is performed after deactivation of link 1-1 but is not described in this transfer prohibited TEST DESCRIPTION Start traffic to D and E on linkset 1 and 2 1. 2. Deactivate link 1 - 1 and check that TFPs concerning B and D are sent from A to C (alternative route to reach B and D). Check that no TFP concerning E is sent from A to C (load sharing between linksets 1 and 2 in A to reach E). Check that TFAs concerning B and D are sent from A to B (via C). 3. Check that time out T8 is started for each TFP sent. 4. Check that traffic to D and E is diverted to C. 5. Stop traffic and check that it was not disturbed.

TEST NUMBER: 9.1.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Sending of a TFP on an alternative route – On reception of a TFP PURPOSE: To check the sending of a TFP on the alternative route when the normal route becomes unavailable on reception of a TFP PRE-TEST CONDITIONS: Linkset 4 unavailable CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP B SP C SP • SP A Link Link Link Link :Start traffic 1 - 1**TRAFFIC** -----> 5-1 -----> SP D (from A and F) 6-1 -----> SP Е -----> 7 - 1 -----> Е 2 - 1TRAFFIC SP (from A and F) 5 - 1:Deactivate 1 - 1See Note TFP, PC = D2 - 1TFP, PC = D1 - 1TFA, PC = D1 - 1TRAFFIC -----> 6-1 -----> SP E (from A and F) **TRAFFIC** -----> 8-1 ----> 2 - 1SP D 7 – 1 -----> (from A and F, and from 1 - 1 to D) SP Е :Wait :Stop traffic NOTE - A forced rerouting is performed after the reception of TFP for D in A but it is not described in this transfer prohibited test. TEST DESCRIPTION Start traffic to D and E. 1. 2. Deactivate link 5 - 1 and check that a TFP concerning D is sent to A. 3. Check that a TFP concerning D is received from A and that traffic to D is diverted via C. Check that a TFA concerning D is sent from A to B. 4. Check that a time out T8 is started. 5. Stop traffic and check that traffic to E has not been disturbed. Some messages to D may have been lost.

TEST N	UMBER: 9.2.1			PAGE: 1 of 1			
REFERE	NCE: Q.704 clause 13, Fig.	29, Fig. 44					
TITLE:	Signalling route management						
SUBTITI	LE: Broadcast of TFPs – On o	ne linkset failure					
PURPOS	E: To check the broadcast of	ΓFPs when one point is inaccessi	ble				
PRE-TES	T CONDITIONS: All linkset	s available					
CO	ONFIGURATION: D	TYPE OF TEST: VA	Г, СРТ		TYPE OF SP:	STP	
MESSAC	GE SEQUENCE:						
	SP A	SP B		SP C		SP	F
Link :Start traf		Link	I	Link	Link		
3 – 1	TRAFFIC (from A, D and E)			·····>			
3 – 1	:Deactivate	(MML command or failure)					
1 - 1 $2 - 1$		>					
:Wait :Stop traf	fic						
		presented to simplify the test de	scription.				
TEST DE	SCRIPTION						
1.	Start traffic to F.						
2.	Deactivate link 1 – 1 and chee	ck that a TFPs concerning F are	broadcaste	d.			
3.	Check that a timer T8 is start	ed.					
4.	Stop traffic.						

TEST NU	UMBER: 9.2.2	TEST NUMBER: 9.2.2			
REFERE	NCE: Q.704 clause 13, Fig. 2	29, Fig. 44			
TITLE:	Signalling route management				
SUBTITL	LE: Broadcast of TFPs – On o	ne multiple failures			
PURPOS	E: To check the broadcast of	ΓFPs when several p	oint are inaccessible (v	various reasons)	
PRE-TES	T CONDITIONS: Linkset 1	unavailable			
CC	ONFIGURATION: D	TYPE OF T	TEST: VAT, CPT	TYPE (OF SP: STP
MESSAG	SE SEQUENCE:				
SI	P A	SP B	SP C		SP •
Link		Link	Link	L	ink
:Start traf	fic				
(FRAFFICfrom A and F) Deactivate (MML command or	8	_ 1 _ 1		SP E SP D
$\begin{vmatrix} 3-1 & 7 \\ 3-1 & 7 \\ 3-1 & 7 \end{vmatrix}$	ΓFP, PC = B ΓFP, PC = C ΓFP, PC = D			·>	SP F
:Wait :Stop traff	ñic				
TEST DES	SCRIPTION				
1. 2. 3. 4.	Start traffic to D and E. Deactivate linkset 2 and check Check that for each TFP sent Repeat test but with linkset 2	a timer T8 is started			

TEST NUMBER: 9.2.2 (continued) PAGE: 2 of 2 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Broadcast of TFPs - On multiple failures PURPOSE: See page 1 PRE-TEST CONDITIONS: Linksets 1 and 4 unavailable TYPE OF TEST: VAT, CPT CONFIGURATION: D TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP C SP D SP • Link Link Link Link :Start traffic 2 - 1TRAFFIC ----> 8-1 ----> 7-1 -----> (from A and F) SP E 8-1: Deactivate \leftarrow 2 – 1 TFP, PC = D 3 - 1TFP, PC = D -----> SP F -----> 7-1 -----> 2 - 1TRAFFIC SP E (from A and F) :Wait :Stop traffic TEST DESCRIPTION Start traffic to D and E. 1. 2. Deactivate linkset 8 and check that a TFP (PC = D) is sent. Check that TFPs are broadcasted (here to F). 3. Check that a time out T8 started. 4. Stop traffic and check that traffic to E has not been disturbed. Repeat the test with linksets 2 and 4 unavailable as pre-test conditions and then deactivate linkset 5. Repeat the test 5. with linksets 4 and 8 unavailable as pre-test conditions and then deactivate linkset 1. Repeat the test with linksets 4 and 5 unavailable as pre-test conditions and then deactivate linkset 2. 6.

TEST NUMBER: 9.3 PAGE: 1 of 2 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Reception of a message for an unaccessible destination PURPOSE: To check that a TFP is sent in response to a message received for an unaccessible destination PRE-TEST CONDITIONS: Linksets 1, 4 and 8 unavailable CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP F Link Link :Sent a message to D <-----MESSAGE TO D 3 - 13 - 1TFP, PC = DT8 3 - 1MESSAGE TO D TEST DESCRIPTION Send from F a message with OPC = D to A. 2. Check that a TFP PC = D is sent in response. Check that a time out T8 is started. During T8, send a new message with OPC = D to A and check that no TFP is sent. 3.

TEST NUMBER: 9.3 (continued)			PAGE: 2 of 2		
REFE	ERENCE: Q.704 clause 13, Fig.	29, Fig. 44			
TITL	E: Signalling route management				
SUBT	ΓΙΤLE: Reception of a message for	or an unaccessible destination			
PURI	POSE: See page 1				
PRE-	TEST CONDITIONS: Linksets 1	and 8 unavailable			
	CONFIGURATION: D	TYPE OF TEST: VAT		TYPE OF SP: STP	
MESS	SAGE SEQUENCE:				
	SP A	SP B	P C	SP •	
Link		Link	Link	Link	
:Start	traffic				
3 - 1 3 - 1 2 - 1	(from A, D and E) :Deactivate (MML command of TFP, PC = F	r failure)	4-12-1	SP F MESSAGE TO F	
TEST	DESCRIPTION				
1.	Start traffic to F.				
2.	Deactivate linkset 3 and check th		,		
3.	Within T8, send one message wit	th DPC = F from C to A and check t	hat no	IFP is sent in response.	

TEST NUMBER: 9.4.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45 TITLE: Signalling route management SUBTITLE: Sending of a TFA on an alternative route – Recovery of normal linkset PURPOSE: To check the sending of a TFA on an alternative route when the normal linkset becomes available PRE-TEST CONDITIONS: Linkset 1 unavailable (end of test 9.1.1) CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic 2 - 1TRAFFIC -----> 8 – 1 -----> SP D (from A and F) 7-1 ----> SP Е 1 - 1: Activate (depending of the activation mean previously used) 2 - 1TFA, PC = B2 - 1TFA, PC = D1 - 1TFP, PC = D1 - 1TFP, PC = E----> ----> 5-1 -----> 1 - 1**TRAFFIC** SP D (from A and F and 6-1 ----> SP Ε from 2-1) -----> 7-1 -----> 2 - 1FRAFFIC SP Е (from A and F) :Wait :Stop traffic NOTE – A changeback procedure is performed after activation of link 1-1 but it not described in this transfer allowed test. TEST DESCRIPTION 1. Start traffic to D and E. 2. Activate linkset 1 and check that traffic to D and E is diverted on linkset 1 and that a TFA concerning D is sent from A to C. Check that no TFA is sent concerning E (load sharing in A between linksets 1 and 2). 3. Stop traffic and check that it was rerouted correctly without loss of messages, duplication and misequencing.

TEST NUMBER: 9.4.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45 TITLE: Signalling route management SUBTITLE: Sending of a TFA on an alternative route - On reception of a TFA PURPOSE: To check that a TFA is sent on the alternative route when the normal route becomes available on reception of a TFA PRE-TEST CONDITIONS: Linksets 4 and 5 unavailable (end of test 9.1.2) CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic 1 - 1TRAFFIC ----> 6-1 -----> SP E (from A and F) 2 - 1TRAFFIC -----> 7-1 -----> SP E (from A and F) 8 – 1 -----> SP D 5-1: Activate \leftarrow 1 – 1 TFA, PC = D See Note 1 - 1TFP, PC = D----> ----> 2 - 1TFA, PC = D----> 5-1 -----> 1 - 1TRAFFIC SP D 6-1 -----> (from A and F, from 2-1 to D) SP E -----> 7 = 1 -----> 2 - 1TRAFFIC SP E (from A and F) :Wait :Stop traffic NOTE – A controlled rerouting is performed after the activation of linkset 5 it not described in this transfer allowed test. TEST DESCRIPTION Start traffic to D and E. 1. 2. Activate link 5 - 1 and check that a TFA concerning D is sent to A. 3. Check that the traffic to D via B and check that a TFA concerning D is sent from A to C. 4. Stop traffic and check that traffic was not disturbed.

TEST NUMBER: 9.5.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45 TITLE: Signalling route management SUBTITLE: Broadcast of TFAs – On one linkset recovery PURPOSE: To check the broadcast of TFA when a destination becomes accessible PRE-TEST CONDITIONS: Linksets 3 unavailable (end of test 9.2.1) TYPE OF TEST: VAT, CPT CONFIGURATION: D TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link 3 - 1:Activate (see Note 1) 1 - 1TFA, PC = F -----> (see Note 2) TFA, PC = F -----> (see Note 2) :Start traffic SP F TRAFFIC 3 - 1(from A and F) :Wait :Stop traffic **NOTES** 1 After activation of the linkset 3, SPs A and F perform a point restart procedure which is not explicitly described in this test. 2 The propagation of TFAs is not presented to simplify the test description. TEST DESCRIPTION 1. Activate linkset 3. 2. Check that TFAs concerning F are broadcasted. 3. Start traffic to F and check that it is routed correctly; stop traffic.

TEST NUMBER: 9.5.2		PAGE: 1 of 2		
REFERENCE: Q.704 clause 13, Fig.	29, Fig. 45			
TITLE: Signalling route management				
SUBTITLE: Broadcast of TFAs – Vari	ous reasons			
PURPOSE: To check the broadcast o	f TFA when several destinations become a	accessible in various network situations		
PRE-TEST CONDITIONS: Linksets	1 and 2 unavailable (end of test 9.2.2 page	1 of 2)		
CONFIGURATION: D	TYPE OF TEST: VAT, CPT	TYPE OF SP: STP		
MESSAGE SEQUENCE:				
SP A	SP B SP C	SP •		
Link	Link Link	Link		
3-1 TFA, PC = C 3-1 TFA, PC = D 3-1 TFA, PC = E 2-1 TFP, PC = B 2-1 TFP, PC = D 2-1 TFP, PC = E :Start traffic		SP F SP F SP F SP F SP F		
	e, SPs A and C perform the point restart pr	ocedure which is not described in this test.		
TEST DESCRIPTION				
1. Activate linkset 2.				
2. Check that TFAs concerning	B, C, D and E are broadcasted.			
3. Start traffic and check that it	is routed correctly; stop traffic.			
4. Repeat test but activate links	set 1 instead of linkset 2.			

TEST NUMBER: 9.5.2 (continued) PAGE: 2 of 2 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45 TITLE: Signalling route management SUBTITLE: Broadcast of TFAs - Various reasons PURPOSE: See page 1 of 2 PRE-TEST CONDITIONS: Linksets 1, 4 and 8 unavailable (end of test 9.2.2 page 2 of 2) CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic 2 - 1-----> 7 - 1 -----> TRAFFIC SP E (from A and F) 8-1: Activate $\leq ---- 2 - 1$ TFA, PC = D 2 - 1TFP, PC = D -----> 3 - 1TFA, PC = DSP F -----> 7 - 1 -----> 2 - 1TRAFFIC SP E 8-1 -----> (from A and F) SP D :Wait :Stop traffic TEST DESCRIPTION Start traffic to E. 1. Activate linkset 8 and check that a TFA concerning D is sent from C to A. Check that A broadcasts TFAs 2. concerning D. Check that the traffic to D is restarted. 3. Repeat test with linksets 2, 4 and 5 unavailable as pre-test conditions and activate linkset 5. Repeat test with 4. linksets 1, 4 and 8 unavailable as pre-test conditions and activate linkset 1. Repeat test with linksets 2, 4 and 5 as pre-test conditions and activate linkset 2.

TEST NUMBER: 9.6 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 46 TITLE: Signalling route management SUBTITLE: Periodic sending of Signalling-Route-Set-Test messages (SRST) PURPOSE: To check the periodic test of a unavailable signalling route is performed correctly PRE-TEST CONDITIONS: Linkset 2 unavailable CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic **TRAFFIC** 1 - 11 - 1TRAFFIC 1 - 1RST, PC = CT10 RST, PC = CT10 2 - 1: Activate 1 - 1TFA, PC = CTRAFFIC 1 - 11 - 1TRAFFIC :Wait :Stop traffic TEST DESCRIPTION Start traffic to B. 1. Check that at each expiration of T10, a signalling-Route-Set-Test message concerning C is received from A without 2. response. 3. Activate linkset 2 and check that a TFA is received and that T10 is stopped. 4. Check that traffic to C is restarted and stop traffic. Repeat the test but without sending of TFA after activation of linkset 2 and check that when a RST is received a 5. TFA is sent in response. Check that T10 and signalling-route-set-test procedure are stopped. Check that the duration of T10 is inside the specified range. 6.

TEST NUMBER: 9.7 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 46 TITLE: Signalling route management SUBTITLE: Reception of a Signalling-Route-Set-Test-Message PURPOSE: To check the actions of the system on reception of an SRST PRE-TEST CONDITIONS: Linksets 2 and 3 unavailable CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP F Link Link Link 1 - 1RST, PC = F:Activate 3 - 1T10 TFA, PC = F(Ignored) 1 - 1RST, PC = F1 - 1T10 1 - 1TFA, PC = FTRAFFIC 3 - 1(from A, D and E) :Wait :Stop traffic TEST DESCRIPTION 1. Send to A RST message concerning F and check that no response is received. 2. Activate linkset 3 and check that a TFA is received but ignored in B. 3. Send a RST message concerning F after activation of linkset 3 and check that a TFA is received in response. Repeat the test but with linksets 1 and 3 unavailable as pre-test conditions and RST message sent from C. 4.

TEST NUMBER: 10.1.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has not STP function) – With use of point restart procedure PURPOSE: To check that point restart procedure is performed correctly when the recovery of a linkset restores connexity between two adjacent SPs PRE-TEST CONDITIONS: Linksets 1, 2, 4 and 6 unavailable CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: SP MESSAGE SEQUENCE: SP B SP C SP? SP A Link Link Link Link -----> 7 – 1 3 - 1, 2**TRAFFIC** SP E 8 - 1SP D <----- 3 – 1, 2 <-----7 - 1SP E <-----8 - 1SP D 2 - 1:Activate 2 - 1Activation (link in service at level 2) T21 2 - 1TRA ----> TFP (PC = C)2 - 1TFP (PC = E)2 - 1TRA 5 - 1SP D TFA (PC = A)TIME CONTROLLED DIVERSION IS APPLIED -----> 5 - 1 -----> 2 - 1TRAFFIC SP D (from 3 - 1, 2)-----> 2 - 1 -----> 5 - 1SP D -----> 7 - 1 -----> 3 - 1, 2TRAFFIC SP E 8 – 1 -----> SP D <----- 3 – 1, 2 <-----7 - 1SP E :wait :Stop traffic NOTE - The time controlled diversion procedure is applied in A and a controlled rerouting is performed in D. These procedures are not described in this point restart test. TEST DESCRIPTION Start traffic to E (and D in VAT) 1. 2. Activate link 2-1 and check that the timer T21 is started. Check that TFPs sent from B are received in A. Check that the timer T21 is stopped on reception of the TRA message received from B. Check that the time controlled diversion procedure is performed at the end of T21. Check that the traffic to D is 3. diverted to the link 2-1 in accordance with the load sharing rules in A. Check that the traffic to E is not diverted. Stop traffic and check that there were no lost messages, no duplication and no missequencing. 4. Repeat the test (in VAT) without sending of TRA and check that the duration of timer T21 is inside the specified 5. range.

MTP LEVEL 3 PAGE: 1 of 1 TEST NUMBER: 10.1.2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has not STP function) – With use of point restart procedure PURPOSE: To check the actions of the system in case of restart of a linkset PRE-TEST CONDITIONS: Linksets 1, 2 and 6 are unavailable CONFIGURATION: B TYPE OF TEST: VAT TYPE OF SP: SP MESSAGE SEQUENCE: SP A SP B SP C SP Link Link Link Link :Start traffic -----> 7 - 1 -----> SP E 3 - 1, 2**TRAFFIC** 8-1 ----> SP D 4 – 1 <-----5 - 1SP D |-----> 3 – 1, 2 <------<------ 3-1,2 <------</p> SP E 2 - 1:Activate CHANGEBACKS ARE PERFORMED IN A AND B (see Note) -----> 4-1 -----> 7-1 -----> 2 - 1TRAFFIC SP E -----> 5-1 ------> 2 - 1TRAFFIC SP D -----> 7-1 -----> 3 - 1, 2TRAFFIC SP E 8 – 1 -----> SP D -----> 2-1 <-----5 - 1SP D ----> 3-1,2 ----> 7 - 1SP E :Wait :Stop traffic NOTE – After activation of link 2 – 1, changebacks are performed in A and B but they are not explicitly described in this point restart test. TEST DESCRIPTION

- 1. Start traffic to E and D.
- 2. Activate link 2 –1. Check that the point restart procedure is not applied and that changebacks are performed.
- 3. Check that the traffic from A is diverted to the link 2-1 in accordance with the load sharing rules in A.
- 4. Check that the signalling route set test procedure is not applied after the activation of the link 2-1.
- 5. Stop traffic and check that were no lost messages, no duplication and no missequencing.

TEST NUMBER: 10.2.1 PAGE: 1 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has STP function) – With use of point restart procedure PURPOSE: To check that restart procedure is performed correctly when the recovery of a linkset restores connexity between two adjacent SPs PRE-TEST CONDITIONS: Linksets 1, 3, 4 and 6 are unavailable TYPE OF TEST: VAT, CPT TYPE OF SP: STP CONFIGURATION: D MESSAGE SEQUENCE: SP B SP? SP A SP C Link Link Link Link :Start traffic -----> 7 - 1 -----> 2 - 1**TRAFFIC** SP E 8-1 ----> SP D <----- 2-1 <-----7 - 1SP E 8 - 1SP D 1 - 1:Activate 1 - 1Activation (link in service at level 2) T21 T21 1 - 1TFP (PC = F) -----> 1 - 1TRA TFP (PC = C)1 - 1TFP (PC = E)SP D 1 - 1<-----1 - 1TRA 5 - 1TFA (PC = A)2 - 1TFA (PC = B) -----1 - 1TFP (PC = D) \longrightarrow TIME CONTROLLED DIVERSION IS APPLIED **TRAFFFIC** ----> 5 – 1 -----> 2 - 1SP D <----- 1 – 1 <------5 - 1SP D <----- 2 - 1 <-----SP D -----> 7 - 1 -----> 2 - 1SP E TRAFFFIC <----- 2 – 1 <------7 - 1SP E :Wait :Stop traffic TEST DESCRIPTION 1. Start traffic to D and E. 2. Activate link 1 – 1 and check that the timer T21 is started in A (and B in CPT). Check that TFPs are sent from B to A for E and C, and that a TFP is sent from A to B for F. 3. Check that timer T21 in SP A and timer T21 in SP B expire at about the same time. Check that a TFA is sent from A to C for B. 4. Check that the controlled time diversion is applied in A. Check that the traffic to D is diverted on link 1-1. Stop traffic and check that there were no lost messages, no duplication and no missequencing. 5. 6. Repeat the test (in VAT) without sending TRA from B to A and check that the duration of timer T21 is inside the specified range.

TEST NUMBER: 10.2.1 (continued) PAGE: 2 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has STP function) - With use of point restart procedure PURPOSE: See page 1 of 2 PRE-TEST CONDITIONS: Linksets 3, 4 and 6 are unavailable (end of page 1) CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP? Link Link Link Link ----> 5 - 1 -----> 1 - 1TRAFFIC SP D <----- 1 – 1 <------5 - 1SP D 8 - 1SP D 2 - 1TRAFFIC 7 – 1 -----> SP E SP E 2 – 1 <-----7 - 13 - 1:Activate Activation (link service at level 2) T21 SP F 3 - 1SP F TRA 2 - 1TFA (PC = F)TFA (PC = F)**---->** 1 - 1SP D 5 – 1 -----> TRAFFIC ----> 1 - 1(from A and F) **<-----** 1 − 1 **<-----**5 - 1SP D -----> 7 - 1 -----> TRAFFIC SP E 2 - 1(from A and F) 7 - 1SP E <----- 2 - 1 <-----:Wait :Stop traffic TEST DESCRIPTION 1. Start traffic. Activate link 3 - 1 and check that the timer T21 is started in A (and F in CPT). 2. Check that timer T21 en SP A and timer T21 in SP F expire at about the same time. Check that a TFA is sent from 3. A to C for F and from A to B for F. Stop traffic and check that there were no lost messages, duplication and no missequencing. 4.

TEST NUMBER: 10.2.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has STP function) – Without use of point restart procedure PURPOSE: To check the actions of the system in case of restart of a linkset PRE-TEST CONDITIONS: Linkset 1 unavailable CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP Link Link Link Link :Start traffic SP D -----> 2 - 1TRAFFIC 8 – 1 -----> (from A and F) SP E <-----2 – 1 <-----7 - 1SP E 8 - 1SP D 1 - 1:Activate (see Note 1) CHANGEBACKS ARE PERFORMED IN A AND B (see Note 2) SP D TRAFFIC 1 - 1----> 5 – 1 -----> (from A and F, 6-1 <-----SP E from 2-1) 2 - 1TRAFFIC -----> 7 - 1 -----> SP E 2 – 1 <-----7 - 1SP E 8 - 1SP D (see Note 1) :Wait :Stop traffic **NOTES** 1 Depending of the routing rules in D and E, the traffic to A and F may be carried either on linksets 5 or 8, or on linksets 2 Changebacks are performed but they are not explicitly described in this point restart test. **TEST DESCRIPTION** 1. Start traffic to D and E. 2. Activate link 1 - 1. Check that point restart procedure is not applied in this case and that changebacks are performed. Check that the traffic to D and E is diverted on link 1-1 in accordance with the load sharing rules in A. 3. 4. Check that the signalling route set test procedure is not used. 5. Stop traffic and check there were no lost messages, no duplication and no missequencing.

TEST NUMBER: 10.3 PAGE: 2 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: An adjacent SP becomes accessible via another SP (SP A has not STP function) PURPOSE: To check the actions of the system when an adjacent SP becomes accessible via another SP PRE-TEST CONDITIONS: Linksets 1, 3, 4, 5 and 6 are unavailable TYPE OF TEST: VAT CONFIGURATION: B TYPE OF SP: SP MESSAGE SEQUENCE: SP A SP • SP B SP C Link Link Link Link 4 - 1:Activate <-----4 - 1TFP (A) TFPs 4-1(D and E) T21 T21 TRA 4 - 1TRA 4 – 1 -----> 2 - XSP E TFAx 7 - 1TFAs (A,B) -----> (PCs = C, D and E)8 - 1SP D TFAs (A,B) -----> T21 (for D and C) (Broadcasting mode) T21 in D for A 2 - 1, 2TRAFFIC 4 - 1----> 7 - 1----> SP E 2 - 1, 2<-----SP E 4 - 17 - 1TRAFFIC ----> 4 – 1 ----> ----> SP D 2 - 1, 28 - 1<----- 2 – 1, 2 SP D <-----4 - 18 - 1:Wait :Stop traffic **TEST DESCRIPTION** Activate link 4 - 1. 1. 2. Check that on the reception of TFAs the traffic is immediately restarted in A to E and that traffic to D is restarted after expiration of T21. Stop traffic and check that there were no lost messages, no duplication and no missequencing. 3.

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TEST NUMBER: 10.4 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: An adjacent SP becomes accessible via another SP (SP A has STP function) PURPOSE: To check the actions of the system when an adjacent SP becomes accessible via another SP on reception of a TFA PRE-TEST CONDITIONS: Linksets 1, 3 and 4 are unavailable CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP D Link Link Link Link 2 - 1**TRAFFIC** -----> 7 - 1 -----> SP E (from A) 8 – 1 -----> SP D 2 – 1 <-----SP E 7 - 18 - 1SP D 4 - 1 Activate 4 - 1 Activation (link in service at level 2) T21 TFP (PC = F)TRA TFP (PC = A)TFP (PC = F)TRA 4-1 ----> TFA (PC = C)4-1 -----TFA (PC = C) 5-1 -----> SP D 6-1 -----> TFA (PC = C)SP E 5-1 -----> TFA (PC = A)SP D TFA (PC = A) 6-1 -----> SP E 7 - 1 TFA (PC = B) -----> SP E 8-1 TFA (PC = B) -----> SP D 2-1 TFA (PC = B) <-----_____ 2 - 1TFP (PC = F)<----- 4 – 1 -----:Wait :Stop traffic NOTE – preventive TFPs might be sent after the expiry of T21. TEST DESCRIPTION Start traffic. 1. 2. Activate link 4 – 1.

- 3. Check that, when the TFA is received for B, SF A is aware of that B is an adjacent point which restart, and consequently A sends a TFP concerning F on link 2 1 to B.
- 4. Stop traffic and check that there were no lost messages, no duplication and no missequencing.

TEST NUMBER: 10.5 PAGE: 1 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Restart of an SP having no STP function PURPOSE: To check the restart procedure in an SP having no STP function PRE-TEST CONDITIONS: SP A unavailable CONFIGURATION: B TYPE OF TEST: VAT CPT TYPE OF SP: SP MESSAGE SEQUENCE: SP A SP C ? SP В SP Link Link Link Link :Activate X - XActivation (first link in service at level 2) T20 T21 SP D T21 T21 <----- TRA 2-1 <----- TRA 3-1 TRA 1 - 1when all (or sufficient) links are available 2 - 1TRA ----> TFA (PC = A) are broadcast 3 - 1TRA -----> TFA (PC = A) are broadcast TRA -----> 1 - 1TRAFFIC -----> 1 - 1, 2SP D 1 - 1, 2SP D TRAFFIC -----> 5-1 -----> 2 - 1,2SP D 6-1 -----> SP E TRAFFIC -----> 8-1 -----> 3 - 1,2SP E 7 – 1 -----> SP E ----- 3 – 1, 2 <-----7 - 1SP E :Wait :Stop traffic **TEST DESCRIPTION** 1. Activate SP A 2. Check that when the first link is in service at level 2, the timer T20 is started. 3. Check that when all (or sufficient) links are activated, and all TRAs are received from B, C and D timer T20 is stopped. Check that SP A broadcasts TRAs to B, C and D. 4. 5. Check that the traffic is carried as described above. 6. Stop traffic. 7. In VAT, repeat the test without sending TRA from B to A, and check that the duration of T20 is inside the specified 8. In VAT, repeat the test without activating the link 1-1, and check that the duration of T20 in inside the specified range.

TEST NUMBER: 10.5 (continued) PAGE: 2 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Restart of an SP having no STP function PURPOSE: To check the restart procedure in an SP having no STP function PRE-TEST CONDITIONS: SP A, linksets 6 and 7 unavailable CONFIGURATION: B TYPE OF TEST: VAT TYPE OF SP: SP MESSAGE SEQUENCE: SP C SP ? SP A SP B Link Link Link Link :Activate X - XActivation (first link in service at level 2) T21 T21 SP D \leftarrow TFP (PC = E) 2 – 1 <----- TRA 2-1 \leftarrow TFP (PC = E) 3 – 1 <----- TRA 3 - 1TRA 1-1when all (or sufficient) links are available 2 - 1TFAs (PC = A) are broadcast 3 - 1TFAs (PC = A) are broadcast 1 - 1TRAFFIC -----> 1 - 1.2SP D <------SP D 1 - 1, 2TRAFFIC -----> 5-1 -----> 2 - 1, 2SP D 6-1 -----> SP E -----> 8-1 -----> 3 - 1, 2TRAFFIC SP D 7 – 1 -----> SP E ----- 3 – 1, 2 <-----SP E 7 - 1:Wait :Stop traffic TEST DESCRIPTION 1. Activate SP A. 2. Check that when the first link is in service at level 2, the timer T20 is started. Check that when all (or sufficient) links are activated, and all TRAs are received from B, C and D timer T20 is 3. stopped. Check that SP A broadcasts TRAs to B, C and D. 4. Check that the traffic is carried as described above. 5. 6. Stop traffic. 7. Repeat the test without sending TRA from B to A, and check that the duration of T20 is inside the specified range. 8. Repeat the test without activating the link 1-1, and check that the duration of T20 is inside the specified range.

TEST NUMBER: 10.6 PAGE: 1 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Restart of an SP having the STP function PURPOSE: To check the restart procedure in an SP having STP function PRE-TEST CONDITIONS: SP A unavailable CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP ? Link Link Link Link :Activate X - XActivation (first link in service at level 2) T18 T21 SP F T21 \leftarrow TFP (PC = F) 1-1<----- TRA 1 – 1 \leftarrow TFP (PC = F) 2 – 1 <----- TRA 2-1 <----- TRA 3-1 when all (or sufficient) links are available and when all (or sufficient) TRA have been received 1 - 1TFP (PC = D) \longrightarrow 1 - 1TFP (PC = E) \longrightarrow TFP (PC = D) -----> 2 - 12 - 1TFP (PC = E) -----> TRA -----> 1 - 1 \leftarrow TFP (PC = F) 1 – 1 TFAs(A) are broadcast TRA ----> 2 - 1 $\langle TFP (PC = F) \rangle = 1$ TFAs (A) TFAs(A) are broadcast 3 - 11 - 1TRAFFIC -----> 5 - 1 -----> Via B or C to A and F < 5 – 1 or 8 – 1 (from A and F) SP D SP E 2 - 1TRAFFIC -----> 7-1 -----> SP E Via B or C to A and F <-----SP E (from A and F) 6 - 1 or 7 - 1:Wait :Stop traffic NOTE – Preventive TFPs are possibly sent after the expiry of T20. Preventive TFPs for the highest priority routes might not be TEST DESCRIPTION 1. Activate SP A. 2. Check that when the first link is in service at level 2, the timer T20 is started. 3. Check that when all (or sufficient) links are activated, and all TRAs are received from B, C and D timer T18 is stopped. 4. Check that SP A broadcasts TRAs to B, C and F. Check that the traffic is carried as described above. 5. 6. Stop traffic. Repeat the test (in VAT) but send the traffic from F to D and E via A immediately after alignment of link 3 - 1 and 7. check that this traffic is discarded until the end of T20.

TEST NUMBER: 10.6 (continued) PAGE: 2 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Restart of an SP having the STP function PURPOSE: To check the restart procedure in an SP having STP function PRE-TEST CONDITIONS: SP A unavailable and linkset 2 and 4 definitively unavailable TYPE OF TEST: VAT, CPT CONFIGURATION: D TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP ? Link Link Link Link :Activate X - XActivation (first link in service at level 2) T18 T21 SP F T20 \leftarrow TFP (PC = F) 1 – 1 \leftarrow TFP (PC = C) 1 – 1 <---- TRA 1 - 1TRA 3-1at the end of timer T18 1 - 1TFP (PC = C) \longrightarrow 1 - 1TFP (PC = D) \longrightarrow 1 - 1TFP (PC = E) -----> 1 - 1TRA -----> \leftarrow TFP (PC = F) 1 – 1 TFAs (A) are broadcast TFP (PC = C) -----3 - 1TRA -----> 3 - 1TRAFFIC -----> 5-1 -----> 1 - 1SP D 6-1 -----> SP E (from A and F) to A and F $\,\,$ <------5 - 1SP D to A and F $\,\,$ <------SP D :Wait :Stop traffic NOTE – Preventive TFPs may be sent after the expiry of T20. Preventive TFPs for the highest priority routes may not be sent. **TEST DESCRIPTION** 1. Activate SP A beginning by the activation of 3 - 1, activate link 1 - 1. 2. Stop traffic.

TEST NU	MBER: 10.7.1		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 9			
TITLE: S	Signalling point restart			
SUBTITL	E: Reception of an unexpecte	d TRA – In an SP having no STP function		
PURPOSE	: To check the system in case	e of reception of an unexpected TRA		
PRE-TEST	Γ CONDITIONS: Linkset w	ith one available link		
CO	NFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: SP	
MESSAGI	E SEQUENCE:			
	SP A		SP B	
Link		Link		
1 – 1	114 11 110	> 1 – 1 TRAFF	FIC .	
< 1 – 1 TRATTIC				
1 – 1		>		
	<-	1 – 1 TRA		
:Wait :Stop traffi	ic			
TEST DES	TEST DESCRIPTION			
	Start traffic to B and C on lin	 k 1 – 1.		
		check that the timer T19 is started.		
3.				
4.				

TEST NUMBER: 10.7.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Reception of an unexpected TRA – In an SP having no STP function PURPOSE: See test 10.7.1 PRE-TEST CONDITIONS: Linkset 1, 4 and 8 available link CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP ? Link Link Link Link TRAFFIC -----> 2 - 1SP E (from A and F) 2 – 1 <----- 7 – 1 SP E <-----2-1 TRA T19 | TFP (PC = B) -----> 2 - 1TFP (PC = D) -----> TFP (PC = E) -----> TRA <----- 2 – 1 TRA TRAFFIC -----> 7-1 -----> SP E 2 - 1(from A and F) <------ 2 - 1 <------7 - 1SP E :Wait :Stop traffic TEST DESCRIPTION Start traffic to E. 1. 2. Send a TRA from C to A and check that the timer T19 is started, and that TFPs concerning B and D are received, then, check that a TRA is received from A. 3. During T19 send a TRA from C to A and check that this message is ignored. 4. Stop traffic and check that it has not been disturbed.

TEST N	UMBER: 11		PAGE: 1 of 1	
REFERE	NCE: Q.706			
TITLE:	Traffic test			
SUBTITL	Æ:			
PURPOS	E: To check the behaviour of	an STP in various traffic situations		
PRE-TES	T CONDITIONS: All links a	available		
CO	ONFIGURATION: C	TYPE OF TEST: VAT	TYPE OF SP: STP	
MESSAC	BE SEQUENCE:			
	SP B	SP (SP C	
Link	Si B	Link	Link	
:Start traf	fic			
1 – 1	TRAFFIC	> 2-1	>	
1 – 2	TRAFFIC	> 2-1	>	
	<-	1-1 <	2 – 1 TRAFFIC	
	<-	1 – 2		
:Wait :Stop traf	fic			
.Stop tran				
TEST DE	SCRIPTION			
1.	Start traffic between B and C	in both directions via A using the traffic m	odels presented in Recommendation Q.706.	
2.		he STP is better than 20 milliseconds.		
3.	Stop traffic and check that it	was not disturbed.		
4.	Repeat test but with a traffic	model including 5% of messages with an S	IF = 272 octets.	

TEST NUMBER: 12.1 PAGE: 1 of 1					
REFERE	REFERENCE: Q.707				
TITLE:	Signalling link test				
SUBTITI	LE: After activation of a link				
PURPOS	E: To check the signalling lin	k test procedure after activation of a signall	ling link		
PRE-TES	T CONDITIONS: Signalling	g link 1 – 2 available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TY	YPE OF SP: STP	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traf	fic				
1 – 2	2 TRAFFIC	>			
1 – 1	:Activate	<	1 – 2	TRAFFIC	
1 – 1		>			
		<	1 – 1	SLTA	
1 – 1	SLTA	<>	1 – 1	SLTM	
CHANG		/			
1 – 1,		>			
,	TRAFFIC	<	1 - 1, 2	TRAFFIC	
:Wait :Stop traf	fic				
.Stop tran	nc				
TEST DE	SCRIPTION				
1.	Start traffic to B (and C in VAT).				
2.	Activate link 1 – 1 and check that an SLTM is received from A.				
3.	Send an SLTM to A and chec	ek that an SLTA is received.			
4.	Check that the link 1 – 1 beco	omes available and that changeback is perfo	ormed correctly.		
5.	Stop traffic.				
6.	In VAT, repeat the test with link 1 – 1 unavailable and inhibited (in this case changeback is not performed). Check that the link 1 – 1 becomes available and stays inhibited.				

TEST NUMBER: 12.2			PAGE: 1 of 1		
REFERE	REFERENCE: Q.707				
TITLE:	Signalli	ing link test			
SUBTITI	LE: No	acknowledgement to fi	rst SLTM		
PURPOS	E: To	check that a second SLT	ΓM is sent if the first is not acknowledged		
PRE-TES	ST CON	NDITIONS: Signalling	link 1 – 2 available		
CC	ONFIGU	JRATION: A	TYPE OF TEST: VAT	TY	TPE OF SP: ALL
MESSAC	GE SEQ	UENCE:		•	
		SP A			SP B
Link	ζ			Link	
:Start traf	ffic				
istali uu					
1 – 2	2	TRAFFIC	·>	1 – 2	TRAFFIC
1 – 1	1	:Activate	\`	1 – 2	TRAFFIC
1 – 1	1	SLTM	>		
		T1			
1 – 1	- 1	L SLTM	>		
1 – 1		SETWI	<	1 – 1	SLTA
			<	1 – 1	SLTM
1 – 1	1	SLTA	>		
CHANG	EBACK				
1 - 1,	,2	TRAFFIC	>		
			<	1 - 1, 2	TRAFFIC
:Wait					
:Stop traf	fic				
		ELON.			
TEST DE					
1.	Start traffic to B and C.				
2.	Activa	ate link 1 – 1 and check	that an SLTM is received and not acknowle	edged.	
3.	Check specif	that when the time T ied range.	1 expires a new SLTM is sent. Check th	at the duration of	f this time is inside of the
4.	Check	that the link $1 - 1$ become	omes available and that the changeback is p	erformed correctl	y.
5.	Stop to	raffic.			
6.	Repea		1 unavailable and inhibited (in this case case in available).	hangeback is not	performed). Check that the

TEST N	UMBER: 12.3		PAGE: 1 of 1	
REFERE	NCE: Q.707			
TITLE:	Signalling link test			
SUBTIT	LE: No acknowledgement to se	econd SLTM		
PURPOS	E: To check that the link stays	unavailable when the second SLTM is no	t acknowledged	
PRE-TES	ST CONDITIONS: Signalling	link 1 – 2 available		
C	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:			
	SP A		SP B	
Linl	ς.		Link	
:Start trai	ffic			
1 – 2	2 TRAFFIC	>		
		<	1 – 2 TRAFFIC	
1 – 1				
1 – 1	1 SLTM	>		
	T1			
1 – 1	L SLTM	>		
	T1			
1 – 2	TRAFFIC	>		
		<	1 – 2 TRAFFIC	
:Wait				
:Stop traf	fic			
•				
TEST DE	ESCRIPTION			
1.	Start traffic to B and C.			
2.	Activate link $1 - 1$ and check that two SLTMs are received from A.			
3.	Check that after the second expiration of T1, link $1 - 1$ stays unavailable and that the management system is informed.			
4.	Repeat the test with link 1 – 1	l unavailable and inhibited.		

TEST N	UMBEF	R: 12.4		PAGE: 1 of 1		
REFERE	NCE:	Q.707				
TITLE:	Signalli	ing link test				
SUBTITI	LE: Un	nreasonable field in an S	LTA			
PURPOS	Е: То	check the actions of the	system on reception of an SLTA with an u	nreasonable field		
PRE-TES	ST CON	NDITIONS: Signalling	link 1 – 2 available			
CC	ONFIGU	JRATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL	
MESSAC	GE SEQ	UENCE:				
		SP A			SP B	
Link	ζ			Link		
:Start traf	ffic					
1 – 2	2	TRAFFIC	>			
			<	1 – 2	TRAFFIC	
1 – 1	_	:Activate				
1 – 1	1	SLTM	<>	1 – 1	SLTA (erroneous test pattern)	
	_				pattern)	
1 – 1	1	SLTM	>		CI TI	
CHANGE	D A CIZ		<	1 – 1	SLTA	
1 – 1,		TRAFFIC	>			
1 – 1,	, 2	TRAITIC	<	1 - 1, 2	TRAFFIC	
:Wait						
:Stop traf	fic					
TEST DE	ESCRIP	ΓΙΟΝ				
1.	Start t	raffic to B and C.				
2.	Activate link 1 – 1 and check that an SLTM is received and acknowledged with an SLTA containing an erroneous test pattern.					
3.	Check that a second SLTM is sent from A and correctly acknowledged.					
4.	Check that link 1 – 1 becomes available and that changeback is performed correctly.					
5.	Wait and stop traffic.					
6.	Repea	at the test with a first SL	TA containing an erroneous SLC then OPC	C.		
7.	Repeat the test with the first and second erroneous SLTA and check that link 1 – 1 stays unavailable and that management system is informed.					

TEST N	UMBER:	12.5		PAGE: 1 of 1	
REFERE	NCE: Q.7	707			
TITLE:	Signalling	link test			
SUBTITI	LE: Recep	otion of an SLTM in	an attempt state		
PURPOS	E: To che	ck the actions of the	system when an SLTM is received in an at	ttempt state	
PRE-TES	ST COND	ITIONS: Signalling	g link 1 – 2 available		
CC	ONFIGURA	ATION: A	TYPE OF TEST: VAT	TY	TPE OF SP: ALL
MESSAG	GE SEQUE	NCE:			
	\$	SP A			SP B
Link	ζ			Link	
:Start traf	fic				
1 – 2	2	TRAFFIC	>		
1 – 1	1	:Activate	<	1 – 2	TRAFFIC
1 – 1	1 I	SLTM	>		
1 – 1	i	SLTA	<>	1 – 1	SLTM
1 – 1	1	SLTM	>		
1 – 1		SLTA	<>	1 – 1	SLTM
			<	1 – 1	SLTA
CHANGE					
1 – 1,	. 2	TRAFFIC	<>	1 – 1, 2	TRAFFIC
:Wait	fic				
TEST DESCRIPTION					
1.	Start traffic to B and C.				
2.	Activate	link 1 – 1 and check	that SLTM is received. Send an SLTM and	d check that an SL	TA is received.
3.	On recep	tion of the second S	LTM, send an SLTM and check that an SLT	ΓA is received. Se	nd an SLTA to A.
4.	Check th	at changeback is per	formed correctly, and stop traffic.		

TEST N	UMBER: 12.6		PAGE: 1 of 1	
REFERE	NCE: Q.707			
TITLE:	Signalling link test			
SUBTITI	LE: Additional SLTA and SLTM			
PURPOS	E: To check the actions of the sys	tem on reception of additional SLTA ar	nd SLTM	
PRE-TES	T CONDITIONS: Signalling lin	k 1 – 2 available		
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TY	PE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	
:Start traf	fic			
1 – 2	2 TRAFFIC	>		
1 – 2	RAPTIC	<	1 – 2	TRAFFIC
		<	1 – 2	SLTA
		<	1 – 2	SLTM
1 - 2	2 SLTA	>		
:Wait				
:Stop traf	fic			
TEST DE	TEST DESCRIPTION			
1.	Start traffic to B (and C in VAT)			
2.	Check that the reception of an SI	LTA is ignored.		
3.	Send an SLTM to A and check the	nat an SLTA is received.		
4.	Stop traffic and check that it was	not disturbed.		

TEST N	UMBER: 13.1		PAGE:	1 of 1	
REFERE	NCE: Q.704 Table 1				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid H0-H1 in a signal	ing network management message			
PURPOS	E: To check the actions of the existing H0-H1	he system when a signalling network ma	inagement	message is received with a non-	
PRE-TES	T CONDITIONS: All links a	available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traf	fic				
ALL	TRAFFIC	>			
		<	ALL	TRAFFIC	
		<	1 – X	SIGNALLING NETWORK MANAGEMENT MESSAGE (Invalid H0-H1)	
ALL	TRAFFIC	>			
		<	ALL	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DE	TEST DESCRIPTION				
1.	Start traffic to B and C on all links.				
2.	Send a signalling network ma	anagement message with a non-existing H0	-H1.		
3.	Check that this message is di	scarded without impact on the traffic.			
4.	Stop traffic.				

TEST N	UMBER: 13.2		PAGE:	PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid changeover messa	ges			
PURPOS	E: To check the actions of the	e system on reception of changeover messag	ges with an	invalid SLC or OPC	
PRE-TES	ST CONDITIONS: Linkset v	rith two available links			
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link :Start traf			Link		
1 – 1	TRAFFIC	>			
1 (<>	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	<	1 – 2	TRAFFIC	
		<	1 – 2	COO, SLC 1 – X (non-existing SLC)	
		<	1 – 2	COO, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	ECO, SLC 1 – X (non-existing SLC)	
		<	1 – 2	ECO, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	COA, SLC 1 – X (non-existing SLC)	
		<	1 – 2	COA, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	ECA, SLC 1 – X (non-existing SLC)	
		<	1 – 2	ECA, SLC 1 – 1 (non-existing OPC)	
1 - 1,	2 TRAFFIC	> <	1 – 1, 2	TRAFFIC	
:Wait		\	1 – 1, 2	TRAFFIC	
:Stop traf	fic				
TEST DESCRIPTION					
1.	Start traffic to B and C on al	l links.			
2.	Send the invalid messages as	described above and check that they are ig	nored.		
3.	Stop traffic and check that it				

TEST N	UMBER: 13.3		PAGE: 1 of 1			
REFERE	NCE: Q.704 clause 15					
TITLE:	Invalid messages					
SUBTITI	LE: Invalid changeback messa	ges				
PURPOS	E: To check the actions of the	system on reception of changeback messag	ges with an	invalid SLC or OPC		
PRE-TES	T CONDITIONS: Linkset w	rith two available links				
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	E SEQUENCE:					
	SP A			SP B		
Link :Start traf			Link			
1 – 1	TRAFFIC	>				
1 – 2	2 TRAFFIC	<>	1 – 1	TRAFFIC		
		<	1 – 2	TRAFFIC		
		<	1 – 2	CBD, SLC 1 – X (non-existing SLC)		
		<	1 – 2	CBD, SLC 1 – 1 (non-existing OPC)		
		<	1 – 2	CBA, SLC 1 – X (non-existing SLC)		
		<	1 – 2	CBA, SLC 1 – 1 (non-existing OPC)		
1 – 1,	2 TRAFFIC	>				
XX7 **		<	1 - 1, 2	TRAFFIC		
Wait :Stop traf	fic					
iotop uur						
TEST DESCRIPTION						
TEST DESCRIPTION						
1.	Start traffic to B and C on al					
2.	Send the invalid messages described above and check that they are ignored.					
3.	Stop traffic and check that it	was not disturbed.				

TEST NUMBER: 13.4 PAGE: 1 of 1 REFERENCE: Q.704 clause 15 TITLE: Invalid messages SUBTITLE: Invalid changeback code PURPOSE: To check the actions of the system on reception of an invalid changeback code in a changeback message PRE-TEST CONDITIONS: Linkset with one link available CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic TRAFFIC 1 - 21 - 2TRAFFIC 1 - 1:Activate (depending of the deactivation mean previously used) 1 - 2CBD, SLC 1 – 1 T4 1 - 2CBA, SLC 1-1(invalid changeback code ≠ CBD) CBD, SLC 1 – 1 1 - 2T5 1 - 1TRAFFIC (from 1 - 2)1 - 1TRAFFIC (from 1 - 2 see Note)1 - 2**TRAFFIC** TRAFFIC 1 - 2:Wait :Stop traffic NOTE – B may perform a changeback or not. TEST DESCRIPTION 1. Start traffic to B and C on link 1-2. 2. Activate link 1 – 1, check that a CBD is received and acknowledged by a CBA with an invalid changeback code. Check that a new CBD is received after T4 expires and acknowledged by a correct CBA. Check that changeback is 3. performed. 4. Stop traffic and check that the invalid message has been discarded without impact on the traffic.

TEST N	UMBER: 13.5		PAGE: 1 of 3					
REFERE	NCE: Q.704 clause 15							
TITLE:	Invalid messages							
SUBTITI	LE: Invalid inhibition message	s						
PURPOS	E: To check the actions of the	system on reception of an invalid inhibitio	n message					
PRE-TES	PRE-TEST CONDITIONS: Linkset with two available links							
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL				
MESSAC	E SEQUENCE:							
	SP A			SP B				
Link :Start traf			Link					
1 – 1	TRAFFIC	>	1 1	TD A DEIC				
1 – 2	. TRAFFIC	<>	1 – 1	TRAFFIC				
		ζ	1 – 2	TRAFFIC				
		<	1 – 2	LIN, SLC 1 – X (non-existing SLC)				
		<	1 – 2	LIN, SLC 1 – 2 (non-existing OPC)				
		<	1 – 2	LIA, SLC 1 – X (non-existing SLC)				
		<	1 – 2	LIA, SLC 1 – 1 (non-existing OPC)				
		<	1 – 2	LID, SLC 1 – X (non-existing SLC)				
		<	1 – 2	LID, SLC 1 – 1 (non-existing OPC)				
TEST DESCRIPTION								
1.	Start traffic to B and C.							
2.		scribed above and check that these are igno	ored.					
3.	Stop traffic and check that it v	was not disturbed.						

TEST NUMBER: 13.5 (continued)			PAGE: 1 of 3		
REFERENCE: Q.704 clause 15					
TITLE: Invalid messages					
SUBTITLE: Invalid inhibition mes	sages				
PURPOSE: As page 1					
PRE-TEST CONDITIONS: Links	et with two available links				
CONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAGE SEQUENCE:					
SP A			SP B		
Link		Link			
	<	1 – 2	LUN, SLC 1 – X (non-existing SLC)		
	<	1 – 2	LUN, SLC 1 – 1 (non-existing OPC)		
	<	1 – 2	LUA, SLC 1 – X (non-existing SLC)		
	<	1 – 2	LUA, SLC 1 – 1 (non-existing OPC)		
	<	1 – 2	LFU, SLC 1 – X (non-existing SLC)		
	<	1 – 2	LFU, SLC 1 – 1 (non-existing OPC)		
TEST DESCRIPTION					
1. See page 1.					

TEST NUMBER: 13.5 (continued)		PAGE:	PAGE: 3 of 3		
REFERENCE: Q.704 clause 15					
TITLE: Invalid messages					
SUBTITLE: Invalid inhibition messag	es				
PURPOSE: As page 1					
PRE-TEST CONDITIONS: Linkset v	vith two available links				
CONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAGE SEQUENCE:					
SP A			SP B		
Link		Link			
	<	1 – 2	LLT, SLC 1 – X (non-existing SLC)		
	<	1 – 2	LLT, SLC 1 – 1 (non-existing OPC)		
	<	1 – 2	LRT, SLC 1 – X (non-existing SLC)		
	<	1 – 2	LRT, SLC 1 – 1 (non-existing OPC)		
ALL TRAFFIC	>				
	<	ALL	TRAFFIC		
:Wait					
:Stop traffic					
TEST DESCRIPTION					
See page 1.					

TEST N	UMBER: 13.6		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid transfer control me	essages			
PURPOS	E: To check that there is no pr	roblem on reception of a TFC with spare fie	eld or SLC	C not coded 00	
PRE-TES	ST CONDITIONS: Link 1 – 1	available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traf					
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
		<	1 – 1	TFC, PC = C (spare field \neq 0)	
		<	1 – 1	TFC, PC = C $(SLC \neq 0000)$	
		<	1 – 1	TFC, $PC = X$ (non-existing PC)	
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	

:Wait :Stop traf	fic				
.Stop trui					
TEST DE	SCRIPTION				
1.	Start traffic to B and C.				
2.	Send a TFC with invalid spar	e field to A, then a TFC with an invalid SL	C then a	TFC with a non-existing PC.	
3.	Check that these messages are correctly received without disturbances due to these incorrect values.				
4.	Stop traffic.				

TEST N	UMBER: 13.7		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
	LE: Invalid signalling route m	anagement messages			
PURPOS	E: To check the actions of the	system on reception of invalid TFA or TFI			
PRE-TES	T CONDITIONS: Link 1 – 1	1 available 2 – 1 available			
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	SE SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traf			LIIIK		
.5tart trai		>			
		<	1 – 1	TRAFFIC	
		<	1 – 1	TFP, $PC = X$ (non-existing PC)	
		<	1 – 1	TFA, PC = X (non-existing PC)	
		<	1 – 1	TFP, PC = C (non-existing OPC)	
		<	1 – 1	TFP, PC = C (spare bits 00)	
			2 – 1	:Deactivate	
		<	1 – 1	TFP, $PC = C$	
		<	1 – 1	TFA, PC = C (non-existing OPC)	
		<	1 – 1	TFA, PC = C (spare bits 00)	
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
:Wait					
:Stop trafi	fic				
TEST DESCRIPTION					
1.	Start traffic to B and C.				
2.		invalid values to A (as described above)). Check t	hat these messages are discarded	
3.	Deactivate linkset 2 and check that B becomes inaccessible.				
4.		h invalid values to A (as described above)	and check	that these messages are discarded	
5.	-	en by the system (except for SLC and spare	e bits 0).		
6.	Stop traffic.				

TEST N	UMBER: 13.8		PAGE:	PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid Signalling-Route-S	Set-Test messages			
PURPOS	E: To check the actions of the	system on reception of invalid RST messa	ges		
PRE-TES	T CONDITIONS: Link 1 – 1				
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: STP	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link :Start traf 1 – 1	fic	>	Link		
1 – 1	TRAFFIC	<	1 – 1	TRAFFIC	
		<	1 – 1	RST, PC = X (non-existing PC)	
		ζ	1 – 1	RST, PC = C (non-existing OPC)	
		<	1 – 1	RST, $PC = C$ (spare bits 00)	
1 – 1	TRAFFIC	> <	1 – 1	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DESCRIPTION					
1.	Start traffic to B and C.				
2.	Send to A the invalid messag traffic.	es described above and check that these m	nessages a	are discarded without impact on the	
3.	Stop traffic.				

TEST N	UMBER: 13.9		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid traffic restart allow	ved message			
PURPOS	E: To check the actions of the	system on reception of an invalid traffic re	estart allov	ved message	
PRE-TES	T CONDITIONS: linkset wi	th two available links			
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traf					
1 - 1,	2 TRAFFIC	>			
			1 - 1, 2 1 - 1	TRAFFIC TRA (unknown OPC)	
1 – 1,	2 TRAFFIC	>	1-1	TRA (unknown Of C)	
		ζ	1 – 1, 2	TRAFFIC	
:Wait					
:Stop traf	fic				
THE PROGRAMMENT AND A STATE OF					
TEST DE	TEST DESCRIPTION				
1.	Start traffic to B and C.				
2.		cribed above and check that this message i	s ignored.		
3.	Stop traffic and check that it	was not disturbed.			

TEST N	UMBER: 13.10		PAGE:	PAGE: 1 of 1		
REFERE	NCE: Q.707					
TITLE:	Invalid messages					
SUBTITI	LE: Invalid H0-H1 in a signall	ing network testing and maintenance messa	age			
PURPOS	E: To check the actions of the	system on reception of this invalid messag	ge			
PRE-TES	ST CONDITIONS: Link 1 – 1	available				
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link :Start traf			Link			
1 – 1	1 TRAFFIC	>				
		<	1 – 1 1 – 1	TRAFFIC SIGNALLING NETWORK TESTING AND MAINTENANCE MESSAGE (Invalid H0-H1)		
1 – 1	1 TRAFFIC	>				
		<	1 – 1	TRAFFIC		
:Wait :Stop traf	fic					
TEST DE	TEST DESCRIPTION					
1.	Start traffic to B and C.					
2.	Send a signalling network testing and maintenance message with a non-existing H0-H1.					
3.	Check that this message is dis	scarded without impact on the traffic.				
4.	Stop traffic.					

TEST N	UMBER: 13.11		PAGE: 1 of 1		
REFERE	NCE: Q.707				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid signalling link test	messages			
PURPOS	E: To check the actions of the	system on reception of an invalid signalling	ng link tes	at message	
PRE-TES	ST CONDITIONS: Link 1 – 1	available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link	-		Link		
:Start traf			Lilik		
1 – 1		>			
		<	1 – 1	TRAFFIC	
		<	1 – 1	SLTM (invalid SLC)	
		<	1 – 1	SLTA (invalid SLC)	
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
:Wait					
: wan :Stop traf	fic				
.Stop trai	nc				
TEST DESCRIPTION					
1.	Start traffic to B and C.				
2.		SLTA described above and check that they	are discar	rded without impact on the traffic.	
3.	Stop traffic.				

TEST N	UMBER: 13.12		PAGE: 1 of 1			
REFERE	NCE: Q.704 clause 15					
TITLE:	Invalid messages					
SUBTITI	LE: Invalid user part unavailab	ole messages				
PURPOS	E: To check the actions of the	system on reception of an invalid user part	unavaila	ble message		
PRE-TES	ST CONDITIONS: Link 1 – 1	available				
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link	\$		Link			
:Start traf						
1 - 1	1 TRAFFIC	>				
		<	1 – 1	TRAFFIC		
		<	1 – 1	UPU (non-existing OPC)		
		<	1 – 1	UPU (non-existing SI)		
1 - 1	1 TRAFFIC	>				
		<	1 – 1	TRAFFIC		
:Wait						
:Stop traf	fic					
.Stop trui						
TEST DE	TEST DESCRIPTION					
1.	Start traffic to B and C.					
2.	Send the invalid UPUs descri	bed above and check that these messages a	re ignore	d.		
3.	Stop traffic and check that it	was not disturbed.				