

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

Q.704 Fig. 26; §2.3 Q.705 § 4.4

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

Signalling linkset activated

CONFIGURATION:

A

TYPE OF TEST:

VAT, CPT

TYPE OF SP: ALL

MESSAGE SEQUENCE:

SP

A

SP

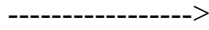
Link

Link

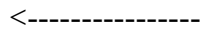
:Start traffic

1 - 1

TRAFFIC



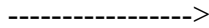
1 - 1



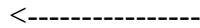
TRAFFIC

1 - 2

TRAFFIC



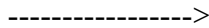
1 - 2



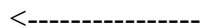
TRAFFIC

1 - 3

TRAFFIC



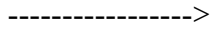
1 - 3



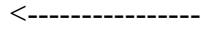
TRAFFIC

1 - 4

TRAFFIC



1 – 4



TRAFFIC

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start traffic to B (and C in VAT) for all SLS.

2.

Stop traffic, check that the messages have been transmitted on the correct link in accordance with the SLS field.

3.

Check that there was no loss of messages, no duplication and no missequencing.

TEST NUMBER: 2.4.2

PAGE: 1 of 1

REFERENCE: Q.704 Fig. 26; § 2.3 Q.705 § 4.4

TITLE: Signalling message handling

SUBTITLE: Load sharing within a linkset – one link unavailable

PURPOSE: To check the load sharing within a linkset when one link is unavailable

PRE-TEST CONDITIONS:

Signalling link 1 – 3 deactivated

CONFIGURATION:

A

TYPE OF TEST:

VAT

TYPE OF SP:

ALL

MESSAGE SEQUENCE:

SP A

SP

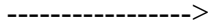
B

Link

Link

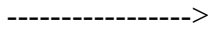
:Start traffic

1 - 1
TRAFFIC



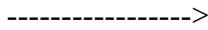
<-----
1 - 1 TRAFFIC

1 - 2
TRAFFIC



<-----
1 - 2 TRAFFIC

1 - 4 TRAFFIC



<-----
1 - 4 TRAFFIC

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start the traffic to B and C for all SLS, wait and stop.

2.

Check that the messages have been transmitted on the correct link in accordance with the SLS field on the remaining links.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

All linksets and routes available

CONFIGURATION: B

TYPE OF TEST:
VAT, CPT

TYPE OF SP: ALL

MESSAGE SEQUENCE:

SP

SP
B

C SP

SP E

Link

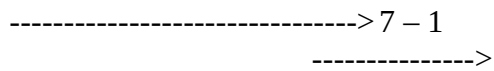
Link
Link

Link

:Start traffic

3-1

TRAFFIC



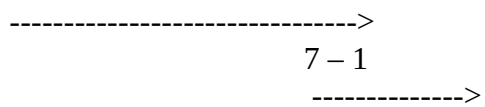
<----- 3-1

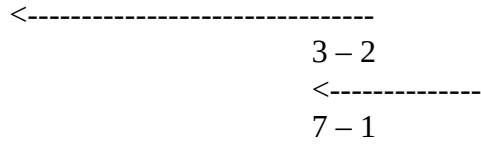
<-----
7-1

TRAFFIC

3-2

TRAFFIC

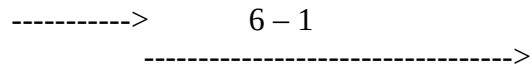




TRAFFIC

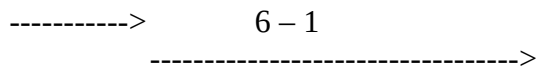
2-1

TRAFFIC



2-2

TRAFFIC



: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.

3.

Check that there was no loss of messages, no duplication and no missequencing.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE: Q.704 Fig. 26; § 2.3 Q.705 § 4.4

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

CONFIGURATION:
B

TYPE OF TEST:
VAT

TYPE OF SP:

MESSAGE SEQUENCE:

SP

B
SP

SP

Link

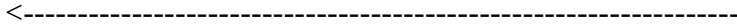
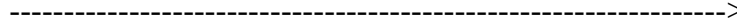
Link
Link

Link

:Start traffic

1 - 1

TRAFFIC

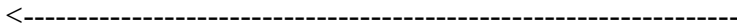
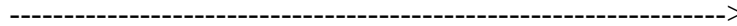


1 - 1

TRAFFIC

1 - 2

TRAFFIC

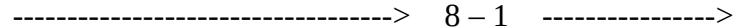


1 - 2

TRAFFIC

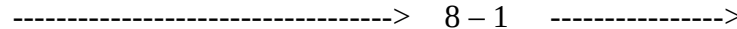
3 - 1

TRAFFIC



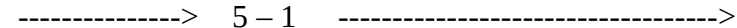
3 - 2

TRAFFIC



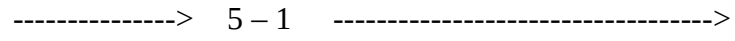
2 - 1

TRAFFIC



2 – 2

TRAFFIC



:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start the traffic to D for all SLS.

2.

Stop the traffic and check that the messages have been transmitted on the correct linkset and on the correct link in accordance with the SLS.

3.

Check that there was no loss of messages, no duplication and no missequencing.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

Linksets 4 and 8 unavailable (TFP, PC = D from C to A)

CONFIGURATION: B

TYPE OF TEST:
VAT

TYPE OF SP: ALL

MESSAGE SEQUENCE:

SP

SP

B

SP

C

SP

D

Link

Link

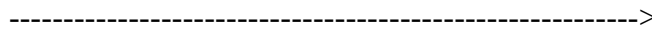
Link

Link

:Start traffic

1 - 1

TRAFFIC



<-----

1 - 1

TRAFFIC

1 - 2

TRAFFIC

----->

<-----

1 - 2

TRAFFIC

2 - 1

TRAFFIC

-----> 5 - 1 ----->

2 - 2

TRAFFIC

-----> 5 - 1 ----->

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start the traffic for all SLS, wait and stop.

2.

Check that the traffic to D via C has been shared on the remaining linksets.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:
linkset

PRE-TEST CONDITIONS:
Linkset 1 deactivated

CONFIGURATION:
B

TYPE OF TEST: VAT

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP
B

SP
C

SPD

Link

Link

Link

Link

:Start traffic

3 - 1

TRAFFIC

-----> 8 - 1 ----->

3 - 2

TRAFFIC

-----> 8 - 1 ----->

2-1

TRAFFIC

-----> 5-1 ----->

<----- 2-1 <-----

5-1

TRAFFIC

2-2

TRAFFIC

-----> 5-1 ----->

<----- 2-2 <-----

5-1

TRAFFIC

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start the traffic for all SLS to D, wait and stop.

2.

Check that the traffic has been shared on the remaining linksets.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To check the signalling message handling when a destination becomes inaccessible due to a linkset failure

PRE-TEST CONDITIONS:

Signalling linkset with one link available

CONFIGURATION:

A

TYPE OF TEST: VAT

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

Link

Link

:Start traffic

1 – 1

TRAFFIC

----->

<-----

1 – 1

TRAFFIC

1 – 1

:Deactivate

TEST DESCRIPTION

1.

Start the traffic for all SLS to B and C.

2.

Deactivate the last link 1 – 1 and check that the linkset becomes unavailable.

3.

Check that the SPs B and C become inaccessible.

4.

Check that all messages stored or received after the unavailability of the linkset are discarded.

P LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To check the signalling message handling when a destination becomes inaccessible on reception of a TFP.

PRE-TEST CONDITIONS:

All links and routes available

CONFIGURATION:

TYPE OF TEST: VAT

TYPE OF SP: ALL

MESSAGE SEQUENCE:

SP

SP

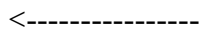
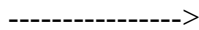
Link

Link

:Start traffic

1 - 1

TRAFFIC



1 - 1

TRAFFIC

1 - 2

TRAFFIC

----->

1 - 2

<-----

TRAFFIC

1 - 3

TRAFFIC

----->

1 - 3

<-----

TRAFFIC

1 - 4

TRAFFIC

----->

1 - 4

<-----

TRAFFIC

1 - X

<-----

TFP, PC=C

TEST DESCRIPTION

1.

Start the traffic to B and C for all SLS.

2.

Provoke the sending of a TFP (PC=C) from SP B to SP A.

3.

Check that the SP C becomes inaccessible.

4.

Stop traffic.

5.

Check that all messages stored or received after the inaccessibility have been discarded.

6.

Check that traffic to B has not been disturbed.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE: To check the signalling message handling when a destination becomes inaccessible due to a linkset and a route failure

PRE-TEST CONDITIONS:
Linkset 4 unavailable

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP
B

SP

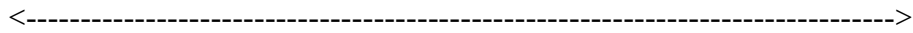
C

Link

Link
Link

:Start traffic

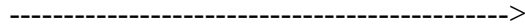
1 – 1, 2 TRAFFIC



SP D

3 – 1

TRAFFIC



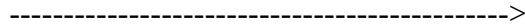
To D and E



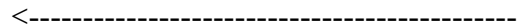
3 – 1 TRAFFIC (from E)

3 – 2

TRAFFIC



To D and E



3 – 2
TRAFFIC (from E)

2 – 1

TRAFFIC

-----> To D and E

2 - 2

TRAFFIC

-----> To D and E

7 - 1

<-----

3 - X TFP, PC=E

2 - 1

TRAFFIC

-----> To D and E

2 - 2

TRAFFIC

<----- 2 - 1 TRAFFIC
(from E)

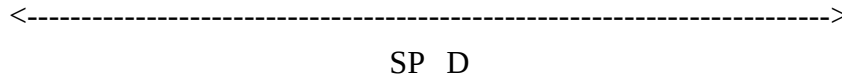
-----> To D and E

<----- 2 - 2 TRAFFIC
(from E)

2 – 1
:Deactivate

2 – 2
:Deactivate

1 – 1, 2
TRAFFIC



:Wait

:Stop traffic

Note – The transitory states (signalling network management procedures) are not described in this test which checks only the signalling message handling.

TEST DESCRIPTION

1.

Start the traffic to the SPs D and E for all SLS.

2.

Initiate the sending of a TFP (DPC=E) from SP C to SP A, check that the traffic to E is routed via B and check that the traffic to D is not disturbed.

3.

Deactivate the linkset 2 and check that the destination E becomes inaccessible. Stop traffic.

4.

Check that all messages stored or received during the inaccessibility have been discarded.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

All links available

CONFIGURATION: C

TYPE OF TEST: VAT, CPT

TYPE OF SP: STP

MESSAGE SEQUENCE:

SP B

SP

A

SP

C

Link

Link

Link

:Start traffic

1 – 1, 2

TRAFFIC

-----> 2 – 1 ----->

<----- 1 – 1, 2 <-----

TRAFFIC

:Wait

:Stop traffic

Note – The traffic used in this test is in conformance with the traffic model presented in Recommendation Q.706.

TEST DESCRIPTION

- 1.

Start traffic between B and C in both directions via A.

2.

Check that transfer function is correctly performed.

3.

Stop traffic and check that there were no loss of messages, no duplication and no missequencing. Check that the information field of these messages has not been corrupted.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUBTITLE:

PURPOSE:

PRE-TEST CONDITIONS:

Linkset with two available links

CONFIGURATION: A

TYPE OF TEST:
VAT

TYPE OF SP: ALL

MESSAGE SEQUENCE:

SP A

SP
B

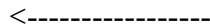
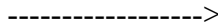
Link

Link

:Start traffic

1 - 1

TRAFFIC



1 - 1

TRAFFIC

1 - 2

TRAFFIC

----->

1 - 2

<-----

TRAFFIC

1 - 1

:Deactivate (MML command or failure)

1 - 2

COO, SLC 1 - 1

----->

1 - 2

<-----

COA, SLC 1 - 1

1 - 2

TRAFFIC

(from 1 - 1)

----->

1 - 2

<-----

TRAFFIC

(from 1 – 1)

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start traffic to B and C on all the links.

2.

Deactivate link 1 – 1, check that 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 the deactivation and the sending of the COO is inside the specified value (see Q.706).

4.

Check that the traffic from link 1 – 1 is changed over to 1 – 2 and check that the traffic normally carried by 1 – 2 is passed over to 1 – 2.

5.

Stop traffic and check it has been received correctly (no lost messages no 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 Q.706).