

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE-TEST CONDITIONS: Linkset 3 unavailable (end of test 9.2.1)

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

3 – 1
:Activate (see Note 1)

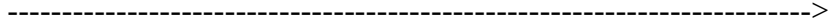
1 – 1
TFA, PC = F
----->
(see Note 2)

2 – 1
TFA, PC = F

----->
(see Note 2)

:Start traffic

3 – 1
TRAFFIC



SP

(from A and F)

:Wait

:Stop traffic

Note 1 – After activation of the linkset 3, SPs A and F perform a point restart procedure which is not explicitly described in this test.

Note 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.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:
various network situations

PRE-TEST CONDITIONS:
Linksets 1 and 2 unavailable (end of test 9.2.2 page 1 of 2)

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

2 – 1
:Activate

3 – 1
TFA, PC = B

----->

SP

3 – 1
TFA, PC = C

----->

SP

3 – 1
TFA, PC = D

----->

SP

3 – 1
TFA, PC = E

----->

SP

2 – 1
TFP, PC = B

----->

2 – 1
TFP, PC = D

----->

2 - 1
TFP, PC = E

----->

:Start traffic

2 - 1
TRAFFIC

----->

7 - 1

----->

SP

(from A and F)

8 - 1

----->

SP

:Wait

:Stop traffic

Note – After activation of the linkset 2, SPs A and C perform the point restart procedure 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 linkset 1 instead of linkset 2.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE-TEST CONDITIONS:

Linksets 1, 4 and 8 unavailable (end of tests 9.2.2 page 2 of 2)

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

2 - 1
TRAFFIC

----->

7 - 1

----->

SP

(from A and F)

8 – 1

:Activate

<-----

2 – 1

TFA, PC = D

2 – 1

TFP, PC = D

----->

3 – 1

TFA, PC = D

----->

SP

2 – 1

TRAFFIC

----->

7 – 1

----->

SP

(from A and F)

8 – 1

----->

SP

:Wait

:Start traffic

TEST DESCRIPTION

1.

Start traffic to E.

2.

Activate linkset 8 and check that a TFA concerning D is sent from C to A. Check that A broadcasts TFAs concerning D.

3.

Check that the traffic to D is restarted.

4.

Repeat test with linksets 2, 4 and 5 unavailable as pre-test conditions and activate linkset 5.
Repeat test with 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.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE-TEST CONDITIONS: Linkset 2 unavailable

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

link

link

:Start traffic

1 - 1
TRAFFIC

----->

<-----

1 - 1
TRAFFIC

----->

1 - 1
RST, PC = C

½
½T10
½

1 - 1
RST, PC = C
----->

½
½T10
^

2 - 1

:Activate .

<-----

1 - 1
TFA, PC = C

1 - 1
TRAFFIC

----->

<-----

1 - 1
TRAFFIC

:Wait

:Stop traffic

TEST DESCRIPTION

1.
Start traffic to B.
2.
Check that at each expiration of T10, a signalling-Route-Set-Test message concerning C is received from A without 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.

5.

Repeat the test but without sending of TFA after activation of linkset 2 and check that when a RST is received a TFA is sent in response. Check that T10 and signalling-route-set-test procedure are stopped.

6.

Check that the duration of T10 is inside the specified range.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE-TEST CONDITIONS:

Linksets 2 and 3 unavailable

CONFIGURATION: D

TYPE OF TEST: VAT

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

Link

Link

Link

<-----
1 - 1 RST, PC = F

3 - 1

:Activate

1 - 1
TFA, PC = F
----->

(ignored)|

<-----
1 - 1 RST, PC = F

1 - 1
TFA, PC = F
----->

3 – 1
TRAFFIC
(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.

4.

Repeat the test but with linksets 1 and 3 unavailable as pre-test conditions and RST message sent from C.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

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 are unavailable

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

3 – 1, 2

TRAFFIC

----->

7 – 1

----->

SP

8 - 1
----->

SP

<-----

3 - 1, 2
<-----
7 - 1

SP

<-----

8 - 1

SP

2 - 1
:Activate

.½
½ T21
½
^
<-----
<-----
<-----

TIME CONTROLLED DIVERSION IS APPLIED

2 - 1
TRAFFIC

----->

5 - 1

----->

SP

(from 3 - 1, 2)

<-----

2 - 1

<-----

5 - 1

SP

3 - 1, 2
TRAFFIC

----->

7 - 1

----->

SP

8 – 1

----->

SP

<-----

3 – 1, 2

<-----

7 – 1

SP

:Wait

:Stop traffic

Note – The time controlled diversion procedure is applied in A and a changeback is performed in D. These procedures are not described in this point restart test.

TEST DESCRIPTION

1.

Start traffic to E (and D in VAT).

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.

3.

Check that the time controlled diversion procedure is performed at the end of T21. Check that the traffic to D is diverted to the link 2 – 1 in accordance with the load sharing rules in A. Check that the traffic to E is not diverted.

4.

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

5.

Repeat the test (in VAT) without sending of TRA and check that the duration of timer T21 is inside the specified range.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:
procedure

PURPOSE:

PRE-TEST CONDITIONS:
Linksets 1, 2 and 6 unavailable

CONFIGURATION:

TYPE OF TEST:

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TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

3 – 1, 2

TRAFFIC

----->

7-1
----->

SP

8-1
----->

SP

4-1
<-----
5-1
SP

|----->
3-1, 2

<-----|

<-----
3-1, 2
<-----
7-1

SP

2 – 1

:Activate

CHANGEBACKS ARE PERFORMED IN A AND B (see note)

2 – 1

TRAFFIC

----->

4 – 1

----->

7 – 1

----->

SP

2 – 1

TRAFFIC

----->

5 – 1

----->

SP

3 – 1, 2

TRAFFIC

----->

7 – 1

----->

SP

8 – 1
----->

SP

----->
2 – 1
<-----
5 – 1
SP

----->
3 – 1, 2
----->
7 – 1
SP

: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 there were no lost messages, no duplication and no missequencing.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:
procedure

PURPOSE: To check that restart procedure is performed correctly when the recovery of a linkset restores the connectivity between two adjacent SPs

PRE-TEST CONDITIONS:

Linksets 1, 3, 4 and 6 unavailable

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

2 – 1

TRAFFIC

----->

7 - 1

----->

SP

(from A)

8 - 1

----->

SP

<-----

2 - 1

<-----

7 - 1

SP

<-----

8 - 1

SP

1 - 1

:Activate

1 - 1

½TFP (PC = F)

½T21

½

½TRA

^

----->

<-----

----->

<-----

1 - 1

5 - 1

1 - 1

SP

2 - 1

TFA (PC = B)

----->

1 - 1

TFP (PC = D)

----->

TIME CONTROLLED DIVERSION IS APPLIED

1 - 1

TRAFFIC

----->

5 - 1

----->

SP

<-----

1 - 1

<-----

5 - 1

SP

<-----

2 - 1

<-----

8 - 1

SP

2 - 1

TRAFFIC

----->

7 - 1

----->

SP

<-----

2 – 1

<-----

7 – 1

SP

: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 a TRA is sent from A to B and check that, on reception of TRA (sent from B to A), the timer T21 is stopped. Check that a TFA is sent from A to C for B.

4.

Check that the time controlled diversion is applied in A. Check that the traffic to D is diverted on link 1 – 1.

5.

Stop traffic. Check that there were no lost messages and no missequencing.

6.

In VAT, repeat the test without sending TRA from B to A and check that the duration of T21 is inside the specified range.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:
procedure

PURPOSE:

PRE-TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Linkc

Link

:Start traffic

1 - 1

TRAFFIC

----->

5 - 1

----->

SP

<-----

1 - 1

<-----

5 - 1

SP

<-----

2 - 1

<-----

8 - 1

SP

2 – 1

TRAFFIC

----->

7 – 1

----->

SP

<-----

2 – 1

<-----

7 – 1

SP

3 – 1

:Activate

3 – 1

TRAFFIC

<----->

3 – 1

SP

½

½ T21

½

^

3 – 1

TRA

----->

1 - 1
TFA (PC = F)
----->

2 - 1
TFA (PC = F)
----->

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

SP

(from A and F)

<-----
1 - 1
<-----
5 - 1
SP

2 – 1

TRAFFIC

----->

7 – 1

----->

SP

(from A and F)

<-----

2 – 1

<-----

7 – 1

SP

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start traffic.

2.

Activate the link 3 – 1 and check that the traffic from/to A to/from F is immediately restarted.

3.

Check that a TRA is sent from A to F and check that A broadcasts TFA for F.

4.

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

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:
procedure

PURPOSE:

PRE-TEST CONDITIONS: Linkset 1 unavailable

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGES SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

2 – 1

TRAFFIC

----->

8 – 1

----->

SP

(from A and F)

7 – 1

----->

SP

<-----

2 – 1

<-----

7 – 1

SP

<-----

8 – 1

SP

1 – 1

:Activate

(see Note 1)

CHANGEBACKS ARE PERFORMED IN A AND B (see Note 2)

1 – 1

TRAFFIC

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

SP

(from A and F, from 2 - 1)

6 - 1
<-----

SP

2 - 1
TRAFFIC
----->
7 - 1
----->

SP

<-----
2 - 1
<-----
7 - 1
SP

<-----
8 - 1
SP

(see Note 1)

:Wait

:Stop traffic

Note 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 6 or 7.

Note 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.

3.

Check that the traffic to D and E is diverted on link 1 – 1 in accordance with the load sharing rules in A.

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.