MTP LEVEL 3

TEST NUMBER:
8.3

PAGE:1 of 1

REFERENCE: Q.704 § 11.2.7

TITLE: Signalling traffic flow control

SUB TITLE: Reception of a UPU

PURPOSE:To check the actions of the 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

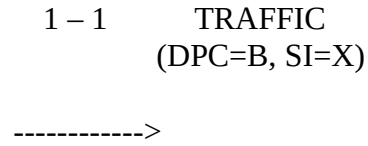
SP

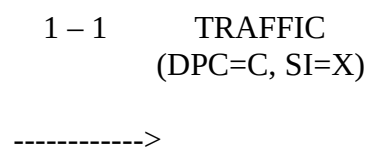
B

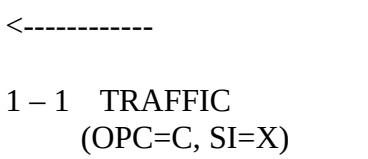
Link

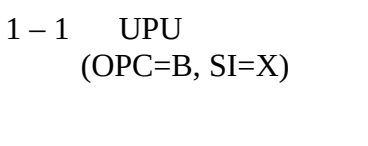
Link

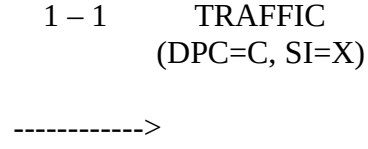
:Star traffic


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 with SI=X.

3.
Check that the UPU message is received correctly without impact on the traffic from to A to C.

4.
Wait and stop traffic.

MTP LEVEL 3

TEST NUMBER:
8.4

PAGE:

1 of 1

REFERENCE: Q.704 § 11.2.7

TITLE:

Signalling traffic flow control

SUB TITLE: 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 – 1 TRAFFIC
(to B and C, SI=X)

---------->

<----------

1 – 1

TRAFFIC

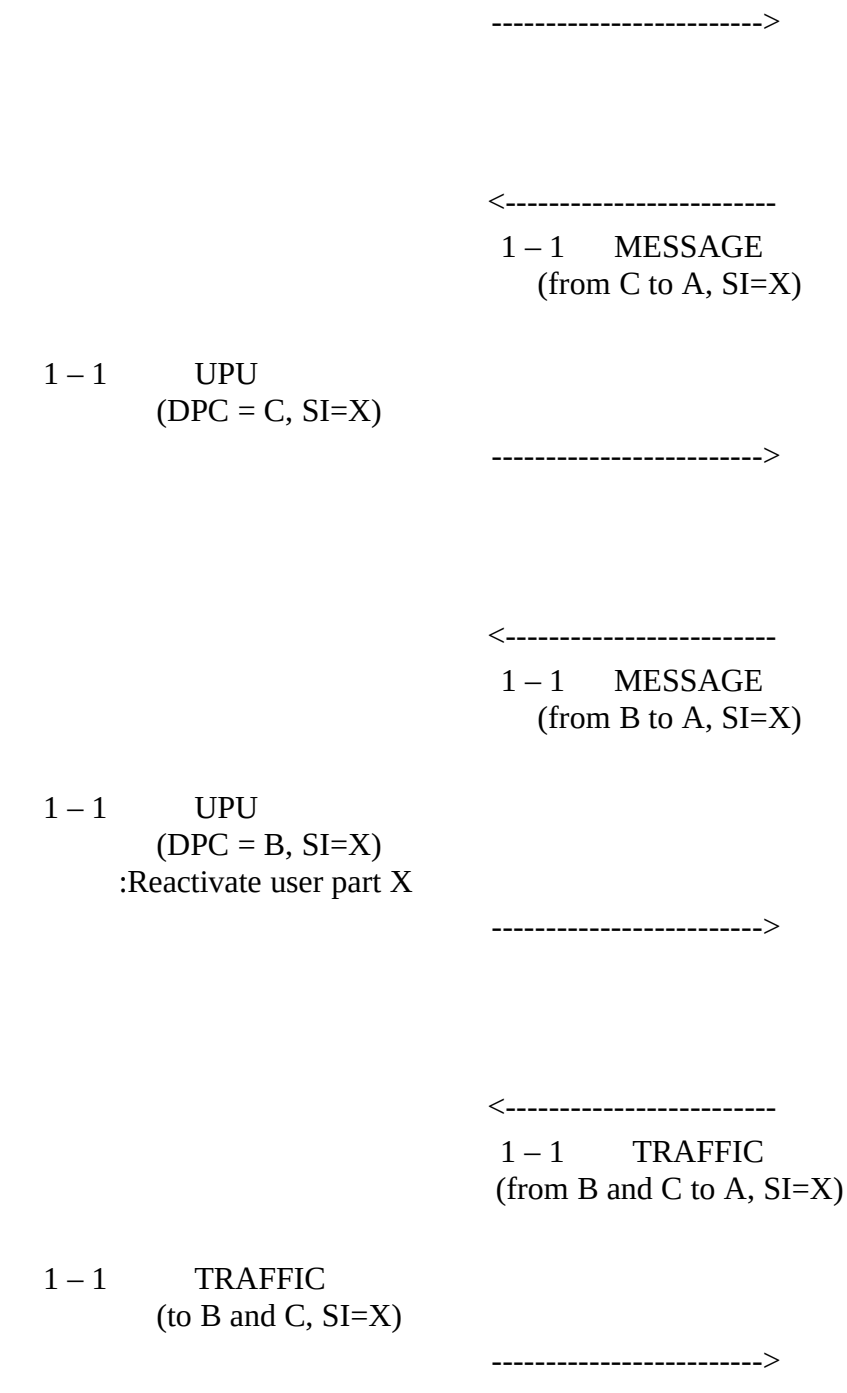
(from B and C, SI=X)

:Deactivate user part X (see note)

<----------

1 – 1 MESSAGE
(from B to A, SI=X)

1 – 1 UPU
(DPC = B, SI=X)


---------->
<----------
1 – 1 MESSAGE
(from C to A, SI=X)
1 – 1 UPU
(DPC = C, SI=X)
---------->
<----------
1 – 1 MESSAGE
(from B to A, SI=X)
1 – 1 UPU
(DPC = B, SI=X)
:Reactivate user part X
---------->
<----------
1 – 1 TRAFFIC
(from B and C to A, SI=X)
1 – 1 TRAFFIC
(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.

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.

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.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:
becomes unavailable

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

1 – 1
TRAFFIC

5 – 1
---------->

SP
D

(from A and F)
6 – 1

---------->

SP
E

2 – 1
TRAFFIC

(from A and F)

---------->
7 – 1

SP
E

1 – 1
:Deactivate

(MML command or failure)

2 – 1
TFP, PC = B

---------->

2 – 1
TFP, PC = D

---------->

2 – 1
TRAFFIC

---------->
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 it is not described in this transfer prohibited test.

TEST DESCRIPTION

1.

Start traffic to D and E on linkset 1 and 2.

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).

3.

Check that time out T8 is started for each TFP sent.

4.

Check that the traffic to D and E is diverted to C.

5.

Stop traffic and check that it was not disturbed.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

becomes unavailable on reception of a TFP

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE PF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

.

Link

Link

Link

Link

:Start traffic

1 – 1
TRAFFIC
----------->
5 – 1
---------->
SP
D

(from A and F)

6 – 1
---------->
SP
E

2 – 1
TRAFFIC
---------->
7 – 1

---------->

(from A and F)

SP
E

5 – 1
:Deactivate

See note

<----------
1 – 1 TFP, PC = D

2 – 1
TFP, PC=D
---------->

1 – 1
TRAFFIC
---------->
6 – 1
---------->
SP
E

(from A and F)

2 – 1
TRAFFIC
---------->
8 – 1

---------->
SP
D

(from A and F, and from 1 – 1 to D) 7 – 1

---------->
SP
E

: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

1.
Start traffic to D and E.

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.

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.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

3 – 1

TRAFFIC

---------->

3 – 1

:Deactivate (MML command or failure)

1 – 1

TFP, P C= F

----------->

2 – 1

TFP, PC = F

---------->

:Wait

:Stop traffic

Note – The propagation of TFPs is not presented to simplify the test description.

TEST DESCRIPTION

1.

Start traffic to F.

2.

Deactivate link 1 – 1 and check that TFPs concerning F are broadcasted.

3.

Check that a timer T8 is started.

4.

Stop traffic.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE–TEST CONDITIONS:

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
E

(from A and F)

8 – 1
---------->
SP
D

2 – 1

:Deactivate (MML command or failure)

3 – 1

TFP, PC = B

---------->

SP

F

3 – 1

TFP, PC = C

---------->

3 – 1

TFP, PC = D

---------->

3 – 1

TFP, PC = E

---------->

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start traffic to D and E.

2.

Deactivate linkset 2 and check that TFPs concerning B, C, D and E are broadcasted (to F).

3.

Check that for each TFP sent a timer T8 is started.

4.

Repeat test but with linkset 2 unavailable as pre–test condition and then deactivate linkset 1.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

2 – 1
TRAFFIC
------->
8 – 1
---------->

(from A and F)

7 – 1
---------->
SP
E

8 – 1
:Deactivate

<-------
2 – 1
TFP, PC = D

3 – 1
TFP, PC = D
---------->
SP
F

2 – 1
TRAFFIC
------->
7 – 1
---------->
SP
E

(from A and F)

:Wait

:Stop traffic

TEST DESCRIPTION

1.

Start traffic to D and E.

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.

5.

Repeat the test with linksets 2 and 4 unavailable as pre–test conditions and then deactivate linkset 5. Repeat the test with linksets 4 and 8 unavailable as pre–test conditions and then deactivate linkset 1.

6.

Repeat the test with linksets 4 and 5 unavailable as pre–test conditions and then deactivate linkset 2.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:
destination

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

Link

Link

:Sent a message

to D

<----------
3 – 1
MESSAGE TO D

3 – 1
TFP, PC = D
---------->

½
½T8
½

<----------
3 – 1
MESSAGE TO D

TEST DESCRIPTION

1.

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.

3.

During T8, send a new message with OPC = D to A and check that no TFP is sent.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

3 – 1
TRAFFIC
---------->
SP
F

(from A, D and E)

3 – 1

:Deactivate (MML command or failure)

2 – 1

TFP, PC = F

½

½ T8

½

½

½

½

---------->

----------½

<---------- ½

<----------

4 – 1

2 – 1

MESSAGE TO F

TEST DESCRIPTION

1.

Start traffic to F.

2.

Deactivate linkset 3 and check that TFPs are broadcasted.

3.

Within T8, send one message with DPC = F from C to A and check that no TFP is sent in response.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

PURPOSE:
becomes available

PRE–TEST CONDITIONS:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

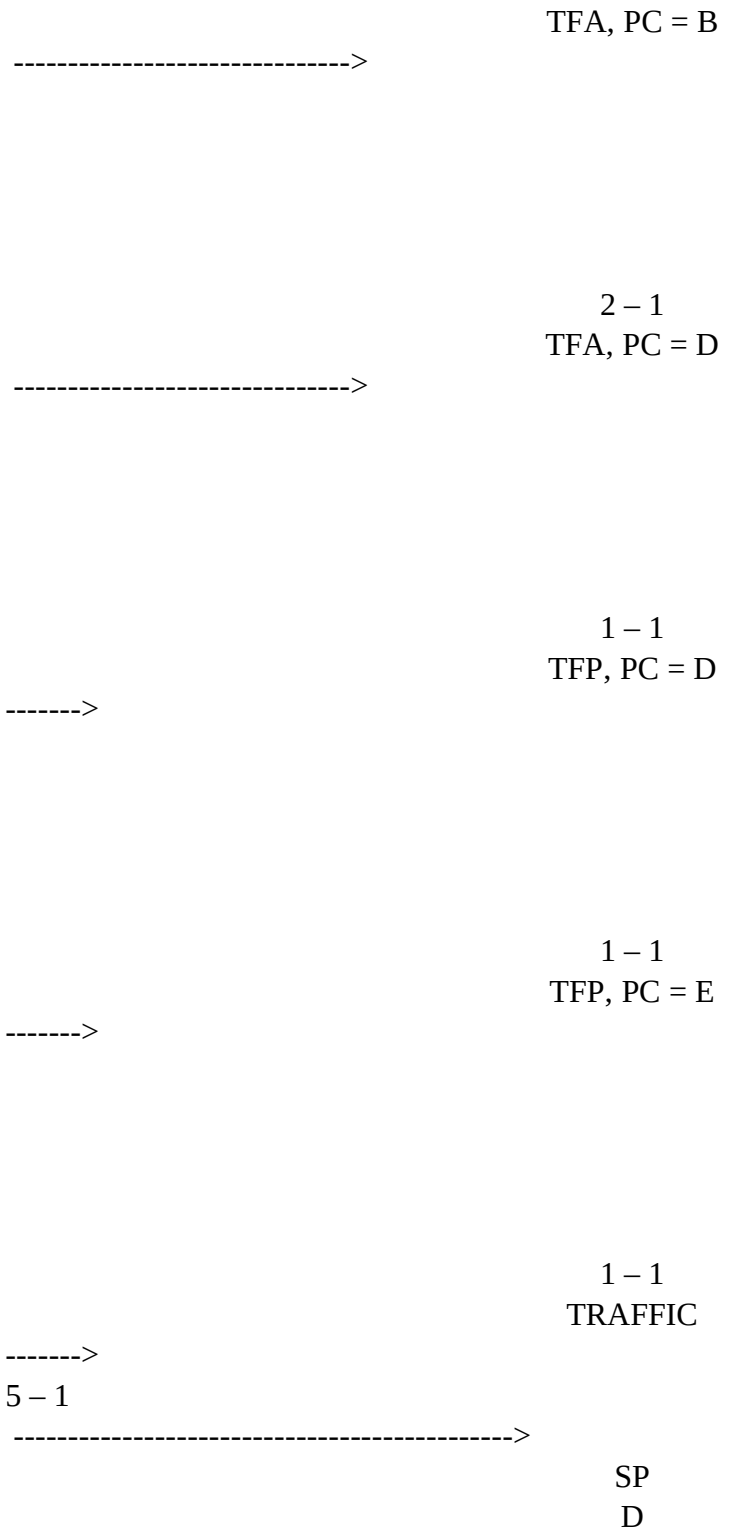
2 – 1
TRAFFIC
---------->
8 – 1
---------->
SP
D

(from A and F)

7 – 1
---------->
SP
E

1 – 1
:Activate (depending of the activation mean previously used)

2 – 1



(from A and F and from 2 – 1)

6 – 1
---------->
SP
E

2 – 1
TRAFFIC

(from A and F)
---------->
7 – 1
---------->
SP
E

:Wait

:Stop traffic

Note – a changeback procedure is performed after activation of link 1–1 but it is 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 is was rerouted correctly without loss of messages, duplication and missequencing.

MTP LEVEL 3

TEST NUMBER:

PAGE:

REFERENCE:

TITLE:

SUB TITLE:

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:

CONFIGURATION:

TYPE OF TEST:

TYPE OF SP:

MESSAGE SEQUENCE:

SP

SP

SP

SP

Link

Link

Link

Link

:Start traffic

1 – 1
TRAFFIC
------->
6 – 1
---------->
SP
E

(from A and F)

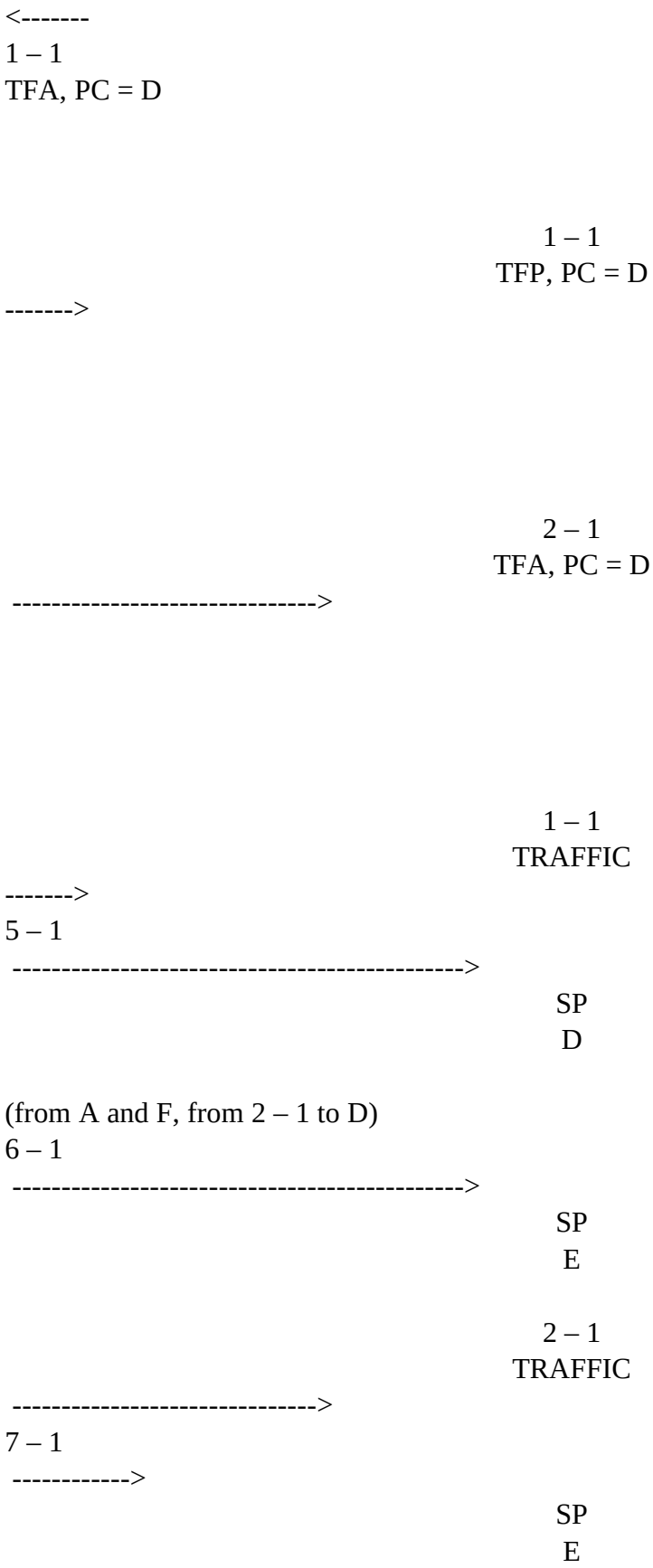
2 – 1
TRAFFIC
---------->
7 – 1
---------->
SP
E

(from A and F)

8 – 1
---------->
SP
D

5 – 1
:Activate

See note


<-------
1 – 1
TFA, PC = D
1 – 1
TFP, PC = D
------->
2 – 1
TFA, PC = D
---------->
1 – 1
TRAFFIC
------->
5 – 1
---------->
SP
D
(from A and F, from 2 – 1 to D)
6 – 1
---------->
SP
E
2 – 1
TRAFFIC
---------->
7 – 1
---------->
SP
E

(from A and F)

:Wait

:Stop traffic

Note – a controlled rerouting is performed after the activation of linkset 5 it is not described in this transfer allowed test.

TEST DESCRIPTION

1.

Start traffic to D and E.

2.

Activate link 5 – 1 and check that a TFA concerning D is sent to A.

3.

Check that the traffic to D is diverted 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.