

## Case E: Basic TE Tunnel Failure Mode

### E6. Test Results

Step E4.3.1:
Link L4 is up
Tunnel 1 bandwidth: 300 kbps Tunnel 2 bandwidth: 200 kbps Tunnel 3 bandwidth: 200 kbps
<pre>semtec#sh mpls traff tun Name: semtec_t1                               (Tunnel 1) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 1) Config Parameters:   Bandwidth: 300      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled InLabel : - OutLabel : POS3/3, implicit-null RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 1, Tun_Instance 12 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.49.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=300 kbits, burst=1000 bytes, peak rate=300 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=300 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 1 minutes, 1 seconds   Prior LSP:     ID: path option 1 [7]     Removal Trigger: label reservation removed  Name: semtec_t2                               (Tunnel 2) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 1) Config Parameters:   Bandwidth: 200      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled InLabel : - OutLabel : POS3/3, implicit-null RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 8 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.49.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 1 minutes, 2 seconds   Prior LSP:     ID: path option 1 [3]     Removal Trigger: label reservation removed  Name: semtec_t3                               (Tunnel 3) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 1)</pre>

<pre> Config Parameters:   Bandwidth: 200      kbps (Global)  Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute:  disabled  LockDown: disabled  InLabel  : - OutLabel : POS3/3, implicit-null RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 7   RSVP Path Info:     My Address: 10.130.255.3     Explicit Route: 10.130.49.2 10.130.255.2     Record Route: NONE     Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits   RSVP Resv Info:     Record Route: NONE     Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 1 minutes, 4 seconds   Prior LSP:     ID: path option 1 [2]     Removal Trigger: label reservation removed </pre>
<b>Verdict:</b>
<p>Pass. Tunnels 1,2&amp;3 all exit GSR A via interface pos1A (Explicit Route 10.130.49.2 10.130.255.2). Note that the configured bandwidth limits for the tunnels are listed under RSVP Path Info as Tspec (Traffic Spec).</p>
<b>Comments:</b>
None

<b>Step E4.7.1:</b>
<b>Link L4 is down</b>
<pre> Tunnel 1 bandwidth: 300 kbps Tunnel 2 bandwidth: 200 kbps Tunnel 3 bandwidth: 200 kbps </pre>
<pre> semtec#sh mpls traff tun Name: semtec_t1                               (Tunnel 1) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected            path option 1, type dynamic (Basis for Setup, path weight 2)  Config Parameters:   Bandwidth: 300      kbps (Global)  Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute:  disabled  LockDown: disabled  InLabel  : - OutLabel : POS3/1, 19 RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 1, Tun_Instance 23   RSVP Path Info:     My Address: 10.130.255.3     Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2     Record Route: NONE     Tspec: ave rate=300 kbits, burst=1000 bytes, peak rate=300 kbits   RSVP Resv Info:     Record Route: NONE     Fspec: ave rate=300 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 3 minutes, 36 seconds   Prior LSP:     ID: path option 1 [22]     Removal Trigger: label reservation removed </pre>

<pre>Name: semtec_t2 (Tunnel 2) Destination: 10.130.255.2 Status: Admin: up Oper: up Path: valid Signalling: connected path option 1, type dynamic (Basis for Setup, path weight 2)  Config Parameters: Bandwidth: 200 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF AutoRoute: disabled LockDown: disabled  InLabel : - OutLabel : POS3/1, 17 RSVP Signalling Info: Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 25 RSVP Path Info: My Address: 10.130.255.3 Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2 Record Route: NONE Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits RSVP Resv Info: Record Route: NONE Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History: Current LSP: Uptime: 3 minutes, 34 seconds Prior LSP: ID: path option 1 [23] Removal Trigger: label reservation removed  Name: semtec_t3 (Tunnel 3) Destination: 10.130.255.2 Status: Admin: up Oper: up Path: valid Signalling: connected path option 1, type dynamic (Basis for Setup, path weight 2)  Config Parameters: Bandwidth: 200 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF AutoRoute: disabled LockDown: disabled  InLabel : - OutLabel : POS3/1, 20 RSVP Signalling Info: Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 24 RSVP Path Info: My Address: 10.130.255.3 Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2 Record Route: NONE Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits RSVP Resv Info: Record Route: NONE Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History: Current LSP: Uptime: 3 minutes, 35 seconds Prior LSP: ID: path option 1 [22] Removal Trigger: label reservation removed</pre>
<b>Verdict:</b>
Pass. Tunnels 1,2&3 exit GSR A via interface pos2A (Explicit Route 10.130.2.1 10.130.1.2 10.130.255.2). Note that the configured bandwidth limits for the tunnels are listed under RSVP Path Info as Tspec (Traffic Spec).
<b>Comments:</b>
None

<b>Step E4.3.2:</b>
Link L4 is up
Tunnel 1 bandwidth: 500 kbps Tunnel 2 bandwidth: 500 kbps Tunnel 3 bandwidth: 200 kbps

```

semtec#sh mpls traffic tunnel

Name: semtec_t1                      (Tunnel 1) Destination: 10.130.255.2
Status:
  Admin: up          Oper: up      Path: valid      Signalling: connected
  path option 1, type dynamic (Basis for Setup, path weight 1)

Config Parameters:
  Bandwidth: 500      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF
  AutoRoute: disabled LockDown: disabled

InLabel : -
OutLabel : POS3/3, implicit-null
RSVP Signalling Info:
  Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 1, Tun_Instance 68
RSVP Path Info:
  My Address: 10.130.255.3
  Explicit Route: 10.130.49.2 10.130.255.2
  Record Route: NONE
  Tspec: ave rate=500 kbits, burst=1000 bytes, peak rate=500 kbits
RSVP Resv Info:
  Record Route: NONE
  Fspec: ave rate=500 kbits, burst=1000 bytes, peak rate=Inf
History:
  Current LSP:
    Uptime: 9 minutes, 26 seconds
  Prior LSP:
    ID: path option 1 [67]
    Removal Trigger: tunnel shutdown

Name: semtec_t2                      (Tunnel 2) Destination: 10.130.255.2
Status:
  Admin: up          Oper: up      Path: valid      Signalling: connected
  path option 1, type dynamic (Basis for Setup, path weight 1)

Config Parameters:
  Bandwidth: 500      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF
  AutoRoute: disabled LockDown: disabled

InLabel : -
OutLabel : POS3/3, implicit-null
RSVP Signalling Info:
  Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 103
RSVP Path Info:
  My Address: 10.130.255.3
  Explicit Route: 10.130.49.2 10.130.255.2
  Record Route: NONE
  Tspec: ave rate=500 kbits, burst=1000 bytes, peak rate=500 kbits
RSVP Resv Info:
  Record Route: NONE
  Fspec: ave rate=500 kbits, burst=1000 bytes, peak rate=Inf
History:
  Current LSP:
    Uptime: 9 minutes, 21 seconds
  Prior LSP:
    ID: path option 1 [102]
    Removal Trigger: tunnel shutdown

Name: semtec_t3                      (Tunnel 3) Destination: 10.130.255.2
Status:
  Admin: up          Oper: up      Path: valid      Signalling: connected
  path option 1, type dynamic (Basis for Setup, path weight 2)

Config Parameters:
  Bandwidth: 200      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF
  AutoRoute: disabled LockDown: disabled

InLabel : -
OutLabel : POS3/1, 16
RSVP Signalling Info:
  Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 81
RSVP Path Info:
  My Address: 10.130.255.3
  Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2
  Record Route: NONE
  Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits

```

<pre> RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 7 minutes, 46 seconds   Prior LSP:     ID: path option 1 [80]     Removal Trigger: tunnel shutdown </pre>
<b>Verdict:</b>
Pass. Tunnels 1&2 exit GSR A via interface pos1A (Explicit Route 10.130.49.2 10.130.255.2). Since all available tunnel bandwidth on Link L4 is consumed, Tunnel 3 then exits via the longer path via GSR A interface pos2A.
<b>Comments:</b>
The tunnels were configured in numerical order.

<b>Step E4.7.2:</b>
<b>Link L4 is down</b>
<pre> Tunnel 1 bandwidth: 500 kbps Tunnel 2 bandwidth: 500 kbps Tunnel 3 bandwidth: 200 kbps </pre>
<pre> semtec#sh mpls traffic tunnel  Name: semtec_t1                               (Tunnel 1) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected            path option 1, type dynamic (Basis for Setup, path weight 2)  Config Parameters:   Bandwidth: 500      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled  InLabel  : - OutLabel  : POS3/1, 17 RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 1, Tun_Instance 69 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=500 kbits, burst=1000 bytes, peak rate=500 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=500 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 1 minutes, 41 seconds     Selection: reoptimization   Prior LSP:     ID: path option 1 [68]     Removal Trigger: path verification failed  Name: semtec_t2                               (Tunnel 2) Destination: 10.130.255.2 Status:   Admin: up           Oper: down          Path: not valid       Signalling: Down            path option 1, type dynamic  Config Parameters:   Bandwidth: 500      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled  History:   Prior LSP: </pre>

<pre> ID: path option 1 [104] Removal Trigger: path error Last Error: PCALC:: No path to destination, 10.130.255.2 Name: semtec_t3                               (Tunnel 3) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 2)  Config Parameters:   Bandwidth: 200      kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled  InLabel : - OutLabel : POS3/1, 16 RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 81 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 15 minutes, 59 seconds   Prior LSP:     ID: path option 1 [80]     Removal Trigger: tunnel shutdown </pre>
<b>Verdict:</b>
<p>Pass. One tunnel (Tunnel 1) was correctly rerouted out of GSR A via Links L3 and L5 (Explicit Path 10.130.2.1 10.130.1.2 10.130.255.2), and the other tunnel (Tunnel 2) was dropped (No path to destination 10.130.255.2). Tunnel 3 remained up on Link L3 (Explicit Path 10.130.2.1 10.130.1.2 10.130.255.2).</p>
<b>Comments:</b>
None

<b>Step E4.3.3:</b>
<b>Link L4 is up</b>
<pre> Tunnel 1 bandwidth: 900 kbps Tunnel 2 bandwidth: 100 kbps Tunnel 3 bandwidth: 200 kbps </pre>
<pre> semtec#sh mpls traffic tunnel Name: semtec_t1                               (Tunnel 1) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 1)  Config Parameters:   Bandwidth: 900      kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled  InLabel : - OutLabel : POS3/3, implicit-null RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 1, Tun_Instance 73 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.49.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=900 kbits, burst=1000 bytes, peak rate=900 kbits </pre>

<pre> RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=900 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 6 minutes, 7 seconds   Prior LSP:     ID: path option 1 [72]     Removal Trigger: tunnel shutdown Name: semtec_t2                                (Tunnel 2) Destination: 10.130.255.2 Status:   Admin: up          Oper: up          Path: valid          Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 1) Config Parameters:   Bandwidth: 100      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled InLabel : - OutLabel : POS3/3, implicit-null RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 178 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.49.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=100 kbits, burst=1000 bytes, peak rate=100 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=100 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 5 minutes, 57 seconds   Prior LSP:     ID: path option 1 [177]     Removal Trigger: tunnel shutdown Name: semtec_t3                                (Tunnel 3) Destination: 10.130.255.2 Status:   Admin: up          Oper: up          Path: valid          Signalling: connected   path option 1, type dynamic (Basis for Setup, path weight 2) Config Parameters:   Bandwidth: 200      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled InLabel : - OutLabel : POS3/1, 16 RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 126 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History:   Current LSP:     Uptime: 5 minutes, 57 seconds   Prior LSP:     ID: path option 1 [125]     Removal Trigger: tunnel shutdown </pre>
<b>Verdict:</b>
Pass. Tunnels 1&2 were routed over Link L4 (Explicit Route 10.130.49.2 10.130.255.2), consuming all available bandwidth on that link. Tunnel 3 was then routed over Link L3 (Explicit Route 10.130.2.1 10.130.1.2 10.130.255.2).
<b>Comments:</b>
The tunnels were constructed in numerical order.

### Step E4.7.3:

#### Link L4 is down

Tunnel 1 bandwidth: 900 kbps

Tunnel 2 bandwidth: 100 kbps

Tunnel 3 bandwidth: 200 kbps

```
semtec#sh mpls traffic tunnel
```

```
Name: semtec_t1 (Tunnel 1) Destination: 10.130.255.2
```

```
Status:
```

```
Admin: up Oper: down Path: not valid Signalling: Down  
path option 1, type dynamic
```

```
Config Parameters:
```

```
Bandwidth: 900 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF  
AutoRoute: disabled LockDown: disabled
```

```
History:
```

```
Prior LSP:
```

```
ID: path option 1 [73]
```

```
Removal Trigger: label reservation removed
```

```
Last Error: PCALC: No path to destination, 10.130.255.2
```

```
Name: semtec_t2 (Tunnel 2) Destination: 10.130.255.2
```

```
Status:
```

```
Admin: up Oper: up Path: valid Signalling: connected
```

```
path option 1, type dynamic (Basis for Setup, path weight 2)
```

```
Config Parameters:
```

```
Bandwidth: 100 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF  
AutoRoute: disabled LockDown: disabled
```

```
InLabel : -
```

```
OutLabel : POS3/1, 17
```

```
RSVP Signalling Info:
```

```
Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 180
```

```
RSVP Path Info:
```

```
My Address: 10.130.255.3
```

```
Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2
```

```
Record Route: NONE
```

```
Tspec: ave rate=100 kbits, burst=1000 bytes, peak rate=100 kbits
```

```
RSVP Resv Info:
```

```
Record Route: NONE
```

```
Fspec: ave rate=100 kbits, burst=1000 bytes, peak rate=Inf
```

```
History:
```

```
Current LSP:
```

```
Uptime: 48 seconds
```

```
Prior LSP:
```

```
ID: path option 1 [179]
```

```
Removal Trigger: path verification failed
```

```
Name: semtec_t3 (Tunnel 3) Destination: 10.130.255.2
```

```
Status:
```

```
Admin: up Oper: up Path: valid Signalling: connected
```

```
path option 1, type dynamic (Basis for Setup, path weight 2)
```

```
Config Parameters:
```

```
Bandwidth: 200 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF  
AutoRoute: disabled LockDown: disabled
```

```
InLabel : -
```

```
OutLabel : POS3/1, 16
```

```
RSVP Signalling Info:
```

```
Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 126
```

```
RSVP Path Info:
```

```
My Address: 10.130.255.3
```

```
Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2
```

```
Record Route: NONE
```

```
Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits
```

```
RSVP Resv Info:
```

```
Record Route: NONE
```

```
Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf
```



<pre> History: Current LSP:   Uptime: 8 minutes, 40 seconds Prior LSP:   ID: path option 1 [125]   Removal Trigger: tunnel shutdown </pre>
<b>Verdict:</b>
<p>Pass. When Link L4 goes down, Tunnel 1 tries to re-route over Link L3 but fails because there is not enough available bandwidth on the link (only 800 kbps available since Tunnel 3 has already consumed 200 kbps of that link) to satisfy its' request for 900 kbps. Tunnel 2 is successful in re-routing across Link L3, since it is only requesting 100 kbps. Tunnel 3 remains up on Link L3.</p>
<b>Comments:</b>
None

<b>Step E4.3.4:</b>
<b>Link L4 is up</b>
<pre> Tunnel 1 bandwidth: 300 kbps Tunnel 2 bandwidth: 750 kbps Tunnel 3 bandwidth: 200 kbps </pre>
<pre> semtec#sh mpls traff tun  Name: semtec_t1                               (Tunnel 1) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected            path option 1, type dynamic (Basis for Setup, path weight 1)  Config Parameters:   Bandwidth: 300      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled  InLabel : - OutLabel : POS3/3, implicit-null RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 1, Tun_Instance 114 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.49.2 10.130.255.2   Record Route: NONE   Tspec: ave rate=300 kbits, burst=1000 bytes, peak rate=300 kbits RSVP Resv Info:   Record Route: NONE   Fspec: ave rate=300 kbits, burst=1000 bytes, peak rate=Inf History: Current LSP:   Uptime: 7 minutes, 54 seconds Prior LSP:   ID: path option 1 [113]   Removal Trigger: tunnel shutdown  Name: semtec_t2                               (Tunnel 2) Destination: 10.130.255.2 Status:   Admin: up           Oper: up           Path: valid           Signalling: connected            path option 1, type dynamic (Basis for Setup, path weight 2)  Config Parameters:   Bandwidth: 750      kbps (Global) Priority: 0 0  Affinity: 0x0/0xFFFF   AutoRoute: disabled LockDown: disabled  InLabel : - OutLabel : POS3/1, 16 RSVP Signalling Info:   Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 243 RSVP Path Info:   My Address: 10.130.255.3   Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2   Record Route: NONE </pre>

<pre> Tspec: ave rate=750 kbits, burst=1000 bytes, peak rate=750 kbits RSVP Resv Info: Record Route: NONE Fspec: ave rate=750 kbits, burst=1000 bytes, peak rate=Inf History: Current LSP: Uptime: 7 minutes, 49 seconds Prior LSP: ID: path option 1 [238] Removal Trigger: tunnel shutdown Name: semtec_t3 (Tunnel 3) Destination: 10.130.255.2 Status: Admin: up Oper: up Path: valid Signalling: connected path option 1, type dynamic (Basis for Setup, path weight 1) Config Parameters: Bandwidth: 200 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF AutoRoute: disabled LockDown: disabled InLabel : - OutLabel : POS3/3, implicit-null RSVP Signalling Info: Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 131 RSVP Path Info: My Address: 10.130.255.3 Explicit Route: 10.130.49.2 10.130.255.2 Record Route: NONE Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits RSVP Resv Info: Record Route: NONE Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf History: Current LSP: Uptime: 7 minutes, 40 seconds Prior LSP: ID: path option 1 [130] Removal Trigger: tunnel shutdown </pre>
<b>Verdict:</b>
<p>Pass. Tunnel 1 is setup over Link L4 (Explicit Route 10.130.49.2 10.130.255.2). Tunnel 2 is then setup over Link L3 (Explicit Route 10.130.2.1 10.130.1.2 10.130.255.2) since there is not enough available bandwidth on Link L4 to accommodate a 750 kbps reservation. Tunnel 3 is then setup over Link L4, since there is enough available bandwidth to accommodate a 200 kbps reservation.</p>
<b>Comments:</b>
<p>Tunnels are setup in numerical order.</p>

<b>Step E4.7.4:</b>
<b>Link L4 is down</b>
<pre> Tunnel 1 bandwidth: 300 kbps Tunnel 2 bandwidth: 750 kbps Tunnel 3 bandwidth: 200 kbps </pre>

```
semtec#sh mpls traff tun
```

```
Name: semtec_t1 (Tunnel 1) Destination: 10.130.255.2
```

```
Status:
Admin: up Oper: down Path: not valid Signalling: Down
path option 1, type dynamic
```

```
Config Parameters:
```

```
Bandwidth: 300 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF
AutoRoute: disabled LockDown: disabled
```

```
History:
```

```
Prior LSP:
ID: path option 1 [114]
Removal Trigger: path verification failed
Last Error: PCALC:: No path to destination, 10.130.255.2
```

```
Name: semtec_t2 (Tunnel 2) Destination: 10.130.255.2
```

```
Status:
Admin: up Oper: up Path: valid Signalling: connected
path option 1, type dynamic (Basis for Setup, path weight 2)
```

```
Config Parameters:
```

```
Bandwidth: 750 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF
AutoRoute: disabled LockDown: disabled
```

```
InLabel : -
```

```
OutLabel : POS3/1, 16
```

```
RSVP Signalling Info:
```

```
Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 2, Tun_Instance 243
```

```
RSVP Path Info:
```

```
My Address: 10.130.255.3
Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2
Record Route: NONE
Tspec: ave rate=750 kbits, burst=1000 bytes, peak rate=750 kbits
```

```
RSVP Resv Info:
```

```
Record Route: NONE
Fspec: ave rate=750 kbits, burst=1000 bytes, peak rate=Inf
```

```
History:
```

```
Current LSP:
Uptime: 17 minutes, 7 seconds
Prior LSP:
ID: path option 1 [238]
Removal Trigger: tunnel shutdown
```

```
Name: semtec_t3 (Tunnel 3) Destination: 10.130.255.2
```

```
Status:
Admin: up Oper: up Path: valid Signalling: connected
path option 1, type dynamic (Basis for Setup, path weight 2)
```

```
Config Parameters:
```

```
Bandwidth: 200 kbps (Global) Priority: 0 0 Affinity: 0x0/0xFFFF
AutoRoute: disabled LockDown: disabled
```

```
InLabel : -
```

```
OutLabel : POS3/1, 17
```

```
RSVP Signalling Info:
```

```
Src 10.130.255.3, Dst 10.130.255.2, Tun_Id 3, Tun_Instance 132
```

```
RSVP Path Info:
```

```
My Address: 10.130.255.3
Explicit Route: 10.130.2.1 10.130.1.2 10.130.255.2
Record Route: NONE
Tspec: ave rate=200 kbits, burst=1000 bytes, peak rate=200 kbits
```

```
RSVP Resv Info:
```

```
Record Route: NONE
Fspec: ave rate=200 kbits, burst=1000 bytes, peak rate=Inf
```

```
History:
```

```
Current LSP:
Uptime: 3 minutes, 26 seconds
Selection: reoptimization
Prior LSP:
ID: path option 1 [131]
Removal Trigger: path verification failed
```

```
Verdict:
```

