Routing
Switching
Tigers
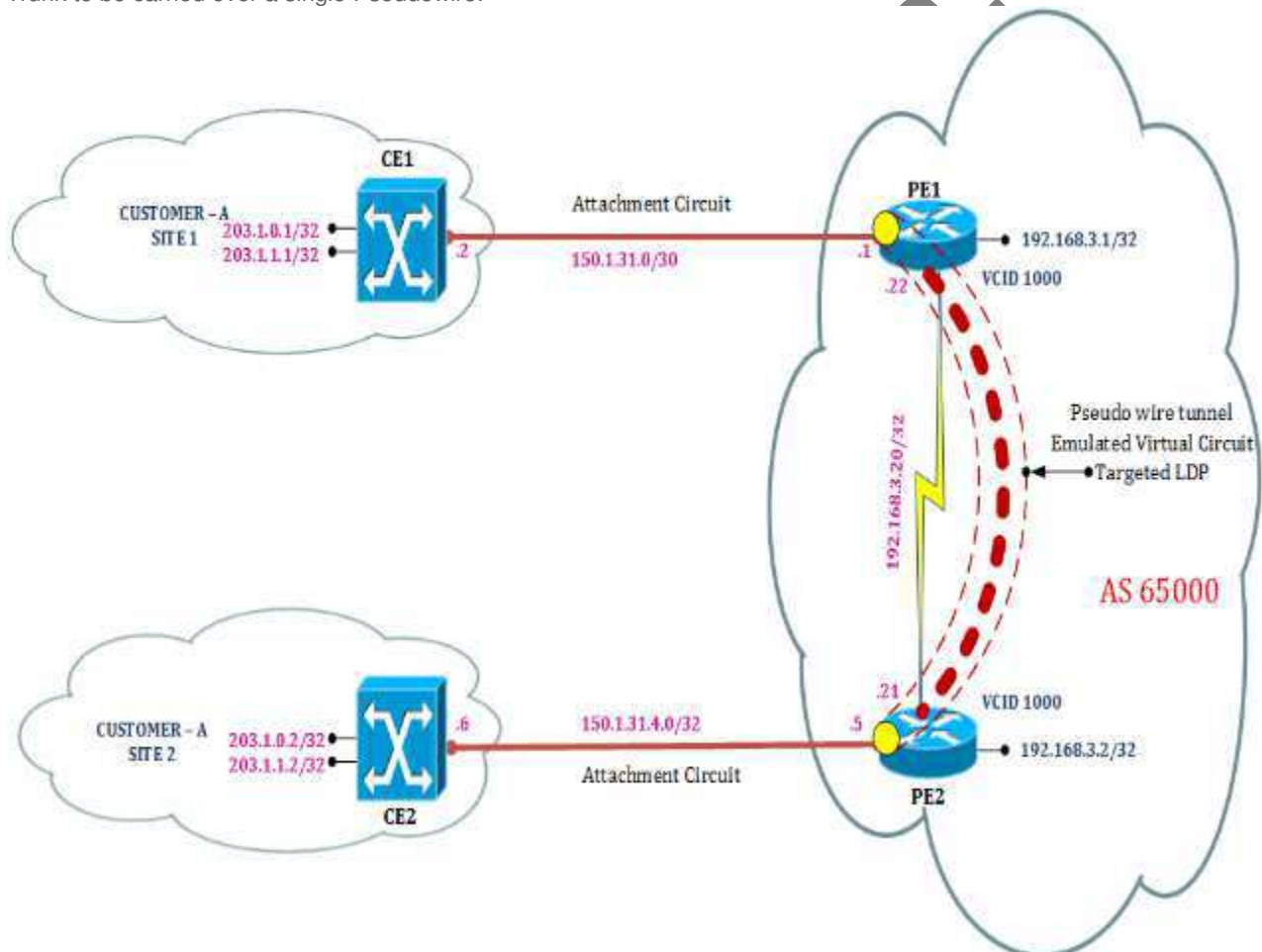Forum

MPLS

EoMPLS Carrying Simple Ethernet

Disclaimer

This Configuration Guide is designed to assist members to enhance their skills in particular technology area. While every effort has been made to ensure that all material is as complete and accurate as possible, the enclosed material is presented on an "as is" basis. Neither the authors nor Forum assume any liability or responsibility to any person or entity with respect to loss or damages incurred from the information contained in this guide. This configuration guide was developed by Forum. Any similarities between material presented in this configuration guide and any other material is completely coincidental.

Summary: The **Attachment Circuit (AC)** can be Ethernet port or 802.1Q sub-interface (VLAN). For each AC, LDP signals different VC type via the targeted LDP session. VC Type 5 for Ethernet Port mode and VC Type 4 for Ethernet VLAN mode. Here, Ethernet Port mode is described. In Ethernet Port mode, a VLAN header might or might not be present on the frame. In any case, the PE router carries the frame transparently. This allows an Ethernet Trunk to be carried over a single Pseudowire.

CE1 Router:	CE2 Router:

```
ip cef
!
interface FastEthernet0/0
description Connected to PE1
ip address 150.1.31.2 255.255.255.252
!
end
```

```
ip cef
!
interface FastEthernet0/0
description Connected to PE1
ip address 150.1.31.6 255.255.255.252
!
end
```

PE1 Router:
```
ip cef
mpls label protocol ldp
!
pseudowire-class MPLS_Encapsulation
encapsulation mpls
!
interface Loopback0
ip address 192.168.3.1 255.255.255.255
ip ospf 1 area 0
!
interface FastEthernet0/0
description Connected to CE1
xconnect 192.168.3.2 1000 pw-class
MPLS_Encapsulation
!
interface Serial2/0
ip address 192.168.3.22 255.255.255.252
ip ospf 1 area 0
tag-switching ip
!
router ospf 1
!
tag-switching tdp router-id Loopback0 force
!
end
```

PE2 Router:
```
ip cef
!
mpls label protocol ldp
!
interface Loopback0
ip address 192.168.3.2
255.255.255.255
ip ospf 1 area 0
!
interface FastEthernet0/0
description Connected to CE2
xconnect 192.168.3.1 1000
encapsulation mpls
!
interface Serial2/0
ip address 192.168.3.21
255.255.255.252
ip ospf 1 area 0
tag-switching ip
!
router ospf 1
!
tag-switching tdp router-id Loopback0
force
!
end
```

Verification:PE1#show mpls l2transport vc
```
Local intf     Local circuit              Dest address    VC ID      Status
```

```
------------   ------------------------   --------------   ----------   ----------

Fa0/0          Ethernet                   192.168.3.2      2000         UP
```

PE2#show mpls l2transport vc
```
Local intf     Local circuit              Dest address     VC ID       Status

------------   ------------------------   --------------   ----------   ----------

Fa0/0          Ethernet                   192.168.3.1      2000         UP
```

PE1#sh mpls l2transport vc detail
```
Local interface: Fa0/0 up, line protocol up, Ethernet up

  Destination address: 192.168.3.2, VC ID: 2000, VC status: up

    Preferred path: not configured

    Default path: active

    Next hop: point2point

    Output interface: Se2/0, imposed label stack {17}

  Create time: 00:22:38, last status change time: 00:21:57

  Signaling protocol: LDP, peer 192.168.3.2:0 up

    MPLS VC labels: local 17, remote 17

    Group ID: local 0, remote 0

    MTU: local 1500, remote 1500

    Remote interface description: Connected to CE2

  Sequencing: receive disabled, send disabled

  VC statistics:

    packet totals:  receive 157, send 154

    byte totals:    receive 17709, send 17380

    packet drops:   receive 0, seq error 0, send 0
```

PE2#sh mpls l2transport vc detail
```
Local interface: Fa0/0 up, line protocol up, Ethernet up

  Destination address: 192.168.3.1, VC ID: 2000, VC status: up

    Preferred path: not configured

    Default path: active

    Next hop: point2point

    Output interface: Se2/0, imposed label stack {17}
```

```
Create time: 00:23:19, last status change time: 00:23:14
Signaling protocol: LDP, peer 192.168.3.1:0 up
  MPLS VC labels: local 17, remote 17
  Group ID: local 0, remote 0
  MTU: local 1500, remote 1500
  Remote interface description: Connected to CE1
Sequencing: receive disabled, send disabled
VC statistics:
  packet totals: receive 162, send 165
  byte totals:   receive 18238, send 18572
  packet drops:  receive 0, seq error 0, send 0
```