

Routing
Switching
Tigers
Forum



MPLS

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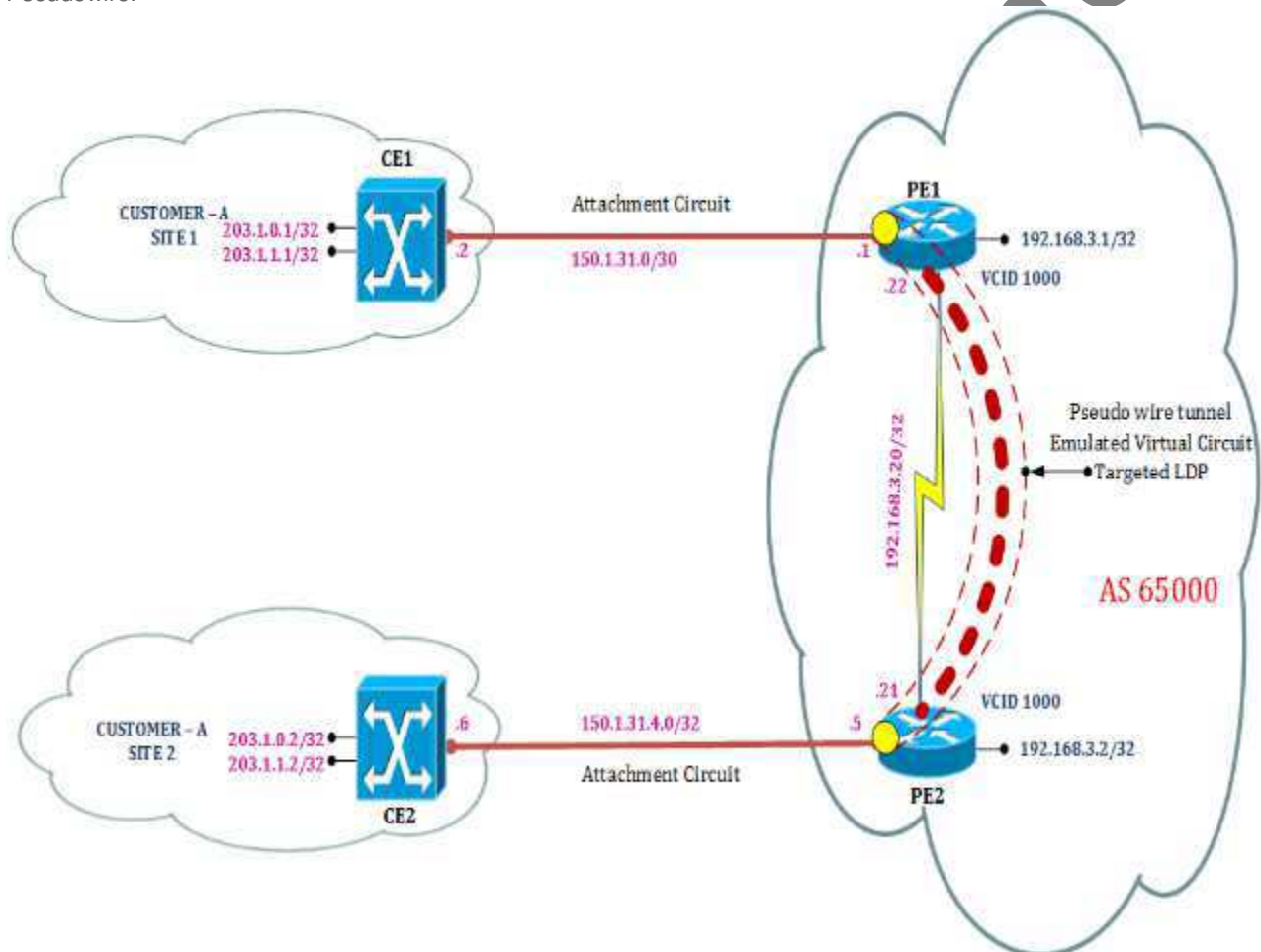
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EoMPLS Carrying One VLAN

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.

Basic information: Here, an 802.1Q trunk is established between CE and PE. Each VLAN is mapped to one Pseudowire.



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```
CE1 Router:
int f0/0
no ip address
!
int f 0/0.100
encapsulation dot1q 100
```

```
CE2 Router:
int f0/0
no ip address
!
int f 0/0.100
encapsulation dot1q 100
```

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```
ip address 10.100.1.1 255.255.255.252
!
int f 0/0.200
encapsulation dot1q 200
ip address 10.200.1.1 255.255.255.252
!
```

```
ip address 10.100.1.2 255.255.255.252
!
int f 0/0.200
encapsulation dot1q 200
ip address 10.200.1.2 255.255.255.252
!
```

```
PE1 Router:
ip cef
mpls label protocol ldp
!
int loop 0
ip add 192.168.3.1 255.255.255.255
ip ospf 1 area 0
!
int f0/0
no ip address
!
int f 0/0.100
encapsulation dot1q 100
no ip address
xconnect 192.168.3.2 1000 encapsulation mpls
!
int f 0/0.200
encapsulation dot1q 200
no ip address
xconnect 192.168.3.2 2000 encapsulation mpls
!
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
!
int loop 0
ip add 192.168.3.2 255.255.255.255
ip ospf 1 area 0
!
int f0/0
no ip address
!
int f 0/0.100
encapsulation dot1q 100
no ip address
xconnect 192.168.3.1 1000 encapsulation mpls
!
int f 0/0.200
encapsulation dot1q 200
no ip address
xconnect 192.168.3.1 2000 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.

The following output shows successful Pseudowire setup.

PE1#sh mpls l2transport vc

Local intf	Local circuit	Dest address	VC ID	Status
Fa0/0.100	Eth VLAN 100	192.168.3.2	1000	UP

Fa0/0.200 Eth VLAN 200 192.168.3.2 2000 UP

PE1#sh mpls l2transport vc detail

Codes: C – connected, S – stat

Local interface: Fa0/0.100 up, line protocol up, Eth VLAN 100 up

D – EIG

Destination address: 192.168.3.2, VC ID: 1000, VC status: up

Preferred path: not configured 1, N2 – OSPF NSSA external type 2

Default path: active

Next hop: point2point E1 – OSPF external type

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

Create time: 00:19:57, last status change time: 00:15:412 – IS-IS level-2

Signaling protocol: LDP, peer 192.168.3.2:0 upS-IS inter area, * – candidate default, U – per-

MPLS VC labels: local 17, remote 17

Remote interface description:

C 150.1

Sequencing: receive disabled, send disabled

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

Local interface: Fa0/0.200 up, line protocol up, Eth VLAN 200 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 {18}

Create time: 00:18:17, last status change time: 00:13:55

Signaling protocol: LDP, peer 192.168.3.2:0 up

MPLS VC labels: local 18, remote 18

Group ID: local 0, remote 0

MTU: local 1500, remote 1500

Remote interface description:

Sequencing: receive disabled, send disabled

VC statistics:

packet totals: receive 626, send 627

byte totals: receive 96474, send 97028

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

The following output shows the MPLS LFIB table on PE1 router. It indicates two point-to-point L2 circuits i.e. Pseudowires.

PE1#sh mpls forwarding-table

Local	Outgoing	Prefix	Bytes tag	Outgoing	Next Hop
tag	tag or VC	or Tunnel Id	switched	interface	
16	Pop tag	192.168.3.2/32	0	Se2/0	point2point

17	Untagged	12ckt (1000)	8020	none	point2point
18	Untagged	12ckt (2000)	7218	none	point2point

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