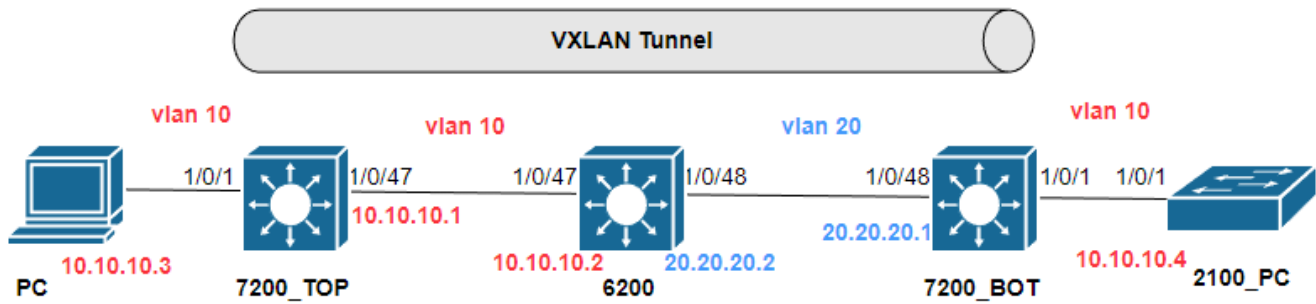
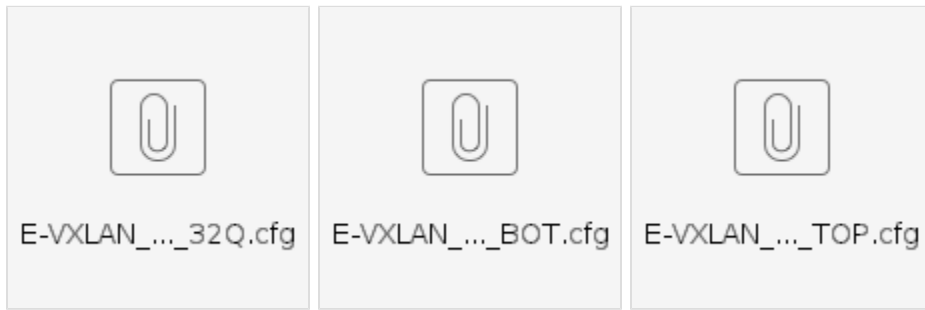


# -EVPN VXLAN Layer 2 Interconnection



Device	IP management	IP vlan 10	IP vlan 20
PC	192.168.255.10	10.10.10.3	
7200_TOP	192.168.255.11	10.10.10.1	
6200	192.168.255.13	10.10.10.2	20.20.20.2
7200_BOT	192.168.255.15		20.20.20.1
2100_PC	192.168.255.12	10.10.10.4	

```

vxlan proxy, ... loopback-group 1 , , . UP VXLAN proxy. c 1/0/46.
xconnect nvi 10 VM, static vxlan. 1/0/1.

vlan.

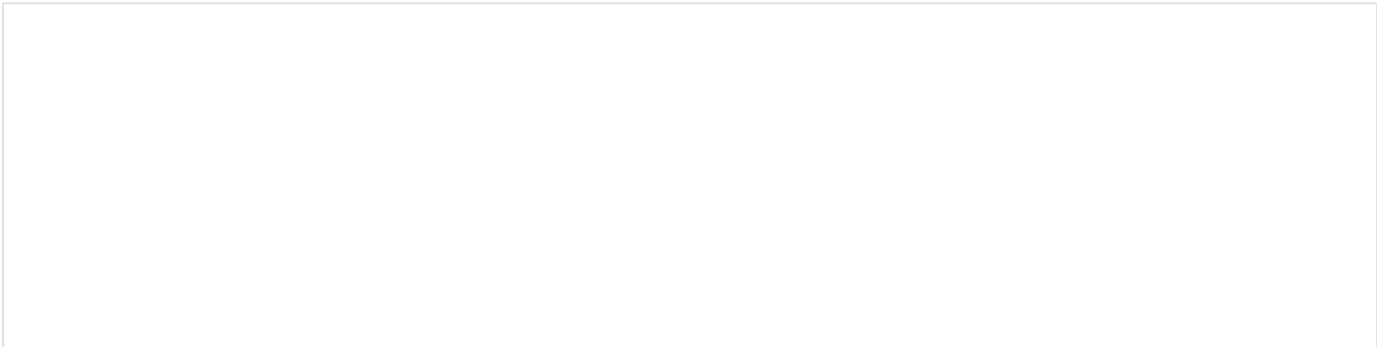
nvi 1 - network virtual instance, (internal) ,
vxlan-id 1 - ID

Interface Ethernet1/0/1
xconnect nvi 1 - 1/0/1 vxlan

mode vlan svid <X>, vlan <X>.

nve - (external) ,

```



```
7200_TOP#sh run
!
hostname 7200_TOP
!
Interface Ethernet0
 ip address 192.168.255.11 255.255.255.0
!
evpn nve source-address 1.1.1.1
!
vlan 1
!
vlan 10
 name TO_6200
!
loopback-group 1
!
nvi 10
 vxlan-id 10
 evpn
  rd 1:1
  route-target both 1:1
  route-target both 2:2
  enable
 evpn-exit
!
!
Interface Ethernet1/0/1
 speed-duplex forcelg-full
 description TO_PC
 switchport access vlan 10
 xconnect nvi 10
!
Interface Ethernet1/0/2
 speed-duplex forcelg-full
!
Interface Ethernet1/0/3
 speed-duplex forcelg-full
 description FOR_VXLAN_PROXY
 loopback-group 1
!
Interface Ethernet1/0/47
 speed-duplex forcel0g-full
 description TO_6200
 switchport access vlan 10
!
vxlan proxy loopback-group 1
!
interface Vlan1
!
interface Vlan10
 ip address 10.10.10.1 255.255.255.0
!
interface Loopback1
 description FOR_OSPF_BGP
 ip address 1.1.1.1 255.255.255.255
!
router ospf
 ospf router-id 1.1.1.1
 network 1.1.1.1/32 area 0
 network 10.10.10.0/24 area 0
!
router bgp 100
 neighbor 3.3.3.3 remote-as 100
 neighbor 3.3.3.3 update-source 1.1.1.1
 address-family l2vpn evpn
 neighbor 3.3.3.3 activate
 exit-address-family
!
end
```

```
6200#show run
!
hostname 6200
!
Interface Ethernet0
 ip address 192.168.255.13 255.255.255.0
!
!
vlan 1
!
vlan 10
 name TO_7200_TOP
!
vlan 20
 name TO_7200_BOT
!
Interface Ethernet1/0/47
 description TO_7200_TOP
 switchport access vlan 10
!
Interface Ethernet1/0/48
 description TO_7200_BOT
 switchport access vlan 20
!
interface Vlan1
!
interface Vlan10
 description TO_7200_TOP
 ip address 10.10.10.2 255.255.255.0
!
interface Vlan20
 description TO_7200_BOT
 ip address 20.20.20.2 255.255.255.0
!
interface Loopback1
 description FOR_OSPF
 ip address 2.2.2.2 255.255.255.255
!
router ospf
 ospf router-id 2.2.2.2
 network 2.2.2.2/32 area 0
 network 10.10.10.0/24 area 0
 network 20.20.20.0/24 area 0
!
no login
!
end
```

```
7200_BOT#sh run
!
hostname 7200_BOT
!
Interface Ethernet0
 ip address 192.168.255.15 255.255.255.0
!
evpn nve source-address 3.3.3.3
!
vlan 1
!
vlan 20
 name TO_6200
!
loopback-group 1
!
nvi 10
 vxlan-id 10
 evpn
  rd 2:2
  route-target both 1:1
  route-target both 2:2
  enable
 evpn-exit
!
!
Interface Ethernet1/0/1
 speed-duplex force1g-full
 description TO_2100_PC
 switchport access vlan 20
 xconnect nvi 10
!
Interface Ethernet1/0/2
 speed-duplex force1g-full
!
Interface Ethernet1/0/3
 speed-duplex force1g-full
 description FOR_VXLAN_PROXY
 loopback-group 1
!
Interface Ethernet1/0/48
 speed-duplex force10g-full
 description TO_6200
 switchport access vlan 20
!
vxlan proxy loopback-group 1
!
interface Vlan1
!
interface Vlan20
 description TO_6200
 ip address 20.20.20.1 255.255.255.0
!
interface Loopback1
 description TO_OSPF_BGP
 ip address 3.3.3.3 255.255.255.255
!
router ospf
 ospf router-id 3.3.3.3
 network 3.3.3.3/32 area 0
 network 20.20.20.0/24 area 0
!
router bgp 100
 neighbor 1.1.1.1 remote-as 100
 neighbor 1.1.1.1 update-source 3.3.3.3
 address-family l2vpn evpn
 neighbor 1.1.1.1 activate
 exit-address-family
!
end
```

# show

```
show ip bgp evpn all
show nvi nve tunnel
show nvi statistics
show vxlan mac-address-table
show bgp neighbors

7200_TOP#show ip bgp evpn all
BGP local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal, l - local
               S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

network format description
RT-1:[RT][ESI][ETID]
RT-2:[RT][ETID][MAC][IPv4/v6]
RT-3:[RT][ETID][IPv4/v6]
RT-4:[RT][ESI][IPv4/v6]
RT-5:[RT][ETID][Prefix len][Prefix]
Route Distinguisher 1:1

   Network          Next Hop          Metric    LocPrf    Weight Path
*>l[2][0][84a9-387c-c9ae][]
                1.1.1.1
                100      32768  ?

*>l[3][0][1.1.1.1]
                1.1.1.1
                100      32768  ?

Route Distinguisher 2:2

   Network          Next Hop          Metric    LocPrf    Weight Path

*>i[2][0][8c1f-6436-51c9][]
                3.3.3.3
                100      0      ?

*>i[3][0][3.3.3.3]
                3.3.3.3
                100      0      ?

7200_TOP#show nvi nve tunnel

NVI 10 vxlan-id 10
Nve name    state    source    destination
Nve1       UP      1.1.1.1   3.3.3.3

7200_TOP#show nvi statistics
The total number of nvi: 1

nvi 10 vxlan-id 10
Item        Packets    Bytes
Input      40815     4784263
Output     142399    10698411

7200_TOP#show vxlan mac-address-table
Read mac address table....
Nvi-id      Mac Address          Type    Creator    Ports
-----
10          84-a9-38-7c-c9-ae    DYNAMIC Hardware Ethernet1/0/1

10          8c-1f-64-36-51-c9    DYNAMIC Hardware Nve1

7200_TOP#show bgp neighbors
```

```
BGP neighbor is 3.3.3.3, remote AS 100, local AS 100, internal link
BGP version 4, remote router ID 3.3.3.3
BGP state = Established, up for 1d03h16m
Last read 1d03h16m, hold time is 240, keepalive interval is 60 seconds
Neighbor capabilities:
  Route refresh: advertised and received (old and new)
  Four bytes AS: advertised and received
  Address family IPv4 Unicast: advertised and received
  Address family L2VPN EVPN: advertised and received
Received 2369 messages, 0 notifications, 0 in queue
Sent 1903 messages, 0 notifications, 0 in queue
Route refresh request: received 0, sent 0
Minimum time between advertisement runs is 5 seconds
Update source is 1.1.1.1
```

```
For address family: IPv4 Unicast
BGP table version 1, neighbor version 1
Index 1, Offset 0, Mask 0x2
Community attribute sent to this neighbor (both)
0 accepted prefixes
0 announced prefixes
```

```
For address family: L2VPN EVPN
BGP table version 6885, neighbor version 6885
Index 1, Offset 0, Mask 0x2
Community attribute sent to this neighbor (both)
2 accepted prefixes
2 announced prefixes
```

```
Connections established 2; dropped 1
Local host: 1.1.1.1, Local port: 32792
Foreign host: 3.3.3.3, Foreign port: 179
Next hop: 1.1.1.1
Next hop global: fe80::1ac3:f4ff:feb0:e2b
Next hop local: ::
BGP connection: non shared network
```

```
7200_BOT#show ip bgp evpn all
BGP local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
```

```
network format description
RT-1:[RT][ESI][ETID]
RT-2:[RT][ETID][MAC][IPv4/v6]
RT-3:[RT][ETID][IPv4/v6]
RT-4:[RT][ESI][IPv4/v6]
RT-5:[RT][ETID][Prefix len][Prefix]
Route Distinguisher 1:1
```

Network	Next Hop	Metric	LocPrf	Weight	Path
*>i[2][0][84a9-387c-c9ae][[]]	1.1.1.1		100	0	?

*>i[3][0][1.1.1.1]	1.1.1.1		100	0	?
--------------------	---------	--	-----	---	---

Route Distinguisher 2:2

Network	Next Hop	Metric	LocPrf	Weight	Path
*> [2][0][8c1f-6436-50c9][[]]	3.3.3.3		100	32768	?

*> [2][0][8c1f-6436-51c9][[]]	3.3.3.3		100	32768	?
-------------------------------	---------	--	-----	-------	---

*> [3][0][3.3.3.3]	3.3.3.3		100	32768	?
--------------------	---------	--	-----	-------	---

```
7200_BOT#show nvi nve tunnel
```

```
NVI 10 vxlan-id 10
Nve name      state      source      destination
Nve1          UP          3.3.3.3     1.1.1.1
```

```
7200_BOT#show nvi statistics
The total number of nvi: 1
```

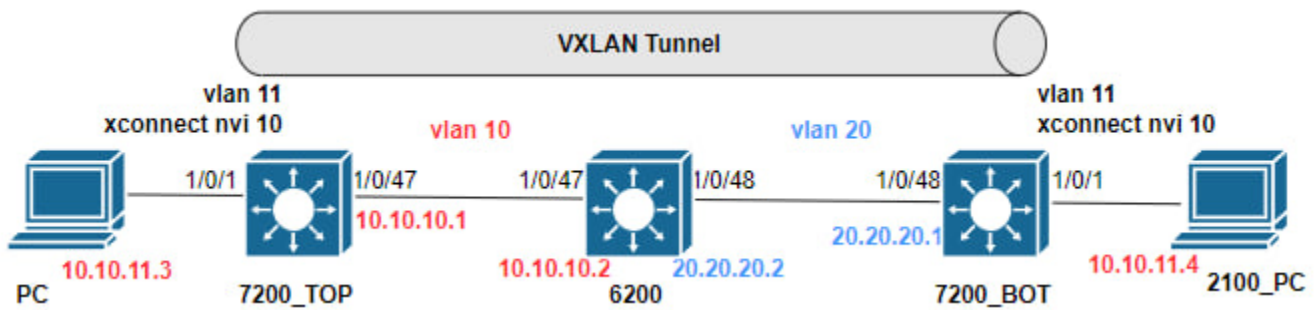
```
nvi 10 vxlan-id 10
Item          Packets      Bytes
Input         24132        1549727
Output        155683       11157402
```

```
7200_BOT#show vxlan mac-address-table
Read mac address table...
```

Nvi-id	Mac Address	Type	Creator	Ports
10	84-a9-38-7c-c9-ae	DYNAMIC	Hardware	Nve1
10	8c-1f-64-36-50-c9	DYNAMIC	Hardware	Ethernet1/0/1
10	8c-1f-64-36-51-c9	DYNAMIC	Hardware	Ethernet1/0/1

```
- mgmt , ip vlan 11 vxlan.
```

```
- . .
```



```
, vlan.
```

```
:
```

```
Interface Ethernet1/0/1
speed-duplex force1g-full
description TO_PC
switchport access vlan 10
xconnect nvi 10
```

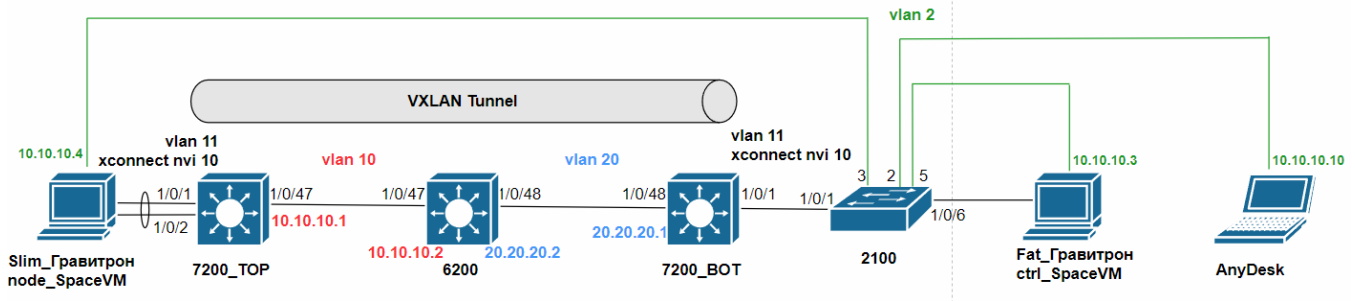
```
:
```

```
Interface Ethernet1/0/1
speed-duplex force1g-full
description TO_PC
switchport access vlan 11
xconnect nvi 10
```

```
- - trunk ,
```

```
. xconnect nvi X - VXLAN.
10.10.11.0/24 .
```

, -Anydesk, management vlan



SpaceVM show :

```
7200_TOP#show ip bgp evpn all
BGP local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal, l - local
               S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

network format description
RT-1:[RT][ESI][ETID]
RT-2:[RT][ETID][MAC][IPv4/v6]
RT-3:[RT][ETID][IPv4/v6]
RT-4:[RT][ESI][IPv4/v6]
RT-5:[RT][ETID][Prefix len][Prefix]
Route Distinguisher 1:1

   Network          Next Hop          Metric    LocPrf    Weight Path
*>l[2][0][02ff-f024-eaee][]
                1.1.1.1
                100      32768    ?

*>l[2][0][a863-7d41-f7a7][]
                1.1.1.1
                100      32768    ?

*>l[3][0][1.1.1.1]
                1.1.1.1
                100      32768    ?

Route Distinguisher 2:2

   Network          Next Hop          Metric    LocPrf    Weight Path
*>i[2][0][02ff-f024-5278][]
                3.3.3.3
                100      0        ?

*>i[2][0][8c1f-6436-51c9][]
                3.3.3.3
                100      0        ?

*>i[2][0][8c1f-6436-51ca][]
                3.3.3.3
                100      0        ?

*>i[3][0][3.3.3.3]
                3.3.3.3
                100      0        ?

7200_TOP#show nvi nve tunnel

NVI 10 vxlan-id 10
Nve name    state    source    destination
Nve1       UP      1.1.1.1   3.3.3.3
```

```
7200_TOP#show nvi statistics
```

```
The total number of nvi: 1
```

```
nvi 10 vxlan-id 10
```

Item	Packets	Bytes
Input	721401186	78777211846
Output	2757875147	272768776903

```
7200_TOP#show vxlan mac-address-table
```

```
Read mac address table...
```

Nvi-id	Mac Address	Type	Creator	Ports
10	02-ff-f0-24-52-78	DYNAMIC	Hardware	Nvel
10	02-ff-f0-24-ea-ee	DYNAMIC	Hardware	Ethernet1/0/1
10	8c-1f-64-36-51-c9	DYNAMIC	Hardware	Nvel
10	8c-1f-64-36-51-ca	DYNAMIC	Hardware	Nvel
10	a8-63-7d-41-f7-a7	DYNAMIC	Hardware	Ethernet1/0/1

```
7200_TOP#show bgp neighbors
```

```
BGP neighbor is 3.3.3.3, remote AS 100, local AS 100, internal link
```

```
BGP version 4, remote router ID 3.3.3.3
```

```
BGP state = Established, up for 02w1d23h
```

```
Last read 02w1d23h, hold time is 240, keepalive interval is 60 seconds
```

```
Neighbor capabilities:
```

```
Route refresh: advertised and received (old and new)
```

```
Four bytes AS: advertised and received
```

```
Address family IPv4 Unicast: advertised and received
```

```
Address family L2VPN EVPN: advertised and received
```

```
Received 26752 messages, 0 notifications, 0 in queue
```

```
Sent 26791 messages, 0 notifications, 0 in queue
```

```
Route refresh request: received 0, sent 0
```

```
Minimum time between advertisement runs is 5 seconds
```

```
Update source is 1.1.1.1
```

```
For address family: IPv4 Unicast
```

```
BGP table version 1, neighbor version 1
```

```
Index 1, Offset 0, Mask 0x2
```

```
Community attribute sent to this neighbor (both)
```

```
0 accepted prefixes
```

```
0 announced prefixes
```

```
For address family: L2VPN EVPN
```

```
BGP table version 23936, neighbor version 23936
```

```
Index 1, Offset 0, Mask 0x2
```

```
Community attribute sent to this neighbor (both)
```

```
4 accepted prefixes
```

```
3 announced prefixes
```

```
Connections established 2; dropped 1
```

```
Local host: 1.1.1.1, Local port: 179
```

```
Foreign host: 3.3.3.3, Foreign port: 32800
```

```
Nexthop: 1.1.1.1
```

```
Nexthop global: fe80::1ac3:f4ff:feb0:e2b
```

```
Nexthop local: ::
```

```
BGP connection: non shared network
```

```
7200_BOT#show ip bgp evpn all
```

```
BGP local router ID is 3.3.3.3
```

```
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal, l - local
```

```
S Stale
```

```
Origin codes: i - IGP, e - EGP, ? - incomplete
```

```
network format description
```

```
RT-1:[RT][ESI][ETID]
```

```
RT-2:[RT][ETID][MAC][IPv4/v6]
```

```
RT-3:[RT][ETID][IPv4/v6]
```

```
RT-4:[RT][ESI][IPv4/v6]
```

RT-5:[RT][ETID][Prefix len][Prefix]  
Route Distinguisher 1:1

Network	Next Hop	Metric	LocPrf	Weight	Path
*>i[2][0][02ff-f024-eaee][[]]	1.1.1.1		100	0	?
*>i[2][0][a863-7d41-f7a7][[]]	1.1.1.1		100	0	?
*>i[3][0][1.1.1.1]	1.1.1.1		100	0	?

Route Distinguisher 2:2

Network	Next Hop	Metric	LocPrf	Weight	Path
*>l[2][0][02ff-f024-5278][[]]	3.3.3.3		100	32768	?
*>l[2][0][8c1f-6436-51c9][[]]	3.3.3.3		100	32768	?
*>l[2][0][8c1f-6436-51ca][[]]	3.3.3.3		100	32768	?
*>l[3][0][3.3.3.3]	3.3.3.3		100	32768	?

7200\_BOT#show nvi nve tunnel

NVI 10 vxlan-id 10

Nve name	state	source	destination
Nve1	UP	3.3.3.3	1.1.1.1

7200\_BOT#show nvi statistics

The total number of nvi: 1

nvi 10 vxlan-id 10

Item	Packets	Bytes
Input	1671125748	191022265591
Output	3263306345	362738726828

7200\_BOT#show vxlan mac-address-table

Read mac address table...

Nvi-id	Mac Address	Type	Creator	Ports
10	02-ff-f0-24-52-78	DYNAMIC	Hardware	Ethernet1/0/1
10	02-ff-f0-24-ea-ee	DYNAMIC	Hardware	Nve1
10	8c-1f-64-36-51-c9	DYNAMIC	Hardware	Ethernet1/0/1
10	8c-1f-64-36-51-ca	DYNAMIC	Hardware	Ethernet1/0/1
10	a8-63-7d-41-f7-a7	DYNAMIC	Hardware	Nve1

7200\_BOT#show bgp neighbors

BGP neighbor is 1.1.1.1, remote AS 100, local AS 100, internal link

BGP version 4, remote router ID 1.1.1.1

BGP state = Established, up for 02w1d23h

Last read 02w1d23h, hold time is 240, keepalive interval is 60 seconds

Neighbor capabilities:

Route refresh: advertised and received (old and new)

Four bytes AS: advertised and received

Address family IPv4 Unicast: advertised and received

Address family L2VPN EVPN: advertised and received

Received 26794 messages, 0 notifications, 0 in queue

Sent 26754 messages, 0 notifications, 0 in queue

Route refresh request: received 0, sent 0

Minimum time between advertisement runs is 5 seconds

Update source is 3.3.3.3

For address family: IPv4 Unicast

BGP table version 1, neighbor version 1

```
Index 1, Offset 0, Mask 0x2
Community attribute sent to this neighbor (both)
0 accepted prefixes
0 announced prefixes
```

```
For address family: L2VPN EVPN
BGP table version 38990, neighbor version 38990
Index 1, Offset 0, Mask 0x2
Community attribute sent to this neighbor (both)
3 accepted prefixes
4 announced prefixes
```

```
Connections established 4; dropped 3
Local host: 3.3.3.3, Local port: 32800
Foreign host: 1.1.1.1, Foreign port: 179
Nexthop: 3.3.3.3
Nexthop global: fe80::1ac3:f4ff:feb0:303
Nexthop local: ::
BGP connection: non shared network
```

10.10.10.5 2100\_PC