

Nexus 7K يلع ملعتلاو VXLAN قفدت نيوكت

تايوت حمل

[قمدق مل](#)

[قيساس الابلطت مل](#)

[تابلطت مل](#)

[قمدختس مل تانوك مل](#)

[نيوكت مل](#)

[ككبش ليليطي طخت مل مسر مل](#)

[تان نيوكت مل](#)

[VTEP-1](#)

[VTEP-2](#)

[قحص مل نم ققحت مل](#)

[تاجر مل ل لاثم](#)

[VTEP-1](#)

[VTEP-2](#)

[اهجال صاواطخ ال افاشكت سا](#)

قمدق مل

نم ملعتلاو (VXLAN) قمدت مل قيره اظلا LAN ككبش ناضي ف نيوكت دن تس مل اذه فصي Nexus 7000 قلس لس مل نم تالو حمل

قيساس الابلطت مل

تابلطت مل

قيلالت عيضاوم لابل قفر عم كيدل نوكت نابل Cisco قيصوت:

- نع لق تس مل قمدت مل ثبل او (RP) قاقتل الال قطقن لثم قمدت مل ثبل هيجوت مي هافم (PIM) قيساس ال ماظن ال
- VXLAN مي هافم

لبل قمدت مل ثبل هيجوت و IP هيجوت عاشن امت ق هنادن تس مل اذه قشرت في: **قظالم** VXLAN نيوكت

قمدختس مل تانوك مل

قيلالت قيدامل تانوك مل او جمار بل تارادصل ال دن تس مل اذه في قراول تامول عمل دن تس

- زارطال N77-C7710
- زارطال N77-F348XP-23
- زارطال N77-F324FQ-25

7.2(0)D1(1) رادصلإا جم انربلا ليغش تب N77K موقت :ةظالم

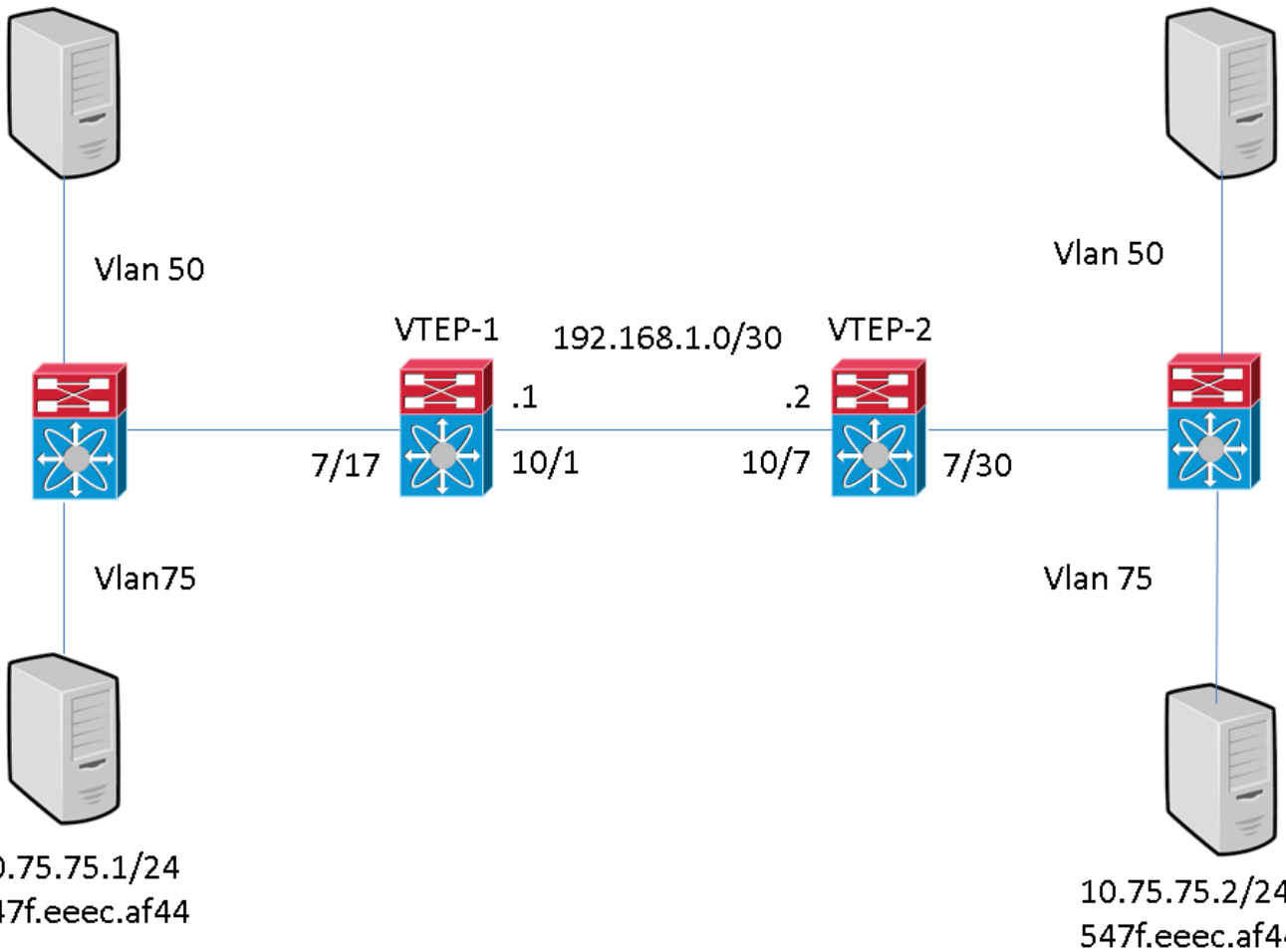
ةصاخ ةيلعم ةئي ب ي ف ةدوجوملا ةزهجالا نم دننسملا اذه ي ف ةدراولما تامولعملما عاشنإ مت تناك اذا .(يضا رتفا) حوسمم نيوكتب دننسملا اذه ي ف ةمدختسملا ةزهجالا عيمج تادب رما يال لم تحملا ريثاتلل كمهف نم دكأتف ،ةرشابم كتكبش

نيوكتلا

ةكبشلل يطيختلا مسرلا

10.50.50.1/24
547f.eeec.af44

10.50.50.2/24
547f.eeec.af45



تانوكتلا

لوصولا ةيناكم تانويكتلا هذه ضررتفت . نويكتلا نم VXLAN عزجل ةدحج تانويكتلا هذه ماتي . هراتخت يذلا هي جوتلا لوكوتورب مادختساب ططخمل ي ف L3 تاهجاو عيمج يلا لملال ددعتلما ثبل هي جوت عاشنإ مت دق هنا ضررتفي امك . لاثملا اذه ي ف تباثلا هي جوتلا مادختسا ثلاثلا يوتسملما نم اهسفن تاهجاو اله هذه ربع

VTEP-1

feature pim

```

system bridge-domain 50,75
feature nv overlay
feature interface-vlan feature vni vni 5000
vni 7500 ip route 10.10.10.2/32 Ethernet10/1 192.168.1.2 ip pim rp-address 192.168.1.1 group-
list 224.0.0.0/4 bridge-domain 50
bridge-domain 75 encapsulation profile vni VSI_50_TO_5000 dot1q 50 vni 5000
encapsulation profile vni VSI_75_TO_7500
    dot1q 75 vni 7500 bridge-domain 50 member vni 5000
bridge-domain 75
    member vni 7500 interface nve1 no shutdown source-interface loopback10 member vni 5000 mcast-
group 225.1.1.1
member vni 7500 mcast-group 227.1.1.1

```

```

interface Bdi50
    no shutdown
    ip address 10.50.50.50/24

```

```

interface Bdi75
    no shutdown
    ip address 10.75.75.75/24 interface Ethernet7/17
no switchport no shutdown service instance 1 vni no shutdown encapsulation profile
VSI_50_TO_5000 default
    service instance 2 vni
        no shutdown
        encapsulation profile VSI_75_TO_7500 default interface Ethernet10/1
no switchport ip address 192.168.1.1/30 ip pim sparse-mode no shutdown interface loopback10 ip
address 10.10.10.1/32 ip pim sparse-mode

```

3 عقبة طك تل كس (ةياهن ةطقن قفن VXLAN) VTEP ل لى لع يلخاد نراقل نأ طحال ل نأ مه م وه BD ةم يق نأ ةطحال م اضيأ مه م ل نمو. هل IP ني عت متي مل، كلذ عمو. (switchport نم ام) ءاني م رورم ةك رح ل اسرال هم ادختسا متي يذل VLAN فرعم قباطت نأ بجي ال VTEP لى لع ءدحم الم ةي لم عل ل ي ف ني عي (ني عم ةكبش VXLAN) dot1q to VNI، امهم. زاوجل اذه لى ل تاناي بل ل قباط يغبني، يلخاد نراقل لى لع لاثم ةمدخل ل تحت تاعد نوكي يا، في صوت ل ءلس بك VLAN id.

VTEP-2

```

feature pim
system bridge-domain 50,75
feature nv overlay
feature interface-vlan feature vni vni 5000
vni 7500 ip route 10.10.10.1/32 Ethernet10/7 192.168.1.1 ip pim rp-address 192.168.1.1 group-
list 224.0.0.0/4 bridge-domain 50
bridge-domain 75 encapsulation profile vni VSI_50_TO_5000 dot1q 50 vni 5000
encapsulation profile vni VSI_75_TO_7500
    dot1q 75 vni 7500 bridge-domain 50 member vni 5000
bridge-domain 75
    member vni 7500 interface nve1 no shutdown source-interface loopback10 member vni 5000 mcast-
group 225.1.1.1
member vni 7500 mcast-group 227.1.1.1

```

```

interface Bdi50
    no shutdown
    ip address 10.50.50.51/24

```

```

interface Bdi75
    no shutdown
    ip address 10.75.75.76/24 interface Ethernet7/30
no switchport no shutdown service instance 1 vni no shutdown encapsulation profile
VSI_50_TO_5000 default
    service instance 2 vni

```

```

no shutdown
encapsulation profile VSI_75_TO_7500 default interface Ethernet10/7
no switchport ip address 192.168.1.2/30 ip pim sparse-mode no shutdown interface loopback10 ip
address 10.10.10.2/32 ip pim sparse-mode

```

عمو (switchport نم ام) ءانيم 3 ةقبطك تللكش VTEP لىل عيلخاد نراقلا نأ ظحالي نأ مهم وه نأ بجي ال VTEP لىل ةدحمل ال BD ةمقي نأ ةظحالم اضيا مهمال نمو. هل IP نييعت متي مل، كلذ ل، امهم. زاهجلا اذه لىل تانايب ال رورم ةكرح لاسرال همادختسا متي يذل ال VLAN فرعم قباطت نراقلا لىل لاثم ةمدخل تحت تاعد نوكي يا، دربم ةلسبك ةيلعمل ال في نيعي VNI لىل dot1q ةمدخل ال VLAN id. لىل قباطت يغبني، ةيلخاد

ةحصلال نم ققحتال

ححص لكشب نيوكتل لمع ديكأتل مسقلا اذه مدختسا.

تاجرخل لل لاثم

رورم ةكرح ترم دقو وضعبلال مهضعب VTEP ءارظن فشتكا. ةرقتسم ةلاح في جتاونال هذو في مكحتال لوكوتوربو (ENCAP) لاصتال لوكوتورب في نيهاجاتال ال كنيب تانايب ال (DECAP) لوصول.

VTEP-1

```

VTEP-1# show nve vni
Codes: CP - Control Plane      DP - Data Plane
       UC - Unconfigured       SA - Suppress ARP

```

Interface	VNI	Multicast-group	State	Mode	Type [BD/VRF]	Flags
nve1	5000	225.1.1.1	Up	DP	L2 [50]	
nve1	7500	227.1.1.1	Up	DP	L2 [75]	

```

VTEP-1# show running-config interface nve 1

```

```

interface nve1
no shutdown
source-interface loopback10
member vni 5000 mcast-group 225.1.1.1
member vni 7500 mcast-group 227.1.1.1

```

```

VTEP-1# show service instance vni detail

```

```

VSI: VSI-Ethernet7/17.1
If-index: 0x35310001
Admin Status: Up
Oper Status: Up
Auto-configuration Mode: No
encapsulation profile vni VSI_50_TO_5000
dot1q 50 vni 5000
Dot1q  VNI      BD
-----
50      5000      50

```

```

VSI: VSI-Ethernet7/17.2
If-index: 0x35310002
Admin Status: Up
Oper Status: Up

```

```

Auto-configuration Mode: No
encapsulation profile vni TEST
  dot1q 100 vni 7500
Dot1q  VNI      BD
-----
100    7500    75

```

```
VTEP-1# show bridge-domain
```

```
Bridge-domain 50 (2 ports in all)
```

```

Name:: Bridge-Domain50
Administrative State: UP           Operational State: UP
      VSI-Eth7/17.1
      vni5000
      nve1

```

```
Bridge-domain 75 (2 ports in all)
```

```

Name:: Bridge-Domain75
Administrative State: UP           Operational State: UP
      VSI-Eth7/17.2
      vni7500
      nve1

```

```
VTEP-1# show mac address-table dynamic
```

```

Note: MAC table entries displayed are getting read from software.
Use the 'hardware-age' keyword to get information related to 'Age'

```

```
Legend:
```

```

* - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
age - seconds since last seen,+ - primary entry using vPC Peer-Link, E -

```

```
EVPN entry
```

```
(T) - True, (F) - False , ~~~ - use 'hardware-age' keyword to retrieve
```

```
age info
```

```

VLAN/BD  MAC Address      Type      age      Secure NTFY Ports/SWID.SSID.LID -----+-----
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
nve1/10.10.10.2 * 50 547f.eeec.af44 dynamic ~~~ F F VSI-Eth7/17.1 * 50 547f.eeec.af45 dynamic
~~~ F F nve1/10.10.10.2 * 75 547f.eeec.af44 dynamic ~~~ F F VSI-Eth7/17.2 * 75 547f.eeec.af45
dynamic ~~~ F F nve1/10.10.10.2 VTEP-1# show ip mroute detail IP Multicast Routing Table for VRF
"default" Total number of routes: 7 Total number of (*,G) routes: 2 Total number of (S,G)
routes: 4 Total number of (*,G-prefix) routes: 1 (*, 225.1.1.1/32), uptime: 19:51:28, nve(1)
ip(0) pim(1) Data Created: No VXLAN Flags VXLAN Encap Stats: 0/0 [Packets/Bytes], 0.000 bps
Incoming interface: Ethernet10/1, RPF nbr: 1.1.1.1 Outgoing interface list: (count: 2)
Ethernet10/1, uptime: 19:51:09, pim, (RPF) nve1, uptime: 19:51:28, nve (10.10.10.1/32,
225.1.1.1/32), uptime: 19:51:28, nve(0) mrib(0) ip(0) pim(1) Data Created: No Received Register
stop VXLAN Flags VXLAN Encap Stats: 19/2274 [Packets/Bytes], 0.000 bps Incoming interface:
loopback10, RPF nbr: 10.10.10.1, internal Outgoing interface list: (count: 1) Ethernet10/1,
uptime: 19:51:09, pim (10.10.10.2/32, 225.1.1.1/32), uptime: 18:10:06, pim(1) mrib(1) ip(0) Data
Created: Yes VXLAN Flags VXLAN Decap Stats: 9/846 [Packets/Bytes], 0.000 bps Incoming interface:
Ethernet10/1, RPF nbr: 1.1.1.2, internal Outgoing interface list: (count: 2) Ethernet10/1,
uptime: 01:00:32, pim, (RPF) nve1, uptime: 18:10:06, mrib (*, 227.1.1.1/32), uptime: 12:52:13,
nve(1) ip(0) pim(1) Data Created: No VXLAN Flags VXLAN Encap Stats: 0/0 [Packets/Bytes], 0.000
bps Incoming interface: Ethernet10/1, RPF nbr: 1.1.1.1 Outgoing interface list: (count: 2)
Ethernet10/1, uptime: 12:51:52, pim, (RPF) nve1, uptime: 12:52:13, nve (10.10.10.1/32,
227.1.1.1/32), uptime: 12:52:13, nve(0) mrib(0) ip(0) pim(1) Data Created: No Received Register
stop VXLAN Flags VXLAN Encap Stats: 300/39850 [Packets/Bytes], 0.000 bps Incoming interface:
loopback10, RPF nbr: 10.10.10.1, internal Outgoing interface list: (count: 1) Ethernet10/1,
uptime: 12:51:52, pim (10.10.10.2/32, 227.1.1.1/32), uptime: 12:51:34, pim(1) mrib(1) ip(0) Data
Created: Yes VXLAN Flags VXLAN Decap Stats: 22/1928 [Packets/Bytes], 0.000 bps Incoming
interface: Ethernet10/1, RPF nbr: 1.1.1.2, internal Outgoing interface list: (count: 2)
Ethernet10/1, uptime: 00:52:14, pim, (RPF) nve1, uptime: 12:51:34, mrib (*, 232.0.0.0/8),
uptime: 20:56:33, pim(0) ip(0) Data Created: No Stats: 0/0 [Packets/Bytes], 0.000 bps Incoming
interface: Null, RPF nbr: 0.0.0.0 Outgoing interface list: (count: 0) VTEP-1# show ip arp Flags:
* - Adjacencies learnt on non-active FHRP router + - Adjacencies synced via CFSOE # -
Adjacencies Throttled for Glean D - Static Adjacencies attached to down interface IP ARP Table

```

```

for context default Total number of entries: 4 Address Age MAC Address Interface 10.50.50.1
00:11:32 547f.eeec.af44 Bdi50
10.50.50.2 00:11:14 547f.eeec.af44 Bdi50 10.75.75.1 00:10:45 547f.eeec.af44 Bdi75 10.75.75.2
00:15:04 547f.eeec.af45 Bdi75 192.168.1.2 00:05:39 547f.eeec.af43 Ethernet10/1 VTEP-1# show ip
route IP Route Table for VRF "default" '*' denotes best ucast next-hop '**' denotes best mcast
next-hop '[x/y]' denotes [preference/metric] '%<string>' in via output denotes VRF <string>
192.168.1.0/30, ubest/mbest: 1/0, attached *via 1.1.1.1, Eth10/1, [0/0], 20:25:13, direct
192.168.1.1/32, ubest/mbest: 1/0, attached *via 1.1.1.1, Eth10/1, [0/0], 20:25:13, local
10.10.10.1/32, ubest/mbest: 2/0, attached *via 10.10.10.1, Lo10, [0/0], 20:25:45, local *via
10.10.10.1, Lo10, [0/0], 20:25:45, direct 10.10.10.2/32, ubest/mbest: 1/0 *via 1.1.1.2, Eth10/1,
[1/0], 20:23:42, static 50.50.50.0/24, ubest/mbest: 1/0, attached *via 50.50.50.50, Bdi50,
[0/0], 01:18:47, direct 50.50.50.50/32, ubest/mbest: 1/0, attached *via 50.50.50.50, Bdi50,
[0/0], 01:18:47, local 75.75.75.0/24, ubest/mbest: 1/0, attached *via 75.75.75.75, Bdi75, [0/0],
01:10:05, direct 75.75.75.75/32, ubest/mbest: 1/0, attached *via 75.75.75.75, Bdi75, [0/0],
01:10:05, local

```

عجم ني بة قفدت الم رورم الة كرح نم ةلم اك ةكبش عم جتا ونل الة هذ عجم ت عمج :ةظالم
اي جلوب وطلال ي ف ة في ضم الم تائي ب ل

VTEP-2

```
VTEP-2# show nve vni
```

```

Codes: CP - Control Plane          DP - Data Plane
       UC - Unconfigured           SA - Suppress ARP

```

Interface	VNI	Multicast-group	State	Mode	Type	[BD/VRF]	Flags
nve1	5000	225.1.1.1	Up	DP	L2	[50]	
nve1	7500	227.1.1.1	Up	DP	L2	[75]	

```
VTEP-2# show running-config interface nve 1
```

```

interface nve1
  no shutdown
  source-interface loopback10
  member vni 5000 mcast-group 225.1.1.1
  member vni 7500 mcast-group 227.1.1.1

```

```
VTEP-2# show service instance vni detail
```

```

VSI: VSI-Ethernet7/30.1
If-index: 0x3531d001
Admin Status: Up
Oper Status: Up
Auto-configuration Mode: No
encapsulation profile vni VSI_50_TO_5000
  dot1q 50 vni 5000
Dot1q  VNI      BD
-----
50      5000     50

```

```

VSI: VSI-Ethernet7/30.2
If-index: 0x3531d002
Admin Status: Up
Oper Status: Up
Auto-configuration Mode: No
encapsulation profile vni TEST
  dot1q 100 vni 7500
Dot1q  VNI      BD
-----

```

VTEP-2# show bridge-domain

Bridge-domain 50 (2 ports in all)

Name:: Bridge-Domain50

Administrative State: UP Operational State: UP
 vni5000
 VSI-Eth7/30.1
 nve1

Bridge-domain 75 (2 ports in all)

Name:: Bridge-Domain75

Administrative State: UP Operational State: UP
 vni7500
 VSI-Eth7/30.2
 nve1

VTEP-2# show mac address-table dynamic

Note: MAC table entries displayed are getting read from software.
 Use the 'hardware-age' keyword to get information related to 'Age'

Legend:

- * - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
- age - seconds since last seen, + - primary entry using vPC Peer-Link, E -
- EVPN entry
- (T) - True, (F) - False , ~~~ - use 'hardware-age' keyword to retrieve

age info

VLAN/BD	MAC Address	Type	age	Secure NTFY Ports/SWID.	SSID.LID	-----+-----
nve1/10.10.10.1	* 50 547f.eeec.af45	dynamic	~~~	F F	VSI-Eth7/30.1	* 75 547f.eeec.af45 dynamic
~~~ F F	VSI-Eth7/30.2	* 75 547f.eeec.af48	dynamic	~~~	F F	nve1/10.10.10.1

VTEP-2# show ip mroute detail IP Multicast Routing Table for VRF "default" Total number of routes: 5 Total number of (*,G) routes: 2 Total number of (S,G) routes: 2 Total number of (*,G-prefix) routes: 1 (*, 225.1.1.1/32), uptime: 19:56:19, nve(1) ip(0) pim(0) Data Created: No VXLAN Flags VXLAN Encap Stats: 8/748 [Packets/Bytes], 0.000 bps Incoming interface: Ethernet10/7, RPF nbr: 1.1.1.1 Outgoing interface list: (count: 1) nve1, uptime: 19:56:19, nve (10.10.10.2/32, 225.1.1.1/32), uptime: 19:56:19, nve(0) mrib(0) pim(1) ip(0) Data Created: No Received Register stop VXLAN Flags VXLAN Encap Stats: 9/834 [Packets/Bytes], 0.000 bps Incoming interface: loopback10, RPF nbr: 10.10.10.2 Outgoing interface list: (count: 1) Ethernet10/7, uptime: 18:15:17, pim (*, 227.1.1.1/32), uptime: 12:57:03, nve(1) ip(0) pim(0) Data Created: No VXLAN Flags VXLAN Encap Stats: 10/864 [Packets/Bytes], 0.000 bps Incoming interface: Ethernet10/7, RPF nbr: 1.1.1.1 Outgoing interface list: (count: 1) nve1, uptime: 12:57:03, nve (10.10.10.2/32, 227.1.1.1/32), uptime: 12:57:03, nve(0) mrib(0) ip(0) pim(1) Data Created: No Received Register stop VXLAN Flags VXLAN Encap Stats: 30/2648 [Packets/Bytes], 0.000 bps Incoming interface: loopback10, RPF nbr: 10.10.10.2 Outgoing interface list: (count: 1) Ethernet10/7, uptime: 12:56:45, pim (*, 232.0.0.0/8), uptime: 18:20:36, pim(0) ip(0) Data Created: No Stats: 0/0 [Packets/Bytes], 0.000 bps Incoming interface: Null, RPF nbr: 0.0.0.0 Outgoing interface list: (count: 0)

VTEP-2# show ip arp Flags: * - Adjacencies learnt on non-active FHRP router + - Adjacencies synced via CFSOE # - Adjacencies Throttled for Glean D - Static Adjacencies attached to down interface IP ARP Table for context default Total number of entries: 4

Address	Age	MAC Address	Interface
10.50.50.1	00:11:30	547f.eeec.af44	Bdi50
10.50.50.2	00:17:07	547f.eeec.af45	Bdi50
10.75.75.1	00:04:14	547f.eeec.af45	Bdi75
10.75.75.2	00:03:24	547f.eeec.af45	Bdi75

192.168.1.1 00:10:52 547f.eeec.af48 Ethernet10/7

VTEP-2# show ip route IP Route Table for VRF "default" '*' denotes best ucast next-hop '**' denotes best mcast next-hop '[x/y]' denotes [preference/metric] '%<string>' in via output denotes VRF <string> 192.168.1.0/30, ubest/mbest: 1/0, attached *via 1.1.1.2, Eth10/7, [0/0], 20:30:24, direct 192.168.1.2/32, ubest/mbest: 1/0, attached *via 1.1.1.2, Eth10/7, [0/0], 20:30:24, local 10.10.10.1/32, ubest/mbest: 1/0 *via 1.1.1.1, Eth10/7, [1/0], 20:29:48, static 10.10.10.2/32, ubest/mbest: 2/0, attached *via 10.10.10.2, Lo10, [0/0], 20:29:39, local *via 10.10.10.2, Lo10, [0/0], 20:29:39, direct 50.50.50.0/24, ubest/mbest: 1/0, attached *via 50.50.50.51, Bdi50, [0/0], 01:22:50, direct 50.50.50.51/32, ubest/mbest: 1/0, attached *via 50.50.50.51, Bdi50, [0/0], 01:22:50, local 75.75.75.0/24, ubest/mbest: 1/0, attached *via 75.75.75.76, Bdi75, [0/0], 01:14:50, direct 75.75.75.76/32, ubest/mbest: 1/0, attached *via 75.75.75.76, Bdi75, [0/0], 01:14:50, local

عېمچ نېب ەققەتەملا رورملا ەكرح نەلماك ەكبش عم جتاونلا هذە عېمچ تەعمج: ەظحالم  
ايچولوبوطلا ي ف ەفيملا تائيبلا

## اهحالصإو عاطخألا فاشكتسا

نېوكتلا اذهل اھحالصإو عاطخألا فاشكتسال ەددم تامولعم أيلاح رفوتت ال



ةمچرتل هذه لوج

ةللأل تاي نقتل نم ةومچم مادختساب دن تسمل اذه Cisco تچرت  
ملاعلاء انءمچ يف نيمدختسمل معدى وتحم مي دقتل ةيرشبلاو  
امك ةقيد نوك تنل ةللأل ةمچرت لصف أن ةظحال مچرئ. ةصاغل مهتغب  
Cisco يلخت. فرتحم مچرت مامدقي يتل ةيفارتحال ةمچرتل عم لالحل وه  
ىل إامئاد ةوچرلاب يصوت وتامچرتل هذه ةقد نع اهتيلوئسم Cisco  
Systems (رفوتم طبارلا) يصلأل يزلچنل دن تسمل