使用Nexus 1000V跟蹤UCS中的MAC地址

目錄

<u>簡介</u> <u>必要條件</u> <u>需求</u> <u>採用元件</u> <u>設定</u> <u>網路拓撲</u> <u>跟蹤不同網段的MAC地址</u> <u>驗證</u> 疑難排解

簡介

本檔案介紹如何在以下網路層級追蹤虛擬機器(VM)和VMkernel(VMK)介面的MAC位址:

- Cisco Nexus 5000 系列交換器
- •思科整合運算系統(UCS)6248光纖互連(FI)
- VMware ESXi主機
- Cisco Nexus 1000V交換器

在故障排除和設計方面,瞭解VM或VMK介面用於通訊的上行鏈路非常重要。

必要條件

需求

思科建議您瞭解以下主題:

- Cisco NX-OS中的vPC功能
- 思科整合運算系統
- VMware ESXi
- Cisco Nexus 1000V交換器

採用元件

本文中的資訊係根據以下軟體和硬體版本:

- Cisco Nexus 5020交換器版本5.0(3)N2(2a)
- 思科整合運算系統版本2.1(1d)
- ・思科整合運算系統B200 M3刀鋒伺服器(含思科虛擬介面卡(VIC)1240(Palo)CNAvSphere 5.1(ESXi和vCenter)
- Cisco Nexus 1000V交換器版本4.2(1)SV2(1.1a)

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除(預設

)的組態來啟動。如果您的網路正在作用,請確保您已瞭解任何指令可能造成的影響。

設定

網路拓撲

在此示例設定中,VM和VMK介面位於同一主機(IP地址172.16.18.236)和同一VLAN 18(子網 172.16.18.0/24)上。

在Nexus 1000V中,主機表示為虛擬乙太網模組(VEM)編號5。

在UCS中,主機安裝在機箱1的刀片式伺服器1上。



跟蹤不同網段的MAC地址

1. 在vCenter中,找到要跟蹤的VM的MAC地址。在本示例中,VM(ciscolive-vm)的MAC地址為 0050:568f:63cc:



 在ESXi shell上輸入esxcfg-vmknic -l命令,以便從主機查詢VMK介面的MAC地址。在本示例中, VMK(vmk0)是管理介面,MAC地址為0050:56:67:8e:b9:

mc-vsm#	show mac address-	table in	8eb9		
18	0050.5667.8eb9	static	0	Veth19	5
18	0050.5667.8eb9	dynamic	0	Po4	6
mc-vsm#	show mac address-	table in	6300		
18	0050.568f.63cc	dynamic	93	Po1	3
18	0050.568f.63cc	dynamic	93	Po2	4
18	0050.568f.63cc	static	0	Veth56	5
18	0050.568f.63cc	dynamic	93	Po4	6
mc-vsm#					

3. 確認已在ESXi主機(VEM)和Nexus 1000V上獲取VM(ciscolive-vm)和VMK介面(vmk0)的MAC地 业。

在VEM級別,輸入vemcmd show I2 18命令以確認已獲知兩個MAC地址:

~ # vemcmd s	how 12 18				
Bridge domain	n 7 brtmax 4096, 1	brtcnt	82, timeou	ıt 300	
VLAN 18, swb	d 18, ""				
Flags: P - 3	PVLAN S - Secure D	- Drop			
Туре	MAC Address	LTL	timeout	Flags	PVLAN
Static	00:50:56:8f:61:8b	75	0		
Static	00:50:56:8f:a4:a5	67	0		
Dynamic	00:50:56:5f:e9:a8	52	1		
Static	00:50:56:8f:51:97	78	0		
Dynamic	00:0c:29:15:fa:c6	305	27		
Dynamic	00:50:56:5f:88:58	60	1		
Static	00:50:56:8f:63:cc	68	0		
Dynamic	00:50:56:5f:7c:bd	59	1		
Dynamic	00:50:56:a2:14:f2	57	1		
Static	00:50:56:8f:11:3a	50	0		
Static	00:50:56:8f:f5:53	65	0		
Dynamic	00:50:56:a2:46:25	54	1		
Dynamic	00:50:56:8f:62:56	305	2		
Static	00:50:56:8f:21:35	54	0		
Dynamic	00:50:56:8f:86:19	305	192		
Static	00:50:56:8f:d5:fd	58	0		
Dynamic	00:02:3d:40:dd:03	305	4		
Dynamic	00:50:56:b7:70:37	305	1		
Dynamic	00:50:56:8f:c5:07	305	1		
Dynamic	00:50:56:8f:81:09	305	230		
Dynamic	00:0c:29:8b:01:22	305	73		
Dynamic	00:50:56:8f:54:48	305	6		
Dynamic	00:50:56:63:8f:4d	59	1		
Dynamic	00:50:56:8f:17:20	305	0		
Dynamic	00:50:56:8f:90:5b	305	60		
Static	00:50:56:8f:a1:3a	66	0		
Static	00:50:56:8f:45:0b	64	0		
Dynamic	00:50:56:a2:32:6f	63	2		
Dynamic	00:50:56:5f:19:5c	63	1		
Static	00:50:56:8f:90:a4	51	0		
Static	00:50:56:67:8e:b9	49	0		
Dynamic	00:25:b5:10:10:4f	305	306		

在Nexus 1000V級別,輸入**show mac address-table**命令以確認兩個MAC地址均在VEM # 5上 的VLAN 18上獲知:

mc-vsm#	show mac address-	table in	8eb9		
18	0050.5667.8eb9	static	0	Veth19	5
18	0050.5667.8eb9	dynamic	0	Po4	6
mc-vsm#	show mac address-	table in	63cc		
18	0050.568f.63cc	dynamic	93	Po1	3
18	0050.568f.63cc	dynamic	93	Po2	4
18	0050.568f.63cc	static	0	Veth56	5
18	0050.568f.63cc	dynamic	93	Po4	6
mc-vsm#					

輸入VEM # 5的**show port-channel summary**命令以檢視port-channel和成員埠:

mc-vsm	#								
mc-vsm	# show port	-channel :	summary						
Flags: D - Down P - Up in port-channel (members)									
I - Individual H - Hot-standby (LACP only) s - Suspended r - Module-removed									
	U - Up (pe	ort-channe	el)						
Group	Port-	Туре	Protocol	Member Ports					
	Channel								
1	Po1 (SU)	Eth	NONE	Eth3/1(P)	Eth3/2(P)	Eth3/9(r)			
				Eth3/10(r)					
2	Po2 (SU)	Eth	NONE	Eth4/1(P)	Eth4/2(P)	Eth4/9(P)			
				Eth4/10(P)					
3	Po3 (SU)	Eth	NONE	Eth5/1(P)	Eth5/2(P)	Eth5/9(r)			
				Eth5/10(r)					
4	Po4 (SU)	Eth	NONE	Eth6/1(P)	Eth6/2(P)	Eth6/11(P)			
_				Eth6/12(P)					

- 4. 從Nexus 1000V收集更多詳細資訊。
 - 輸入**show interface vethernet 56**命令以檢視Veth56與VM(ciscolive-vm)對應:

mc-vsm# show interface vethernet 56
Vethernet56 is up
Port description is ciscolive-vm, Network Adapter 1
Hardware: Virtual, address: 0050.568f.63cc (bia 0050.568f.63cc)
Owner is VM "ciscolive-vm", adapter is Network Adapter 1
Active on module 5
VMware DVS port 3033
Port-Profile is vApp-Network
Port mode is access
5 minute input rate 80 bits/second, 0 packets/second
5 minute output rate 12552 bits/second, 8 packets/second
Rx
23795 Input Packets 7293075158593488853 Unicast Packets
203449390 Multicast Packets 4294967761 Broadcast Packets
2333878 Bytes
Tx
1350625 Output Packets 4768 Unicast Packets
519692101807 Multicast Packets 4321524090 Broadcast Packets 1345857 Flood Packets
254466737 Bytes
0 Input Packet Drops 0 Output Packet Drops

輸入show interface vethernet 19命令以檢視Veth19與主機的VMK介面(vmk0)對應:

mc-vsm# show interface vethernet 19
Vethernet19 is up
Port description is VMware V <u>Mkernel, vmk0</u>
Hardware: Virtual, address: 0050.5667.8eb9 (bia 0050.5667.8eb9)
Owner is VMware VMkernel, adapter is vmk0
Active on module 5
VMware DVS port 2110
Port-Profile is 13
Port mode is access
5 minute input rate 12904 bits/second, 1 packets/second
5 minute output rate 13384 bits/second, 8 packets/second
Rx
12200 Input Packets 7310589476873731518 Unicast Packets
7310589476867241067 Multicast Packets 873444753044241742 Broadcast Packets
16040625 Bytes
Tx
65549 Output Packets 3731 Unicast Packets
141938759046 Multicast Packets 137454132371 Broadcast Packets 59221 Flood Packets
12416427 Bytes
8227343645136678255 Input Packet Drops 210453427045 Output Packet Drops

5. 檢查從VM(ciscolive-vm)和VMK interface(vmk0)到主機上游介面的流量固定情況。

m	c-vsm#	module ve	m 5 exe	cute	vemcmd	show por	t vsm		
	LTL	VSM Port	Admin	Link	State	PC-LTL	SGID	Vem Port	туре
	6	Internal	DOWN	UP	FWD	0		vns	
	8	Internal	UP	UP	FWD	0			
	9	Internal	DOWN	DOWN	FWD	0			
	10	Internal	DOWN	DOWN	FWD	0	0		
	11	Internal	DOWN	DOWN	FWD	0			
	12	Internal	DOWN	DOWN	FWD	0	0		
	14	Internal	DOWN	DOWN	FWD	0			
	15	Internal	DOWN	DOWN	FWD	0			
	16	Internal	DOWN	DOWN	FWD	0		ar	
	17	Eth5/1	UP	UP	FWD	305	0	vmnic0	
	18	Eth5/2	UP	UP	FWD	305	1	vmnic1	
	49	Veth19	UP	UP	FWD	0	(1)	vmk0]
	50	Veth23	UP	UP	FWD	0	1	tinian-sa	an.eth0
	51	Veth38	UP	UP	F/B*	· 0	0	tinian-es	xi-1.eth3
	52	Veth37	UP	UP	F/B*	• O	0	tinian-es	xi-1.eth2
	53	Veth22	UP	UP	F/B*	· 0	1	tinian-es	xi-1.eth1
	54	Veth21	UP	UP	F/B*	• O	0	tinian-es	xi-1.eth0
	55	Veth36	UP	UP	F/B*	• 0	1	tinian-es	xi-2.eth3
	56	Veth35	UP	UP	F/B*	• O	0	tinian-es	xi-2.eth2
	57	Veth25	UP	UP	F/B*	• •	1	tinian-es	xi-2.eth1
	58	Veth24	UP	UP	F/B*	· 0	0	tinian-es	xi-2.eth0
	59	Veth43	UP	UP	F/B*	• •	1	tinian-es	xi-3.eth3
	60	Veth44	UP	UP	F/B*	· 0	0	tinian-es	xi-3.eth2
	61	Veth45	UP	UP	F/B*	• •	1	tinian-es	xi-3.eth1
	62	Veth46	UP	UP	F/B*	· 0	0	tinian-es	xi-3.eth0
	63	Veth47	UP	UP	F/B*	• •	1	tinian-es	xi-4.eth3
	64	Veth48	UP	UP	F/B*	• •	0	tinian-es	xi-4.eth2
	65	Veth49	UP	UP	F/B*	• •	1	tinian-es	xi-4.eth1
	66	Veth50	UP	UP	F/B*	• •	0	tinian-es	xi-4.eth0
	67	Veth26	UP	UP	FWD	0	1	tinian-vo	e.eth0
	68	Veth56	UP	UP	FWD	0	0	ciscolive	e-vm.eth0
	69	Veth31	UP	UP	FWD	0	1	maug-vc.e	th0
	75	Veth59	UP	UP	FWD	0	0	mc-ucsc.e	eth0
	78	Veth72	UP	UP	FWD	0	1	mc-dc-2.e	th0
	305	Po3	UP	UP	FWD	0			
						•			

* F/B: Port is BLOCKED on some of the vlans. One or more vlans are either not created or not in the list of allowed vlans for this port. Please run "vemcmd show port vlans" to see the details. mc-vsm#

此輸出顯示VM(ciscolive-vm)和VMK interface(vmk0)與其對應的VM網路介面控制器 (VMNIC)的使用者組ID(SGID)對映。 該對映顯示用於通訊的VMNIC:

• VM的SGID 0(ciscolive-vm)與vmnic0的SGID 0匹配。

- VMK interface(vmk0)的SGID 1與vmnic1的SGID 1匹配。
- 6. 從vCenter或ESXi命令列介面(CLI)獲取VMNIC的MAC地址。

在vCenter中, 導航到Configuration標籤:

E 🚱 mc-vesa	172.16.18.236 VMware ESXi, 5.1.0, 799	0733				
B mc·dc B mc·dc	Summary Virtual Machines Performan	configuration Tasks & E	vents Alarms Permissi	ons Maps Sto	rage Views Ha	rdware Status
172.16.18.232	Hardware	Network Adapters				
172.16.18.233		Device	Speed	Configured	Switch	MACAddress
172.16.18.234	Processors	Cisco Systems Inc Cisco	VIC Ethernet NIC			
anatahan-by-1	Memory	wmnic9	20000 Full	Negotiate	vyattavds	00:25:b5:00:00:4d
anatahan-hv-2	Storage	vmnic8	20000 Full	Negotiate	vSwitch0	00:25:b5:00:00:5d
ciscolive-vm	Networking	vmnic7	20000 Full	Negotiate	mc-vds	00:25:b5:00:00:2d
👸 maug-vc	Storage Adapters	vmnic6	20000 Full	Negotiate	mc-vds	00:25:b5:00:00:3d
🍈 mc-dc-1	 Network Adapters 	vmnic5	20000 Full	Negotiate	mc-vds	00:25:b5:00:00:0d
mc-dc-2	Advanced Settings	vmnic4	20000 Full	Negotiate	mc-vds	00:25:b5:00:00:1d
mc-router	Power Management	vmnic3	20000 Full	Negotiate	mc-vds	00:25:b5:00:00:4c
mc-ucsc		vmnic2	20000 Full	Negotiate	mc-vds	00:25:b5:00:00:5c
me-vesa	Software	vmnic1	20000 Full	Negotiate	mc-vsm	00:25:b5:00:00:4F
mc-vsm-2	Licensed Features	vmnic0	20000 Full	Negotiate	mc-vsm	00:25:b5:00:00:5f
rota-esxi-1	Time Configuration			-		
👸 rota-esxi-2	DNS and Routing					
👘 rota-san	Authoritzation Convices					
🍈 rota-vc	Paula Management					
saipan-esxi-1	Power Management					
saipan-esxi-2	Virtual Machine Startup/Shutdown					
saipan-san	Virtual Machine Swapfile Location					
sapan-vc	Security Profile					

在ESXi CLI上,輸入**esxcfg-nic -1**命令:

Name	per	Deimer	Link	Ground	Dumler	MBC Address	NOTE OF	Description					
IN OLD OF	FOI	DIIVEI	DTHK	abeen	pubter	MAG AGGLEBS	MIO	Description					
vmnic0	0000:06:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:5f	1500	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic1	0000:07:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:4f	1500	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic2	0000:08:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:5c	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic3	0000:09:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:4c	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic4	0000:0a:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:1d	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic5	0000:0b:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:0d	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic6	0000:00:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:3d	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic7	0000:0d:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:2d	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic8	0000:0e:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:5d	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC
vmnic9	0000:0f:00.00	enic	Up	20000Mbps	Full	00:25:b5:00:00:4d	9000	Cisco Systems	Inc	Cisco	VIC	Ethernet	NIC

7. 在UCS Manager(UCSM)中,找到與VMNIC對應的UCS的虛擬網路介面控制器(vNIC):

Servers Law SAN VM Admin	Network PSH						
Pilter: Al.	Actions Charge Dynamic v	NEC Connection Pulkcy NO	amic vHBC Connection Policy thing Selected				
ers Jervice Profiles Å, root	Photo visc/visa	Pacenet N	C/vHBA Placement Policy pecific vRIC/vHBA Placement P	shey			
			Wheel Set Selects Al Al Al Al Al	n heference			
⊕ ••••••••••••••••••••••••••••••••			Connectivity Policy LAN Connectivity Policy: 400 Connectivity Policy Instance: Crisele LAN Connectivity Policy	Let>			
8 -3 Sevent-2 8 -3 Sevent-3	1877						
ile 75 Server-1-5 ile 75 Server-1-7	d, Filer + Doort (g. F	nare.					
- O, Sub-Organizations	Name	MAC Address	Desked Order	Adual Order	Fabric ID	Cesired Placement	AdualPlacement
A. root	-@ viac viac-a	00-25-05-00-00-5F	1	3	h l	Any	1
Service Template ScanTest	 -E vitic vitic-s 	00-25-05-00-00-4	2	2		Any	1
	-C VAC VAC-2	00-25-85-00-00-90	0	9	A	Arv	3
halides	-C VAC VAC-3	00-25-85-00-00-40		4		Anv	1
A. root	-0 VNC VNC-4	00-25-85-00-00-10	5	5		Arv	1
B S Adapter Pakces	- VAC VAC-5	00-25-85-00-00-00		8		Anv	1
IP 35 BIOS Defaults	- MC 4804	02-25-05-00-00-30	5	- 5	<u>.</u>	Atw	6
IF 30 BUD PROB	- MC 440-7	00.25#5-00.00.25				Anv	6
 Weiter Barrison Bartister 	- AC 487.4	01-25-05-00-00-30	6	6	6	atre .	6
With Array Inches	AN AN A	01-15-05-00-00-00	wh.	-	6	and the second se	6
The burd white united	140, 140, 140, 1	001206300.00140	100	1.00	,	A1	

vNIC-0的主FI是FI-A,vNIC-1的主FI是FI-B。現在,您可以推斷來自VM(ciscolive-vm)的流量 通過FI-A,而來自VMK介面(vmk0)的流量通過FI-B。

8. 確認已在FI-A上獲取虛擬機器(ciscolive-vm)的MAC地址:

Mike-Cliff-Pod-16-A(nxos) # show mac address-table | in 63cc dynamic 0 * 18 0050.568f.63cc F F Veth882 Mike-Cliff-Pod-16-A(nxos)# Mike-Cliff-Pod-16-A(nxos) # show int vethernet 882 Vethernet882 is up Bound Interface is port-channel1288 Hardware: Virtual, address: 547f.eea2.5ac0 (bia 547f.eea2.5ac0) Description: server 1/1, VNIC vNIC-0 Encapsulation ARPA Port mode is trunk EtherType is 0x8100 Rx 38196726 unicast packets 130708 multicast packets 99167 broadcast packets 38426601 input packets 44470647026 bytes 0 input packet drops TX 18711011 unicast packets 552876 multicast packets 10560283 broadcast packets 29824170 output packets 9379742901 bytes 0 flood packets 0 output packet drops

9. 確認已在FI-B上獲取VMK 介面(vmk0)的MAC地址:

```
Mike-Cliff-Pod-16-B(nxos)# show mac address-table | in 8eb9
* 18
          0050.5667.8eb9
                            dynamic 0
                                                F
                                                     F (Veth883)
Mike-Cliff-Pod-16-B(nxos)#
Mike-Cliff-Pod-16-B(nxos) # show int vethernet 883
Vethernet883 is up
    Bound Interface is port-channel1287
 Hardware: Virtual, address: 547f.eea3.c7e0 (bia 547f.eea3.c7e0)
Description: server 1/1, VNIC vNIC-1
 Encapsulation ARPA
 Port mode is trunk
 EtherType is 0x8100
 Rx
   30553743 unicast packets 94871 multicast packets 1633080 broadcast packets
    32281694 input packets 32522468006 bytes
    0 input packet drops
 TX
   16919347 unicast packets 588794 multicast packets 8994408 broadcast packets
   26502549 output packets 8364051391 bytes
    0 flood packets
    0 output packet drops
```

10. 使用show circuit detail指令檢查這些Veth是否固定至其上行鏈路:

```
Mike-Cliff-Pod-16-B /org/service-profile # show circuit detail
Service Profile: Server-1-1
Server: 1/1
    Fabric ID: A
       VIF: 882
       vNIC: vNIC-0
        Link State: Up
        Oper State: Active
        State Reason:
        Admin Pin: 0/0
        Oper Pin: 0/88
        Encap: Virtual
        Transport: Ether
    Fabric ID: B
       VIF: 883
       vNIC: vNIC-1
       Link State: Up
       Oper State: Active
       State Reason:
       Admin Pin: 0/0
       Oper Pin: 0/89
       Encap: Virtual
       Transport: Ether
```

附註:輸出類似資訊的其它命令包括show pinning server-interfaces、show pinning border-interfaces和show pinning interface vethernet x。您還可以檢查UCSM中的固定連線:

Equipment Servers LAN SAN VM Admin	General Storage Net	work GCSE vhECs Boot Ord	r Witual Machines FC Zane	s Pakcies Server Details FSM	VSF Paths Faults Events			
Filter Al 💌	(a) = 4, mm =	Expert 🚑 Pret						
a.e.	Name	Adapter Part	PEX Plast Part	PEX Network Part	PS Server Port	VAC	PT Uplick	Link State
(i) Servers	D - Path A/1	6/PC-1288	km/PC-3025	147/0025	A/0/1025			
D S far an Profes	- Witel Oro	AL HIQ				9460-0	A/KC-88	Up
G-A rest	Vitual Cro	AT 884				9460-2	A/FC-88	Up
E- The Conversion	- Wital Oro	A1 866				1000-4	A/PC-88	Up
C 5CS2 v/8Cx	🕻 Vitual Cro	A1 868				vA8C-6	A/FC-88	Up
VPELA	- Vital Oro	A1 890				VAC-8	A/PC-88	Up
	D-PATHO	6PC-1287	right/PC-1153	494/1153	8/0/1153			
S - C VICL VIEL O	-E Vituel Oro	<i>R</i> .860				9460-1	8.PC-99	Up
B -	🕻 Vital Oro	A1 885				-Y40C-3	8/PC-89	Up
B = 4 vio: vio:-3	- Witel Oro	A1.887				VAC-5	8,PC-89	Up
8-38V/30V D- 8	Vital Oro	A1 889				VA8C-7	8,PC-89	Up
8 -0 vitc vitc-5	- Vital Oro	AL 891				vH0C-9	8/PC-89	Up

- 11. 收集有關port-channel的其他詳細資訊。在此配置中,每個FI使用三個埠通道。例如,FI-B有 三個關聯的埠通道:
 - •埠通道89是FI-B和上游Nexus 5020之間的鏈路聚合控制協定(LACP)埠通道。
 - •埠通道1153是自動建立的,位於FI-B和輸入/輸出模組(IOM)-B之間。
 - •埠通道1287是自動建立的,位於IOM-B和Cisco VIC 1240(刀片)之間。
 - 1. 輸入show port-channel summary命令以檢視FI-B的port-channel配置:

2. 輸入show cdp neighbors命令以發現和檢視有關FI-B的其他資訊:

```
Mike-Cliff-Pod-16-B(nxos) # show cdp neighbors

Capability Codes: R = Router, T = Trans-Bridge, B = Source-Route-Bridge

S = Switch, H = Host, I = IGMP, r = Repeater,

V = VoIP-Phone, D = Remotely-Managed-Device,

s = Supports-STP-Dispute

Device-ID Local Intrfce Hldtme Capability Platform Fort ID

SJ-SV-C4K-1 mgmt0 179 R S I WS-C4506 Gig5/40

N5K-Rack16-2(FLC12110027)Eth1/5 163 S I s N5K-C5020P-BA Eth1/22

N5K-Rack16-1(SSI1351055H)Eth1/6 157 S I s N5K-C5020P-BF Eth1/29

mc-vsm(1981308841355189719)Eth1/1/3 160 S I s Nexus1000V Eth5/2
```

3. 輸入show port-channel summary命令以檢視FI-A的port-channel配置:

Mike-C	cliff-Pod-16	-A (nxos) #	show port-	-channel summa	ary					
Flags:	D - Down	P -	Up in por	ct-channel (me	embers)					
	I - Indivi	idual H -	Hot-stand	Hot-standby (LACP only)						
	s - Susper	nded r-	Module-re	Module-removed						
	S - Switch	hed R -	Routed							
	U - Up (port-channel)									
Group	Port- Channel	Туре	Protocol	Member Ports						
38	Po88 (SU)	Eth	LACP	Eth1/5(P)	Eth1/6(P)					
1025	Po1025 (SU)	Eth	NONE	Eth1/1(P)						
1288	Po1288 (SU)	Eth	NONE	Eth1/1/1(P)	Eth1/1/3(P)					
Mike-Cliff-Pod-16-A(nxos)#										

4. 輸入show cdp neighbors命令以發現和檢視有關FI-A的其他資訊:

Mike-Cliff-Pod-16-A(nxos)# show cdp neighbors Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge S - Switch, H - Host, I - IGMP, r - Repeater, V - VoIP-Phone, D - Remotely-Managed-Device, s - Supports-STP-Dispute Device-ID Local Intrfce Hldtme Capability Platform Port ID SJ-SV-C4K-1 mgmt0 142 R S I WS-C4506 Gig5/39 N5K-Rack16-2 (FLC12110027) Eth1/5 147 SIS N5K-C5020P-BA Eth1/10 N5K-Rack16-1 (SSI1351055H) Eth1/6 N5K-C5020P-BF Eth1/11 121 SIS mc-vsm(1981308841355189719)Eth1/1/1 167 S I s Nexus1000V Eth5/1

12. 確定從port-channel中固定成員介面的具體情況。

輸入**show port-channel**命令,以檢視FI-B - VMK interface(vmk0)MAC地址已固定到portchannel 89的Ethernet1/6:



輸入**show port-channel**命令,以檢視FI-A - VM(ciscolive-vm)MAC位址已固定到port-channel 88的Ethernet1/5:



13. 檢查是否在上游Nexus 5020上獲知了MAC地址。

輸入**show mac address-table**命令以檢視Nexus 5020-1上獲取了VMK interface(vmk0)MAC地 址:

```
N5K-Rack16-1#
N5K-Rack16-1# show mac address-table | in 8eb9
* 18 0050.5667.8eb9 dynamic 10 F F <mark>Po89</mark>
N5K-Rack16-1#
```

輸入**show mac address-table**命令,以檢視在Nexus 5020-2上獲取的VM(ciscolive-

vm)MAC地址:

```
N5K-Rack16-2#
N5K-Rack16-2# show mac address-table | in 63cc
* 18 0050.568f.63cc dynamic 0 F F Po88
N5K-Rack16-2#
```

當您排除網路故障時,此示例可幫助您快速隔離和識別MAC地址學習的方式和位置,以及網路流量 的預期路徑。

驗證

驗證程式包括在配置示例中。

疑難排解

此配置示例旨在幫助進行網路故障排除。