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roberbur

7,366 Views



VMM Integration & Uplink Teaming Configuration on ACI  

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This article details various possible topologies for Virtual Machine Manager (VMM) integration using blade and rack servers, and the required Interface policies that should be configured.

This article is based on ACI software release 1.1(2x) and UCSM version 2.1(3x).

Note: Not every policy (Switch Profile, VMM Networking etc) are covered here. This article is to point out the differences in some of the Interface Policies, AEP and verification related to certain deployment topologies. For full details on setting up VMM integration please refer to the [ACI Virtualization Guide on CCO](#).

The topologies that describe UCS also include any non-Cisco blade switch system (HP, Dell, IBM etc). The basic ACI-side config is the same regardless. Blade-switch specific config other than UCS is not covered here.

Glossary:

AVS - Application Virtual Switch

vLeaf - Virtual Leaf (ie. AVS)

UCS - Unified Computing System

FI - Fabric Interconnect

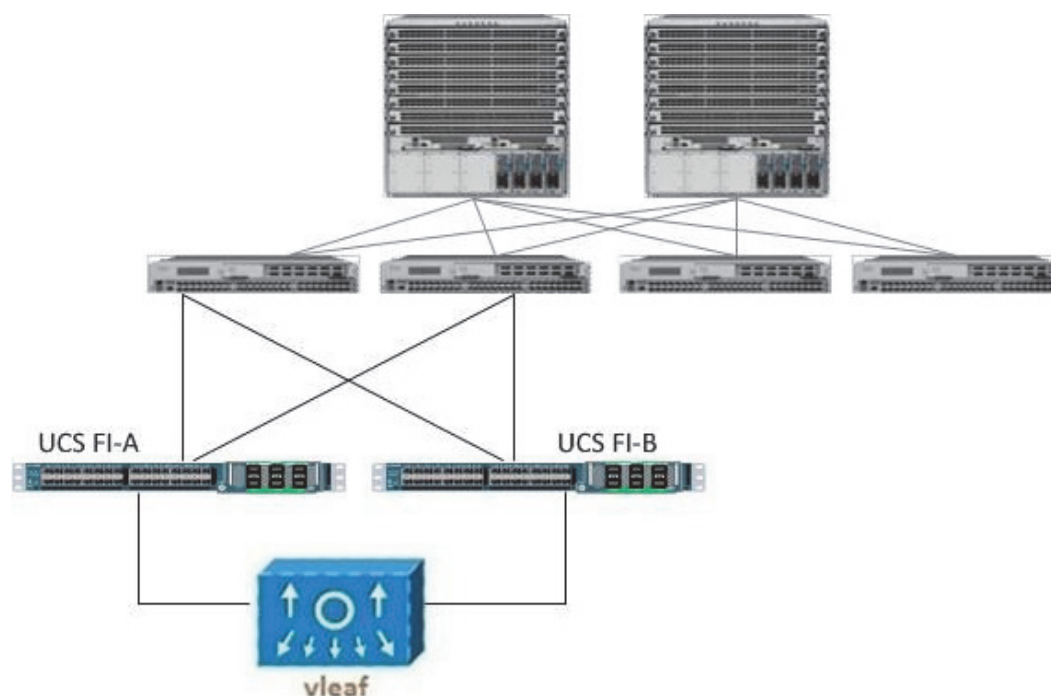
CDP - Cisco Discovery Protocol

LLDP - Link Layer Discovery Protocol

VXLAN NS - Virtual Extensible LAN, No-Local Switching mode

VXLAN LS - Virtual Extensible LAN, Local Switching mode

Topology 1 - AVS Running on UCS blades, UCS uplinks not channeled



ACI Configuration

Note: As of UCSM version 2.1, UCS blades now supports LLDP on vNIC interfaces. Users have the option of configuring either CDP or LLDP in this case. Below is an example using CDP.

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled
- LLDP: Disabled
- PortChannel Policy: Mac Pinning

AEP:

- Infra VLAN: Enabled
- vSwitch Policy: **(not required)**

Verification**Leaf**

Leaf-1# **show cdp neighbors**

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
Services-UCS-A(SS115450J63)	Eth1/15	133	S I s	UCS-FI-6248UP	Eth1/17
Services-UCS-B(SS115450JCR)	Eth1/16	124	S I s	UCS-FI-6248UP	Eth1/17

Leaf-1# **show int brief | grep '1/15\|1/16'**

Interface	Mode	Admin	Oper	Protocol	Oper	Speed	MTU	PC ID
Eth1/15	0	eth	trunk	up	none	10G(D)		- << No PC ID
Eth1/16	0	eth	trunk	up	none	10G(D)		- << No PC ID

Leaf-2# **show cdp neighbors**

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
Services-UCS-A(SS115450J63)	Eth1/15	133	S I s	UCS-FI-6248UP	Eth1/15
Services-UCS-B(SS115450JCR)	Eth1/16	125	S I s	UCS-FI-6248UP	Eth1/15

Leaf-2# **show int bri | grep '1/15\|1/16'**

Interface	Mode	Admin	Oper	Protocol	Oper	Speed	MTU	PC ID
Eth1/15	0	eth	trunk	up	none	10G(D)		- << No PC ID
Eth1/16	0	eth	trunk	up	none	10G(D)		- << No PC ID

AVS (vSphere CLI)

(applies to VLAN or VXLAN encap, NS or LS switching)

~ # **vemcmd show sod | grep channel**

profile dvportgroup-249 port-channel **mac-pinning**

~ # **vemcmd show port**

LTL	VSM Port	Admin	Link	State	Cause	PC-LTL	SGID	ORG	svcpath	Type	Vem Port
19	Eth1/2	UP	UP	FWD	-	1040	1	0	0		vmnic1
21	Eth1/4	UP	UP	FWD	-	1040	3	0	0		vmnic3
50		UP	UP	FWD	-	0	1	0	0	VXLAN	vmk2
51		UP	UP	FWD	-	0	3	0	0		Test1.eth0
1040	Po1	UP	UP	FWD	-	0		0	0		

****Note the two SGIDs (Sub Group IDs). There will be a unique SGID per vmnic uplink.**

UCS

UCS-A(nxos) # **show cdp neighbors**

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
Leaf-2 (SAL1815Q3J0)	Eth1/15	157	R S s	N9K-C9396PX	Eth1/15
Leaf-1 (SAL17267Z9U)	Eth1/17	157	R S s	N9K-C9396PX	Eth1/15

UCS-A(nxos) # **show int bri | grep '1/15\|1/17'**

Interface	Line	Mode	Status	Speed	PC ID
Eth1/15	1	eth trunk	up	10G(D)	<< No PC ID
Eth1/17	1	eth trunk	up	10G(D)	<< No PC ID

UCS-B(nxos) # **show cdp neighbors**

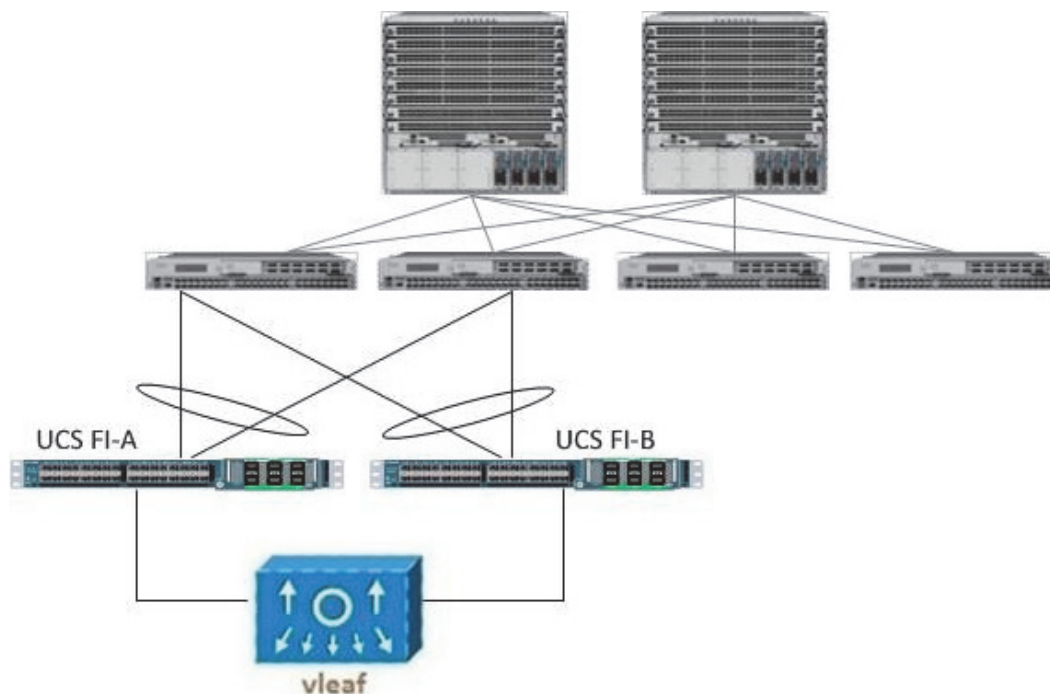
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
 S - Switch, H - Host, I - IGMP, r - Repeater,
 V - VoIP-Phone, D - Remotely-Managed-Device,
 s - Supports-STP-Dispute

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
Leaf-2 (SAL1815Q3J0)	Eth1/15	129	R S s	N9K-C9396PX	Eth1/16
Leaf-1 (SAL17267Z9U)	Eth1/17	129	R S s	N9K-C9396PX	Eth1/16

UCS-B(nxos) # **show int brief | grep '1/15\|1/17'**

Interface	Line	Mode	Status	Speed	PC ID
Eth1/15	1	eth trunk	up	10G(D)	<< No PC ID
Eth1/17	1	eth trunk	up	10G(D)	<< No PC ID

Topology 2 - AVS Running on UCS blades, UCS uplinks channeled (PC/VPC)



ACI Configuration

Note: As of UCSM version 2.1, UCS blades now supports LLDP on vNIC interfaces. Users have the option of configuring either CDP or LLDP in this case. Below is an example using CDP.

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled
- LLDP: Disabled
- PortChannel Policy: Active (On for Static Port Channel)

AEP:

- Infra VLAN: Enabled
- vSwitch Policy:
 - Port Channel Policy: Mac-Pinning

Verification

Leaf

Leaf-1# **show cdp neighbors**

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
Services-UCS-A(SS115450J63)	Eth1/15	133	S I s	UCS-FI-6248UP	Eth1/17
Services-UCS-B(SS115450JCR)	Eth1/16	124	S I s	UCS-FI-6248UP	Eth1/17

Leaf-1# **show int brief | grep '1/15\|1/16'**

Interface	Mode	Admin	Oper	Protocol	Speed	Oper Speed	Oper Duplex	Oper MTU	Oper Mode
Eth1/15	0	eth	trunk	up	none	10G(D)	3	<< VPC to FI-A	
Eth1/16	0	eth	trunk	up	none	10G(D)	4	<< VPC to FI-B	

Leaf-1# **show vpc brief**

<snip>

vPC Peer-link status

id	Port	Status	Active vlans
1	Po3	up	-

vPC status

id	Port	Status	Consistency	Reason	Active vlans
1	Po3	up	success	success	305, 310, 313 << VPC to FI-A, 318, 4093
687	Po4	up	success	success	305, 310, 313 << VPC to FI-B, 318, 4093

Leaf-1#

Leaf-2# **show cdp neighbors**

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
-----------	---------------	--------	------------	----------	---------

```

Services-UCS-A (SSI15450J63)
      Eth1/15      133      S I s      UCS-FI-6248UP  Eth1/15
Services-UCS-B (SSI15450JCR)
      Eth1/16      125      S I s      UCS-FI-6248UP  Eth1/15

```

```
Leaf-2# show int bri | grep '1/15\|1/16'
```

```

Eth1/15      0      eth trunk up none      10G(D)      3 << VPC to FI-A
Eth1/16      0      eth trunk up none      10G(D)      4 << VPC to FI-B

```

AVS (vSphere CLI)

(applies to VLAN or VXLAN encap, NS or LS switching)

```
~ # vemcmd show sod | grep channel
```

```
profile dvportgroup-249 port-channel mac-pinning
```

```
~ # vemcmd show port
```

LTL	VSM Port	Admin	Link	State	Cause	PC-LTL	SGID	ORG	svcpath	Type	Vem Port
19	Eth1/2	UP	UP	FWD	-	1040	1	0	0		vmnic1
21	Eth1/4	UP	UP	FWD	-	1040	3	0	0		vmnic3
50		UP	UP	FWD	-	0	1	0	0	VXLAN	vmk2
51		UP	UP	FWD	-	0	3	0	0		Test1.eth0
1040	Po1	UP	UP	FWD	-	0		0	0		

****Note the two SGIDs (Sub Group IDs). There will be a unique SGID per vmnic uplink.**

UCS

```
UCS-A (nxos) # show cdp neighbors
```

Device-ID	Local Intrfce	Hldtme	Capability	Platform	Port ID
Leaf-2 (SAL1815Q3J0)	Eth1/15	157	R S s	N9K-C9396PX	Eth1/15
Leaf-1 (SAL17267Z9U)	Eth1/17	157	R S s	N9K-C9396PX	Eth1/15

```
UCS-A (nxos) # show int bri | grep '1/15\|1/17'
```

```

Eth1/15      1      eth trunk up none      10G(D)      1 << PC ID
Eth1/17      1      eth trunk up none      10G(D)      1 << PC ID

```

```
Services-UCS-A (nxos) #
```

```
*****
```

```
UCS-B (nxos) # show cdp neighbors
```

Device-ID	Local Intrfce	Hldtme	Capability	Platform	Port ID
Leaf-2 (SAL1815Q3J0)	Eth1/15	129	R S s	N9K-C9396PX	Eth1/16
Leaf-1 (SAL17267Z9U)	Eth1/17	129	R S s	N9K-C9396PX	Eth1/16

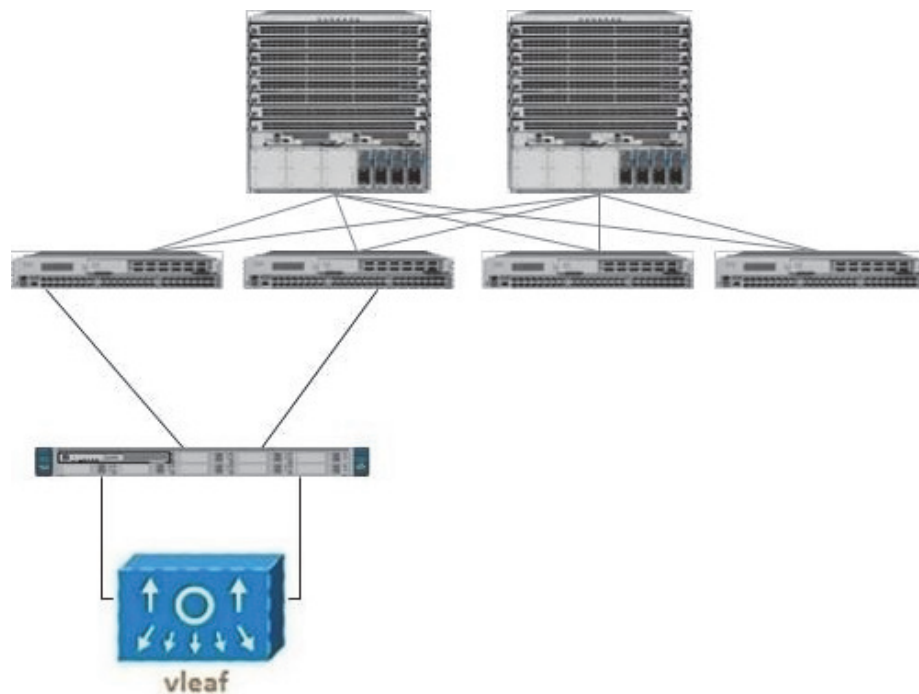
```
UCS-B (nxos) # show int brief | grep '1/15\|1/17'
```

```

Eth1/15      1      eth trunk up none      10G(D)      1 << PC ID
Eth1/17      1      eth trunk up none      10G(D)      1 << PC ID

```

Topology 3 - AVS Running on Rack Server, Uplinks **not** channeled



ACI Configuration

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled

or

- LLDP: Enabled
- Port Channel Policy: Mac-Pinning

AEP:

- Infra VLAN: Enabled
- vSwitch Policy: (not required)

Verification

Leaf

```
Leaf-1# show lldp neighbors
```

Capability codes:

(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device

(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:72

```
Leaf-1# show int brief | grep 1/11
```

```
Eth1/11      0      eth trunk up none                10G(D)      - << No PC ID
```

```
*****
```

```
Leaf-2# show lldp neighbors
```

```
Capability codes:
```

```
(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
```

```
(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
```

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:72

```
Leaf-2# show int brief | grep 1/11
```

```
Eth1/11      0      eth trunk up none                10G(D)      - << No PC ID
```

AVS (vSphere CLI)

(applies to VLAN or VXLAN encap, NS or LS switching)

```
~ # vemcmd show sod | grep channel
```

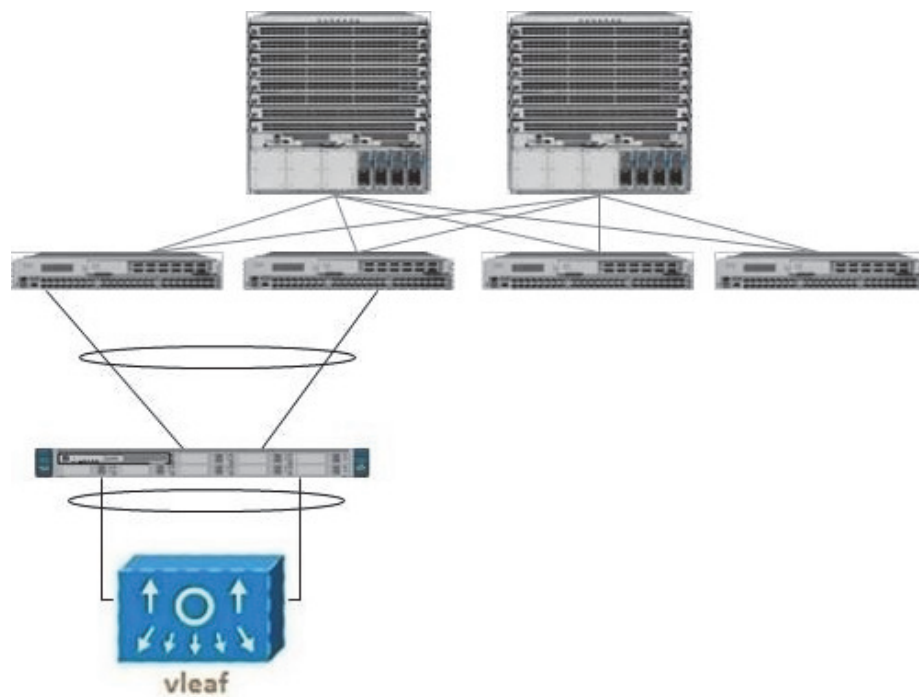
```
profile dvportgroup-249 port-channel mac-pinning
```

```
~ # vemcmd show port
```

LTL	VSM Port	Admin	Link	State	Cause	PC-LTL	SGID	ORG	svcp	Type	Vem Port
19	Eth1/2	UP	UP	FWD	-	1040	1	0	0		vmnic1
21	Eth1/3	UP	UP	FWD	-	1040	2	0	0		vmnic2
50		UP	UP	FWD	-	0	1	0	0	VXLAN	vmk2
51		UP	UP	FWD	-	0	2	0	0		TestVM.eth0
1040	Po1	UP	UP	FWD	-	0		0	0		

****Note the two SGIDs (Sub Group IDs). There will be a unique SGID per vmnic uplink.**

Topology 4 - AVS Running on Rack Server, Uplinks channeled



ACI Configuration

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled

or

- LLDP: Enabled
- PortChannel Policy: Active (*On for Static Port Channel*)

AEP:

- Infra VLAN: Enabled
- vSwitch Policy: **(not required)**

Verification

Leaf

```
Leaf-1# show lldp neighbor
```

Capability codes:

(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device

(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:73

```
Leaf-1# show int brief | grep 1/11
```

```
Eth1/11    0      eth trunk up    none                10G(D)    3 << VPC to Server
```

```
Leaf-1# show vpc brief
```

```
<snip>
```

```
vPC Peer-link status
```

```
-----
id   Port   Status Active vlans
--   ----   -
1    up     -
```

```
vPC status
```

```
-----
id   Port   Status Consistency Reason           Active vlans
--   ----   -
1    Po3    up     success    success           305,310,313 << VPC to Server
                                     ,318,4093
```

```
*****
```

```
Leaf-2# show lldp neighbor
```

```
Capability codes:
```

```
(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
```

```
(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
```

```
Device ID           Local Intf           Hold-time  Capability  Port ID
apic1                Eth1/1               120
apic2                Eth1/2               120
apic3                Eth1/3               120
C200-M3            Eth1/11            180       B         00:50:56:55:51:73
```

```
Leaf-2# show int brief | grep 1/11
```

```
Eth1/11          0          eth trunk up      none          10G(D)      3 << VPC to Server
```

AVS (vSphere CLI)

(applies to VLAN or VXLAN encap, NS or LS switching)

```
~ # vemcmd show sod | grep channel
```

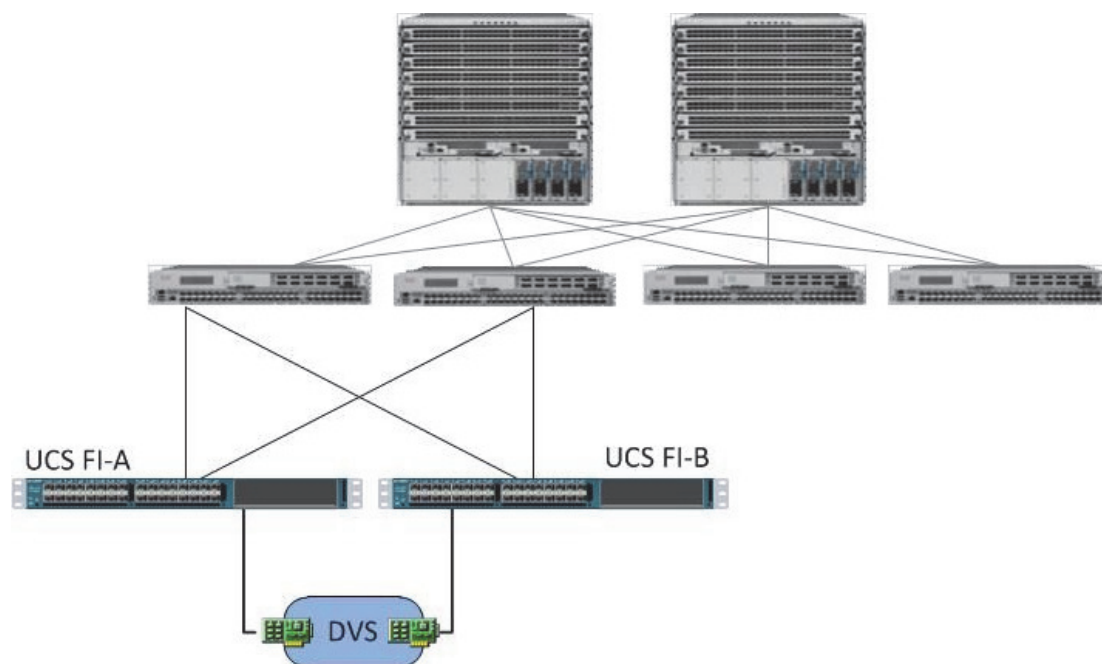
```
profile dvportgroup-249 port-channel active
```

```
~ # vemcmd show port
```

LTL	VSM Port	Admin	Link	State	Cause	PC-LTL	SGID	ORG	svcp	Type	Vem Port
19	Eth1/2	UP	UP	FWD	-	0	0	0	0		vmnic1 << Same SGID
21	Eth1/4	UP	UP	FWD	-	0	0	0	0		vmnic2 << Same SGID
50		UP	UP	FWD	-	0	0	0	0		vmk2
51		UP	UP	FWD	-	0	0	0	0		TestVM.eth0
1040	Po1	UP	UP	FWD	-	0	0	0	0		

****Note the single SGID 0. Since this is a Port channel from the AVS Uplinks, they share the same SGID.**

Topology 5 - Vmware DVS Running on UCS blades, UCS uplinks not channeled



ACI Configuration

Note: As of UCSM version 2.1, UCS blades now supports LLDP on vNIC interfaces. Users have the option of configuring either CDP or LLDP in this case. Below is an example using CDP.

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled
- LLDP: Disabled
- PortChannel Policy: Mac-Pinning

AEP:

- Infra VLAN: Disabled
- vSwitch Policy: (not required)

Verification

UCS

```
UCS-A(nxos) # show cdp neighbors
```

Device-ID	Local Intrlfce	Hldtme	Capability	Platform	Port ID
Leaf-2 (SAL1815Q3J0)	Eth1/15	157	R S s	N9K-C9396PX	Eth1/15
Leaf-1 (SAL17267Z9U)	Eth1/17	157	R S s	N9K-C9396PX	Eth1/15

```
UCS-A(nxos) # show int bri | grep '1/15\|1/17'
```

Eth1/15	1	eth	trunk	up	none	10G(D) - << No PC ID
Eth1/17	1	eth	trunk	up	none	10G(D) - << No PC ID

```
*****
```

```
UCS-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 Infrfce	Hldtme	Capability	Platform	Port ID
Leaf-2 (SAL1815Q3J0)	Eth1/15	129	R S s	N9K-C9396PX	Eth1/16
Leaf-1 (SAL17267Z9U)	Eth1/17	129	R S s	N9K-C9396PX	Eth1/16

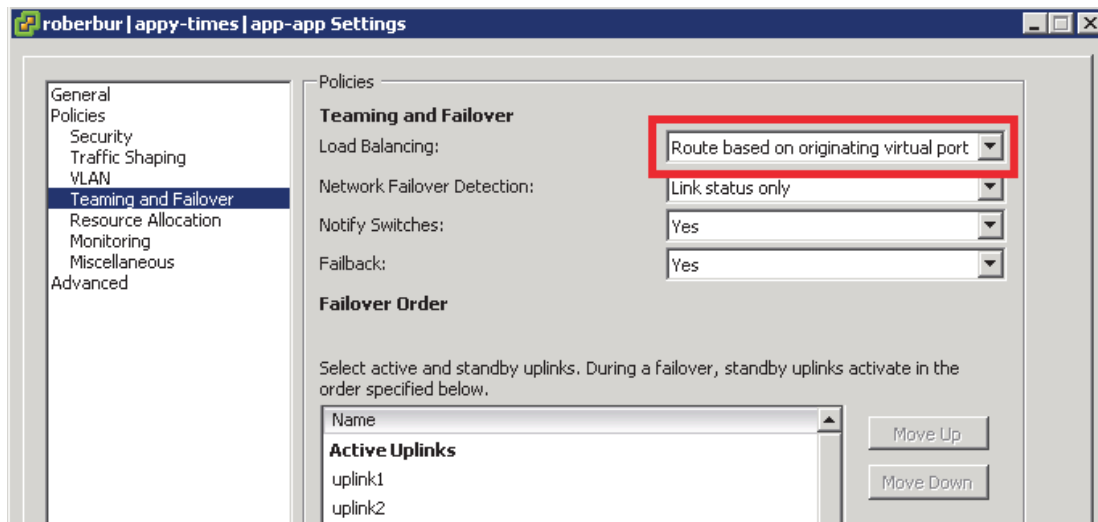
UCS-B (nxos) # **show int brief | grep '1/15\|1/17'**

Eth1/15	1	eth	trunk	up	none	10G (D) - << No PC ID
Eth1/17	1	eth	trunk	up	none	10G (D) - << No PC ID

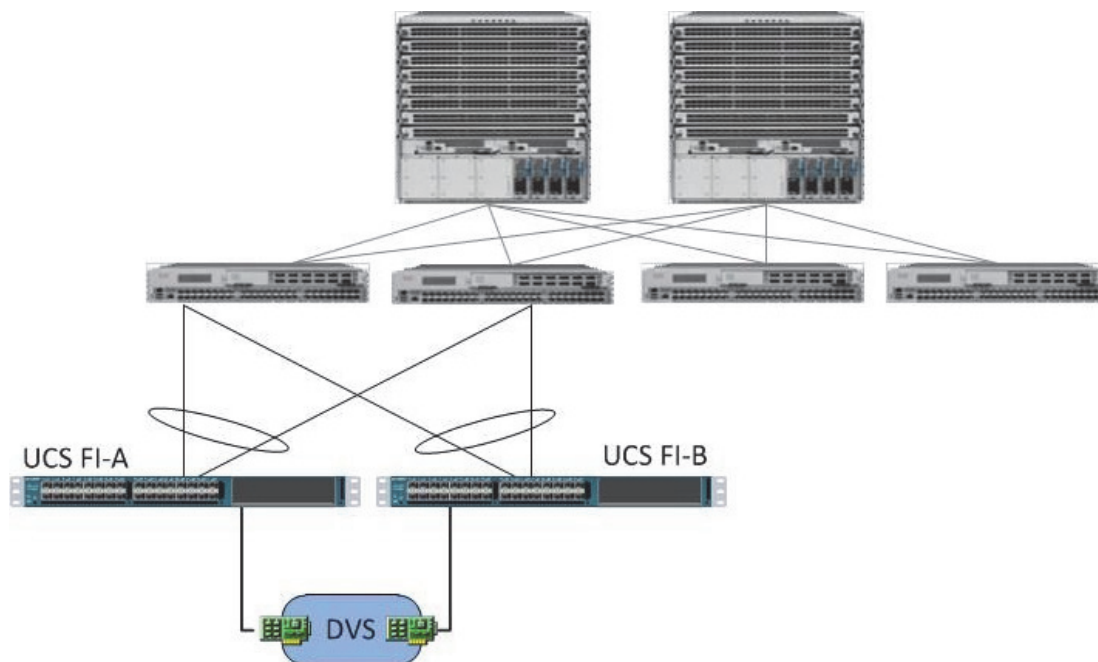
vCenter

1. Navigate to **Home - Inventory - Networking**
2. Expand your DVS Folder
3. Select one of your **Port Groups/EPGs**, right-click and select **Edit Settings...**
4. Highlight **Teaming & Failover**
5. Load Balancing field should display "Route based on originating virtual port"

****Do not manually change this setting. This configuration is pushed by the APIC. If not correct check the Interface Policy or vSwitch Policy configuration.**



Topology 6 - Vmware DVS Running on UCS blades, **UCS uplinks Channeled**



ACI Configuration

Note: As of UCSM version 2.1, UCS blades now supports LLDP on vNIC interfaces. Users have the option of configuring either CDP or LLDP in this case. Below is an example using CDP.

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled
- LLDP: Disabled
- Port Channel Policy: LACP Active (or *On for Static Port Channel*)

AEP:

- Infra VLAN: Disabled
- vSwitch Policy:
 - Port Channel Policy: Mac-Pinning

Verification

Leaf

```
Leaf-1# show cdp neighbors
```

Device-ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
Services-UCS-A(SS115450J63)					
	Eth1/15	133	S I s	UCS-FI-6248UP	Eth1/17
Services-UCS-B(SS115450JCR)					
	Eth1/16	124	S I s	UCS-FI-6248UP	Eth1/17

```
Leaf-1# show int brief | grep '1/15\|1/16'
```

Interface	Mode	Admin	Oper	Protocol	Speed	Oper	Notes
Eth1/15	0	eth	trunk	up	none	10G(D)	3 << VPC to FI-A
Eth1/16	0	eth	trunk	up	none	10G(D)	4 << VPC to FI-B

```
Leaf-1# show vpc brief
```

```
<snip>
```

```
vPC Peer-link status
```

```
-----
```

id	Port	Status	Active vlans
1	up	-	

```
vPC status
```

```
-----
```

id	Port	Status	Consistency	Reason	Active vlans
1	Po3	up	success	success	305,310,313,318 << VPC to FI-A
687	Po4	up	success	success	305,310,313,318 << VPC to FI-B

```
Leaf-1#
```

```
*****
```

```
Leaf-2# show cdp neighbors
```

Device-ID	Local Intrfce	Hldtme	Capability	Platform	Port ID
Services-UCS-A(SS115450J63)	Eth1/15	133	S I s	UCS-FI-6248UP	Eth1/15
Services-UCS-B(SS115450JCR)	Eth1/16	125	S I s	UCS-FI-6248UP	Eth1/15

```
Leaf-2# show int bri | grep '1/15\|1/16'
```

Eth1/15	0	eth trunk	up	none	10G(D)	3 << VPC to FI-A
Eth1/16	0	eth trunk	up	none	10G(D)	4 << VPC to FI-B

UCS

```
UCS-A(nxos) # show cdp neighbors
```

Device-ID	Local Intrfce	Hldtme	Capability	Platform	Port ID
Leaf-2(SAL1815Q3J0)	Eth1/15	157	R S s	N9K-C9396PX	Eth1/15
Leaf-1(SAL17267Z9U)	Eth1/17	157	R S s	N9K-C9396PX	Eth1/15

```
UCS-A(nxos) # show int bri | grep '1/15\|1/17'
```

Eth1/15	1	eth trunk	up	none	10G(D)	1 << PC ID
Eth1/17	1	eth trunk	up	none	10G(D)	1 << PC ID

```
Services-UCS-A(nxos) #
```

```
*****
```

```
UCS-B(nxos) # show cdp neighbors
```

Device-ID	Local Intrfce	Hldtme	Capability	Platform	Port ID
Leaf-2(SAL1815Q3J0)	Eth1/15	129	R S s	N9K-C9396PX	Eth1/16
Leaf-1(SAL17267Z9U)	Eth1/17	129	R S s	N9K-C9396PX	Eth1/16

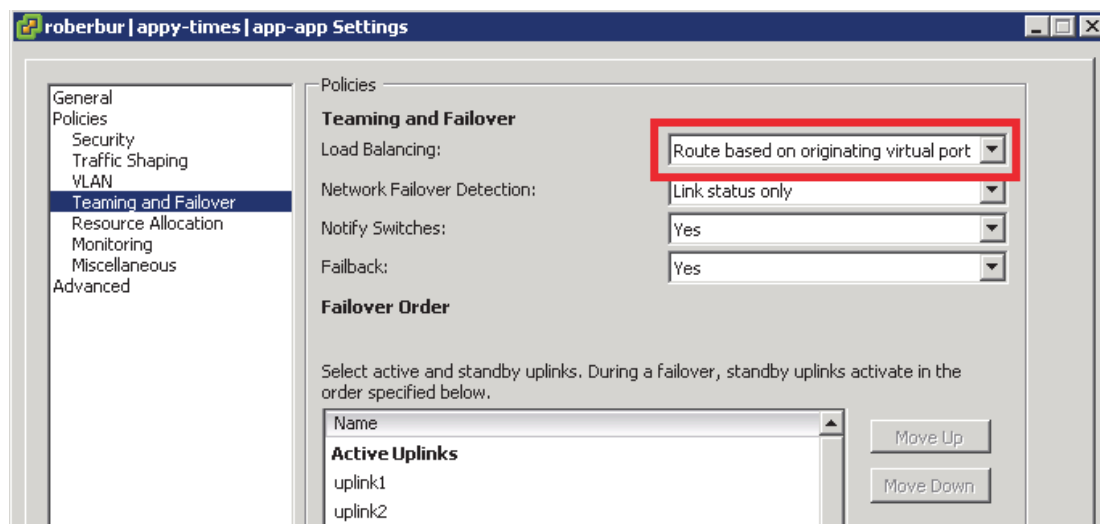
```
UCS-B (nxos) # show int brief | grep '1/15\|1/17'
```

```
Eth1/15      1      eth trunk up      none      10G (D)  1 << PC ID
Eth1/17      1      eth trunk up      none      10G (D)  1 << PC ID
```

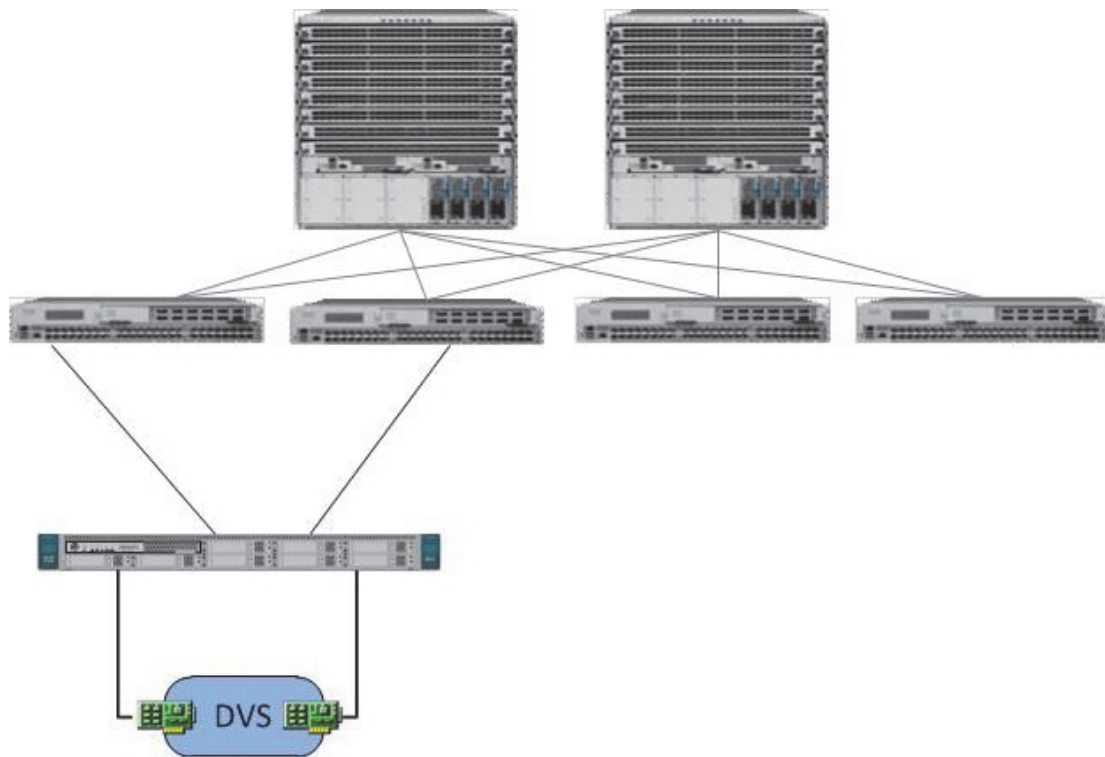
vCenter

1. Navigate to **Home - Inventory - Networking**
2. Expand your DVS Folder
3. Select one of your **Port Groups/EPGs**, right-click and select **Edit Settings...**
4. Highlight **Teaming & Failover**
5. Load Balancing field should display "**Route based on originating virtual port**"

****Do not manually change this setting. This configuration is pushed by the APIC. If not correct check the Interface Policy or vSwitch Policy configuration.**



Topology 7 - VMware DVS Running on Rack Server, Uplinks **not** channeled



ACI Configuration

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled

or

- LLDP: Enabled
- Port Channel Policy: Mac-Pinning

AEP:

- Infra VLAN: Disabled
- vSwitch Policy: (not required)

Verification

Leaf

```
Leaf-1# show lldp neighbors
```

Capability codes:

(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device

(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:72

```
Leaf-1# show int brief | grep 1/11
```



```
Eth1/11      0      eth trunk up none      10G(D)      - << No PC ID
```

```
*****
```

```
Leaf-2# show lldp neighbors
```

```
Capability codes:
```

```
(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
```

```
(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
```

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:72

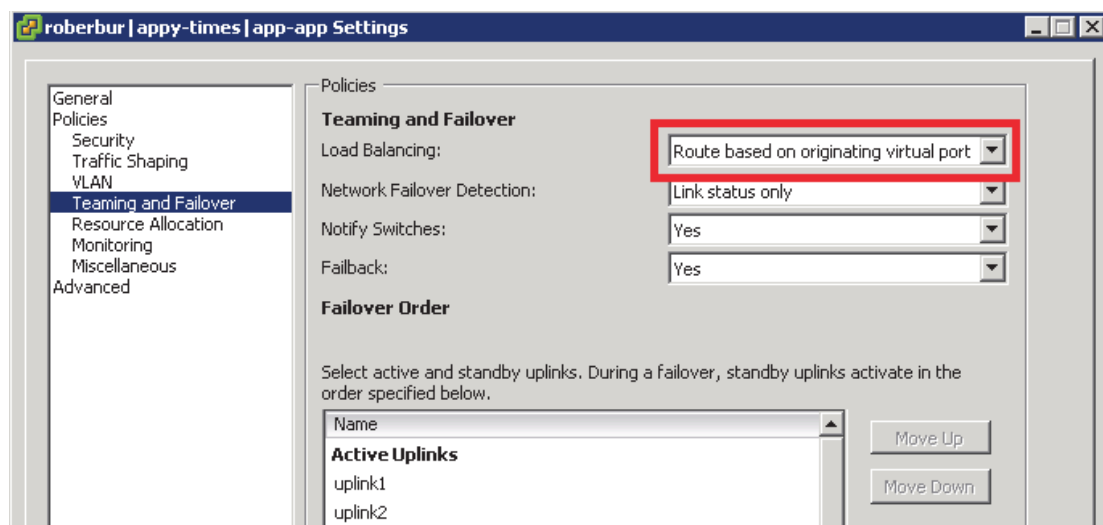
```
Leaf-2# show int brief | grep 1/11
```

```
Eth1/11      0      eth trunk up none      10G(D)      - << No PC ID
```

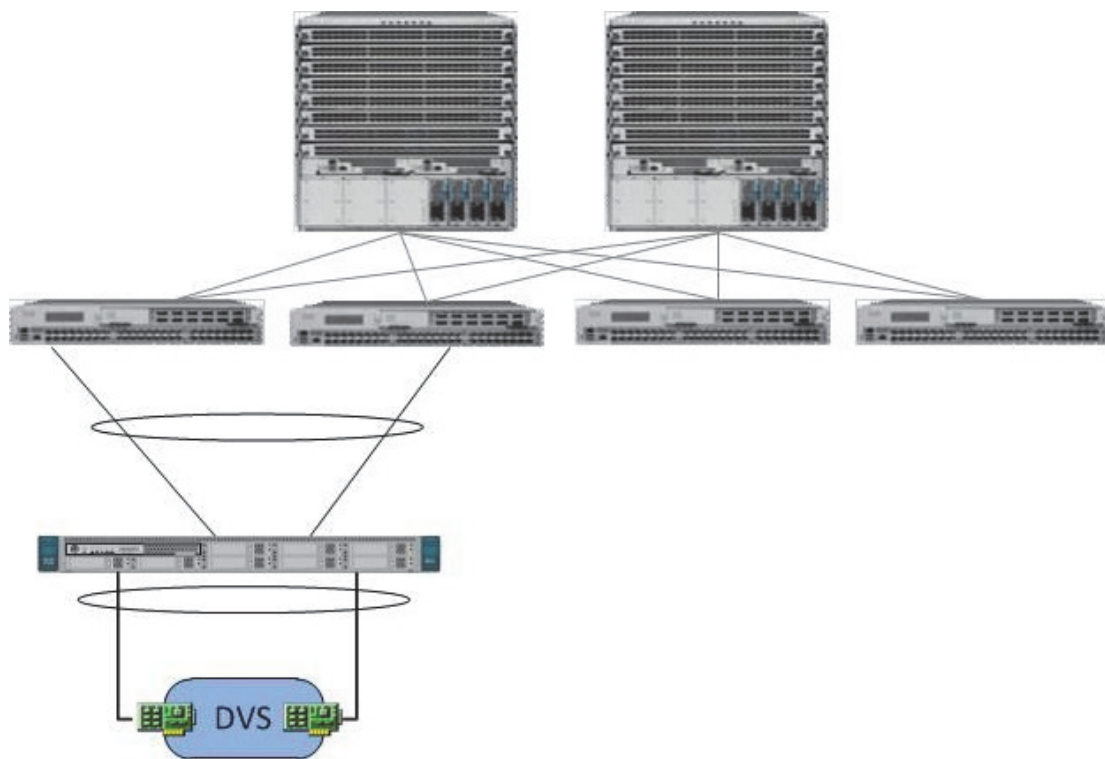
vCenter

1. Navigate to **Home - Inventory - Networking**
2. Expand your DVS Folder
3. Select one of your **Port Groups/EPGs**, right-click and select **Edit Settings...**
4. Highlight **Teaming & Failover**
5. Load Balancing field should display "**Route based on originating virtual port**"

****Do not manually change this setting. This configuration is pushed by the APIC. If not correct check the Interface Policy or vSwitch Policy configuration.**



Topology 8 - Vmware DVS Running on Rack Server, Uplinks Channeled



ACI Configuration

Interface Policies (Needs to be a VPC Interface Policy Group):

- CDP: Enabled

or

- LLDP: Enabled
- Port Channel Policy: LACP **Active** (or **On** for Static Port Channel)*

*When using Static Port channels, LACP will show as **Disabled** from the Webclient verification - below

AEP:

- Infra VLAN: Disabled
- vSwitch Policy: **(not required)**

Verification

Leaf

```
Leaf-1# show lldp neighbor
```

Capability codes:

(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device

(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:73

```
Leaf-1# show int brief | grep 1/11
```

```
Eth1/11      0      eth trunk up none                10G(D)      3 << VPC to Server
```

```
Leaf-1# show vpc brief
```

```
<snip>
```

```
vPC Peer-link status
```

```
-----
```

id	Port	Status	Active vlans
1		up	-

```
vPC status
```

```
-----
```

id	Port	Status	Consistency	Reason	Active vlans
1	Po3	up	success	success	305,310,313 << VPC to Server ,318

```
*****
```

```
Leaf-2# show lldp neighbor
```

```
Capability codes:
```

```
(R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
```

```
(W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
```

Device ID	Local Intf	Hold-time	Capability	Port ID
apic1	Eth1/1	120		f4:4e:05:f7:0c:17
apic2	Eth1/2	120		a0:ec:f9:44:e0:98
apic3	Eth1/3	120		88:1d:fc:4f:fd:db
C200-M3	Eth1/11	180	B	00:50:56:55:51:73

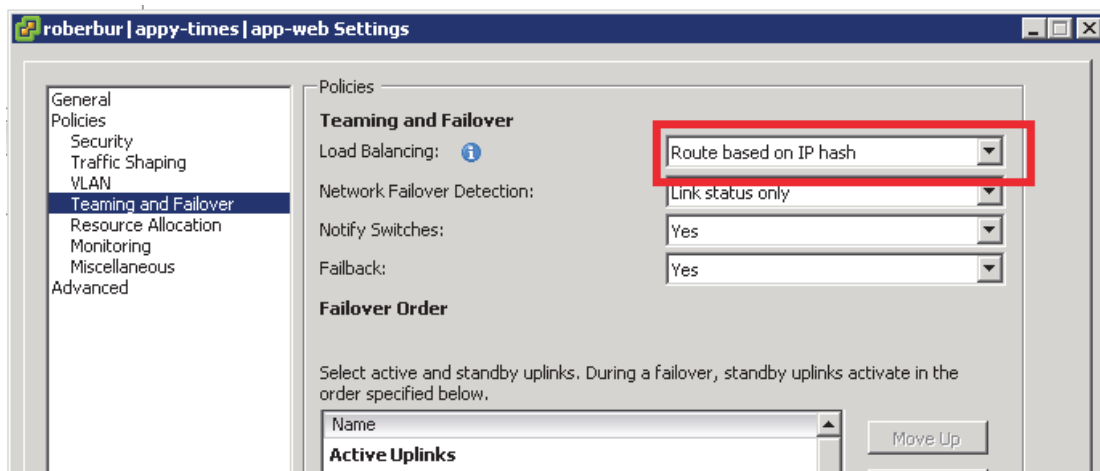
```
Leaf-2# show int brief | grep 1/11
```

```
Eth1/11      0      eth trunk up none                10G(D)      3 << VPC to Server
```

vCenter

1. Navigate to **Home - Inventory - Networking**
2. Expand your DVS Folder
3. Select one of your **Port Groups/EPGs**, right-click and select **Edit Settings...**
4. Highlight **Teaming & Failover**
5. Load Balancing field should display "**Route based on IP hash**"

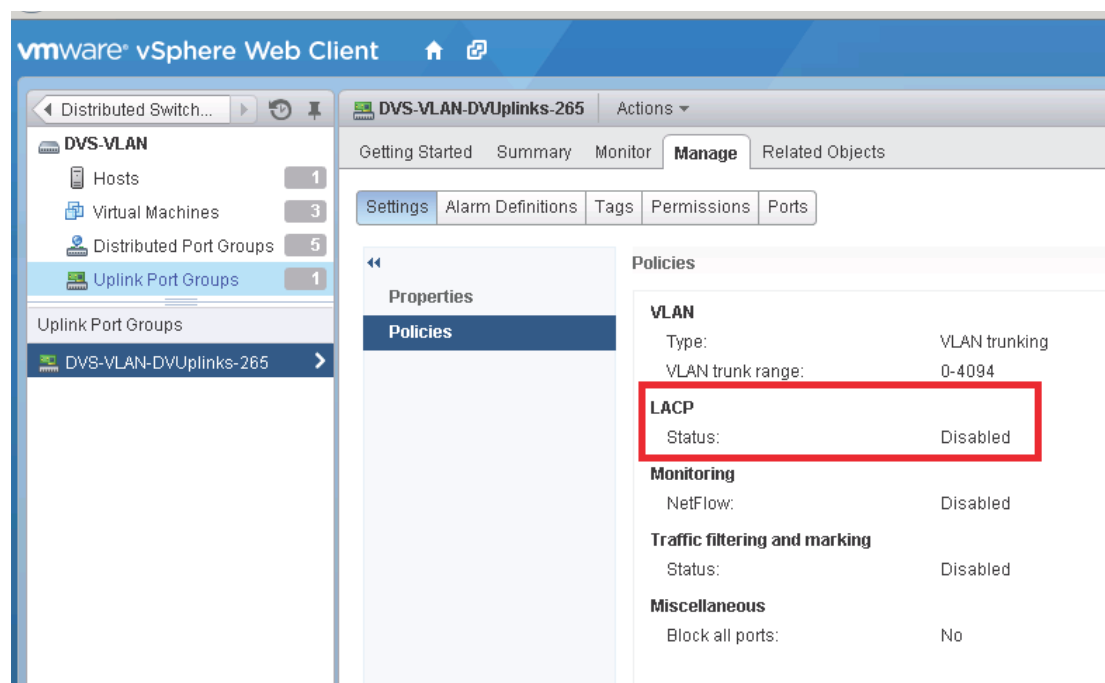
****Do not manually change this setting. This configuration is pushed by the APIC. If not correct check the Interface Policy or vSwitch Policy configuration.**



6. To Verify if LACP is enable/Disable you'll need the Web Client.

- From the Home view click on **Distributed Switches**
- Click on your VMware DVS managed by the APIC, then click the > arrow to expand the options.
- Click on **Uplink Port Groups**. In the lower pane, select the DVS uplink Port Group **[DVS_Name]-DVUplinks-xxx**
- In the right pane click on **Manage**, then **Settings**, then **Policies**.
- LACP** setting will be shown as **Disabled** or **Enabled** - which should match the Interface Policy or vSwitch policy configured on the APIC

****Do not change LACP manually, if it's its not correct, adjust your Interface Policies/vSwitch Policy on ACI instead.**



Comments