

Nexus 7000:在中繼埠上使用VLAN轉換配置OTV VLAN對映

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簡介

從Cisco NX-OS版本6.2(2)開始，您可以將本地站點上的VLAN對映到遠端站點上具有不同VLAN ID的VLAN。當跨站點對映具有不同VLAN ID的兩個VLAN時，它們會被對映到稱為傳輸VLAN的公共VLAN。例如，將站點A上的VLAN 1對映到站點B上的VLAN 2時，兩個VLAN都會對映到傳輸VLAN。來自站點A上VLAN 1的所有流量都轉換為來自傳輸VLAN的流量。所有從傳輸VLAN到達站點B的流量都會轉換為VLAN 2。

本文提供在OTV上完成Vlan對映的配置示例。

配置OTV間VLAN轉換的方法有兩種：

- 1.中繼埠 (OTV內部介面) 上的VLAN轉換。
- 2.在Overlay上配置的VLAN轉換 (F3模組目前不支援)。

本文討論第一種方法 — 中繼埠 (OTV內部介面) 上的VLAN轉換。

第二種方法包含在單獨的檔案中。

必要條件

需求

思科建議您瞭解以下主題：

- OTV
- 虛擬連線埠通道(vPC)

採用元件

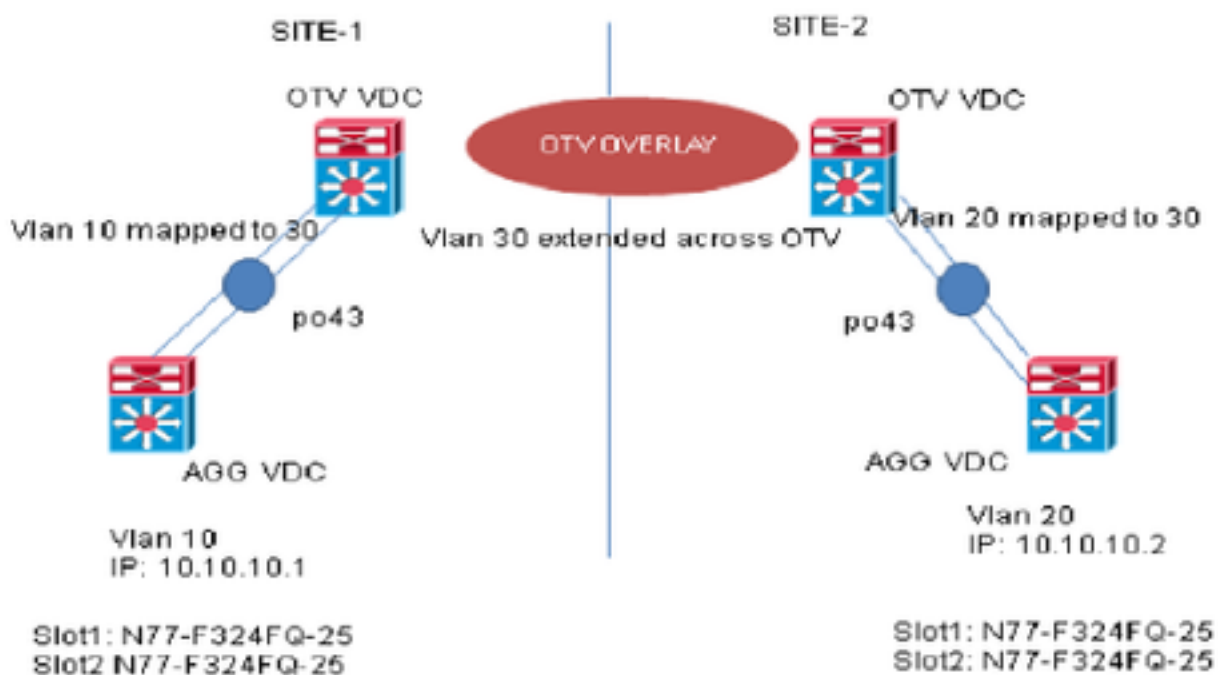
本文檔中的資訊基於以下內容

- 帶有Supervisor 2模組的Cisco Nexus 7000系列交換機。
- F3線卡
- 軟體版本：7.3(0)DX(1)

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

網路圖表



組態

您可以在輸入VLAN和連線埠上的本地VLAN之間設定VLAN轉譯。到達輸入VLAN的流量會對映到主干連線埠入口處的本地VLAN，在內部使用轉換後的VLAN ID標籤的流量會在離開交換器連線埠前對映回原始VLAN ID。此配置方法沒有OTV依賴關係。

SITE-1:

AGG VDC:

```
interface port-channel43
switchport
switchport mode trunk
switchport trunk allowed vlan 10
mtu 9216
```

```
interface Vlan10
```

```
no shutdown
ip address 10.10.10.1/24
```

OTV VDC:

```
N7K-Site-1-OTV# sh port-channel summary interface po43
```

```
Flags: D - Down P - Up in port-channel (members)
```

```
I - Individual H - Hot-standby (LACP only)
```

```
s - Suspended r - Module-removed
```

```
b - BFD Session Wait
```

```
S - Switched R - Routed
```

```
U - Up (port-channel)
```

```
M - Not in use. Min-links not met
```

```
-----
Group Port- Type Protocol Member Ports
Channel
-----
```

```
43 Po43(SU) Eth LACP Eth1/23(P) Eth2/23(P)
```

```
//vlan 10 is the local vlan and it will be mapped to vlan 30(transport vlan).
```

```
//Transport vlan is only defined in the OTV VDC.
```

```
interface port-channel43
```

```
switchport
```

```
switchport mode trunk
```

```
switchport vlan mapping enable >> This command shows up only under member ports config all
```

```
switchport vlan mapping 10 30 >> Mapping vlan 10 to vlan 30
```

```
switchport trunk allowed vlan 30
```

```
mtu 9216
```

```
interface Overlay0
```

```
description Overlay trunk to DCI
```

```
otv join-interface port-channelXX
```

```
otv control-group X.X.X.X
```

```
otv data-group X.X.X.X
```

```
otv extend-vlan 30
```

SITE-2:

AGG VDC:

```
interface port-channel43
```

```
switchport
```

```
switchport mode trunk
```

```
switchport trunk allowed vlan 20
```

```
mtu 9216
```

```
interface Vlan20
```

```
no shutdown
```

```
ip address 10.10.10.2/24
```

OTV VDC:

```
N7K-Site-2-OTV# sh port-channel summary interface po43
```

```
Flags: D - Down P - Up in port-channel (members)
```

```
I - Individual H - Hot-standby (LACP only)
```

```
s - Suspended r - Module-removed
```

```
b - BFD Session Wait
```

```
S - Switched R - Routed
```

```
U - Up (port-channel)
```

```
M - Not in use. Min-links not met
```

Group Port- Type Protocol Member Ports
Channel

43 Po43(SU) Eth LACP Eth1/23(P) Eth2/23(P)

//Vlan 20 is the local vlan and it will be mapped to vlan 30(transport vlan)
//Transport vlan is only defined in the OTV VDC

```
interface port-channel43
switchport
switchport mode trunk
switchport vlan mapping enable >> This command shows up only under member port config all
switchport vlan mapping 20 30 >> Mapping vlan 20 to vlan 30
switchport trunk allowed vlan 30
mtu 9216
```

```
interface Overlay0
description Overlay trunk to DCI
otv join-interface port-channelXX
otv control-group X.X.X.X
otv data-group X.X.X.X
otv extend-vlan 30
```

驗證

N7K-Site1-OTV# show interface port-channel 43 vlan mapping

Interface Po43:

Original VLAN	Translated VLAN
-----	-----
10	30

N7K-Site1-otv# show vlan internal info mapping | inc Po43 next 6

ifindex Po43(0x1600002a)

vlan mapping enabled: TRUE

vlan translation mapping information (count=1):

Original Vlan	Translated Vlan
-----	-----
10	30

N7K-Site1-AGG# sh mac address-table vlan 10

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

-----+-----+-----+-----+-----+-----+-----

G 10 8c60.4fac.b9c2 static - F F sup-eth1(R)

* 10 8c60.4f89.71c2 dynamic ~~~ F F Po43 <----- Remote Vlan 20 mac address learned in vlan 10
in AGG VDC

N7k-Site1-OTV# sh otv route vlan 10

OTV Unicast MAC Routing Table For Overlay0

VLAN MAC-Address Metric Uptime Owner Next-hop(s)

30 8c60.4f89.71c2 42 2d20h overlay F340.22.11-N77-C7706-1-otv <----- Remote Vlan 20 MAC showing

up as Vlan 30 MAC in OTV VDC

*30 8c60.4fac.b9c2 1 2d20h site port-channel43 <----- Local Vlan 10 MAC showing up as Vlan 30
MAC in OTV VDC*

參考

[OTV配置指南](#)

[一般VLAN轉換配置指南](#)