在使用NX-OS的vPC中，在Nexus交換機上安裝升級

目錄

簡介

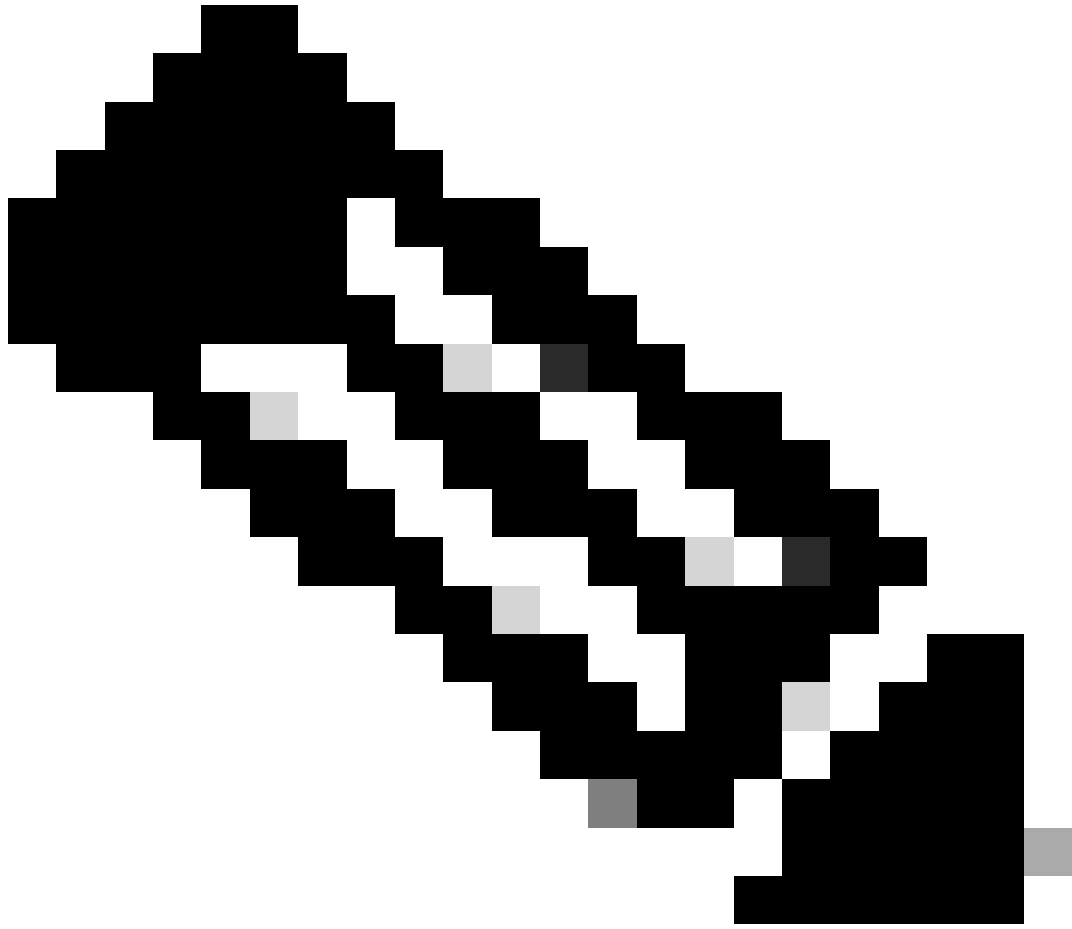本文檔介紹使用Cisco NX-OS的vPC中Cisco Nexus 9000交換機的升級過程。

必要條件

需求

思科建議您瞭解以下主題：

- Nexus NX-OS軟體。
- 虛擬連線埠通道(vPC)。
- 使用Cisco Nexus交換機上的裝置檔案系統、目錄和檔案。
- 登入軟體下載。
- Cisco建議安排一個維護窗口，因為此過程具有中斷性。

採用元件

本文中的資訊係根據以下軟體和硬體版本：
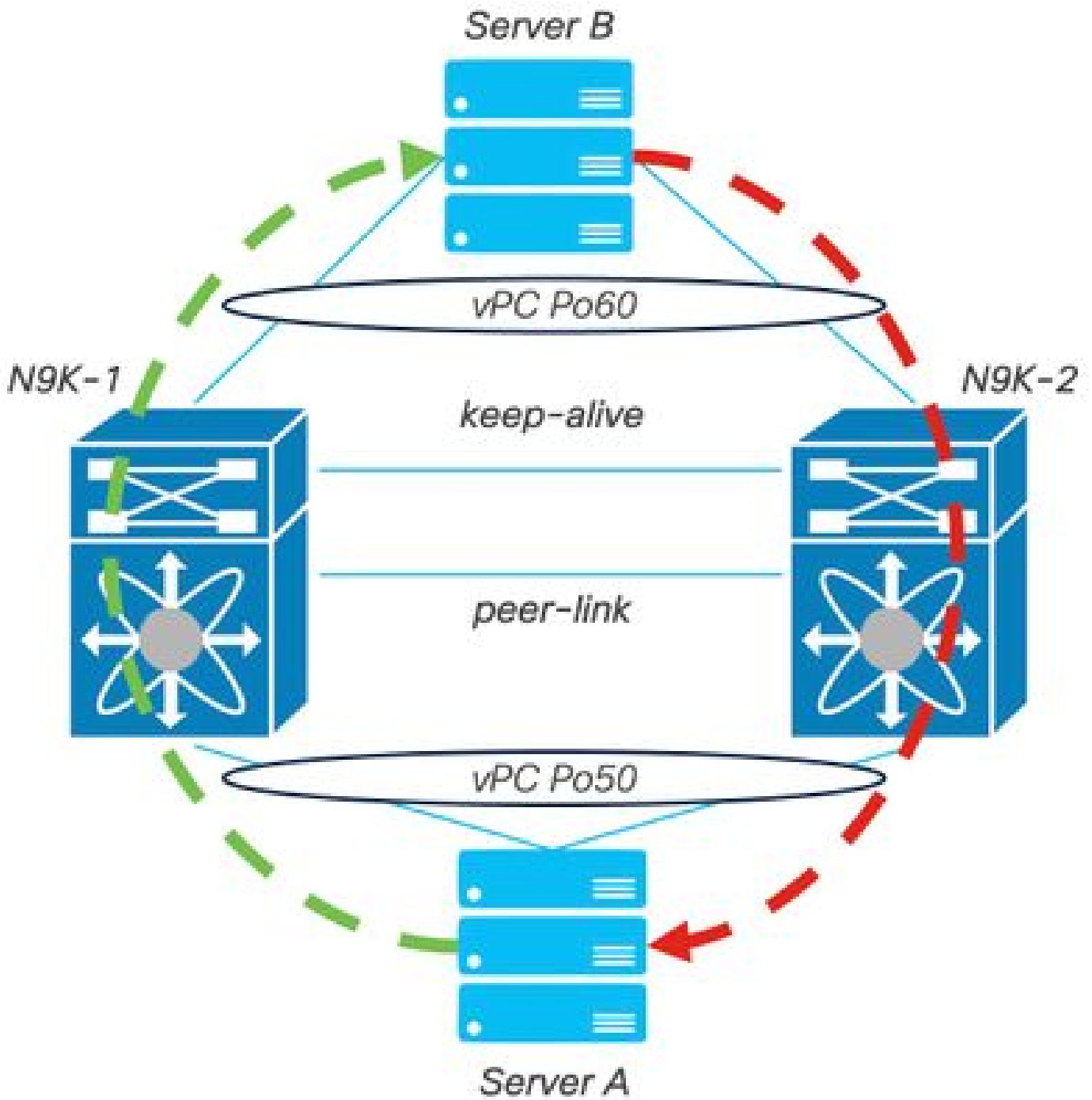
- Cisco Nexus 9000和Cisco NX-OS。

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。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

注意：雖然命令和輸出可能不同，但Cisco Nexus 7000交換機的升級過程可基於本文檔進行。有關更多資訊，請查閱特定於您的Cisco Nexus交換機的官方Cisco指南。

設定

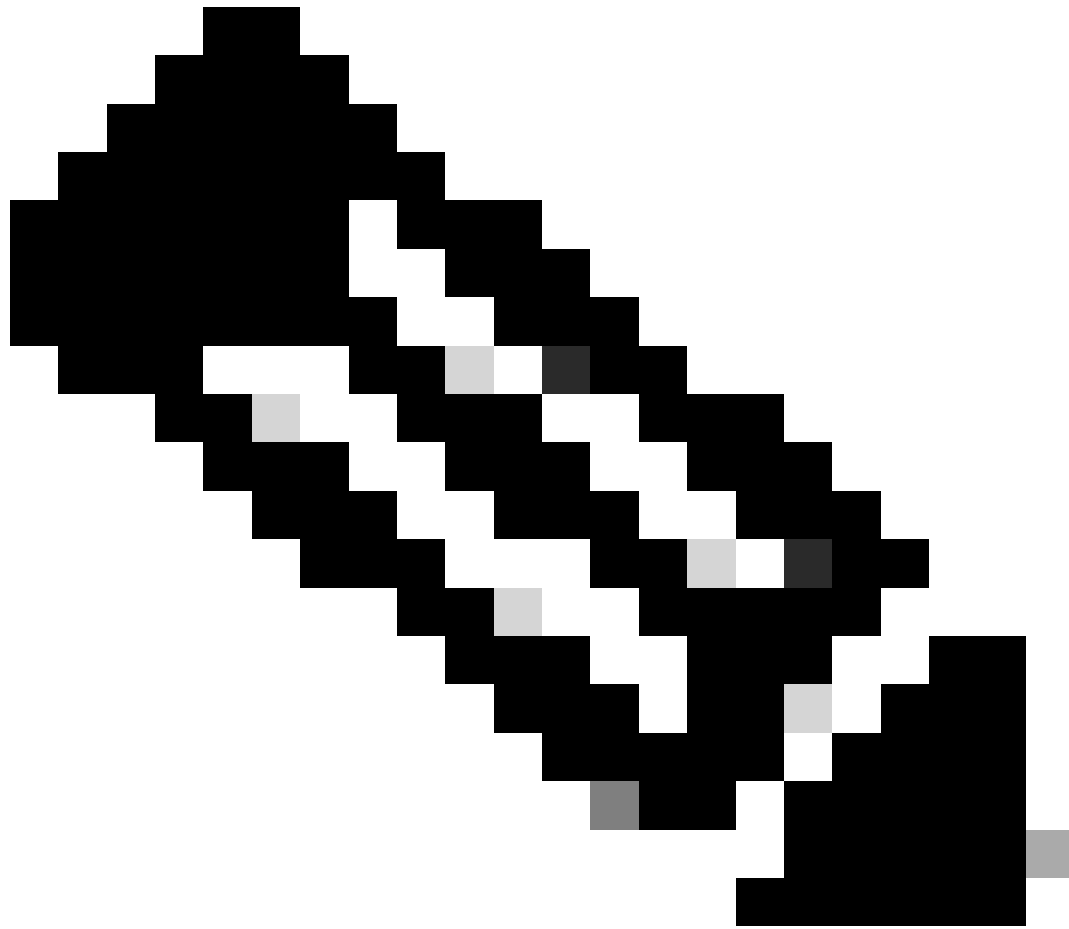網路圖表

網路圖表

背景資訊

- 假設您是資料中心的網路管理員，其中有兩部N9K-C93180YC-FX-24。
- N9K-1和N9K-2具有NX-OS 9.3(11)。
- 伺服器A和B正在傳送生產流量。
- 目標是將兩台Nexus交換機升級到NX-OS 10.2(5)。

註：從主交換機或輔助交換機開始升級不會產生任何功能區別。但是，與主交換機一起啟動可確保兩台裝置都恢復其最初配置的主角色和輔助角色。 儘管瞭解Nexus在vPC中作為運營主要功能的一些功能非常重要。

vPC運行主要任務

- 即使使用FHRP，仍應答ARP請求。
- 處理網橋協定資料單元(BPDU)。
- 轉發PIM組播流量。
- IGMP的控制平面資料包。
- 對等鏈路關閉時vPC成員埠不關閉。

升級方法

步驟 1.打開的Cisco Nexus 9000和3000 ISSU支援表

1. 選擇當前版本。
2. 選擇目標版本。

Cisco Nexus 9000 and 3000 ISSU Support Matrix

This form provides information for In-Service Software Upgrade (ISSU) support for Cisco NX-OS software on Nexus 9000 Series and 3000 Series Switches based on your current and target release. The upgrade releases have been tested and validated by Cisco, Cisco partners, or both. Use this form as a reference for supported software.

For feedback on this tool, send email to nexus9k-docfeedback@cisco.com.

NOTE: ISSU is not supported for software downgrades. If you want to downgrade your software, follow the disruptive downgrade procedure described in the Upgrade and Downgrade Guide for your target release. For NXOS software strategy and lifecycle, see the Cisco NX-OS Software Strategy and Lifecycle Guide.

Current release   9.3(11)   ⌄

Target release   10.2(5)M   ⌄

Current release: 9.3(11)

Target release: 10.2(5)M

Recommended path: Direct path from Current Release. [Show Alternate Paths]

Cisco Nexus 9000和3000 ISSU支援表
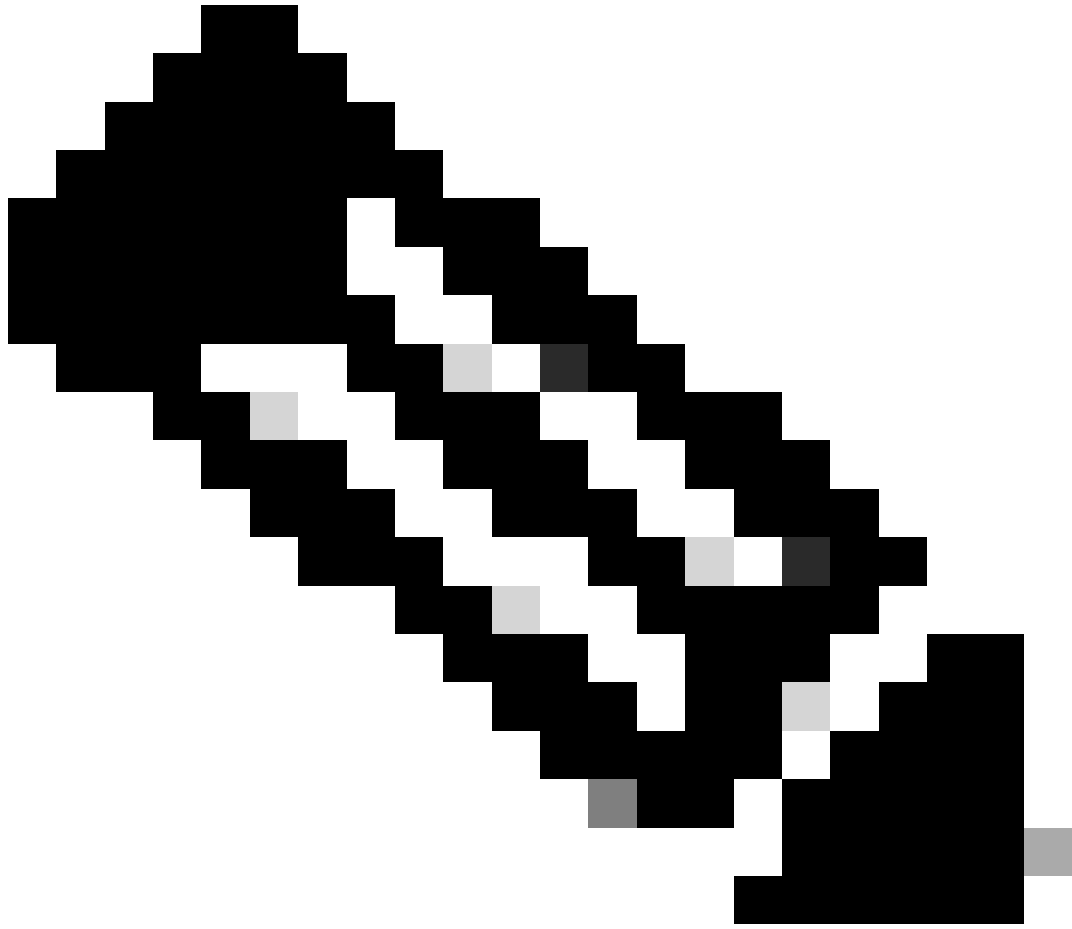
注意：Cisco TAC建議您始終將中斷（重新載入）升級選項與建議路徑一起使用。

注意：建議的路徑可以顯示多個跳躍。對於每一跳，必須重複步驟2至11，直到兩個Cisco Nexus交換機都擁有目標NX-OS版本。

步驟 2.根據您的Cisco Nexus交換機線路卡，下載建議路徑中列出的所有思科NX-OS檔案。

1. 登入軟體下載
2. 導航到下載和升級部分並打開訪問下載。
3. 點選Browse all > Cisco IOS and NX-OS Software > NX-OS Software > Switches > Data Center Switches > Select your Nexus series > Select your linecard > NX-OS System Software > Select NX-OS version to download。
4. 將游標移至檔案名稱上方以顯示檔案詳細資訊、複製MD5總和檢查碼值並下載NX-OS檔案。

軟體下載

5. 透過SCP、SFTP、TFTP或USB將NX-OS檔案傳輸到vPC中的兩個Cisco Nexus交換機上的 bootflash。 如果選擇了前三個選項之一,則透過指定期望的VRF來檢驗是否對伺服器執行 ping操作。在本例中,SFTP伺服器可透過虛擬路由轉發(VRF)管理訪問IP地址192.168.9.9。

```
N9K-1(config)# ping 192.168.9.9 vrf management

N9K-1(config)# copy sftp: bootflash:
Enter source filename: nxos64-cs.10.2.5.M.bin
Enter vrf (If no input, current vrf 'default' is considered): management
Enter hostname for the sftp server: 192.168.9.9
Enter username: admin
The authenticity of host '192.168.9.9 (192.168.9.9)' can't be established.
RSA key fingerprint is SHA256:ABCDEFGHIJK.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.9.9' (RSA) to the list of known hosts.
Inbound-ReKey for 192.168.9.9
User Access Verification
Password: cisco
```

6. 檔案傳輸完成後,使用dir命令驗證NX-OS檔案是否在bootflash中。
7. 使用show file bootflash命令從NX-OS檔案獲取MD5校驗和。
8. 將此值與從軟體下載複製的值進行比較。 兩個值都必須匹配,否則NX-OS檔案已損壞或無效
。

```
N9K-1(config)# dir | include nxos
 1978203648    Mar 31 01:36:06 2023  nxos.9.3.11.bin
 1943380992    Mar 17 09:54:16 2023  nxos64-cs.10.2.5.M.bin
Usage for bootflash://
20548902912 bytes used
96040308736 bytes free
116589211648 bytes total
```

```
N9K-1(config)# show file bootflash:nxos64-cs.10.2.5.M.bin md5sum
2f60a186cb9c2d55c90086302e51f655
```

步驟 3.確定每個Cisco Nexus交換機在vPC中的操作角色。

1. 使用命令show vpc role。

```
N9K-1(config)# show vpc role

vPC Role status
----------------------------------------
vPC role                      : primary
Dual Active Detection Status  : 0
vPC system-mac                : 00:23:04:ee:be:01
vPC system-priority           : 32667
vPC local system-mac          : 44:b6:be:11:17:67
vPC local role-priority       : 32667
vPC local config role-priority : 32667
vPC peer system-mac           : f8:a7:3a:4e:40:07
vPC peer role-priority        : 32667
vPC peer config role-priority : 32667
```

```
N9K-2(config)# show vpc role

vPC Role status
----------------------------------------
vPC role                      : secondary
Dual Active Detection Status  : 0
vPC system-mac                : 00:23:04:ee:be:01
vPC system-priority           : 32667
vPC local system-mac          : f8:a7:3a:4e:40:07
vPC local role-priority       : 32667
vPC local config role-priority : 32667
vPC peer system-mac           : 44:b6:be:11:17:67
vPC peer role-priority        : 32667
vPC peer config role-priority : 32667
```

步驟 4.驗證vPC中兩個Cisco Nexus交換機上的Cisco NX-OS的不相容性。

1. 使用命令show incompatibility-all nxos bootflash。

```
N9K-1(config)# show incompatibility-all nxos bootflash:nxos64-cs.10.2.5.M.bin
Checking incompatible configuration(s) for vdc 'N9K-1':
--------------------------------------------------------
No incompatible configurations

Checking dynamic incompatibilities:
----------------------------------
```

```
No incompatible configurations
```

步驟 5.驗證Cisco NX-OS對vPC中的兩台Cisco Nexus交換機的影響。

1. 使用命令show install all impact nxos bootflash。這將執行初步診斷，以驗證Cisco NX-OS版本是否相容以及是否可以安裝。

```
N9K-1(config)# show install all impact nxos bootflash:nxos64-cs.10.2.5.M.bin
Installer will perform impact only check. Please wait.

Verifying image bootflash:/nxos64-cs.10.2.5.M.bin for boot variable "nxos".
[##################] 100% -- SUCCESS

Verifying image type.
[##################] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos64-cs.10.2.5.M.bin.
[##################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos64-cs.10.2.5.M.bin.
[##################] 100% -- SUCCESS

Performing module support checks.
[##################] 100% -- SUCCESS

Notifying services about system upgrade.
[##################] 100% -- SUCCESS

Compatibility check is done:
Module  bootable          Impact  Install-type  Reason
------  --------  --------------  ------------  ------
     1       yes      disruptive          reset  default upgrade is not hitless

Images will be upgraded according to following table:
Module       Image                    Running-Version(pri:alt)            New-Version  Upg-Required
------  ----------  ---------------------------------------  --------------------
     1        nxos                                   9.3(11)                               10.2(5)
     1        bios   v05.47(04/28/2022):v05.43(11/22/2020)   v05.47(04/28/2022)              no

Additional info for this installation:
--------------------------------------

Service "vpc" in vdc 1: Vpc is enabled, Please make sure both Vpc peer switches have same boot mode usi
```

步驟6（可選）。從vPC中的兩個Cisco Nexus交換機導出運行配置的備份。

```
N9K-1(config)# copy running-config sftp:running-config-backup
Enter vrf (If no input, current vrf 'default' is considered): default
Enter hostname for the sftp server: 192.168.9.9
Enter username: admin

The authenticity of host '192.168.9.9 (192.168.9.9)' can't be established.
```

```
RSA key fingerprint is SHA256:ABDCEFGHI.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.9.9' (RSA) to the list of known hosts.
Inbound-ReKey for 192.168.9.9:22
User Access Verification
Password:
Connected to 192.168.9.9.
```

步驟 7.在具有vPC主要角色的Nexus交換機上安裝NX-OS。

1. 使用命令install all nxos bootflash。

```
N9K-1(config)# install all nxos bootflash:nxos64-cs.10.2.5.M.bin
Installer will perform compatibility check first. Please wait.
Installer is forced disruptive

Verifying image bootflash:/nxos64-cs.10.2.5.M.bin for boot variable "nxos".
[####################] 100% -- SUCCESS

Verifying image type.
[####################] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos64-cs.10.2.5.M.bin.
[####################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos64-cs.10.2.5.M.bin.
[####################] 100% -- SUCCESS

Performing module support checks.
[####################] 100% -- SUCCESS

Notifying services about system upgrade.
[####################] 100% -- SUCCESS


Compatibility check is done:
Module  bootable         Impact  Install-type  Reason
------  --------  --------------  ------------  ------
     1       yes       disruptive         reset  default upgrade is not hitless


Images will be upgraded according to following table:
Module      Image                  Running-Version(pri:alt)          New-Version  Upg-Required
------  ----------  ------------------------------------------------------------  
     1       nxos                                    9.3(11)                              10.2(5)
     1       bios     v05.47(04/28/2022):v05.43(11/22/2020)     v05.47(04/28/2022)        no


Additional info for this installation:
--------------------------------------

Service "vpc" in vdc 1: Vpc is enabled, Please make sure both Vpc peer switches have same boot mode usir
```

```
Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)?  [n] y
```

注意：您必須讀取成功，並且沒有任何錯誤。之後，Cisco Nexus交換機將重新啟動，安裝過程可能需要幾分鐘。每台Cisco Nexus交換機上可能有所不同。

步驟 8.等待Cisco Nexus交換機上的狀態變為活動狀態。

1. 使用命令show module。

```
N9K-1(config)# show module
Mod Ports              Module-Type                    Model              Status
--- ----- -------------------------------- ------------------------------ ----------
1   54    24x10/25G/32G + 6x40/100G Ethernet/FC N9K-C93180YC-FX-24   active *

Mod Sw                    Hw    Slot
--- --------------------- ------ ----
```

```
1    9.3(11)                      1.0    NA


Mod  MAC-Address(es)                      Serial-Num
---  ------------------------------------ ----------
1    44-b6-aa-aa-aa-aa to 44-b6-be-bb-bb-bb  ABCDEFGHIJK


Mod  Online Diag Status
---  ------------------
1    Pass


* this terminal session
```
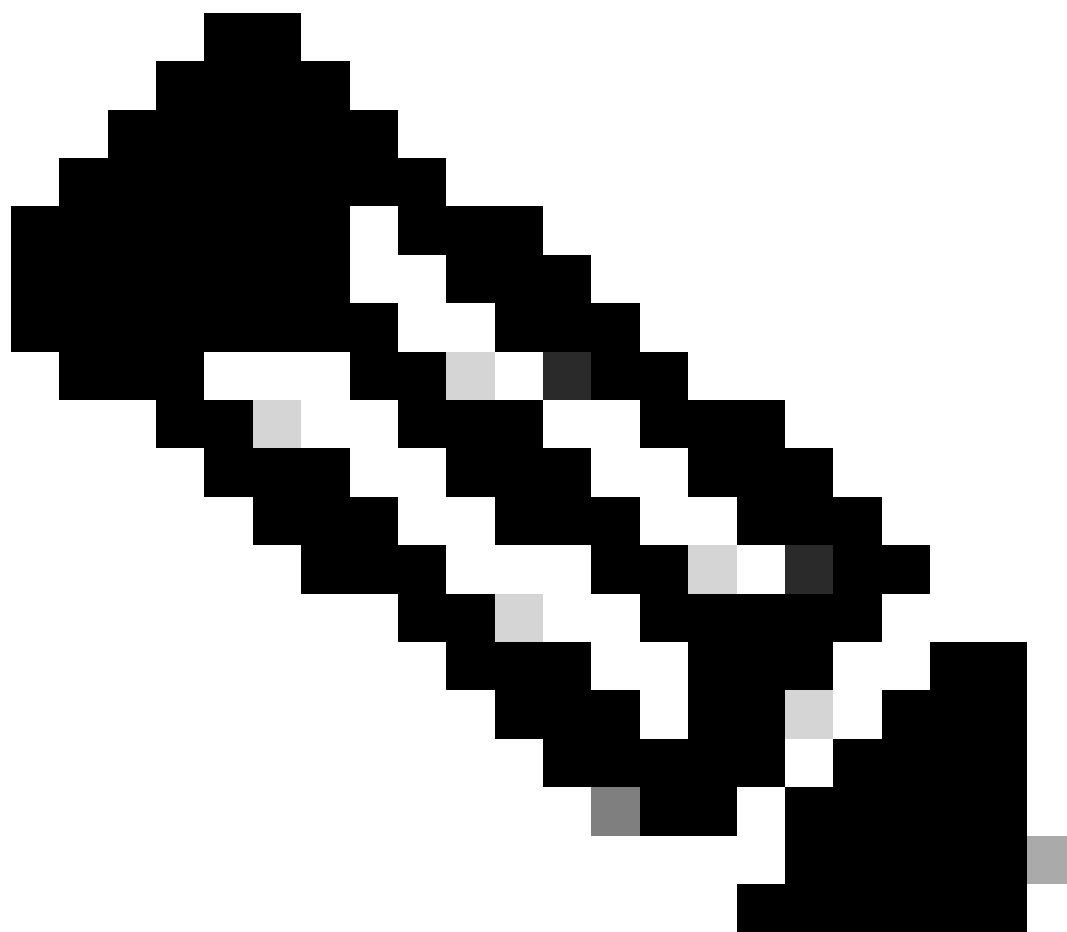

注意：請注意，vPC保持連線和/或對等鏈路可能不能處於UP狀態。這是預期的結果，因為vPC中的Cisco Nexus交換機具有不受支援的不同版本的Cisco NX-OS。

步驟 9.在vPC對等Cisco Nexus交換機上安裝Cisco NX-OS。

```
N9K-2(config)# install all nxos bootflash:nxos64-cs.10.2.5.M.bin
Installer will perform compatibility check first. Please wait.
Installer is forced disruptive

Verifying image bootflash:/nxos64-cs.10.2.5.M.bin for boot variable "nxos".
[##################] 100% -- SUCCESS

Verifying image type.
[##################] 100% -- SUCCESS

Preparing "nxos" version info using image bootflash:/nxos64-cs.10.2.5.M.bin.
[##################] 100% -- SUCCESS

Preparing "bios" version info using image bootflash:/nxos64-cs.10.2.5.M.bin.
[##################] 100% -- SUCCESS

Performing module support checks.
[##################] 100% -- SUCCESS

Notifying services about system upgrade.
[##################] 100% -- SUCCESS


Compatibility check is done:
Module  bootable        Impact  Install-type  Reason
------  --------  --------------  ------------  ------
     1      yes    disruptive          reset  default upgrade is not hitless


Images will be upgraded according to following table:
Module      Image              Running-Version(pri:alt)            New-Version  Upg-Required
------  ----------  ------------------------------------------------------------
     1      nxos                                9.3(11)                              10.2(5)
     1      bios    v05.47(04/28/2022):v05.42(06/14/2020)    v05.47(04/28/2022)         no


Additional info for this installation:
-----------------------------------

Service "vpc" in vdc 1: Vpc is enabled, Please make sure both Vpc peer switches have same boot mode usi


Switch will be reloaded for disruptive upgrade.
Do you want to continue with the installation (y/n)?  [n] y
```

步驟 10.等待Cisco Nexus交換機上的狀態變為活動狀態。

1. 使用命令show module。

```
N9K-2(config)# show module
Mod Ports          Module-Type                        Model            Status
--- ----- ----------------------------------- -------------------- ---------
1    54   24x10/25G/32G + 6x40/100G Ethernet/FC N9K-C93180YC-FX-24    active *
```

```
Mod  Sw                    Hw    Slot
---  --------------------- ------ ----
1    9.3(11)               1.0   NA


Mod  MAC-Address(es)                     Serial-Num
---  ----------------------------------- ----------
1    f8-a7-3a-nn-nn-nn to f8-a7-3a-n1-n1-n1  98765432109

Mod  Online Diag Status
---  -----------------
1    Pass

* this terminal session
```

步驟 11.驗證keep-alive、peer-link和vPC埠通道是否處於UP狀態。

1. 使用命令show vpc。

```
N9K-1(config)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                     : 1
Peer status                       : peer adjacency formed ok
vPC keep-alive status             : peer is alive
Configuration consistency status  : success
Per-vlan consistency status       : success
Type-2 consistency status         : success
vPC role                          : primary
Number of vPCs configured         : 2
Peer Gateway                      : Enabled
Dual-active excluded VLANs        : -
Graceful Consistency Check        : Enabled
Auto-recovery status              : Disabled
Delay-restore status              : Timer is off.(timeout = 30s)
Delay-restore SVI status          : Timer is off.(timeout = 10s)
Operational Layer3 Peer-router     : Enabled
Virtual-peerlink mode             : Disabled

vPC Peer-link status
---------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ ------------------------------------------------
1    Po1    up     1

vPC status
---------------------------------------------------------------
Id   Port        Status Consistency Reason          Active vlans
--   ----------- ------ ----------- ------  ---------------
50   Po50        up     success     success          1

60   Po60        up     success     success          1
```

```
N9K-2(config)# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 1
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
Configuration consistency status : success
Per-vlan consistency status     : success
Type-2 consistency status       : success
vPC role                        : secondary
Number of vPCs configured       : 2
Peer Gateway                    : Enabled
Dual-active excluded VLANs       : -
Graceful Consistency Check       : Enabled
Auto-recovery status            : Disabled
Delay-restore status            : Timer is off.(timeout = 30s)
Delay-restore SVI status         : Timer is off.(timeout = 10s)
Operational Layer3 Peer-router   : Enabled
Virtual-peerlink mode           : Disabled

vPC Peer-link status
---------------------------------------------------------------------
id    Port   Status Active vlans
--    ----   ------ -------------------------------------------------
1     Po1    up     1

vPC status
----------------------------------------------------------------------------
Id    Port         Status Consistency Reason             Active vlans
--    -----------  ------ ----------- ------             --------------
50    Po50         up     success     success            1

60    Po60         up     success     success            1
```

相關資訊

- [思科技術支援與下載](#)