

在採用NX-OS的vPC中的Nexus交換機上安裝升級

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簡介

本文檔介紹在使用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：

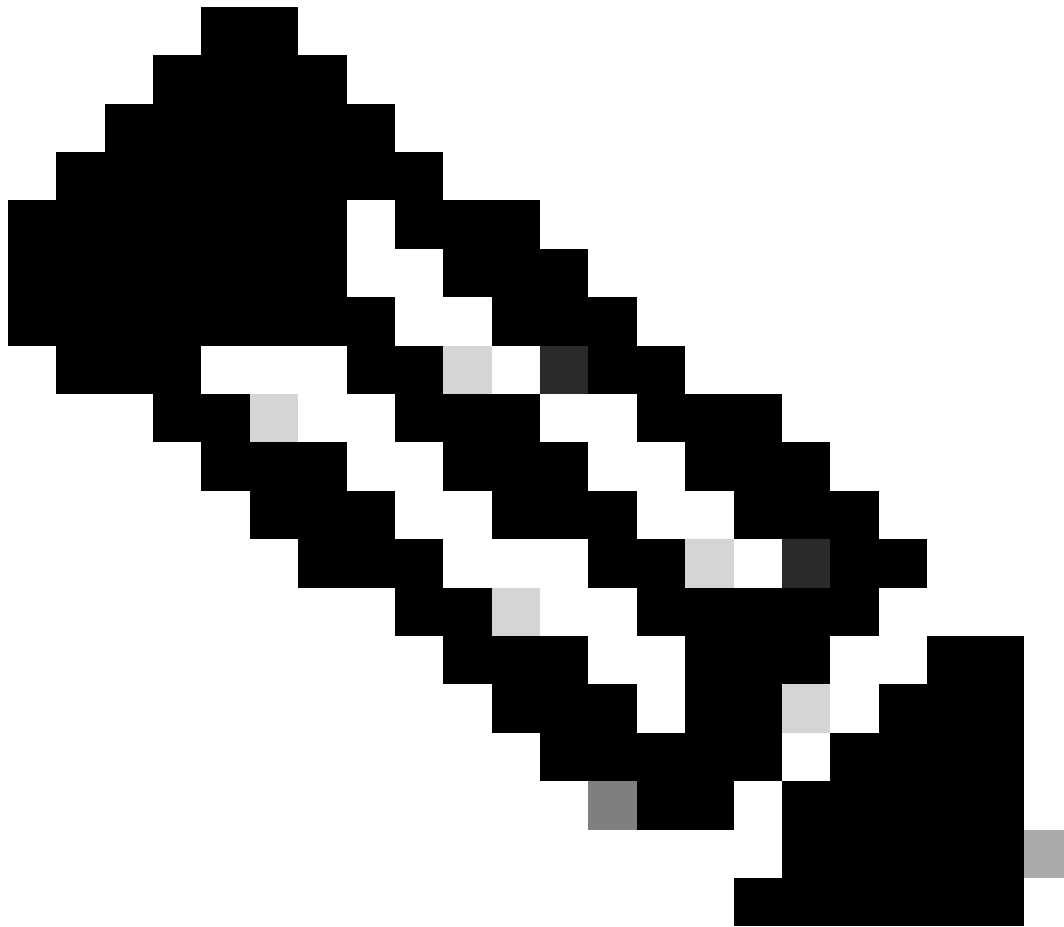
- Nexus NX-OS軟體。
- 虛擬連線埠通道(vPC)。
- 使用Cisco Nexus交換機上的裝置檔案系統、目錄和檔案。
- 登入[軟體下載](#)。
- 思科建議安排維護時段，因為此過程具有中斷性。

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。

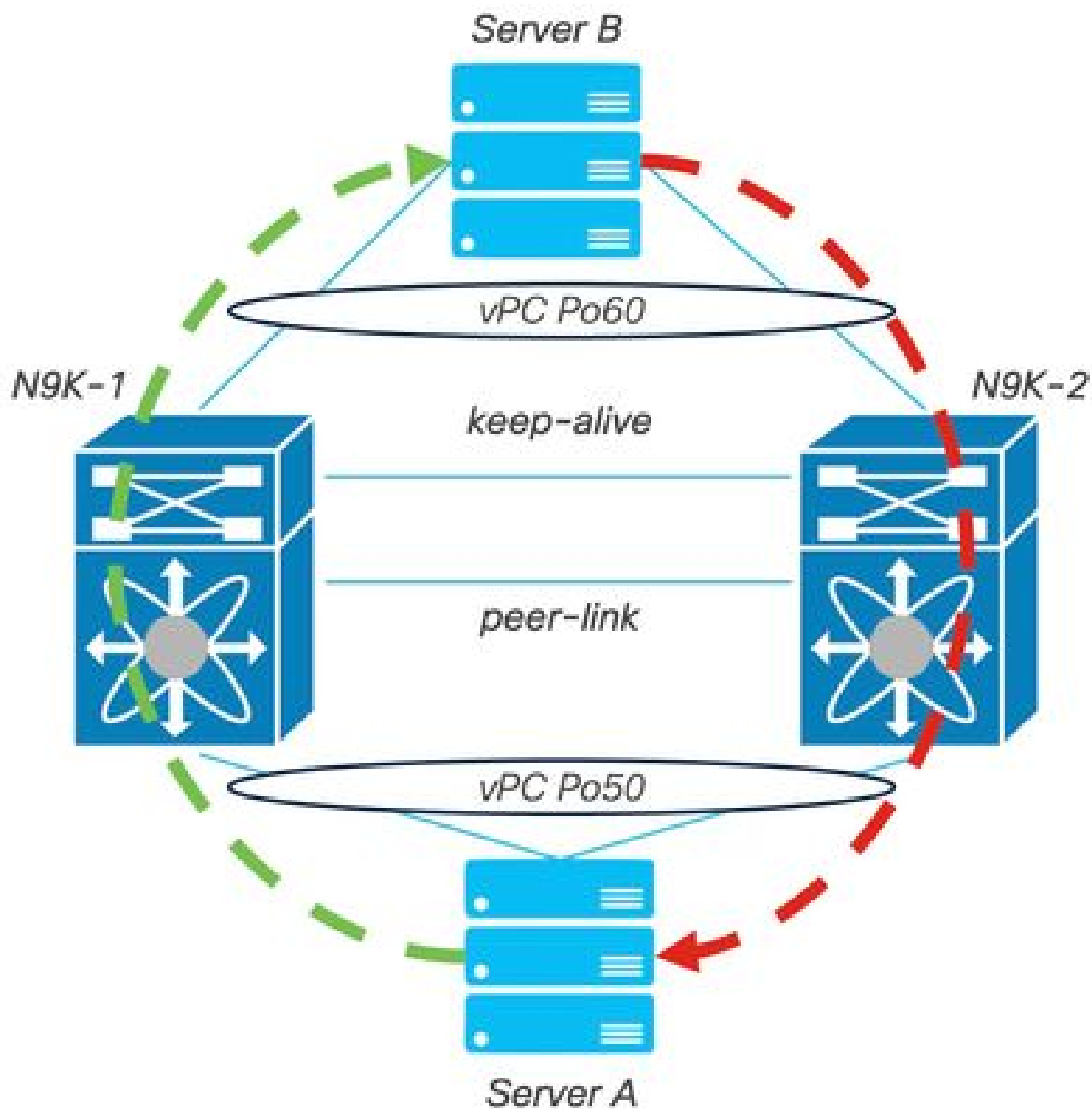
本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。



附註：Cisco Nexus 7000交換機的升級過程可以基於本文檔進行，但命令和輸出可能會有所不同。如需詳細資訊，請參閱特定於Cisco Nexus交換器的官方Cisco指南。

設定

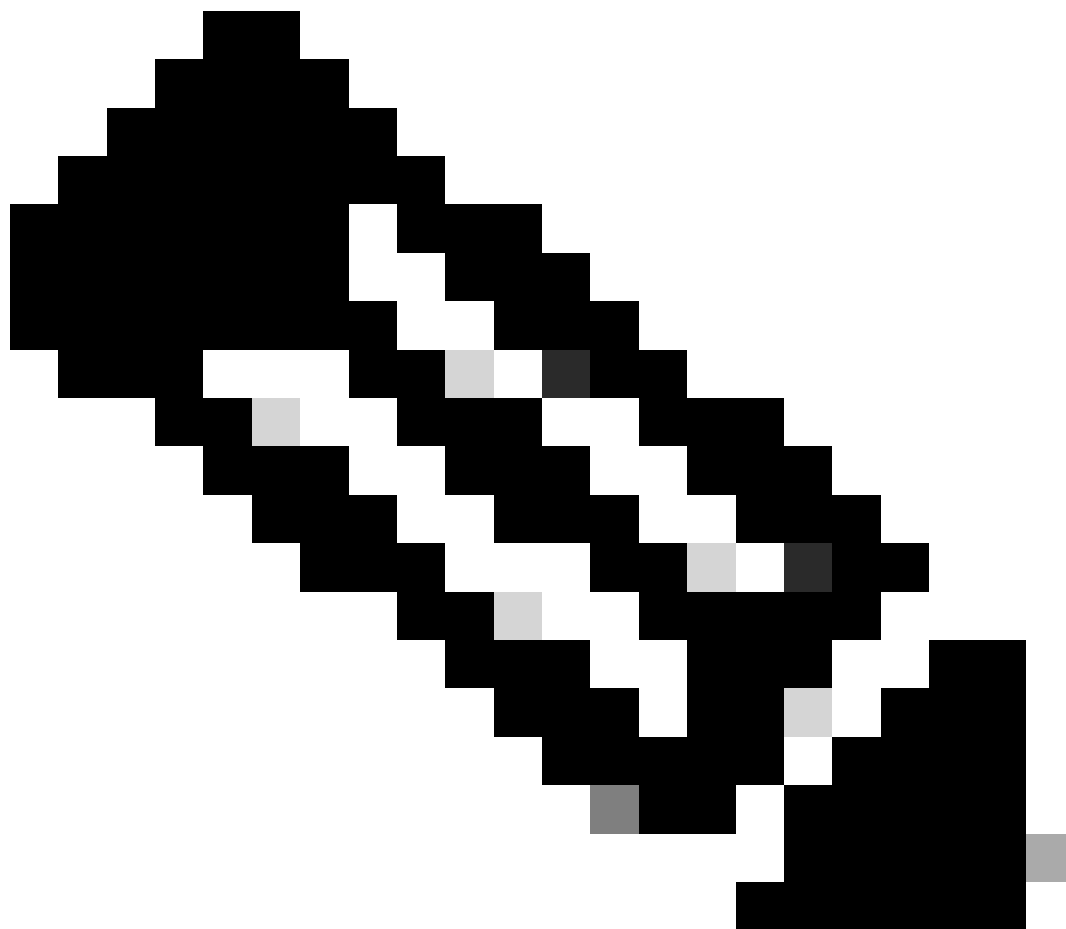
網路圖表



網路圖表

背景資訊

- 假設您是資料中心的網路管理員，而資料中心中有兩個N93180K-C-YC-FX-24。
- N9K-1和N9K-2均採用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)。



附註：從主交換機開始升級，或者從交換機不會產生任何功能區別。但是，啟動主交換機可以確保兩個裝置都恢復其初始配置的主角色和輔助角色。儘管瞭解Nexus的一些功能在vPC中作為操作上的主角色非常重要。

vPC運行的主要任務

- 即使使用FHRP也應答ARP請求。
- 處理橋接協定資料單元(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.開啟[Cisco Nexus 9000和3000 ISSU支援清單](#)

1. 選擇Current release(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](#).

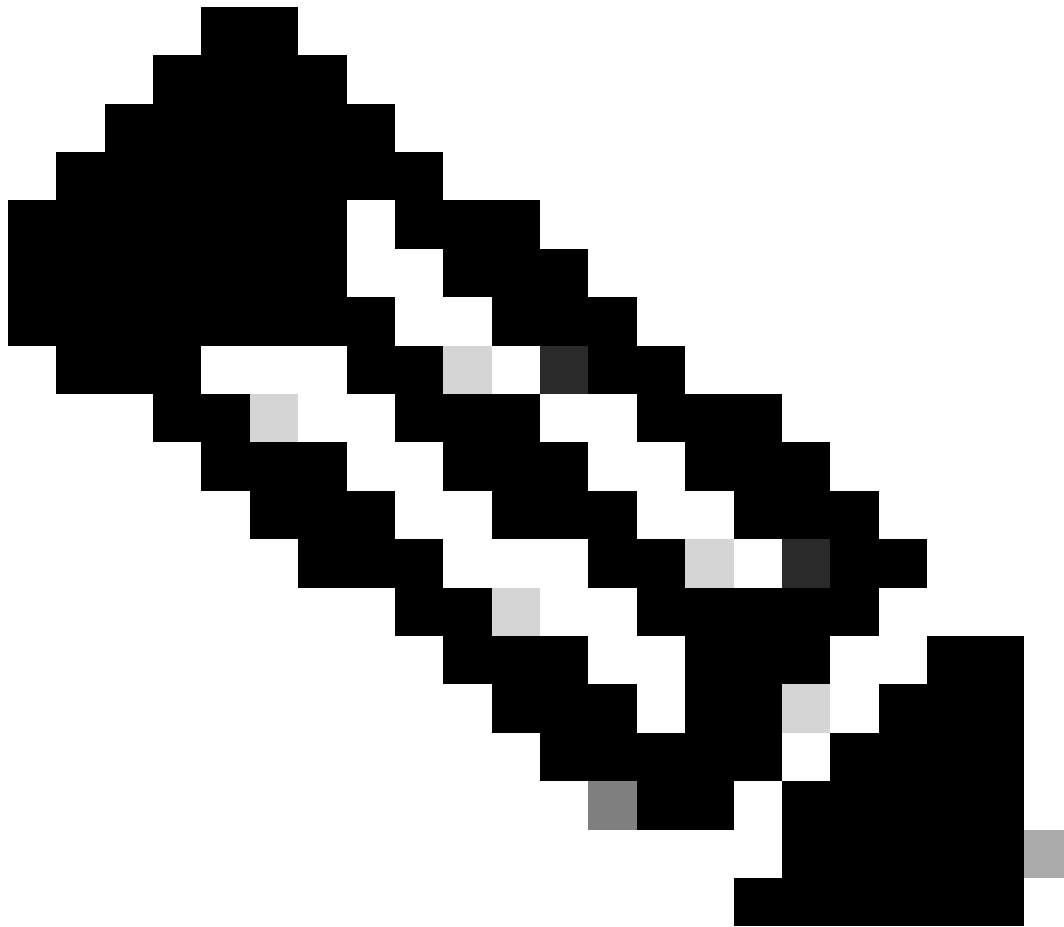
Current release

Target release

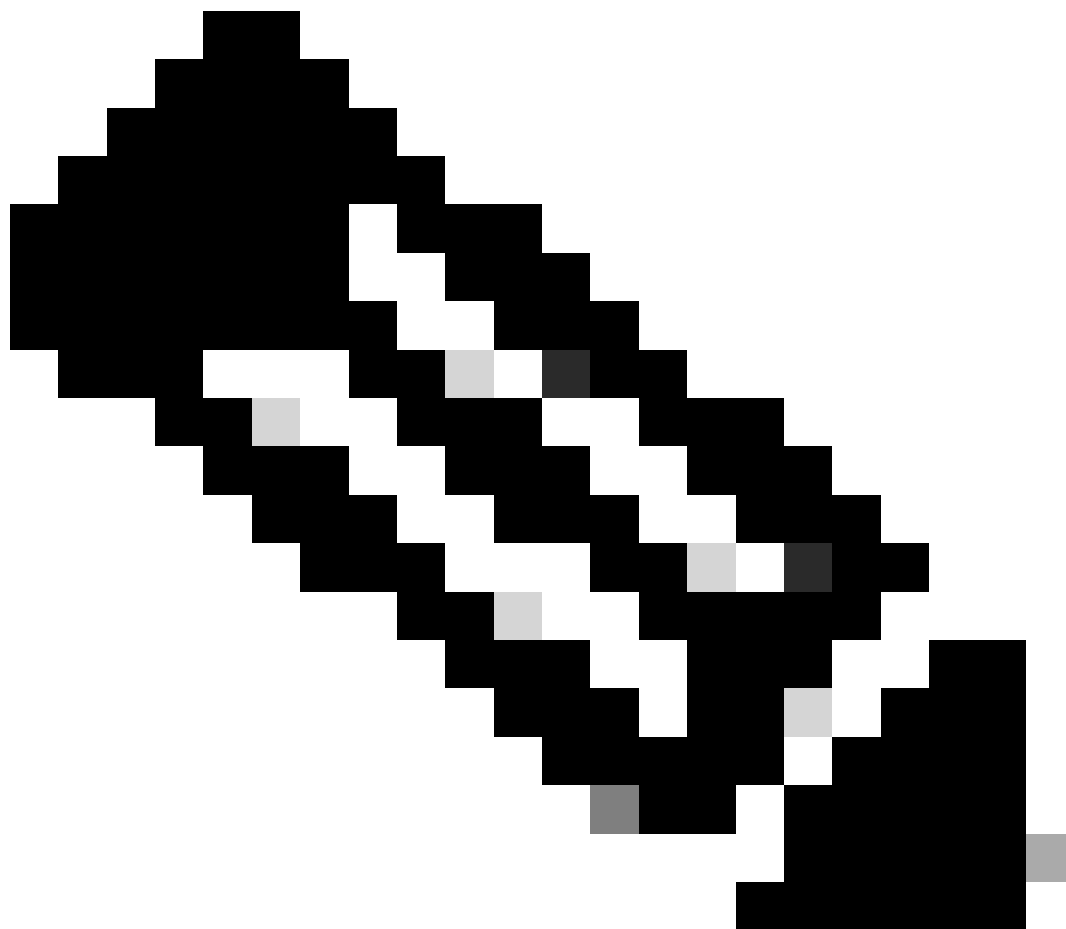
Current release: 9.3(11)

Target release: 10.2(5)M

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



附註：Cisco TAC建議您始終將中斷（重新載入）升級選項與建議的路徑搭配使用。



附註：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，直到兩台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，下載推薦路徑中說明的所有Cisco NX-OS檔案。

1. 登入 [軟體下載](#)
2. 導覽至Download and Upgrade一節，然後開啟Access Downloads。
3. 點選瀏覽All > Cisco IOS and NX-OS Software > NX-OS Software > Switches > Data Center Switches > 選擇您的Nexus系列>選擇您的線卡> NX-OS System Software>選擇要下載的NX-OS版本。
4. 將游標移動到檔名上方以顯示檔案詳細資訊，複製MD5校驗和值並下載NX-OS檔案。

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Software Download

Downloads Home / IOS and NX-OS Software / NX-OS / NX-OS Software / Switches / Data Center Switches / Nexus 9000 Series Switches / Nexus 93180YC-FX-24 Switch

/ NX-OS System Software

Expand All

Latest Release

10.2(6)(M)

10.4(1)(F)

10.3(99x)(F)

9.3(12)

All Release

10

9

Details

Description : Cisco Nexus 9000/3000 Standalone Switch

Release : 10.2(6)

Release Date : 01-Sep-2023

FileName : nxos64-cs.10.2.6.M.bin

Min Memory : DRAM 0 Flash 0

Size : 1890.07 MB (1981878272 bytes)

MD5 Checksum : a7ab27345fb90f654a943d1765df8142

SHA512 Checksum : 4da019c09645bdf06ab78657a46c95db ...

Release Notes for 10.2(6) N3K Release Notes for 10.2(6) N9K Advisories

Switch

Related Links and Documentation

[Release Notes for 10.2\(6\) N9K](#)

[Release Notes for 10.2\(6\) N3K](#)

Release Date	Size
01-Sep-2023	1890.07 MB

軟體下載

- 通過SCP、SFTP、TFTP或USB將NX-OS檔案傳輸到vPC中的兩台Cisco Nexus交換機上的bootflash。如果選擇了前三個選項之一，請通過指定預期的VRF來驗證是否對伺服器執行ping。在此範例中，SFTP伺服器的IP位址為192.168.9.9，可通過虛擬路由轉送(VRF)管理連線。

```
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:ABCDEFHGHIJK.
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
```

- 完成檔案傳輸後，使用命令dir驗證NX-OS檔案是否位於bootflash中。
- 使用show file bootflash命令從NX-OS檔案獲取MD5校驗和。
- 將此值與從軟體下載中複製的值進行比較。兩個值必須匹配，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中兩台Cisco Nexus交換機上的Cisco NX-OS不相容。

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版本是否相容並且可以完成安裝。

```
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 using

第6步 (可選)。 從vPC中的兩台Cisco Nexus交換機匯出運行配置的備份。

```
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

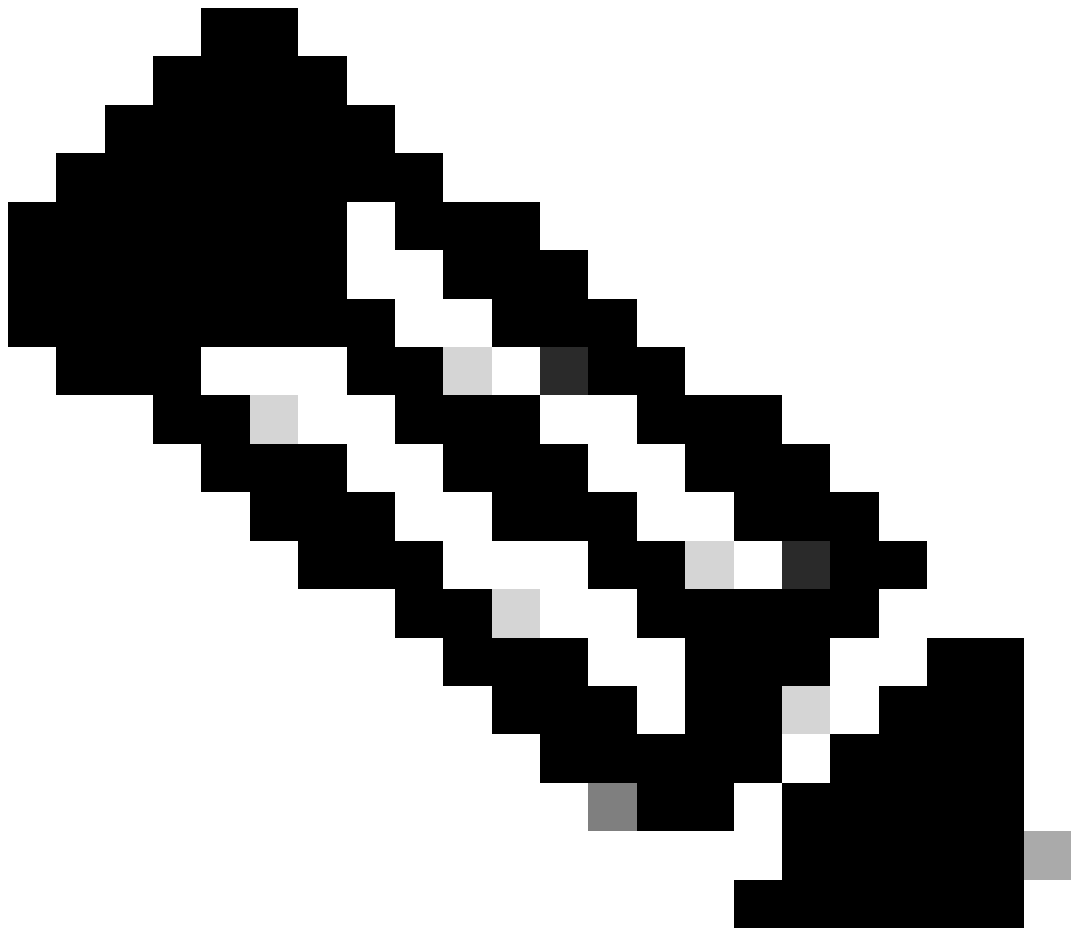
Images will be upgraded according to following table:

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 using

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



附註：必須讀取成功而無任何錯誤。之後，Cisco Nexus交換機將重新啟動，安裝過程可能需要幾分鐘。這在每台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 *
```

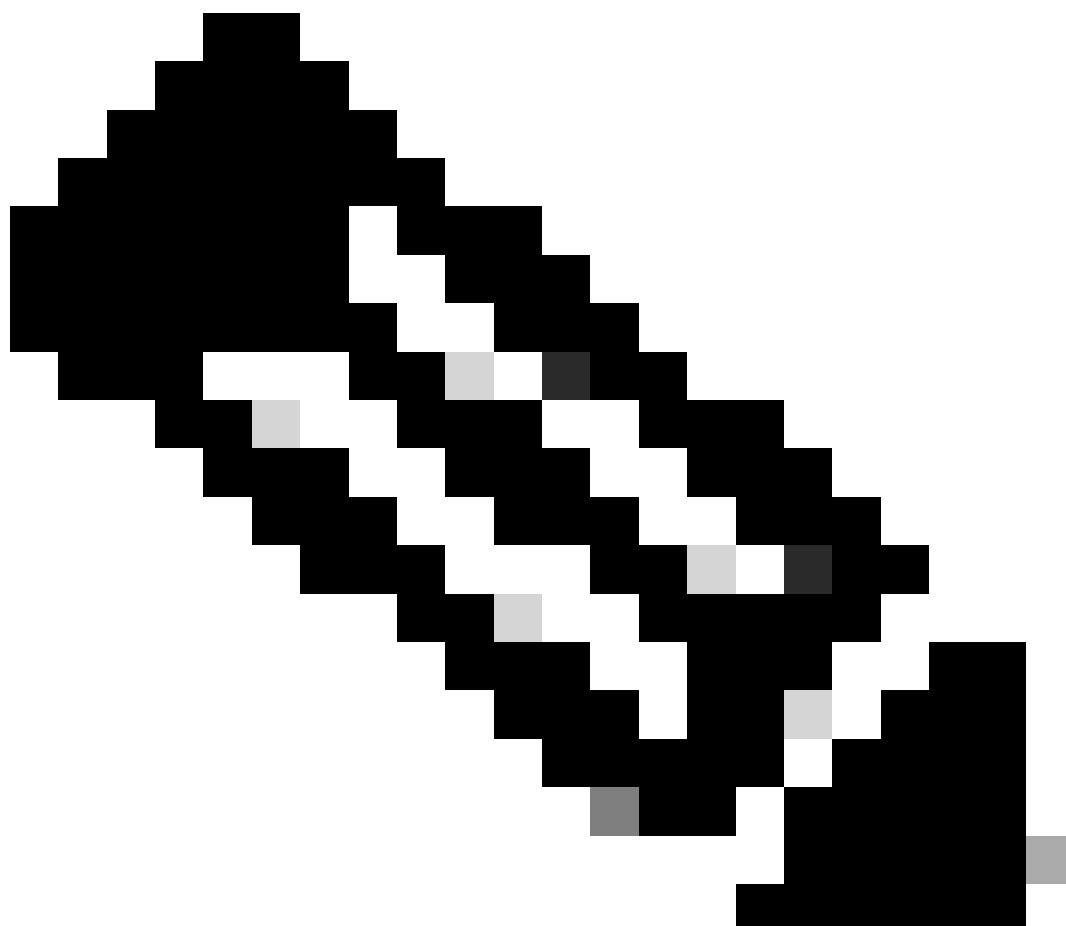
```
Mod Sw          Hw      Slot
```

```
--- -----  
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



附註：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，因為vPC中的Cisco Nexus交換機具有不受支援的Cisco NX-OS的不同版本。

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 using

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.檢驗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](#)

關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。