

在Cisco NCS560路由器上安裝最新的FPD

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簡介

本文檔介紹如何避免在重新載入或電源重啟後Cisco NCS 560路由處理器(RP)變得無響應的情況。

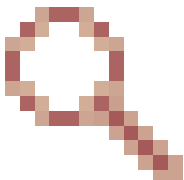
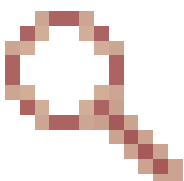
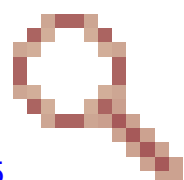
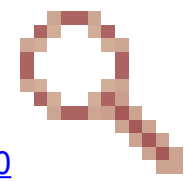
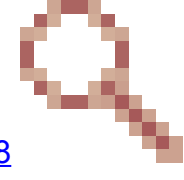
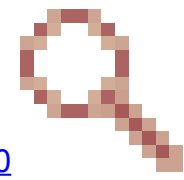
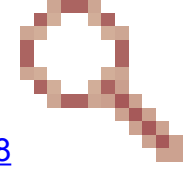
背景資訊

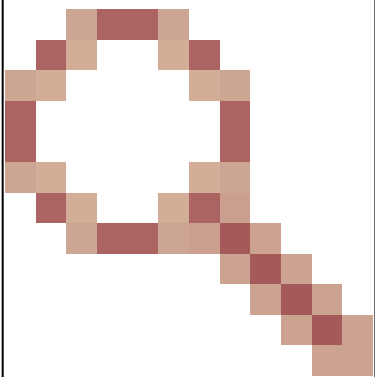
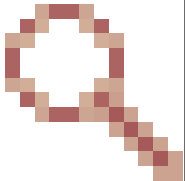
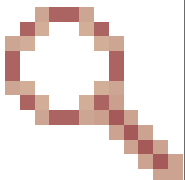
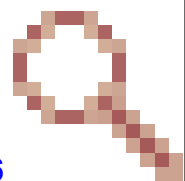
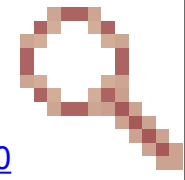
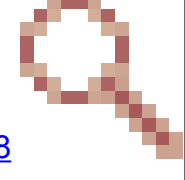
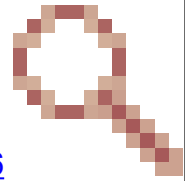
在大多數情況下，NCS 560部署都位於遠端位置，數量很大，而且必須將人為干預降至最低。在這些部署中，根據已安裝的版本滿足必要的SMU安裝要求也很重要。

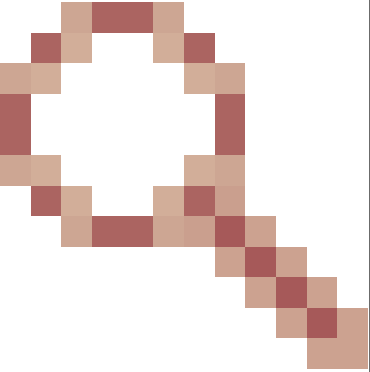
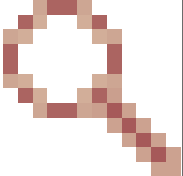
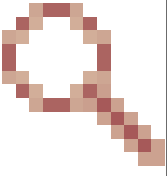
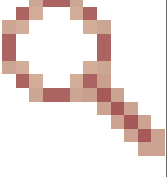
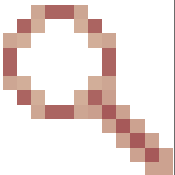
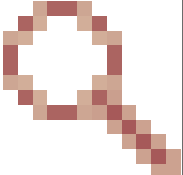
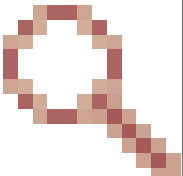


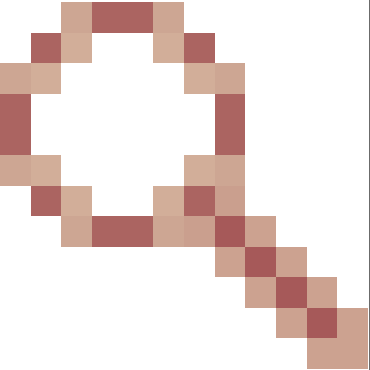
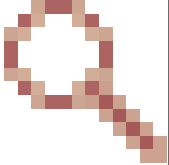
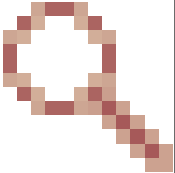
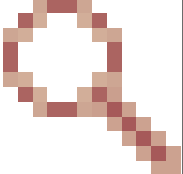
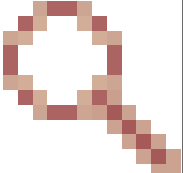
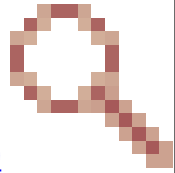
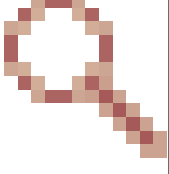
附註：從Cisco IOS XR版本7.2.2及更高版本開始，您不再需要單獨安裝SMU。

SMU摘要表

IOS XR版本	SMU	連結	備註
6.6.3	 CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin)  CSCvw88955 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)	連結	
7.0.1	 CSCvw42910 (XR)  CSCvw52338 (XR) CSCvt69762	連結	必須移至同一次要版本的擴展維護版本 (EMR)。例如，IOS XR 7.0.2。 此版本中沒有針對TAM區域損壞的解決方案。

	 (sysadmin)		
7.0.2	 CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin)  CSCvw48056 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)	連結	
7.1.1	 CSCvw41516 (sysadmin) CSCvt69762	連結	建議移至同一次要版本的EMR版本。例如 , IOS XR 7.1.2。

	 (sysadmin)  CSCvt26907 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)		
7.1.2	 CSCvv41516 (sysadmin)  CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin) CSCvw42910	連結	

	 (XR) CSCvw52338 (XR) 		
7.2.1	 CSCvv41516 (sysadmin)  CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)	連結	

必須升級FPD，以確保FPD的版本始終等於或高於該Cisco IOS® XR版本所需的最低版本。

ADM	1.06
IOFPGA	0.64
BIOS	0.16

本檔案假設：

- RP0是活動RP
- RP1是備用RP

提示各個位置，以便導航各個位置的所有命令均被省略。

1. XR - RP0

RP/0/RP0/CPU0:ios#

2. XR - RP1

RP/0/RP1/CPU0:ios#

3.sysadmin - RP0

sysadmin-vm:0_RP0#

4.sysadmin - RP1

sysadmin-vm:0_RP1#

5.sysadmin - RP0 shell

[sysadmin-vm:0_RP0:~]\$

6.sysadmin - RP1外殼

```
[sysadmin-vm:0_RP1:~]$
```

使用案例.系統採用Cisco IOS-XR版本7.1.2。並且啟用了必要的SMUS

在此過程之前，這些SMU必須處於活動狀態並承諾到系統。

XR VM

```
RP/0/RP0/CPU0:ios#show install active summary
Active Packages: 10
  ncs560-xr-7.1.2 version=7.1.2 [Boot image]
  ncs560-mcast-2.0.0.0-r712
  ncs560-mgbl-2.0.0.0-r712
  ncs560-mp1s-1.0.0.0-r712
  ncs560-mp1s-te-rsvp-2.0.0.0-r712
  ncs560-ospf-2.0.0.0-r712
  ncs560-k9sec-2.1.0.0-r712
  ncs560-iosxr-fwding-2.1.0.1-r712.CSCvp67225
  ncs560-os-support-2.1.0.1-r712.CSCvv41516
  cisco-klm-rsp4-0.1.p1-r0.0.r712.CSCvt26907 .xr
```

sysadmin

```
sysadmin-vm:0_RP0# show install active summary
Active Packages: 4
  ncs560-sysadmin-7.1.2 version=7.1.2 [Boot image]
  ncs560-sysadmin-ncs560-7.1.2.1-r712.CSCvv41516
  cisco-klm-rsp4-0.1.p1-r0.0.r712.CSCvt26907 .admin
  cisco-klm-rsp4-0.1.p1-r0.0.r712.CSCvt26907 .host
```

驗證RP上的FPD版本

```
RP/0/RP0/CPU0:ios#show hw-module fpd
```

			FPD Versions	
			=====	
Location	Card type	HWver FPD device	ATR Status	Running Programd

0/5	A900-IMA8Z	0.0	IMFPGA	NEED UPGD	17.02	17.02
0/14	A900-IMA8CS1Z-M	0.0	IMFPGA	CURRENT	1.95	1.95
0/RP0	N560-RSP4-E	0.0	ADM	NEED UPGD	1.04	1.04
0/RP0	N560-RSP4-E	0.0	IOFPGA	NEED UPGD	0.53	0.53
0/RP0	N560-RSP4-E	0.0	PRIMARY-BIOS	NEED UPGD	0.15	0.15
0/RP0	N560-RSP4-E	0.0	SATA	NEED UPGD	1.30	1.30
0/RP1	N560-RSP4-E	0.0	ADM	NEED UPGD	1.04	1.04
0/RP1	N560-RSP4-E	0.0	IOFPGA	NEED UPGD	0.53	0.53
0/RP1	N560-RSP4-E	0.0	PRIMARY-BIOS	NEED UPGD	0.15	0.15
0/RP1	N560-RSP4-E	0.0	SATA	NEED UPGD	1.30	1.30
0/FT0	A907-FAN-E	1.0	PSOC	CURRENT	1.65	1.65

檢查兩個RP上的TAM區域（評估分割槽的刪除）

重要是確保TAM區域未損壞；否則，IOFPGA、FPD升級和後續重新載入可能會導致RMA。使用此MOP時，由於FPD版本0.64或更高版本正在使用中，此IOFPGA FPD升級過程和RP重新載入導致TAM損壞恢復。

RP0

```
sysadmin-vm:0_RP0# show control-driver info location 0/RP0
...
Card view from local RP:
    TAM Memory is not corrupted
    Can proceed with IOFPGA upgrade if required
...
```

RP1

```
sysadmin-vm:0_RP0# show control-driver info location 0/RP1
...
Card view from local RP:
    TAM Memory is not corrupted
    Can proceed with IOFPGA upgrade if required
...
```



附註：如果TAM記憶體已損壞，如果目標IOFPGA版本為0.64或更高版本，則問題不大。

損壞TAM記憶體的輸出示例

```
sysadmin-vm:0_RP1# show control-driver info location 0/RP0
<snip>
Card view from local RP:
```

```
TAM Memory is corrupted
Do not proceed with IOFPGA upgrade
<snip>
```

 附註：如果滿足本文檔中提到的所有先決條件，您可以繼續升級。「Do not proceed with IOFPGA upgrade (不進行IOFPGA升級) 」是指低於0.64的IOFPGA版本。

對兩個RP執行IOFPGA升級

```
RP/0/RP0/CPU0:ios#upgrade hw-module location all fpd IOFPGA
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP0/CPU0:RONALDO-RF2a#0/RP0/ADMIN0:Oct 16 15:19:26.609 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-U
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : =====
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

驗證

```
RP/0/RP0/CPU0:ios#show hw-module fpd
Fri Oct 16 15:22:11.256 CEST
```

Location	Card type	HWver	FPD device	FPD Versions		
				ATR	Status	Running Programd
0/5	A900-IMA8Z	0.0	IMFPGA	NEED	UPGD	17.02 17.02
0/14	A900-IMA8CS1Z-M	0.0	IMFPGA	CURRENT		1.95 1.95
0/RP0	N560-RSP4-E	0.0	ADM	NEED	UPGD	1.04 1.04
0/RP0	N560-RSP4-E	0.0	IOFPGA	RLOAD	REQ	0.53 0.64
0/RP0	N560-RSP4-E	0.0	PRIMARY-BIOS	NEED	UPGD	0.15 0.15
0/RP0	N560-RSP4-E	0.0	SATA	NEED	UPGD	1.30 1.30
0/RP1	N560-RSP4-E	0.0	ADM	NEED	UPGD	1.04 1.04
0/RP1	N560-RSP4-E	0.0	IOFPGA	RLOAD	REQ	0.53 0.64
0/RP1	N560-RSP4-E	0.0	PRIMARY-BIOS	NEED	UPGD	0.15 0.15
0/RP1	N560-RSP4-E	0.0	SATA	NEED	UPGD	1.30 1.30
0/FT0	A907-FAN-E	1.0	PSOC	CURRENT		1.65 1.65

重新載入用於IOFPGA升級的主用和備用RP至完成

首先，重新載入備用RP:

```
sysadmin-vm:0_RP0# hw-module location 0/RP1 reload
Reload hardware module ? [no,yes] yes
```

在恢復冗餘後，重新載入活動RP(RP0) (它會觸發故障切換)：

```
sysadmin-vm:0_RP0# hw-module location 0/RP0 reload
Reload hardware module ? [no,yes] yes
```

驗證ADM版本

在新作用中RP(RP1)上：

```
[sysadmin-vm:0_RP1:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.2
Bootloader Version : 0.0.9
Config Version : 1.4
```

在新待命RP(RP0)上：

```
[sysadmin-vm:0_RP0:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.2
Bootloader Version : 0.0.9
Config Version : 1.4
```

對兩個RP執行其他FPD升級

1. ADM

```
RP/0/RP1/CPU0:ios#upgrade hw-module location all FPD ADM
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP1/CPU0:RONALDO-RF2a#0/RP1/ADMIN0:Oct 16 15:57:14.332 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-U
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : =====
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

2. BIOS

```
RP/0/RP1/CPU0:ios#upgrade hw-module location all FPD PRIMARY-BIOS
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP1/CPU0:RONALDO-RF2a#0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-U
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : =====
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

3. SATA

```
RP/0/RP1/CPU0:ios#upgrade hw-module location all FPD SATA
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP1/CPU0:RONALDO-RF2a#0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-U
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : =====
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

驗證升級

```
RP/0/RP1/CPU0:ios#show hw-module fpd
```

Location	Card type	HWver	FPD device	FPD Versions		
				ATR	Status	Running Programd
0/5	A900-IMA8Z	0.0	IMFPGA	NEED UPGD	17.02	17.02
0/14	A900-IMA8CS1Z-M	0.0	IMFPGA	CURRENT	1.95	1.95
0/RP0	N560-RSP4-E	0.0	ADM	RLOAD REQ	1.04	1.04
0/RP0	N560-RSP4-E	0.0	IOFPGA	CURRENT	0.64	0.64
0/RP0	N560-RSP4-E	0.0	PRIMARY-BIOS	RLOAD REQ	0.15	0.16
0/RP0	N560-RSP4-E	0.0	SATA	RLOAD REQ	1.30	2.10
0/RP1	N560-RSP4-E	0.0	ADM	RLOAD REQ	1.04	1.04
0/RP1	N560-RSP4-E	0.0	IOFPGA	CURRENT	0.64	0.64
0/RP1	N560-RSP4-E	0.0	PRIMARY-BIOS	RLOAD REQ	0.15	0.16
0/RP1	N560-RSP4-E	0.0	SATA	RLOAD REQ	1.30	2.10
0/FT0	A907-FAN-E	1.0	PSOC	CURRENT	1.65	1.65

完成其他FPD升級的電源重啟過程

 附註：如果ADM韌體版本是1.14.2，則必須在使用重新載入指令碼之前同步所有VM/主機上的所有檔案系統。

```
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.0.1 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.0.4 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.4.4 sync
```

```
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.4.1 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.4.1 chvrf 0 ssh 10.0.2.2 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.0.1 chvrf 0 ssh 10.0.2.2 sync
```

 附註：這些命令沒有輸出。

若要重新載入機箱：

```
[sysadmin-vm:0_RP1:~]$/opt/cisco/calvados/sbin/reboot_system.sh
Initiating power-cycle of 0/RP0
Initiating power-cycle of 0/RP1
```

 附註：如果ADM韌體版本為1.14.3，則RP上的FPD需要重新載入。

首先，重新載入待命RP(RP0):

```
sysadmin-vm:0_RP1# hw-module location 0/RP0 reload
Reload hardware module ? [no,yes] yes
```

在恢復冗餘後，重新載入活動RP(RP1) (它會觸發故障轉移)：

```
sysadmin-vm:0_RP1# hw-module location 0/RP1 reload
Reload hardware module ? [no,yes] yes
```

驗證FPD版本

```
RP/0/RP0/CPU0:ios#show hw-module fpd
Fri Oct 16 16:24:18.849 CEST
```

				FPD Versions		
				=====		
Location	Card type	HWver	FPD device	ATR Status	Running Programd	

0/5	A900-IMA8Z	0.0	IMFPGA	NEED UPGD	17.02	17.02
0/14	A900-IMA8CS1Z-M	0.0	IMFPGA	CURRENT	1.95	1.95
0/RP0	N560-RSP4-E	0.0	ADM	CURRENT	1.06	1.06
0/RP0	N560-RSP4-E	0.0	IOFPGA	CURRENT	0.64	0.64
0/RP0	N560-RSP4-E	0.0	PRIMARY-BIOS	CURRENT	0.16	0.16
0/RP0	N560-RSP4-E	0.0	SATA	CURRENT	2.10	2.10
0/RP1	N560-RSP4-E	0.0	ADM	CURRENT	1.06	1.06
0/RP1	N560-RSP4-E	0.0	IOFPGA	CURRENT	0.64	0.64

0/RP1	N560-RSP4-E	0.0	PRIMARY-BIOS	CURRENT	0.16	0.16
0/RP1	N560-RSP4-E	0.0	SATA	CURRENT	2.10	2.10
0/FT0	A907-FAN-E	1.0	PSOC	CURRENT	1.65	1.65

驗證ADM版本

```
[sysadmin-vm:0_RP0:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.3
Bootloader Version : 0.0.9
Config Version : 1.6
```

```
[sysadmin-vm:0_RP1:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.3
Bootloader Version : 0.0.9
Config Version : 1.6
```

升級其他位置上的其他FPD (如果有)

```
RP/0/RP0/CPU0:ios#upgrade hw-module location 0/5 FPD IMFPGA
Fri Oct 16 16:28:15.006 CEST
upgrade command issued (use "show hw-module fpd" to check upgrade status)
```

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）。