

瞭解Catalyst 9300系列交換器上的延伸快速軟體升級

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簡介

本檔案介紹Catalyst 9300系列交換器上可用的擴充快速軟體升級(xFSU)功能。

必要條件

需求

最低授權

- 獨立交換機上的網路基本許可證級別

- 堆疊交換機上的Network Advantage許可證級別。

其他要求

- 只有以安裝模式執行的存取交換器支援此功能。
- 必須使用快速生成樹協定(RSTP)或多生成樹協定(MSTP)配置裝置。
- 裝置不能是根網橋：對於配置了STP但未將其定義為根裝置的裝置，僅當連線到STP對等體的轉發狀態的埠數小於或等於1時才支援xFSU。
- NSF計時器：例如：配置「bgp graceful-restart」時，建議將BGP保持時間配置為10秒。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- Catalyst 9300、Catalyst 9300L和Catalyst 9300X系列交換器
- Cisco IOS XE 17.3.2a及更高版本

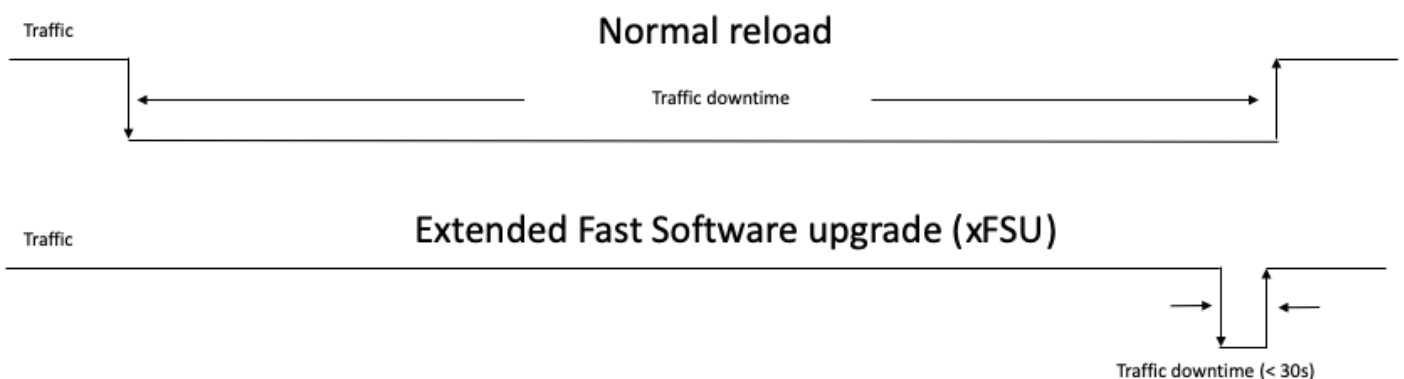
本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

背景資訊

擴展快速軟體升級(xFSU)是一個軟體增強過程，旨在減少軟體重新載入或升級操作期間的流量停機時間。xFSU基於平滑重啟功能（也稱為Cisco NSF）的原則。

此功能的一般想法是讓資料（轉送）平面繼續運作，而控制平面會在軟體升級時重新載入。xFSU的作用是使ASIC中的轉發狀態與新的控制平面保持一致，並在快速重置轉發ASIC後恢復轉發狀態，如下所示。

本圖顯示了與正常重新載入相比，流量停機時間顯著減少。



xFSU引入了以下命令：

安裝增加檔案<image URL> 啟用xfsu提交

- 適用於Cisco IOS XE 17.8及更高版本

安裝增加檔案<image URL> activate reloadfast commit

- 適用於Cisco IOS XE 17.3和17.6版本
- 升級軟體版本，減少停機時間

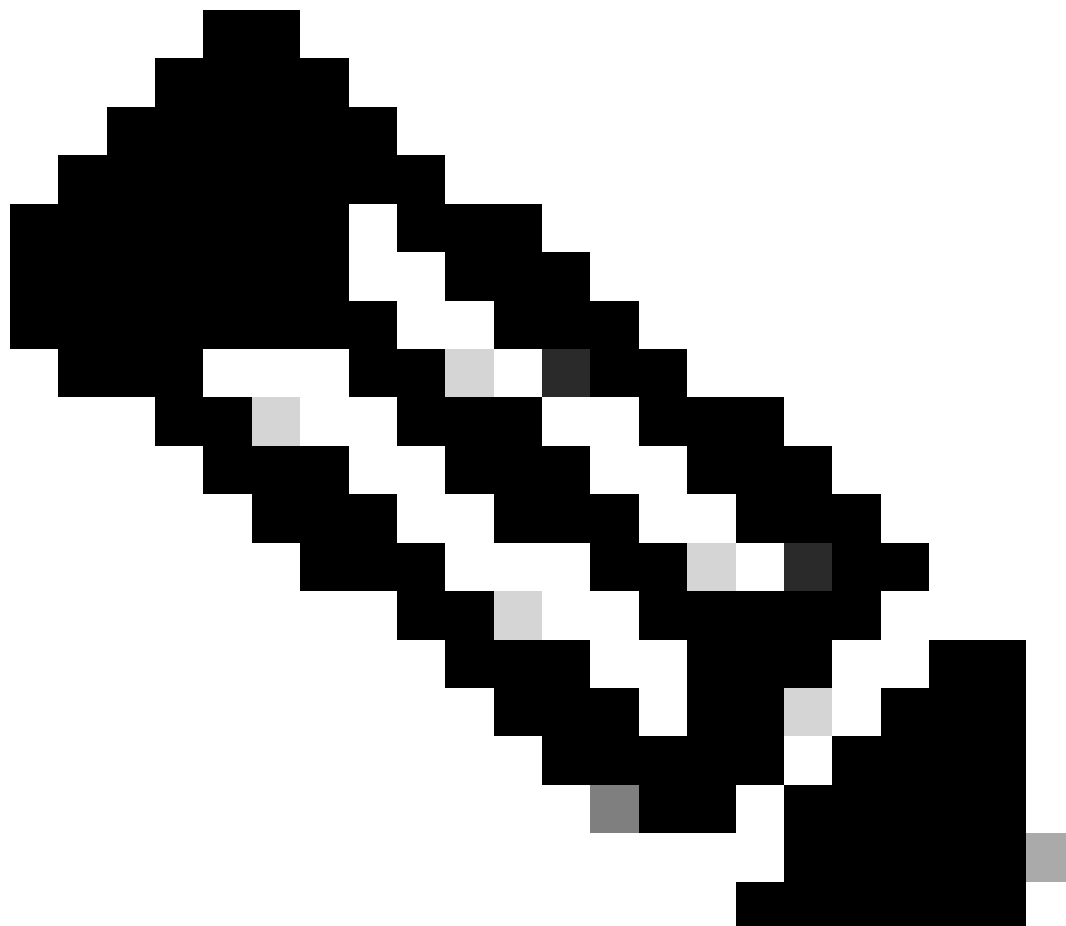
快速重新載入

- 重新載入現有軟體，減少停機時間。

為什麼要使用xFSU？


對於沒有真正冗餘控制和轉發平面的Catalyst 9300交換機等系統，在重新載入和升級期間停機時間/流量損失超過3到4分鐘。

- 對於存取網路而言，此停機時間對於wifi存取點、自動機制等相當重要。
- xFSU有助於將停機時間降至最低，但也有一些限制，因為並非所有配置都受支援。



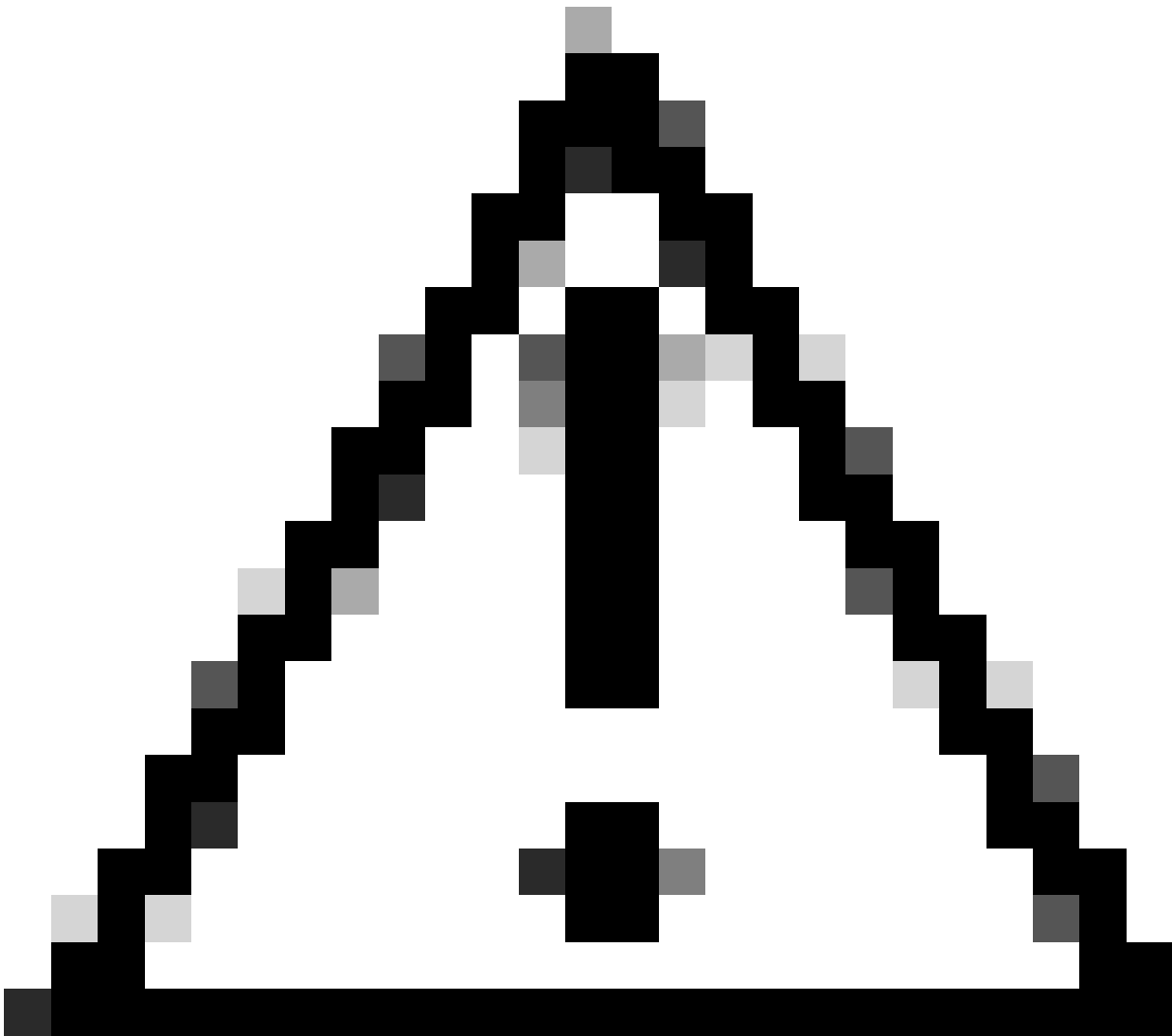
注意：對於堆疊系統將上行鏈路分佈到堆疊上的活動和備用交換機或活動和成員交換機上，這是進一步減少停機時間的最佳做法

支援的通訊協定

 注意：對於此處未列出的所有協定，流量中斷時間將與正常重新載入/升級時的流量中斷時間類似

- 第2層交換
- 每個VLAN生成樹(PVST)
- STP與RSTP或MSTP
- 靜態連線埠通道 (開啟模式)
- UDLD
- 連結彙總控制通訊協定(LACP)
- BGP (IPv4和IPv6地址系列)
- 開放最短路徑優先(OSPF)或OSPFv2或OSPFv3
- 是
- 虛擬路由和轉送(VRF)
- Flexible NetFlow
- Qos
- IEEE 802.1X連線埠型驗證
- MAC身份驗證繞行
- Web驗證
- 網際網路群組管理通訊協定(IGMP)窺探
- 多點傳送接聽程式探索(MLD)窺探

限制



注意：不支援結合使用xFSU和以下任何一種情況。如果裝置上存在任何此類裝置，請不要嘗試xFSU。

獨立裝置和堆疊裝置

- 對於STP根裝置，如果任何處於轉發狀態的裝置埠連線到STP對等體（配置了STP且直接連線到根裝置的裝置）
- 裝置配置了雙向轉發檢測(BFD)
- 裝置配置了LISP/VXLAN。
- 裝置配置了macsec
- 裝置在SDA和EVPN交換矩陣中配置。
- 裝置配置為Meraki模式或DNAC
- 如果BGP對等體在BGP Open消息中傳送了一個不受支援的保持計時器，則會接受建議的保持計時器，但xFSU事件不支援BGP。

堆疊裝置

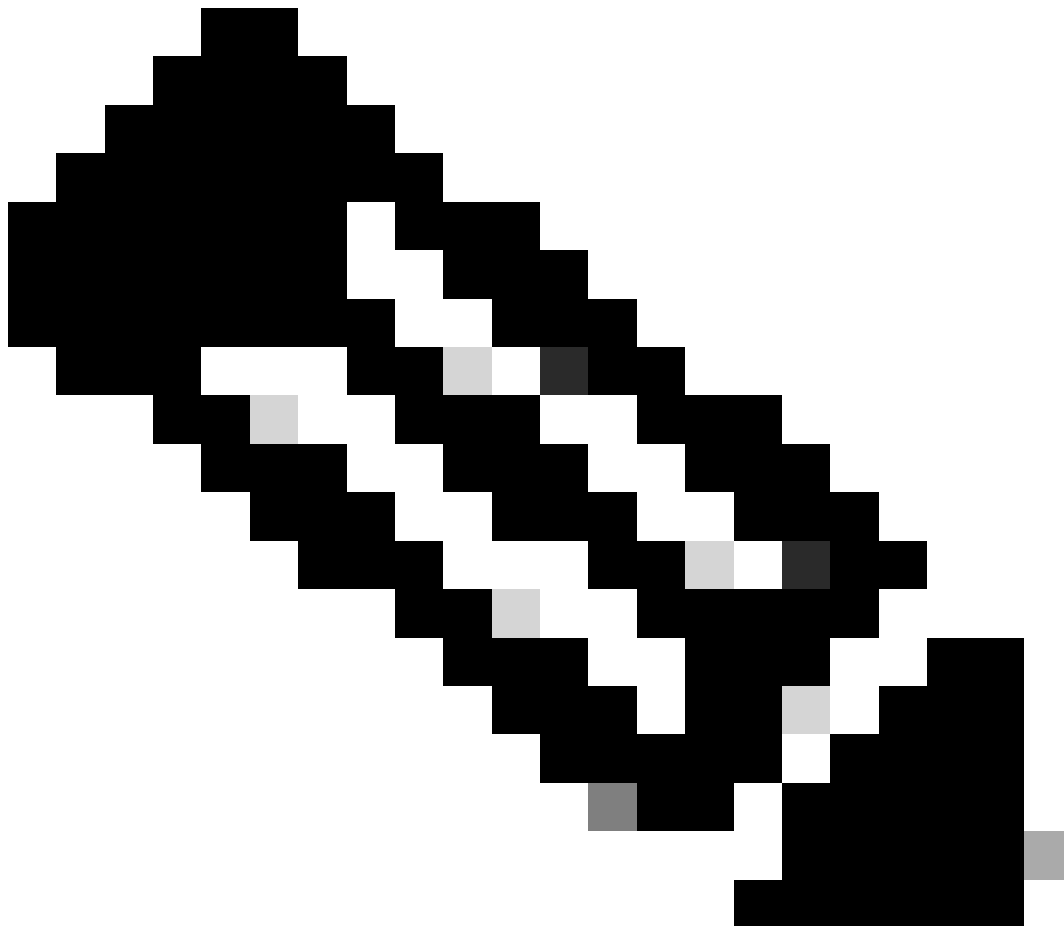
- 堆疊裝置被配置為半環狀態。
- 堆疊裝置配置有MACsec金鑰協定(MKA)或Cisco TrustSec (CTS)
- 堆疊裝置配置了組播，因為堆疊上的PIM尚未就位。

其他限制

- 執行擴展快速軟體升級後，應用程式託管可能無法自動重新啟動。您可能需要停用和重新啟用Cisco IOx、配置應用託管、安裝、啟用並再次啟動應用。
- 在xFSU期間會略過已設定的單向連結偵測(UDLD)訊息間隔。xFSU完成後，間隔會恢復為已設定的值。

必要組態

下表列出執行xFSU之前所需的配置，這些配置用於使各協定的流量停機時間小於30秒。



註：此功能不適用於所有配置。即使根據協定與其他元件的互動和時間敏感（狀態協定

) 配置，xFSU將協定列為受支援，這仍可能導致更高的流量丟失。建議先測試特定配置，再使用此功能。

交換機配置	通訊協定	其他組態	指令
獨立裝置	IPv6	設定發生可達性確認事件後被視為可達的遠端IPv6節點的時間限制。	Device(config)# ipv6 nd reachable-time 3600000
	含MLD的IPv6	啟用IPv6 MLD監聽	Device(config)# ipv6 mld監聽
	OSPF	增加堆疊中更多的重新傳輸重試次數。	Device(config-router)# ip ospf retransmit-interval 10
	OSPFv3	增加堆疊中更多的重新傳輸重試次數。	Device(config-router)# ospfv3 retransmit-interval 10
	OSPFv3	<ul style="list-style-type: none"> • 全局啟用SNMP ifIndex永續性 • 為OSPFv3例項設定固定路由器ID。 • 啟用SNMP ifIndex持續性 	Device(config)# snmp ifmib ifindex persist Device(config)# router ospfv3 1 Device(config-router)# router-id 192.0.2.5 Device(config-router)# interface-id snmp-if-index
	BGP	在裝置上啟用NSF感知	Device(config-router)# bgp平滑重啟
堆疊裝置	OSPF	增加堆疊中更多的重新傳輸重試次數。	Device(config-router)# ip ospf retransmit-interval 10
	OSPFv3	增加堆疊中更多的重新傳輸重試次數。	Device(config-router)# ospfv3 retransmit-interval 10
	BGP	在堆疊中的所有裝置上啟用NSF感知。	Device(config-router)# bgp graceful-restart all

	是	啟用IS-IS的NSF操作。	Device(config-router)# nsf ietf 或 Device(config-router)# nsf cisco
--	---	----------------	--

版本支援矩陣圖



各版本之間的擴展快速軟體升級支援

EM版本內/從EM到EM版本

起始/終止	17.3.x (EM)*	17.4.x (SM)	17.5.x (SM)	17.6.x (EM)	17.7.x (SM)	17.8.x (SM)	17.9.x (EM)
17.3.x (EM)*	✓	X	X	✓	X	X	✓
17.4.x (SM)	—	—	X	X	X	X	X
17.5.x (SM)	—	—	—	X	X	X	X
17.6.x (EM)	—	—	—	✓	X	X	✓
17.7.x (SM)	—	—	—	—	—	X	X
17.8.x (SM)	—	—	—	—	—	—	X

17.9.x (EM)	—	—	—	—	—	—	✓
-------------	---	---	---	---	---	---	---

* 在Cisco IOS XE 17.3.x系列上，僅從17.3.2版開始支援xFSU。

在同一SM或EM版本中


起始/終止	17.3.x (EM)*	17.4.x (SM)	17.5.x (SM)	17.6.x (EM)	17.7.x (SM)	17.8.x (SM)	17.9.x (EM)
17.3.x (EM)*	✓	—	—	—	—	—	—
17.4.x (SM)	—	✓	—	—	—	—	—
17.5.x (SM)	—	—	✓	—	—	—	—
17.6.x (EM)	—	—	—	✓	—	—	—
17.7.x (SM)	—	—	—	—	✓	—	—
17.8.x (SM)	—	—	—	—	—	✓	—
17.9.x (EM)	—	—	—	—	—	—	✓

* 在Cisco IOS XE 17.3.x系列上，僅從17.3.2版開始支援xFSU。

註：每年計畫三個版本-兩個標準維護(SM)和一個擴展維護(EM)。標準支援版本的持續支援存留期為12個月，從第一次客戶出貨(FCS)開始，包含兩次排定的重建作業。延長支援版本提供了從FCS開始的48個月的持續支援生命週期，包括十次計畫重建。

程式

安裝add file <image URL>啟用xfsu提交

 注意：此CLI僅在Cisco IOS XE 17.8版本及更高版本中可用。對於17.3和17.6版本，請使用install add file <image URL> activate reloadfast commit

- 此命令可升級軟體版本並減少停機時間。
- 以下是運行CLI時自動執行的步驟。
 - 安裝新增：從TFTP伺服器下載映像，複製到所有交換器，並在每個交換器上擴充套裝軟體
 - xFSU檢查：提供xFSU相關檢查，包括限制檢查

- install activate/commit : 啟用並提交已安裝的軟體套件
- 安裝升級前 : 升級前MCU、Rommon映像
- 快速重新載入 : 快速重新載入交換器

<#root>

C9300_Switch#

```
install add file flash:cat9k_iosxe.V178_1A_FC2_2.SSA.bin activate xfsu commit
```

```
install_add_activate_commit: START Tue Apr 19 21:54:03 UTC 2022
STACK_GR: Inside xFSU check if switch stack
Checking STP eligibility: Eligible
```

```
[1]: Performing xFSU-pre-check
300+0 records in
300+0 records out
307200 bytes (307 kB, 300 KiB) copied, 0.196216 s, 1.6 MB/s
SUCCESS: xFSU-pre-check finished
[1]: xFSU-pre-check package(s) on switch 1
```

For all other than the below protocols, the traffic downtime will be longer than 30 seconds.

- 1) Layer 2 Switching, 2) Per VLAN Spanning Tree (PVST), 3) STP with RSTP or MSTP
- 4) Static Port-channels (Mode on), 5) UDLD, 6) LACP, 7) BGP (IPv4 and IPv6)

```
Open Shortest Path First (OSPF) or OSPFv2 or OSPFv3, 9) IS-IS,
10) Virtual routing and forwarding (VRF), 11) Flexible NetFlow, 12) QoS
SUCCESS: xFSU requirement pre-check
Downloading file flash:cat9k_iosxe.V178_1A_FC2_2.SSA.bin
Finished downloading file flash:cat9k_iosxe.V178_1A_FC2_2.SSA.bin to flash:cat9k_iosxe.V178_1A_FC2_2.SS
install_add_activate_commit: Adding PACKAGE
install_add_activate_commit: Checking whether new add is allowed ....
```

```
--- Starting initial file syncing ---
Info: Finished copying flash:cat9k_iosxe.V178_1A_FC2_2.SSA.bin to the selected switch(es)
Finished initial file syncing
```

```
--- Starting Add ---
Performing Add on all members
[1] Add package(s) on switch 1
[1] Finished Add on switch 1
Checking status of Add on [1]
Add: Passed on [1]
Finished Add
```

```
Image added. Version: 17.08.01.0.1516
install_add_activate_commit: Activating PACKAGE
Following packages shall be activated:
/flash/cat9k-wlc.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-webui.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-srdriver.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-sipsa.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-sibase.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-rpboot.V178_1A_FC2_2.SSA.pkg
```

```
/flash/cat9k-rpbase.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-lni.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-guestshell.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-espbases.V178_1A_FC2_2.SSA.pkg
/flash/cat9k-cc_srdriver.V178_1A_FC2_2.SSA.pkg
```

```
--- Verifying Platform specific xFSU admission criteria ---
SUCCESS: xFSU image pre-check
```

This operation requires a fast reload of the system.

Do you want to proceed? [y/n]y <-- answer y to continue

```
--- Starting Activate ---
```

```
Performing Activate on all members
```

```
[1] Activate package(s) on switch 1
```

```
--- Starting list of software package changes ---
```

```
Old files list:
```

```
Modified cat9k-cc_srdriver.17.08.01a.SPA.pkg
Modified cat9k-espbases.17.08.01a.SPA.pkg
Modified cat9k-guestshell.17.08.01a.SPA.pkg
Modified cat9k-lni.17.08.01a.SPA.pkg
Modified cat9k-rpbase.17.08.01a.SPA.pkg
Modified cat9k-rpboot.17.08.01a.SPA.pkg
Modified cat9k-sipbase.17.08.01a.SPA.pkg
Modified cat9k-sipspace.17.08.01a.SPA.pkg
Modified cat9k-srdriver.17.08.01a.SPA.pkg
Modified cat9k-webui.17.08.01a.SPA.pkg
Modified cat9k-wlc.17.08.01a.SPA.pkg
```

```
New files list:
```

```
Added cat9k-cc_srdriver.V178_1A_FC2_2.SSA.pkg
Added cat9k-espbases.V178_1A_FC2_2.SSA.pkg
Added cat9k-guestshell.V178_1A_FC2_2.SSA.pkg
Added cat9k-lni.V178_1A_FC2_2.SSA.pkg
Added cat9k-rpbase.V178_1A_FC2_2.SSA.pkg
Added cat9k-rpboot.V178_1A_FC2_2.SSA.pkg
Added cat9k-sipbase.V178_1A_FC2_2.SSA.pkg
Added cat9k-sipspace.V178_1A_FC2_2.SSA.pkg
Added cat9k-srdriver.V178_1A_FC2_2.SSA.pkg
Added cat9k-webui.V178_1A_FC2_2.SSA.pkg
Added cat9k-wlc.V178_1A_FC2_2.SSA.pkg
```

```
Finished list of software package changes
```

```
[1] Finished Activate on switch 1
```

```
Checking status of Activate on [1]
```

```
Activate: Passed on [1]
```

```
Finished Activate
```

```
--- Starting Commit ---
```

```
Performing Commit on all members
```

```
[1] Commit package(s) on switch 1
```

```
[1] Finished Commit on switch 1
```

```
Checking status of Commit on [1]
```

```
Commit: Passed on [1]
```

```
Finished Commit
```

```
Send model notification for install_add_activate_commit before reload
```

```
Check xFSU support and verification on switch
```

```
[1]: xFSU-Verify-Package package(s) on switch 1
```

```
Finished preverifying before xFSU
```

```
SUCCESS to verify packages
```

```
SUCCESS to verify before xFSU
```

```
[1]: Finished xFSU-Verify-Package successful on switch 1
```

(-2) SUCCESS: Finished xFSU-Verify-Package: Success on [1]
[1]: Performing Upgrade_Service
300+0 records in
300+0 records out
307200 bytes (307 kB, 300 KiB) copied, 0.196891 s, 1.6 MB/s
SUCCESS: Upgrade_Service finished
PID TTY TIME CMD
Starting GR:#
Waiting for UDLD processing:UDLD processing complete
cat: /: Is a directory
Wait for ifm backup: Ifm backup is completeApr 19 22:05:04.843: %PMAN-5-EXITACTION: F0/0: pvp: Process
Apr 19 22:05:08.099: %PMAN-5-EXITACTION: R0/0: pvp: Process manager is exiting: rp processes exit with

Initializing Hardware.....
Reload Fast Detected

System Bootstrap, Version 17.9.0.4r, DEVELOPMENT SOFTWARE
Copyright (c) 1994-2022 by cisco Systems, Inc.
Compiled Tue 03/22/2022 10:39:31.69 by mjagatap

Current ROMMON image : Primary
Last reset cause : SoftwareReload
C9300-24T platform with 8388608 Kbytes of main memory

Preparing to autoboot. [Press Ctrl-C to interrupt] 0
boot: attempting to boot from [flash:packages.conf]
boot: reading file packages.conf

#####

Loading image in Verbose mode: 0

Both links down, not waiting for other switches
Switch number is 1

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FIPS: Flash Key Check : Key Not Found, FIPS Mode Not Enabled
cisco C9300-24T (X86) processor with 1310600K/6147K bytes of memory.
Processor board ID FJC2327E0UB
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.

Base Ethernet MAC Address : d4:ad:bd:f0:38:80
Motherboard Assembly Number : 73-18270-03
Motherboard Serial Number : FJZ23271DDG
Model Revision Number : E0
Motherboard Revision Number : B0
Model Number : C9300-24T
System Serial Number : FJC2327E0UB
CLEI Code Number :

WARNING: Command has been added to the configuration using a type 7 password. However, recommended to m

Press RETURN to get started!

C9300_Switch#sh log | inc FAST

*Apr 19 22:10:05.943: %FED_IPC_MSG-5-FAST_RELOAD_COMPLETE: Switch 1 F0/0: fed: Fast reload operation co

快速重新載入

- 此命令可重新載入現有軟體，減少停機時間。
- 以下是運行CLI時自動執行的步驟。
 - xFSU檢查：提供xFSU相關檢查，包括限制檢查
 - 快速重新載入：快速重新載入交換器

```
<#root>
```

```
C9300_Switch#
```

```
reload fast
```

```
Reload fast command is being issued on Active unit, this will reload fast the whole stack
Proceed with reload fast? [confirm]
STACK_GR: Inside xFSU check if switch stack
Checking STP eligibility: Eligible
```

```
[1]: Performing xFSU-pre-check
300+0 records in
300+0 records out
307200 bytes (307 kB, 300 KiB) copied, 0.196405 s, 1.6 MB/s
SUCCESS: xFSU-pre-check finished
[1]: xFSU-pre-check package(s) on switch 1
```

For all other than the below protocols, the traffic downtime will be longer than 30 seconds.

1) Layer 2 Switching, 2) Per VLAN Spanning Tree (PVST), 3) STP with RSTP or MSTP
4) Static Port-channels (Mode on), 5) UDLD, 6) LACP, 7) BGP (IPv4 and IPv6)

Open Shortest Path First (OSPF) or OSPFv2 or OSPFv3, 9) IS-IS,
10) Virtual routing and forwarding (VRF), 11) Flexible NetFlow, 12) QoS
SUCCESS: xFSU requirement pre-check

```
--- Verifying Platform specific xFSU admission criteria ---
SUCCESS: xFSU image pre-check
Check xFSU support and verification on switch
[1]: xFSU-Verify-Package package(s) on switch 1
Finished preverifying before xFSU
SUCCESS to verify packages
SUCCESS to verify before xFSU
[1]: Finished xFSU-Verify-Package successful on switch 1
(-2) SUCCESS: Finished xFSU-Verify-Package: Success on [1]
[1]: Performing Upgrade_Service
300+0 records in
300+0 records out
307200 bytes (307 kB, 300 KiB) copied, 0.196099 s, 1.6 MB/s
mount: /tmp/microcode_update/boot_pkg: WARNING: source write-protected, mounted read-only.
SUCCESS: Upgrade_Service finished
PID TTY TIME CMD
Starting GR:#
Waiting for UDLD processing:UDLD processing complete
cat: /: Is a directory
```

Wait for ifm backup: Ifm backup is completeApr 19 21:43:03.283: %PMAN-5-EXITACTION: F0/0: pvp: Process
Apr 19 21:43:05.337: %PMAN-5-EXITACTION: R0/0: pvp: Process ger is exiting: rp processes exit with relo

Initializing Hardware.....
Reload Fast Detected

System Bootstrap, Version 17.9.0.4r, DEVELOPMENT SOFTWARE
Copyright (c) 1994-2022 by cisco Systems, Inc.
Compiled Tue 03/22/2022 10:39:31.69 by mjagatap

Current ROMMON image : Primary
Last reset cause : SoftwareReload
C9300-24T platform with 8388608 Kbytes of main memory

Preparing to autoboot. [Press Ctrl-C to interrupt] 0
boot: attempting to boot from [flash:packages.conf]
boot: reading file packages.conf

#####

Loading image in Verbose mode: 0

Both links down, not waiting for other switches
Switch number is 1

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Compiled Sat 16-Apr-22 18:59 by mcpre

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```
FIPS: Flash Key Check : Key Not Found, FIPS Mode Not Enabled
cisco C9300-24T (X86) processor with 1310600K/6147K bytes of memory.
Processor board ID FJC2327E0UB
2048K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1638400K bytes of Crash Files at crashinfo:.
11264000K bytes of Flash at flash:.
```

```
Base Ethernet MAC Address : d4:ad:bd:f0:38:80
Motherboard Assembly Number : 73-18270-03
Motherboard Serial Number : FJZ23271DDG
Model Revision Number : E0
Motherboard Revision Number : B0
Model Number : C9300-24T
System Serial Number : FJC2327E0UB
CLEI Code Number :
```

WARNING: Command has been added to the configuration using a type 7 password. However, recommended to m

Press RETURN to get started!

```
C9300_Switch>
C9300_Switch>en
C9300_Switch#sh log | inc FAST
*Apr 19 21:48:01.667: %FED_IPC_MSG-5-FAST_RELOAD_COMPLETE: Switch 1 F0/0: fed: Fast reload operation co
```

驗證

xFSU成功完成後，要收集以進行驗證的命令/輸出。

基本Show命令

· show switch detail - 用於顯示交換機詳細資訊

· show version - 用於顯示交換機版本

.顯示版本 | in reason -在所有交換機上將reason顯示為「Image Install with Reloadfast」或「Reload Fast Command」。

· show running-config - 用於顯示交換機運行配置

· show logging - 用於顯示交換機控制檯日誌

· show log | in FAST (收集此post xFSU) -從交換器主控台記錄檔升級FAST_RELOAD_COMPLETE

xFSU相關記錄

show graceful-reload -用於顯示xFSU平滑重新載入日誌

<#root>

C9300_Switch#

show graceful-reload

```
Graceful Reload Infra Status: Not running
Minimum required system uptime before fast reload can be supported is 10 seconds
Client OSPFV3 : (0x10203008) Status: Up
Client OSPF : (0x10203007) Status: Up
Client GR_CLIENT_BGP : (0x10203006) Status: Up
Client IS-IS : (0x10203005) Status: Up
Client LACP_xFSU : (0x10203004) Status: Up
Client GR_CLIENT_TOPO : (0x10203003) Status: Up
Client GR_CLIENT_VRF : (0x10203002) Status: Up
Client GR_CLIENT_RIB : (0x10203001) Status: Up
Client GR_CLIENT_FIB : (0x10203000) Status: Up
```

show xfsu status - 用於顯示xFSU狀態 (此CLI僅在Cisco IOS XE 17.8版及更高版本中可用。) 對於17.3和17.6版本，請使用show reloadfast status)

<#root>

C9300_Switch#

show xfsu status

```
Reload Fast PLATFORM Status: Dataplane update done
Graceful Reload Infra Status: Not running
Minimum required system uptime before fast reload can be supported is 10 seconds
Client OSPFV3 : (0x10203008) Status: Up
```

Client OSPF : (0x10203007) Status: Up
Client GR_CLIENT_BGP : (0x10203006) Status: Up
Client IS-IS : (0x10203005) Status: Up
Client LACP_xFSU : (0x10203004) Status: Up
Client GR_CLIENT_TOPO : (0x10203003) Status: Up
Client GR_CLIENT_VRF : (0x10203002) Status: Up
Client GR_CLIENT_RIB : (0x10203001) Status: Up
Client GR_CLIENT_FIB : (0x10203000) Status: Up

疑難排解

xFSU發生故障時要收集的輸出。

FPGA版本

<#root>

```
show platform hardware fpga switch <sw_num> | inc Version  
- display FPGA version
```

完整的拓撲包括SKU/FRU/上行鏈路/下行鏈路詳細資訊

<#root>

```
show inventory  
- display switch inventory  
show cdp neighbor  
- display switch CDP neighbor  
show etherchannel summary  
- display switch etherchannel summary  
show spanning-tree  
- display switch spanning-tree configuration  
show romvar switch all | in BOARD  
- display switch board ID
```

Btrace & Crash相關資訊

<#root>

show platform software trace message fed switch <sw-num>

- display switch fed trace configuration

request platform software trace rotate all

- rotate switch trace logs to archive

Copy logs from

crashinfo-<sw_num>:/tracelogs/fed_F0*

If crash happens during xFSU, copy

crashinfo-<sw_num>:system-report*

If stack SSO not ready or archive trace generated during bootup,

copy crashinfo-<sw_num>:*archive*

介面相關資訊

<#root>

show interface status | inc connected

- display switch connected interface status.

show ip interface brief | inc up

- display switch those interfaces which stay up.

show interface <intf-id> status -

display interface status for particular interface.

show interface <intf-id> status err-disabled

- display interface err-disabled status for particular interface.

XCVR/Phy/上行鏈路相關資訊

<#root>

show controllers ethernet-controller <intf-id> phy detail

- To display switch phy detail for particular ethernet-controller interface.

show controllers ethernet-controller <intf-id> mac

- To display switch mac information for particular ethernet-controller interface.

show controllers ethernet-controller <intf-id> link-status

- To display switch link status for particular ethernet-controller interface.

show controllers ethernet-controller <ints-id>

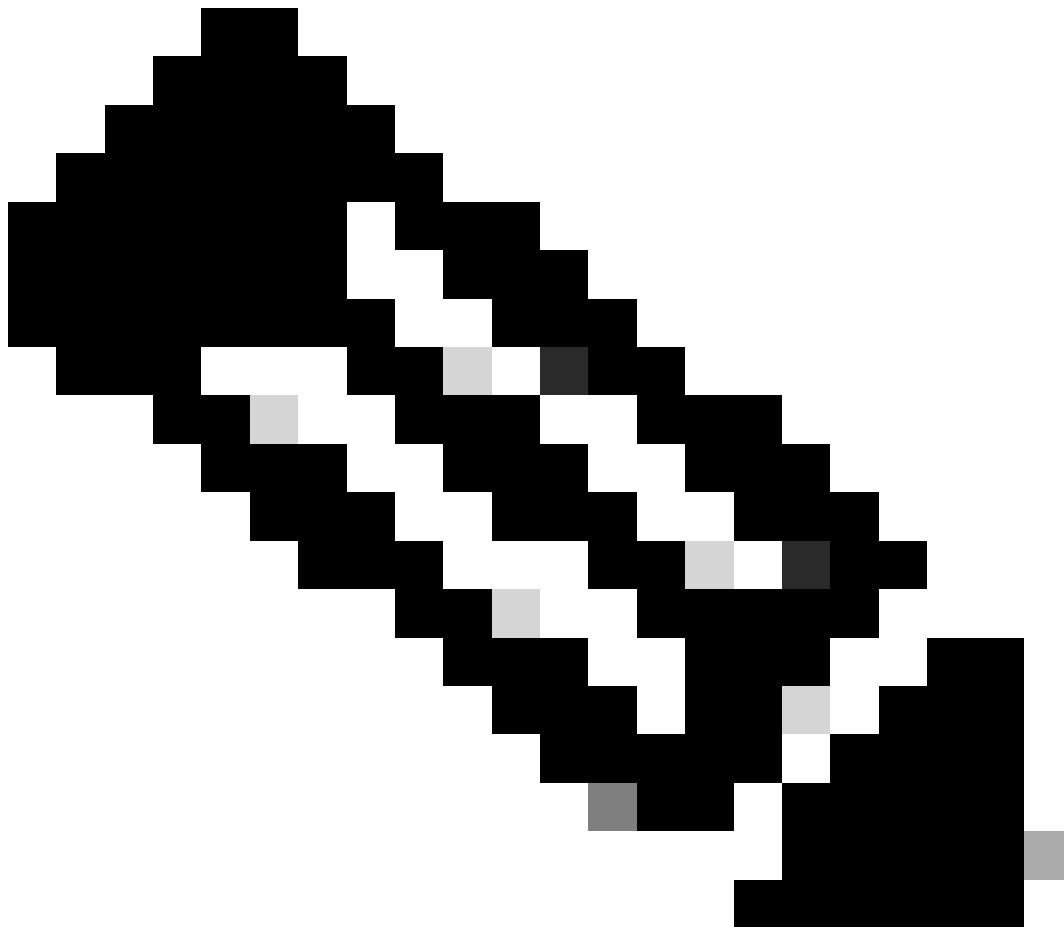
- To display information for particular ethernet-controller interface.

xFSU show tech-support xfsu

<#root>

```
show tech-support xfsu
```

```
- display xFSU technical support information
```



注意：(此CLI僅在Cisco IOS XE 17.8版本及更高版本中可用。) 對於17.3和17.6版本，請使用「show tech-support reloadfast」)

xFSU資格

注意： show xfsu eligibility -用於顯示xFSU資格資訊 (此CLI僅在Cisco IOS XE 17.8版及更高版本中可用)

show xfsu eligibility (獨立交換機)

<#root>

C9300_Switch#

show xfsu eligibility

```
Reload fast supported: Yes
Reload Fast PLATFORM Status: Not started yet
Stack Configuration: No
Eligibility Check      Status
=====              =====
Autoboot Enabled       No
Install Mode           Yes
Check macsec eligibility Eligible
```

<-- All the status must be Yes or eligible to continue xFSU

Spanning Tree Eligible

<-- For STP status must be eligible to continue xFSU

show xfsu eligibility (堆疊交換器)

<#root>

Switch#

show xfsu eligibility

```
Reload fast supported: Yes
Reload Fast PLATFORM Status: Not started yet
Stack Configuration: Yes
Eligibility Check            Status
=====                    =====
Autoboot Enabled            Yes
Install Mode                Yes
Network Advantage License Yes
Full ring stack             Yes
Check macsec eligibility    Eligible
```

<--

All the status must be Yes or eligible to continue xFSU

Spanning Tree Eligible

<-- For STP status must be eligible to continue xFSU

SSO Mode Yes

<-- If 'SSO mode' status is 'No', please wait until condition is met, then proceed

相關資訊

- [技術支援與文件 - Cisco Systems](#)
- 不支援的通訊協定清單：請[在此](#)參考連結
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