

連線6800IA(FEX)的Catalyst 6500系列交換機 ISSU升級程式

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簡介

本檔案介紹在虛擬交換系統(VSS)模式下使用具有連線雙宿主Cisco Catalyst 6800即時存取交換器(FEX)的Cisco Catalyst 6500系列交換器上的服務中軟體升級(ISSU)逐步程式。

必要條件

需求

本文件沒有特定需求。

採用元件

本文中的資訊是根據在VSS模式下執行Supervisor Engine 2T的Cisco Catalyst 6500系列交換器 (在WS-X6904-40G線路卡上連線雙宿主6800IA) 。

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。

升級程式

初始設定

執行Cisco IOS®軟體版本15.1(2)SY到版本15.1(2)SY1的升級程式。

以下是ISSU進程之前的統計資訊：

- 交換器ID為1的Catalyst 6500機箱處於作用中狀態，ID為2的交換器處於備用（熱態）狀態。
- 兩個機箱都在Cisco IOS軟體版本15.1(2)SY上啟動。
- 運行Cisco IOS軟體版本15.0(2)EX2的單個6800IA通過雙主連線連線到WS-X6904-40G線卡上的VSS。FEX埠通道編號為99,FEX ID為110。

```
6K1#show mod sw all
```

```
Switch Number:      1    Role:    Virtual Switch Active
-----
Mod Ports Card Type                               Model                               Serial No.
-----
 2     5  Supervisor Engine 2T 10GE w/ CTS (Acti VS-SUP2T-10G          SAL1632K9P2
 3     20 DCEF2T 4 port 40GE / 16 port 10GE      WS-X6904-40G          SAL1741E4ZA

Mod MAC addresses                               Hw    Fw           Sw           Status
-----
 2  c471.fe7c.de96 to c471.fe7c.de9d  1.3   12.2(50r)SYS 15.1(2)SY  Ok
 3  e02f.6d6a.698c to e02f.6d6a.699f  1.0   12.2(50r)SYL 15.1(2)SY  Ok

Mod  Sub-Module                               Model                               Serial                               Hw    Status
-----
 2  Policy Feature Card 4                       VS-F6K-PFC4                         SAL1637MCQQ                        1.2   Ok
 2  CPU Daughterboard                           VS-F6K-MSFC5                         SAL1637MKX8                        1.4   Ok
 3  Distributed Forwarding Card WS-F6K-DFC4-E                       SAL1745FSD6                        1.0   Ok

Mod  Online Diag Status
-----
 2  Pass
 3  Pass

Switch Number:      2    Role:    Virtual Switch Standby
-----
Mod Ports Card Type                               Model                               Serial No.
-----
 2     5  Supervisor Engine 2T 10GE w/ CTS (Hot) VS-SUP2T-10G          SAL1650UC8L
 3     20 DCEF2T 4 port 40GE / 16 port 10GE      WS-X6904-40G          SAL17173QD3

Mod MAC addresses                               Hw    Fw           Sw           Status
-----
 2  2c54.2dc4.2f3a to 2c54.2dc4.2f41  1.4   12.2(50r)SYS 15.1(2)SY  Ok
 3  70ca.9b8f.510c to 70ca.9b8f.511f  1.0   12.2(50r)SYL 15.1(2)SY  Ok

Mod  Sub-Module                               Model                               Serial                               Hw    Status
-----
 2  Policy Feature Card 4                       VS-F6K-PFC4                         SAL1651UG8P                        1.2   Ok
 2  CPU Daughterboard                           VS-F6K-MSFC5                         SAL1651UEBY                        1.5   Ok
 3  Distributed Forwarding Card WS-F6K-DFC4-E                       SAL17173QH Y                       1.2   Ok

Mod  Online Diag Status
-----
 2  Pass
 3  Pass

Switch Number:      110  Role:                               FEX
-----
Mod Ports Card Type                               Model                               Serial No.
-----
```

```

1 48 C6800IA 48GE C6800IA-48TD FOC1736W1A6

Mod MAC addresses Hw Fw Sw Status
-----
1 c025.5cc2.2d00 to c025.5cc2.2d33 0.0 Unknown 15.0(2)EX2 Ok

Mod Online Diag Status
-----
1 Pass

```

```

6K1#show switch virtual
Switch mode : Virtual Switch
Virtual switch domain number : 100
Local switch number : 1
Local switch operational role: Virtual Switch Active
Peer switch number : 2
Peer switch operational role : Virtual Switch Standby

```

升級步驟

1. 確保新的Cisco IOS映像(Cisco IOS軟體版本15.1(2)SY1)存在於bootdisk和slavebootdisk中。

```

6K1#dir bootdisk: | in s2t54
 5 -rw- 120035816 Jan 23 2014 22:35:12 +00:00
s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
 8 -rw- 119792104 Feb 10 2014 19:42:12 +00:00
s2t54-adventerprisek9-mz.SPA.151-2.SY.bin

6K1#dir slavebootdisk: | in s2t54
 5 -rw- 120035816 Jan 23 2014 22:26:14 +00:00
s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
 8 -rw- 119792104 Feb 10 2014 19:46:14 +00:00
s2t54-adventerprisek9-mz.SPA.151-2.SY.bin

```

2. (可選) 使用以下命令驗證VSS是否已準備好運行升級過程：

```
show issu state detail顯示備援show module switch all6K1#show issu state detail
```

該系統被配置為以交錯模式升級。
發現兩個管理引擎節點處於聯機狀態。
摘要:系統將以串聯模式升級。

```

Slot = 1/2
RP State = Active
ISSU State = Init
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
Operating Mode = sso
ISSU Sub-State = No Upgrade Operation in Progress
Starting Image = N/A
Target Image = N/A
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin

```

```

Slot = 2/2
RP State = Standby

```

```
ISSU State = Init
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
Operating Mode = sso
ISSU Sub-State = No Upgrade Operation in Progress
Starting Image = N/A
Target Image = N/A
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
```

This system is Fex-capable

Fex-ID ISSU Status

110 FEX_INIT

6K1#

6K1#show redundancy

Redundant System Information :

```
-----
Available system uptime = 36 minutes
Switchovers system experienced = 0
Standby failures = 0
Last switchover reason = none
```

```
Hardware Mode = Duplex
Configured Redundancy Mode = sso
Operating Redundancy Mode = sso
Maintenance Mode = Disabled
Communications = Up
```

Current Processor Information :

```
-----
Active Location = slot 1/2
Current Software state = ACTIVE
Uptime in current state = 36 minutes
Image Version = Cisco IOS Software, s2t54 Software
(s2t54-ADVENTERPRISEK9-M),
Version 15.1(2)SY, RELEASE SOFTWARE (fc4)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Wed 04-Sep-13 12:37 by prod_rel_team
BOOT = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102
```

Peer Processor Information :

```
-----
Standby Location = slot 2/2
Current Software state = STANDBY HOT
Uptime in current state = 34 minutes
Image Version = Cisco IOS Software, s2t54 Software
(s2t54-ADVENTERPRISEK9-M),
Version 15.1(2)SY, RELEASE SOFTWARE (fc4)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Wed 04-Sep-13 12:37 by prod_rel_team
BOOT = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102
```

3. 使用issu loadversion命令以啟動升級過程。

在此步驟中，VSS備用機箱將重新啟動，使用新映像重新載入，並在SSO冗餘模式下初始化為VSS備用機箱，同時運行新映像。如**Bulk sync succeeded**消息所示，當機箱配置同步時，完成此步驟。載入新映像和VSS備用機箱過渡到SSO模式可能需要幾秒到幾分鐘時間。

```
6K1#issu loadversion 1/2 bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
2/2 slavebootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
```

```
System configuration has been modified. Save? [yes/no]: yes
Building configuration...
[OK]
%issu loadversion initiated successfully, upgrade sequence will begin shortly
```

```
6K1#
*Feb 11 05:24:40.091: %ISSU_PROCESS-SW1-3-LOADVERSION: Loadversion sequence
will begin in 60 seconds. Enter 'issu abortversion' to cancel.

*Feb 11 05:25:10.091: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Resetting Standby shortly
```

```
<..output truncated..>
```

```
*Feb 11 05:29:46.075: %VS_GENERIC-SW1-6-VS_HA_HOT_STANDBY_NOTIFY: Standby switch
is in Hot Standby mode
*Feb 11 05:29:46.079: %HA_CONFIG_SYNC-SW1-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Feb 11 05:29:46.079: %RF-SW1-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)

*Feb 11 05:30:25.091: %ISSU_PROCESS-SW1-3-LOADVERSION: Loadversion has completed.
Please issue the 'issu runversion' command after all modules come online.
```

```
!
! Boot variable for standby should point to new Image in "show issu state detail" output.
```

```
6K1#show issu state det
The system is configured to be upgraded in staggered mode.
2 supervisor nodes are found to be online.
Summary: an in-tandem upgrade is in progress.

Slot = 1/2
RP State = Active
ISSU State = Load Version
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
Operating Mode = sso
ISSU Sub-State = Load Version Completed
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin

Slot = 2/2
RP State = Standby
ISSU State = Load Version
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12
Operating Mode = sso
ISSU Sub-State = Load Version Completed
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
```

This system is Fex-capable

Fex-ID ISSU Status

110 FEX_UPGRADE_INIT

6K1#show redundancy states

```
my state = 13 -ACTIVE
peer state = 8 -STANDBY HOT
  Mode = Duplex
  Unit = Secondary
  Unit ID = 18
```

```
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured) = sso
Redundancy State = sso
  Maintenance Mode = Disabled
  Manual Swact = enabled
  Communications = Up
```

```
client count = 144
client_notification_TMR = 30000 milliseconds
  keep_alive TMR = 9000 milliseconds
  keep_alive count = 1
  keep_alive threshold = 19
  RF debug mask = 0x0
```

4. 當VSS備用機箱在SSO冗餘狀態下成功運行新映像，並且VSS備用機箱上的所有線卡都處於開啟和聯機狀態時，輸入**issu runversion**命令以強制切換。升級後的VSS備用機箱將接管新的活動機箱，並運行新的映像。以前活動的機箱在SSO模式下重新載入並初始化為新的VSS備用機箱，運行舊映像（在軟體升級需要中止並且舊映像需要恢復的情況下）。如**Bulk sync succeeded**消息所示，當機箱配置同步時，完成此步驟。

6K1#issu runversion

此命令將重新載入主用裝置。

Proceed ? [confirm]

%issu runversion initiated successfully

```
*Feb 11 05:35:19.035: %RF-SW1-5-RF_RELOAD: Self reload. Reason: Admin ISSU
runversion CLI
<..output truncated..>
```

```
Feb 11 05:35:21.411: %SYS-SW1-5-SWITCHOVER: Switchover requested by Exec.
Reload Reason: Admin ISSU runversion CLI.
Resetting .....
```

```
!
!Standby chassis now becomes active. Below logs are from new active switch.
!
```

```
Initializing as Virtual Switch ACTIVE processor
.
.
```

```
*Feb 11 05:37:36.107: %PFREDUN-SW2-6-ACTIVE: Standby initializing for SSO mode

*Feb 11 05:39:56.563: %HA_CONFIG_SYNC-SW2-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Feb 11 05:39:56.563: %RF-SW2-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
*Feb 11 05:39:56.555: %PFREDUN-SW1_STBY-6-STANDBY: Ready for SSO mode in Default Domain
```

```
! Wait till all the modules and Fex Port-channel 99 links come up
!
```

```
*Feb 11 05:41:28.467: %ISSU_PROCESS-SW2-6-RUNVERSION_INFO: Runversion has completed.
Please issue the 'issu acceptversion' command
```

```
Feb 11 05:43:13.034: %LINK-3-UPDOWN: Interface TenGigabitEthernet1/0/2, changed
state to up (FEX-110)
```

```
Feb 11 05:43:14.033: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet1/0/2, changed state to up (FEX-110)
```

```
*Feb 11 05:43:14.491: %SATMGR-SW2-5-FABRIC_PORT_UP: SDP up on interface Te1/3/5,
connected to FEX 110, uplink 52
```

```
*Feb 11 05:43:14.491: %SATMGR-SW2-5-DUAL_ACTIVE_DETECT_CAPABLE: channel group 99
is now dual-active detection capable
```

```
6K1#show issu state
```

```
The system is configured to be upgraded in staggered mode.
2 supervisor nodes are found to be online.
Summary: an in-tandem upgrade is in progress.
```

```
Slot = 2/2
```

```
RP State = Active
```

```
ISSU State = Run Version
```

```
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;
```

```
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12
```

```
Slot = 1/2
```

```
RP State = Standby
```

```
ISSU State = Run Version
```

```
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
```

```
This system is Fex-capable
```

```
Fex-ID    ISSU Status
```

```
110      FEX_UPGRADE_INIT
```

```
6K1#show fex 110 detail
```

```
FEX: 110          Description: FEX0110          state: online
FEX version: 15.0(2)EX2
Extender Model: C6800IA-48TD, Extender Serial: FOC1736W1A6
FCP ready: yes
Image Version Check: enforced
Fabric Portchannel Ports: 2
Fabric port for control traffic: Te2/3/5
Fabric interface state:
```

```
  Po99           - Interface Up.
  Te1/3/5        - Interface Up.          state: bound
  Te2/3/5        - Interface Up.          state: bound
```

5. 使用 `issu acceptversion` 命令可停止回滾計時器。這是必要的，因為如果計時器過期，升級的機箱將重新載入並恢復到以前的軟體版本。

```
6K1#issu acceptversion  
% Rollback timer stopped. Please issue the 'issu commitversion' command.
```

6. 使用**issu runversion fex all**命令以在FEX(6800IA)上啟動映像下載和升級過程。FEX會觸發從 Supervisor2T(這裡是Cisco IOS軟體版本15.2(2)SY1)的新軟體套件下載映像。如果使用 FEX堆疊，主節點負責將映像解壓到其成員。TFTP伺服器運行於192.1.1.1。

```
6K1#issu runversion fex all
```

```
% Successfully initiated 'runversion fex' for Fex IDs: 110.
```

```
Use 'show issu state' for more information.
```

```
6K1#show issu state det
```

```
The system is configured to be upgraded in staggered mode.  
2 supervisor nodes are found to be online.  
Summary: an in-tandem upgrade is in progress.
```

```
Slot = 2/2  
RP State = Active  
ISSU State = Run Version  
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;bootdisk:  
s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12  
Operating Mode = sso  
ISSU Sub-State = Run Version Completed  
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin  
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin  
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
```

```
Slot = 1/2  
RP State = Standby  
ISSU State = Run Version  
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;  
Operating Mode = sso  
ISSU Sub-State = Run Version Completed  
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin  
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin  
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
```

```
This system is Fex-capable
```

```
Fex-ID ISSU Status
```

```
110 FEX_UPGRADE_IN_PROGRESS
```

```
Following are the logs on from FEX 6800IA console:
```

```
!
```

```
!192.1.1.1 is the tftp running on FEX controller i.e. VSS active and vlan 1012 is the control vlan associated with fex.
```



```
!  
FEX-110#  
Loading c6800ia-universalk9-mz.150-2.EX4.bin from 192.1.1.1  
(via Vlan1012): !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
[OK - 15493122 bytes]
```

```
examining image...  
extracting info (112 bytes)  
extracting c6800ia-universalk9-mz.150-2.EX4/info (792 bytes)  
extracting info (112 bytes)
```

Stacking Version Number: 1.55

```
System Type:          0x00000000  
Ios Image File Size: 0x00EB5200  
Total Image File Size: 0x00EC6A00  
Minimum Dram required: 0x08000000  
Image Suffix:        universalk9-150-2.EX4  
Image Directory:     c6800ia-universalk9-mz.150-2.EX4  
Image Name:          c6800ia-universalk9-mz.150-2.EX4.bin  
Image Feature:       IP|LAYER_2|SSH|3DES|MIN_DRAM_MEG=128  
FRU Module Version:  No FRU Version Specified
```

```
Old image for switch 1: flash:/c6800ia-universalk9-mz.150-2.EX2  
Old image will be left alone
```

Extracting images from archive into flash...

! The console will be waiting for about 5-10 minutes after the above line.

<output truncated>

New software image installed in flash:/c6800ia-universalk9-mz.150-2.EX4

Following are the logs from the 6500 Active supervisor:

```
*Feb 11 06:00:30.387: %SATMGR-SW2-5-ONLINE: FEX 110 online  
*Feb 11 06:00:30.391: %SATMGR-SW2-5-FEX_MODULE_ONLINE: FEX 110, module 1 online  
*Feb 11 06:00:30.395: %OIR-SW2-6-INSREM: Switch 110 Physical Slot 1 - Module  
Type LINE_CARD inserted  
*Feb 11 06:00:30.951: %SATMGR-SW2-5-FABRIC_PORT_UP: SDP up on interface Te2/3/5,  
connected to FEX 110, uplink 51  
*Feb 11 06:00:30.951: %SATMGR-SW2-5-DUAL_ACTIVE_DETECT_CAPABLE: channel group  
99 is now dual-active detection capable  
*Feb 11 06:01:00.983: %OIR-SW2-6-SP_INSCARD: Card inserted in Switch_number =  
110, physical slot 1, interfaces are now online
```

```
FEX-110#show ver | in image  
System image file is "flash:/c6800ia-universalk9-mz.150-2.EX4/  
c6800ia-universalk9-mz.150-2.EX4.bin"
```

6K1#show issu state det

```
The system is configured to be upgraded in staggered mode.  
2 supervisor nodes are found to be online.  
Summary: an in-tandem upgrade is in progress.
```

```
Slot = 2/2  
RP State = Active  
ISSU State = Run Version  
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;  
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12  
Operating Mode = sso
```

```

ISSU Sub-State = Run Version Completed
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
  Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin

      Slot = 1/2
      RP State = Standby
      ISSU State = Run Version
      Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12;
Operating Mode = sso
ISSU Sub-State = Run Version Completed
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
  Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin

```

This system is Fex-capable

```

Fex-ID    ISSU Status

    110    FEX_UPGRADE_COMPLETE

```

7. 若要繼續，請輸入 `issu commitversion` 命令以升級 VSS 備用機箱並完成 ISSU 序列。VSS 備用機箱重新引導，使用新映像重新載入，並在運行新映像時初始化為 SSO 冗餘狀態的 VSS 備用機箱。如果機箱配置已同步(如 **批次同步成功** 消息所示)，並且新的 VSS-Standby 上的所有線卡都處於開啟狀態並聯機狀態，則完成此步驟。

```

6K1#issu commitversion
%issu commitversion initiated successfully, upgrade sequence will continue shortly

6K1#
*Feb 11 06:05:30.839: %ISSU_PROCESS-SW2-3-COMMITVERSION: issu commitversion;
Commitversion sequence will begin in 60 seconds. Enter 'issu abortversion'
to cancel.
*Feb 11 06:06:00.839: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO:
Resetting Standby shortly

*Feb 11 06:08:48.571: %PFREDUN-SW2-6-ACTIVE: Standby initializing for SSO mode
*Feb 11 06:09:01.163: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby has
come online, wait for terminal state
.
.
*Feb 11 06:10:41.267: %VS_GENERIC-SW2-6-VS_HA_HOT_STANDBY_NOTIFY: Standby switch
is in Hot Standby mode
*Feb 11 06:10:41.271: %HA_CONFIG_SYNC-SW2-6-BULK_CFGSYNC_SUCCEED:
Bulk Sync succeeded
*Feb 11 06:10:41.271: %RF-SW2-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)

*Feb 11 06:10:46.403: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Upgrade has completed,
updating boot configuration

!

!Boot variable now displays both new and old image in ?show issu state detail? output.

!

```

6K1#show issu state detail

The system is configured to be upgraded in staggered mode.
2 supervisor nodes are found to be online.
Summary: an in-tandem upgrade is in progress.

Slot = 2/2
RP State = Active
ISSU State = Commit Version
**Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12**
Operating Mode = sso
ISSU Sub-State = Commit Version completed, waiting for system to settle
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin

Slot = 1/2
RP State = Standby
ISSU State = Commit Version
**Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12**
Operating Mode = sso
ISSU Sub-State = Commit Version completed, waiting for system to settle
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin

This system is Fex-capable

Fex-ID	ISSU Status
110	FEX_UPGRADE_COMPLETE

6K1#show redundancy

Redundant System Information :

Available system uptime = 1 hour, 28 minutes
Switchovers system experienced = 1
Standby failures = 1
Last switchover reason = user forced

Hardware Mode = Duplex
Configured Redundancy Mode = sso
Operating Redundancy Mode = sso
Maintenance Mode = Disabled
Communications = Up

Current Processor Information :

Active Location = slot 2/2
Current Software state = ACTIVE
Uptime in current state = 36 minutes
Image Version = Cisco IOS Software, s2t54 Software
(s2t54-ADVENTERPRISEK9-M), Version 15.1(2)SY1, RELEASE SOFTWARE (fc4)
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Thu 28-Nov-13 12:58 by prod_rel_team
BOOT = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY.bin,12

```

CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102

Peer Processor Information :
-----
Standby Location = slot 1/2
Current Software state = STANDBY HOT
Uptime in current state = 1 minute
Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-
M),
Version 15.1(2)SY1, RELEASE SOFTWARE (fc4)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Thu 28-Nov-13 12:58 by prod_rel_team
BOOT = bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12;
bootdisk:s2t54-adventerprisek9-mz.SPA.151-2.SY1.bin,12
CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102

```

驗證

若要確認升級是否成功，請使用以下命令：

- **show issu state detail**
- 顯示備援
- **show module switch all**

以下是ISSU進程之後的當前狀態：

- 交換機ID 2的6500機箱處於活動狀態，ID 1的交換機處於備用狀態（熱備份）。它們現在使用Cisco IOS軟體版本15.1(2)SY1。
- 即時存取使用者端(6800IA)現在執行Cisco IOS軟體版本15.0(2)EX4。

```
6K1#show mod swi all
```

```

Switch Number:      1   Role:  Virtual Switch Standby
-----
Mod Ports Card Type                               Model                               Serial No.
-----
 2    5  Supervisor Engine 2T 10GE w/ CTS (Hot) VS-SUP2T-10G          SAL1632K9P2
 3    20 DCEF2T 4 port 40GE / 16 port 10GE      WS-X6904-40G          SAL1741E4ZA

Mod MAC addresses                               Hw   Fw           Sw           Status
-----
 2  c471.fe7c.de96 to c471.fe7c.de9d  1.3  12.2(50r)SYS 15.1(2)SY1  Ok
 3  e02f.6d6a.698c to e02f.6d6a.699f  1.0  12.2(50r)SYL 15.1(2)SY1  Ok

Mod  Sub-Module                               Model                               Serial                               Hw   Status
-----
 2  Policy Feature Card 4                       VS-F6K-PFC4                       SAL1637MCQQ                        1.2  Ok
 2  CPU Daughterboard                           VS-F6K-MSFC5                       SAL1637MKX8                        1.4  Ok
 3  Distributed Forwarding Card WS-F6K-DFC4-E                       SAL1745FSD6                        1.0  Ok

Mod  Online Diag Status
-----
 2  Pass
 3  Pass

```

Switch Number: 2 Role: Virtual Switch Active

```
-----  
Mod Ports Card Type Model Serial No.  
-----  
2 5 Supervisor Engine 2T 10GE w/ CTS (Acti VS-SUP2T-10G SAL1650UC8L  
3 20 DCEF2T 4 port 40GE / 16 port 10GE WS-X6904-40G SAL17173QD3
```

```
-----  
Mod MAC addresses Hw Fw Sw Status  
-----  
2 2c54.2dc4.2f3a to 2c54.2dc4.2f41 1.4 12.2(50r)SYS 15.1(2)SY1 Ok  
3 70ca.9b8f.510c to 70ca.9b8f.511f 1.0 12.2(50r)SYL 15.1(2)SY1 Ok
```

```
-----  
Mod Sub-Module Model Serial Hw Status  
-----  
2 Policy Feature Card 4 VS-F6K-PFC4 SAL1651UG8P 1.2 Ok  
2 CPU Daughterboard VS-F6K-MSFC5 SAL1651UEBY 1.5 Ok  
3 Distributed Forwarding Card WS-F6K-DFC4-E SAL17173QHY 1.2 Ok
```

Mod Online Diag Status

```
-----  
2 Pass  
3 Pass
```

Switch Number: 110 Role: FEX

```
-----  
Mod Ports Card Type Model Serial No.  
-----  
1 48 C6800IA 48GE C6800IA-48TD FOC1736W1A6
```

```
-----  
Mod MAC addresses Hw Fw Sw Status  
-----  
1 c025.5cc2.2d00 to c025.5cc2.2d33 0.0 Unknown 15.0(2)EX4 Ok
```

Mod Online Diag Status

```
-----  
1 Pass
```

6K1#

6K1#show switch virtual

```
Switch mode : Virtual Switch  
Virtual switch domain number : 100  
Local switch number : 2  
Local switch operational role: Virtual Switch Active  
Peer switch number : 1  
Peer switch operational role : Virtual Switch Standby
```