

Catalyst 6500 Series Switch与(FEX)的ISSU升级程序被连接的6800IA

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Introduction

本文在与使用的虚拟交换系统(VSS)模式描述在Cisco Catalyst 6500 Series Switches的一个逐步In-Service Software Upgrade (ISSU)程序Supervisor 2T用(FEX)附上的双重址的Cisco Catalyst 6800即时接入交换机。

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

本文的信息根据Cisco Catalyst 6500 Series Switches在运行Supervisor引擎2T以在WS-X6904-40G线路卡附有的双重址的6800IA的VSS模式下。

The information in this document was created from the devices in a specific lab environment.All of the devices used in this document started with a cleared (default) configuration.If your network is live, make sure that you understand the potential impact of any command.

升级程序

初始设置

升级程序为对版本15.1(2)SY1的Cisco IOS软件版本15.1(2)SY执行。

这是统计数据在ISSU进程前：

- 与交换机ID 1的Catalyst 6500机箱是活跃的，并且有ID的2交换机暂挂(热)。
- 两个机箱是UP在Cisco IOS Software Release 15.1(2)SY。
- 运行Cisco IOS软件版本15.0(2)EX2的单个6800IA被连接到在WS-X6904-40G线路卡的VSS用双归属连接。FEX Port-Channel编号是99，并且FEX ID是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    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)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

```

升级步骤

1. 切记新的Cisco IOS镜像(Cisco IOS软件版本15.1(2)SY1)是存在bootdisk和slavebootdisk。

```

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. (可选)请使用这些命令为了验证VSS是准备好的升级程序：

显示issu状态详细资料显示冗余show module交换机全部6K1#show issu状态详细资料

在交错排列模式下配置系统被升级。
发现两Supervisor节点联机。
汇总：系统在模式下一前一后将被升级。

```

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. 请使用issu loadversion命令为了开始升级进程。

在此步骤，VSS暂挂机箱在SSO冗余模式下重新启动，与新的镜像的重新加载，并且初始化作为VSS暂挂机箱，运行新的镜像。此步骤完成，当机箱配置同步时，如表示的是由**大批同步成功**的消息。它也许用几秒钟到几分钟新的镜像的能装载和VSS暂挂机箱的能过渡到SSO模式。

```
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. 当VSS暂挂机箱在SSO冗余状态时成功地运转新的镜像，并且所有在VSS暂挂机箱的线路卡上和联机，请输入**issu runversion**命令为了强加切换。被升级的VSS暂挂机箱接管作为新的活动机箱，运行新的镜像。以前活动机箱重新加载和在SSO模式下初始化作为新的VSS暂挂机箱，运行旧镜像(万一软件升级需要被中止，并且旧镜像恢复)。此步骤完成，当机箱配置同步时，如表示的是由**大批同步成功**的消息。

```
6K1#issu runversion
```

此命令将重新载入激活的单元。

```
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. 请使用**issu acceptversion**命令为了终止回退计时器。这是必要的，因为，如果计时器到期，被升级的机箱重新加载并且恢复对早先软件版本。

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

6. 请使用**all**命令**issu runversion**的**fex**为了开始图像下载和升级程序在FEX (6800IA)。FEX触发从 Supervisor2T (这里Cisco IOS软件版本15.2(2)SY1)的新的软件套件的图像下载。如果使用 FEX堆栈，主设备是负责的提取镜像对其成员。TFTP server运行在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-adventerprise9-mz.SPA.151-2.SY1.bin,12;
bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY.bin,12
Operating Mode = sso
ISSU Sub-State = Run Version Completed
Starting Image = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY.bin
    Target Image = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY1.bin

        Slot = 1/2
        RP State = Standby
        ISSU State = Run Version
        Boot Variable = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY.bin,12;
Operating Mode = sso
ISSU Sub-State = Run Version Completed
Starting Image = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY.bin
    Target Image = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY1.bin
Current Version = bootdisk:s2t54-adventerprise9-mz.SPA.151-2.SY.bin

```

This system is Fex-capable

```

Fex-ID    ISSU Status

    110    FEX_UPGRADE_COMPLETE

```

7. 为了继续，请输入**issu commitversion**命令升级VSS暂挂机箱和完成ISSU顺序。VSS暂挂机箱重新启动，与新的镜像的重新加载，并且初始化作为VSS暂挂机箱在SSO冗余状态，运行新的镜像。此步骤完成，当机箱配置同步时，如表示的是由**大批同步成功**的消息，并且所有在新VSS暂挂的线路卡上和联机。

```

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_SUCCEEDED:
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.SY1.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

```

Verify

为了验证升级是成功的，请使用这些命令：

- 显示issu状态详细资料
- 显示冗余
- show module交换机全部

这是当前状态在ISSU进程以后：

- 与交换机ID 2的6500个机箱是活跃的，并且有ID的1交换机暂挂(热)。他们当前在Cisco IOS软件版本15.1(2)SY1。
- 瞬时访问客户端(6800IA)当前运行Cisco IOS Software Release 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