6800IA(FEX)가 연결된 Catalyst 6500 Series Switch ISSU 업그레이드 절차

목차

소개

이 문서에서는 듀얼 홈 Cisco Catalyst 6800 FEX(Instant Access Switches)가 연결된 Supervisor 2T를 사용하는 VSS(Virtual Switching System) 모드의 Cisco Catalyst 6500 Series 스위치에 대한 단계별 ISSU(In-Service Software Upgrade) 절차에 대해 설명합니다.

사전 요구 사항

요구 사항

이 문서에 대한 특정 요건이 없습니다.

사용되는 구성 요소

이 문서의 정보는 WS-X6904-40G 라인 카드에 듀얼 홈 6800IA가 연결된 Supervisor Engine 2T를 실행하는 VSS 모드의 Cisco Catalyst 6500 Series 스위치를 기반으로 합니다.

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다.이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다.현재 네트워크가 작동 중인 경우, 모든 명령어의 잠재적인 영향을 미리 숙지하시기 바랍니다.

업그레이드 절차

초기 설정

업그레이드 절차는 Cisco IOS® Software Release 15.1(2)SY에서 Release 15.1(2)SY1에 대해 수행됩니다.

ISSU 프로세스 이전의 통계는 다음과 같습니다.

- 스위치 ID가 1인 Catalyst 6500 섀시는 활성 상태이고 ID가 2인 스위치는 대기(핫)입니다.
- 두 섀시 모두 Cisco IOS Software 릴리스 15.1(2)SY에 있습니다.
- Cisco IOS 소프트웨어 릴리스 15.0(2)EX2를 실행하는 단일 6800IA가 듀얼 홈 연결을 통해 WS-X6904-40G 라인 카드의 VSS에 연결됩니다.FEX 포트 채널 번호는 99이고 FEX ID는 110입니다.

```
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
```

업그레이드 단계

1. 새 Cisco IOS 이미지(Cisco IOS Software Release 15.1(2)SY1)가 부팅 디스크 및 slavebootdisk에 있는지 확인합니다.

```
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. (선택 사항) 다음 명령을 사용하여 VSS가 업그레이드 절차를 실행할 준비가 되었는지 확인합니다.
   issu 상태 세부 정보 표시이중화 표시모듈 스위치 모두 표시6K1#**상태 세부 정보 표시**

   시스템은 시차 모드로 업그레이드되도록 구성됩니다.
   2개의 수퍼바이저 노드가 온라인 상태인 것으로 확인되었습니다.
   요약:시스템은 직렬 모드로 업그레이드됩니다.

```
            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. issu loadversion 명령을 사용하여 업그레이드 프로세스를 시작합니다.

이 단계에서는 VSS 대기 섀시가 재부팅되고 새 이미지로 다시 로드되며 SSO 이중화 모드에서 VSS 대기 섀시로 초기화되어 새 이미지를 실행합니다.이 단계는 Bulk sync succeeded 메시지에 표시된 대로 섀시 컨피그레이션이 동기화될 때**에** 완료됩니다.새 이미지가 로드되고 VSS 대기 섀시가 SSO 모드로 전환되는 데 몇 초에서 몇 분 정도 걸릴 수 있습니다.

```
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. VSS 스탠바이 섀시가 SSO 이중화 상태에서 새 이미지를 성공적으로 실행하고 VSS 스탠바이 섀시의 모든 라인 카드가 작동 및 온라인 상태인 경우 전환을 강제로 수행하려면 issu runversion 명령을 입력합니다.업그레이드된 VSS 스탠바이 섀시가 새 액티브 섀시를 인수하여 새 이미지를 실행합니다.이전의 활성 섀시는 SSO 모드에서 새 VSS 대기 섀시로 다시 로드되고 초기화되어 이전 이미지를 실행합니다(소프트웨어 업그레이드를 중단하고 이전 이미지를 복원해야 하는 경우). 이 단계는 Bulk sync succeeded 메시지에 표시된 대로 섀시 컨피그레이션이 동기화될 때에 완료됩니다.

   6K1#issu 실행 버전

   이 명령은 액티브 유닛을 다시 로드합니다.

```
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. 롤백 타이머를 중지하려면 issu acceptversion 명령을 사용합니다.타이머가 만료되면 업그레이드된 섀시가 다시 로드되고 이전 소프트웨어 버전으로 복원되기 때문에 이 작업이 필요합니다.

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

6. FEX(6800IA)에서 이미지 다운로드 및 업그레이드 절차를 시작하려면 issu runversion fex all 명령을 사용합니다. FEX는 Supervisor2T의 새 소프트웨어 번들에서 이미지 다운로드를 트리거합니다(Cisco IOS 소프트웨어 릴리스 15.2(2)SY1). FEX 스택을 사용하는 경우 마스터는 해당 멤버에 이미지를 추출할 책임이 있습니다.TFTP 서버는 192.1.1.1에서 실행됩니다.

```
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. 계속하려면 issu commitversion 명령**을 입력하여** VSS 대기 섀시를 업그레이드하고 ISSU 시퀀스를 완료합니다.VSS 대기 섀시는 재부팅되고 새 이미지로 다시 로드되며 SSO 이중화 상태에서 VSS 대기 섀시로 초기화되어 새 이미지를 실행합니다.이 단계는 **대량 동기화 성공** 메시지에 표시된 대로 섀시 컨피그레이션이 동기화되고 새 VSS-Standby의 모든 라인 카드가 작동 및 온라인 상태일 때 완료됩니다.

```
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.SY.bin,12
                CONFIG_FILE =
                    BOOTLDR =
        Configuration register = 0x2102
```

다음을 확인합니다.

업그레이드가 성공했는지 확인하려면 다음 명령을 사용합니다.

- **issu 상태 세부 정보 표시**
- **이중화 표시**
- **모듈 스위치 모두 표시**

다음은 ISSU 프로세스 이후의 현재 상태입니다.

- 스위치 ID 2가 있는 6500 섀시는 활성 상태이고 ID가 1인 스위치는 대기(핫)입니다. 이제 Cisco IOS Software 버전 15.1(2)SY1에 있습니다.
- Instant Access 클라이언트(6800IA)가 이제 Cisco IOS Software 릴리스 15.0(2)EX4를 실행합니다.

```
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
```