

了解增强的快速软件升级- Catalyst 6500 VSS上的Quad-SUP

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简介

本文档介绍在VSS模式下的Cisco Catalyst 6500系列交换机上使用管理引擎6T和四管理引擎设置下的双宿的ISSU/eFSU分步过程。

先决条件

要求

Cisco 建议您了解以下主题：

- Catalyst 6500 QUAD-SUP虚拟交换系统(VSS)设置和配置的基础知识
- 使用TFTP/USB/WebUI方法复制图像

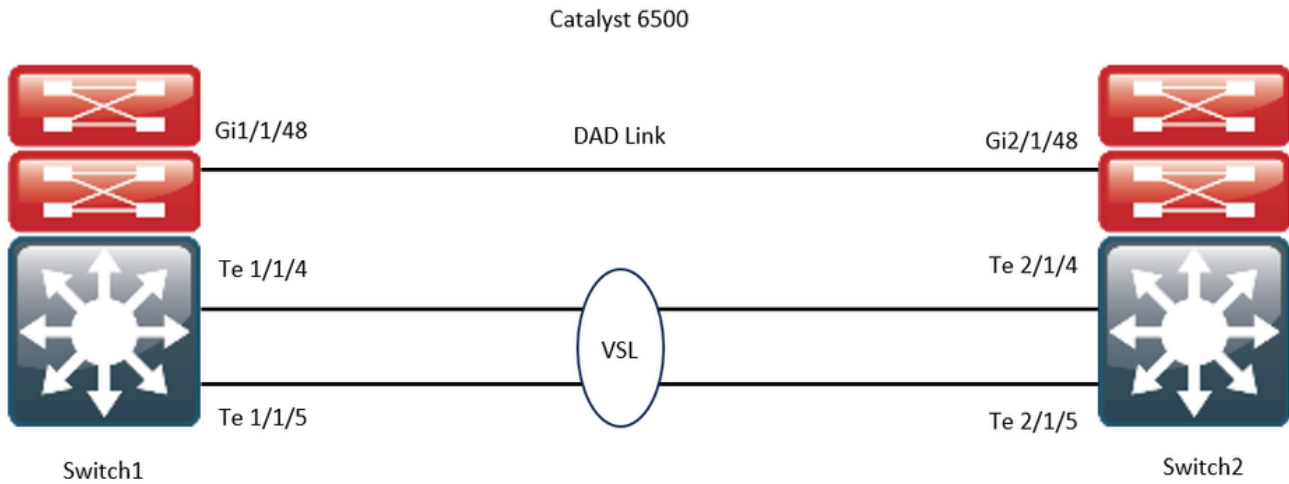
使用的组件

本文档中的信息基于Cisco IOS®软件版本15.5(1)SY12或更高版本上的Cisco Catalyst 6500虚拟交换系统

软件和硬件版本.

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

拓扑



兼容性矩阵检查

步骤1: 请参阅此Cisco文档<https://www.cisco.com/c/en/us/support/switches/catalyst-6500-series-switches/products-release-notes-list.html#anchor142>。

第二步：在设备CLI中使用命令进行验证：

```
<#root>
```

```
WS-C6504-E-1#
```

```
show issu comp-matrix stored
```

```
Number of Matrices in Table = 1
```

```
(1) Matrix for s2t54-ADVENTERPRISEK9-M(10) - s2t54-ADVENTERPRISEK9-M(10)
```

```
=====
```

```
Start Flag (0xDEADBABE)
```

```
My Image ver: 15.5(1)SY13
```

```
Peer Version Compatibility
```

```
-----
```

```
15.1(2)SY Incomp(1)  
15.1(2)SY1 Incomp(1)  
15.1(2)SY2 Incomp(1)  
15.5(1)SY Dynamic(0)  
15.5(1)SY1 Dynamic(0)  
15.1(2)SY12 Incomp(1)  
15.2(1)SY6 Incomp(1)  
15.4(1)SY4 Incomp(1)  
15.5(1)SY2 Dynamic(0)
```

```
15.5(1)SY3 Dynamic(0)
```

15.5(1)SY4 Dynamic(0)

15.5(1)SY5 Dynamic(0)

15.5(1)SY6 Dynamic(0)

15.5(1)SY7 Dynamic(0)

15.5(1)SY8 Dynamic(0)

15.5(1)SY9 Dynamic(0)

15.5(1)SY10 Dynamic(0)

15.5(1)SY11 Dynamic(0)

15.5(1)SY12 Dynamic(0)

15.5(1)SY13 Comp(3)

升级 程序

步骤1:确保新的Cisco IOS映像(Cisco IOS软件版本15.5(1)SY13)存在于bootdisk,slavebootdisk,ics-bootdisk,slave-ics-bootdisk中。

```
WS-C6504-E-1#dir bootdisk: | i SY13
8 -rw- 167430292 Apr 16 2024 22:55:58 +00:00 s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
WS-C6504-E-1#dir slavebootdisk: | i SY13
19 -rw- 167430292 Apr 16 2024 00:37:58 +00:00 s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
WS-C6504-E-1#dir ics-bootdisk: | i SY13
11 -rw- 167430292 Apr 16 2024 23:06:18 +00:00 s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
WS-C6504-E-1#dir slave-ics-bootdisk: | i SY13
5 -rw- 167430292 Apr 16 2024 23:20:18 +00:00 s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
```

第二步：使用以下命令可验证VSS是否已准备好运行升级过程：

<#root>

WS-C6504-E-1#show redundancy

Redundant System Information :

Available system uptime = 1 day, 4 hours, 41 minutes
Switchovers system experienced = 0
Standby failures = 1
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 1/1
Current Software state =

ACTIVE >> Switch 1 Slot 1 is active

Uptime in current state = 1 day, 4 hours, 41 minutes

Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-M), Version

Technical Support: <http://www.cisco.com/techsupport>

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Compiled Tue 05-Sep-23 11:24 by mcpre

BOOT =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

,12;

CONFIG_FILE =

BOOTLDR =

Configuration register = 0x2102

Peer Processor Information :

Standby Location = slot 2/1
Current Software state =

STANDBY HOT >> Switch 2 Slot 1 is standby

Uptime in current state = 19 hours, 43 minutes

Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-M), Version

Technical Support: <http://www.cisco.com/techsupport>

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Compiled Tue 05-Sep-23 11:24 by mcpre

BOOT =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

,12;

CONFIG_FILE =

BOOTLDR =

Configuration register = 0x2102

<#root>

WS-C6504-E-1#show issu state detail

The system is configured to be upgraded in staggered mode.

4 supervisor nodes are found to be online.

Summary: the system will be upgraded in staggered mode.

Slot = 1/1

RP State = Active

ISSU State = Init

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY12.bin

Slot = 2/1

RP State = Standby

ISSU State = Init

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY12.bin

Slot = 1/2

RP State = Active-ICS

ISSU State = Init

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY12.bin

Slot = 2/2

RP State = Standby-ICS

ISSU State = Init

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY12.bin

第三步：请使用issu loadversion命令以开始升级过程。

在此步骤中，VSS备用机箱将重新启动，使用新映像重新加载，并在状态化切换(SSO)冗余模式下初始化为VSS备用机箱，同时运行新映像。如批量同步成功消息中所示，同步机箱配置时，此步骤完成。加载新映像和VSS备用机箱过渡到SSO模式可能需要几秒钟到几分钟的时间。

<#root>

WS-C6504-E-1#issu loadversion 1/1 bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin 2/1 slavebootdisk

System configuration has been modified. Save? [yes/no]: y

Building configuration...

[OK]

*Apr 17 00:43:14.195: %ISSU_PROCESS-SW1-3-LOADVERSION: Loadversion sequence will begin in 60 seconds. ER

*Apr 17 00:43:44.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Resetting Standby shortly

*Apr 17 00:43:44.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Resetting Standby ICS shortly

*Apr 17 00:43:44.199: %ISSU_PROCESS-SW2-STBY-6-SELF_RELOAD: slot 33 countdown to self-reload started, 3

*Apr 17 00:43:44.199: %ISSU_PROCESS-SW2-2-STBY-6-SELF_RELOAD: slot 34 countdown to self-reload started,

*Apr 17 00:44:29.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Standby ICS has gone offline

*Apr 17 00:44:29.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Standby has gone offline

*Apr 17 00:46:59.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Standby has come online, wait for Standby I

*Apr 17 00:47:44.503: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Standby ICS has come online

*Apr 17 00:49:15.363: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Standby reached terminal state

*Apr 17 00:49:29.199: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Standby ICS reached terminal state, wait fo

*Apr 17 00:49:59.195: %ISSU_PROCESS-SW1-3-LOADVERSION: Loadversion has completed. Please issue the 'issu

*Apr 17 00:49:59.195: %ISSU_PROCESS-SW1-3-LOADVERSION: Loadversion has completed. Please issue the 'issu

第四步：standby的引导变量必须指向show issu state detail输出中的新映像。

<#root>

WS-C6504-E-1#

show issu state detail

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

Slot = 1/1

RP State = Active

ISSU State = Load Version

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12;bootdisk:s2t54-adventerprisek9-

Operating Mode = sso

ISSU Sub-State = Load Version Completed

Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

Slot = 2/1

RP State = Standby

ISSU State =

Load Version

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin,12;bootdisk:s2t54-adventerprisek9-

Operating Mode = sso

ISSU Sub-State = Load Version Completed

Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

Current Version =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

>> Standby Chassis has been upgraded to latest code

Slot = 1/2

RP State = Active-ICS

ISSU State = Load Version

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12;bootdisk:s2t54-adventerprisek9-

Operating Mode = sso

ISSU Sub-State = Load Version Completed

Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

```
Slot = 2/2
RP State = Standby-ICS
ISSU State =
```

Load Version

```
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin,12;bootdisk:s2t54-adventerprisek9-
Operating Mode = sso
ISSU Sub-State = Load Version Completed
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
Current Version =
```

```
bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin >> Standby Chassis has been upgraded to latest code
```

第五步：当VSS备用机箱以SSO冗余状态成功运行新镜像，并且VSS备用机箱上的所有板卡都启动并联机时，输入`issu runversion`命令以强制切换。升级后的VSS备用机箱将取代新的主用机箱，运行新的映像。以前的主用机箱在SSO模式下重新加载并初始化为新的VSS备用机箱，同时运行旧映像（以防需要中止软件升级并恢复旧映像）。如**批量同步成功**消息中所示，同步机箱配置时，此步骤完成。

```
<#root>
```

```
WS-C6504-E-1#
```

```
issu runversion
```

```
This command will reload the Active unit. Proceed ? [confirm]y
%issu runversion initiated successfully
*Apr 17 00:54:42.707: %ISSU_PROCESS-SW1-2_STBY-6-SELF_RELOAD: slot 18 countdown to self-reload started,
*Apr 17 00:54:44.715: %RF-SW1-5-RF_RELOAD: Self reload. Reason: Admin ISSU runversion CLI
*Apr 17 00:54:46.719: %SYS-SW1-5-SWITCHOVER: Switchover requested by Exec. Reason: Admin ISSU runversion
Initializing as Virtual Switch STANDBY processor
*Apr 17 00:57:14.023: %VSLP-5-VSL_UP: Ready for control traffic
*Apr 17 00:57:24.919: %PFREDUN-SW1_STBY-6-STANDBY: Initializing for SSO mode in Default Domain
```

第六步：切换完成后检验状态。

```
<#root>
```

```
WS-C6504-E-1#show issu state detail
The system is configured to be upgraded in in-tandem mode.
4 supervisor nodes are found to be online.
Summary: an in-tandem upgrade is in progress.
```

```
Slot = 2/1
RP State = Active
ISSU State =
```

Run Version

```
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin,12;bootdisk:s2t54-adventerprisek9-
Operating Mode = sso
```


ISSU Sub-State = Run Version after Switchover
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
Current Version =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin >> Switch 2 became the active after switchover

Slot = 1/1
RP State = Standby
ISSU State = Run Version
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12;
Operating Mode = sso
ISSU Sub-State = Run Version in Progress
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

Slot = 2/2
RP State = Active-ICS
ISSU State =

Run Version

Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin,12;bootdisk:s2t54-adventerprisek9-
Operating Mode = sso
ISSU Sub-State = Run Version in Progress
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
Current Version =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

Slot = 1/2
RP State = Standby-ICS
ISSU State = Run Version
Boot Variable = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12;
Operating Mode = sso
ISSU Sub-State = Run Version in Progress
Starting Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin
Target Image = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
Current Version = bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin

<#root>

WS-C6504-E-1#sh redundancy
Redundant System Information :

Available system uptime = 44 minutes
Switchovers system experienced = 1
Standby failures = 0
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 2/1  
Current Software state =  
  
ACTIVE  
  
Uptime in current state = 7 minutes  
Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-M), Version  
Technical Support: http://www.cisco.com/techsupport  
Copyright (c) 1986-2024 by Cisco Systems, Inc.  
Compiled Tue 19-Mar-24 06:59 by mcpre  
BOOT =
```

```
bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
```

```
,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12  
CONFIG_FILE =  
BOOTLDR =  
Configuration register = 0x2102
```

Peer Processor Information :

```
-----  
Standby Location = slot 1/1  
Current Software state =
```

STANDBY HOT

```
Uptime in current state = 2 minutes  
Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-M), Version  
Technical Support: http://www.cisco.com/techsupport  
Copyright (c) 1986-2023 by Cisco Systems, Inc.  
Compiled Tue 05-Sep-23 11:24 by mcpre  
BOOT =
```

```
bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12
```

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

步骤 7. 请使用 `issu acceptversion` 命令停止回滚计时器。这是必要的，因为如果计时器过期，升级的机箱将重新加载并恢复到以前的软件版本。

<#root>

```
WS-C6504-E-1# show issu rollback-timer
```

```
Rollback Process State = In progress
```

```
Configured Rollback Time = 00:45:00  
Automatic Rollback Time = 00:37:28
```

<#root>

```
WS-C6504-E-1# issu acceptversion
% Rollback timer stopped. Please issue the commitversion command.
View the rollback timer to see that the rollback process has been stopped:
WS-C6504-E-1# show issu rollback-timer
```

Rollback Process State = Not in progress >> Rollback Process is stopped after the acceptversion

步骤 8 如果设置中使用了交换矩阵扩展器(FEX)，请使用 `issu runversion fex all` 命令以开始 FEX (6800IA) 上的映像下载和升级过程。FEX 会触发从 Supervisor6T (此处，Cisco IOS 软件版本 15.5(1)SY13) 的新软件捆绑包下载映像。如果使用 FEX 堆栈，则主设备负责从其成员中提取图像。

步骤 9 要继续，请输入 `issu commitversion` 命令以升级 VSS 备用机箱并完成服务中软件升级 (ISSU) 的序列。VSS 备用机箱将重新启动，使用新映像重新加载，并初始化为处于 SSO 冗余状态的 VSS 备用机箱，同时运行新映像。如批量同步成功消息所示，当机箱配置已同步，并且新 VSS 备用模式上的所有线卡都启动并联机时，此步骤完成。

<#root>

```
WS-C6504-E-1# issu commitversion
```

```
%issu commitversion initiated successfully, upgrade sequence will continue shortly
```

```
WS-C6504-E-1#
```

```
*Apr 17 01:02:57.607: %ISSU_PROCESS-SW2-3-COMMITVERSION: issu commitversion; Commitversion sequence will begin in 60 seconds. Enter 'iss
*Apr 17 01:03:27.607: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Resetting Standby shortly
*Apr 17 01:03:27.607: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Resetting Standby ICS shortly
*Apr 17 01:03:27.611: %ISSU_PROCESS-SW1-2_STBY-6-SELF_RELOAD: slot 18 countdown to self-reload started, 30 second delay
*Apr 17 01:03:27.611: %ISSU_PROCESS-SW1_STBY-6-SELF_RELOAD: slot 17 countdown to self-reload started, 30 second delay
*Apr 17 01:04:12.607: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby ICS has gone offline
*Apr 17 01:04:12.607: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby has gone offline
*Apr 17 01:06:42.607: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby has come online, wait for Standby ICS
*Apr 17 01:07:28.315: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby ICS has come online
*Apr 17 01:08:59.623: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby has reached terminal state
*Apr 17 01:09:12.699: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Standby ICS reached terminal state
*Apr 17 01:09:12.751: %ISSU_PROCESS-SW2-6-COMMITVERSION_INFO: Upgrade has completed, updating boot configuration
Building configuration...
[OK]
```

步骤 10 验证升级是否完成。

<#root>

```
WS-C6504-E-1#
```

sh redundancy

Redundant System Information :

Available system uptime = 55 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 2/1
Current Software state = ACTIVE
Uptime in current state = 17 minutes
Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-M), Version
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2024 by Cisco Systems, Inc.
Compiled Tue 19-Mar-24 06:59 by mcpre
BOOT =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13

.bin,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12
CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102

Peer Processor Information :

Standby Location = slot 1/1
Current Software state = STANDBY HOT
Uptime in current state = 3 minutes
Image Version = Cisco IOS Software, s2t54 Software (s2t54-ADVENTERPRISEK9-M), Version
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2024 by Cisco Systems, Inc.
Compiled Tue 19-Mar-24 06:59 by mcpre
BOOT =

bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.bin,12

>> standby has been upgraded

CONFIG_FILE =
BOOTLDR =
Configuration register = 0x2102

<#root>

WS-C6504-E-1#

show module switch all

Switch Number: 1 Role: Virtual Switch Standby

```

Mod Ports Card Type                               Model                               Serial No.
-----
 1     5 Supervisor Engine 2T 10GE w/ CTS (Hot) VS-SUP2T-10G          xxxx
 2     5 Supervisor Engine 2T 10GE w/ CTS (CSSO VS-SUP2T-10G          xxxx
 3    48 CEF720 48 port 10/100/1000mb Ethernet WS-X6748-GE-TX      xxxx
Mod MAC addresses                               Hw   Fw           Sw           Status
-----
 1  xxxx. xxxx. xxxx to xxxx. xxxx. xxxx 1.5  12.2(50r)SYS 15.5(1)SY13 Ok
 2  xxxx. xxxx. xxxx to xxxx. xxxx. xxxx 1.3  12.2(50r)SYS 15.5(1)SY13 Ok
 3  xxxx. xxxx. xxxx to xxxx. xxxx. xxxx 3.2  12.2(18r)S1  15.5(1)SY13 Ok
Mod Sub-Module                               Model                               Serial   Hw   Status
-----
 1 Policy Feature Card 4                      VS-F6K-PFC4          xxxx 1.2  Ok
 1 CPU Daughterboard                         VS-F6K-MSFC5         xxxx 2.0  Ok
 2 Policy Feature Card 4                      VS-F6K-PFC4          xxxx 1.2  Ok
 2 CPU Daughterboard                         VS-F6K-MSFC5         xxxx 1.4  Ok
 3 Centralized Forwarding Card WS-F6700-CFC  xxxx 4.1  Ok
Mod Online Diag Status
-----

```

```

 1 Pass
 2 Pass
 3 Pass
Switch Number:    2   Role:   Virtual Switch Active
-----

```

```

Mod Ports Card Type                               Model                               Serial No.
-----
 1     5 Supervisor Engine 2T 10GE w/ CTS (Acti VS-SUP2T-10G          xxxx
 2     5 Supervisor Engine 2T 10GE w/ CTS (CSSO VS-SUP2T-10G          xxxx
 3    48 CEF720 48 port 10/100/1000mb Ethernet WS-X6748-GE-TX      xxxx
Mod MAC addresses                               Hw   Fw           Sw           Status
-----
 1  xxxx. xxxx. xxxx to xxxx. xxxx. xxxx 1.5  12.2(50r)SYS 15.5(1)SY13 Ok
 2  xxxx. xxxx. xxxx to xxxx. xxxx. xxxx 2.1  12.2(50r)SYS 15.5(1)SY13 Ok
 3  xxxx. xxxx. xxxx to xxxx. xxxx. xxxx 3.6  12.2(18r)S1  15.5(1)SY13 Ok
Mod Sub-Module                               Model                               Serial   Hw   Status
-----
 1 Policy Feature Card 4                      VS-F6K-PFC4          xxxx 1.2  Ok
 1 CPU Daughterboard                         VS-F6K-MSFC5         xxxx 2.0  Ok
 2 Policy Feature Card 4                      VS-F6K-PFC4          xxxx 3.0  Ok
 2 CPU Daughterboard                         VS-F6K-MSFC5         xxxx 3.1  Ok
 3 Centralized Forwarding Card WS-F6700-CFC  xxxx 4.1  Ok
Mod Online Diag Status
-----

```

```

 1 Pass
 2 Pass
 3 Pass

```

<#root>

WS-C6504-E-1#

sh issu state detail

```

The system is configured to be upgraded in in-tandem mode.
4 supervisor nodes are found to be online.
Summary: the system will be upgraded in in-tandem mode.
Slot = 2/1
RP State = Active
ISSU State = Init

```

Boot Variable = bootdisk:

s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY13.bin

Slot = 1/1

RP State = Standby

ISSU State = Init

Boot Variable = bootdisk:

s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY13.bin

Slot = 2/2

RP State = Active-ICS

ISSU State = Init

Boot Variable = bootdisk:

s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY13.bin

Slot = 1/2

RP State = Standby-ICS

ISSU State = Init

Boot Variable = bootdisk:

s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin

,12;bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY12.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.155-1.SY13.bin

故障排除案例研究

场景 1.在缺少跨VSL连接时交错模式升级

```
<#root>
```

```
WS-C6504-E-1#
```

```
issu loadversion 1/1 bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin 2/1 slavebootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
```

```
WS-C6504-E-1#*Apr 16 23:31:12.528: SW1: Quad-sup ISSU Staggered mode VSL requirement(Parallel/Cross VSL) failed
```

您会收到一则错误消息，指出由于您没有可继续处理的跨VSL连接，因此不符合要求。

您可以通过禁用交错模式来执行升级。

```
<#root>
```

```
WS-C6504-E-1(conf t)#
```

```
no issu upgrade staggered
```

```
WS-C6504-E-1#issu loadversion 1/1 bootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin 2/1 slavebootdisk:s2t54-adventerprisek9-mz.SPA.155-1.SY13.bin
```

```
System configuration has been modified. Save? [yes/no]: y
```

```
Building configuration...
```

```
[OK]
```

```
*Apr 17 00:43:14.195: %ISSU_PROCESS-SW1-3-LOADVERSION: Loadversion sequence will begin in 60 seconds. Enter 'issu abortversion' to cancel.
```

```
*Apr 17 00:43:44.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Resetting Standby shortly
```

```
*Apr 17 00:43:44.195: %ISSU_PROCESS-SW1-6-LOADVERSION_INFO: Resetting Standby ICS shortly
```

纵排与错排

升级串联或双管理引擎(SUP)的VSS也是可行的，但是，它会在管理引擎的整个引导期间使一个机箱脱机。

在Sup2T的默认模式下，一次重新加载一个管理引擎，交错模式。这意味着当板卡准备重新加载时，会存在使用该版本的管理引擎。由于线卡的重新加载速度比管理引擎快得多，因此机箱的停机时间也大大减少。

此外，它表示可使用过时程序的管理引擎，在必要时提供快得多的回滚时间。对于Sup2T，默认模式为交错模式。

使用此命令可以禁用交错升级方法。

场景 2：用旧图像删除活动

在此，您基本上可以在ISSU Run Version上被点击。

对于ISSU Run Version，已启用了回滚计时器。如果您无法继续操作，计时器会自动回滚到旧镜像。

关于ISSU Commit版本，自您提供了接受的版本以来，回滚计时器处于禁用状态。因此，您必须执行此命令才能回滚到旧镜像。

```
WS-C6504-E-1# issu abortversion
```

场景 3：Post切换待机未启动

断开虚拟交换机链路(VSL)链路的物理连接，然后使用USB/TFTP方法将设备升级到新映像。

升级后，关闭设备电源。连接VSL链路并将设备连接到VSS，以便其形成备用设备。

场景 4. 升级后ICS SUP仍保留在较早版本中

将SUP单独连接到备用机箱或备用机箱中，因为主用机箱运行良好，所以不会造成影响。

使用USB/TFTP方法将设备升级到新映像。

然后，关闭其电源并将其连接到同一插槽，以便升级映像并使用较新的映像重新以机箱内备用(ICS)模式返回。

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