在思科NCS560路由器上安装最新的FPD

目录

简介

背景信息

SMU摘要表

FPD升级MOP

使用案例.系统采用Cisco IOS-XR版本7.1.2，且激活了必要的SMUS

- XR虚拟机
- sysadmin

检验RP上的FPD版本

检查两个RP上的TAM区域（评估该部分的删除）

- RP0
- RP1
- 损坏TAM内存的输出示例

对两个RP执行IOFPGA升级

- 验证

重新加载用于IOFPGA升级的主用和备用RP以完成

验证ADM版本

对两个RP执行其他FPD升级

- 1. ADM
- 2. BIOS
- 3. SATA
- 检验升级

完成其他FPD升级的重新通电程序

检验FPD版本

验证ADM版本

升级其他位置上的其他FPD（如果有）

简介

本文档介绍如何避免思科NCS 560路由处理器(RP)在重新加载或重新通电后变得无响应的情况。

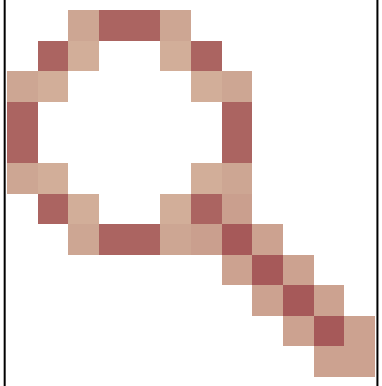
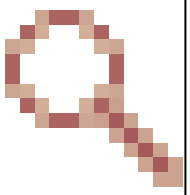
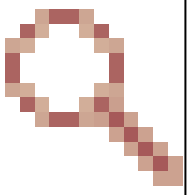
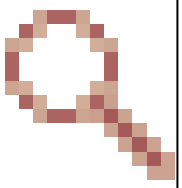
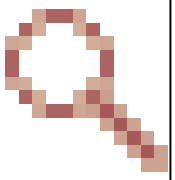
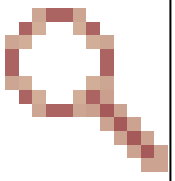
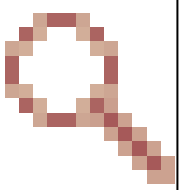
背景信息

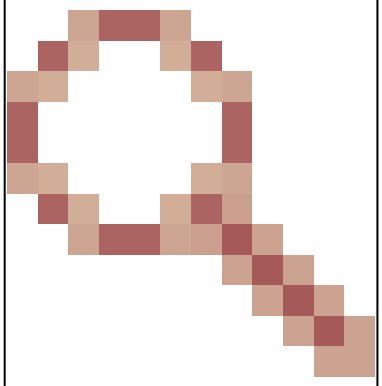
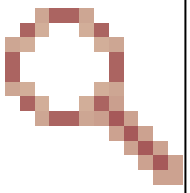
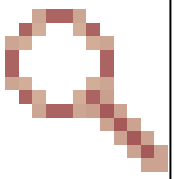
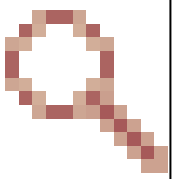
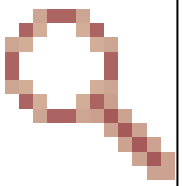
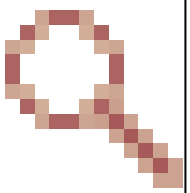
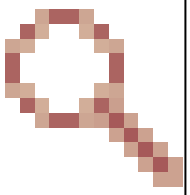
在大多数情况下，NCS 560部署都位于远程位置，数量很大，并且必须将人为干预降至最低。
在这些部署中，根据已安装的版本满足必要的SMU安装要求也很重要。

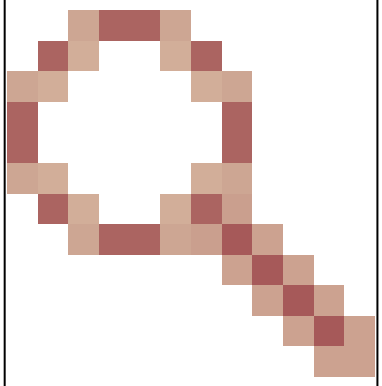
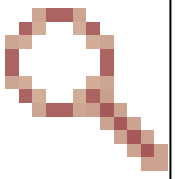
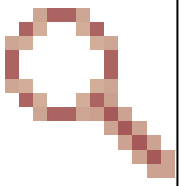
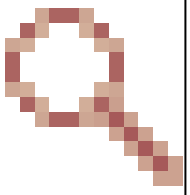
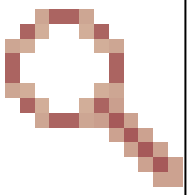
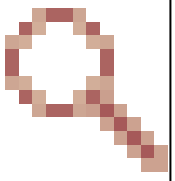
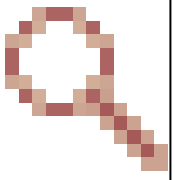
注意：从Cisco IOS XR版本7.2.2及更高版本开始，您不再需要单独安装SMU。

SMU摘要表

IOS XR版本	SMU	链路	备注
6.6.3	CSCvt69762 (sysadmin) CSCvt26907 (sysadmin) CSCvv88955 (sysadmin) CSCvw42910 (XR) CSCvw52338 (XR)	链路	
7.0.1	CSCvw42910 (XR) CSCvw52338 (XR) CSCvt69762	链路	必须移至同一次要版本的扩展维护版本(EMR)。例如，IOS XR 7.0.2。 此版本中没有适用于TAM区域损坏的解决方案。

	 (sysadmin)		
7.0.2	 CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin)  CSCvv48056 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)	链路	
7.1.1	 CSCvv41516 (sysadmin) CSCvt69762	链路	建议移至同一次要版本的EMR版本。例如，IOS XR 7.1.2。

	 (sysadmin)  CSCvt26907 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)		
7.1.2	 CSCvv41516 (sysadmin)  CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin) CSCvw42910	链路	

	 (XR)  CSCvw52338 (XR)		
7.2.1	 CSCvv41516 (sysadmin)  CSCvt69762 (sysadmin)  CSCvt26907 (sysadmin)  CSCvw42910 (XR)  CSCvw52338 (XR)	链路	

FPD升级MOP

必须升级FPD，以确保FPD的版本始终等于或高于该Cisco IOS® XR版本所需的最低版本。

ADM	1.06
IOFPGA	0.64
BIOS	0.16

本文档假定：

- RP0是活动RP
- RP1是备用RP

提示各种位置，以便导航各种位置的所有命令都被省略。

1. XR - RP0

```
RP/0/RP0/CPU0:ios#
```

2. XR - RP1

```
RP/0/RP1/CPU0:ios#
```

3.sysadmin - RP0

```
sysadmin-vm:0_RP0#
```

4.sysadmin - RP1

```
sysadmin-vm:0_RP1#
```

5.sysadmin - RP0 shell

```
[sysadmin-vm:0_RP0:~]$
```

6.sysadmin - RP1 shell

```
[sysadmin-vm:0_RP1:~]$
```

使用案例.系统采用Cisco IOS-XR版本7.1.2，且激活了必要的SMUS

在此过程之前，这些SMU必须处于活动状态并已提交到系统。

XR虚拟机

```
RP/0/RP0/CPU0:ios#show install active summary
    Active Packages: 10
        ncs560-xr-7.1.2 version=7.1.2 [Boot image]
        ncs560-mcast-2.0.0.0-r712
        ncs560-mgbl-2.0.0.0-r712
        ncs560-mpls-1.0.0.0-r712
        ncs560-mpls-te-rsvp-2.0.0.0-r712
        ncs560-ospf-2.0.0.0-r712
        ncs560-k9sec-2.1.0.0-r712
        ncs560-iosxr-fwding-2.1.0.1-r712.CSCvp67225
        ncs560-os-support-2.1.0.1-r712.CSCvv41516
        cisco-klm-rsp4-0.1.p1-r0.0.r712.CSCvt26907  .xr
```

sysadmin

```
sysadmin-vm:0_RP0# show install active summary
     Active Packages: 4
        ncs560-sysadmin-7.1.2 version=7.1.2 [Boot image]
        ncs560-sysadmin-ncs560-7.1.2.1-r712.CSCvv41516
        cisco-klm-rsp4-0.1.p1-r0.0.r712.CSCvt26907  .admin
        cisco-klm-rsp4-0.1.p1-r0.0.r712.CSCvt26907  .host
```

检验RP上的FPD版本

```
RP/0/RP0/CPU0:ios#show hw-module fpd
                                                                      FPD Versions
                                                                      =================
Location   Card type             HWver FPD device       ATR Status   Running Programd
--------------------------------------------------------------------------------
```

```
0/5         A900-IMA8Z            0.0   IMFPGA               NEED UPGD 17.02   17.02
0/14        A900-IMA8CS1Z-M       0.0   IMFPGA               CURRENT    1.95    1.95
0/RP0       N560-RSP4-E           0.0   ADM                  NEED UPGD  1.04    1.04
0/RP0       N560-RSP4-E           0.0   IOFPGA               NEED UPGD  0.53    0.53
0/RP0       N560-RSP4-E           0.0   PRIMARY-BIOS         NEED UPGD  0.15    0.15
0/RP0       N560-RSP4-E           0.0   SATA                 NEED UPGD  1.30    1.30
0/RP1       N560-RSP4-E           0.0   ADM                  NEED UPGD  1.04    1.04
0/RP1       N560-RSP4-E           0.0   IOFPGA               NEED UPGD  0.53    0.53
0/RP1       N560-RSP4-E           0.0   PRIMARY-BIOS         NEED UPGD  0.15    0.15
0/RP1       N560-RSP4-E           0.0   SATA                 NEED UPGD  1.30    1.30
0/FT0       A907-FAN-E            1.0   PSOC                 CURRENT    1.65    1.65
```

检查两个RP上的TAM区域（评估该部分的删除）

必须确保TAM区域未损坏；否则，IOFPGA、FPD升级和后续重新加载可能会导致RMA。使用此MOP时，由于FPD版本0.64或更高版本正在使用中，此IOFPGA FPD升级过程和RP重新加载导致TAM损坏恢复。

RP0

```
sysadmin-vm:0_RP0# show control-driver info location 0/RP0
...
Card view from local RP:
        TAM Memory is not corrupted
        Can proceed with IOFPGA upgrade if required
...
```

RP1

```
sysadmin-vm:0_RP0# show control-driver info location 0/RP1
...
Card view from local RP:
        TAM Memory is not corrupted
        Can proceed with IOFPGA upgrade if required
...
```

注意：如果TAM内存损坏，如果目标IOFPGA版本为0.64或更高版本，则这不是问题。

损坏TAM内存的输出示例

```
sysadmin-vm:0_RP1# show control-driver info location 0/RP0
<snip>
Card view from local RP:
```

```
        TAM Memory is corrupted
        Do not proceed with IOFPGA upgrade
<snip>
```

注意：如果满足本文档中提到的所有必备条件，您可以继续升级。“Do not proceed with IOFPGA upgrade”（不进行IOFPGA升级）是指低于0.64版的IOFPGA版本。

对两个RP执行IOFPGA升级

```
RP/0/RP0/CPU0:ios#upgrade hw-module location all fpd IOFPGA
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP0/CPU0:RONALDO-RF2a#0/RP0/ADMIN0:Oct 16 15:19:26.609 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-U
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : ==========
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP0/ADMIN0:Oct 16 15:19:26.610 CEST: fpdserv[4356]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

验证

```
RP/0/RP0/CPU0:ios#show hw-module fpd
Fri Oct 16 15:22:11.256 CEST
                                                                FPD Versions
                                                                ================
Location   Card type              HWver FPD device       ATR Status   Running Programd
-------------------------------------------------------------------------------------
0/5        A900-IMA8Z             0.0   IMFPGA                NEED UPGD 17.02   17.02
0/14       A900-IMA8CS1Z-M        0.0   IMFPGA                CURRENT    1.95    1.95
0/RP0      N560-RSP4-E            0.0   ADM                   NEED UPGD  1.04    1.04
0/RP0      N560-RSP4-E            0.0   IOFPGA                RLOAD REQ  0.53    0.64
0/RP0      N560-RSP4-E            0.0   PRIMARY-BIOS          NEED UPGD  0.15    0.15
0/RP0      N560-RSP4-E            0.0   SATA                  NEED UPGD  1.30    1.30
0/RP1      N560-RSP4-E            0.0   ADM                   NEED UPGD  1.04    1.04
0/RP1      N560-RSP4-E            0.0   IOFPGA                RLOAD REQ  0.53    0.64
0/RP1      N560-RSP4-E            0.0   PRIMARY-BIOS          NEED UPGD  0.15    0.15
0/RP1      N560-RSP4-E            0.0   SATA                  NEED UPGD  1.30    1.30
0/FT0      A907-FAN-E             1.0   PSOC                  CURRENT    1.65    1.65
```

重新加载用于IOFPGA升级的主用和备用RP以完成

首先，重新加载备用RP:

```
sysadmin-vm:0_RP0# hw-module location 0/RP1 reload
Reload hardware module ? [no,yes] yes
```

恢复冗余后，重新加载主用RP(RP0)（它会触发故障切换）：

```
sysadmin-vm:0_RP0# hw-module location 0/RP0 reload
Reload hardware module ? [no,yes] yes
```

验证ADM版本

在新的活动RP(RP1)上：

```
[sysadmin-vm:0_RP1:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.2
Bootloader Version : 0.0.9
Config Version : 1.4
```

在新的备用RP(RP0)上：

```
[sysadmin-vm:0_RP0:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.2
Bootloader Version : 0.0.9
Config Version : 1.4
```

对两个RP执行其他FPD升级

1. ADM

```
RP/0/RP1/CPU0:ios#upgrade hw-module location all FPd ADM
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP1/CPU0:RONALDO-RF2a#0/RP1/ADMIN0:Oct 16 15:57:14.332 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-U
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : ==========
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP1/ADMIN0:Oct 16 15:57:14.333 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

2. BIOS

```
RP/0/RP1/CPU0:ios#upgrade hw-module location all FPD PRIMARY-BIOS
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP1/CPU0:RONALDO-RF2a#0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-U
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : ==========
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP1/ADMIN0:Oct 16 16:00:29.257 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

3. SATA

```
RP/0/RP1/CPU0:ios#upgrade hw-module location all FPD SATA
upgrade command issued (use "show hw-module fpd" to check upgrade status)
RP/0/RP1/CPU0:RONALDO-RF2a#0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-U
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : Location
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : ==========
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP1
0/RP1/ADMIN0:Oct 16 16:02:06.472 CEST: fpdserv[4503]: %INFRA-FPD_Manager-1-UPGRADE_ALERT : 0/RP0
```

检验升级

```
RP/0/RP1/CPU0:ios#show hw-module fpd
                                                                      FPD Versions
                                                                      ================
Location   Card type             HWver FPD device       ATR Status   Running Programd
-------------------------------------------------------------------------------------
0/5        A900-IMA8Z            0.0   IMFPGA                NEED UPGD 17.02   17.02
0/14       A900-IMA8CS1Z-M       0.0   IMFPGA                CURRENT    1.95    1.95
0/RP0      N560-RSP4-E           0.0   ADM                   RLOAD REQ  1.04    1.04
0/RP0      N560-RSP4-E           0.0   IOFPGA                CURRENT    0.64    0.64
0/RP0      N560-RSP4-E           0.0   PRIMARY-BIOS          RLOAD REQ  0.15    0.16
0/RP0      N560-RSP4-E           0.0   SATA                  RLOAD REQ  1.30    2.10
0/RP1      N560-RSP4-E           0.0   ADM                   RLOAD REQ  1.04    1.04
0/RP1      N560-RSP4-E           0.0   IOFPGA                CURRENT    0.64    0.64
0/RP1      N560-RSP4-E           0.0   PRIMARY-BIOS          RLOAD REQ  0.15    0.16
0/RP1      N560-RSP4-E           0.0   SATA                  RLOAD REQ  1.30    2.10
0/FT0      A907-FAN-E            1.0   PSOC                  CURRENT    1.65    1.65
```

完成其他FPD升级的重新通电程序

> 注意：如果ADM固件版本为1.14.2，则必须在使用重新加载脚本之前同步所有VM/主机上的所有文件系统。

```
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.0.1 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.0.4 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.4.4 sync
```

```
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.4.1 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.4.1 chvrf 0 ssh 10.0.2.2 sync
[sysadmin-vm:0_RP1:~]$chvrf 0 ssh 192.0.0.1 chvrf 0 ssh 10.0.2.2 sync
```

注意：这些命令没有输出。

要重新加载机箱，请执行以下操作：

```
[sysadmin-vm:0_RP1:~]$/opt/cisco/calvados/sbin/reboot_system.sh
Initiating power-cycle of 0/RP0
Initiating power-cycle of 0/RP1
```

注意：如果ADM固件版本为1.14.3，则RP上的FPD需要重新加载。

首先，重新加载备用RP(RP0):

```
sysadmin-vm:0_RP1# hw-module location 0/RP0 reload
Reload hardware module ? [no,yes] yes
```

恢复冗余后，重新加载主用RP(RP1)（它会触发故障切换）：

```
sysadmin-vm:0_RP1# hw-module location 0/RP1 reload
Reload hardware module ? [no,yes] yes
```

检验FPD版本

```
RP/0/RP0/CPU0:ios#show hw-module fpd
Fri Oct 16 16:24:18.849 CEST
                                                                 FPD Versions
                                                                 ================
Location   Card type              HWver FPD device       ATR Status   Running Programd
-----------------------------------------------------------------------------------
0/5        A900-IMA8Z             0.0   IMFPGA               NEED UPGD 17.02   17.02
0/14       A900-IMA8CS1Z-M        0.0   IMFPGA               CURRENT    1.95    1.95
0/RP0      N560-RSP4-E            0.0   ADM                  CURRENT    1.06    1.06
0/RP0      N560-RSP4-E            0.0   IOFPGA               CURRENT    0.64    0.64
0/RP0      N560-RSP4-E            0.0   PRIMARY-BIOS         CURRENT    0.16    0.16
0/RP0      N560-RSP4-E            0.0   SATA                 CURRENT    2.10    2.10
0/RP1      N560-RSP4-E            0.0   ADM                  CURRENT    1.06    1.06
0/RP1      N560-RSP4-E            0.0   IOFPGA               CURRENT    0.64    0.64
```

```
0/RP1      N560-RSP4-E           0.0   PRIMARY-BIOS         CURRENT    0.16    0.16
0/RP1      N560-RSP4-E           0.0   SATA                 CURRENT    2.10    2.10
0/FT0      A907-FAN-E            1.0   PSOC                 CURRENT    1.65    1.65
```

验证ADM版本

```
[sysadmin-vm:0_RP0:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.3
Bootloader Version : 0.0.9
Config Version : 1.6
```

```
[sysadmin-vm:0_RP1:~]$/opt/cisco/calvados/sbin/show_adm_version.sh
ADM 1266 Version info
Firmware Version : 1.14.3
Bootloader Version : 0.0.9
Config Version : 1.6
```

升级其他位置上的其他FPD（如果有）

```
RP/0/RP0/CPU0:ios#upgrade hw-module location 0/5 FPD IMFPGA
Fri Oct 16 16:28:15.006 CEST
upgrade command issued (use "show hw-module fpd" to check upgrade status)
```

关于此翻译
思科采用人工翻译与机器翻译相结合的方式将此文档翻译成不同语言，希望全球的用户都能通过各自的语言得到支持性的内容。

请注意：即使是最好的机器翻译，其准确度也不及专业翻译人员的水平。

Cisco Systems, Inc. 对于翻译的准确性不承担任何责任，并建议您总是参考英文原始文档（已提供链接）。