

升级nV卫星

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简介

本文档介绍在升级连接了卫星的思科聚合服务路由器9000系列(ASR9K)时，如何在最短停机时间内升级网络虚拟化(nV)卫星。需要特别考虑以减少主机或卫星设备升级可能造成的任何中断。

自动升级

在版本5.3.2、6.0.0及更高版本中，支持自动升级功能。在早期版本中，有三种图像传输场景：

- **映像不兼容** — 这是从主机到卫星的自动强制升级。
- **图像不是最新** — 此日志显示有关版本不匹配的信息，但需要用户传输/激活。
- **最新映像** — 这允许用户选择强制升级/降级。

利用自动升级功能，您可以自动执行第二个选项，这将使此选项像第一个选项一样运行，并在卫星重新连接时推送最新映像。卫星自动升级功能的最佳类比是现场可编程设备(FPD)自动升级。

用于启用自动升级功能的命令是**upgrade on-connect**，该命令在*nv satellite [satellite ID] config*子模式下配置：

```
nv
satellite 100
type asr901
upgrade on-connect
!
```

注意：本文档的其余部分将重点介绍卫星设备的手动升级。

单宿主

在单宿主场景中，一个卫星仅连接到一个ASR9K，这意味着卫星上可以看到两个重新加载。第一次卫星重新加载来自在Cisco IOS® XR升级期间重新加载的主机，第二次重新加载来自升级的卫星Cisco IOS软件。

对于此类升级，请完成**Satellite Upgrade**部分中的步骤。

双宿主

如果您升级连接到两个ASR9K主机的卫星，它将克服单宿主卫星带来的一些挑战，但需要特殊考虑才能最大限度地减少任何流量中断。

假设两个ASR9K主机首先更新，卫星最后更新，甚至以后更新，请采取以下步骤以最大程度减少任何中断：

1. 检查每颗卫星将哪台主机视为活动主机。
2. 验证指向主机2的卫星控制平面。
3. 将卫星切换到主机2。
4. 检验控制平面和数据平面。
5. 升级主机1的XR软件。
6. 验证主机1的升级。
7. 验证指向主机1的卫星控制平面。
8. 将所有卫星切换到主机1。
9. 现在在host 1上验证卫星的控制平面和数据平面。
10. 升级主机2的XR软件。
11. 验证主机2的控制平面
12. 根据需要切换卫星。
13. 从任一主机升级卫星。
14. 验证卫星升级。

15. 验证卫星的控制平面和数据平面。

下面是这些步骤的详细信息，省略了重复步骤。

连接检查

检验卫星状态

此示例具有三个卫星环(100、101、102)，卫星100和102对主机1(9001-G)活动，卫星101对主机2(9001-H)活动。

```
RP/0/RSP0/CPU0:ASR9001-G#show nv satellite status
```

```
Fri Aug 15 21:32:03.274 UTC
```

Satellite 100

```
-----  
Status: Connected (Stable)
```

```
Redundancy: Active (Group: 1)
```

```
Type: asr901
```

```
MAC address: 4c00.8287.1de4
```

```
IPv4 address: 10.0.100.1 (auto)
```

```
Serial Number: CAT1722U21S
```

```
Remote version: Compatible (not latest version)
```

```
ROMMON: 2.1 (Latest)
```

```
FPGA: N/A
```

```
IOS: 1402.20 (Available: 1406.12)
```

```
Configured satellite fabric links:
```

```
GigabitEthernet0/0/0/0  
-----
```

```
Status: Satellite Ready
```

```
Remote ports: GigabitEthernet0/0/0-9
```

Satellite 101

```
-----  
Status: Connected (Stable)
```

```
Redundancy: Standby (Group: 1)
```

```
Type: asr901
```

```
MAC address: 4c00.8287.2e24
```

```
IPv4 address: 10.0.101.1 (auto)
```

```
Serial Number: CAT1723U02B
```

```
Remote version: Compatible (not latest version)
```

```
ROMMON: 2.1 (Latest)
```

```
FPGA: N/A
```

```
IOS: 1402.20 (Available: 1406.12)
```

```
Configured satellite fabric links:
```

```
GigabitEthernet0/0/0/0  
-----
```

```
Status: Satellite Ready
```

```
Remote ports: GigabitEthernet0/0/0-9
```

Satellite 102

```
-----  
Status: Connected (Stable)
```

```
Redundancy: Active (Group: 1)
```

```
Type: asr901
```

```
MAC address: 4c00.8287.2ec4
```

```
IPv4 address: 10.0.102.1 (auto)
```

```
Serial Number: CAT1723U015
```

```
Remote version: Compatible (not latest version)
```

```
ROMMON: 2.1 (Latest)
FPGA: N/A
IOS: 1402.20 (Available: 1406.12)
Configured satellite fabric links:
GigabitEthernet0/0/0/0
-----
Status: Satellite Ready
Remote ports: GigabitEthernet0/0/0-9
```

检查配置

如果这些检查显示所有卫星均为**connected**，则配置应正确。如果任一ASR9Ks上有任何卫星未处于**connected**状态，则可能需要进行其他故障排除。

此配置是本文档中使用的配置。

```
interface GigabitEthernet0/0/0/0
nv
satellite-fabric-link network
  redundancy
    iccp-group 1
  !
  satellite 100
    remote-ports GigabitEthernet 0/0/0-9
  !
  satellite 101
    remote-ports GigabitEthernet 0/0/0-9
  !
  satellite 102
    remote-ports GigabitEthernet 0/0/0-9
  !
!
!
!
!

nv
satellite 100
type asr901
redundancy
  host-priority 0
!
serial-number CAT1722U21S
!
satellite 101
type asr901
redundancy
  host-priority 200
!
serial-number CAT1723U02B
!
satellite 102
type asr901
redundancy
  host-priority 0
!
serial-number CAT1723U015
!
!
```

检验卫星状态 (简介)

```
RP/0/RSP0/CPU0:ASR9001-H#show nv satellite status brief
```

```
Fri Aug 15 13:39:56.271 UTC
```

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	4c00.8287.1de4	Connected (Stby)
101	asr901	10.0.101.1	4c00.8287.2e24	Connected (Act)
102	asr901	10.0.102.1	4c00.8287.2ec4	Connected (Stby)

如果需要更精简的输出，则可以在两台主机上使用**show nv satellite status brief**命令。连接状态表示控制信道运行正常，而**Act**和**Stby**表示每个主机每个卫星的数据平面的状态。

主机优先级更改

更改主机优先级

将卫星故障切换到其他ASR9K主机的最简单方法是更改配置中的**host-priority**。在本例中，主机优先级设置为最高值（最低优先级），以便环中的所有卫星都切换到主机2。

```
RP/0/RSP0/CPU0:ASR9001-G#config t
```

```
Fri Aug 15 21:39:50.909 UTC
```

```
RP/0/RSP0/CPU0:ASR9001-G(config)#nv
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-nV)#satellite 100
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-satellite)#redundancy
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-nV-red)#host-priority 255
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-nV-red)#exit
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-satellite)#exit
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-nV)#satellite 102
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-satellite)#redundancy
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-nV-red)#host-priority 255
```

```
RP/0/RSP0/CPU0:ASR9001-G(config-nV-red)#end
```

```
Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:y
```

检验主机优先级更改

为了验证此更改，可以使用**show nv satellite status brief**命令。

```
RP/0/RSP0/CPU0:ASR9001-G#show nv satellite status brief
```

```
Fri Aug 15 21:40:35.876 UTC
```

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	4c00.8287.1de4	Connected (Stby)
101	asr901	10.0.101.1	4c00.8287.2e24	Connected (Stby)
102	asr901	10.0.102.1	4c00.8287.2ec4	Connected (Stby)

```
RP/0/RSP0/CPU0:ASR9001-H#show nv sat stat bri
```

```
Fri Aug 15 13:42:15.847 UTC
```

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	4c00.8287.1de4	Connected (Act)
101	asr901	10.0.101.1	4c00.8287.2e24	Connected (Act)
102	asr901	10.0.102.1	4c00.8287.2ec4	Connected (Act)

主机升级

1. 验证哪台主机将所有卫星视为活动主机，哪台主机将所有卫星视为备用主机后，请按照Cisco Connection Online(CCO)上记录的正常升级步骤进行升级，或者按照任何经过测试的过程方法(MOP)，在所有卫星均处于备用状态的主机上进行升级。
2. 升级第一台主机并确认所有安装后检查后，请遵循**Connectivity Checks**部分以验证与两台主机的卫星连接。验证连接后，请遵循**主机优先级更改**部分，通过降低优先级将卫星切换到升级的主机。
3. 将所有卫星作为备用连接到主机2后，升级此主机，并按照CCO升级指南或MOP执行所有安装验证步骤，同时按照**Connectivity Checks**执行所有卫星检查。
4. 最后，继续卫星升级。

卫星升级

新的卫星 (9000v和901) 映像分别包含在asr9k-9000v-nV-px-<release>和asr9k-901-nV-px-<release>软件包中。在主机上激活这些软件包后，可能会升级卫星。

要在卫星上下载并激活软件映像，请在EXEC模式下使用**install nv satellite**命令。

```
install nv satellite { satellite id | all } { transfer | activate }
```

语法说明

卫星ID 指定必须在其上传输图像的卫星的唯一标识符。

all 对所有当前活动的卫星 (尚未处于目标版本) 执行操作。

转接 将映像从主机下载到卫星设备。

activate 在卫星上执行安装操作。

注意：请参阅**提示和诀窍**部分，了解有关如何升级高级拓扑 (如简单振铃) 的详细信息。

验证卫星升级

发出**install nv satellite**命令并重新加载卫星后，**show nv satellite status**的输出应显示ROMMON、现场可编程门阵列(FPGA)和Cisco IOS版本是最新的。如果其中任何一项都不是**最新**，则需要执行其他故障排除以确定映像未升级的原因。

注意：在联系思科技术支持中心(TAC)之前，请查看**Satellite Images**和**Known Issues** (已知问题) 部分。

```
RP/0/RSP0/CPU0:ASR9001-H#show nv satellite status
```

```
Fri Aug 15 19:54:26.429 UTC
```

```
Satellite 100
```

```
-----
```

```
Status: Connected (Stable)
```

```
Redundancy: Active (Group: 1)
```

```
Type: asr901
```

```
MAC address: 4c00.8287.1de4
```

```
IPv4 address: 10.0.100.1 (auto)
```

```
Serial Number: CAT1722U21S
```

```
Remote version: Compatible (not latest version)
```

```
ROMMON: 2.1 (Latest)
```

```

FPGA: N/A
IOS: 1402.20 (Available: 1406.12)
Configured satellite fabric links:
GigabitEthernet0/0/0/0
-----
    Status: Satellite Ready
    Remote ports: GigabitEthernet0/0/0-9

Satellite 101
-----
Status: Connected (Stable)
Redundancy: Active (Group: 1)
Type: asr901
MAC address: 4c00.8287.2e24
IPv4 address: 10.0.101.1 (auto)
Serial Number: CAT1723U02B
Remote version: Compatible (latest version)
    ROMMON: 2.1 (Latest)
    FPGA: N/A
    IOS: 1406.12 (Latest)
Configured satellite fabric links:
GigabitEthernet0/0/0/0
-----
    Status: Satellite Ready
    Remote ports: GigabitEthernet0/0/0-9

```

Appendix

提示和技巧

升级多颗卫星

如果使用范围（例如100-110）或逗号（例如100、105、115），则可以为**install nv satellite**命令选择多个卫星。

注意：使用**transfer**选项并行传输所有图像，后跟**activate**关键字，以便按顺序或并行顺序激活卫星。

升级卫星环

虽然环中的卫星可以快速（通常不到一秒）切换到备用主机，但最佳做法是尽可能避免这种情况，并使用主机优先级函数进行用户调用的切换，而不是事件触发的切换。

考虑到这一点，如果您升级一个环中的卫星（本例中为SAT101），而另一颗卫星的活动数据路径通过此卫星(SAT102)，则当SAT101重新启动以使用新图像时，将切换SAT102的活动数据路径，并且在SAT101重新联机后，将再次切换SAT102。

为了说明这一点，在这些示例中，此拓扑用于所有活动至9001H和备用至9001G的卫星。

```
9001G --- SAT100 --- SAT101 --- SAT102 --- 9001H
```

示例：升级方式错误

问：从9001H升级SAT101会发生什么情况？

答：当卫星101重新加载时，卫星100失去其到9001H的控制链路，并切换到9001G。卫星102失去与9001G的连接，但数据平面不会切换。一旦卫星101恢复正常，并且重新建立9001H和卫星100之间的控制信道，该卫星将再次切换并开始使用9001H作为其主数据平面路径。

这将验证每个卫星的数据平面状态，9001G作为备用，9001H作为主用。

```
RP/0/RSP0/CPU0:ASR9001-G#show nv satellite status brief
Fri Aug 15 21:40:35.876 UTC
Sat-ID  Type      IP Address      MAC address      Status
-----  -
100     asr901    10.0.100.1     4c00.8287.1de4   Connected (Stby)
101     asr901    10.0.101.1     4c00.8287.2e24   Connected (Stby)
102     asr901    10.0.102.1     4c00.8287.2ec4   Connected (Stby)
```

这是从主机9001H升级的卫星101的示例。

注意：发起升级的主机不是重要设备。

```
RP/0/RSP0/CPU0:ASR9001-H#install nv satellite 101 activate
Fri Aug 15 18:05:27.899 UTC
The operation will cause an image to be transferred, and then activated on the
requested satellite.
WARNING: This will take the requested satellite out of service.
Do you wish to continue? [confirm(y/n)] y
Install Op 1: activate: 101
1 configured satellite has been specified for activate.
1 satellite has successfully initiated activate.
```

当卫星101重新加载以使用其新图像时，将会发生如下所示的输出：

1. 卫星100失去到9001H的控制平面和数据平面连接
2. 卫星100将开始使用9001G作为其活动数据路径
3. 卫星102失去与9001G的控制连接

```
RP/0/RSP0/CPU0:ASR9001-G#show nv satellite status brief
Sat Aug 16 02:15:44.148 UTC
Sat-ID  Type      IP Address      MAC address      Status
-----  -
100     asr901    10.0.100.1     4c00.8287.1de4   Connected (Act)
101     asr901    10.0.101.1     0000.0000.0000   Discovery Stalled; Conflict:
no Identification received yet
102     asr901    10.0.102.1     0000.0000.0000   Discovery Stalled; Conflict:
no Identification received yet
```

一旦卫星101恢复正常，并且与卫星100的控制连接重新建立到9001H，所有卫星再次处于9001G备用状态并激活到9001H。这意味着卫星100执行第二次切换。

```
RP/0/RSP0/CPU0:Aug 15 18:15:20.280 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
TRANSFER_DONE : Image transfer completed on Satellite 101
RP/0/RSP0/CPU0:Aug 15 18:15:49.775 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 100 one or more links may be down - traffic may
```



```

be impacted
RP/0/RSP0/CPU0:Aug 15 18:15:49.775 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 101 one or more links may be down - traffic may
be impacted
RP/0/RSP0/CPU0:Aug 15 18:15:49.775 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
INSTALL_DONE : Image install completed on Satellite 101
RP/0/RSP0/CPU0:Aug 15 18:15:49.792 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 100 removed
RP/0/RSP0/CPU0:Aug 15 18:15:49.805 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 101 removed
RP/0/RSP0/CPU0:Aug 15 18:18:31.793 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 101 up
RP/0/RSP0/CPU0:Aug 15 18:18:33.809 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR:
Node 101/ inserted
RP/0/RSP0/CPU0:Aug 15 18:18:35.665 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 100 up
LC/0/0/CPU0:Aug 15 18:18:36.021 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Up
LC/0/0/CPU0:Aug 15 18:18:36.022 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Up
LC/0/0/CPU0:Aug 15 18:18:37.786 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 15 18:18:37.786 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Down
RP/0/RSP0/CPU0:Aug 15 18:18:38.980 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:43.988 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:43.990 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:43.993 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:43.996 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:44.203 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
100/ inserted
RP/0/RSP0/CPU0:Aug 15 18:18:50.552 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:55.559 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:55.561 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:55.564 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:55.567 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 15 18:18:55.569 : invmgr[254]: %PLATFORM-INV-6-IF_OIRIN : xFP OIR:
SAT101/0/0 GigabitEthernet port_num: 0 is inserted, state: 1
RP/0/RSP0/CPU0:Aug 15 18:18:55.570 : invmgr[254]: %PLATFORM-INV-6-IF_OIROUT : xFP OIR:
SAT101/0/0 GigabitEthernet port_num: 0 is removed, state: 0
RP/0/RSP0/CPU0:Aug 15 18:18:56.925 : invmgr[254]: %PLATFORM-INV-6-IF_OIRIN : xFP OIR:
SAT100/0/0 GigabitEthernet port_num: 0 is inserted, state: 1
RP/0/RSP0/CPU0:Aug 15 18:18:56.927 : invmgr[254]: %PLATFORM-INV-6-IF_OIROUT : xFP OIR:
SAT100/0/0 GigabitEthernet port_num: 0 is removed, state: 0
RP/0/RSP0/CPU0:Aug 15 18:18:56.931 : invmgr[254]: %PLATFORM-INV-6-IF_OIRIN : xFP OIR:
SAT100/0/0 GigabitEthernet port_num: 4 is inserted, state: 1

```

卫星升级后，您应该会看到与之前相同的卫星状态。

```
RP/0/RSP0/CPU0:ASR9001-H#show nv satellite status brief
```

```
Fri Aug 15 18:20:59.515 UTC
```

Sat-ID	Type	IP Address	MAC address	Status
-----	-----	-----	-----	-----

```

100    asr901    10.0.100.1    4c00.8287.1de4    Connected (Act)
101    asr901    10.0.101.1    4c00.8287.2e24    Connected (Act)
102    asr901    10.0.102.1    4c00.8287.2ec4    Connected (Act)

```

示例：正确的升级方法

使用与上一个示例相同的拓扑，从需要升级的所有卫星开始，此示例显示了升级环的适当方法。

注意：传输是并行完成的，但某些传输可能需要比其他传输更长时间才能完成。建议先将映像传输到所有卫星，然后系统地启动安装的激活部分，以便节省时间并防止对卫星进行不必要的重新加载。

注：此示例显示一次激活一个卫星作为参考，但所有卫星均可立即激活，如本节稍后部分所示。

检查两台主机的卫星状态，然后将图像传输到所有卫星。

```

RP/0/RSP0/CPU0:ASR9001-G#show nv sat stat bri
Fri Aug 22 20:15:59.830 UTC
Sat-ID  Type      IP Address      MAC address      Status
-----  -
100     asr901    10.0.100.1     4c00.8287.1de4   Connected (Stby)
101     asr901    10.0.101.1     4c00.8287.2e24   Connected (Stby)
102     asr901    10.0.102.1     4c00.8287.2ec4   Connected (Stby)

```

```

RP/0/RSP0/CPU0:ASR9001-H#show nv sat stat bri
Fri Aug 22 12:17:20.811 UTC
Sat-ID  Type      IP Address      MAC address      Status
-----  -
100     asr901    10.0.100.1     4c00.8287.1de4   Connected (Act)
101     asr901    10.0.101.1     4c00.8287.2e24   Connected (Act)
102     asr901    10.0.102.1     4c00.8287.2ec4   Connected (Act)

```

```

RP/0/RSP0/CPU0:ASR9001-H#install nv satellite 100-102 transfer
Fri Aug 22 12:17:51.647 UTC
Install Op 1: transfer: 100-102
3 configured satellites have been specified for transfer.
3 satellites have successfully initiated transfer.

```

```

RP/0/RSP0/CPU0:ASR9001-H#RP/0/RSP0/CPU0:Aug 22 12:23:16.238 : icpe_satmgr[1168]:
%PKT_INFRA-ICPE_GCO-6-TRANSFER_DONE : Image transfer completed on Satellite 100
RP/0/RSP0/CPU0:Aug 22 12:27:55.990 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
TRANSFER_DONE : Image transfer completed on Satellite 101
RP/0/RSP0/CPU0:Aug 22 12:28:01.876 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
TRANSFER_DONE : Image transfer completed on Satellite 102

```

之后，由于所有卫星都激活到9001H，首先激活卫星100。因此，9001G失去与环中所有卫星的控制连接。

```

RP/0/RSP0/CPU0:ASR9001-H#install nv satellite 100 activate
Fri Aug 22 12:30:13.088 UTC
WARNING: This will take the requested satellite out of service.
Do you wish to continue? [confirm(y/n)] y
Install Op 2: activate: 100
1 configured satellite has been specified for activate.
1 satellite has successfully initiated activate.

```

```

RP/0/RSP0/CPU0:ASR9001-H#
RP/0/RSP0/CPU0:ASR9001-H#RP/0/RSP0/CPU0:Aug 22 12:30:45.639 : icpe_satmgr[1168]:
%PKT_INFRA-ICPE_GCO-5-SATELLITE_STATUS : Satellite 100 one or more links may
be down - traffic may be impacted
RP/0/RSP0/CPU0:Aug 22 12:30:45.639 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
INSTALL_DONE : Image install completed on Satellite 100
RP/0/RSP0/CPU0:Aug 22 12:30:45.658 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 100 removed
RP/0/RSP0/CPU0:Aug 22 12:33:28.059 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 100 up
RP/0/RSP0/CPU0:Aug 22 12:33:30.446 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR:
Node 100/ inserted
RP/0/RSP0/CPU0:Aug 22 12:33:30.449 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR:
Node 100/ inserted
LC/0/0/CPU0:Aug 22 12:33:30.495 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Up
LC/0/0/CPU0:Aug 22 12:33:30.497 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Up
LC/0/0/CPU0:Aug 22 12:33:43.498 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 12:33:43.498 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 12:33:45.487 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Up
LC/0/0/CPU0:Aug 22 12:33:45.490 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Up
RP/0/RSP0/CPU0:Aug 22 12:33:48.549 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 22 12:33:53.557 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 22 12:33:53.560 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 22 12:33:53.563 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
RP/0/RSP0/CPU0:Aug 22 12:33:53.568 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR: Node
inserted
LC/0/0/CPU0:Aug 22 12:33:57.750 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 12:33:57.750 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Down
RP/0/RSP0/CPU0:Aug 22 12:34:06.111 : invmgr[254]: %PLATFORM-INV-6-IF_OIRIN : xFP OIR:
SAT100/0/0 GigabitEthernet port_num: 0 is inserted, state: 1
RP/0/RSP0/CPU0:Aug 22 12:34:06.113 : invmgr[254]: %PLATFORM-INV-6-IF_OIROUT : xFP OIR:
SAT100/0/0 GigabitEthernet port_num: 0 is removed, state: 0
RP/0/RSP0/CPU0:Aug 22 12:34:06.118 : invmgr[254]: %PLATFORM-INV-6-IF_OIRIN : xFP OIR:
SAT100/0/0 GigabitEthernet port_num: 4 is inserted, state: 1

```

```
RP/0/RSP0/CPU0:ASR9001-H#show nv sat stat bri
```

```
Fri Aug 22 12:34:13.401 UTC
```

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	4c00.8287.1de4	Connected (Act)
101	asr901	10.0.101.1	4c00.8287.2e24	Connected (Act; Transferred)
102	asr901	10.0.102.1	4c00.8287.2ec4	Connected (Act; Transferred)

一旦卫星100恢复正常，将其活动数据路径切换到9001G，然后继续升级过程，升级到卫星101并最终升级到卫星102。

注意：在卫星重新加载时，您还可以更改主机优先级配置，从而防止任何切换。

RP/0/RSP0/CPU0:ASR9001-G#**show run nv satellite 100**

Fri Aug 22 20:35:59.435 UTC

nv

satellite 100
type asr901
redundancy
host-priority 255

!
serial-number CAT1722U21S

!

RP/0/RSP0/CPU0:ASR9001-G#**config t**

Fri Aug 22 20:36:03.839 UTC

RP/0/RSP0/CPU0:ASR9001-G(config)#**nv sat 100**

RP/0/RSP0/CPU0:ASR9001-G(config-satellite)#**redundancy**

RP/0/RSP0/CPU0:ASR9001-G(config-nV-red)#**host-priority 50**

RP/0/RSP0/CPU0:ASR9001-G(config-nV-red)#**end**

Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:y

RP/0/RSP0/CPU0:Aug 22 20:36:18.401 : config[65867]: %MGBL-CONFIG-6-DB_COMMIT :
Configuration committed by user 'lab'. Use 'show configuration commit changes
1000000053' to view the changes.

RP/0/RSP0/CPU0:Aug 22 20:36:18.429 : config[65867]: %MGBL-SYS-5-CONFIG_I :
Configured from console by lab on vty0 (64.102.157.220)

RP/0/RSP0/CPU0:ASR9001-G#LC/0/0/CPU0:Aug 22 20:36:20.291 : ifmgr[208]:
%PKT_INFRA-LINK-3-UPDOWN : Interface GigabitEthernet100/0/0/0, changed state to Up
LC/0/0/CPU0:Aug 22 20:36:20.293 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
Line protocol on Interface GigabitEthernet100/0/0/0, changed state to Up

RP/0/RSP0/CPU0:ASR9001-G#**show nv sat stat bri**

Fri Aug 22 20:37:19.041 UTC

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	4c00.8287.1de4	Connected (Act)
101	asr901	10.0.101.1	4c00.8287.2e24	Connected (Stby)
102	asr901	10.0.102.1	4c00.8287.2ec4	Connected (Stby)

RP/0/RSP0/CPU0:ASR9001-G#

RP/0/RSP0/CPU0:ASR9001-H#**show nv sat stat bri**

Fri Aug 22 12:40:26.728 UTC

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	4c00.8287.1de4	Connected (Stby)
101	asr901	10.0.101.1	4c00.8287.2e24	Connected (Act; Transferred)
102	asr901	10.0.102.1	4c00.8287.2ec4	Connected (Act; Transferred)

RP/0/RSP0/CPU0:ASR9001-H#**install nv satellite 101 activate**

Fri Aug 22 12:40:39.496 UTC

WARNING: This will take the requested satellite out of service.

Do you wish to continue? [confirm(y/n)] y

Install Op 3: activate: 101

1 configured satellite has been specified for activate.

1 satellite has successfully initiated activate.

RP/0/RSP0/CPU0:ASR9001-H#RP/0/RSP0/CPU0:Aug 22 12:41:11.108 : icpe_satmgr[1168]:
%PKT_INFRA-ICPE_GCO-5-SATELLITE_STATUS : Satellite 100 one or more links may be
down - traffic may be impacted

RP/0/RSP0/CPU0:Aug 22 12:41:11.108 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 101 one or more links may be down - traffic may
be impacted

RP/0/RSP0/CPU0:Aug 22 12:41:11.108 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
INSTALL_DONE : Image install completed on Satellite 101

RP/0/RSP0/CPU0:Aug 22 12:41:11.125 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:

```
Node 100 removed
RP/0/RSP0/CPU0:Aug 22 12:41:11.134 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 101 removed
LC/0/0/CPU0:Aug 22 12:41:11.150 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 12:41:11.150 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Down
RP/0/RSP0/CPU0:Aug 22 12:44:08.154 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 101 up
RP/0/RSP0/CPU0:Aug 22 12:44:10.598 : invmgr[254]: %PLATFORM-INV-6-OIRIN : OIR:
Node 101/ inserted
RP/0/RSP0/CPU0:Aug 22 12:44:14.031 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 100 up
```

由于卫星101已激活，因此当它重新加载时会发生这种情况：

- SAT 100对9001H的备用控制平面失去与9001G的备用控制平面连接。
- SAT 101丢失数据平面和控制平面到两台主机
- SAT 102对9001G的备用控制平面失去与9001G的备用控制平面连接。
- SAT 100和102上的数据平面没有影响，也没有切换。

```
RP/0/RSP0/CPU0:ASR9001-G#RP/0/RSP0/CPU0:Aug 22 20:39:52.241 : icpe_satmgr[1152]:
%PKT_INFRA-ICPE_GCO-5-SATELLITE_STATUS : Satellite 101 one or more links may be
down - traffic may be impacted
RP/0/RSP0/CPU0:Aug 22 20:39:52.241 : icpe_satmgr[1152]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 102 one or more links may be down - traffic may
be impacted
RP/0/RSP0/CPU0:Aug 22 20:39:52.257 : invmgr[253]: %PLATFORM-INV-6-OIROUT :
OIR: Node 101 removed
RP/0/RSP0/CPU0:Aug 22 20:39:52.271 : invmgr[253]: %PLATFORM-INV-6-OIROUT :
OIR: Node 102 removed
RP/0/RSP0/CPU0:Aug 22 20:42:49.285 : icpe_satmgr[1152]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 101 up
RP/0/RSP0/CPU0:ASR9001-G#RP/0/RSP0/CPU0:Aug 22 20:42:51.712 : invmgr[253]:
%PLATFORM-INV-6-OIRIN : OIR: Node 101/ inserted
RP/0/RSP0/CPU0:Aug 22 20:42:55.166 : icpe_satmgr[1152]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 102 up
RP/0/RSP0/CPU0:Aug 22 20:42:55.539 : invmgr[253]: %PLATFORM-INV-6-OIRIN : OIR:
Node 102/ inserted
```

一次升级多个卫星

您可以指定多个卫星，而不是一次激活一个卫星。

注意：建议不要对环拓扑执行此操作。

```
RP/0/RSP0/CPU0:ASR9001-H#install nv satellite 100-102 activate
Fri Aug 22 13:04:35.604 UTC
The operation will cause an image to be transferred where required, and then
activate new versions on the requested satellites.
WARNING: This will take the requested satellites out of service.
Do you wish to continue? [confirm(y/n)] y
Install Op 5: activate: 100-102
3 configured satellites have been specified for activate.
3 satellites have successfully initiated activate.
```

```
RP/0/RSP0/CPU0:Aug 22 13:05:07.612 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
```

```

SATELLITE_STATUS : Satellite 100 one or more links may be down - traffic may
be impacted
RP/0/RSP0/CPU0:Aug 22 13:05:07.612 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 101 one or more links may be down - traffic may
be impacted
RP/0/RSP0/CPU0:Aug 22 13:05:07.612 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
INSTALL_DONE : Image install completed on Satellite 100
RP/0/RSP0/CPU0:Aug 22 13:05:07.612 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
INSTALL_DONE : Image install completed on Satellite 101
RP/0/RSP0/CPU0:Aug 22 13:05:07.630 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 100 removed
RP/0/RSP0/CPU0:Aug 22 13:05:07.640 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 101 removed
LC/0/0/CPU0:Aug 22 13:05:07.653 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 13:05:07.653 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet100/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 13:05:07.912 : ifmgr[208]: %PKT_INFRA-LINK-3-UPDOWN : Interface
GigabitEthernet0/0/0/0, changed state to Down
LC/0/0/CPU0:Aug 22 13:05:07.912 : ifmgr[208]: %PKT_INFRA-LINEPROTO-5-UPDOWN : Line
protocol on Interface GigabitEthernet0/0/0/0, changed state to Down
RP/0/RSP0/CPU0:Aug 22 13:05:07.916 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-5-
SATELLITE_STATUS : Satellite 102 one or more links may be down - traffic may
be impacted
RP/0/RSP0/CPU0:Aug 22 13:05:07.916 : icpe_satmgr[1168]: %PKT_INFRA-ICPE_GCO-6-
INSTALL_DONE : Image install completed on Satellite 102
RP/0/RSP0/CPU0:Aug 22 13:05:07.934 : invmgr[254]: %PLATFORM-INV-6-OIROUT : OIR:
Node 102 removed

```

```
RP/0/RSP0/CPU0:ASR9001-H#show nv sat stat bri
```

```
Fri Aug 22 13:06:12.255 UTC
```

Sat-ID	Type	IP Address	MAC address	Status
100	asr901	10.0.100.1	0000.0000.0000	Discovery Stalled; Conflict: interface is down
101	asr901	10.0.101.1	0000.0000.0000	Discovery Stalled; Conflict: interface is down
102	asr901	10.0.102.1	0000.0000.0000	Discovery Stalled; Conflict: interface is down

示例：卫星自动升级

本节提供升级到更高卫星代码以及触发自动升级功能的示例。

```

RP/0/RSP1/CPU0:AE(admin)#install activate disk0:asr9k-asr901-nV-px-5.3.2.12I
Thu Jun 18 20:19:21.299 UTC
Install operation 2 '(admin) install activate disk0:asr9k-asr901-nV-px-5.3.2.12I'
Info:      Install Method: Parallel Process Restart
The install operation will continue asynchronously.
Install operation 2: load phase started at 20:19:43 UTC Thu Jun 18 2015.
Info:      The changes made to software configurations will not be persistent
Info:      across system reloads. Use the command '(admin) install commit' to
Info:      make changes persistent.
Info:      Please verify that the system is consistent following the software
Info:      change using the following commands:
Info:      show system verify
Info:      install verify packages

```

```

RP/0/RSP1/CPU0:Jun 18 20:19:21.373 : instdir[251]:
%INSTALL-INSTMGR-6-INSTALL_OPERATION_STARTED : Install operation 2 '(admin)

```

```
install activate mem:asr9k-asr901-nV-px-5.3.2.12I' started by user 'started
by user 'lab' via CLI at 20:19:21 UTC Thu Jun 18 2015.
lab'
RP/0/RSP1/CPU0:Jun 18 20:19:58.402 : firmware_manager[235]:
%PLATFORM-UPGRADE_FPD-6-FW_MGR_OPERATION_INFO : AUTO_FPD_UPGRADE_INFO: FW_MGR:
auto fpd-upgrade CLI not configured. Return!
RP/0/RSP1/CPU0:Jun 18 20:20:01.422 : sysmgr[94]: %OS-SYSMGR-7-INSTALL_NOTIFICATION
: notification of software installation received
LC/0/0/CPU0:Jun 18 20:20:02.236 : sysmgr[91]: %OS-SYSMGR-7-INSTALL_NOTIFICATION :
notification of software installation received
LC/0/0/CPU0:Jun 18 20:20:02.250 : sysmgr[91]: %OS-SYSMGR-7-INSTALL_FINISHED :
software installation is finished
RP/0/RSP1/CPU0:Jun 18 20:20:06.432 : sysmgr[94]: %OS-SYSMGR-7-INSTALL_FINISHED :
software installation is finished
RP/0/RSP1/CPU0:Jun 18 20:20:18.772 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-4-SATELLITE_UPGRADE_ON_CONNECT_SET : Satellite 100 has been
configured to auto-update on re-connection and is currently not using a current
version. If the satellite control session is re-established, then the satellite
will update and be temporarily out of service.
RP/0/RSP1/CPU0:Jun 18 20:20:23.075 : instdir[251]:
%INSTALL-INSTMGR-6-INSTALL_OPERATION_COMPLETED_SUCCESSFULLY : Install operation
2 completed successfully

RP/0/RSP1/CPU0:Jun 18 20:22:04.756 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-6-VERSION_NOTCURRENT : Satellite 100 is running a software
version which is not current. Auto-upgrade scheduled.
RP/0/RSP1/CPU0:Jun 18 20:22:04.756 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-4-SATELLITE_UPGRADE_ON_CONNECT_SET : Satellite 100 has been
configured to auto-update on re-connection and is currently not using a current
version. If the satellite control session is re-established, then the satellite
will update and be temporarily out of service.
RP/0/RSP1/CPU0:Jun 18 20:22:04.884 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-5-VERSION_AUTOUPGRADE_STARTED : Auto-upgrade started for
1 satellite.

RP/0/RSP1/CPU0:Jun 18 20:27:22.438 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-6-TRANSFER_DONE : Image transfer completed on Satellite 100
LC/0/0/CPU0:Jun 18 20:27:48.995 : ifmgr[211]: %PKT_INFRA-LINK-3-UPDOWN :
Interface GigabitEthernet0/0/0/10, changed state to Down
LC/0/0/CPU0:Jun 18 20:27:48.995 : ifmgr[211]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
Line protocol on Interface GigabitEthernet0/0/0/10, changed state to Down
RP/0/RSP1/CPU0:Jun 18 20:27:48.996 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-6-INSTALL_DONE : Image install completed on Satellite 100
LC/0/0/CPU0:Jun 18 20:27:50.476 : vic_0[367]: %PLATFORM-VIC-4-SIGNAL :
Interface GigabitEthernet0/0/0/10, Detected Signal failure
LC/0/0/CPU0:Jun 18 20:29:16.741 : ifmgr[211]: %PKT_INFRA-LINK-3-UPDOWN :
Interface GigabitEthernet0/0/0/10, changed state to Up
LC/0/0/CPU0:Jun 18 20:29:57.670 : ifmgr[211]: %PKT_INFRA-LINK-3-UPDOWN :
Interface GigabitEthernet0/0/0/10, changed state to Down
LC/0/0/CPU0:Jun 18 20:29:58.213 : vic_0[367]: %PLATFORM-VIC-4-RX_LOS :
Interface GigabitEthernet0/0/0/10, Detected Rx Loss of Signal
LC/0/0/CPU0:Jun 18 20:29:58.224 : ifmgr[211]: %PKT_INFRA-LINK-3-UPDOWN :
Interface GigabitEthernet0/0/0/10, changed state to Up
LC/0/0/CPU0:Jun 18 20:30:25.019 : ifmgr[211]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
Line protocol on Interface GigabitEthernet0/0/0/10, changed state to Up
RP/0/RSP1/CPU0:Jun 18 20:30:28.969 : icpe_satmgr[1154]:
%PKT_INFRA-ICPE_GCO-5-SATELLITE_STATUS : Satellite 100 up
```

卫星图像

以下是卫星的预期版本控制列表。

9000伏

XR版本	首次客户 发货 (FCS)或 软件维护 升级 (SMU)	图像类型	映像版本	备注
4.2.1	FCS	Cisco IOS/内核	202.0(15 1- 3.SVA)	202- 209.9
		ROMMO N	125	
		FPGA	1.13	
4.2.3	FCS	Cisco IOS/内核	210(151 -3.SVB)	210- 219.9
		ROMMO N	125	
		FPGA	1.13	
	CSCuc5 9715	Cisco IOS/内核	211	
		ROMMO N	125	
		FPGA	1.13	
	CSCty86 900	Cisco IOS/内核	212	
		ROMMO N	125	
		FPGA	1.13	
	CSCul0 9549	Cisco IOS/内核	213	
		ROMMO N	125	
		FPGA	1.13	
4.3.0	FCS	Cisco IOS/内核	252(151 -3.SVC)	250- 259.9
		ROMMO N	125	
		FPGA	1.13	
4.3.1	FCS	Cisco IOS/内核	276(151 -3.SVD)	
		ROMMO N	125	
		FPGA	1.13	
	CSCuj9 7259	Cisco IOS/内核	277	
		ROMMO N	125	
		FPGA	1.13	
	CSCui7	Cisco	278	

	7863	IOS/内核 ROMMO N	125	
		FPGA	1.13	
	CSCuj9 7259	Cisco IOS/内核 ROMMO N	279 125	
4.3.2		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	285(151-3.SVF) 125	
4.3.4		FPGA	1.13	它可能会说285可用，这是错误的。
		Cisco IOS/内核 ROMMO N	287(151-3.SVFa) 125	
5.1.0		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	292(151-3.SVE) 125	
5.1.1		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	322.6(151-3.SVG) 126	要使用高级功能，卫星必须运行此版本。
5.1.2		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	327(151-3.SVG2) 127	
5.1.3		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	338.1(151-3.SVI) 127	
5.2.0		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	353(151-3.SVH) 127	
5.2.1		FPGA	1.13	
		Cisco IOS/内核 ROMMO N	353(151-3.SVH) 127	

	FPGA	1.13
5.2.2	Cisco IOS/内核	378(151-3.SVH2)
	ROMMON	127
	N	
	FPGA	1.13
5.3.0	Cisco IOS/内核	530.101(151-3.SVI)
	ROMMON	127.0
	N	
	FPGA	1.13
5.3.1	Cisco IOS/内核	531.101
	ROMMON	127.0
	N	
	FPGA	1.13
5.3.2	Cisco IOS/内核	532.101
	ROMMON	127.0
	N	
	FPGA	1.13

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XR版本	FCS或SMU	图像类型	映像版本	备注
4.3.0	FCS	Cisco IOS/内核	1212.1	
		ROMMON	2.1	
		FPGA	不适用	
4.3.1	FCS	Cisco IOS/内核	1304.23	
		ROMMON	2.1	
		FPGA	不适用	
4.3.2	FCS	Cisco IOS/内核	1308.18	
		ROMMON	2.1	
		FPGA	不适用	
4.3.4	FCS	Cisco IOS/内核	1312.06	
		ROMMON	2.1	
		FPGA	不适用	
5.1.0	FCS	Cisco IOS/内核	1308.18	
		ROMMON	2.1	
		FPGA	不适用	
5.1.1	FCS	Cisco IOS/内核	1401.13	
		ROMMON	2.1	
		FPGA	不适用	
5.1.2	FCS	Cisco IOS/内核	1404.11	
		ROMMON	2.1	
		FPGA	不适用	
5.1.3	FCS	Cisco IOS/内核	1408.01	
		ROMMON	2.1	
		FPGA	不适用	
5.2.0	FCS	Cisco IOS/内核	1406.12	
		ROMMON	2.1	
		FPGA	不适用	

5.2.1	FCS	Cisco IOS/内核	1406.12
		ROMMON	2.1
		FPGA	不适用
5.2.2	FCS	Cisco IOS/内核	1409.29
		ROMMON	2.1
		FPGA	不适用
5.3.0	FCS	Cisco IOS/内核	1409.29
		ROMMON	2.1
		FPGA	不适用

已知问题

映像下载失败

Saw the following message which indicates something blocking the image transfer

```
SAT9K_IMG_DOWNLOADER-3-TFTP_READ_FAIL: FTP download failure for 4502A1__.FPG with
error code:-3
```

建议：检查管理平面保护(MPP)配置，以确保机箱间链路(ICL)端口的TFTP设置为**allowed**。

映像下载错误地显示“已完成”

在此场景中，接口控制平面扩展器(ICPE)报告安装完成，但当您检查卫星时，它不会运行最新版本。

```
RP/0/RSP0/CPU0:asr9k#install nv satellite 101 transfer progress
Wed Dec 18 16:36:43.381 CST
1 configured satellite has been specified for transfer.
1 satellite has successfully initiated transfer.
| Working...RP/0/RSP0/CPU0:Dec 18 16:37:00.072 CST: icpe_gco[1148]:
%PKT_INFRA-ICPE_
GCO-6-TRANSFER_DONE : Image transfer completed on Satellite 101
Press Ctrl+C at any time to stop displaying the current progress.
Completed.
1 satellite has successfully completed the transfer operation: 101.
```

```
RP/0/RSP0/CPU0:asr9k#install nv satellite 101 activate progress
Wed Dec 18 16:37:26.943 CST
WARNING: This will take the requested satellite out of service.
Do you wish to continue? [confirm(y/n)] y
1 configured satellite has been specified for install.
1 satellite has successfully initiated install.
<snip>
RP/0/RSP0/CPU0:Dec 18 16:37:29.962 CST: icpe_gco[1148]:
%PKT_INFRA-ICPE_GCO-6-INSTALL_DONE :
Image install completed on Satellite 101
RP/0/RSP0/CPU0:Dec 18 16:37:29.968 CST: invmgr[262]:
%PLATFORM-INV-6-OIROUT : OIR: Node 101
removed
Completed.
1 satellite has successfully completed the install operation: 101.
```

```
RP/0/RSP0/CPU0:asr9k#show nv satellite status satellite 101
```

```
Wed Dec 18 16:39:09.258 CST
```

```
Satellite 101
```

```
-----
```

```
State: Connected (Stable)
```

```
Type: asr9000v
```

```
MAC address: 8478.ac05.8a14
```

```
IPv4 address: 101.101.101.101
```

```
Configured Serial Number: CAT1733U1K2
```

```
Received Serial Number: CAT1733U1K2
```

```
Remote version: Compatible (not latest version)
```

```
ROMMON: 125.0 (Latest)
```

```
FPGA: 1.13 (Latest)
```

```
IOS: 210.0 (Available: 292.0)
```

检查内容：

- MPP配置（请参见上一节）。
- 如果在安装CLI中使用**progress**关键字，请不要在版本5.1.2或5.2.0之前使用**progress**关键字。
- 确保未设置**TFTP主机**（例如，`tftp vrf default ipv4 server homedir disk0 :`）。
- 如果卫星是ASR901，安装可能会由于空间限制而失败。建议从901闪存中删除非nV映像并执行**squeeze flash**:以释放空间。

注意：图像传输大约需要五分钟。

5.1.1双宿主问题

从版本5.1.1升级到版本5.1.2或降级可能会导致升级失败时，存在已知问题，[Cisco Bug ID CSCuo41004](#)中有相关记录。

Symptom:

During an upgrade from 5.1.1 or downgrade to 5.1.1 scenario, both hosts of a dual head satellite configuration become the standby host for the satellite. This stops traffic.

Conditions:

A dual head topology for nV ICPE configuration and one of the hosts being 5.1.1, with the other being a later version.

Workaround:

Ensure that the secondary host is the host that is running 5.1.1. So during an upgrade from 5.1.1, then upgrade the primary host first; during a downgrade to 5.1.1, then downgrade the secondary host first.

The primary host can be identified using the `<cmdBold>show nv satellite protocol redundancy</noCmdBold>` command.

An alternative option (if only a few satellites have been configured) is to explicitly configure host priorities for the 2 hosts.

Further Problem Description:

The dual system will recover when both systems have the same version.

If testing between versions is required, then the user must explicitly configure host priorities.

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