

Network Virtualization Configuration Guide, Cisco IOS XE 17 (Cisco ASR 900 Series)

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Enabling Network Virtualization Satellite Mode on the Router

This document describes how to enable Network Virtualization Satellite Mode on the Router and contains the following sections:

Overview

The Satellite Network Virtualization (nV) feature allows you to configure remote routers to act as remote virtual switch interfaces on the ASR 9000. IOS XE Release 3.8 introduces support for nV mode on the Cisco ASR 903 Router, allowing it to act as a satellite nV device, controlled by the ASR 9000 using the IOS XR CLI.

Limitations

The following limitations apply when enabling nV satellite mode:

- An in-service software upgrade (ISSU) is not supported while the router is acting as an nV satellite device.
- RSP redundancy is not supported while the router is acting as a satellite nV device.
- Online Insertion and Removal (OIR) of interface modules (IMs) is not supported when the router is operating in nV satellite mode.
- Supported connections to the satellite host include
  - Gigabit Ethernet interfaces
  - Ethernet transported over optical interfaces
  - 10 Gigabit Ethernet interfaces (slots 1 and 2 only)

  Other connection types are not supported.
- Local switching on the satellite device is not supported. The packets are always sent to the host for layer 2 and layer 3 switching.
- Network clocking is not supported when the router is operating in nV satellite mode.
- Reverting from a satellite mode image to the base image requires that you download the original image using TFTP; an inband download is not supported. For more information, see Removing a Satellite Image from the Router.

Installing a Satellite Image on the Router

Follow these steps to install a satellite nV image on the Router:

Procedure

Step 1 Download a Cisco ASR 903 Router satellite nV image from Cisco.com and copy the image to a TFTP server.

Step 2 Create a console connection to the management port of the Router. For more information about creating a console connection, see Cisco ASR 903 Series Aggregation Services Router Hardware Installation Guide .

Step 3 Copy nV compatible binary image to flash or bootflash.

```
Router# copy tftp://10.10.10.10//tftpboot//asr903rsp1_sat-universalk9_npe.03.08.00.S.153-1.S.bin
bootflash:
```

Step 4 Set the configuration register to 0x2042.

```
Router(config)# config-register 0x2042
```

Step 5 Erase the existing configuration.

```
Router# write erase
```

Step 6 Specify the boot image.

```
Router(config)# boot system bootflash:asr903rsp1_sat-universalk9_npe.03.08.00.S.153-1.S.bin
```

Step 7 Save the configuration.

```
Router# copy running-configuration startup-configuration
```

Step 8 Reload the router

```
Router(config)# reload
```

The system boots in nV mode and is detectable by the nV host.



Note You can use the **show nv satellite status** command to verify the image version.

Removing a Satellite Image from the Router

Restoring the router to a normal IOS XE image requires that you load an image in ROMmon mode using trivial file transfer protocol (TFTP). For instructions on how to remove a satellite image from the router, please contact Cisco support.

Configuring Satellite Mode Sequence

When booting to a satellite nV image, the router

- enables Ethernet ports in IEEE mode.
- enables inter-chassis links (IC links).
- uses Satellite Discovery and Control (SDAC) to establish a connection to the host nV device.
- establishes a control path between the host nV device and the router.

Once the connection is established, the ASR 9000 provides an IP address, software, and configuration commands to the Cisco ASR 903 Router. For instructions on configuring Satellite nV on the ASR 9000 and managing satellite nV devices, see *Satellite Network Virtualization (nV) System for Cisco ASR 9000 series*.

Upgrading the Satellite Image

After you connect the satellite to the host, the host verifies the satellite software version. If there is a version mismatch, the host displays a syslog notification indicating that the satellite device requires an image upgrade. To upgrade the image using the host satellite device, see configuring the *Satellite Network Virtualization (nV) System for Cisco ASR 9000 series*.

Use the **show nv satellite status** command to verify the image version.

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