Wireless Sub-Package for Switch

Introduction to Wireless Sub-package

Wireless-only Fabric uses fabric constructs to garner the benefits of a fabric. In this architecture, a fabric is built on top of existing traditional network designs such as multi-tier, Routed Access, and VSS network. It uses a LISP control plane together with VXLAN encapsulation for the overlay data plane traffic. The wireless control plane remains intact with CAPWAP tunnels initiating on the APs and terminating on a Cisco Catalyst 9800 Series Wireless Controller or AireOS controller. The Cisco Catalyst 9800 Series Wireless Controller can function in a dedicated appliance, directly in a switch, or in a VM.

Cisco Catalyst 9800 Wireless Controller for Switch delivers all the benefits of a centralized control and management plane (easy to configure, upgrade, troubleshoot, etc) and the maximum throughput or performance of a distributed forwarding plane. The distributed data plane allows services such as AVC to scale. In this new model, the wireless control plane is not split between MC and MA. The switch is detached from the wireless control plane and the controller takes care of the wireless function and the traffic switching is done by the Cisco Access Switch.

Since the wireless functionality is required to be enabled only on few nodes of the network, you can install Cisco Catalyst 9800 Series Wireless Controller as a separate package on the switch on a need basis. The sub-package is installed on top of the base image and a reload is required to activate the sub-package.

Note The sub-package is an optional binary that contains the entire Cisco Catalyst 9800 Series Wireless Controller software.

Note Cisco Catalyst 9800 Wireless Controller software on the Cisco Catalyst 9300 switches must be provisioned and deployed on the switch using Cisco DNA Center, and it cannot be configured as a standalone controller. For mode details, see the Cisco Catalyst 9300 Series Switches Hardware Installation Guide.

Note SNMP is not supported on Catalyst 9800 Embedded Wireless Controller for Switch.

How to Install Wireless Package

1. Install the base image (without wireless) on the switch.

2. Install the wireless package on the switch.

3. Upgrade the AP image.

4. Reload the switch.

5. Enable wireless on the switch using the **wireless-controller** configuration command, and configure wireless features.

How to Remove Wireless Package

1. Uninstall the wireless package from the switch.

2. Reload the switch.

3. Run the **write** command. This removes the wireless configuration from the startup-configuration.

Upgrading to a Newer Version of Wireless Package

1. Install the base image (without wireless) on the switch.

2. Install the updated wireless package.

3. Reload the switch.

4. Commit the installation.

Booting in Install Mode

Use the procedure given below to boot the switch in install-mode:

Before you begin

The sub-package does not work in bundle-mode. Use the **show version** command to verify the boot mode.

Procedure

Step 1   **install add file** *image.bin location* **activate commit**.

This command moves the switch from bundle-mode to install-mode. Note that *image.bin* is the base image.

Step 2   Click **yes** to all the prompts.

Step 3   **reload**

Reloads the switch. Ensure that you boot from *flash:packages.conf*. After the reload, the switch will be in install-mode.

Note   During Install mode image upgrade/downgrade, "Install add file" with flash:<file_name> command is not supported. Instead of that "bootflash:<filename>" needs to be used.

```
Install add file bootflash:<file_name>  activate commit
```

What to do next

Verify the boot mode using the **show version** command.

Installing Sub-Package in a Single Step (GUI)

Procedure

Step 1   Choose **Administration** > **Software Management** > **Software Upgrade**.

Step 2   Choose the upgrade mode from the **Upgrade Mode** drop-down list, the transport type from the **Transport Type** drop-down list and enter the **Server IP Address (IPv4/IPv6)**, the **File System** and choose the location from the **Source File Path** drop-down list.

Step 3   Click **Download & Install**.

Installing Sub-Package in a Single Step

Use the procedure given below to install sub-package in a single step:

Before you begin

• Ensure that the switch is in install-mode.

• Ensure that you boot only from *flash:packages.conf*.

Procedure

Step 1 **install add file** *flash:<controller>.bin* **activate commit**

Installs the Cisco Catalyst 9800 Wireless Controller for Switch sub-package.

Note The sub-package (flash:<controller>.bin) is available on www.cisco.com. You can also install the sub-package directly from TFTP server.

Step 2 Click **yes** to all the prompts.

What to do next

Use the **show install summary** command to verify the installed image or package.

Multi-step Installation of Sub-Package

Use the procedure given below to install sub-package:

Before you begin

- Ensure that the switch is in install-mode.

- Ensure that you boot only from *flash:packages.conf*.

Procedure

Step 1 **install add file** *flash:<controller>.bin*

The sub-package is added to the flash and expanded.

Step 2 **install activate file** *flash:<controller>.bin*

Installs the sub-package.

Step 3 **install commit**

Completes the installation by writing the files.

What to do next

Use the **show install summary** command to verify the installed image or package.

Installing on a Stack

You can install the package on a stack using either Single-step Package Installation or #unique_149.

If a new member joins the stack, the two possible scenarios are:

- **If auto-upgrade is enabled**: The required software is installed on to the new member. It will match the version of software running on the stack as well as the wireless package.

- **If auto-upgrade is disabled**: As the software version is not the same as in the stack, the new member will remain in version mismatch state and it will not join the stack. You have to manually run the **install autoupgrade** command in EXEC mode to initiate the auto-upgrade procedure.

Upgrading to a Newer Version of Wireless Package

Use the procedure given below to upgrade to a newer version of wireless package:

Procedure

Step 1 **install add file** *flash:<base-image>.bin*

The base image (without wireless) is added to the flash and expanded.

Step 2 **install add file** *flash:<controller-sub-package>.bin*

The sub-package is added to the flash and expanded.

Step 3 **install active**

Installs the base image and sub-package and triggers a reload. However, you can also rollback to the previous state after the reload.

Step 4 **install commit**

Completes the installation by writing the files.

Deactivating the Wireless Package

Follow the procedure given below to deactivate the wireless sub-package:

Procedure

	Command or Action	Purpose
Step 1	**install deactivate file** *flash:<controller>.bin* **Example:** ```Device# install deactivate file flash:<controller>.bin```	Removes the package and forces the switch to reboot.
Step 2	**install commit** **Example:** ```Device# install commit```	Commits the switch without wireless package.

Enabling or Disabling Auto-Upgrade

Follow the procedure given below to enable or disable auto-upgrade:

Procedure

	Command or Action	Purpose
Step 1	**software auto-upgrade enable** **Example:** `Device(config)# software auto-upgrade enable`	Enables software auto-upgrade.
Step 2	**no software auto-upgrade enable** **Example:** `Device(config)# no software auto-upgrade enable`	Disables software auto-upgrade.