



Cisco Catalyst 6500-E Series Switch and Cisco Catalyst 6807-XL Switch PFC4 and PFC4XL Installation Note

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Contents

This document describes how to install and uninstall the Policy Feature Card 4 (PFC4) and Policy Feature Card 4XL (PFC4XL) on Cisco Supervisor Engine 2T.

Product Overview

Product numbers: VS-F6K-PFC4=, and VS-F6K-PFC4XL=.

Policy Feature Card 4 (VS-F6K-PFC4=) and Policy Feature Card 4XL (VS-F6K-PFC4XL=) can be installed on the following Cisco Supervisor Engine 2T models:

- Cisco Supervisor Engine 2T-10GE (model number VS-S2T-10G)—Shipped with factory-installed Policy Feature Card 4.
- Cisco Supervisor Engine 2T-10GE (model number VS-S2T-10G-XL)—Shipped with factory-installed Policy Feature Card 4XL.



Note To upgrade from VS-S2T-10G to VS-S2T-10G-XL, remove VS-F6K-PFC4= from the corresponding supervisor engine and install VS-F6K-PFC4XL=.

Cisco Supervisor Engine 2T is shipped with a 2-GB DRAM module by default. Although not mandatory, we recommend that you install a second 2-GB DRAM module when installing VS-F6K-PFC4XL=. For installation instructions, see the *Installation Note for the Supervisor Engine 2T DRAM Memory* on Cisco.com.

Safety Warnings

Safety warnings appear throughout this publication in procedures that may harm you if you perform them incorrectly. A warning symbol precedes each warning statement. The warnings below are general warnings that are applicable to the entire publication.



Warning IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. **Statement 1071**

SAVE THESE INSTRUCTIONS



Warning This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security. **Statement 1017**

**Warning**

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. **Statement 1030**

**Warning**

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. **Statement 1034**

**Warning**

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. **Statement 1029**

Parts List

The following parts are available in both the Policy Feature Card 4 kit and the Policy Feature Card 4XL kit.

- One VS-F6K-PFC4= or VS-F6K-PFC4XL= policy feature card.
- One packet of labels.
- One disposable grounding wrist strap.
- One bag of mounting screws.

Required Tools

These tools are required to perform the installation or removal of the Policy Feature Card 4 or Policy Feature Card 4XL:

- Antistatic mat or foam pad to support the removed supervisor engine.
- 3/16-inch flat-blade screwdriver for the captive installation screws on the supervisor engine.
- Number 1 Phillips screwdriver for the screws and cap nuts that fasten the policy feature card to the supervisor engine.
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares.

Installation Guidelines

Observe the following cautionary guidelines when installing the Policy Feature Card 4 or Policy Feature Card 4XL:



Caution

- If you have redundant supervisor engines, you must install the same policy feature card on each supervisor engine. The hardware on both the supervisor engines in a single chassis must be identical.
 - You must shut down the switch to install the policy feature card, even if you have redundant supervisor engines.
 - Ensure that the policy feature card is securely seated before you install and tighten the cap nut and the securing screws. If you use the screws to forcibly seat the policy feature card, the card might warp.
 - You must use all the screws. The screws provide grounding between the policy feature card and the supervisor engine. Failure to use and tighten all screws will invalidate the safety approval and pose a fire and electrical hazard.
 - Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.
 - Always use an ESD wrist strap when handling modules or coming into contact with internal components.
-

Preparing the Supervisor Engine

To prepare Cisco Supervisor Engine 2T before you install or remove Policy Feature Card 4 or Policy Feature Card 4XL, perform these steps:

Before You Begin



Caution

Always use an ESD wrist strap when handling modules or coming into contact with internal components.

Procedure

-
- Step 1** Upload the current configuration to a server and save the running configuration on any modules running Cisco IOS software.
- Note** Performing this step saves time when bringing the module back online. You can recover the configuration by downloading it from the server to the nonvolatile memory of the supervisor engine. For more information, refer to Chapter 26, "Working with Configuration Files" in the *Catalyst 6500 Series Software Configuration Guide* on Cisco.com.
- Step 2** Shut down the switch.
- Step 3** Remove the supervisor engine from the chassis.
For removal instructions, see the *Catalyst 6500 Series Switch Module Installation Guide* on Cisco.com.
- Step 4** Place the supervisor engine on an antistatic mat or foam.
-

What to Do Next

Install or remove the policy feature card.

Installing a Policy Feature Card

This topic describes how to install Policy Feature Card 4XL (VS-F6K-PFC4XL=).



Note The procedure to install Policy Feature Card 4, and Policy Feature Card 4XL is the same.

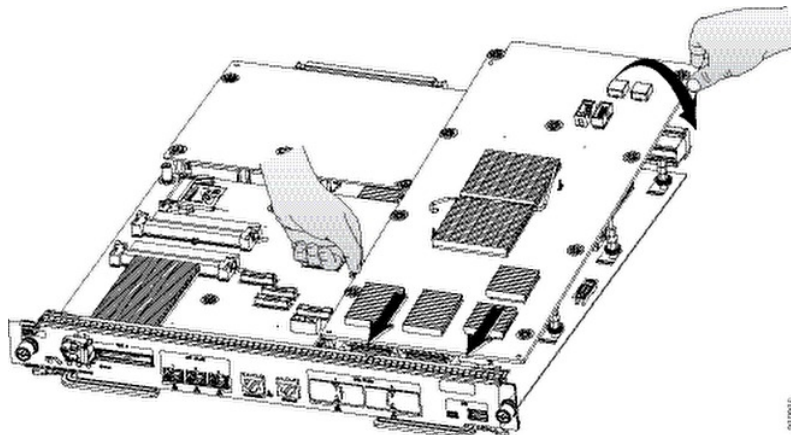
Before You Begin

Refer to the topics [Installation Guidelines](#), on page 3 and [Preparing the Supervisor Engine](#), on page 4.

Procedure

- Step 1** Remove the policy feature card from its antistatic bag.
- Step 2** Insert the front edge of the policy feature card under the EMI gasket on the supervisor engine.

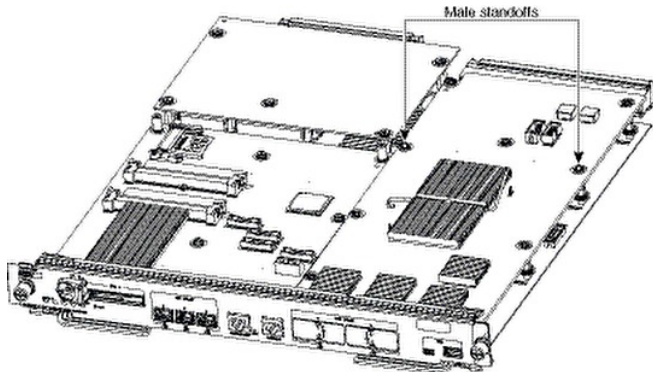
Figure 1: Inserting the PFC4XL Under the EMI Gasket



Caution Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

Step 3 Align the policy feature card with the male standoffs on the supervisor engine, and carefully seat the policy feature card onto the supervisor engine.

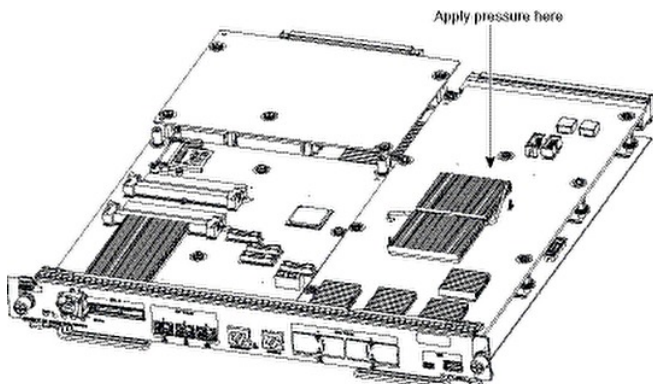
Figure 2: Male Standoff Location on Cisco Supervisor Engine 2T



- Caution**
- Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.
 - Ensure that the policy feature card is securely seated before you install and tighten the cap nuts and the securing screws. If you use the screws to forcibly seat the policy feature card, the card might warp.

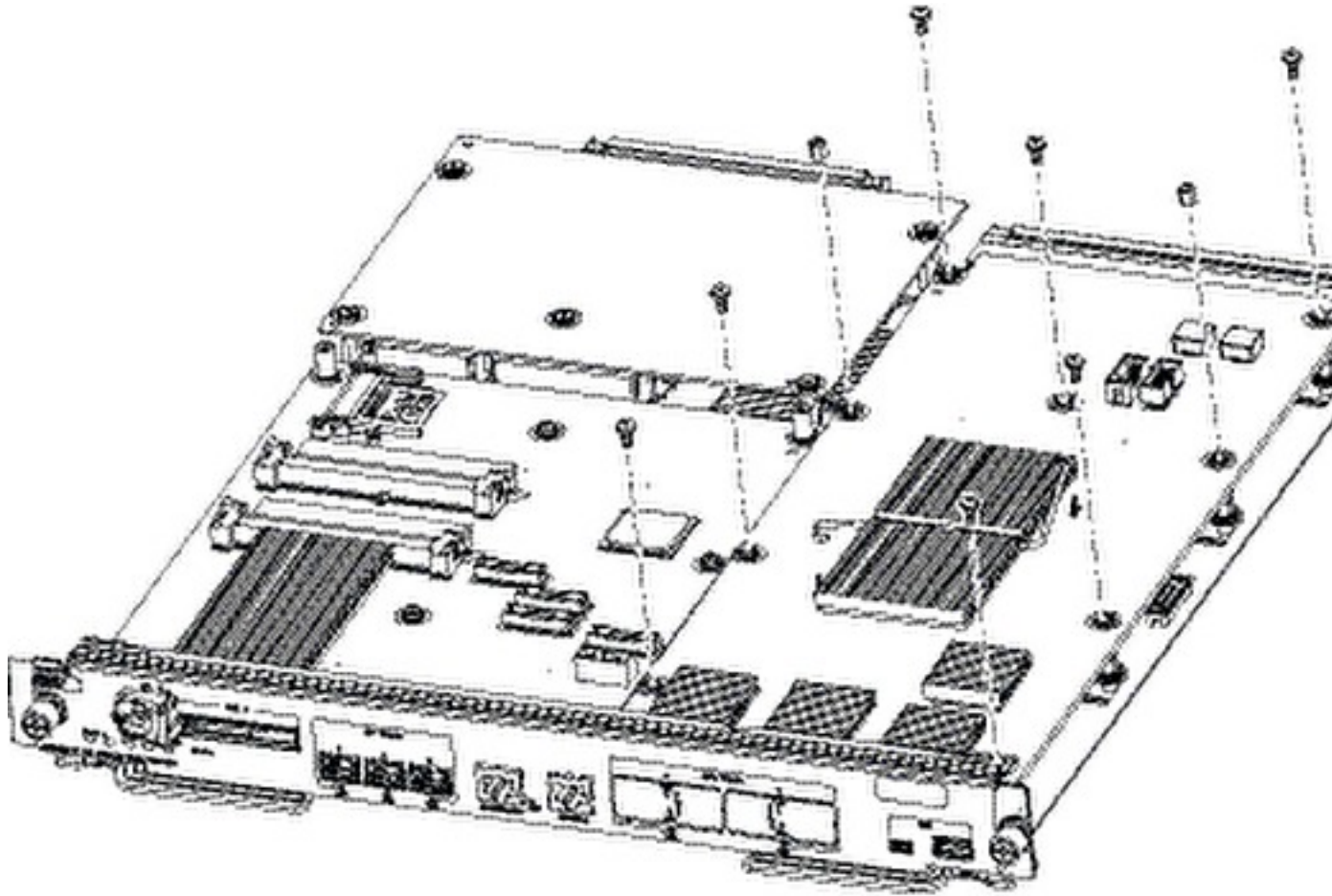
Step 4 Using your thumbs, apply pressure at the locations shown in the following figure to ensure that the policy feature card is securely seated on the supervisor engine.

Figure 3: Seating the PFC4XL on the Supervisor Engine



Step 5 Use a Phillips-head screwdriver to install the supplied screws and cap nuts that secure the VS-F6K-PFC4XL= to the Supervisor Engine 2T.

Figure 4: Installing the Supplied Screws



Caution You must use all the screws. The screws provide grounding between the policy feature card and the supervisor engine. Failure to use and tighten all screws will invalidate the safety approval and pose a fire and electrical hazard.

Note Use the supplied screws and cap nuts to secure the policy feature card to the supervisor engine.

Step 6 Install the supervisor engine in the switch chassis.
Refer to the *Catalyst 6500 Series Switch Module Installation Guide* for installation instructions.

What to Do Next

- 1 If you are installing a policy feature card on a redundant supervisor engine, repeat the procedure for removing the supervisor engine and install the same policy feature card there as well. See topic [Preparing the Supervisor Engine, on page 4](#).
- 2 Power up the switch.

3 Verify the installation procedure. See [Verifying the Policy Feature Card Installation](#), on page 8.

Verifying the Policy Feature Card Installation

This section describes how to verify the policy feature card installation. This applies to the Cisco IOS software on the supervisor engine and the Multilayer Switch Feature Card 5 (MSFC5):

Verify that the switch is online. This indicates that the system acknowledges the new module and has brought it online. Enter the **show module** command in the privileged EXEC mode.

The following is the **show module** command output of a Cisco Catalyst 6807-XL Switch. Here, the supervisor engines have been upgraded from VS-S2T-10G to VS-S2T-10G-XL by installing the VS-F6K-PFC4XL= policy feature cards. The `Sub-Module` section in the output shows that two VS-F6K-PFC4XL= policy feature cards are installed and are working properly (`Status` is `Ok`).

```
C6807-XL.4SUP.VSS# show module
Mod Ports Card Type                               Model                               Serial No.
-----
 1   20 DCEF2T 4 port 40GE / 16 port 10GE         WS-X6904-40G                       SAL1624E826
 3    5 Supervisor Engine 2T 10GE w/ CTS (Acti VS-SUP2T-10G                       SAL17152F6Q
 4    5 Supervisor Engine 2T 10GE w/ CTS (CSSO VS-SUP2T-10G                       SAL17152F7C
 5    4 Network Analysis Module 3              WS-SVC-NAM-3-K9                     SAL1530KNW3
 6   48 CEF720 48 port 1000mb SFP              WS-X6848-SFP                        SAL1533MHD4
 7   48 CEF720 48 port 10/100/1000mb Ethernet WS-X6848-GE-TX                      SAL1534N50G

Mod MAC addresses                               Hw   Fw           Sw           Status
-----
 1 1cdf.0f9b.df26 to 1cdf.0f9b.df39          1.0  12.2 (50r) SYL 15.1 (2) SY2  Ok
 3 2c54.2dc4.a0a5 to 2c54.2dc4.a0ac          1.5  12.2 (50r) SYS 15.1 (2) SY2  Ok
 4 2c54.2dc3.7499 to 2c54.2dc3.74a0          1.5  12.2 (50r) SYS 15.1 (2) SY2  Ok
 5 e8b7.4828.fc80 to e8b7.4828.fc8f          1.0  12.2 (50r) SYL 15.1 (2) SY2  Ok
 6 0007.7d90.5fb8 to 0007.7d90.5fe7          1.0  12.2 (18r) S1  15.1 (2) SY2  Ok
 7 0007.7d90.6f78 to 0007.7d90.6fa7          1.0  12.2 (18r) S1  15.1 (2) SY2  Ok

Mod Sub-Module                               Model                               Serial                               Hw   Status
-----
 1 Distributed Forwarding Card WS-F6K-DFC4-EXL                     SAL1532M1VE 1.0  Ok
 3 Policy Feature Card 4      VS-F6K-PFC4XL                       SAL1422005E 1.0  Ok
 3 CPU Daughterboard         VS-F6K-MSFC5                         SAL17142D69 2.0  Ok
 4 Policy Feature Card 4      VS-F6K-PFC4XL                       SAL142502KP 1.0  Ok
 4 CPU Daughterboard         VS-F6K-MSFC5                         SAL171424F1 2.0  Ok
5/0 NAM Application Processor SVC-APP-PROC-1                       SAL1530KLVV 1.0  Ok
 6 Distributed Forwarding Card WS-F6K-DFC4-AXL                     SAL1533MDL3 1.0  Ok
 7 Distributed Forwarding Card WS-F6K-DFC4-AXL                     SAL1535NTGL 1.1  Ok

Base PID:
Mod Model                               Serial No.
-----
 5 WS-SVC-APP-HW-1                      SAL1530KNW3

Mod Online Diag Status
-----
 1 Pass
 3 Pass
 4 Pass
 5 Pass
5/0 Pass
 6 Pass
 7 Pass
C6807-XL.4SUP.VSS#
```

If the installation is not successful, the system will not boot. For more information, see [Troubleshooting](#), on page 10.

Removing a Policy Feature Card

This topic describes how to remove Policy Feature Card 4 (VS-F6K-PFC4=).



Note The procedure to remove Policy Feature Card 4, and Policy Feature Card 4XL is the same.

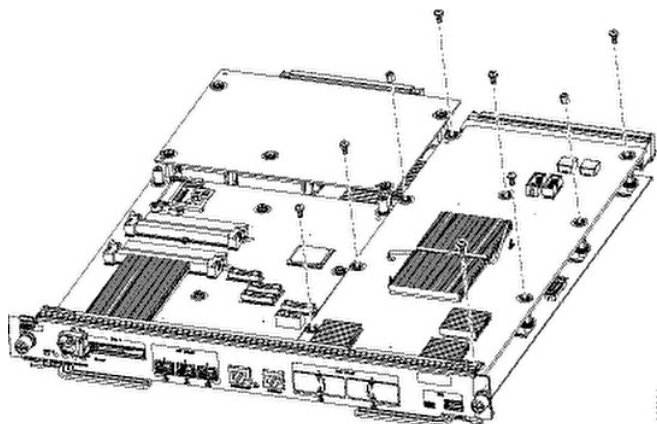
Before You Begin

Refer to the topics [Installation Guidelines](#), on page 3 and [Preparing the Supervisor Engine](#), on page 4.

Procedure

- Step 1** Remove the nine securing screws and two cap nuts, and set them aside.
Use the supplied screws and cap nuts when securing a policy feature card to the supervisor engine.

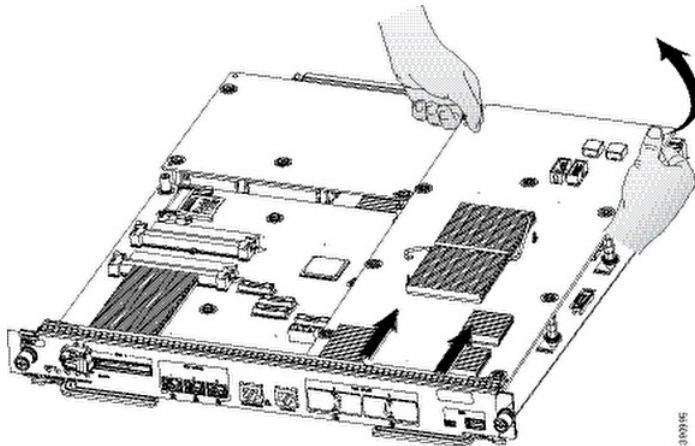
Figure 5: Removing Securing Screws and Cap Nuts



Caution Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

Step 2 Hold the right edge of the card with your right hand and the rear left corner with your left hand. Gently lift the card with both hands simultaneously and remove the card from the supervisor engine.

Figure 6: Removing PFC4

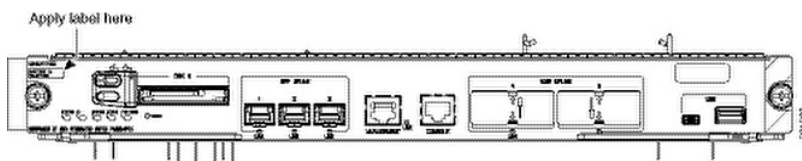


Step 3 Place the card on an antistatic mat or antistatic foam pad.

Applying the Label to the Supervisor Engine

The policy feature card kit includes a label. Apply the label to the upper-left corner of the supervisor engine front panel.

Figure 7: Applying the Label



Troubleshooting

The following table provides troubleshooting tips that you can use if the policy feature card installation is not successful:

Table 1: Troubleshooting

Problem	Solution
The supervisor engine fails online diagnostics. Severity—Low	Remove the supervisor engine from the chassis and make sure that all the securing screws and cap nuts are tight. See Figure 4: Installing the Supplied Screws , on page 7

Problem	Solution
The supervisor engine experiences a partial boot up, or a software-forced reset, or boots to ROMMON. Severity—Medium	Remove the supervisor engine from the chassis and make sure that all securing screws and cap nuts are tight. Check if the BOOT variable is correct, and the Cisco IOS image is available.
The supervisor engine does not boot up (no power to supervisor engine, no console prompt, no STATUS LED). Severity—High	Remove the supervisor engine from the chassis and reseal the RP memory modules.

If these solutions do not resolve the corresponding issue, contact a Cisco customer service representative for instructions. For information on obtaining technical assistance, see the topic [Obtaining Documentation and Submitting a Service Request](#), on page 12.

Related Documentation



Note Before installing or upgrading, refer to the *Release Notes for Cisco IOS Release 15.1SY*.

For additional information on Cisco Catalyst 6807-XL switches and command-line interface (CLI) commands, refer to the following publications located at http://www.cisco.com/go/cat6800_docs:

- *Regulatory Compliance and Safety Information for the Catalyst 6880-X and 6807-XL Switches*
- *Cisco Catalyst 6807-XL Switch Hardware Installation Guide*
- *Release 15.1SY Supervisor Engine 2T Software Configuration Guide*
- *Cisco IOS 15.1SY Configuration Guides*

For additional information on Catalyst 6500 series switches and command-line interface (CLI) commands, refer to the following publications located at http://www.cisco.com/go/cat6500_docs:

- *Regulatory Compliance and Safety Information for the Catalyst 6500 Series Switches*
- *Catalyst 6500 Series Switch Installation Guide*
- *Catalyst 6500 Series Switch Module Installation Guide*
- *Catalyst 6500 Series Switch Software Configuration Guide*
- *Catalyst 6500 Series Switch Command Reference*
- *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*
- *Catalyst 6500 Series Switch Cisco IOS Command Reference*
- *Catalyst 6500 Series System Message Guide*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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