

Upgrade the Firepower Extensible Operating System (FXOS) Using Firepower Chassis Manager

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Introduction

This document describes an example of a an upgrade of the Firepower Extensible Operating System (FXOS) version using the Firepower Chassis Manager.

Prerequisites

Requirements

Cisco recommends knowledge of these topics:

- There are no specific requirements for this guide

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Firepower 4125
- Firepower Chassis Manager (FCM) Version 2.12 (0.484)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

Specific requirements for this document include:

- Connectivity to the Management IP of the Chassis
- The FXOS installation package (.SPA) previously downloaded from the Software Cisco Portal

This upgrade procedure is supported on appliances:

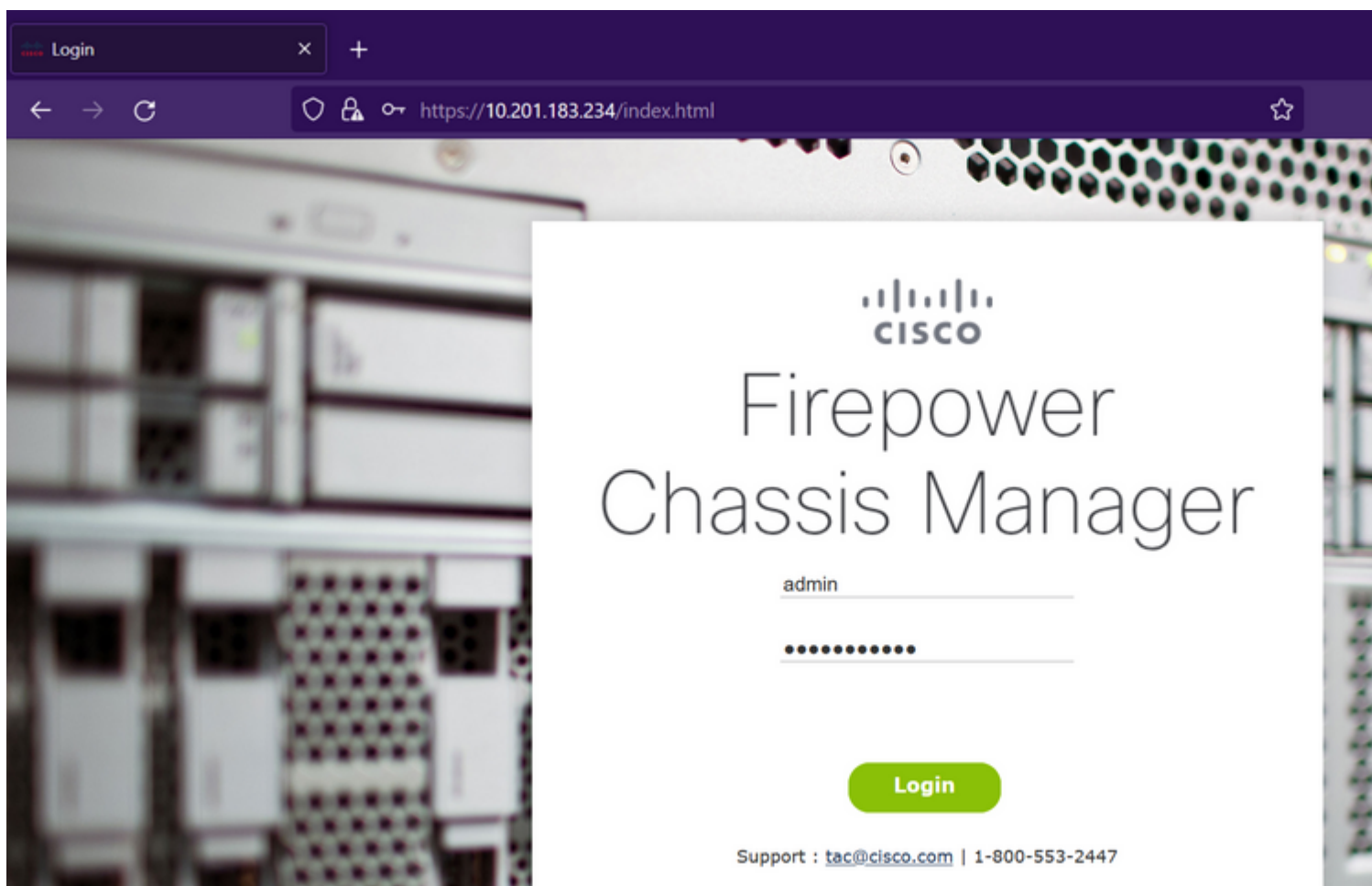
- Cisco Firepower 4100 Series
- Cisco Firepower 9300 Series

Before You Begin

1. Verify the model is compatible with this procedure.
2. Backup the FXOS and Logical Device configurations.
3. Schedule a maintenance window to perform this procedure.

Configure

Step 1. Log into the Firepower Chassis Manager:



Caution: To log into FCM you need to use the Management IP Address of the Chassis, be aware that this IP is different from the Management IP from the Logical Device (FTD or ASA).

Step 2. Navigate to **System > Updates** to visit the updates page on the Firepower Chassis Manager:

Available Updates

Image Name	Type	Version	Status	Build Date	Image
fxos-k9.2.12.0.484.SPA	platform-bundle	2.12(0.484)	Installed	04/06/2023	✓ Verified
cisco-ftd.7.2.4.165.csp	ftd	7.2.4.165	Installed	05/03/2023	Verified

Step 3. Upload the installation package on the Firepower Chassis Manager:

- I. Click on the **Upload Image** button.
- II. Click on the **Browse** button and select on the File Explorer your installation package.
- III. Select the **Upload** button to start the upload of the package.

Overview Interfaces Logical Devices Security Engine Platform Settings

Available Updates

Image Name	Type	Version	Status	Build Date	Image
fxos-k9.2.12.0.484.SPA	platform-bundle	2.12(0.484)	Installed	04/06/2023	✓ Verified
cisco-ftd.7.2.4.165.csp	ftd	7.2.4.165	Installed	05/03/2023	Verified

Upload Image

Select File:

Browse... fxos-k9.2.13.0.212.SPA

Upload Cancel

11 Successful Login in last 24 hrs - [View Details](#) | Tue Jul 18 2023 at 22:56:05 from - console

Upload progress bar example:

Overview Interfaces Logical Devices Security Engine Platform Settings

Available Updates

Image Name	Type	Version	Status	Build Date	Image
fxos-k9.2.12.0.484.SPA	platform-bundle	2.12(0.484)	Installed	04/06/2023	✓ Verified
cisco-ftd.7.2.4.165.csp	ftd	7.2.4.165	Installed	05/03/2023	Verified

Upload Image

Uploading fxos-k9.2.13.0.212.SPA

77%

Upload Close

11 Successful Login in last 24 hrs - [View Details](#) | Tue Jul 18 2023 at 22:56:05 from - console


Step 4. Click **OK** on the pop-up window to return to the Updates page:

Overview Interfaces Logical Devices Security Engine Platform Settings

Available Updates

Image Name	Type	Version	Status	Build Date	Image
fxos-k9.2.13.0.212.SPA	platform-bundle	2.13(0.212)	Not-Installed	02/07/2023	✓ Verif
fxos-k9.2.12.0.484.SPA	platform-bundle	2.12(0.484)	Installed	04/06/2023	✓ Verif
cisco-ftd.7.2.4.165.csp	ftd	7.2.4.165	Installed	05/03/2023	Verifed

Success

 fxos-k9.2.13.0.212.SPA
Successfully Uploaded

11 Successful Login in last 24 hrs - [View Details](#) | Tue Jul 18 2023 at 22:56:05 from - console

Step 5. Click on the **Upgrade** button to initiate the installation process:

Overview Interfaces Logical Devices Security Engine Platform Settings

Available Updates

Image Name	Type	Version	Status	Build Date	Image
fxos-k9.2.13.0.212.SPA	platform-bundle	2.13(0.212)	Not-Installed	02/07/2023	✓ Verif
fxos-k9.2.12.0.484.SPA	platform-bundle	2.12(0.484)	Installed	04/06/2023	✓ Verif
cisco-ftd.7.2.4.165.csp	ftd	7.2.4.165	Installed	05/03/2023	Verifed

11 Successful Login in last 24 hrs - [View Details](#) | Tue Jul 18 2023 at 22:56:05 from - console

Step 6: Select **Yes** to confirm the upgrade procedure:

Overview Interfaces Logical Devices Security Engine Platform Settings

Available Updates

Image Name	Type	Version	Status	Build Date	Image
fxos-k9.2.13.0.212.SPA	platform-bundle	2.13(0.212)	Not-Installed	02/07/2023	✓ Veri
fxos-k9.2.12.0.484.SPA	platform-bundle	2.12(0.484)		02/07/2023	✓ Veri
cisco-ftd.7.2.4.165.csp	ftd	7.2.4.165		02/07/2023	Verifie

Update Bundle Image

ⓘ Please ensure Application configuration is saved. All existing sessions will be terminated and FCM will not be accessible during the process. It may take several minutes. Chassis will reboot after upgrade, please re-login to FCM after upgrade completes.

Selected version 2.13(0.212) will be installed. Do you want to proceed?

Yes No

11 Successful Login in last 24 hrs - [View Details](#) | Tue Jul 18 2023 at 22:56:05 from - console

Caution: This upgrade process takes up to 45 minutes, be aware that the chassis is going to reboot while upgrading.

Validation

Review the upgrade process with an FXOS CLI session:

- I. Create an SSH Session using the Management IP of the Chassis.
- II. Review on the firmware monitor the progress of the FXOS Upgrade.
 - A. Move to the system scope with the command **scope system**
 - B. To display the progress of the upgrade use the command **show firmware monitor**

Example of the suggested procedures:

```

B-09-FPR4125-NGFW-K9-18# scope system
B-09-FPR4125-NGFW-K9-18 /system # show firmware monitor
FPRM:
  Package-Vers: 2.12(0.484)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.12(0.484)
  Upgrade-Status: Upgrading

Chassis 1:
  Server 1:
    Package-Vers: 2.12(0.484)
    Upgrade-Status: Ready

B-09-FPR4125-NGFW-K9-18 /system # █

```

Caution: When the upgrade finishes you must see all the components in **Ready** state, if you notice a component in **Failed** state please reach out to TAC.

Once the upgrade finishes you can log into the Firepower Chassis Manager to validate the current version, this can be found on the Overview dashboard:

The screenshot shows the Firepower Chassis Manager Overview dashboard. At the top, there are navigation tabs: Overview, Interfaces, Logical Devices, Security Engine, and Platform Settings. Below the navigation, the system ID is B-09-FPR4125-NGFW-K9-18 and the IP address is 10.201.183.234. The model is Cisco Firepower 4125 Security Appliance. The version is 2.13(0.212), which is highlighted with a red box and a red arrow. The operational state is Operable.

Below the system information, there are power controls for Power 1 and Power 2, both in a Running state. There are also network module status indicators for Network Module 1 and Network Module 2.

The dashboard also displays a summary of faults and instances. The faults summary shows 0(1) Critical and 0(1) Major faults. The instances summary shows 0 Down and 0 Up instances. The license status is Smart Agent Registered. The inventory shows 1(1) Security Engine.

Below the summary, there is a table of faults:

Severity	Description	Cause	Occurrence	Timestamp
WARNING	Overall: CPU usage exceeded 90%	cpu-usage-high	2	2023-0
INFO	[FSM:FAILED]: import configuration(FSM:sam:dme:MgmtImporterImport)	fsm-failed	1	2023-0
CLEARED	ether port 1/7 on fabric interconnect A oper state: sfp-not-present	configuration-applying	1	2023-0
CLEARED	ether port 1/8 on fabric interconnect A oper state: sfp-not-present	configuration-applying	1	2023-0
CLEARED	ether port 1/4 on fabric interconnect A oper state: sfp-not-present	configuration-applying	1	2023-0

At the bottom of the dashboard, there is a login summary: 3 Successful Login in last 24 hrs - View Details | Tue Jul 18 2023 at 18:34:36 from - 10.152.202.111

To perform FXOS upgrades validations via CLI you can use these steps:

- I. Create an SSH Session using the Management IP of the Chassis.
- II. Use the **show version** command to validate the current version on your chassis.
- III. Review the operative state of the Slots on the Chassis:
 - A. Move to the ssa scope with the command **scope ssa**
 - B. Review the current state of the slots with the command **show slot**
- IV. You can use the **show app-instance** command to validate the status of the logical device after the upgrade.

Example of the suggested procedures:

```

B-09-FPR4125-NGFW-K9-18# scope ssa
B-09-FPR4125-NGFW-K9-18 /ssa # show slot
slot:
  Slot ID   Log Level Admin State Oper State
  -----
  1         Info     Ok         Online
B-09-FPR4125-NGFW-K9-18 /ssa # show app-instance
App Name   Identifier Slot ID   Admin State Oper State   Running Version Startup Version Deploy Type Turbo Mode Profile
  -----
ftd        FTD        1           Enabled     Online       7.2.4.165     7.2.4.165     Native     No
B-09-FPR4125-NGFW-K9-18 /ssa #

```