

# Perform a Complete Reimage for FXOS in Firepower 4100 and 9300 Series

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## Introduction

This document describes how to reformat the entire system, erase the images, and return it to its factory default settings.

## Requirements

- TFTP Server connection to the management interface on the Firepower
- Console Connection to the device

## Components Used

- Firepower 4100 or 9300 Series
- TFTP Server
- Recovery Image Software Bundle, the recovery images include three separate files (Kickstart, Manager, System). For example, next are the recovery images for FXOS 2.13(0.212)
  - Recovery image (kickstart) for FX-OS 2.13(0.212)
  - Recovery image (manager) for FX-OS 2.13(0.212)
  - Recovery image (system) for FX-OS 2.13(0.212)

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.

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**Note:** After performing this procedure, the admin password is reset to Admin123.

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## Before you begin

- In the event that the Supervisor onboard flash becomes corrupted and the system is no longer able to boot successfully, you can use this procedure to recover the system. To complete this process, you must TFTP boot a kickstart image, reformat the flash download a new system and reboot the Supervisor.

# Procedure

## Step 1.

Access to ROMMON prompt

- a. Connect to the console port.
- b. Reboot the system.  
The system starts the boot process and displays a countdown timer.
- c. Press the Escape key during the countdown to enter ROMMON mode

```
Cisco System ROMMON, Version 1.0.15, RELEASE SOFTWARE
Copyright (c) 1994-2019 by Cisco Systems, Inc.
Compiled Thu 04/11/2019 21:15:59.58 by builder
Current image running: Boot ROM0
Last reset cause: PowerOn
DIMM Slot 0 : Present
DIMM Slot 1 : Present
No USB drive !!
BIOS has been locked !!

Platform FPR-4145-SUP with 8192 Mbytes of main memory
MAC Address: 88:fc:5d:4b:fa:b8

find the string ! boot bootflash:/installables/switch/fxos-k9-kickstart.5.0.3.N2.4.130.81.SPA bootflash:/installables/sw

Use BREAK, ESC or CTRL+L to interrupt boot.
Use SPACE to begin boot immediately.
Boot interrupted.

rommon 1 > █
```

## Step 2.

Boot the system with the kickstarter image via TFTP

- a. Set the correct parameters for the management interface, address, netmask, and gateway.

```
rommon 1 > address <IP-Address>

rommon 2 > netmask <Network-Mask>

rommon 3 > gateway <Default-Gatewa
```

- b. Use the **set** command to verify the info on the management interface.

```
rommon 4 > set
ADDRESS=
NETMASK=
GATEWAY=
SERVER=
IMAGE=
PS1="rommon ! > "
```

c. Copy the kickstart image to a TFTP directory that is accessible from your Firepower4100/9300 chassis via the management interface.

```
rommon 15 > boot tftp://10.88.7.12/fxos-k9-kickstart.5.0.
ADDRESS: 10.201.183.202
NETMASK: 255.255.255.248
GATEWAY: 10.201.183.201
SERVER: 10.88.7.12
IMAGE: fxos-k9-kickstart.5.0.3.N2.4.130.81

TFTP_MACADDR: 88:fc:5d:4b:fa:b8
.....
Receiving fxos-k9-kickstart.5.0.3.N2.4.130.81.SPA from 10
#####
#####
#####
File reception completed.
!! Kickstart Image verified successfully !!
```

---

**Note:** You can also boot the kickstart from ROMMON using a USB media device inserted into the USB slot on the front panel of the Firepower4100/9300 chassis. If the USB device is inserted while the system is running, you need to reboot the system before it recognize the USB device.

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Step 3.

Once the kickstart image is loaded, reformat the flash using the **init system** command.

```
switch(boot)# init system
This command is going to erase your startup-config, licenses as well as the co
Do you want to continue? (y/n) [n] y
Detected 32GB flash...
Initializing the system
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
Initializing startup-config and licenses
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
Formatting bootflash:
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
Formatting SAM partition:
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
Formatting Workspace partition:
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
Formatting Sysdebug partition:
mke2fs 1.46.1 (9-Feb-2021)
Checking for bad blocks (read-only test): done
Resetting CMOS to default configuration
CMOS I/O operation succeeded
Reinitializing NVRAM contents
Reinitializing OBFL contents
Initialization completed
```

---

**Note:** The "**init system**" command erases the contents of the flash, including all software images downloaded to the system and all configurations on the system. It takes about 20-30 minutes to complete the process.

---

Step 4.

Download the recovery images for the Firepower 4100/9300 chassis.

- a. You must set the management IP address and gateway to download the recovery image.

```
switch(boot)# config terminal
Enter configuration commands, one per line. End with a dot (.)
switch(boot)(config)# interface mgmt 0
switch(boot)(config-if)# ip address <IP Address>
switch(boot)(config-if)# no shutdown
switch(boot)(config-if)# exit
switch(boot)(config)# ip default-gateway <Gateway>
switch(boot)(config-if)# exit
```

---

**Note:** These images cannot be downloaded via USB.

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b. Copy all three recovery images from the remote server to the bootflash.

c. Specify the URL of the file to import the images using one of the next syntaxes:

- ftp://username@hostname/path/image\_name
- scp://username@hostname/path/image\_name
- sftp://username@hostname/path/image\_name
- tftp://hostname/path/image\_name

```
switch(boot)# copy tftp://10.88.7.12/fxos-k9-kickstart.5.0.3.N2.4.
Trying to connect to tftp server.....
Connection to server Established. Copying Started.....
/
TFTP get operation was successful
Copy complete, now saving to disk (please wait)...
switch(boot)# copy tftp://10.88.7.12/fxos-k9-system.5.0.3.N2.4.130
Trying to connect to tftp server.....
Connection to server Established. Copying Started.....
-
TFTP get operation was successful
Copy complete, now saving to disk (please wait)...
switch(boot)# copy tftp://10.88.7.12/fxos-k9-manager.4.13.0.81.SPA
Trying to connect to tftp server.....
Connection to server Established. Copying Started.....
/
TFTP get operation was successful
Copy complete, now saving to disk (please wait)...
switch(boot)# █
```

d. Once the images have been successfully copied to the Firepower 4100/9300 chassis, make a symlink to the manager image from `nuova-sim-mgmt-nsg.0.1.0.001.bin`. This link tells the loading mechanism which manager image to load.

The symlink name must always be `nuova-sim-mgmt-nsg.0.1.0.001.bin` regardless of what image you are trying to load.

```
switch(boot)# copy bootflash:<manager-image> bootflash:nuova-sim-mgmt-nsg.0.1.0.001.bin
switch(boot)# copy bootflash:fxos-k9-manager.4.13.0.81.SPA bootflash:nuova-sim-mgmt-nsg.0.1.0.001.bin
Copy complete, now saving to disk (please wait)...
```

Step 5.

Reload the switch.

```
switch(boot)# reload
This command will reboot this supervisor module. (y/n)
[ 6267.402202] reboot: Restarting system

!! Rommon image verified successfully !!

Cisco System ROMMON, Version 1.0.15, RELEASE SOFTWARE
Copyright (c) 1994-2019 by Cisco Systems, Inc.
Compiled Thu 04/11/2019 21:15:59.58 by builder
Current image running: Boot ROM0
Last reset cause: ResetRequest
DIMM Slot 0 : Present
DIMM Slot 1 : Present
No USB drive !!
BIOS has been locked !!

Platform FPR-4145-SUP with 8192 Mbytes of main memory
MAC Address: 88:fc:5d:4b:fa:b8

autoboot: Can not find autoboot file 'menu.lst.local'
Or can not find correct boot string !!
rommon 1 >
```

Step 6.

Boot from kickstart and system images.

```
rommon 1 > boot <kickstart-image> <system-image>

rommon 2 > boot fxos-k9-kickstart.5.0.3.N2.4.130.81.SPA fxos-k9-system.5.0.3.N2.4.130.81.SPA
!! Kickstart Image verified successfully !!

Linux version: 5.10.79-yocto-standard+ (pvasapur@sjc-vms-vm0185) #1 SMP Tue Mar 22 23:16:22 PDT 2022
cp: setting permissions for '/new-root/bootflash': Operation not supported
cp: setting permissions for '/new-root/proc': Operation not supported
cp: setting permissions for '/new-root/slot0': Operation not supported
cp: setting permissions for '/new-root/sys': Operation not supported
linuxrc.ext Sun Jan 1 00:09:40 UTC 2012
[ 4.286394] Nuova i2c initialization done successfully
```

---

**Note:** You can see license manager error messages while loading the system image. You can safely ignore these messages.

---

Step 7.

After the image loads, the system prompts you to enter the initial configuration settings. For more information, see [Initial Configuration Using Console Port](#).

```
Type Ctrl-C at any time for more options
or to abort configuration and reboot system.
You have chosen to setup a new Security Appliance.
Continue? (yes/no): yes
```

Step 8.

Login to the system using the credentials that were already set.

Step 9.

Download the platform bundle image for use with the Firepower 4100/9300 chassis.

```
FPR-4145# scope firmware
FPR-4145 /firmware # download image tftp://10.88.7.12/fxos-k9.2.13.0.212.SPA
Please use the command 'show download-task' or 'show download-task detail' to check download progress.
% Download-task fxos-k9.2.13.0.212.SPA : transferring 28624 KB download-task

Download task:
  File Name Protocol Server          Port      Userid      State
-----
fxos-k9.2.13.0.212.SPA
  Tftp      10.88.7.12          0          Downloading
% Download-task fxos-k9.2.13.0.212.SPA : completed successfully.
```

Step 10.

1. Enter auto-install mode.
2. Install the FXOS platform bundle.
3. The system first verifies the software package that you want to install. The system informs you of any incompatibility between currently installed applications and the specified FXOS platform software package.
4. Enter yesto confirm that you want to proceed with the installation, or enter noto cancel the

installation.

```
FPR-4145 /firmware # show package
Name                               Version
-----
fxos-k9.2.13.0.212.SPA             2.13(0.212)
FPR-4145 /firmware # scope auto-install
FPR-4145 /firmware/auto-install # install platform platform-vers 2.13(0.212)
The currently installed FXOS platform software package is not set

INFO: There is no service impact to install this FXOS platform software 2.13(0.212)

This operation upgrades firmware and software on Security Platform Components
Here is the checklist of things that are recommended before starting Auto-Install
(1) Review current critical/major faults
(2) Initiate a configuration backup
Do you want to proceed? (yes/no):yes

Triggering Install-Platform with:
  FXOS platform software package version 2.13(0.212)
Note: the upgrade status can be monitored with 'show firmware monitor' under system scope
command executed
FPR-4145 /firmware/auto-install # █
```

Step 11.

Monitoring the installation.

```
FPR-4145 /firmware/auto-install # show fsm status expand

FSM Status:

Affected Object: sys/fw-system/fsm
Current FSM: Deploy
Status: Success
Completion Time: 2012-01-01T00:56:29.615
Progress (%): 100

FSM Stage:

Order  Stage Name                               Status  Try
-----
1      DeployWaitForDeploy                          Success 0
2      DeployResolveDistributableNames              Skip    0
3      DeployResolveDistributable                   Skip    0
4      DeployResolveImages                           Skip    0
5      DeployValidatePlatformPack                    Success 1
6      DeployDebundlePort                            Skip    0
7      DeployPollDebundlePort                        Success 1
8      DeployActivateUCSM                            Skip    0
9      DeployPollActivateOfUCSM                      Success 0
10     DeployActivateMgmtExt                          Skip    0
11     DeployPollActivateOfMgmtExt                   Skip    0
12     DeployUpdateIOM                               Skip    0
13     DeployPollUpdateOfIOM                         Skip    0
14     DeployActivateIOM                             Skip    0
15     DeployPollActivateOfIOM                       Skip    0
16     DeployActivateRemoteFI                        Skip    0
17     DeployPollActivateOfRemoteFI                  Skip    0
18     DeployWaitForUserAck                          Skip    0
19     DeployActivateLocalFI                         Success 0
20     DeployPollActivateOfLocalFI                   Success 0
```

Step 12.

If the Platform Bundle image that you installed corresponds with the images you used for recovering your



system, you must manually activate the kickstart and system images so that they are going to be used when loading the system in the future.

Automatic activation does not occur when installing a Platform Bundle that has the same images as the recovery images that were used.

1. Set the **scope for fabric-interconnect a**:
2. Use the **show version** command to display the running kernel version and the running system version. Use these strings to activate the image.

---

**Note:** If the Startup-Kern-Vers and Startup-Sys-Vers are already set and match the Running-Kern-Vers and Running-Sys-Vers, you do not need to activate the images and can proceed to Step 13.

---

c. Enter the next command to activate the images.**activate firmware kernel-version**  
<running\_kernel\_version> system-version <running\_system\_version>

```
FPR-4145# scope fabric-interconnect a
FPR-4145 /fabric-interconnect # show version
Fabric Interconnect A:
  Running-Kern-Vers: 5.0(3)N2(4.130.81)
  Running-Sys-Vers: 5.0(3)N2(4.130.81)
  Package-Vers: 2.13(0.212)
  Startup-Kern-Vers:
  Startup-Sys-Vers:
  Act-Kern-Status: Ready
  Act-Sys-Status: Ready
  Bootloader-Vers:

FPR-4145 /fabric-interconnect # activate firmware kernel-version 5.0(3)N2(4.130.81) system-version 5.0(3)N2(4.130.81)
Warning: When committed this command will reset the end-point
FPR-4145 /fabric-interconnect* # commit-buffer
FPR-4145 /fabric-interconnect # show version
Fabric Interconnect A:
  Running-Kern-Vers: 5.0(3)N2(4.130.81)
  Running-Sys-Vers: 5.0(3)N2(4.130.81)
  Package-Vers: 2.13(0.212)
  Startup-Kern-Vers: 5.0(3)N2(4.130.81)
  Startup-Sys-Vers: 5.0(3)N2(4.130.81)
  Act-Kern-Status: Activating
  Act-Sys-Status: Activating
  Bootloader-Vers:
```

---

**Note:** The server status can change to "Disk Failed." You do not need to worry about this message and can continue with this procedure.

---

Step 13.

Reboot the system.

```

FPR-4145# top
FPR-4145# scope chassis 1
FPR-4145 /chassis # reboot no-prompt
Starting chassis reboot. Monitor progress with the command "show fsm status"
FPR-4145 /chassis # show fsm status

Chassis: 1

  FSM 1:
    Remote Result: Not Applicable
    Remote Error Code: None
    Remote Error Description:
    Status: Reboot Chassis Wait For Blade Shutdown
    Previous Status: Reboot Chassis Wait For Blade Shutdown
    Timestamp: 2012-01-01T01:15:19.564
    Try: 1
    Progress (%): 65
    Current Task: Waiting for blade shutdown(FSM-STAGE:sam:dme:EquipmentChas
sisRebootChassis:WaitForBladeShutdown)
    Flags: 0
FPR-4145 /chassis #

```

---

**Note:** The system power down each security module/engine before finally powering down and then restarting the Firepower4100/9300 chassis. This process takes approximately 5-10 minutes.

---

Step 14.

Monitor the system status. The server status must go from "Discovery" to "Config" and then finally to "Ok".

```

FPR-4145# show server status
Server Slot Status          Overall Status      Discovery
-----
1/1    Equipped              Discovery          Retry

FPR-4145# show server status
Server Slot Status          Overall Status      Discovery
-----
1/1    Equipped              Config            Complete

FPR-4145# show server status
Server Slot Status          Overall Status      Discovery
-----
1/1    Equipped              Ok                Complete

```