



# Upgrade the Firepower 4100/9300 Chassis

For the Firepower 4100/9300, major versions require a FXOS upgrade. You should also check for firmware upgrades.

Because you upgrade the chassis first, you will briefly run a supported—but not recommended—combination, where the operating system is "ahead" of threat defense. If the chassis is already well ahead of its devices, further chassis upgrades can be blocked. In this case perform a three (or more) step upgrade: devices first, then the chassis, then devices again. Or, perform a full reimage. In high availability or clustered deployments, upgrade one chassis at a time.

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## Upgrade FXOS with Chassis Manager

### Upgrade FXOS for Standalone FTD Logical Devices or an FTD Intra-chassis Cluster Using Firepower Chassis Manager

This section describes how to upgrade the FXOS platform bundle for a standalone Firepower 4100/9300 chassis.

The section describes the upgrade process for the following types of devices:

- A Firepower 4100 series chassis that is configured with a FTD logical device and is not part of a failover pair or inter-chassis cluster.
- A Firepower 9300 chassis that is configured with one or more standalone FTD logical devices that are not part of a failover pair or inter-chassis cluster.
- A Firepower 9300 chassis that is configured with FTD logical devices in an intra-chassis cluster.

#### Before you begin

Before beginning your upgrade, make sure that you have already done the following:

- Download the FXOS platform bundle software package to which you are upgrading.
- Back up your FXOS and FTD configurations.

- Step 1** In Firepower Chassis Manager, choose **System > Updates**.  
The Available Updates page shows a list of the FXOS platform bundle images and application images that are available on the chassis.
- Step 2** Upload the new platform bundle image:
- Click **Upload Image** to open the Upload Image dialog box.
  - Click **Choose File** to navigate to and select the image that you want to upload.
  - Click **Upload**.  
The selected image is uploaded to the Firepower 4100/9300 chassis.
  - For certain software images you will be presented with an end-user license agreement after uploading the image. Follow the system prompts to accept the end-user license agreement.
- Step 3** After the new platform bundle image has been successfully uploaded, click **Upgrade** for the FXOS platform bundle to which you want to upgrade.
- The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.
- Step 4** Click **Yes** to confirm that you want to proceed with installation, or click **No** to cancel the installation.
- The system unpacks the bundle and upgrades/reloads the components.
- Step 5** Firepower Chassis Manager will be unavailable during upgrade. You can monitor the upgrade process using the FXOS CLI:
- Enter **scope system**.
  - Enter **show firmware monitor**.
  - Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show `Upgrade-Status: Ready`.
- Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.

**Example:**

```

FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready

```

- Step 6** After all components have successfully upgraded, enter the following commands to verify the status of the security modules/security engine and any installed applications:
- Enter **top**.

- b) Enter **scope ssa**.
  - c) Enter **show slot**.
  - d) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
  - e) Enter **show app-instance**.
  - f) Verify that the Oper State is `Online` for any logical devices installed on the chassis.
- 

## Upgrade FXOS on an FTD Inter-chassis Cluster Using Firepower Chassis Manager

If you have Firepower 9300 or Firepower 4100 series security appliances that have FTD logical devices configured as an inter-chassis cluster, use the following procedure to update the FXOS platform bundle on your Firepower 9300 or Firepower 4100 series security appliances:

### Before you begin

Before beginning your upgrade, make sure that you have already done the following:

- Download the FXOS platform bundle software package to which you are upgrading.
  - Back up your FXOS and FTD configurations.
- 

### Step 1

Enter the following commands to verify the status of the security modules/security engine and any installed applications:

- a) Connect to the FXOS CLI on Chassis #2 (this should be a chassis that does not have the control unit).
- b) Enter **top**.
- c) Enter **scope ssa**.
- d) Enter **show slot**.
- e) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
- f) Enter **show app-instance**.
- g) Verify that the Oper State is `Online` and that the Cluster State is `In Cluster` for any logical devices installed on the chassis. Also verify that the correct FTD software version is shown as the Running Version.

**Important** Verify that the control unit is not on this chassis. There should not be any Firepower Threat Defense instance with Cluster Role set to `Master`.

- h) For any security modules installed on a Firepower 9300 appliance or for the security engine on a Firepower 4100 series appliance, verify that the FXOS version is correct:

**scope server 1/slot\_id**, where *slot\_id* is 1 for a Firepower 4100 series security engine.

**show version**.

### Step 2

Connect to Firepower Chassis Manager on Chassis #2 (this should be a chassis that does not have the control unit).

### Step 3

In Firepower Chassis Manager, choose **System > Updates**.

The Available Updates page shows a list of the FXOS platform bundle images and application images that are available on the chassis.

**Step 4** Upload the new platform bundle image:

- a) Click **Upload Image** to open the Upload Image dialog box.
- b) Click **Choose File** to navigate to and select the image that you want to upload.
- c) Click **Upload**.  
The selected image is uploaded to the Firepower 4100/9300 chassis.
- d) For certain software images you will be presented with an end-user license agreement after uploading the image. Follow the system prompts to accept the end-user license agreement.

**Step 5** After the new platform bundle image has successfully uploaded, click **Upgrade** for the FXOS platform bundle to which you want to upgrade.

The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

**Step 6** Click **Yes** to confirm that you want to proceed with installation, or click **No** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components.

**Step 7** Firepower Chassis Manager will be unavailable during upgrade. You can monitor the upgrade process using the FXOS CLI:

- a) Enter **scope system**.
- b) Enter **show firmware monitor**.
- c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show `Upgrade-Status: Ready`.  
**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.
- d) Enter **top**.
- e) Enter **scope ssa**.
- f) Enter **show slot**.
- g) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
- h) Enter **show app-instance**.
- i) Verify that the Oper State is `Online`, that the Cluster State is `In Cluster` and that the Cluster Role is `Slave` for any logical devices installed on the chassis.

**Example:**

```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
```

```

FP9300-A /system #
FP9300-A /system # top
FP9300-A# scope ssa
FP9300-A /ssa # show slot

Slot:
  Slot ID   Log Level Admin State Oper State
  -----
  1         Info     Ok       Online
  2         Info     Ok       Online
  3         Info     Ok       Not Available
FP9300-A /ssa #

FP9300-A /ssa # show app-instance
App Name   Slot ID   Admin State Oper State   Running Version Startup Version Profile Name
Cluster State Cluster Role
-----
ftd        1         Enabled   Online      6.2.2.81     6.2.2.81
Cluster   Slave
ftd        2         Enabled   Online      6.2.2.81     6.2.2.81
Cluster   Slave
ftd        3         Disabled  Not Available 6.2.2.81
Applicable None
FP9300-A /ssa #

```

**Step 8** Set one of the security modules on Chassis #2 as control.

After setting one of the security modules on Chassis #2 to control, Chassis #1 no longer contains the control unit and can now be upgraded.

**Step 9** Repeat Steps 1-7 for all other Chassis in the cluster.

**Step 10** To return the control role to Chassis #1, set one of the security modules on Chassis #1 as control.

## Upgrade FXOS on an FTD High Availability Pair Using Firepower Chassis Manager

If you have Firepower 9300 or Firepower 4100 series security appliances that have FTD logical devices configured as a high availability pair, use the following procedure to update the FXOS platform bundle on your Firepower 9300 or Firepower 4100 series security appliances:

### Before you begin

Before beginning your upgrade, make sure that you have already done the following:

- Download the FXOS platform bundle software package to which you are upgrading.
- Back up your FXOS and FTD configurations.

**Step 1** Connect to Firepower Chassis Manager on the Firepower security appliance that contains the *standby* Firepower Threat Defense logical device:

**Step 2** In Firepower Chassis Manager, choose **System > Updates**.

The Available Updates page shows a list of the FXOS platform bundle images and application images that are available on the chassis.

**Step 3** Upload the new platform bundle image:

- a) Click **Upload Image** to open the Upload Image dialog box.
- b) Click **Choose File** to navigate to and select the image that you want to upload.
- c) Click **Upload**.  
The selected image is uploaded to the Firepower 4100/9300 chassis.
- d) For certain software images you will be presented with an end-user license agreement after uploading the image. Follow the system prompts to accept the end-user license agreement.

**Step 4** After the new platform bundle image has successfully uploaded, click **Upgrade** for the FXOS platform bundle to which you want to upgrade.

The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

**Step 5** Click **Yes** to confirm that you want to proceed with installation, or click **No** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components.

**Step 6** Firepower Chassis Manager will be unavailable during upgrade. You can monitor the upgrade process using the FXOS CLI:

- a) Enter **scope system**.
- b) Enter **show firmware monitor**.
- c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show `Upgrade-Status: Ready`.

**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.

#### Example:

```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready


Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
```

**Step 7** After all components have successfully upgraded, enter the following commands to verify the status of the security modules/security engine and any installed applications:

- a) Enter **top**.
- b) Enter **scope ssa**.
- c) Enter **show slot**.

- d) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
- e) Enter **show app-instance**.
- f) Verify that the Oper State is `Online` for any logical devices installed on the chassis.

**Step 8** Make the unit that you just upgraded the *active* unit so that traffic flows to the upgraded unit:

- a) Connect to Firepower Management Center.
- b) Choose **Devices > Device Management**.
- c) Next to the high availability pair where you want to change the active peer, click the Switch Active Peer icon ()
- d) Click **Yes** to immediately make the standby device the active device in the high availability pair.

**Step 9** Connect to Firepower Chassis Manager on the Firepower security appliance that contains the *new standby* Firepower Threat Defense logical device:

**Step 10** In Firepower Chassis Manager, choose **System > Updates**.

The Available Updates page shows a list of the FXOS platform bundle images and application images that are available on the chassis.

**Step 11** Upload the new platform bundle image:

- a) Click **Upload Image** to open the Upload Image dialog box.
- b) Click **Choose File** to navigate to and select the image that you want to upload.
- c) Click **Upload**.  
The selected image is uploaded to the Firepower 4100/9300 chassis.
- d) For certain software images you will be presented with an end-user license agreement after uploading the image. Follow the system prompts to accept the end-user license agreement.

**Step 12** After the new platform bundle image has successfully uploaded, click **Upgrade** for the FXOS platform bundle to which you want to upgrade.

The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

**Step 13** Click **Yes** to confirm that you want to proceed with installation, or click **No** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components. The upgrade process can take up to 30 minutes to complete.

**Step 14** Firepower Chassis Manager will be unavailable during upgrade. You can monitor the upgrade process using the FXOS CLI:

- a) Enter **scope system**.
- b) Enter **show firmware monitor**.
- c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show `Upgrade-Status: Ready`.


**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.

#### Example:

```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready
```

```
Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
```

- Step 15** After all components have successfully upgraded, enter the following commands to verify the status of the security modules/security engine and any installed applications:
- Enter **top**.
  - Enter **scope ssa**.
  - Enter **show slot**.
  - Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
  - Enter **show app-instance**.
  - Verify that the Oper State is `Online` for any logical devices installed on the chassis.
- Step 16** Make the unit that you just upgraded the *active* unit as it was before the upgrade:
- Connect to Firepower Management Center.
  - Choose **Devices > Device Management**.
  - Next to the high availability pair where you want to change the active peer, click the Switch Active Peer icon (.
  - Click **Yes** to immediately make the standby device the active device in the high availability pair.

## Upgrade FXOS with the CLI

### Upgrade FXOS for Standalone FTD Logical Devices or an FTD Intra-chassis Cluster Using the FXOS CLI

This section describes how to upgrade the FXOS platform bundle for a standalone Firepower 4100/9300 chassis.

The section describes the FXOS upgrade process for the following types of devices:

- A Firepower 4100 series chassis that is configured with a FTD logical device and is not part of a failover pair or inter-chassis cluster.
- A Firepower 9300 chassis that is configured with one or more standalone FTD devices that are not part of a failover pair or inter-chassis cluster.
- A Firepower 9300 chassis that is configured with FTD logical devices in an intra-chassis cluster.



### Before you begin

Before beginning your upgrade, make sure that you have already done the following:

- Download the FXOS platform bundle software package to which you are upgrading.
- Back up your FXOS and FTD configurations.
- Collect the following information that you will need to download the software image to the Firepower 4100/9300 chassis:
  - IP address and authentication credentials for the server from which you are copying the image.
  - Fully qualified name of the image file.

### Step 1

Connect to the FXOS CLI.

### Step 2

Download the new platform bundle image to the Firepower 4100/9300 chassis:

a) Enter firmware mode:

```
Firepower-chassis-a # scope firmware
```

b) Download the FXOS platform bundle software image:

```
Firepower-chassis-a /firmware # download image URL
```

Specify the URL for the file being imported using one of the following syntax:

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

c) To monitor the download process:

```
Firepower-chassis-a /firmware # scope download-task image_name
```

```
Firepower-chassis-a /firmware/download-task # show detail
```

### Example:

The following example copies an image using the SCP protocol:

```
Firepower-chassis-a # scope firmware
Firepower-chassis-a /firmware # download image scp://user@192.168.1.1/images/fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware # scope download-task fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware/download-task # show detail
Download task:
  File Name: fxos-k9.2.3.1.58.SPA
  Protocol: scp
  Server: 192.168.1.1
  Userid:
  Path:
  Downloaded Image Size (KB): 853688
  State: Downloading
  Current Task: downloading image fxos-k9.2.3.1.58.SPA from
192.168.1.1 (FSM-STAGE:sam:dme:FirmwareDownloaderDownload:Local)
```

**Step 3** If necessary, return to firmware mode:

```
Firepower-chassis-a /firmware/download-task # up
```

**Step 4** Enter auto-install mode:

```
Firepower-chassis-a /firmware # scope auto-install
```

**Step 5** Install the FXOS platform bundle:

```
Firepower-chassis-a /firmware/auto-install # install platform platform-vers version_number
```

*version\_number* is the version number of the FXOS platform bundle you are installing--for example, 2.3(1.58).

**Step 6** The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

Enter **yes** to confirm that you want to proceed with verification.

**Step 7** Enter **yes** to confirm that you want to proceed with installation, or enter **no** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components.

**Step 8** To monitor the upgrade process:

- a) Enter **scope system**.
- b) Enter **show firmware monitor**.
- c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show Upgrade-Status: Ready.

**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.

#### Example:

```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready

FP9300-A /system #
```

**Step 9** After all components have successfully upgraded, enter the following commands to verify the status of the security modules/security engine and any installed applications:

- a) Enter **top**.
- b) Enter **scope ssa**.

- c) Enter **show slot**.
  - d) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
  - e) Enter **show app-instance**.
  - f) Verify that the Oper State is `Online` for any logical devices installed on the chassis.
- 

## Upgrade FXOS on an FTD Inter-chassis Cluster Using the FXOS CLI

If you have Firepower 9300 or Firepower 4100 series security appliances with FTD logical devices configured as an inter-chassis cluster, use the following procedure to update the FXOS platform bundle on your Firepower 9300 or Firepower 4100 series security appliances:

### Before you begin

Before beginning your upgrade, make sure that you have already done the following:

- Download the FXOS platform bundle software package to which you are upgrading.
- Back up your FXOS and FTD configurations.
- Collect the following information that you will need to download the software image to the Firepower 4100/9300 chassis:
  - IP address and authentication credentials for the server from which you are copying the image.
  - Fully qualified name of the image file.

### Step 1

Connect to the FXOS CLI on Chassis #2 (this should be a chassis that does not have the control unit).

### Step 2

Enter the following commands to verify the status of the security modules/security engine and any installed applications:

- a) Enter **top**.
- b) Enter **scope ssa**.
- c) Enter **show slot**.
- d) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
- e) Enter **show app-instance**.
- f) Verify that the Oper State is `Online` and that the Cluster State is `In Cluster` for any logical devices installed on the chassis. Also verify that the correct FTD software version is shown as the Running Version.

**Important** Verify that the control unit is not on this chassis. There should not be any Firepower Threat Defense instance with Cluster Role set to `Master`.

- g) For any security modules installed on a Firepower 9300 appliance or for the security engine on a Firepower 4100 series appliance, verify that the FXOS version is correct:

**scope server** `1/slot_id`, where `slot_id` is 1 for a Firepower 4100 series security engine.

**show version**.

### Step 3

Download the new platform bundle image to the Firepower 4100/9300 chassis:

- a) Enter **top**.
- b) Enter firmware mode:  
Firepower-chassis-a # **scope firmware**
- c) Download the FXOS platform bundle software image:  
Firepower-chassis-a /firmware # **download image** *URL*  
Specify the URL for the file being imported using one of the following syntax:
  - **ftp://username@hostname/path/image\_name**
  - **scp://username@hostname/path/image\_name**
  - **sftp://username@hostname/path/image\_name**
  - **tftp://hostname:port-num/path/image\_name**
- d) To monitor the download process:  
Firepower-chassis-a /firmware # **scope download-task** *image\_name*  
Firepower-chassis-a /firmware/download-task # **show detail**

**Example:**

The following example copies an image using the SCP protocol:

```
Firepower-chassis-a # scope firmware
Firepower-chassis-a /firmware # download image scp://user@192.168.1.1/images/fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware # scope download-task fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware/download-task # show detail
Download task:
  File Name: fxos-k9.2.3.1.58.SPA
  Protocol: scp
  Server: 192.168.1.1
  Userid:
  Path:
  Downloaded Image Size (KB): 853688
  State: Downloading
  Current Task: downloading image fxos-k9.2.3.1.58.SPA from
192.168.1.1 (FSM-STAGE:sam:dme:FirmwareDownloaderDownload:Local)
```

**Step 4** If necessary, return to firmware mode:

```
Firepower-chassis-a /firmware/download-task # up
```

**Step 5** Enter auto-install mode:

```
Firepower-chassis /firmware # scope auto-install
```

**Step 6** Install the FXOS platform bundle:

```
Firepower-chassis /firmware/auto-install # install platform platform-vers version_number
```

*version\_number* is the version number of the FXOS platform bundle you are installing—for example, 2.3(1.58).

**Step 7** The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

Enter **yes** to confirm that you want to proceed with verification.

**Step 8** Enter **yes** to confirm that you want to proceed with installation, or enter **no** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components.

**Step 9** To monitor the upgrade process:

- a) Enter **scope system**.
- b) Enter **show firmware monitor**.
- c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show Upgrade-Status: Ready.

**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.

- d) Enter **top**.
- e) Enter **scope ssa**.
- f) Enter **show slot**.
- g) Verify that the Admin State is `Ok` and the Oper State is `Online` for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
- h) Enter **show app-instance**.
- i) Verify that the Oper State is `Online`, that the Cluster State is `In Cluster` and that the Cluster Role is `Slave` for any logical devices installed on the chassis.

**Example:**

```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
```

```
Package-Vers: 2.3(1.58)
Upgrade-Status: Ready
```

```
Fabric Interconnect A:
Package-Vers: 2.3(1.58)
Upgrade-Status: Ready
```

```
Chassis 1:
Server 1:
Package-Vers: 2.3(1.58)
Upgrade-Status: Ready
Server 2:
Package-Vers: 2.3(1.58)
Upgrade-Status: Ready
```

```
FP9300-A /system #
FP9300-A /system # top
FP9300-A# scope ssa
FP9300-A /ssa # show slot
```

```
Slot:
Slot ID   Log Level Admin State Oper State
-----
1         Info      Ok          Online
2         Info      Ok          Online
3         Info      Ok          Not Available
```

```
FP9300-A /ssa #
```

```
FP9300-A /ssa # show app-instance
App Name   Slot ID   Admin State Oper State   Running Version Startup Version Profile Name
Cluster State Cluster Role
-----
```

```

-----
ftd      1      Enabled   Online   6.2.2.81   6.2.2.81   In
Cluster  Slave
ftd      2      Enabled   Online   6.2.2.81   6.2.2.81   In
Cluster  Slave
ftd      3      Disabled  Not Available 6.2.2.81   Not
Applicable None
FP9300-A /ssa #

```

**Step 10** Set one of the security modules on Chassis #2 as control.

After setting one of the security modules on Chassis #2 to control, Chassis #1 no longer contains the control unit and can now be upgraded.

**Step 11** Repeat Steps 1-9 for all other Chassis in the cluster.

**Step 12** To return the control role to Chassis #1, set one of the security modules on Chassis #1 as control.

## Upgrade FXOS on an FTD High Availability Pair Using the FXOS CLI

If you have Firepower 9300 or Firepower 4100 series security appliances that have FTD logical devices configured as a high availability pair, use the following procedure to update the FXOS platform bundle on your Firepower 9300 or Firepower 4100 series security appliances:

### Before you begin

Before beginning your upgrade, make sure that you have already done the following:

- Download the FXOS platform bundle software package to which you are upgrading.
- Back up your FXOS and FTD configurations.
- Collect the following information that you will need to download the software image to the Firepower 4100/9300 chassis:
  - IP address and authentication credentials for the server from which you are copying the image.
  - Fully qualified name of the image file.

**Step 1** Connect to FXOS CLI on the Firepower security appliance that contains the *standby* Firepower Threat Defense logical device:

**Step 2** Download the new platform bundle image to the Firepower 4100/9300 chassis:

a) Enter firmware mode:

```
Firepower-chassis-a # scope firmware
```

b) Download the FXOS platform bundle software image:

```
Firepower-chassis-a /firmware # download image URL
```

Specify the URL for the file being imported using one of the following syntax:

- `ftp://username@hostname/path/image_name`

- `scp://username@hostname/path/image_name`
- `sftp://username@hostname/path/image_name`
- `tftp://hostname:port-num/path/image_name`

c) To monitor the download process:

```
Firepower-chassis-a /firmware # scope download-task image_name
```

```
Firepower-chassis-a /firmware/download-task # show detail
```

### Example:

The following example copies an image using the SCP protocol:

```
Firepower-chassis-a # scope firmware
Firepower-chassis-a /firmware # download image scp://user@192.168.1.1/images/fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware # scope download-task fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware/download-task # show detail
Download task:
  File Name: fxos-k9.2.3.1.58.SPA
  Protocol: scp
  Server: 192.168.1.1
  Userid:
  Path:
  Downloaded Image Size (KB): 853688
  State: Downloading
  Current Task: downloading image fxos-k9.2.3.1.58.SPA from
192.168.1.1 (FSM-STAGE:sam:dme:FirmwareDownloaderDownload:Local)
```

**Step 3** If necessary, return to firmware mode:

```
Firepower-chassis-a /firmware/download-task # up
```

**Step 4** Enter auto-install mode:

```
Firepower-chassis-a /firmware # scope auto-install
```

**Step 5** Install the FXOS platform bundle:

```
Firepower-chassis-a /firmware/auto-install # install platform platform-vers version_number
```

*version\_number* is the version number of the FXOS platform bundle you are installing; for example, 2.3(1.58).

**Step 6** The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

Enter **yes** to confirm that you want to proceed with verification.

**Step 7** Enter **yes** to confirm that you want to proceed with installation, or enter **no** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components.

**Step 8** To monitor the upgrade process:

a) Enter **scope system**.

b) Enter **show firmware monitor**.

c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show `Upgrade-Status: Ready`.

**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.

**Example:**


```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready

FP9300-A /system #
```

- Step 9** After all components have successfully upgraded, enter the following commands to verify the status of the security modules/security engine and any installed applications:
- Enter **top**.
  - Enter **scope ssa**.
  - Enter **show slot**.
  - Verify that the Admin State is **Ok** and the Oper State is **Online** for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
  - Enter **show app-instance**.
  - Verify that the Oper State is **Online** for any logical devices installed on the chassis.

- Step 10** Make the unit that you just upgraded the *active* unit so that traffic flows to the upgraded unit:
- Connect to Firepower Management Center.
  - Choose **Devices > Device Management**.
  - Next to the high availability pair where you want to change the active peer, click the Switch Active Peer icon (.
  - Click **Yes** to immediately make the standby device the active device in the high availability pair.

- Step 11** Connect to FXOS CLI on the Firepower security appliance that contains the *new standby* Firepower Threat Defense logical device:

- Step 12** Download the new platform bundle image to the Firepower 4100/9300 chassis:

- Enter firmware mode:

```
Firepower-chassis-a # scope firmware
```

- Download the FXOS platform bundle software image:

```
Firepower-chassis-a /firmware # download image URL
```

Specify the URL for the file being imported using one of the following syntax:

- **ftp://username@hostname/path/image\_name**



- `scp://username@hostname/path/image_name`
- `sftp://username@hostname/path/image_name`
- `tftp://hostname:port-num/path/image_name`

c) To monitor the download process:

```
Firepower-chassis-a /firmware # scope download-task image_name
```

```
Firepower-chassis-a /firmware/download-task # show detail
```

### Example:

The following example copies an image using the SCP protocol:

```
Firepower-chassis-a # scope firmware
Firepower-chassis-a /firmware # download image scp://user@192.168.1.1/images/fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware # scope download-task fxos-k9.2.3.1.58.SPA
Firepower-chassis-a /firmware/download-task # show detail
Download task:
  File Name: fxos-k9.2.3.1.58.SPA
  Protocol: scp
  Server: 192.168.1.1
  Userid:
  Path:
  Downloaded Image Size (KB): 853688
  State: Downloading
  Current Task: downloading image fxos-k9.2.3.1.58.SPA from
192.168.1.1 (FSM-STAGE:sam:dme:FirmwareDownloaderDownload:Local)
```

**Step 13** If necessary, return to firmware mode:

```
Firepower-chassis-a /firmware/download-task # up
```

**Step 14** Enter auto-install mode:

```
Firepower-chassis-a /firmware # scope auto-install
```

**Step 15** Install the FXOS platform bundle:

```
Firepower-chassis-a /firmware/auto-install # install platform platform-vers version_number
```

*version\_number* is the version number of the FXOS platform bundle you are installing; for example, 2.3(1.58).

**Step 16** The system will first verify the software package that you want to install. It will inform you of any incompatibility between currently installed applications and the specified FXOS platform software package. It will also warn you that any existing sessions will be terminated and that the system will need to be rebooted as part of the upgrade.

Enter **yes** to confirm that you want to proceed with verification.

**Step 17** Enter **yes** to confirm that you want to proceed with installation, or enter **no** to cancel the installation.

The system unpacks the bundle and upgrades/reloads the components.

**Step 18** To monitor the upgrade process:

a) Enter **scope system**.

b) Enter **show firmware monitor**.

c) Wait for all components (FPRM, Fabric Interconnect, and Chassis) to show `Upgrade-Status: Ready`.

**Note** After the FPRM component is upgraded, the system will reboot and then continue upgrading the other components.


**Example:**

```
FP9300-A# scope system
FP9300-A /system # show firmware monitor
FPRM:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Fabric Interconnect A:
  Package-Vers: 2.3(1.58)
  Upgrade-Status: Ready

Chassis 1:
  Server 1:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready
  Server 2:
    Package-Vers: 2.3(1.58)
    Upgrade-Status: Ready

FP9300-A /system #
```

- Step 19** After all components have successfully upgraded, enter the following commands to verify the status of the security modules/security engine and any installed applications:
- Enter **top**.
  - Enter **scope ssa**.
  - Enter **show slot**.
  - Verify that the Admin State is **Ok** and the Oper State is **Online** for the security engine on a Firepower 4100 series appliance or for any security modules installed on a Firepower 9300 appliance.
  - Enter **show app-instance**.
  - Verify that the Oper State is **Online** for any logical devices installed on the chassis.
- Step 20** Make the unit that you just upgraded the *active* unit as it was before the upgrade:
- Connect to Firepower Management Center.
  - Choose **Devices > Device Management**.
  - Next to the high availability pair where you want to change the active peer, click the Switch Active Peer icon (.
  - Click **Yes** to immediately make the standby device the active device in the high availability pair.

## Upgrade Firmware on the Firepower 4100/9300

Chassis upgrades to FXOS 2.14.1+ (the companion release to threat defense 7.4) include firmware. If you are upgrading older devices, see [Cisco Firepower 4100/9300 FXOS Firmware Upgrade Guide](#).