



Upgrade Firepower Threat Defense: Firepower 4100/9300

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Upgrade Checklist: FTD on Firepower 4100/9300 Chassis

Use this checklist to upgrade Firepower 4100/9300 chassis with FTD

Complete the checklist every time you upgrade. Skipping steps can result in an unsuccessful upgrade. At all times during the process, make sure that the appliances in your deployment are successfully communicating and that there are no issues reported by the health monitor.

Plan the Upgrade

Maintain deployment compatibility at all times by correctly planning and following an upgrade path.

✓	Action/Check	Details
	Verify Upgrade Path Check your place in your upgrade path. Know which upgrade you just performed and which you are performing next.	Upgrade Path: FTD on Firepower 4100/9300 Chassis, on page 3
	Check Versions Check current and target versions on the devices: <ul style="list-style-type: none"> • Firepower software • FXOS 	Firepower 4100/9300 with FTD
	Check FMC Compatibility Check if the FMC will be able to manage the devices after you upgrade them. If not, revise your upgrade path so you upgrade the FMC first.	Can I Maintain FMC-Device Version Compatibility?

✓	Action/Check	Details
	<p>Read Release Notes</p> <p>Read the release notes, paying special attention to the things that can affect upgrade, including:</p> <ul style="list-style-type: none"> • Version-specific upgrade guidelines and warnings. • Known issues that affect upgrade. • New/deprecated features and functionality. 	<p>Firepower Release Notes and FXOS Release Notes</p>

Pre-Upgrade Actions and Checks

Minimize disruption by performing prechecks outside the maintenance window.

✓	Action/Check	Details
	<p>Make Required Configuration Changes</p> <p>Make required pre-upgrade configuration changes, and be prepared to make required post-upgrade configuration changes.</p>	<p>Firepower Release Notes and FXOS Release Notes</p>
	<p>Check Disk Space</p> <p>Run a preliminary disk space check for the Firepower software upgrade.</p>	<p>Time Tests and Disk Space Requirements</p>
	<p>Get FXOS Upgrade Package</p> <p>Obtain the correct FXOS upgrade package.</p>	<p>FXOS for Firepower 4100/9300 Chassis Upgrade Packages, on page 7</p>
	<p>Get Firepower Software Upgrade Package</p> <p>Obtain the correct Firepower software upgrade package. Do not untar signed (.tar) packages. You can either:</p> <ul style="list-style-type: none"> • Upload the package to the FMC. • Configure an internal web server as the source for FTD upgrade packages. Requires Version 6.6.0. 	<p>Obtain Firepower Software Upgrade Packages</p>
	<p>Check Bandwidth</p> <p>Make sure you have the bandwidth to perform a large data transfer to your managed devices.</p>	<p>Guidelines for Downloading Data from the Firepower Management Center to Managed Devices (Troubleshooting TechNote)</p>
	<p>Push Firepower Software Upgrade Package</p> <p>Push the upgrade package to the devices. We <i>strongly</i> recommend (and sometimes require) you push before you begin the required companion FXOS upgrade. Requires Version 6.2.3+.</p>	<p>Push Upgrade Packages to FMC-Managed Devices</p>

✓	Action/Check	Details
	Run Firepower Software Readiness Check Run a readiness check. Requires Version 6.1+.	Run Firepower Software Readiness Checks
	Back Up Devices Use the FMC to back up configuration data for supported FTD platforms (not all FTD platforms support backup). Back up to an external location and verify transfer success. Requires Version 6.3+.	Firepower Management Center Configuration Guide
	Verify Appliance Access Make sure your computer can connect to the FMC's management interface and to the device's management interface, both without traversing the device itself.	Appliance Access, Communication, and Health
	Schedule Maintenance Window Schedule a maintenance window when it will have the least impact, considering the tasks you must perform, the upgrade's effect on traffic flow and inspection, and the time the upgrade is likely to take.	FTD Upgrade Behavior: Firepower 4100/9300 Chassis <i>and</i> Time Tests and Disk Space Requirements

Upgrade the Devices

Because upgrades can cause interruptions in traffic flow or inspection, perform them in a maintenance window.

✓	Action/Check	Details
	Upgrade FXOS If needed, upgrade FXOS. To avoid interruptions in traffic flow and inspection, upgrade the chassis in high availability pairs and inter-chassis clusters <i>one at a time</i> .	Upgrade FXOS: Firepower 4100/9300 Chassis, on page 7
	Upgrade Firepower Software Upgrade the Firepower software.	Upgrade FTD Software: Firepower 4100/9300 Chassis, on page 26

Upgrade Path: FTD on Firepower 4100/9300 Chassis

This table provides upgrade paths for Firepower 4100/9300 chassis with FTD.

Find your current Firepower version in the left column. You can upgrade directly to the versions listed in the right column. If you cannot perform a direct upgrade from your current to the target version, your upgrade path must include intermediate versions. For an alternate way of looking at this information, see [Is Direct Upgrade Possible?](#)

Table 1: Direct Upgrades: Firepower 4100/9300 Chassis

Current Version	Target Version
6.7.0 6.7.x (maintenance releases)	Directly to: → Any later 6.7.x maintenance release
6.6.0 6.6.x (maintenance releases)	Directly to one of: → 6.7.0 or any 6.7.x maintenance release → Any later 6.6.x maintenance release
6.5.0	Directly to one of: → 6.7.0 or any 6.7.x maintenance release → 6.6.0 or any 6.6.x maintenance release
6.4.0	Directly to one of: → 6.7.0 or any 6.7.x maintenance release → 6.6.0 or any 6.6.x maintenance release → 6.5.0
6.3.0	Directly to one of: → 6.7.0 or any 6.7.x maintenance release → 6.6.0 or any 6.6.x maintenance release → 6.5.0 → 6.4.0
6.2.3	Directly to one of: → 6.6.0 or any 6.6.x maintenance release → 6.5.0 → 6.4.0 → 6.3.0
6.2.2	Directly to one of: → 6.4.0 → 6.3.0 → 6.2.3

Current Version	Target Version
6.2.0	Directly to one of: → 6.4.0 → 6.3.0 → 6.2.3 → 6.2.2
6.1.0 *	Directly to one of: → 6.2.3 → 6.2.0
6.0.1	Directly to: → 6.1.0

* Due to operating system incompatibilities, you cannot upgrade directly from Version 6.1 → 6.4 on a Firepower 4100/9300 series device. For similar reasons, we recommend that you not upgrade from Version 6.1 → 6.3. If you are running Version 6.1, we recommend upgrading to Version 6.2.3 on FXOS 2.3.1, and proceeding from there.

Upgrading FXOS

Major Firepower versions have a specially qualified companion FXOS version. Before you upgrade Firepower software, upgrade FXOS. In general, we recommend the latest FXOS build in the version sequence, but for required minimum builds see [Firepower 4100/9300 with FTD](#).

Table 2: FXOS Companion Versions

Firepower Version	FXOS Companion Version
6.7.0 and 6.7.x	2.9.1
6.6.0 and 6.6.x	2.8.1
6.5.0	2.7.1
6.4.0	2.6.1
6.3.0	2.4.1
6.2.3	2.3.1
6.2.2	2.2.2
6.2.0	2.1.1, 2.2.1, and 2.2.2
6.1.0	2.0.1
6.0.1	1.1.4

Although you upgrade the Firepower software on a device clusters or high availability pair as a unit, you upgrade FXOS on each chassis independently. This table outlines FXOS upgrade order for standalone and HA/scalability deployments. For more information, see [Upgrade FXOS: Firepower 4100/9300 Chassis, on page 7](#).

Table 3: FXOS + FTD Upgrade Order

FTD Deployment	Upgrade Order
Standalone device	<ol style="list-style-type: none"> 1. Upgrade FXOS. 2. Upgrade Firepower software.
High availability	<p>To minimize disruption, always upgrade the standby.</p> <ol style="list-style-type: none"> 1. Upgrade FXOS on the standby. 2. Switch roles. 3. Upgrade FXOS on the new standby. 4. Upgrade the Firepower software.
Intra-chassis cluster (Firepower 9300 only)	<ol style="list-style-type: none"> 1. Upgrade FXOS. 2. Upgrade Firepower software.
Inter-chassis cluster (6.2+)	<p>To minimize disruption, always upgrade an all-data unit chassis. For example, for a two-chassis cluster:</p> <ol style="list-style-type: none"> 1. Upgrade FXOS on the all-data unit chassis. 2. Switch the control module to the chassis you just upgraded. 3. Upgrade FXOS on the new all-data unit chassis. 4. Upgrade Firepower software.

High Availability and Clustering Hitless Upgrade Requirements

Performing hitless upgrades have the following additional requirements.

Flow Offload: Due to bug fixes in the flow offload feature, some combinations of FXOS and FTD do not support flow offload; see the [Cisco Firepower Compatibility Guide](#). To perform a hitless upgrade in a high availability or clustered deployment, you must make sure you are always running a compatible combination.

If your upgrade path includes upgrading FXOS to 2.2.2.91, 2.3.1.130, or later (including FXOS 2.4.1.x, 2.6.1.x, and so on) use this path:

1. Upgrade FTD to 6.2.2.2 or later.
2. Upgrade FXOS to 2.2.2.91, 2.3.1.130, or later.
3. Upgrade FTD to your final version.

For example, if you are running FXOS 2.2.2.17/FTD 6.2.2.0, and you want to upgrade to FXOS 2.6.1/FTD 6.4.0, then you can:

1. Upgrade FTD to 6.2.2.5.
2. Upgrade FXOS to 2.6.1.
3. Upgrade FTD to 6.4.0.

Version 6.1.0 Upgrades: Performing a hitless upgrade of an FTD high availability pair to Version 6.1.0 requires a preinstallation package. For more information, see [Firepower System Release Notes Version 6.1.0 Preinstallation Package](#).

Upgrade FXOS: Firepower 4100/9300 Chassis

On the Firepower 4100/9300 chassis, you upgrade the FXOS operating system separately from the Firepower software. You upgrade FXOS on each chassis independently, even if you have Firepower inter-chassis clustering or high availability pairs configured.

Major Firepower versions have a companion FXOS version. You must be running that companion version of FXOS *before* you upgrade the Firepower software on the Firepower 4100/9300 chassis.

Upgrading FXOS reboots the chassis. Depending on your deployment, traffic can either drop or traverse the network without inspection; see [FTD Upgrade Behavior: Firepower 4100/9300 Chassis](#).

FXOS for Firepower 4100/9300 Chassis Upgrade Packages

For FXOS upgrade packages for the Firepower 4100/9300 chassis, browse to:

- Firepower 4100 series: <http://www.cisco.com/go/firepower4100-software>
- Firepower 9300: <http://www.cisco.com/go/firepower9300-software>

Choose your *model* > **Firepower Extensible Operating System** > *version*.

Table 4: FXOS Upgrade Packages

Package Type	Package Name
FXOS image	fxos-k9. <i>version</i> .SPA
Recovery (kickstart)	fxos-k9-kickstart. <i>version</i> .SPA
Recovery (manager)	fxos-k9-manager. <i>version</i> .SPA
Recovery (system)	fxos-k9-system. <i>version</i> .SPA
MIBs	fxos-mibs-fp9k-fp4k. <i>version</i> .zip
Firmware: Firepower 4100 series	fxos-k9-fpr4k-firmware. <i>version</i> .SPA
Firmware: Firepower 9300	fxos-k9-fpr9k-firmware. <i>version</i> .SPA

Upgrade FXOS for Standalone FTD Logical Devices or an FTD Intra-chassis Cluster

Use the FXOS CLI or Firepower Chassis Manager to upgrade the FXOS platform bundle on a Firepower 4100/9300 Series security appliance that has standalone or intra-chassis clustered Firepower Threat Defense logical devices installed on the appliance.

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 (see [FXOS for Firepower 4100/9300 Chassis Upgrade Packages](#), on page 7).
- Back up your FXOS and FTD configurations.



Note The upgrade process typically takes between 20 and 30 minutes. Traffic will not traverse through the device while it is upgrading.

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- Step 1** In Firepower Chassis Manager, choose **System > Updates**.
The Available Updates page shows a list of the Firepower eXtensible Operating System 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 Firepower eXtensible Operating System unpacks the bundle and upgrades/reloads the components. The upgrade process can take up to 30 minutes to complete.

Step 5 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 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:

- 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 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 (see [FXOS for Firepower 4100/9300 Chassis Upgrade Packages, on page 7](#)).
- 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.



Note The upgrade process typically takes between 20 and 30 minutes. Traffic will not traverse through the device while it is upgrading.

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 Firepower eXtensible Operating 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.

Upgrade FXOS on a Firepower Threat Defense High Availability Pair

Use the FXOS CLI or Firepower Chassis Manager to upgrade the FXOS platform bundle on Firepower 4100/9300 Series security appliances with Firepower Threat Defense logical devices configured as a high availability pair.

Upgrade FXOS on a 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 (see [FXOS for Firepower 4100/9300 Chassis Upgrade Packages, on page 7](#)).
- Back up your FXOS and FTD configurations.



Note The upgrade process typically takes between 20 and 30 minutes per chassis.

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 Firepower eXtensible Operating System platform bundle images and application images that are available on the chassis.

Step 3 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 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 Firepower eXtensible Operating System unpacks the bundle and upgrades/reloads the components. The upgrade process can take up to 30 minutes to complete.

Step 6 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 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:
- 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 8** 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 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 Firepower eXtensible Operating System platform bundle images and application images that are available on the chassis.
- Step 11** 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 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 Firepower eXtensible Operating 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:
- 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 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:

- 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 16 Make the unit that you just upgraded the *active* unit as it was before the upgrade:

- 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.

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 (see [FXOS for Firepower 4100/9300 Chassis Upgrade Packages](#), on page 7).

- 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.



Note The upgrade process typically takes between 20 and 30 minutes per chassis.

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 Firepower eXtensible Operating 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.

Step 10 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 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:

- 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 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 Firepower eXtensible Operating 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:

- 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 20 Make the unit that you just upgraded the *active* unit as it was before the upgrade:

- 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.

Upgrade FXOS on a Firepower Threat Defense Inter-chassis Cluster

Use the FXOS CLI or Firepower Chassis Manager to upgrade the FXOS platform bundle on Firepower 4100/9300 Series security appliances with Firepower Threat Defense logical devices configured as an inter-chassis cluster.

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 (see [FXOS for Firepower 4100/9300 Chassis Upgrade Packages, on page 7](#)).
- Back up your FXOS and FTD configurations.



Note The upgrade process typically takes between 20 and 30 minutes per chassis.

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.

Note 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 Firepower eXtensible Operating System 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 Firepower eXtensible Operating System unpacks the bundle and upgrades/reloads the components. The upgrade process can take up to 30 minutes to complete.

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      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 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 a 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 (see [FXOS for Firepower 4100/9300 Chassis Upgrade Packages, on page 7](#)).
- 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.



Note The upgrade process typically takes between 20 and 30 minutes per chassis.

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.

Note 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 Firepower eXtensible Operating 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 FTD Software: Firepower 4100/9300 Chassis

Use this procedure to upgrade the FTD software on the Firepower 4100/9300 chassis. You can upgrade multiple devices at once. You must upgrade the members of device clusters and high availability pairs at the same time.



Caution Do *not* deploy changes to or from, manually reboot, or shut down an upgrading appliance. Do *not* restart an upgrade in progress. The upgrade process may appear inactive during prechecks; this is expected. If you encounter issues with the upgrade, including a failed upgrade or unresponsive appliance, contact Cisco TAC.

Before you begin

Check your place in the upgrade path, including FXOS and FMC upgrades. Make sure you have fully planned and prepared for this step.

- Step 1** Deploy configurations to the devices you are about to upgrade.
- On the FMC menu bar, click **Deploy**. Choose devices, then click **Deploy** again. Deploying before you upgrade reduces the chance of failure.
- When you deploy, resource demands may result in a small number of packets dropping without inspection. Additionally, deploying some configurations restarts Snort, which interrupts traffic inspection and, depending on how your device handles traffic, may interrupt traffic until the restart completes. For more information, see [FTD Upgrade Behavior: Firepower 4100/9300 Chassis](#).
- Step 2** Perform final preupgrade checks.
- Check health: Use the Message Center (click the System Status icon on the menu bar). Make sure the appliances in your deployment are successfully communicating and that there are no issues reported by the health monitor.
 - Running tasks: Also in the Message Center, make sure essential tasks are complete. Tasks running when the upgrade begins are stopped, become failed tasks, and cannot be resumed. You can manually delete failed status messages later.
 - Check disk space: Perform a final disk space check. Without enough free disk space, the upgrade fails. For disk space requirements, see [Time Tests and Disk Space Requirements](#).
- Step 3** (Optional, high availability only) Switch the active/standby roles of your high availability device pairs.

The standby device in a high availability pair upgrades first. The devices switch roles, then the new standby upgrades. When the upgrade completes, the devices' roles remain switched. If you want to preserve the active/standby roles, manually switch the roles before you upgrade. That way, the upgrade process switches them back.

Choose **Devices > Device Management**, click the **Switch Active Peer** icon next to the pair, and confirm your choice.

Step 4 Choose **System > Updates**.

Step 5 Click the Install icon next to the upgrade package you want to use and choose the devices to upgrade.

If the devices you want to upgrade are not listed, you chose the wrong upgrade package.

Note We *strongly* recommend upgrading no more than five devices simultaneously. The FMC does not allow you stop the upgrade until all selected devices complete the process. If there is an issue with any one device upgrade, all devices must finish upgrading before you can resolve the issue.

Step 6 Click **Install**, then confirm that you want to upgrade and reboot the devices.

Some devices may reboot twice during the upgrade; this is expected behavior.

Traffic either drops throughout the upgrade or traverses the network without inspection depending on how your devices are configured and deployed. For more information, see [FTD Upgrade Behavior: Firepower 4100/9300 Chassis](#).

Step 7 Monitor upgrade progress in the Message Center.

Do not deploy configurations to the device while it is upgrading. Even if the Message Center shows no progress for several minutes or indicates that the upgrade has failed, do not restart the upgrade or reboot the device. Instead, contact Cisco TAC.

Step 8 Verify success.

After the upgrade completes, choose **Devices > Device Management** and confirm that the devices you upgraded have the correct software version.

Step 9 Use the Message Center to recheck deployment health.

Step 10 Update intrusion rules (SRU) and the vulnerability database (VDB).

If the SRU or the VDB available on the Cisco Support & Downloads site is newer than the version currently running, install the newer version. For more information, see the [Firepower Management Center Configuration Guide](#). Note that when you update intrusion rules, you do not need to automatically reapply policies. You will do that later.

Step 11 Complete any post-upgrade configuration changes described in the release notes.

Step 12 Redeploy configurations to the devices you just upgraded.
