Upgrade Guidelines

These topics provide critical and release-specific information for Version 6.2.3.x:

Upgrade Warnings for All Releases

These important warnings apply to every upgrade.

Traffic Flow, Inspection, and Device Behavior

You must identify potential interruptions in traffic flow and inspection during the upgrade. This can occur:

- When you upgrade the operating system or virtual hosting environment on a managed device.

- When you upgrade the Firepower software on a managed device.

- When you deploy configuration changes as part of the upgrade process.

Device type, deployment type (standalone, high availability, clustered), and interface configurations (passive, IPS, firewall, and so on) determine the nature of the interruptions. We *strongly* recommend performing any upgrade in a maintenance window or at a time when any interruption will have the least impact on your deployment.

For details, see Traffic Flow, Inspection, and Device Behavior During Upgrade in the *Firepower Management Center Upgrade Guide*.

Appliance Access During Upgrade

Before you upgrade a Firepower device, make sure traffic from your location does not have to traverse the device itself to access the device's management interface. In Firepower Management Center deployments, you should also able to access the FMC management interface without traversing the device.

This is because Firepower devices can stop passing traffic during the upgrade (depending on interface configurations), or if the upgrade fails.

Unresponsive Upgrades

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.

Patch or Hotfix for New Dynamic Analysis CA Certificate

Deployments: AMP for Networks (malware detection) deployments where you submit files for dynamic analysis

Upgrading from: A patched/hotfixed system with new CA certificates

Directly to: Version 6.2 through 6.2.3

On June 15, 2018, some Firepower deployments stopped being able to submit files for dynamic analysis. This occurred due to an expired CA certificate that was required for communications with the AMP Threat Grid cloud. In Version 6.1+ deployments, you can obtain a new certificate with a patch or hotfix. For earlier versions, you must upgrade to at least Version 6.1, then patch or hotfix.

If you already patched or hotfixed your deployment, upgrading to a later major version (Version 6.2 through 6.2.3) reverts to the old certificate and disables dynamic analysis. You must patch or hotfix again.

> **Note** If this is your first time installing the patch or hotfix, make sure your firewall allows outbound connections to `fmc.api.threatgrid.com` (replacing `panacea.threatgrid.com`) from both the FMC and its managed devices. Managed devices submit files to the cloud for dynamic analysis; the FMC queries for results.

The following table lists the patches and hotfixes that contain the new certificates, for each major version sequence and platform. Patches and hotfixes are available on the Cisco Support & Download site. For release notes, see Firepower Release Notes.

Table 1: Patches and Hotfixes with New CA Certificates

Versions with Old Cert	First Patch with New Cert	Hotfix with New Cert	
6.2.3 through 6.2.3.3	6.2.3.4	Hotfix G	FTD devices
		Hotfix H	FMC, NGIPS devices
6.2.2 through 6.2.2.3	6.2.2.4	Hotfix BN	All platforms
6.2.1	None. You must upgrade.	None. You must upgrade.	
6.2.0 through 6.2.0.5	6.2.0.6	Hotfix BX	FTD devices
		Hotfix BW	FMC, NGIPS devices
6.1.0 through 6.1.0.6	6.1.0.7	Hotfix EM	All platforms
6.0.x	None. You must upgrade.	None. You must upgrade.	

Cisco Smart Licensing: Check Status After Upgrade

Deployments: Firepower Device Manager

In some cases, upgrading a Firepower Threat Defense device managed by Firepower Device Manager unregisters the device from the Cisco Smart Software Manager. After the upgrade completes, check your license status.

1. Click **Device**, then click **View Configuration** in the Smart License summary.

2. If the device is not registered, click **Register Device**.

Upgrade Warnings for Version 6.2.3.x

These important warnings apply to Version 6.2.3.x.

Apply Hotfix T to Firepower Management Centers Running Version 6.2.3-88

Deployments: Firepower Management Center

Upgrading from: Version 6.2.3-88

Directly to: Version 6.2.3.1, Version 6.2.3.2, or Version 6.2.3.3

Sometimes Cisco releases updated builds of Firepower upgrade packages. Version 6.2.3-88 has been replaced by a later build. If you upgrade an FMC running Version 6.2.3-88 to Version 6.2.3.1, Version 6.2.3.2, or Version 6.2.3.3, the SSE cloud connection continuously drops and generate errors. Uninstalling the patch does not resolve the issue.

If you are running Version 6.2.3-88, install Hotfix T before you patch.

Cannot Switch to Local Firepower Threat Defense Management in Version 6.2.3.3

Deployments: Firepower Threat Defense managed by a Firepower Management Center

Upgrading from: Version 6.2.3 through Version 6.2.3.2

Directly to: Version 6.2.3.3 only

In Version 6.2.3.3, you cannot switch Firepower Threat Defense device management from FMC to FDM. This happens even if you uninstall the Version 6.2.3.3 patch. If you want to switch to local management at that point, either freshly install Version 6.2.3, or contact Cisco TAC.

As a workaround, switch management before you upgrade to Version 6.2.3.3. Keep in mind that you lose device configurations when you switch management.

Note that you can, however, switch management from FDM to FMC.

Version Requirements to Upgrade

The following table lists the minimum version of the Firepower software you must be running to upgrade to Version 6.2.3.x.

Appliance	Manager	Minimum Version to Upgrade
Firepower Management Center	—	6.2.3
7000 and 8000 series device NGIPSv ASA FirePOWER module	Firepower Management Center	6.2.3
Firepower Threat Defense device	Firepower Management Center	6.2.3
	Firepower Device Manager	6.2.3
ASA FirePOWER module	ASDM	6.2.3

Time Estimates and Disk Space Requirements

To upgrade a Firepower appliance, you must have enough free disk space or the upgrade fails. When you use the Firepower Management Center to upgrade a managed device, the Firepower Management Center requires additional disk space in its /Volume partition.

You must also have enough time to perform the upgrade. We provide estimates of upgrade times for each release.

About Time Estimates

Upgrade time estimates are based on in-house tests.

Estimates for devices are from tests in a Firepower Management Center deployment. This is because raw upgrade times for remotely and locally managed devices are similar, given similar conditions.

Because lower-memory appliances tend to take longer to upgrade, we try to test on those platforms. For virtual platforms, we use the default settings for memory and resources. However, upgrades may still take longer than the provided estimates for any of the following reasons.

Push and Reboot Not Included

Estimates represent *only* the time it takes for the Firepower upgrade itself to run. Estimates do not include the time required to upload upgrade packages to a locally managed device or to a FMC, nor the time to copy (*push*) upgrade packages from a FMC to a managed device.

In FMC deployments, insufficient bandwidth between the Firepower Management Center and managed devices can extend upgrade time or even cause the upgrade to time out. Make sure you have the bandwidth to perform a large data transfer from the Firepower Management Center to its devices. For more information, see Guidelines for Downloading Data from the Firepower Management Center to Managed Devices (Troubleshooting TechNote).

Estimates also do not include reboots. We do not have estimates for readiness checks, separate operating system upgrades, or configuration deploys.

Time Is per Device

Estimates are *per device*. In a high availability or clustered configuration, devices upgrade one at a time to preserve continuity of operations, with each device operating in maintenance mode while it upgrades. Upgrading a device pair or entire cluster, therefore, takes longer than upgrading a standalone device. Stacked 8000 series devices upgrade simultaneously, with the stack operating in limited, mixed-version state until all devices complete the upgrade. This should not take significantly longer than upgrading a standalone device.

Affected Configurations and Data

We perform time tests on appliances with minimal configurations and traffic load. Upgrade time can increase with the complexity of your configurations, size of event databases, and whether/how those things are affected by the upgrade.

For example, if you use a lot of access control rules and the upgrade needs to make a backend change to how those rules are stored, the upgrade can take longer.

Version 6.2.3.5 Time and Disk Space

Platform	Space on /	Space on /Volume	Space on Manager	Time From 6.2.3
FMC	24 MB	1566 MB	—	28 min
FMCv	80 MB	2266 MB	—	Hardware dependent
Firepower 2100 series	1001MB	1001 MB	257 MB	20 min
Firepower 4100/9300 chassis	370 MB	370 MB	56 MB	7 min
ASA 5500-X series with FTD	130 MB	587 MB	78 MB	20 min
ISA 3000 with FTD	130 MB	379 MB	78 MB	20 min
Firepower 7000/8000 series	17 MB	806 MB	78 MB	22 min
ASA FirePOWER	15 MB	1465 MB	100 MB	70 min
NGIPSv	17 MB	120 MB	16 MB	Hardware dependent

Version 6.2.3.4 Time and Disk Space

Platform	Space on /	Space on /Volume	Space on Manager	Time
FMC	107 MB	2191 MB	—	From 6.2.3: 80 min From 6.2.3.3: 80 min
FMCv	35 MB	1760 MB	—	Hardware dependent
Firepower 2100 series	1014 MB	1014 MB	261 MB	From 6.2.3: 17 min From 6.2.3.3: 17 min

Platform	Space on /	Space on /Volume	Space on Manager	Time
Firepower 4100/9300 chassis	334 MB	334 MB	59 MB	From 6.2.3: 7 min From 6.2.3.3: 7 min
ASA 5500-X series with FTD	128 MB	411 MB	82 MB	From 6.2.3: 19 min From 6.2.3.3: 20 min
ISA 3000 with FTD	128 MB	393 MB	82 MB	From 6.2.3: 20 min From 6.2.3.3: 19 min
FTDv	128 MB	411 MB	82 MB	Hardware dependent
Firepower 7000/8000 series	17 MB	800 MB	82 MB	From 6.2.3: 23 min From 6.2.3.3: 23 min
ASA FirePOWER	15 MB	1385 MB	103 MB	From 6.2.3: 25 min From 6.2.3.3: 25 min
NGIPSv	17 MB	191 MB	20 MB	Hardware dependent

Version 6.2.3.3 Time and Disk Space

Platform	Space on /	Space on /Volume	Space on Manager	Time
FMC	88 MB	1879 MB	—	From 6.2.3: 26 min From 6.2.3.2: 26 min
FMCv	90 MB	2093 MB	—	Hardware dependent
Firepower 2100 series	987 MB	987 MB	255 MB	From 6.2.3: 15 min From 6.2.3.2: 15 min
Firepower 4100/9300 chassis	313 MB	313 MB	54 MB	From 6.2.3: 5 min From 6.2.3.2: 5 min
ASA 5500-X series with FTD	128 MB	553 MB	77 MB	From 6.2.3: 16 min From 6.2.3.2: 16 min
ISA 3000 with FTD	90 MB	307 MB	77 MB	From 6.2.3: 15 min From 6.2.3.2: 15 min
FTDv	90 MB	307 MB	77 MB	Hardware dependent
Firepower 7000/8000 series	17 MB	825 MB	77 MB	From 6.2.3: 15 min From 6.2.3.2: 15 min

Platform	Space on /	Space on /Volume	Space on Manager	Time
ASA FirePOWER	16 MB	634 MB	98 MB	From 6.2.3: 40 min From 6.2.3.2: 40 min
NGIPSv	17 MB	102 MB	77 MB	Hardware dependent

Version 6.2.3.2 Time and Disk Space

Platform	Space on /	Space on /Volume	Space on Manager	Time
FMC	27 MB	1743 MB	—	From 6.2.3: 24 min From 6.2.3.1: 21 min
FMCv	70 MB	1976 MB	—	Hardware dependent
Firepower 2100 series	977 MB	977 MB	252 MB	From 6.2.3: 17 min From 6.2.3.1: 17 min
Firepower 4100/9300 chassis	374 MB	374 MB	51 MB	From 6.2.3: 4 min From 6.2.3.1: 4 min
ASA 5500-X series with FTD	126 MB	585 MB	73 MB	From 6.2.3: 16 min From 6.2.3.1: 16 min
ISA 3000 with FTD	126 MB	676 MB	73 MB	From 6.2.3: 17 min From 6.2.3.1: 15 min
FTDv	126 MB	585 MB	73 MB	Hardware dependent
Firepower 7000/8000 series	11 MB	688 MB	76 MB	From 6.2.3: 13 min From 6.2.3.1: 13 min
ASA FirePOWER	15 MB	1440 MB	98 MB	From 6.2.3: 40 min From 6.2.3.1: 40 min
NGIPSv	17 MB	96 MB	14 MB	Hardware dependent

Version 6.2.3.1 Time and Disk Space

Platform	Space on /	Space on /Volume	Space on Manager	Time from 6.2.3
FMC	59.67 MB	1361.8 MB	—	25 min
FMCv	40.8 MB	1240.8 MB	—	Hardware dependent
Firepower 2100 series	948.3 MB	948.3 MB	246 MB	81 min

Platform	Space on /	Space on /Volume	Space on Manager	Time from 6.2.3
Firepower 4100/9300 chassis	278 MB	278 MB	45 MB	8 min
ASA 5500-X series with FTD	89.9 MB	275.5 MB	68 MB	16 min
ISA 3000 with FTD	127.5 MB	343.4 MB	68 MB	15 min
FTDv	89.9 MB	275.5 MB	67 MB	Hardware dependent
Firepower 7000/8000 series	36 MB	99.8 MB	10 MB	19 min
ASA FirePOWER	15.45 MB	867.9 MB	32 MB	60 min
NGIPSv	17.18 MB	101.9 MB	9 MB	Hardware dependent