

# Cisco Secure Firewall Management Center Compatibility Guide

**First Published:** 2022-05-05

**Last Modified:** 2024-05-03

## Cisco Secure Firewall Management Center Compatibility Guide

This guide provides software and hardware compatibility for the Cisco Secure Firewall Management Center. For related compatibility guides, see the following table.



**Note** Not all software versions, especially patches, apply to all platforms. A quick way to tell if a version is supported is that its upgrade/installation packages are posted on the Cisco Support & Download site. If the site is "missing" an upgrade or installation package, that version is not supported. You can also check the release notes and [End-of-Life Announcements, on page 24](#). If you feel a version is missing in error, contact Cisco TAC.

**Table 1: Additional Resources**

Description	Resources
<i>Sustaining bulletins</i> provide support timelines for the Cisco Next Generation Firewall product line, including management platforms and operating systems.	<a href="#">Cisco NGFW Product Line Software Release and Sustaining Bulletin</a>
<i>Compatibility guides</i> provide detailed compatibility information for supported hardware models and software versions, including bundled components and integrated products.	<a href="#">Cisco Secure Firewall Threat Defense Compatibility Guide</a> <a href="#">Cisco Firepower Classic Device Compatibility Guide</a>
<i>Release notes</i> provide critical and release-specific information, including upgrade warnings and behavior changes. Release notes also contain quicklinks to upgrade and installation instructions.	<a href="#">Cisco Secure Firewall Threat Defense Release Notes</a>
<i>New Feature guides</i> provide information on new and deprecated features by release.	<a href="#">Cisco Secure Firewall Management Center New Features by Release</a>
<i>Documentation roadmaps</i> provide links to currently available and legacy documentation. Try the roadmaps if what you are looking for is not listed above.	<a href="#">Navigating the Cisco Secure Firewall Threat Defense Documentation</a>

## Suggested Release: Version 7.2.5.x

To take advantage of new features and resolved issues, we recommend you upgrade all eligible appliances to at least the suggested release, including the latest patch. On the Cisco Support & Download site, the suggested release is marked with a gold star. In Version 7.2.6+/7.4.1+, the management center notifies you when a new suggested release is available, and indicates suggested releases on its product upgrades page.

### Suggested Releases for Older Appliances

If an appliance is too old to run the suggested release and you do not plan to refresh the hardware right now, choose a major version then patch as far as possible. Some major versions are designated *long-term* or *extra long-term*, so consider one of those. For an explanation of these terms, see [Cisco NGFW Product Line Software Release and Sustaining Bulletin](#).

If you are interested in a hardware refresh, contact your Cisco representative or partner contact.

## Management Center Hardware

The Version 7.0+ management center virtual uses the FXOS operating system. Upgrading the management center virtual software automatically upgrades FXOS. For information on bundled FXOS versions, see [Bundled Components, on page 10](#).

**Table 2: Management Center Hardware Compatibility**

Management Center	Secure Firewall Management Center	Firepower Management Center				Defense Center
		1700	1600	1000	2000	
	2700	2600	2500	4000	1500	1000
	4700	4600	4500		3500	3000
7.4	YES	YES	—	—	—	—
7.3	—	YES	—	—	—	—
7.2	—	YES	—	—	—	—
7.1	—	YES	—	—	—	—
7.0	—	YES	YES	—	—	—
6.7	—	YES	YES	—	—	—
6.6	—	YES	YES	YES	—	—
6.5	—	YES	YES	YES	—	—
6.4	—	YES	YES	YES	YES	—
6.3	—	YES	YES	YES	YES	—
6.2.3	—	—	YES	YES	YES	—

Management Center	Secure Firewall Management Center	Firepower Management Center				Defense Center
		1700 2700 4700	1600 2600 4600	1000 2500 4500	2000 4000	
6.2.2	—	—	YES	YES	YES	—
6.2.1	—	—	YES	YES	YES	—
6.2.0	—	—	YES	YES	YES	—
6.1	—	—	—	YES	YES	—
6.0.1	—	—	—	YES	YES	—
6.0.0	—	—	—	YES	YES	—
5.4 *	—	—	—	YES	YES	YES

\* Use 5.4.1.x Defense Centers to manage 5.4.x devices.

### BIOS and Firmware for Management Center Hardware

We provide updates for BIOS and RAID controller firmware on management center hardware. If your management center does not meet the requirements, apply the appropriate hotfix. If your management center model and version are not listed and you think you need to update, contact Cisco TAC.

**Table 3: BIOS and Firmware Minimum Requirements**

Platform	Version	Hotfix	BIOS	RAID Controller Firmware	CIMC Firmware
FMC 1700, 2700, 4700	7.4	BIOS Update Hotfix EZ	C225M6.4.3.2c.0	52.20.0-4523	4.3(2.240009)
FMC 1600, 2600, 4600	7.4	BIOS Update Hotfix EZ	C220M5.4.3.2a.0	51.10.0-3612	4.3(2.240009)
	7.3				
	7.2				
	7.0				
	7.1	BIOS Update Hotfix EN	C220M5.4.2.3b.0	51.10.0-3612	4.2(3b)
	6.7				
	6.6				
	6.4				

Platform	Version	Hotfix	BIOS	RAID Controller Firmware	CIMC Firmware
FMC 1000, 2500, 4500	7.0	BIOS Update Hotfix EN	C220M5.4.2.3b.0	51.10.0-3612	4.2(3b)
	6.7				
	6.6				
	6.4				
	6.2.3	BIOS Update Hotfix EL	C220M4.4.1.2c.0	24.12.1-0456	4.1(2g)
FMC 2000, 4000	6.6	BIOS Update Hotfix EI	C220M3.3.0.4e.0	23.33.1-0060	3.0(4s)
	6.4				
	6.2.3				
FMC 750, 1500, 3500	6.4	BIOS Update Hotfix EI	C220M3.3.0.4e.0	23.33.1-0060	3.0(4s)
	6.2.3				

Hotfixing is the only way to update the BIOS and RAID controller firmware. Upgrading the software does not accomplish this task, nor does reimaging to a later version. If the management center is already up to date, the hotfix has no effect.



**Tip** These hotfixes also update the CIMC firmware; for resolved issues see [Release Notes for Cisco UCS Rack Server Software](#). Note that in general, we do not support changing configurations on the management center using CIMC. However, to enable logging of invalid CIMC usernames, apply the latest hotfix, then follow the instructions in the *Viewing Faults and Logs* chapter in the [Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide](#), Version 4.0 or later.

Use the regular upgrade process to apply hotfixes. For hotfix release notes, which include quicklinks to the Cisco Support & Download site, see the [Cisco Secure Firewall Threat Defense/Firepower Hotfix Release Notes](#).



**Note** The management center web interface may display these hotfixes with a version that is different from (usually later than) the current software version. This is expected behavior and the hotfixes are safe to apply.

### Determining BIOS and Firmware Versions

To determine the current versions on the management center, run these commands from the Linux shell/expert mode:

- BIOS: `sudo dmidecode -t bios -q`
- RAID controller firmware (FMC 4500): `sudo MegaCLI -AdpAllInfo -aALL | grep "FW Package"`
- RAID controller firmware (all other models): `sudo storcli /c0 show | grep "FW Package"`

## Management Center Virtual

With the management center virtual, you can purchase licenses that enable you to manage 2, 10, 25, or 300 devices. For full details on supported instances, see the [Cisco Secure Firewall Management Center Virtual Getting Started Guide](#).

The Version 7.0+ management center virtual uses the FXOS operating system. Upgrading the management center virtual software automatically upgrades FXOS. For information on bundled FXOS versions, see [Bundled Components, on page 10](#).

### Management Center Virtual: Public Cloud

**Table 4: Management Center Virtual 300 Compatibility: Public Cloud**

Management Center 300	Amazon Web Services (AWS)	Oracle Cloud Infrastructure (OCI)
7.1+	YES	YES

**Table 5: Management Center Virtual 2, 10, 25 Compatibility: Public Cloud**

Management Center 2, 10, 25	Amazon Web Services (AWS)	Microsoft Azure (Azure)	Google Cloud Platform (GCP)	Oracle Cloud Infrastructure (OCI)
7.4	YES	YES	YES	YES
7.3	YES	YES	YES	YES
7.2	YES	YES	YES	YES
7.1	YES	YES	YES	YES
7.0	YES	YES	YES	YES
6.7	YES	YES	YES	YES
6.6	YES	YES	—	—
6.5	YES	YES	—	—
6.4	YES	YES	—	—
6.3	YES	—	—	—
6.2.3	YES	—	—	—
6.2.2	YES	—	—	—
6.2.1	YES	—	—	—
6.2.0	YES	—	—	—
6.1	YES	—	—	—
6.0.1	YES	—	—	—

## Management Center Virtual: On-Prem/Private Cloud

Table 6: Management Center Virtual 300 Compatibility: On-Prem/Private Cloud

Management Center 300	VMware vSphere/VMware ESXi	Kernel-Based Virtual Machine (KVM)
7.4	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>
7.3	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>
7.2	<b>YES</b> VMware 6.5, 6.7, 7.0	—
7.1	<b>YES</b> VMware 6.5, 6.7, 7.0	—
7.0	<b>YES</b> VMware 6.5, 6.7, 7.0	—
6.7	<b>YES</b> VMware 6.0, 6.5, 6.7	—
6.6	<b>YES</b> VMware 6.0, 6.5, 6.7	—
6.5	<b>YES</b> VMware 6.0, 6.5, 6.7	—

Table 7: Management Center Virtual 2, 10, 25 Compatibility: On-Prem/Private Cloud

Management Center 2, 10 25	VMware vSphere/VMware ESXi	Cisco HyperFlex (HyperFlex)	Microsoft Hyper-V (Hyper-V)	Kernel-Based Virtual Machine (KVM)	Nutanix Enterprise Cloud (Nutanix)	OpenStack
7.4	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
7.3	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>	—	<b>YES</b>	<b>YES</b>	<b>YES</b>

Management Center 2, 10 25	VMware vSphere/VMware ESXi	Cisco HyperFlex (HyperFlex)	Microsoft Hyper-V (Hyper-V)	Kernel-Based Virtual Machine (KVM)	Nutanix Enterprise Cloud (Nutanix)	OpenStack
7.2	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>	—	<b>YES</b>	<b>YES</b>	<b>YES</b>
7.1	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>	—	<b>YES</b>	<b>YES</b>	<b>YES</b>
7.0	<b>YES</b> VMware 6.5, 6.7, 7.0	<b>YES</b>	—	<b>YES</b>	<b>YES</b>	<b>YES</b>
6.7	<b>YES</b> VMware 6.0, 6.5, 6.7	—	—	<b>YES</b>	—	—
6.6	<b>YES</b> VMware 6.0, 6.5, 6.7	—	—	<b>YES</b>	—	—
6.5	<b>YES</b> VMware 6.0, 6.5, 6.7	—	—	<b>YES</b>	—	—
6.4	<b>YES</b> VMware 6.0, 6.5	—	—	<b>YES</b>	—	—
6.3	<b>YES</b> VMware 6.0, 6.5	—	—	<b>YES</b>	—	—
6.2.3	<b>YES</b> VMware 5.5, 6.0, 6.5	—	—	<b>YES</b>	—	—
6.2.2	<b>YES</b> VMware 5.5, 6.0	—	—	<b>YES</b>	—	—
6.2.1	<b>YES</b> VMware 5.5, 6.0	—	—	<b>YES</b>	—	—

Management Center 2, 10 25	VMware vSphere/VMware ESXi	Cisco HyperFlex (HyperFlex)	Microsoft Hyper-V (Hyper-V)	Kernel-Based Virtual Machine (KVM)	Nutanix Enterprise Cloud (Nutanix)	OpenStack
6.2.0	YES VMware 5.5, 6.0	—	—	YES	—	—
6.1	YES VMware 5.5, 6.0	—	—	YES	—	—
6.0.1	YES VMware 5.1, 5.5	—	—	—	—	—
6.0.0	YES VMware 5.1, 5.5	—	—	—	—	—
5.4 *	YES VMware 5.0, 5.1, 5.5	—	—	—	—	—

\* Use 5.4.1.x Defense Centers to manage 5.4.x devices.

## Management Center High Availability

### Management Center Hardware

All currently supported hardware management centers support high availability.

### Management Center Virtual

**Table 8: Management Center Virtual: High Availability Support**

Platform	High Availability
<b>Public Cloud</b>	
Amazon Web Services (AWS)	7.1+
Google Cloud Platform (GCP)	—
Microsoft Azure	—
Oracle Cloud Infrastructure (OCI)	7.1+
<b>On-Prem/Private Cloud</b>	



Platform	High Availability
Cisco HyperFlex	7.0+
Kernel-based virtual machine (KVM)	7.3+
Microsoft Hyper-V	7.4+
Nutanix Enterprise Cloud	—
OpenStack	—
VMware vSphere/VMware ESXi	6.7+

### Cloud-delivered Firewall Management Center

The cloud-delivered Firewall Management Center does not support high availability.

## Device Management

### Customer-Deployed Management Center

All devices support remote management with a customer-deployed management center, which must run the *same or newer* version as its managed devices. This means:

- You *can* manage older devices with a newer management center, usually a few major versions back. However, we recommend you always update your entire deployment. New features and resolved issues often require the latest release on both the management center and its managed devices.
- You *cannot* upgrade a device past the management center. Even for maintenance (third-digit) releases, you must upgrade the management center first.

Note that in most cases you can upgrade an older device directly to the management center's major or maintenance version. However, sometimes you can manage an older device that you cannot directly upgrade, even though the target version is supported on the device. And rarely, there are issues with specific management center-device combinations. For release-specific requirements, see the release notes.

**Table 9: Customer-Deployed Management Center-Device Compatibility**

Management Center Version	Oldest Device Version You Can Manage
7.4	7.0
7.3	6.7
7.2	6.6
7.1	6.5
7.0	6.4
6.7	6.3
6.6	6.2.3

Management Center Version	Oldest Device Version You Can Manage
6.5	6.2.3
6.4	6.1
6.3	6.1
6.2.3	6.1
6.2.2	6.1
6.2.1	6.1
6.2	6.1
6.1	5.4.0.2/5.4.1.1
6.0.1	5.4.0.2/5.4.1.1
6.0	5.4.0.2/5.4.1.1
5.4.1	5.4.1 for ASA FirePOWER on the ASA-5506-X series, ASA5508-X, and ASA5516-X.  5.3.1 for ASA FirePOWER on the ASA5512-X, ASA5515-X, ASA5525-X, ASA5545-X, ASA5555-X, and ASA-5585-X series.  5.3.0 for Firepower 7000/8000 series and legacy devices.

**Cloud-delivered Firewall Management Center**

The cloud-delivered Firewall Management Center can manage threat defense devices running:

- Version 7.2+
- Version 7.0.3 and later maintenance releases

The cloud-delivered Firewall Management Center cannot manage threat defense devices running Version 7.1, or Classic devices running any version. You cannot upgrade a cloud-managed device from Version 7.0.x to Version 7.1 unless you unregister and disable cloud management. We recommend you upgrade directly to Version 7.2+.

You can add a cloud-managed device to a Version 7.2+ customer-deployed management center for event logging and analytics purposes only. Or, you can send security events to the Cisco cloud with Security Analytics and Logging (SaaS).

**Bundled Components**

These tables list the versions of various components bundled with the management center. Use this information to identify open or resolved bugs in bundled components that may affect your deployment.

Note that sometimes we release updated builds for select releases. If bundled components change from build to build, we list the components in the *latest* build. (In most cases, only the latest build is available for download.) For details on new builds and the issues they resolve, see the release notes for your version.

## Operating System

The Version 7.0+ management center uses the FXOS operating system.

**Table 10:**

Threat Defense	FXOS
7.4.1.1	2.14.1.131
7.4.1	2.14.1.131
7.4.0	2.14.0.475
7.3.1.1	2.13.0.1022
7.3.1	2.13.0.1022
7.3.0	2.13.0.198
7.2.7	2.12.1.73
7.2.6	2.12.1.73
7.2.5.1	2.12.0.530
7.2.5	2.12.0.519
7.2.4.1	2.12.0.519
7.2.4	2.12.0.499
7.2.3.1	2.12.0.1030
7.2.3	2.12.0.1030
7.2.2	2.12.0.1104
7.2.1	2.12.0.442
7.2.0.1	2.12.0.31
7.2.0	2.12.0.31
7.1.0.3	2.11.1.191
7.1.0.2	2.11.1.1300
7.1.0.1	2.11.1.154
7.1.0	2.11.1.154
7.0.6.2	2.10.1.1625
7.0.6.1	2.10.1.1614
7.0.6	2.10.1.1603

Threat Defense	FXOS
7.0.5.1	—
7.0.5	2.10.1.1400
7.0.4	2.10.1.208
7.0.3	2.10.1.1200
7.0.2.1	2.10.1.192
7.0.2	2.10.1.192
7.0.1.1	2.10.1.175
7.0.1	2.10.1.175
7.0.0.1	2.10.1.159
7.0.0	2.10.1.159

**Snort**

Snort is the main inspection engine. Snort 3 requires threat defense.

*Table 11:*

Management Center	Snort 2	Snort 3
7.4.1.1	2.9.22-1103	3.1.53.100-56
7.4.1	2.9.22-1009	3.1.53.100-56
7.4.0	2.9.22-181	3.1.53.1-40
7.3.1.1	2.9.21-1109	3.1.36.101-2
7.3.1	2.9.21-1000	3.1.36.100-2
7.3.0	2.9.21-105	3.1.36.1-101
7.2.7	2.9.20-6102	3.1.21.600-26
7.2.6	2.9.20-6102	3.1.21.600-26
7.2.5.1	2.9.20-5100	3.1.21.501-26
7.2.5	2.9.20-5002	3.1.21.500-21
7.2.4.1	2.9.20-4103	3.1.21.401-6
7.2.4	2.9.20-4004	3.1.21.400-24
7.2.3.1	2.9.20-3100	3.1.21.100-7

<b>Management Center</b>	<b>Snort 2</b>	<b>Snort 3</b>
7.2.3	2.9.20-3010	3.1.21.100-7
7.2.2	2.9.20-2001	3.1.21.100-7
7.2.1	2.9.20-1000	3.1.21.100-7
7.2.0.1	2.9.20-108	3.1.21.1-126
7.2.0	2.9.20-107	3.1.21.1-126
7.1.0.3	2.9.19-3000	3.1.7.3-210
7.1.0.2	2.9.19-2000	3.1.7.2-200
7.1.0.1	2.9.19-1013	3.1.7.2-200
7.1.0	2.9.19-92	3.1.7.1-108
7.0.6.2	2.9.18-6201	3.1.0.602-26
7.0.6.1	2.9.18-6008	3.1.0.600-20
7.0.6	2.9.18-6008	3.1.0.600-20
7.0.5.1	2.9.18-5100	—
7.0.5	2.9.18-5002	3.1.0.500-7
7.0.4	2.9.18-4002	3.1.0.400-12
7.0.3	2.9.18-3005	3.1.0.300-3
7.0.2.1	2.9.18-2101	3.1.0.200-16
7.0.2	2.9.18-2022	3.1.0.200-16
7.0.1.1	2.9.18-1026	3.1.0.100-11
7.0.1	2.9.18-1026	3.1.0.100-11
7.0.0.1	2.9.18-1001	3.1.0.1-174
7.0.0	2.9.18-174	3.1.0.1-174
6.7.0.3	2.9.17-3014	—
6.7.0.2	2.9.17-2003	—
6.7.0.1	2.9.17-1006	—
6.7.0	2.9.17-200	—
6.6.7.2	2.9.16-7101	—
6.6.7.1	2.9.16-7100	—

Management Center	Snort 2	Snort 3
6.6.7	2.9.16-7017	—
6.6.5.2	2.9.16-5204	—
6.6.5.1	2.9.16-5107	—
6.6.5	2.9.16-5034	—
6.6.4	2.9.16-4022	—
6.6.3	2.9.16-3033	—
6.6.1	2.9.16-1025	—
6.6.0.1	2.9.16-140	—
6.6.0	2.9.16-140	—
6.5.0.5	2.9.15-15510	—
6.5.0.4	2.9.15-15201	—
6.5.0.3	2.9.15-15201	—
6.5.0.2	2.9.15-15101	—
6.5.0.1	2.9.15-15101	—
6.5.0	2.9.15-7	—
6.4.0.18	2.9.14-28000	—
6.4.0.17	2.9.14-27005	—
6.4.0.16	2.9.14-26002	—
6.4.0.15	2.9.14-25006	—
6.4.0.14	2.9.14-24000	—
6.4.0.13	2.9.14-19008	—
6.4.0.12	2.9.14-18011	—
6.4.0.11	2.9.14-17005	—
6.4.0.10	2.9.14-16023	—
6.4.0.9	2.9.14-15906	—
6.4.0.8	2.9.14-15707	—
6.4.0.7	2.9.14-15605	—
6.4.0.6	2.9.14-15605	—

Management Center	Snort 2	Snort 3
6.4.0.5	2.9.14-15507	—
6.4.0.4	2.9.12-15301	—
6.4.0.3	2.9.14-15301	—
6.4.0.2	2.9.14-15209	—
6.4.0.1	2.9.14-15100	—
6.4.0	2.9.14-15003	—
6.3.0.5	2.9.13-15503	—
6.3.0.4	2.9.13-15409	—
6.3.0.3	2.9.13-15307	—
6.3.0.2	2.9.13-15211	—
6.3.0.1	2.9.13-15101	—
6.3.0	2.9.13-15013	—
6.2.3.18	2.9.12-1813	—
6.2.3.17	2.9.12-1605	—
6.2.3.16	2.9.12-1605	—
6.2.3.15	2.9.12-1513	—
6.2.3.14	2.9.12-1401	—
6.2.3.13	2.9.12-1306	—
6.2.3.12	2.9.12-1207	—
6.2.3.11	2.9.12-1102	—
6.2.3.10	2.9.12-902	—
6.2.3.9	2.9.12-806	—
6.2.3.8	2.9.12-804	—
6.2.3.7	2.9.12-704	—
6.2.3.6	2.9.12-607	—
6.2.3.5	2.9.12-506	—
6.2.3.4	2.9.12-383	—
6.2.3.3	2.9.12-325	—

Management Center	Snort 2	Snort 3
6.2.3.2	2.9.12-270	—
6.2.3.1	2.9.12-204	—
6.2.3	2.9.12-136	—
6.2.2.5	2.9.11-430	—
6.2.2.4	2.9.11-371	—
6.2.2.3	2.9.11-303	—
6.2.2.2	2.9.11-273	—
6.2.2.1	2.9.11-207	—
6.2.2	2.9.11-125	—
6.2.1	2.9.11-101	—
6.2.0.6	2.9.10-301	—
6.2.0.5	2.9.10-255	—
6.2.0.4	2.9.10-205	—
6.2.0.3	2.9.10-160	—
6.2.0.2	2.9.10-126	—
6.2.0.1	2.9.10-98	—
6.2.0	2.9.10-42	—
6.1.0.7	2.9.9-312	—
6.1.0.6	2.9.9-258	—
6.1.0.5	2.9.9-225	—
6.1.0.4	2.9.9-191	—
6.1.0.3	2.9.9-159	—
6.1.0.2	2.9.9-125	—
6.1.0.1	2.9.9-92	—
6.1.0	2.9.9-330	—
6.0.1.4	2.9.8-490	—
6.0.1.3	2.9.8-461	—
6.0.1.2	2.9.8-426	—



Management Center	Snort 2	Snort 3
6.0.1.1	2.9.8-383	—
6.0.1	2.9.8-224	—
6.0.0.1	2.9.8-235	—
6.0.0	2.9.8-229	—

### System Databases

The vulnerability database (VDB) is a database of known vulnerabilities to which hosts may be susceptible, as well as fingerprints for operating systems, clients, and applications. The system uses the VDB to help determine whether a particular host increases your risk of compromise.

The geolocation database (GeoDB) is a database that you can leverage to view and filter traffic based on geographical location.

**Table 12:**

Management Center	VDB	GeoDB
7.4.1 through 7.4.x	4.5.0-376	2022-07-04-101
7.4.0	4.5.0-365	2022-07-04-101
7.3.0 through 7.3.x	4.5.0-358	2022-07-04-101
7.2.0 through 7.2.x	4.5.0-353	2022-05-11-103
7.1.0	4.5.0-346	2020-04-28-002
6.7.0 through 7.0.x	4.5.0-338	2020-04-28-002
6.6.1 through 6.6.x	4.5.0-336	2019-06-03-002
6.6.0	4.5.0-328	2019-06-03-002
6.5.0	4.5.0-309	2019-06-03-002
6.4.0	4.5.0-309	2018-07-09-002
6.3.0	4.5.0-299	2018-07-09-002
6.2.3	4.5.0-290	2017-12-12-002
6.0.0 through 6.2.2	4.5.0-271	2015-10-12-001

## Integrated Products

The Cisco products listed below may have other compatibility requirements, for example, they may need to run on specific hardware, or on a specific operating system. For that information, see the documentation for the appropriate product.



**Note** Whenever possible, we recommend you use the latest (newest) compatible version of each integrated product. This ensures that you have the latest features, bug fixes, and security patches.

### Identity Services and User Control

Note that with:

- Cisco ISE and ISE-PIC: We list the versions of ISE and ISE-PIC for which we provide enhanced compatibility testing, although other combinations may work.
- Cisco Firepower User Agent: Version 6.6 is the last management center release to support the user agent software as an identity source; this blocks upgrade to Version 6.7+.
- Cisco TS Agent: Versions 1.0 and 1.1 are no longer available.

**Table 13: Integrated Products: Identity Services/User Control**

Management Center/Threat Defense	Cisco Identity Services Engine (ISE)		Cisco Firepower User Agent	Cisco Terminal Services (TS) Agent
	ISE	ISE-PIC		
Supported with...	Management center Device manager	Management center Device manager	Management center only	Management center only
Cloud-delivered management center (no version)	3.3 3.2 3.1 patch 2+ 3.0 patch 6+ 2.7 patch 2+	3.2 3.1 2.7 patch 2+	—	1.4
7.4	3.3 3.2 3.1 patch 2+ 3.0 patch 6+	3.2 3.1	—	1.4
7.3	3.2 3.1 3.0 2.7 patch 2+	3.2 3.1 2.7 patch 2+	—	1.4 1.3

Management Center/Threat Defense	Cisco Identity Services Engine (ISE)		Cisco Firepower User Agent	Cisco Terminal Services (TS) Agent
	ISE	ISE-PIC		
7.2.4–7.2.x	3.3 3.2 3.1 3.0 2.7 patch 2+	3.2 3.1 2.7 patch 2+	—	1.4 1.3
7.2.0–7.2.3	3.2 3.1 3.0 2.7 patch 2+	3.2 3.1 2.7 patch 2+	—	1.4 1.3
7.1	3.2 3.1 3.0 2.7 patch 2+	3.2 3.1 2.7 patch 2+	—	1.4 1.3
7.0	3.2 3.1 3.0 2.7 patch 2+ 2.6 patch 6+	3.2 3.1 2.7 patch 2+ 2.6 patch 6+	—	1.4 1.3
6.7	3.0 2.7 patch 2+ 2.6 patch 6+	2.7 patch 2+ 2.6 patch 6+	—	1.4 1.3
6.6	3.0 2.7, any patch 2.6, any patch 2.4	2.7, any patch 2.6, any patch 2.4	2.5 2.4	1.4 1.3 1.2
6.5	2.6 2.4	2.6 2.4	2.5 2.4	1.4 1.3 1.2 1.1

Management Center/Threat Defense	Cisco Identity Services Engine (ISE)		Cisco Firepower User Agent	Cisco Terminal Services (TS) Agent
	ISE	ISE-PIC		
6.4	2.4	2.4	2.5	1.4
	2.3 patch 2	2.2 patch 1	2.4	1.3
	2.3		2.3, no ASA	1.2
			FirePOWER	1.1
6.3	2.4	2.4	2.4	1.2
	2.3 patch 2	2.2 patch 1	2.3, no ASA FirePOWER	1.1
	2.3	2.4		
6.2.3	2.3 patch 2	2.2 patch 1	2.4	1.2
	2.3		2.3	
	2.2 patch 5			
	2.2 patch 1			
	2.2			
6.2.2	2.3	2.2 patch 1	2.3	1.2
	2.2 patch 1			1.1
	2.2			1.0
	2.1			
6.2.1	2.1	2.2 patch 1	2.3	1.1
	2.0.1			1.0
	2.0			
6.2.0	2.1	—	2.3	—
	2.0.1			
	2.0			
	1.3			
6.1	2.1	—	2.3	—
	2.0.1			
	2.0			
	1.3			
6.0.1	1.3	—	2.3	—
5.x	—	—	2.2	—

## Cisco Secure Dynamic Attributes Connector

The Cisco Secure Dynamic Attributes Connector is a lightweight application that quickly and seamlessly updates firewall policies on the management center based on cloud/virtual workload changes. For more information, see one of:

- On-prem connector: [Cisco Secure Dynamic Attributes Connector Configuration Guide](#)
- Cloud-delivered connector: *Managing the Cisco Secure Dynamic Attributes Connector with Cisco Defense Orchestrator* chapters in [Managing Firewall Threat Defense with Cloud-Delivered Firewall Management Center in Cisco Defense Orchestrator](#)
- Bundled with the Secure Firewall Management Center: [Cisco Secure Firewall Management Center Device Configuration Guide](#)

**Table 14: Integrated Products: Cisco Secure Dynamic Attributes Connector**

Management Center	Cisco Secure Dynamic Attributes Connector	
	On-Prem	Cloud-delivered (with CDO)
Cloud-delivered management center (no version)	3.0 2.2 2.0	YES
7.1+	3.0 2.2 2.0 1.1	YES
7.0	3.0 2.2 2.0 1.1	—

The Cisco Secure Dynamic Attributes Connector allows you to use service tags and categories from various cloud service platforms in security rules.

The following table shows supported connectors for the Cisco Secure Dynamic Attributes Connector (CSDAC) provided with the Secure Firewall Management Center. For a list of supported connectors with the on-premises CSDAC, see the [Cisco Secure Dynamic Attributes Connector Configuration Guide](#).

**Table 15: List of supported connectors by Cisco Secure Dynamic Attributes Connector version and platform**

CSDAC version/platform	AWS	AWS security groups	AWS service tags	Azure	Azure Service Tags	Cisco Cyber Vision	Generic Text	GitHub	Google Cloud	Microsoft Office 365	vCenter	Webex	Zoom
Version 1.1 (on-premises)	Yes	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
Version 2.0 (on-premises)	Yes	No	No	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No

CSDAC version/platform	AWS	AWS security groups	AWS service tags	Azure	Azure Service Tags	Cisco Cyber Vision	Generic Text	GitHub	Google Cloud	Microsoft Office 365	vCenter	Webex	Zoom
Version 2.2 (on-premises)	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No
Version 2.3 (on-premises)	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Version 3.0 (on-premises)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Secure Firewall Management Center 7.4.1	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

### Threat Detection

Cisco Security Analytics and Logging (On Premises) requires the Security Analytics and Logging On Prem app for the Stealthwatch Management Console (SMC). For information on Stealthwatch Enterprise (SWE) requirements for the SMC, see [Cisco Security Analytics and Logging On Premises: Firepower Event Integration Guide](#).

Table 16: Integrated Products: Threat Detection

Management Center/Threat Defense	Cisco SecureX	Cisco Security Analytics and Logging (SaaS)	Cisco Security Analytics and Logging (On Prem)	Cisco Secure Malware Analytics	Cisco Security Packet Analyzer
Supported with...	Management center Device manager	Management center Device manager	Management center only	Management center only	Management center only
6.5+	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	—
6.4	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
6.3	—	—	—	<b>YES</b>	<b>YES</b>
6.1 through 6.2.3	—	—	—	<b>YES</b>	—

### Threat Defense Remote Access VPN

Remote access virtual private network (RA VPN) allows individual users to connect to your network from a remote location using a computer or supported mobile device. Keep in mind that newer threat defense features can require newer versions of the client.

For more information, see the [Cisco Secure Client/AnyConnect Secure Mobility Client configuration guides](#).

Table 17: Integrated Products: Threat Defense RA VPN

Threat Defense	Cisco Secure Client/Cisco AnyConnect Secure Mobility Client
6.2.2+	4.0+

## Browser Requirements

### Browsers

We test with the latest versions of these popular browsers, running on currently supported versions of macOS and Microsoft Windows:

Table 18: Browsers

Browser	Management Center Version
Google Chrome	Any
Mozilla Firefox	Any
Microsoft Edge (Windows only)	Version 6.7+ Not extensively tested with How-Tos.
Microsoft Internet Explorer 11 (Windows only)	Version 6.6 and earlier Not extensively tested with How-Tos.
Microsoft Internet Explorer 10 (Windows only)	Version 6.2.3 and earlier
Apple Safari	Not extensively tested. Feedback welcome.

If you encounter issues with any other browser, or are running an operating system that has reached end of life, we ask that you switch or upgrade. If you continue to encounter issues or have feedback, contact Cisco TAC.

### Browser Settings and Extensions

Regardless of browser, you must make sure JavaScript, cookies, and TLS v1.2 remain enabled. If you are using Microsoft Edge, do *not* enable IE mode.

If you are using Microsoft Internet Explorer 10 or 11:

- For the **Check for newer versions of stored pages** browsing history option, choose **Automatically**.
- Disable the **Include local directory path when uploading files to server** custom security setting (Internet Explorer 11 only).
- Enable **Compatibility View** for the appliance IP address/URL.

Note that some browser extensions can prevent you from saving values in fields like the certificate and key in PKI objects. These extensions include, but are not limited to, Grammarly and Whatfix Editor. This happens

because these extensions insert characters (such as HTML) in the fields, which causes the system to see them invalid. We recommend you disable these extensions while you're logged into our products.

### Screen Resolution

**Table 19: Screen Resolution**

Interface	Minimum Resolution
Management center	1280 x 720
Chassis manager for the Firepower 4100/9300	1024 x 768

### Securing Communications

When you first log in, the system uses a self-signed digital certificate to secure web communications. Your browser should display an untrusted authority warning, but also should allow you to add the certificate to the trust store. Although this will allow you to continue, we do recommend that you replace the self-signed certificate with a certificate signed by a globally known or internally trusted certificate authority (CA).

To begin replacing the self-signed certificate on the management center, choose **System** (⚙) > **Configuration** > **HTTPS Certificate**. For detailed procedures, see the online help or the [Cisco Secure Firewall Management Center Administration Guide](#)



**Note** If you do not replace the self-signed certificate:

- Google Chrome does not cache static content, such as images, CSS, or JavaScript. Especially in low bandwidth environments, this can extend page load times.
- Mozilla Firefox can stop trusting the self-signed certificate when the browser updates. If this happens, you can refresh Firefox, keeping in mind that you will lose some settings; see Mozilla's [Refresh Firefox](#) support page.

### Browsing from a Monitored Network

Many browsers use Transport Layer Security (TLS) v1.3 by default. If you are using an SSL policy to handle encrypted traffic, and people in your monitored network use browsers with TLS v1.3 enabled, websites that support TLS v1.3 may fail to load.



**Note** In Version 6.2.3 and earlier, websites that support TLS v1.3 always fail to load. As a workaround, you can configure managed devices to remove extension 43 (TLS 1.3) from ClientHello negotiation; see the software advisory titled: [Failures loading websites using TLS 1.3 with SSL inspection enabled](#). In Version 6.2.3.7+, you can specify when to downgrade; see the **system support** commands in the [Cisco Secure Firewall Threat Defense Command Reference](#) after consulting with Cisco TAC.

## End-of-Life Announcements

The following tables provide end-of-life details. Dates that have passed are in **bold**.



## Snort

If you are still using the Snort 2 inspection engine with threat defense, switch to Snort 3 now for improved detection and performance. It is available starting in threat defense Version 6.7+ (with device manager) and Version 7.0+ (with management center). Snort 2 will be deprecated in a future release. You will eventually be unable to upgrade Snort 2 devices.

In management center deployments, upgrading to threat defense Version 7.2+ also upgrades eligible Snort 2 devices to Snort 3. For devices that are ineligible because they use custom intrusion or network analysis policies, manually upgrade Snort. See *Migrate from Snort 2 to Snort 3* in the [Cisco Secure Firewall Management Center Snort 3 Configuration Guide](#).

In device manager deployments, manually upgrade Snort. See *Intrusion Policies* in the [Cisco Secure Firewall Device Manager Configuration Guide](#).

## Software

These major software versions have reached end of sale and/or end of support. Versions that have reached end of support are removed from the Cisco Support & Download site.

**Table 20: Software EOL Announcements**

Version	End of Sale	End of Updates	End of Support	Announcement
7.1	<b>2023-12-22</b>	2024-12-21	2025-12-31	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 7.1.(x), Firepower Management Center (FMC) 7.1.(x), Adaptive Security Appliance(ASA) 9.17.(x) and Firepower eXtensible Operating System (FXOS) 2.11.(x)</a>
6.7	<b>2021-07-09</b>	<b>2022-07-09</b>	2024-07-31	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 6.7, Firepower Management Center (FMC) 6.7 and Firepower eXtensible Operating System (FXOS) 2.9(x)</a>
6.6	<b>2022-03-02</b>	<b>2023-03-02</b>	2025-03-31	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD/FTDv) 6.6(x), Firepower Management Center (FMC/FMCv) 6.6(x) and Firepower eXtensible Operating System (FXOS) 2.8(x)</a>
6.5	<b>2020-06-22</b>	<b>2021-06-22</b>	<b>2023-06-30</b>	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 6.5(x), Firepower Management Center (FMC) 6.5(x) and Firepower eXtensible Operating System (FXOS) 2.7(x)</a>
6.4	<b>2023-02-27</b>	<b>2024-02-27</b>	2026-02-28	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 6.4(X), Firepower Management Center (FMC) 6.4(X) and Firepower eXtensible Operating System (FXOS) 2.6(x)</a>

Version	End of Sale	End of Updates	End of Support	Announcement
6.3	2020-04-30	2021-04-30	2023-04-30	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 6.2.2, 6.3(x), Firepower eXtensible Operating System (FXOS) 2.4.1 and Firepower Management Center (FMC) 6.2.2 and 6.3(x)
6.2.3	2022-02-04	2023-02-04	2025-02-28	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 6.2.3, Firepower Management Center (FMC) 6.2.3 and Firepower eXtensible Operating System (FXOS) 2.2(x)
6.2.2	2020-04-30	2021-04-30	2023-04-30	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense (FTD) 6.2.2, 6.3(x), Firepower eXtensible Operating System (FXOS) 2.4.1 and Firepower Management Center (FMC) 6.2.2 and 6.3(x)
6.2.1	2019-03-05	2020-03-04	2022-03-31	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense versions 6.2.0 and 6.2.1
6.2	2019-03-05	2020-03-04	2022-03-31	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense versions 6.2.0 and 6.2.1
6.1	2019-11-22	2021-05-22	2023-05-31	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Threat Defense versions 6.1, NGIPSv and NGFWv versions 6.1, Firepower Management Center 6.1 and Firepower eXtensible Operating System (FXOS) 2.0(x)
6.0.1	2017-11-10	2018-11-10	2020-11-30	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Software Releases 5.4, 6.0 and 6.0.1 and Firepower Management Center Software Releases 5.4, 6.0 and 6.0.1
6.0.0	2017-11-10	2018-11-10	2020-11-30	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Software Releases 5.4, 6.0 and 6.0.1 and Firepower Management Center Software Releases 5.4, 6.0 and 6.0.1
5.4	2017-11-10	2018-11-10	2020-11-30	End-of-Sale and End-of-Life Announcement for the Cisco Firepower Software Releases 5.4, 6.0 and 6.0.1 and Firepower Management Center Software Releases 5.4, 6.0 and 6.0.1

Version	End of Sale	End of Updates	End of Support	Announcement
5.3	2016-01-29	2016-07-30	2018-07-31	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco FirePOWER Software v5.3 and v5.3.1 and FireSIGHT Management Center Software v5.3 and v5.3.1</a>

These software versions on still-supported branches have been removed from the Cisco Support & Download site.



**Note** In Version 6.2.3+, uninstalling a patch (fourth-digit release) results in an appliance running the version you upgraded from. This means that you can end up running a deprecated version simply by uninstalling a later patch. Unless otherwise stated, do *not* remain at a deprecated version. Instead, we recommend you upgrade. If upgrade is impossible, uninstall the deprecated patch.

**Table 21: Software Removed Versions**

Version	Date Removed	Related Bugs and Additional Details
7.2.6	2024-04-29	<a href="#">CSCwi63113</a> : FTD Boot Loop with SNMP Enabled after reload/upgrade
6.4.0.6	2019-12-19	<a href="#">CSCvr52109</a> : FTD may not match correct Access Control rule following a deploy to multiple devices
6.2.3.8	2019-01-07	<a href="#">CSCvn82378</a> : Traffic through ASA/FTD might stop passing upon upgrading FMC to 6.2.3.8-51
5.4.0.1	2015	—
5.3.1.2	2015	—

These integrated products are deprecated.

**Table 22: Deprecated Integrated Products**

Product	Details
Cisco Firepower User Agent	<p>Version 6.6 is the last release to support the Cisco Firepower User Agent software as an identity source. You cannot upgrade an FMC with user agent configurations to Version 6.7+. You should switch to Cisco Identity Services Engine/Passive Identity Connector (ISE/ISE-PIC). This will also allow you to take advantage of features that are not available with the user agent. To convert your license, contact Sales.</p> <p>For more information, see the <a href="#">End-of-Life and End-of-Support for the Cisco Firepower User Agent</a> announcement and the <a href="#">Firepower User Identity: Migrating from User Agent to Identity Services Engine</a> TechNote.</p>

Product	Details
Cisco Terminal Services (TS) Agent	Cisco TS Agent Versions 1.0 and 1.1 have been removed from the Cisco Support & Download site. If you are using either of these versions, we recommend you upgrade.
Cisco Security Packet Analyzer	Cisco Security Packet Analyzer is compatible with Versions 6.3 and 6.4 only.

### Hardware and Virtual Platforms

These platforms have reached end of sale and/or end of support.

**Table 23: Management Center Hardware EOL Announcements**

Platform	Last Version	End of Sale	End of Support	Announcement
FMC 1600, 2600, 4600	TBD	<b>2023-11-30</b>	2028-11-30	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Secure Firewall Management Center Platforms - FMC 1600, FMC 2600, FMC 4600</a>
FMC 1000, 2500, 4500	7.0	<b>2019-07-12</b>	2024-07-31	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Management Center Platforms- FMC 1000, FMC 2500, FMC 4500</a>
FMC 4000	6.6	<b>2017-03-31</b>	<b>2022-03-31</b>	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Management Center 4000</a>
FMC 2000	6.6	<b>2017-03-31</b>	<b>2022-03-31</b>	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Management Center 2000</a>
FMC 750	6.4	<b>2017-03-31</b>	<b>2022-03-31</b>	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Firepower Management Center 750</a>
FMC 1500	6.4	<b>2015-09-18</b>	<b>2020-09-30</b>	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco FireSIGHT Management Center 1500 Products</a>
FMC 3500	6.4	<b>2015-08-31</b>	<b>2020-08-31</b>	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco FireSIGHT Management Center 3500</a>
FMC 500, 1000, 3000	5.4	<b>Sales ended</b>	<b>Support ended</b>	—

**Table 24: Virtual Platform EOL Announcements**

<b>Platform</b>	<b>Last Version</b>	<b>End of Sale</b>	<b>End of Support</b>	<b>Announcement</b>
FMCv with Classic licenses	7.4	<b>2023-04-19</b>	2025-04-30	<a href="#">End-of-Sale and End-of-Life Announcement for the Cisco Secure Firewall Management Center for Virtual Classic license</a>

---

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <https://www.cisco.com/c/en/us/about/legal/trademarks.html>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

© 2022–2024 Cisco Systems, Inc. All rights reserved.