# 在高可用性中升级FMC

**目 录** 箇介 先决条件 要求 使用的组件 背景信息 升级前 升级程序 歩骤1:暂停同步 第二步:上传升级包 第二步:就绪性检查 第四步:安装升级包 第五步:升级活动对等体

<u>第六步:激活所需的FMC</u> 验证

# 简介

本文档介绍在高可用性(HA)中升级安全防火墙管理中心(FMC)环境的步骤。

## 先决条件

#### 要求

Cisco 建议您了解以下主题:

- 高可用性概念
- 安全FMC配置

使用的组件

本文档中的信息基于虚拟安全FMC 7.1.0版。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原 始(默认)配置。如果您的网络处于活动状态,请确保您了解所有命令的潜在影响。

### 背景信息

升级一次必须是一个对等体。

首先,暂停对等体之间的同步。

然后,需要首先在备用模式下完成升级,然后再在主用FMC中完成升级。



警告:当备用对等体处理预检查/安装时,两个对等体都切换到活动状态;这称为裂脑。 升级时完全可以预料到。在此期间,不得进行或部署任何配置更改。 如果您进行了任何配置更改,则同步重新启动后可能会丢失配置。

升级前

- 规划升级路径。在FMC部署中,通常先升级FMC,然后升级其受管设备。请始终知道您刚才 执行了哪个升级,接下来执行哪个升级。
- 2. 阅读所有升级指南并规划配置更改。
- 3. 检查带宽。确保您的管理网络具有执行大型数据传输所需的带宽。
- 4. 计划维护窗口。

- 5. 在升级前后备份配置。System > Backup / Restore > Firepower Management backup。将备 份下载到本地计算机。
- 6. 升级虚拟托管。当您运行较旧版本的VMware时,这是必需的。
- 7. 检查配置。
- 8. 检查NTP同步。
  - FMC:选择System > Configuration > Time。

设备:使用show time CLI命令。

- 9. 检查磁盘空间。
- 10. 部署配置。在FMC高可用性部署中,您只需从活动对等体进行部署。
- 11. 检查正在运行的任务。确保没有挂起的部署。

#### 升级 程序

#### 步骤1:暂停同步

在活动单元上,导航到FMC上的High Availability选项卡。

#### 系统>集成>高可用性

_		Deplo	y Q 🚱 🔅 👔 admin 🗸		
	Configuration	Logging	Monitoring		
	Users	Security Analytics & Logging	Audit		
	Domains		Syslog		
11	Integration	Health	Statistics		
1.1	SecureX New	Monitor			
	Updates	Policy	Tools		
		Events	Backup/Restore Scheduling		
	Licenses	Exclude			
	Smart Licenses	Monitor Alerts	Import/Export		
	Classic Licenses		Data Purge		
	Reboot				

暂停同步。选择系统和集成

cisco S	irepower Management Cente /stem / Integration / High Availability	r Overview	Analysis	Policies	Devices	Objects	АМР	Intelligenc	0		Deploy	Q 💕 🌣	🙆 admin •
Cloud Serv	ices Realms Identity Sources	High Availability	eStreame	r Host In	put Client	Smart Softwa	ire Manage	r On-Prem				Pe	er Manager
										Switch Peer Roles	II Break HA	Pause Synchro	onization
	Summary							1	System Status				
	Status			<b>o</b> s	ynchronization	n task is in pro	gress			Local Active - Primary	Remote Standby - Second	101	
	Synchronization						) OK			(10.4.11.84)	(10.4.11.85)	.,	
	Active System		( HA mm	chronization	ima · Tua Iul	10.4.1	1.84		Operating System	7.1.0	7.1.0		
			( nes ayr	chronization	ame . rue sui	10 02:00:47 2	1.05		Software Version	7.1.0-90	7.1.0-90		
	Standby System		(HA sym	chronization	time : Tue Jul	18 02:06:00 2	023)		Model	Cisco Firepower Management Center for	Cisco Firepower Managem	ent Center	

暂停同步。选择高可用性

#### 选择Pause Synchronization。

cisco Sy	repower Mana stem / Integration / H	gement Center igh Availability	Overview	Analysis	Policies	Devices	Objects	AMP	Intelligenc	0		Deploy Q 💕 🔅	🗧 🚱 admin 🕶
Cloud Servi	ices Realms	Identity Sources	High Availability	eStreamer	r Host In	put Client	Smart Softwa	are Manage	r On-Prem		Control Days Dalay	F Real VA	Peer Manager
	Summary									System Status	Switch Feet Roles	P Dreak HA. II Pause Synch	monization
	Status Synchronization						<mark>о</mark> н	o OK			Local Active - Primary (10.4.11.84)	Remote Standby - Secondary (10.4.11.85)	
	Active System			( HA syn	chronization	time : Tue Jul	10.4. 18 02:32:23 2	11.84 2023 )		Operating System Software Version	7.1.0 7.1.0-90	7.1.0 7.1.0-90	
	Standby System			( HA syn	chronization 1	time : Tue Jul	10.4. 18 02:27:29 2	11.85		Model	Cisco Firepower Management Center for VMware	Cisco Firepower Management Center for VMware	

暂停同步

#### 等待同步暂停。完成时,用户必须处于"暂停"状态。

Summary	
Status	Degraded- Synchronization incomplete ( Both Management Centers are configured to run in standalone mode , Database is not configured for high availability , Synchronization paused. )
Synchronization	A Paused by user
Active System	10.4.11.84 ( HA synchronization time : Tue Jul 18 02:32:23 2023 )
Standby System	10.4.11.85 ( HA synchronization time : Tue Jul 18 02:27:29 2023 )

每个用户的同步状态必须为"暂停"

#### 第二步:上传升级包

#### 登录到备用设备并上传升级包。

System > Updates > Upload Update

FMC Device	es AMP		٩	🔮 🌣 🝘 admin 🔻
Product Updates				
			Download Update	s Upload Update
Currently running software version: 7	.1.0			
Currently installed VDB version: build	346 ( 2021-08-24 21:48:15 )			
Available Updates Readiness	History			
Туре	Version	Date	Reboot	
Cisco Firepower Mgmt Center Patch	7.1.0.1-28	Tue Feb 22 23:32:26 UTC 2022	Yes	9 F
Cisco FTD Upgrade	7.0.4-55	Sun Aug 7 19:43:24 UTC 2022	Yes	2. 5 🗑

上传升级包

#### 浏览之前下载的要升级版本的软件包。

Curre	ently running software version: 7.1.0
Updates	
Upload software updates and patch	ies here.
Action	Upload local software update package
	$\bigcirc$ Specify software update source (FTD devices only)
Package	Browse Cisco_Secure_FW_Mgmt_Center_Upgrade-7.2.4-169.sh.REL.tar
	Cancel Upload

选择升级文件

第三步:就绪性检查

对要升级的设备运行就绪性检查。

点击适当升级软件包旁边的install图标。

FMC Product Updates Device	as AMP		Q 💕	🔅 🕜 admin 🔻
Product Updates				
			Download Updates	Upload Update
Currently running software version: 7.	.1.0			
Currently installed VDB version: build	346 ( 2021-08-24 21:48:15 )			
Available Updates Readiness	History			
Туре	Version	Date	Reboot	
Cisco Secure FW Mgmt Center Upgrade	7.2.4-169	Wed May 10 12:48:58 UTC 2023	Yes	<b>%</b>

安装升级包以进行就绪性检查

#### 选择要检查的设备并单击Check Readiness。

CISCO Upload Update Devices AMP			C	२ 🔮 🌣 🛛	admin 🔹
Product Updates					
Currently running software version: 7.1.0					
Selected Update Type Cisco Secure FW Mgmt Center Version 7.2.4-169 Date Wed May 10 12:48:58 UTC 20 Reboot Yes	or Upgrade 123		By Grou	D	¥
✓ ∨ Ungrouped (1 total)	Compatibility Check	Readiness Check Results	Readiness Check Completed	Estimated Upgrade Time	î
10.4.11.85 - Cisco Firepower Management Center for VMware v7.1.0	Compatibility check passed. Proceed	with		35 min	Ť
			Back	ck Readiness	Install

选择检查就绪性

可在消息中心检查进度。

消息>任务>运行

						० 🔮 🌣	② admin ▼
Upgrades	🔺 Health	() Tasks	5				
20+ total	0 waiting	1 running	0 retrying	20+ success	5 failures	Q Filter	
<ul> <li>Local Readin</li> <li>Readiness</li> <li>[50%] Runni</li> </ul>	ness Check Check For vei ing script 000_st	rsion: 7.2.4- art/110_DB_in	169 itegrity_chec	:k.sh			<u>3m 17s</u>
			No n	nore older tasks	5		

就绪性检查正在进行

#### 完成后,您可以在就绪性检查结果中查看状态。

如果成功,则您可以继续安装软件包。

#### 第四步:安装升级包

#### 选择要升级的设备。单击 Install。

Product Updates					
Currently running software version: 7.1.0					
Selected Update Type Clisco Secure FW Mgmt Center Upgrade Version 7.2.4-169 Date Wed May 10 12:48:58 UTC 2023 Reboot Yes				By Group	•
Ungrouped (1 total)	Compatibility Check	Readiness Check Results	Readiness Check Completed	Estimated Upgrade Time	1
frepower 10.4.11.85 - Cisco Firepower Management Center for VMware v7.1.0	<ul> <li>Compatibility check passed. Proceed with readiness check.</li> </ul>	Success	2023-07-18 00:05:22	35 min	T
			Back	Check Readiness	Install

安装升级包

对于裂纹,请单击OK。

У	① 10.88.243.115:43085		is C
ibi	After both FMCs are updated, FMC high availability will b brain. Click 'Make Me Active' after choosing the right Ac to resolve split brain.	e in split tive FMC	cce
		ок	

有关大脑分裂的警告

#### 可使用Messages > Tasks中检查进度。

	<u>्</u>	🔅 🕜 admin 🔻
	Upgrades 🛕 Health 🛛 📵 Tasks	
	20+ total 0 waiting 1 running 0 retrying 20+ success 1 failure Q Filter	
69	Local Install Installing Cisco Secure FW Mgmt Center Upgrade version: 7.2.4-169 Installing Cisco Secure FW Mgmt Center Upgrade version: 7.2.4-169	1m 7s
t Tue	<ul> <li>Local Readiness Check</li> <li>Readiness Check For version: 7.2.4–169</li> <li>Success. OK to upgrade to 7.2.4–169 version.</li> </ul>	4m 18s 🗙

监视器安装



注意:完成安装大约需要30分钟。

如果您可以访问CLI,则可以在升级文件夹/var/log/sf中检查进度;转到expert模式并输入root access。

> expert
admin@firepower:~\$ sudo su
Password:
root@firepower:/Volume/home/admin# cd /var/log/sf/

root@firepower:/var/log/sf# ls Cisco\_Secure\_FW\_Mgmt\_Center\_Upgrade-7.2.4

root@firepower:/var/log/sf/Cisco\_Secure\_FW\_Mgmt\_Center\_Upgrade-7.2.4# ls
000\_start AQ\_UUID DBCheck.log exception.log flags.conf main\_upgrade\_script.log status.log status

root@firepower:/var/log/sf/Cisco\_Secure\_FW\_Mgmt\_Center\_Upgrade-7.2.4# tail -f status.log

#### 升级完成后,FMC重新启动。

ui:[100%] [1 mins to go for reboot]Running script 999\_finish/999\_zzz\_complete\_upgrade\_message.sh...ui:[100%] [1 mins to go for reboot] Upgrade completeui:[100%] [1 mins to go for reboot] The system will now reboot.ui:System will now reboot.

Broadcast message from root@firepower (Tue Jul 18 05:08:57 2023):

System will reboot in 5 seconds due to system upgrade.

Broadcast message from root@firepower (Tue Jul 18 05:09:02 2023):

System will reboot now due to system upgrade.

ui:[100%] [1 mins to go for reboot] Installation completed successfully. ui:Upgrade has completed. state:finished

Broadcast message from root@firepower (Tue Jul 18 05:09:25 2023):

The system is going down for reboot NOW!

重新启动后,物理FMC必须在FMC中显示正确的型号。

GUI > Help > About

# Firewall Management Center

#### Version 7.2.4 (build 169)

Model	Secure Firewall Management Center for VMware
Serial Number	None
Snort Version	2.9.20 (Build 4004)
Snort3 Version	3.1.21.400 (Build 24)
Rule Pack Version	2869
Module Pack Version	3245
LSP Version	lsp-rel-20230717-1542
VDB Version	build 353 (2022-03-07 22:13:19)
Rule Update Version	2023-07-17-001-vrt
Geolocation Update Version	Country Code: 2023-07-17-100, IP: 2022-12-19-101
OS	Cisco Firepower Extensible Operating System (FX-OS)
	2.12.0 (build 499)
Hostname	firepower

For technical/system questions, email tac@cisco.com phone: 1-800-553-2447 or 1-408-526-7209. Copyright 2004-2023, Cisco and/or its affiliates. All rights reserved.

Copy

Close

FMC中的模型和版本信息

集成>高可用性

Firewall Manage	ment Center Overview rations / High Availability	Analysis	Policies	Devices	Objects	Integration		Deploy	Q	¢	🕜 admin 🔻	cisco SECU		
												Peer Manage		
Cloud Services Realms	Identity Sources High Availability	eStreamer	Host Input C	Client S	mart Software M	fanager On-Prei	m							
						🔡 Ma	ake Me Active	¢Þ E	3reak H	A	Resume S	Synchronization		
		ailability pair is	in split brain	Make one Mana	gement Center ac	tive by clicking 'Ma	ake Me Activ	/e'. X						
Summany					System S	Status								
ounnury					oysterne	////////								
Status	A Split Brain - Management C ( Both Management Centers are c mode, Database is not confi	Center is active or configured to run i igured for high av				Loca Split Brain - S (10.4.1	al <b>Secondary</b> 1.85)		Split I	Remote Brain - Primary 10.4.11.84)				
	synchronization task rur management cente	nning between hig ers , Synchronizati		Operating System 7.2.4					7.1.0					
Synchronization		🔺 Pa	used by user		Software V	ersion	7.2.4-	169			7.1.0-90			
Active System	(HA synchronization time : Sr (7.2.4 vs 7.1.0) VDB version	oftware versions of the officer officer of the officer	10.4.11.85 do not match 353 vs 346) )		Model		Secure Firewall Center for	Manageme VMware	ent					
Standby System	(HA synchronization time : Sr (7.1.0 vs 7.2.4) VDB version	oftware versions on the officer of the officer offic	10.4.11.84 do not match 346 vs 353) )											

仅升级备用FMC时的高可用性摘要

#### 在CLI上,接受EULA后可以检查版本。

Copyright 2004-2023, Cisco and/or its affiliates. All rights reserved. Cisco is a registered trademark of Cisco Systems, Inc. All other trademarks are property of their respective owners.

Cisco Firepower Extensible Operating System (FX-OS) v2.12.0 (build 499) Cisco Secure Firewall Management Center for VMware v7.2.4 (build 169)

>

> show version

 -------[firepower]----- 

 Model
 : Secure Firewall Management Center for VMware (66) Version 7.2.4 (Build 169)

 UUID
 : 1c71ae24-1e60-11ed-8459-9758e19f1a24

 Rules update version
 : 2023-01-09-001-vrt

 LSP version
 : lsp-rel-20220511-1540

 VDB version
 : 353

第五步:升级活动对等体

在主用设备上重复步骤2到步骤4:

上传升级包。

就绪性检查。

安装升级包。

•

第六步:激活所需的FMC

在两个FMC上完成升级后,登录到想要使主用设备成为主用设备的FMC,并选择**使我成为主用**设备选项。

#### 集成>高可用性>激活我

F	<b>irewall M</b> Itegration / O	lanagen Other Integr	nent Center ations / High Availability	Overview	Analysis	Policies	Devices	Objects	Integration		Deploy	Q	<b>6</b> <	£ Ø	admin 🔻	cisco	SECURE
Cloud Se	ervices I	Realms	Identity Sources	High Availability	eStreamer	Host Input	Client Sr	nart Software M	fanager On-Prer	m						Peer Ma	nager
					This high a	vailability pair is	s in split brain,	Make one Mana	mement Center ac	tive by clicking 'N	Take Me Activ	kreak H	HA	•	Resume S	ynchroniz	ation
	Summar	74						System	Status								
	Status	y	Split Brain – Management Center is active on both peers. (Both Management Centers are configured to run in standalone mode, Database is not configured for high availability, content of the standard					oystem e		Remote Split Brain - Secondary (10.4.11.85)							
	Synchronia	zation			A P	aused by user		Operating Software V	System ersion	7.2.4	-169			7.2	2.4 -169		
	Active Sys	stem	( HA :	synchronization time :	: Tue Jul 18 16	10.4.11.84 :57:35 2023 )		Model		Secure Firewal Center for	ll Manageme r VMware	int	Secure I Ce	Firewal	ll Manager r VMware	nent	
	Standby S	System	( HA :	synchronization time :	: Tue Jul 18 16	10.4.11.85 :57:07 2023 )											

激活所需的FMC

有关进程和覆盖备用对等体中完成的任何配置的警告,请选择YES继续。



有关备用对等体上的活动覆盖配置的警告



#### 选择确定

# Ve Resolving split brain, making this rur Management Center active.

解决裂脑

#### 等待同步重新启动,然后另一个FMC会打开备用模式。

	Firewall Manage ntegration / Other Integ	ment Center rations / High Availability	Overview	Analysis	Policies	Devices	Objects	Integration		Deploy	۹	<b>6</b> 0	0	admin 🔻	diala SECURE
Cloud S	anicas Peolms	Identify Sources	High Augilability	oStroomor	Hest Input	Client Sn	part Software N	lanagar On Brom							Peer Manager
Cioud S	ervices Realms	Identity Sources	High Availability	estreamer	Host input	Client Sn	nart Software N	lanager On-Prem	1						
								Mak	ke Me Active	¢≱ Br	reak H	A	II	Pause Syn	chronization
		Hig Th	gh availability operations included and the set operations included and the set of the s	ons are in progre de file copy whic	ess. The status h may take tim	messages and to complete.	l alerts on this p	age are temporary.	Please check afte	r high availa	bility o	perations	are co	omplete. ×	<
	Summary						System S	tatus							
	Status	🔺 Tempora	rily degraded- high	availability ope	erations are in progress.	1			Loca Split Brain - (10.4.11	Primary		Split B	Remo rain - 1	ote Secondary	v
	Synchronization				🔺 Failed	i	Operating	Dustom	7.2	4			7.0		
	Active System	( HA sy	nchronization time	: Tue Jul 18 17	10.4.11.84 :27:28 2023 )	)	Software V	ersion	7.2.4-	4 169			7.2.4	-169	
	Standby System	( HA sy	nchronization time	: Tue Jul 18 17	10.4.11.85 :26:56 2023 )	5	Model		Secure Firewall Center for	Managemer VMware	nt	Secure F Cen	irewall ter for	l Managem r VMware	nent

FMC同步



**注意**:完成同步最多可能需要20分钟。

在FMC主用设备上部署挂起的更改,以完成升级过程。

验证

在两个FMC处于相同版本且同步完成之后,HA Summary选项卡必须如下所示: **集成>高可用性** 

Firewall Integration	Manager / Other Integr	nent Center ations / High Availability	Overview	Analysis	Policies	Devices	Objects	Integration		Deploy	م	¢	¢	Ø admin ▼ diale SI	EC
Cloud Services	Realms	Identity Sources	High Availability	eStreamer	Host Input C	Client Si	nart Software N	lanager On-Pre	m					Peer Man	nage
								🧔 Sw	itch Peer Roles	¢þ	Break H	IA		II Pause Synchronizatio	on
Summ	nary						System S	tatus							
Status			<ul> <li>Synchronization task is in progress</li> <li>OK</li> </ul>						Loca	il rimanı		C+	andba	Remote	
Synchr	onization							(10.4.1	4.11.84)			(10.4.11.85)			
Active System		(114	10.4.11.84 ( HA synchronization time : Tue Jul 18 17:27:28 2023 )					System	7.2.4			7.2.4			
, to are of other	( HA S	ersion						7.2.4-169			7.2.4-169				
Standt	oy System	m (HA synchronization time : Tue Jul 18 17:28:00 2023 )				Model	Model Secure Firewall Center for		Management Secure VMware C			re Fire Cente	ewall Management r for VMware		

#### FMC中的升级验证



警告:如果最终同步状态显示降级或其他结果不是"正常",请与TAC联系。

#### 关于此翻译

思科采用人工翻译与机器翻译相结合的方式将此文档翻译成不同语言,希望全球的用户都能通过各 自的语言得到支持性的内容。

请注意:即使是最好的机器翻译,其准确度也不及专业翻译人员的水平。

Cisco Systems, Inc. 对于翻译的准确性不承担任何责任,并建议您总是参考英文原始文档(已提供 链接)。