

在高可用性中升級FMC

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簡介

本檔案介紹以高可用性(HA)升級Secure Firewall Management Center (FMC)環境的步驟。

必要條件

需求

思科建議您瞭解以下主題：

- 高可用性概念
- 安全FMC配置

採用元件

本文檔中的資訊基於虛擬安全FMC 7.1.0版。

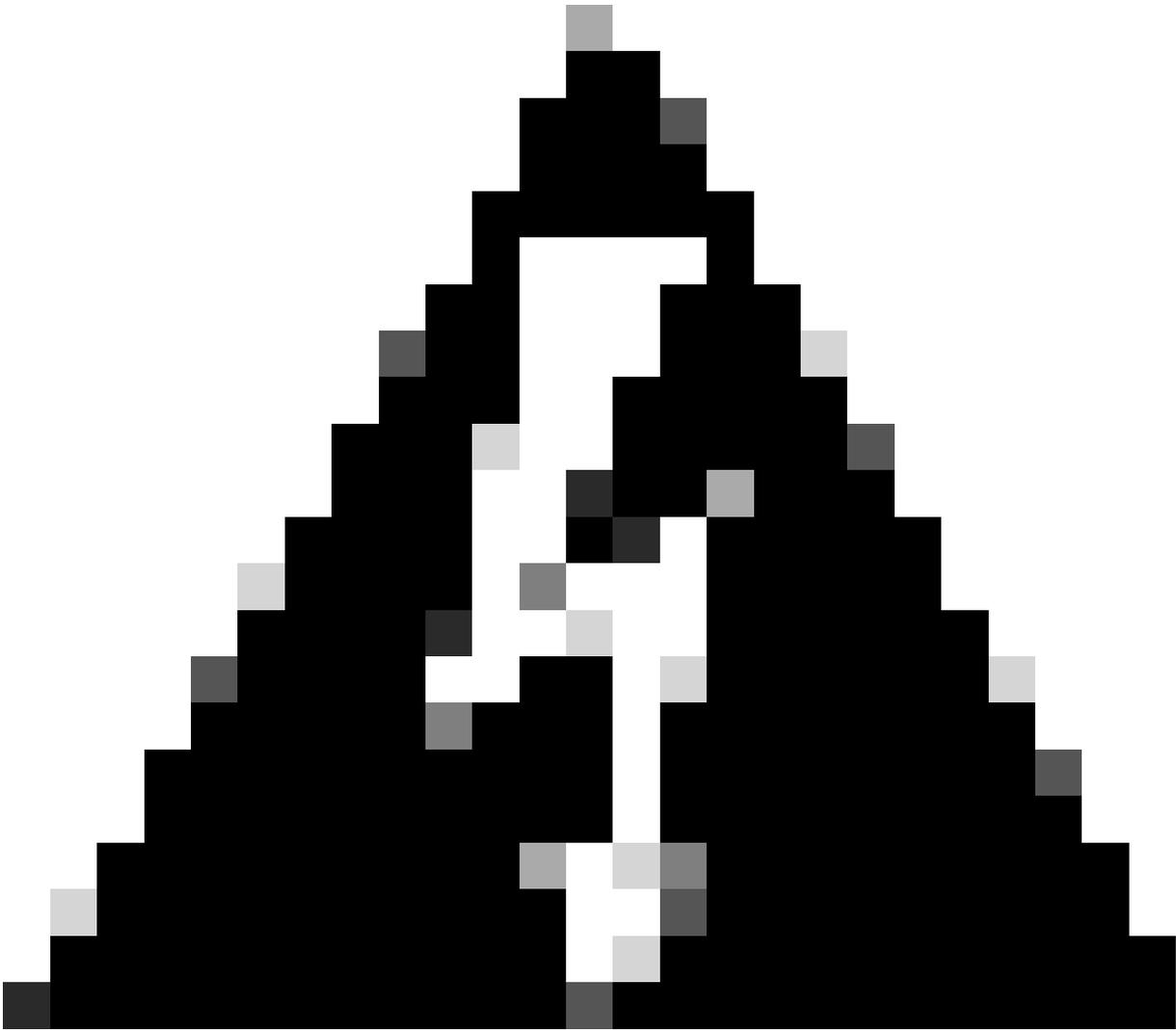
本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

背景資訊

升級必須同時是一個對等體。

首先，暫停對等體之間的同步。

然後，需要首先在備用模式下完成升級，然後再在活動FMC中完成升級。



警告：當備用對等體處理預檢查/安裝時，兩個對等體都切換到活動狀態；這稱為拆分大腦。
升級時完全可以預期。在此期間，不得更改或部署任何配置。
如果進行了任何配置更改，則在重新啟動同步後將丟失配置。

升級前

1. 規劃升級路徑。在FMC部署中，通常先升級FMC，然後升級其受管裝置。請務必知道您剛才執行了哪個升級，以及下一個升級。
2. 閱讀所有升級指南並規劃配置更改。
3. 檢查頻寬。確保您的管理網路具有執行大型資料傳輸所需的頻寬。

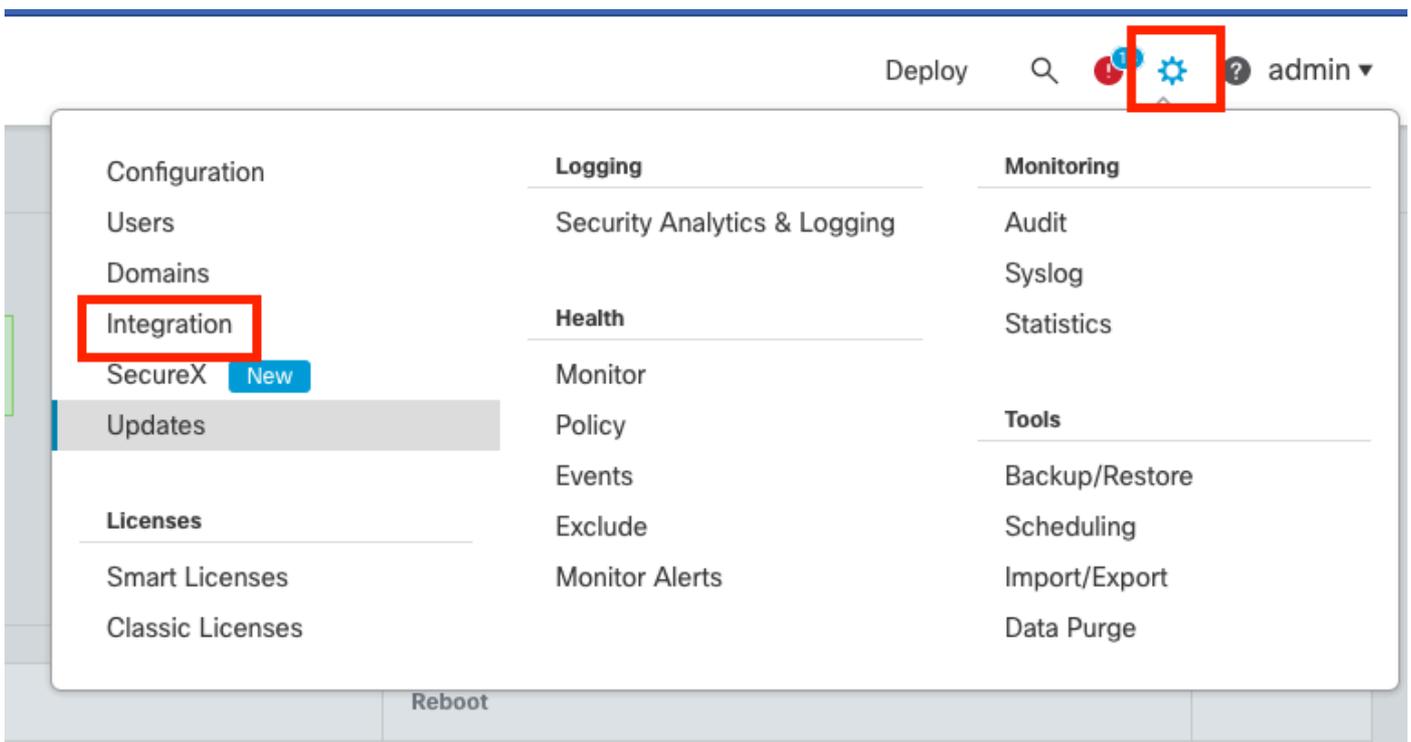
4. 排定維護時段。
5. 在升級前後備份組態。System > Backup / Restore > Firepower Management backup。將備份下載到本地電腦。
6. 升級虛擬主機。當您運行較舊版本的VMware時，這是必需的。
7. 檢查配置。
8. 檢查NTP同步。
FMC：選擇System > Configuration > Time。
裝置：使用show time CLI命令。
9. 檢查磁碟空間。
10. 部署配置。在FMC高可用性部署中，您只需要從活動對等體進行部署。
11. 檢查正在執行的工作。確保沒有掛起的部署。

升級程式

步驟 1. 暫停同步

在活動單元上，導航到FMC上的High Availability頁籤。

系統>整合>高可用性



暫停同步。選取系統與整合

Firepower Management Center
System / Integration / High Availability

Overview Analysis Policies Devices Objects AMP Intelligence

Deploy 🔍 ⚙️ 👤 admin

Peer Manager

Cloud Services Realms Identity Sources **High Availability** eStreamer Host Input Client Smart Software Manager On-Prem

Switch Peer Roles Break HA Pause Synchronization

Summary	
Status	● Synchronization task is in progress
Synchronization	● OK
Active System	10.4.11.84 (HA synchronization time : Tue Jul 18 02:06:47 2023)
Standby System	10.4.11.85 (HA synchronization time : Tue Jul 18 02:06:00 2023)

System Status		
	Local	Remote
	Active - Primary (10.4.11.84)	Standby - Secondary (10.4.11.85)
Operating System	7.1.0	7.1.0
Software Version	7.1.0-90	7.1.0-90
Model	Cisco Firepower Management Center for VMware	Cisco Firepower Management Center for VMware

暫停同步。選擇高可用性

選擇Pause Synchronization。

Firepower Management Center
System / Integration / High Availability

Overview Analysis Policies Devices Objects AMP Intelligence

Deploy 🔍 ⚙️ 👤 admin

Peer Manager

Cloud Services Realms Identity Sources **High Availability** eStreamer Host Input Client Smart Software Manager On-Prem

Switch Peer Roles Break HA **Pause Synchronization**

Summary	
Status	● Healthy
Synchronization	● OK
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)

System Status		
	Local	Remote
	Active - Primary (10.4.11.84)	Standby - Secondary (10.4.11.85)
Operating System	7.1.0	7.1.0
Software Version	7.1.0-90	7.1.0-90
Model	Cisco Firepower Management Center for VMware	Cisco Firepower Management Center for VMware

暫停同步

等待同步暫停。完成時，狀態必須為使用者暫停。

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	▲ 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)

每個使用者的[同步化狀態]必須為[暫停]

步驟 2.上傳升級套件

登入到備用裝置並上傳升級包。

System > Updates > Upload Update

FMC Product Updates Devices AMP 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

Type	Version	Date	Reboot	
Cisco Firepower Mgmt Center Patch	7.1.0.1-28	Tue Feb 22 23:32:26 UTC 2022	Yes	
Cisco FTD Upgrade	7.0.4-55	Sun Aug 7 19:43:24 UTC 2022	Yes	

上傳升級套件

瀏覽先前下載的要升級版本的套件。

Currently running software version: 7.1.0

Updates

Upload software updates and patches here.

Action Upload local software update package
 Specify software update source (FTD devices only)

Package Cisco_Secure_FW_Mgmt_Center_Upgrade-7.2.4-169.sh.REL.tar

Cancel Upload

選擇升級檔案

步驟 3.準備程度檢查

對要升級的裝置運行就緒性檢查。

點選適當升級軟體套件旁邊的安裝圖示。

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

Type	Version	Date	Reboot	
Cisco Secure FW Mgmt Center Upgrade	7.2.4-169	Wed May 10 12:48:58 UTC 2023	Yes	

安裝升級包以進行就緒檢查

選擇要檢查的裝置，然後按一下Check Readiness。

FMC Upload Update Devices AMP

Product Updates

Currently running software version: 7.1.0

Selected Update

Type Cisco Secure FW Mgmt Center Upgrade
 Version 7.2.4-169
 Date Wed May 10 12:48:58 UTC 2023
 Reboot Yes

By Group

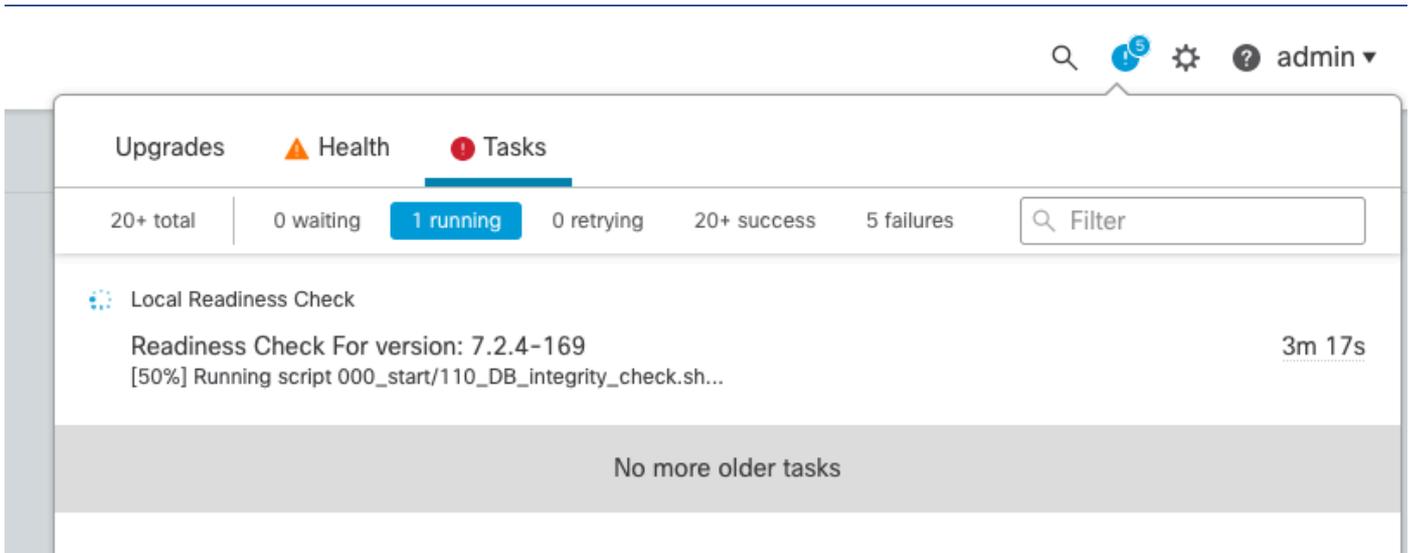
<input checked="" type="checkbox"/> Ungrouped (1 total)	Compatibility Check	Readiness Check Results	Readiness Check Completed	Estimated Upgrade Time	
<input checked="" type="checkbox"/> firepower 10.4.11.85 - Cisco Firepower Management Center for VMware v7.1.0	✔	Compatibility check passed. Proceed with		35 min	

Back **Check Readiness** Install

選擇檢查就緒性

可在消息中心中檢查進度。

消息>任務>運行



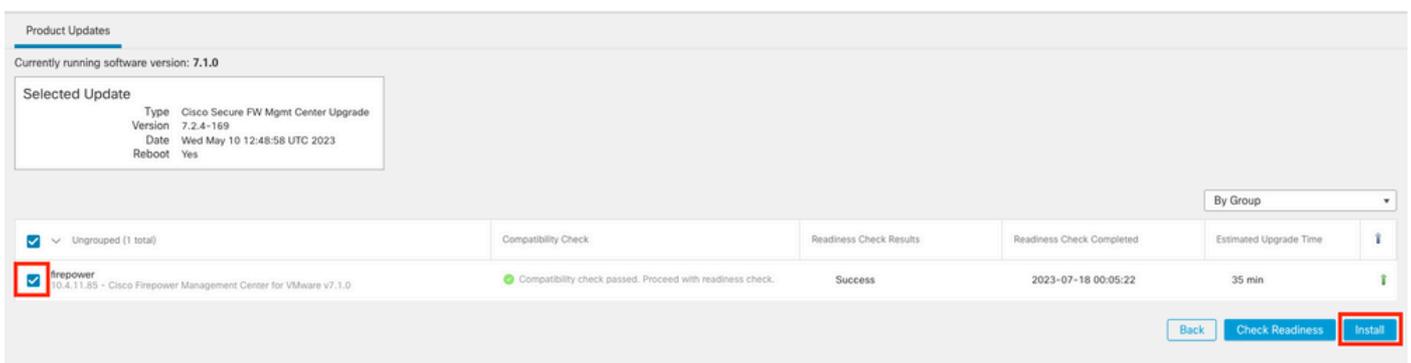
準備程度檢查進行中

完成後，您可以在就緒性檢查結果中檢視狀態。

如果成功，則您可以繼續安裝套裝軟體。

步驟 4. 安裝升級套件

選擇要升級的裝置。按一下Install。



安裝升級套件

對於分割大腦的警告，請按一下OK。

🌐 10.88.243.115:43085

After both FMCs are updated, FMC high availability will be in split brain. Click 'Make Me Active' after choosing the right Active FMC to resolve split brain.

OK

大腦分裂警告

進度可以簽入消息>任務。

Search 🔍 | 1 | ⚙️ | ? admin ▾

Upgrades | **Tasks** | Health

20+ total | 0 waiting | 1 running | 0 retrying | 20+ success | 1 failure | Filter

Local Install

Installing Cisco Secure FW Mgmt Center Upgrade version: 7.2.4-169 1m 7s
Installing Cisco Secure FW Mgmt Center Upgrade version: 7.2.4-169

Local Readiness Check

Readiness Check For version: 7.2.4-169 4m 18s ✕
Success. OK to upgrade to 7.2.4-169 version.

顯示器安裝

注意：安裝大約需要30分鐘才能完成。

如果您可以訪問CLI，則可以在升級資料夾/var/log/sf中檢查進度；請轉到expert模式並輸入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
```

升級完成後，FMC重新啟動。

```
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 complete
```

```
ui:[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!
```

重新啟動後，物理FMC必須在FMC中顯示正確的型號。

GUI > 「幫助」 > 「關於」



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.

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FMC中的模型與版本資訊

整合>高可用性

Make Me Active Break HA Resume Synchronization

This high availability pair is in split brain. Make one Management Center active by clicking 'Make Me Active'.

Summary		System Status	
Status	<p>▲ 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 , No synchronization task running between high availability management centers , Synchronization paused.)</p>	Local	Remote
Synchronization	<p>▲ Paused by user</p>	Split Brain - Secondary (10.4.11.85)	Split Brain - Primary (10.4.11.84)
Active System	<p>10.4.11.85 (HA synchronization time : Software versions do not match (7.2.4 vs 7.1.0) VDB versions do not match (353 vs 346))</p>	Operating System	7.2.4
Standby System	<p>10.4.11.84 (HA synchronization time : Software versions do not match (7.1.0 vs 7.2.4) VDB versions do not match (346 vs 353))</p>	Software Version	7.2.4-169
		Model	Secure Firewall Management Center for VMware
			7.1.0
			7.1.0-90

僅升級備用FMC時的HA摘要

在CLI上，接受EULA後可以檢查版本。

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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
-----
```

步驟 5.升級活動對等體

在活動單元中重複步驟2到步驟4：

- 上傳升級套件。
-
- 準備情況檢查。

安裝升級套件。

步驟 6. 啟用所需的FMC

在兩個FMC上完成升級後，登入要啟用裝置的FMC並選擇**Make Me Active**選項。

整合 > 高可用性 > 啟用我

The screenshot shows the Cisco Firewall Management Center (FMC) interface. The top navigation bar includes 'Overview', 'Analysis', 'Policies', 'Devices', 'Objects', and 'Integration'. The 'Integration' tab is selected, and the 'High Availability' sub-tab is active. A 'Make Me Active' button is highlighted with a red box. A notification banner reads: 'This high availability pair is in split brain. Make one Management Center active by clicking 'Make Me Active'.' Below the banner, the 'Summary' panel shows the status of the high availability pair, and the 'System Status' panel shows details for both the local and remote management centers.

Summary	
Status	▲ 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 , Synchronization paused.)
Synchronization	▲ Paused by user
Active System	10.4.11.84 (HA synchronization time : Tue Jul 18 16:57:35 2023)
Standby System	10.4.11.85 (HA synchronization time : Tue Jul 18 16:57:07 2023)

System Status		
	Local	Remote
	Split Brain - Primary (10.4.11.84)	Split Brain - Secondary (10.4.11.85)
Operating System	7.2.4	7.2.4
Software Version	7.2.4-169	7.2.4-169
Model	Secure Firewall Management Center for VMware	Secure Firewall Management Center for VMware

啟用所需的FMC

進程警告並覆蓋在備用對等體中完成的任何配置，選擇是繼續。

Warning

This operation may affect critical processes running in the background. The local peer will be active and the other peer will become a standby. The active peer will overwrite configuration and policies present on the standby peer. Do you want to continue?

No

Yes

有關備用對等體上的活動覆蓋配置的警告

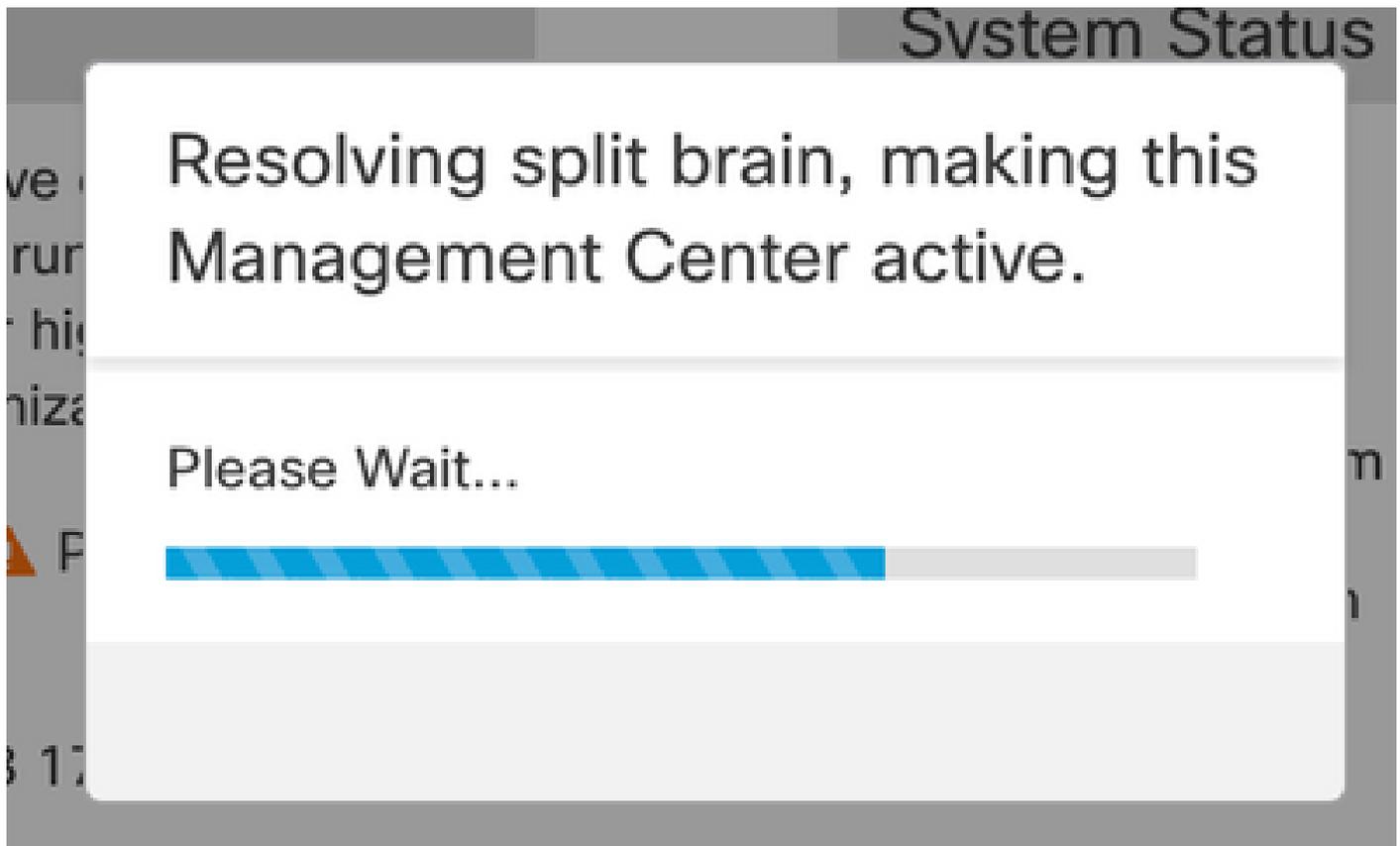
Make Me Active ?

Do you want to make this Management Center active and peer standby?

Cancel

OK

選取確定



解決大腦分裂

等待直到同步重新啟動，並且其他FMC會切換為待命模式。

Firewall Management Center
Integration / Other Integrations / High Availability

Overview Analysis Policies Devices Objects Integration Deploy 🔍 ⚙️ 👤 admin | Cisco SECURE

Cloud Services Realms Identity Sources **High Availability** eStreamer Host Input Client Smart Software Manager On-Prem Peer Manager

Make Me Active Break HA Pause Synchronization

High availability operations are in progress. The status messages and alerts on this page are temporary. Please check after high availability operations are complete. These operations include file copy which may take time to complete. ✕

Summary		System Status	
Status	▲ Temporarily degraded- high availability operations are in progress.	Local Split Brain - Primary (10.4.11.84)	Remote Split Brain - Secondary (10.4.11.85)
Synchronization	▲ Failed	Operating System	7.2.4
Active System	10.4.11.84 (HA synchronization time : Tue Jul 18 17:27:28 2023)	Software Version	7.2.4-169
Standby System	10.4.11.85 (HA synchronization time : Tue Jul 18 17:26:56 2023)	Model	Secure Firewall Management Center for VMware

FMC同步



注意：同步過程最多可能需要20分鐘才能完成。

在FMC Active裝置上部署掛起的更改以完成升級過程。

驗證

在兩個FMC處於相同版本且同步完成後，HA Summary頁籤必須如下所示：

整合>高可用性

Switch Peer Roles
Break HA
Pause Synchronization

Summary	
Status	🟢 Synchronization task is in progress
Synchronization	🟢 OK
Active System	10.4.11.84 (HA synchronization time : Tue Jul 18 17:27:28 2023)
Standby System	10.4.11.85 (HA synchronization time : Tue Jul 18 17:28:00 2023)

System Status		
	Local	Remote
	Active - Primary (10.4.11.84)	Standby - Secondary (10.4.11.85)
Operating System	7.2.4	7.2.4
Software Version	7.2.4-169	7.2.4-169
Model	Secure Firewall Management Center for VMware	Secure Firewall Management Center for VMware

FMC中的升級驗證



警告：如果最終同步狀態顯示已降級或者不是「確定」的結果，請與TAC聯絡。

關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。