

# 設定FTD HA的虛擬MAC位址

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## 簡介

本檔案介紹如何在防火牆威脅防禦(FTD)高可用性(HA)配對上設定虛擬MAC位址。

## 必要條件

### 需求

思科建議您瞭解以下主題：

- 安全防火牆威脅防禦(FTD)
- 安全防火牆管理中心(FMC)

### 採用元件

- FMC虛擬版本7.2.8
- FTD虛擬版本7.2.7

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

在FTD HA配對上設定虛擬MAC位址有利於網路的可用性。虛擬MAC位址允許主要和輔助FTD維持一致的MAC位址，以避免特定流量中斷。

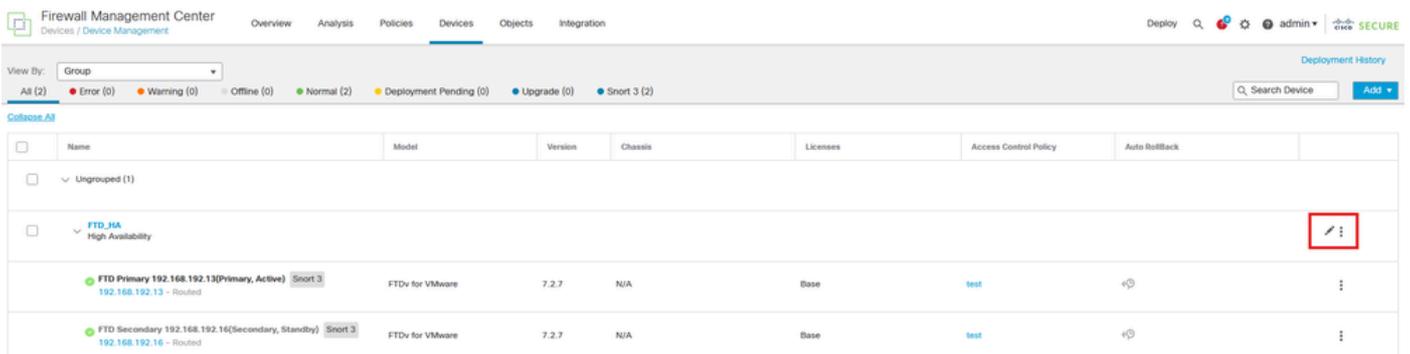
如果未配置虛擬MAC地址，則HA對的每個單元都會使用其固化的MAC地址啟動。如果輔助裝置在啟動時未檢測到主裝置，它將成為活動裝置並使用其固化的MAC地址。當主裝置最終上線時，輔助裝置會獲取主裝置的MAC地址，從而導致網路中斷。如果用新硬體替換主裝置，也會使用新的MAC地址。在裝置上配置虛擬MAC地址可防止這種中斷。這是因為輔助裝置始終知道主裝置的MAC地址，並且當它是活動裝置時，即使它比主裝置先聯機，也會繼續使用正確的MAC地址。

注意：術語「虛擬MAC地址」和「介面Mac地址」可以互換使用。

有關此配置的優點的其他資訊，請參閱此[指南](#)。

## 組態

1. 在FMC GUI中，導航至裝置頁面，並透過點選最右側鉛筆圖示編輯HA對。



The screenshot shows the Firewall Management Center (FMC) GUI. The top navigation bar includes 'Overview', 'Analysis', 'Policies', 'Devices', 'Objects', and 'Integration'. The 'Devices' page is active, showing a list of devices. The 'View By' dropdown is set to 'Group'. The status bar shows 'All (2)', 'Error (0)', 'Warning (0)', 'Offline (0)', 'Normal (2)', 'Deployment Pending (0)', 'Upgrade (0)', and 'Snort 3 (2)'. The table below shows the following data:

Name	Model	Version	Chassis	Licenses	Access Control Policy	Auto Rollback	
Ungrouped (1)							
FTD_HA High Availability							
FTD Primary 192.168.192.13 (Primary, Active) Snort 3 192.168.192.13 - Routed	FTDv for VMware	7.2.7	N/A	Base	test	+/-	⋮
FTD Secondary 192.168.192.16 (Secondary, Standby) Snort 3 192.168.192.16 - Routed	FTDv for VMware	7.2.7	N/A	Base	test	+/-	⋮

2. 在高可用性頁籤下，找到標籤為介面MAC地址的框。按一下+圖示以訪問編輯器。

FTD Primary 192.168.192.13 Save Cancel

Cisco Firepower Threat Defense for VMWare

Summary High Availability Device Routing Interfaces Inline Sets DHCP VTEP

High Availability Configuration

High Availability Link				State Link			
Interface	GigabitEthernet0/0			Interface	GigabitEthernet0/0		
Logical Name	fover_link			Logical Name	fover_link		
Primary IP	1.1.1.1			Primary IP	1.1.1.1		
Secondary IP	1.1.1.2			Secondary IP	1.1.1.2		
Subnet Mask	255.255.255.0			Subnet Mask	255.255.255.0		
IPsec Encryption	Disabled			Statistics	Q		

Monitored Interfaces

Interface Name	Active IPv4	Standby IPv4	Active IPv6 - Standby IPv6	Active Link-Local IPv6	Standby Link-Local IPv6	Monitoring	
Inside	10.10.75.254					●	✎
diagnostic						●	✎
Outside	10.10.10.231					●	✎

Failover Trigger Criteria ✎

Failure Limit	Failure of 1 Interfaces
Peer Poll Time	1 sec
Peer Hold Time	15 sec
Interface Poll Time	5 sec
Interface Hold Time	25 sec

Interface MAC Addresses +

Physical Interface	Active Mac Address	Standby Mac Address
No records to display		

Interface MAC Addresses框

3. 從編輯器選擇物理介面並配置主用/備用介面Mac地址。完成後按一下OK。

# Add Interface Mac Address

Physical Interface:\*

GigabitEthernet0/1 

Active Interface Mac Address:\*

dead.beef.0001

Standby Interface Mac Address:\*

dead.beef.0002

 Enter the Mac addresses in hexadecimal format such as 0123.4567.89ab

Cancel

OK



注意：在配置虛擬MAC地址時，遵守標準約定會很有幫助。介面內的地址必須是有效的MAC地址，但可以是任意地址。使用標準約定可以在檢查上游或下游MAC地址表時簡化管理。MAC位址格式化需要12個十六進位數字，每個四位數字組之間用句號分隔。

4. 對需要虛擬Mac地址配置的任何其餘介面重複此過程。
5. 確認組態是否正確。

Interface MAC Addresses			+
Physical Interface	Active Mac Address	Standby Mac Address	
GigabitEthernet0/1	dead.beef.0001	dead.beef.0002	 
GigabitEthernet0/2	dead.beef.0003	dead.beef.0004	 

6. 儲存並部署組態至FTD HA配對。

## 驗證

從運行配置的每台裝置中，虛擬Mac地址現在會出現。

主要 ( 有效 ) FTD :

```
firepower# show run | grep failover
failover
failover lan unit primary
failover lan interface fover_link GigabitEthernet0/0
failover replication http
failover mac address GigabitEthernet0/1 dead.beef.0001 dead.beef.0002
failover mac address GigabitEthernet0/2 dead.beef.0003 dead.beef.0004
failover link fover_link GigabitEthernet0/0
failover interface ip fover_link 1.1.1.1 255.255.255.0 standby 1.1.1.2
```

顯示執行容錯移轉結果

```
> show interface "Inside"
Interface GigabitEthernet0/1 "Inside", is up, line protocol is up
Hardware is net_vmxnet3, BW 10000 Mbps, DLY 10 usec
Auto-Duplex(Full-duplex), Auto-Speed(10000 Mbps)
Input flow control is unsupported, output flow control is unsupported
MAC address dead.beef.0001, MTU 1500
IP address 10.10.75.254, subnet mask 255.255.255.0
1639 packets input, 108958 bytes, 0 no buffer
```

Show Interface Inside結果

```
> show interface "Outside"
Interface GigabitEthernet0/2 "Outside", is up, line protocol is up
Hardware is net_vmxnet3, BW 10000 Mbps, DLY 10 usec
Auto-Duplex(Full-duplex), Auto-Speed(10000 Mbps)
Input flow control is unsupported, output flow control is unsupported
MAC address dead.beef.0003, MTU 1500
IP address 10.10.10.231, subnet mask 255.255.255.0
```

顯示介面外部結果

次要 ( 待命 ) FTD :

```
firepower# show run | grep failover
failover
failover lan unit secondary
failover lan interface fover_link GigabitEthernet0/0
failover replication http
failover mac address GigabitEthernet0/1 dead.beef.0001 dead.beef.0002
failover mac address GigabitEthernet0/2 dead.beef.0003 dead.beef.0004
failover link fover_link GigabitEthernet0/0
failover interface ip fover_link 1.1.1.1 255.255.255.0 standby 1.1.1.2
```

顯示執行容錯移轉結果

```
> show interface "Inside"
Interface GigabitEthernet0/1 "Inside", is up, line protocol is up
  Hardware is net_vmxnet3, BW 10000 Mbps, DLY 10 usec
    Auto-Duplex(Full-duplex), Auto-Speed(10000 Mbps)
    Input flow control is unsupported, output flow control is unsupported
  MAC address dead.beef.0002, MTU 1500
```

Show Interface Inside結果

```
> show interface "Outside"
Interface GigabitEthernet0/2 "Outside", is up, line protocol is up
  Hardware is net_vmxnet3, BW 10000 Mbps, DLY 10 usec
    Auto-Duplex(Full-duplex), Auto-Speed(10000 Mbps)
    Input flow control is unsupported, output flow control is unsupported
  MAC address dead.beef.0004, MTU 1500
```

顯示介面外部結果

這確認配置成功。

## 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）。