

配置FTD HA的虚拟MAC地址

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简介

本文档介绍如何在防火墙威胁防御(FTD)高可用性(HA)对上配置虚拟MAC地址。

先决条件

要求

Cisco 建议您了解以下主题：

- 安全防火墙威胁防御(FTD)
- 安全防火墙管理中心(FMC)

使用的组件

- FMC虚拟版本7.2.8
- FTD虚拟版本7.2.7

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

在FTD HA对上配置虚拟MAC地址有利于提高网络的可用性。虚拟MAC地址允许主FTD和辅助FTD保持一致的MAC地址，以防止某些流量中断。

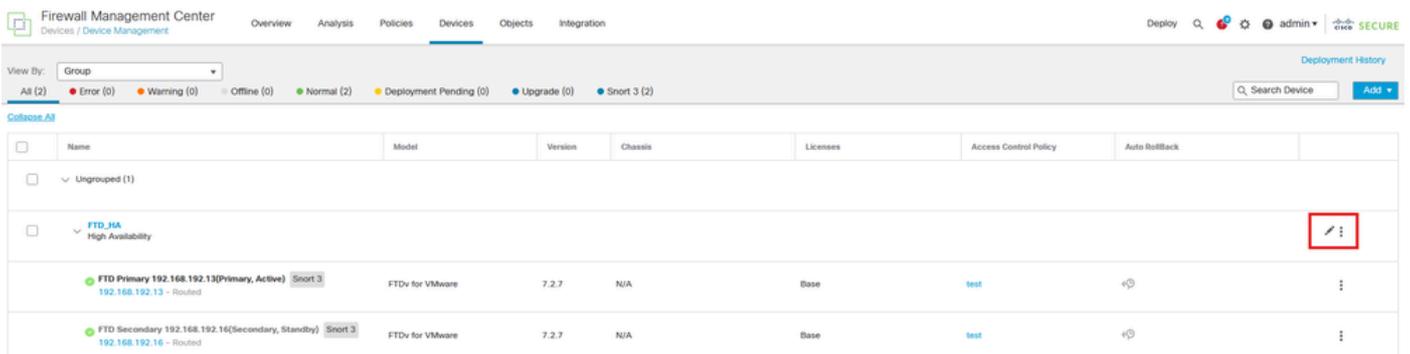
如果未配置虚拟MAC地址，则HA对的每个单元都会使用其固化的MAC地址启动。如果辅助设备启动时未检测到主要设备，它将成为主用设备并使用其固化MAC地址。当主设备最终联机时，辅助设备会获取主设备的MAC地址，这可能会导致网络中断。如果用新硬件替换主设备，也会使用新的MAC地址。在设备上配置虚拟MAC地址可防止这种中断。这是因为辅助设备始终知道主设备的MAC地址，并且当它是活动设备时，它继续使用正确的MAC地址，即使它先于主设备联机。

注意：术语“虚拟MAC地址”和“接口MAC地址”可以互换使用。

有关此配置好处的更多信息，请参阅本[指南](#)。

配置

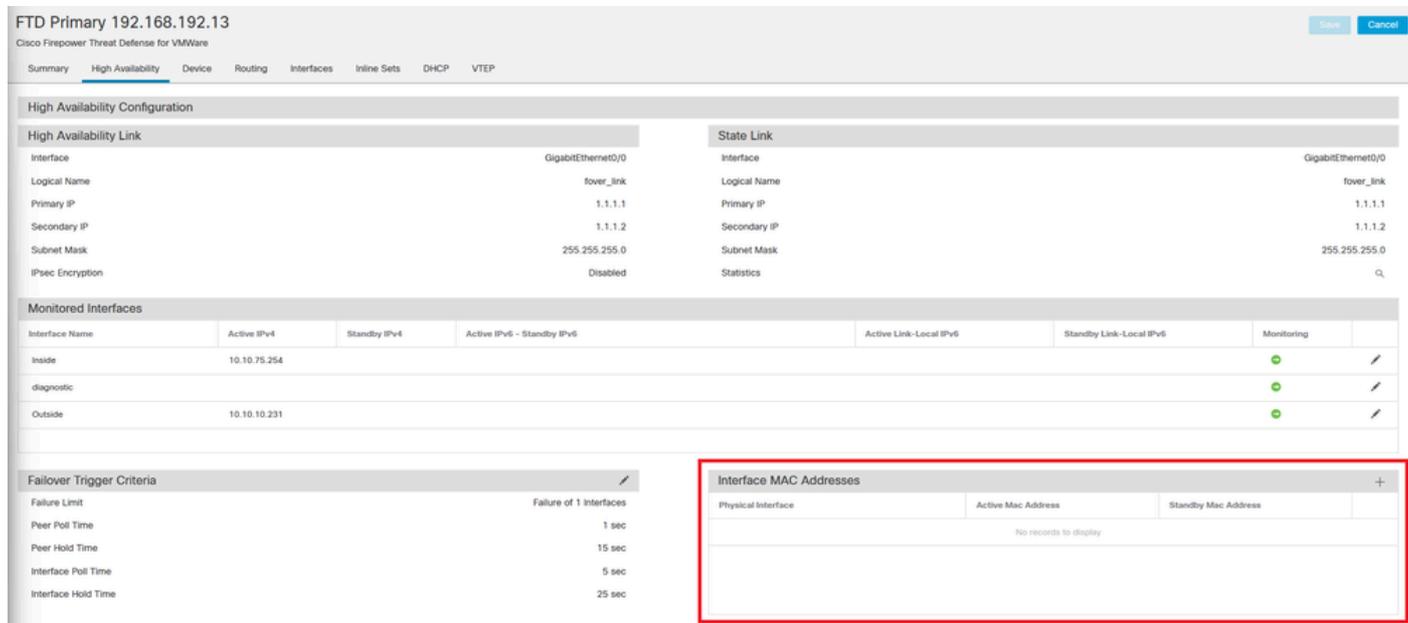
1. 在FMC GUI中，导航至设备页面并通过点击最右侧的铅笔图标编辑HA对。



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 table has columns for Name, Model, Version, Chassis, Licenses, Access Control Policy, and Auto Rollback. The table is filtered by "Group" and shows "All (2)" devices. The devices are categorized into "Ungrouped (1)" and "FTD_HA High Availability". The HA pair consists of two devices: "FTD Primary 192.168.192.13 (Primary, Active) Short 3" and "FTD Secondary 192.168.192.16 (Secondary, Standby) Short 3". A red box highlights the edit (pencil) icon in the rightmost column of the HA pair row.

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

2. 在High Availability选项卡下，找到标记为Interface MAC Addresses的框。单击+图标可访问编辑器。



Interface MAC Addresses框

3. 在编辑器中，选择物理接口并配置主用/备用接口Mac地址。完成后单击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：在配置虚拟MAC地址时，遵守标准约定会很有帮助。接口中的地址必须是有效的MAC地址，但可以是任意地址。使用标准约定可以在检查上游或下游MAC地址表时简化管理。MAC地址格式需要12个十六进制数字，每组4个数字之间用句点分隔。

4. 对需要虚拟Mac地址配置的所有其余接口重复此过程。
5. 确认配置正确。

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. 保存并部署配置到FTD HA对。

确认

从运行配置的每台设备中，虚拟Mac地址现在显示。

主 (活动) 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
```

显示运行故障切换结果

```
> 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结果

```
> 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
```

Show Interface Outside结果

辅助 (备用) 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
```

显示运行故障切换结果

```
> 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结果

```
> 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
```

Show Interface Outside结果

这确认配置成功。

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。

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