

使用GUI在FTD 7.6中转换为容器（MI模式）

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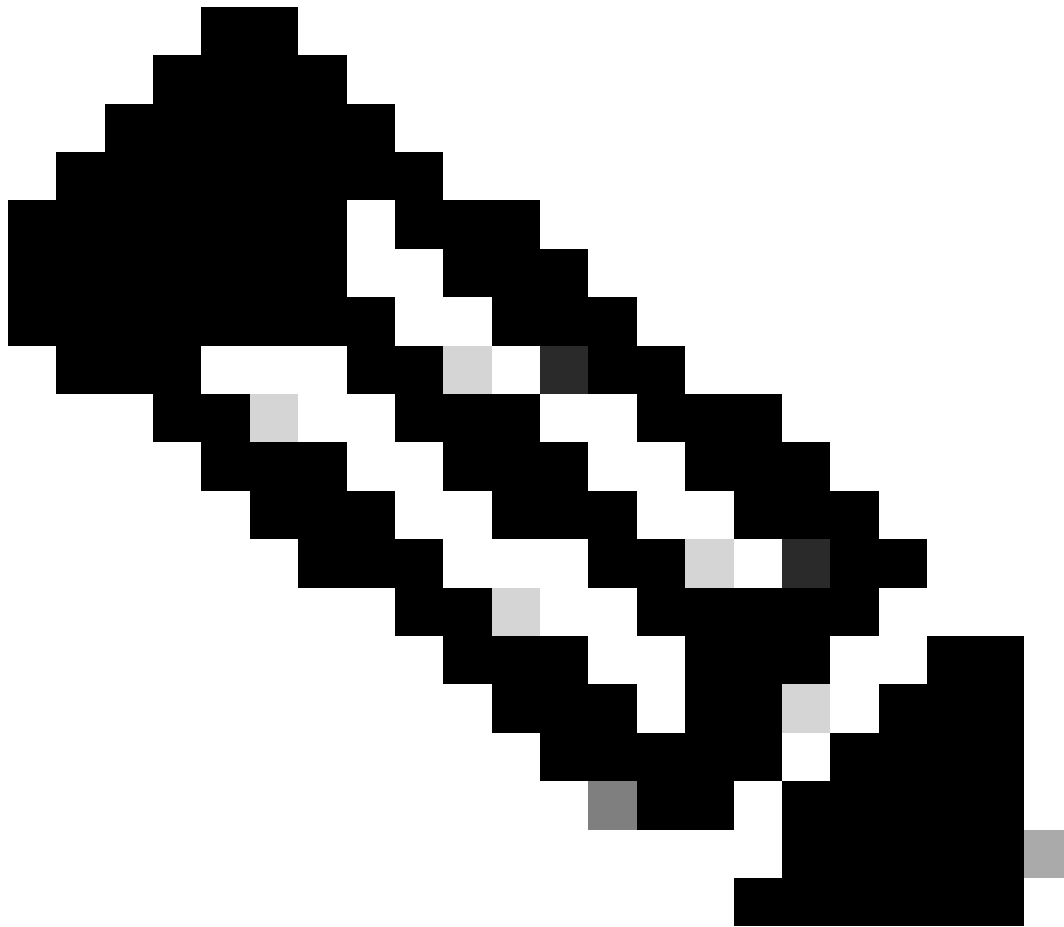
简介

本文档介绍如何在Firepower 4200防火墙系列中使用FTD 7.6配置容器（多实例模式）和相关详细信息。

必备条件、支持的平台、许可

最低软件和硬件平台

Manager(s) and Version (s)	Application (ASA/FTD) and Minimum Version of Application	Supported Platforms
FMC 7.6.0	FTD 7.6.0	4200 Series 4215, 4225, 4245



注意：任何平台上的FDM都不支持多实例。

许可

- 功能许可证手动分配给每个实例，但每个4200系列设备的每个功能仅使用一个许可证。
 - 例如，对于一个包含3个FTD实例的4200系列，只要您位于同一个FMC上，您只需一个URL许可证，而不管使用的实例数如何。
- 所有许可证按4200系列设备使用，而不是按容器实例使用，前提是它们位于同一个FMC上。因此，由于许可实施，对于4200系列设备上的所有实例，建议使用相同的FMC。

使用的组件

本文档不限于特定的软件和硬件版本。

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

- FTD已支持3100型号（以及9300和4100系列）上的多实例(MI)，但不支持4200系列。
- 4200型号仅在FMC的本地模式下受支持。
- 在4200中没有在7.4.x中创建多个实例的设置。
- 自7.4.1起，支持3100上的多实例(MI)。
 - 可使用FMC创建和管理实例（与9300和4100系列不同，必须使用FCM）。
 - 当处于MI模式时，可通过FMC的升级机箱GUI更新FXOS。
 - 通过CLI完成向MI模式的转换。

新特性

- 您可以在4200系列上调配和管理MI实例。
- FMC -适用于4200系列（MI模式）和FTD实例的单一管理解决方案
- 对于3100和4200系列设备，允许在FMC上将本地设备单个和批量转换为MI模式
- 目标市场：企业/大型企业-互联网边缘、数据中心

具有FTD多实例支持的平台

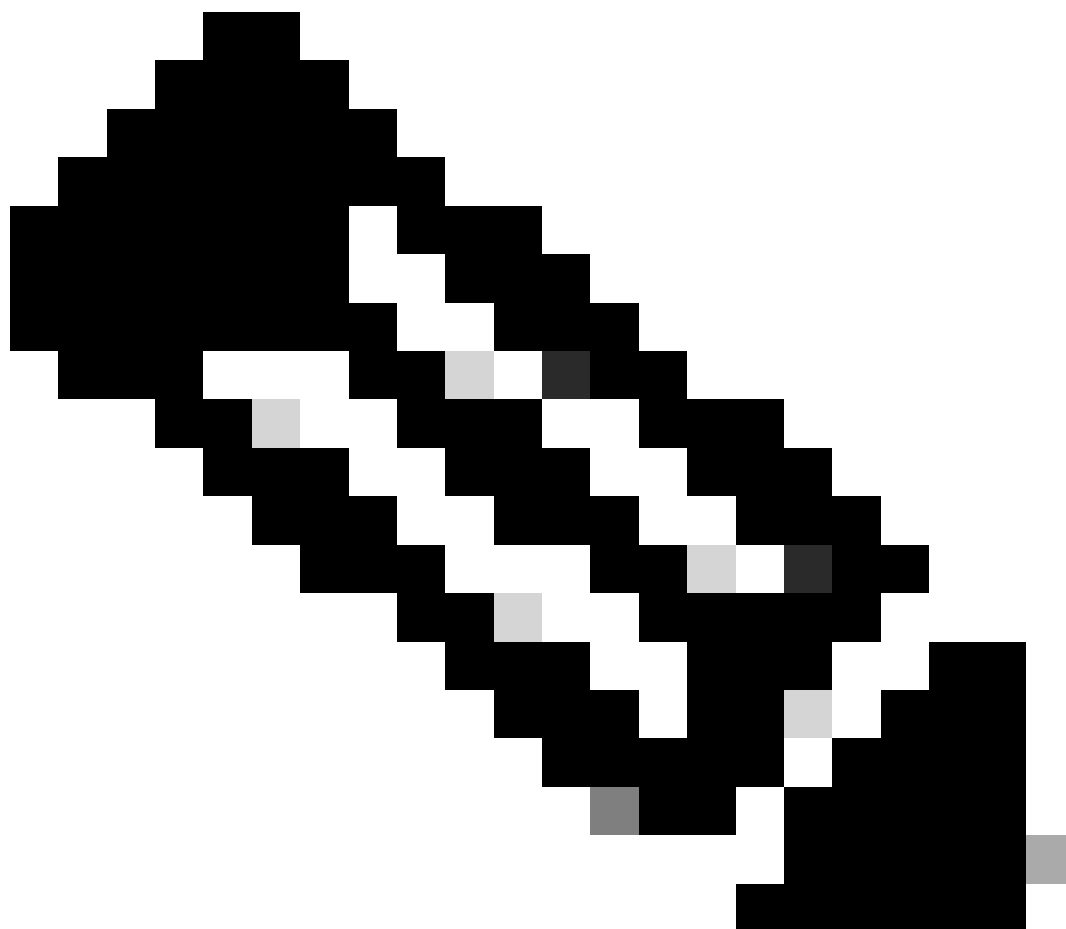
Platform	FTD Version	FTD Multi-Instance Support	Management Solution
Virtual	-	No	-
FPR1000	-	No	-
FPR2100	(not supported in 7.6)	No	-
3105		No	
3110, 3120, 3130, 3140	FTD 7.4.1	Yes	FMC
FPR4100	FTD 6.3.0	Yes	FCM & FMC
4215, 4225, 4245	FTD 7.6.0	Yes	FMC
FPR9300	FTD 6.3.0	Yes	FCM & FMC

3100和4200系列之间的区别

- 4200有两个管理接口，一个用于管理，另一个用于事件。
 - Management1/1和Management1/2接口都会引导至所有FTD容器实例。
 - 一个或两个管理接口可在MI模式下使用。
 - Management1/1用于管理和事件，或
 - Management1/1可用于管理，Management1/2可用于事件，在这种情况下。
 - 需要定义静态路由，以使用管理1/2接口路由流量。
- 由于规模较大，因此在4200上创建的实例比3100上创建的实例多

支持的部署

- 使用独立FTD实例管理4200系列（MI模式）
 - 使用高可用性FTD实例管理4200系列（MI模式）*
-



注意：与FPR4100系列一样，如果是FTD-HA，主节点和辅助节点必须在两个不同的4200系列（MI模式）设备上。此外，此版本不支持MI集群。

功能描述和演练

在7.6.0中对多实例配置的更改：

- 支持MI模式下的4200系列
- FMC中的更改，也与3100系列的MI模式管理有关：
 - 在FMC中将设备从本机模式转换为MI模式
 - 就绪性检查，以检查设备是否可以转换为MI模式
 - 转换后在FMC中自动注册FTD实例

4200系列实例规格

最大实例支持

Platform	Maximum Instance Count	Maximum Logical CPU Cores Supported
FP4215	10	62
FP4225	15	126
FP4245	34	254

实例密度由2个主要因素驱动：

- 1. 给定平台上的CPU核心数量和磁盘空间量
- 2. 这些资源中有多少可用于向实例提供。最小的实例大小需要3个物理CPU（6个逻辑）内核和48 GB磁盘空间。

FTD实例大小

Platform	4215	4225	4245
Total CPU cores	32	64	128
Available CPU cores for FTD	30	62	126
Total RAM (GiB)	222	445	875
FXOS RAM (GiB)	6	6	6
DMA RAM (GiB)	11	39	78
Available RAM for FTD (GiB)	7	7	7
Available Disk space for FTD (GiB)	660	864	1794
Max Instances	10	15	34

Lina（数据平面）Snort核心分配

	4215	4225	4245			
实例大小	数据平面内核	Snort核心	数据平面内核	Snort核心	数据平面内核	Snort核心

6	2	2	2	2	2	2
8	2	4	2	4	2	4
10	4	4	4	4	4	4
12	4	6	4	6	4	6
14	6	8	6	6	6	6
16	6	8	6	6	8	8
18	8	10	8	8	8	10
20	8	10	8	8	10	10
22	10	12	10	10	10	12
24	12	12	10	10	10	12
26	12	14	12	12	12	12
28	14	14	12	14	12	14
30	14	16	14	14	14	14
32	14	16	14	16	14	16
34	16	16	16	16	16	16
36	16	18	16	18	16	18
38	18	18	18	18	18	18
40	18	20	18	20	18	20

42	20	20	20	20	20	20
44	20	22	20	22	20	22
46	22	22	22	22	22	22
48	22	24	22	24	22	24
50	24	24	24	24	24	24
52	24	26	24	26	24	26
54	26	26	26	26	24	26
56	26	28	26	28	26	28
58	28	28	28	28	28	28
60	28	30	28	39	28	30
62	30	30	30	30	30	30
64			30	32	30	32
66			30	34	30	34
68			32	34	32	34
70			32	36	32	36
72			34	36	34	36
74			34	38	34	38
76			36	38	36	38

78			36	40	36	40
80			38	40	38	40
82			38	42	38	42
84			40	42	40	42
86			40	44	40	44
88			42	44	42	44
90			42	46	42	46
92			44	46	44	46
94			44	48	44	48
96			46	48	46	48
98			46	50	46	50
100			48	50	48	50
102			48	52	48	52
104			50	52	50	52
106			50	54	50	54
108			52	54	52	54
110			52	56	52	56
112			54	56	54	56

114			54	58	54	58
116			56	58	56	58
118			56	60	56	60
120			58	60	58	60
122			58	62	58	62
124			60	62	60	62
128					60	64
130					60	66
132					62	66
134					62	68
136					64	68
138					64	70
140					66	70
142					66	72
144					68	72
146					68	74
148					70	74
150					70	76

152					72	76
154					72	78
156					74	78
158					74	80
254					120	130

配置

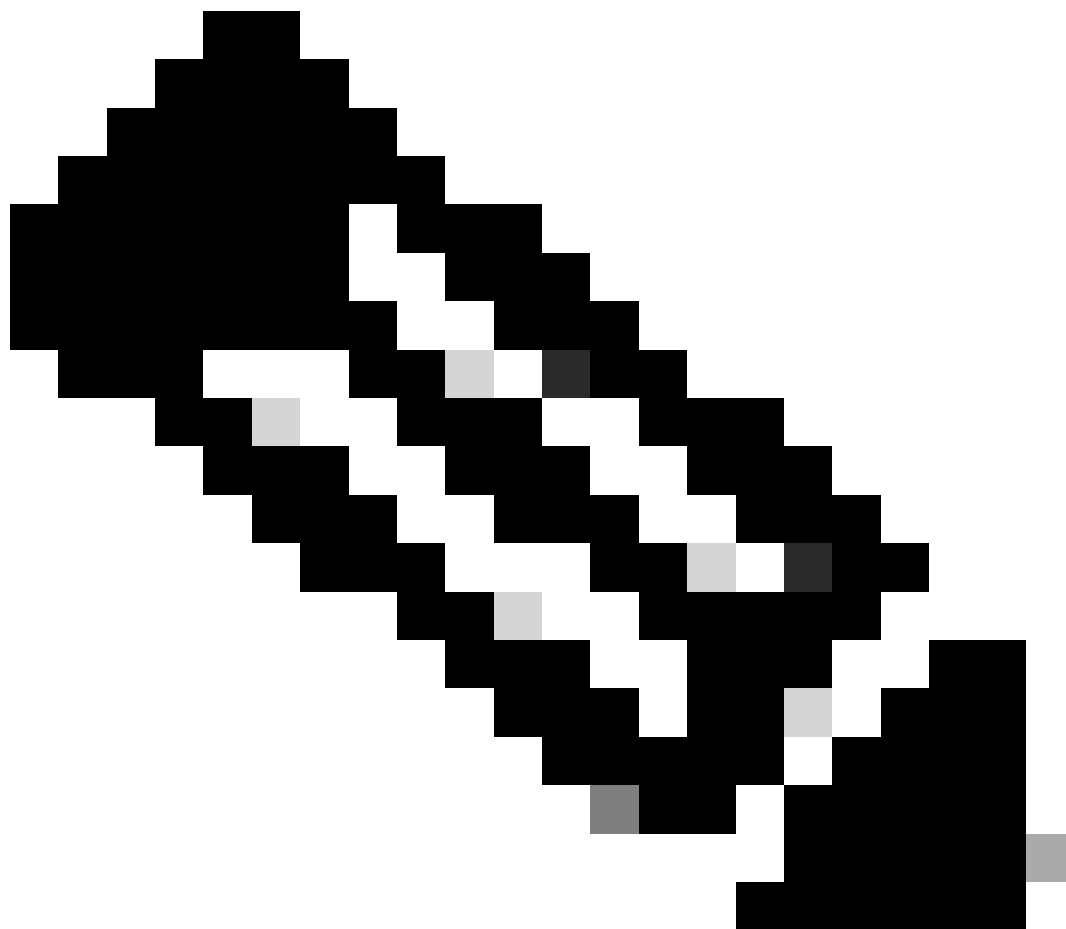
配置概述

- 1. 在FMC中注册4200系列（本地模式）设备
- 2. 新！在FMC上，选择设备并将其从本地模式转换为MI模式
- 3. 新！MI机箱在转换后自动注册到FMC
- 4. 更新物理接口
- 5. 创建FTD实例并分配接口
- 6. 从FMC创建/更新/删除端口通道和子接口
- 7. 配置平台设置
- 8. 将配置更改部署到设备
- 9. FTD实例自动注册到FMC

在FMC中将4200系列转换为多实例模式

默认情况下，4200处于本机模式。

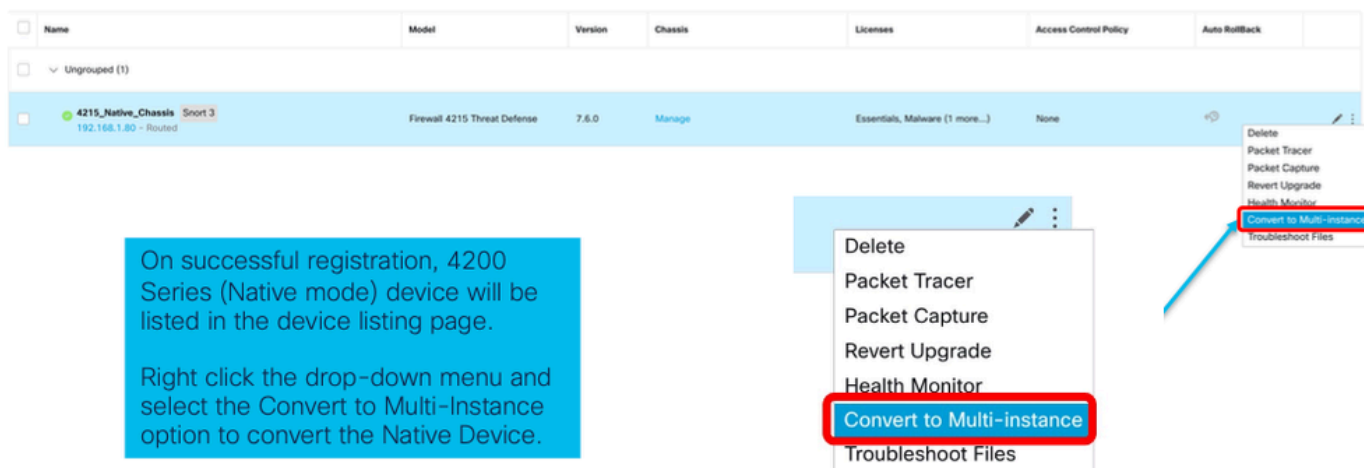
- 1. 连接到设备并创建管理器（已记录）。
- 2. 将本地设备注册到FMC（已记录）。
- 3. 使用FMC转换为多实例。
- 4. 在FMC上，选择需要转换为多实例的设备并触发转换。可以选择一个或多个设备。



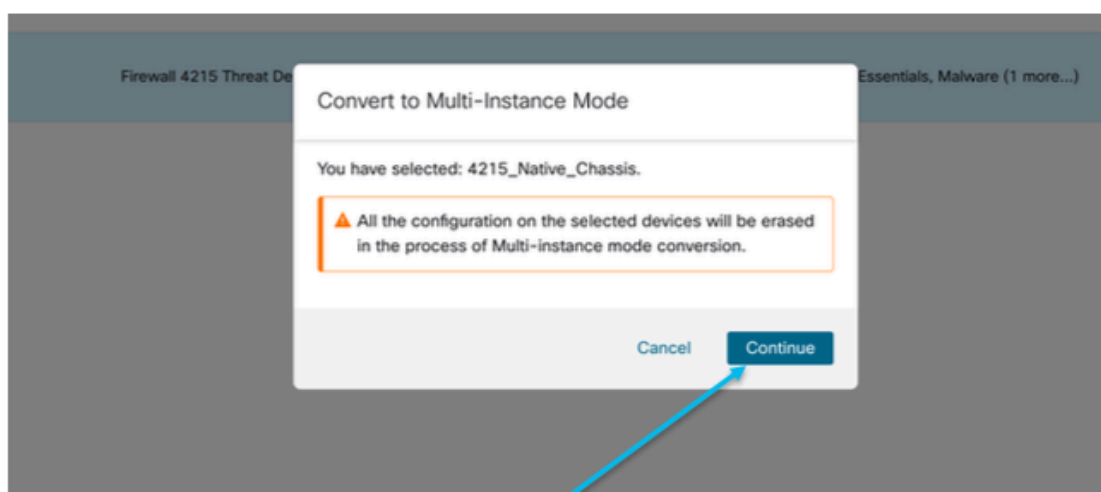
注意：在本机模式和MI模式之间切换会重置机箱上的所有配置。仍可通过CLI从MI模式转换到本机模式。

转换单个设备

1. 要开始转换，请导航到设备>设备管理。



2. 验证所选设备并单击Continue：



Click on continue to trigger conversion readiness checks to ensure device can be converted from Native to MI.

验证所选设备

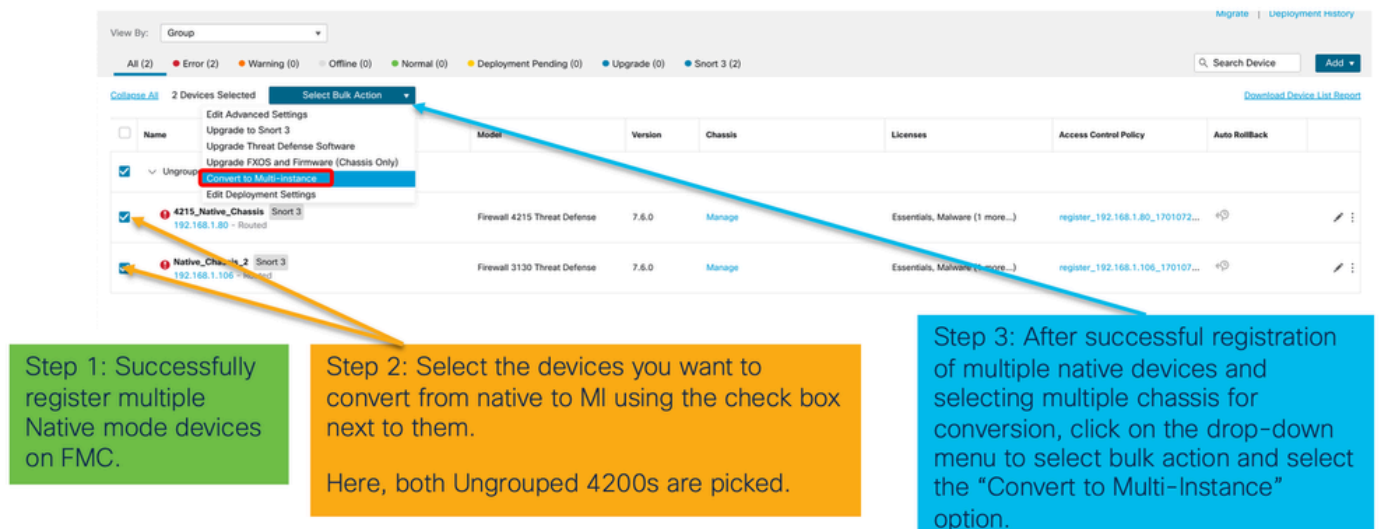
3. 就绪性检查和初始转换：



就绪性检查

转换多个设备 (批量转换)

1. 选择设备:



2. 确认选择:

Convert to Multi-Instance Mode

1 Selected Devices 2 Readiness Check

All the configuration on the selected devices will be erased in the process of Multi-instance mode conversion.

Device Name	IP	Version	Model	
4215_Native_Chassis	192.168.1.80	7.6.0	Cisco Secure Firewall 4215 Threat Defense	
Native_Chassis	192.168.1.106	7.6.0	Cisco Secure Firewall 3130 Threat Defense	

Cancel Next

Current selected devices

Step 1: Use the edit button to set the name of the Chassis after conversion.

Use the delete button to remove a device from bulk conversion.

IP Address that will be applied to chassis after conversion

Step 2: Click on "next" to trigger conversion readiness checks to ensure device can be converted from Native to MI.

3. 就绪性检查并启动转换：

Convert to Multi-Instance Mode

1 Selected Devices 2 Readiness Check

All the configuration on the selected devices will be erased in the process of Multi-instance mode conversion.

Device Name	IP	Version	Model	Status
4215_Native_Chassis	192.168.1.80	7.6.0	Cisco Secure Firewall 4215 Threat Defense	Ready
Native_Chassis_2	192.168.1.106	7.6.0	Cisco Secure Firewall 3130 Threat Defense	Ready

Cancel Back Convert to Multi-Instance

Click on the refresh icon to rerun readiness checks

This list shows the name, IP, version, and model of the devices that are being converted.

Hover over the icon next to the name to check whether the device is ready for conversion.

Click on Convert to Multi-Instance to start conversion for the device.

监控进度和完成

1. 转换开始通知：

Firewall Management Center
Devices / Device Management

Overview Analysis Policies **Devices** Objects Integration

View By: Group

All (1) Error (1) Warning (0) Offline (0) Normal (0) Deployment Pending (0) Upgrade (0) Short 3 (1)

Collaps All

Name	Model	Version	Chassis
Ungrouped (1)			
192.168.1.80 - Short 3 192.168.1.80 - Routed	Firewall 4215 Threat Defense	7.6.0	N/A

Deployments Upgrades Health **Tasks**

5 total 0 waiting 2 success 0 retrying 0 success 0 failures 0 Filter

- Switch Mode
Conversion of 192.168.1.80 in progress
Status: Fetching configuration data from the device 9s
- Switch Mode
Chassis Conversion
Chassis Conversion started for 1 device(s) 10s

No more older tasks

Remove completed tasks

Once the conversion is triggered, the status can be monitored using the Task Manager.

2. 机箱的自动注册：

Firewall Management Center
Devices / Device Management

Overview Analysis Policies **Devices** Objects Integration

View By: Group

All (1) Error (0) Warning (0) Offline (0) Normal (1) Deployment Pending (0) Upgrade (0)

Collaps All

Name	Model	Version	Chassis
Ungrouped (1)			
192.168.1.80 192.168.1.80	Firewall 4215 Threat Defense Multi-Instance Supervisor	7.6.0	Manage

Deployments Upgrades Health **Tasks**

5 total 0 waiting 2 running 0 retrying 3 success 0 failures 0 Filter

- Discover
192.168.1.80 - Discovery from the device is successful. 15s
- Register
Registration
192.168.1.80: Successfully registered 19s
- Switch Mode
Conversion of 192.168.1.80 in progress
Status: Trying chassis registration for 192.168.1.80, try 1 of 3 times 14m 25s
- Register
Unregistration
Unregistration completed.
192.168.1.80 - Did not update device 7s

Remove completed tasks

Device gets unregistered as a single device and automatically gets re-registered as a Chassis.

Now the Model column includes both the model and "Multi-Instance Supervisor".

3. 转换后通知：

Firewall Management Center
Devices / Device Management

Overview Analysis Policies **Devices** Objects Integration

View By: Group

All (1) Error (0) Warning (0) Offline (0) Normal (1) Deployment Pending (0) Upgrade (0)

Collaps All

Name	Model	Version	Chassis
Ungrouped (1)			
192.168.1.80 192.168.1.80	Firewall 4215 Threat Defense Multi-Instance Supervisor	7.6.0	Manage

Deployments Upgrades Health **Tasks**

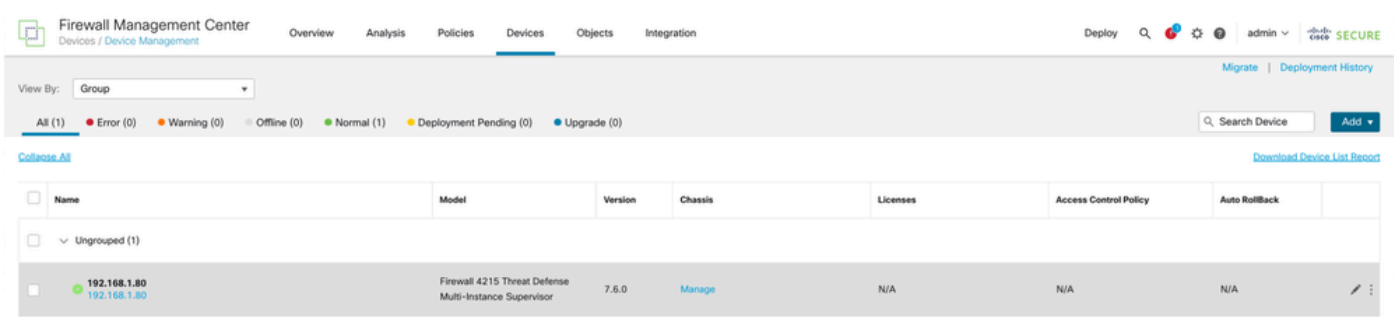
5 total 0 waiting 0 running 0 retrying 5 success 0 failures 0 Filter

- Switch Mode
Chassis Conversion Summary
Success: 1
Failed: 0 14m 32s
- Switch Mode
Conversion of 192.168.1.80 is successful
It is added with name 192.168.1.80 14m 31s
- Discover
192.168.1.80 - Discovery from the device is successful. 15s
- Register
Registration
192.168.1.80: Successfully registered 19s

Remove completed tasks

Successful Conversion Notification with number of devices converted successfully.

出现的设备管理页面列出了4200系列（MI模式）设备：



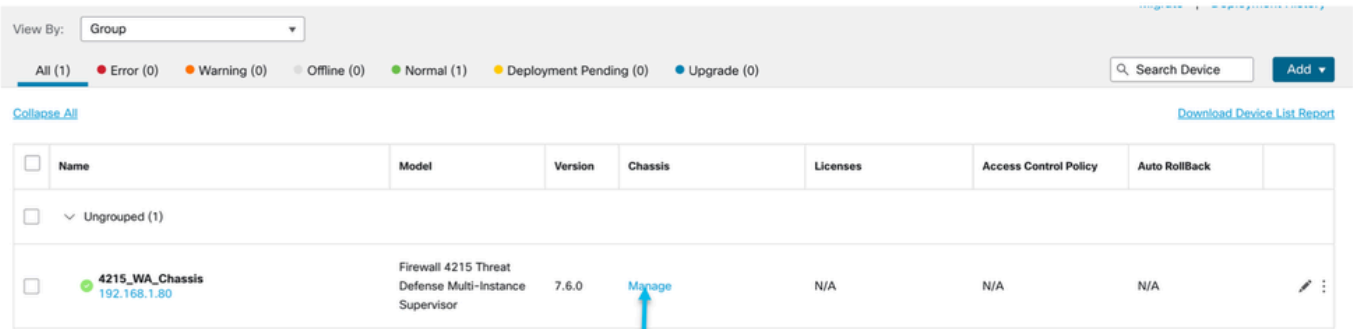
FMC机箱概述页面

FMC机箱概述页面概述

FMC机箱概述页面提供4200系列（MI模式）设备的完整摘要。此命令包括：

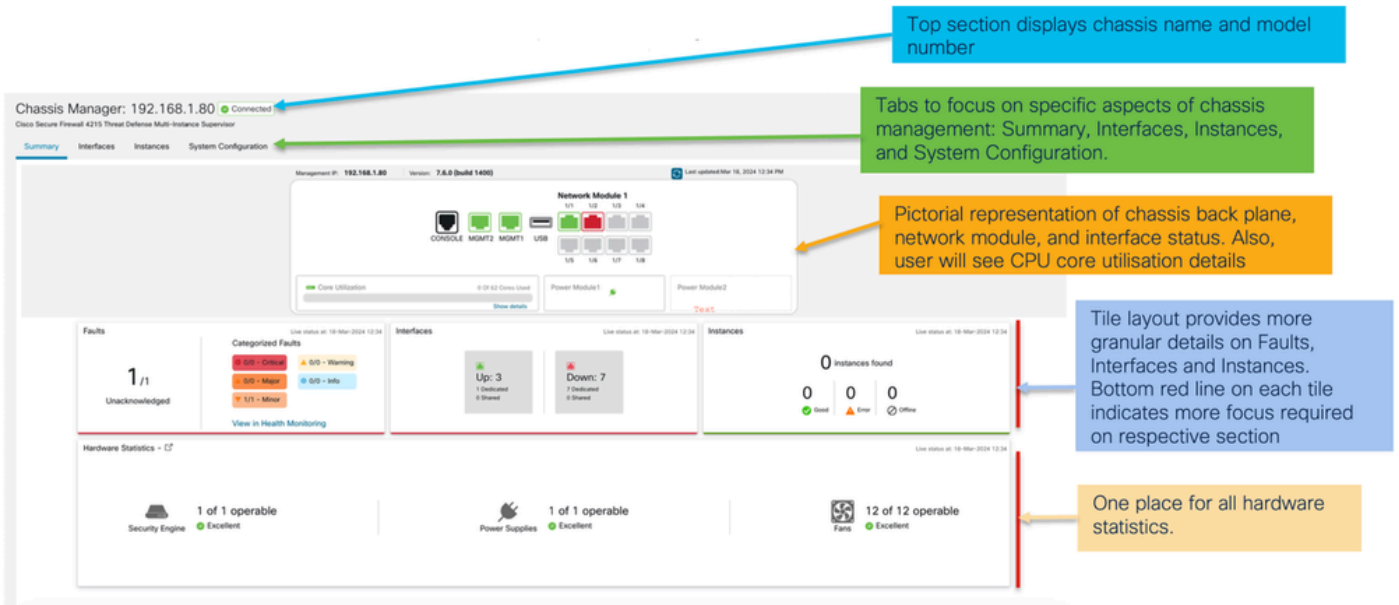
- 设备的图形后面板视图，包括可用的网络模块
- 故障摘要，及其重要性
- 接口摘要、状态
- FTD实例摘要、状态
- 硬件统计信息-包括风扇、电源、内存、CPU使用率和存储

点击管理，导航至机箱概述：



From the Device Management page, click 'Manage' to view 4200 Series (MI mode) Chassis (device) overview.

“机箱页面摘要”选项卡：

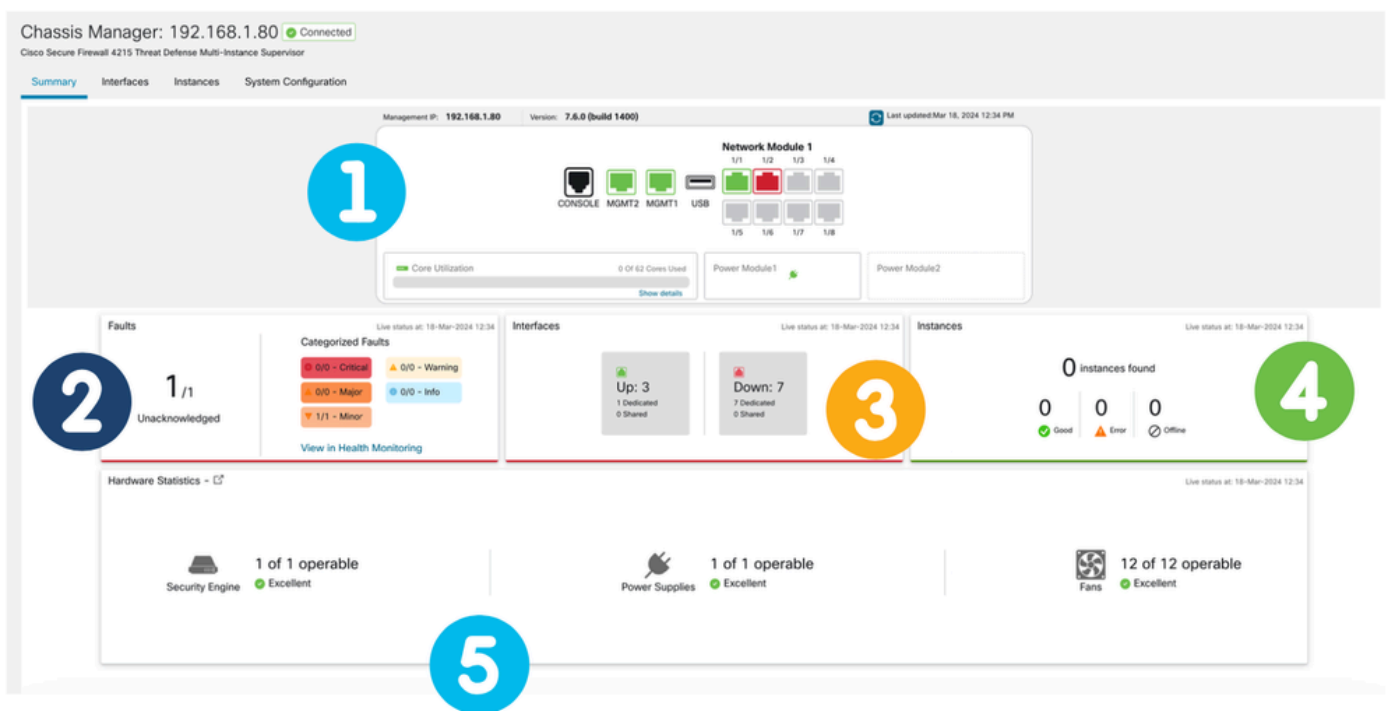


“机箱页面摘要”选项卡部分

“摘要”选项卡包含多个部分。单击可获取更多详细信息：

- 背板
- 故障
- 接口
- 实例
- 硬件统计信息

节按编号进行映射，如下图所示：



1. 后平面视图：

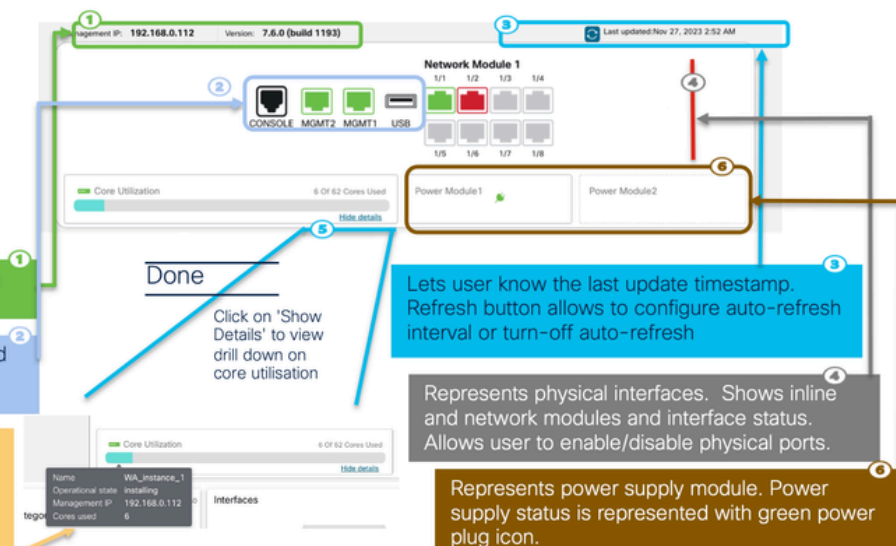


Displays management IP address and running software version/build number on the device.

Available physical ports on the device. Greyed out indicates they are non-actionable/configurable.

Each color indicates the number of cores utilized by individual FTD instances against total available cores.

Hovering over on each color will provide a tool-tip that details more on the FTD instance.



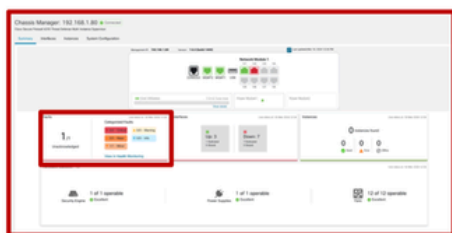
Done
Click on 'Show Details' to view drill down on core utilisation

Lets user know the last update timestamp. Refresh button allows to configure auto-refresh interval or turn-off auto-refresh

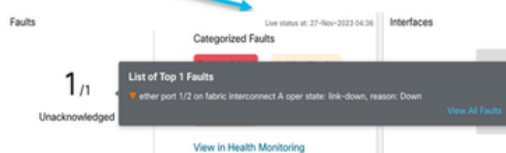
Represents physical interfaces. Shows inline and network modules and interface status. Allows user to enable/disable physical ports.

Represents power supply module. Power supply status is represented with green power plug icon.

2. 故障部分：

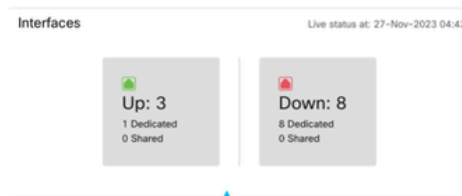


Live faults on the device are represented. The number indicates presence of fault and fault categories are listed on right side of the tile. Hover over the unacknowledged faults to show a tooltip that lists the faults.



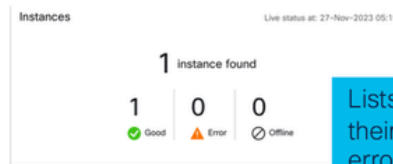
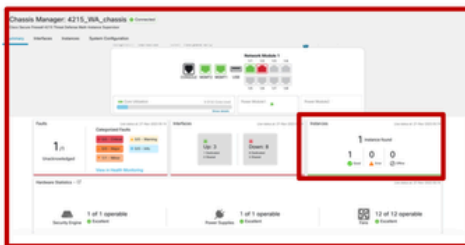
Click on 'View in Health Monitoring' to open a dialog that lists all faults in a table.

3. Interfaces部分：

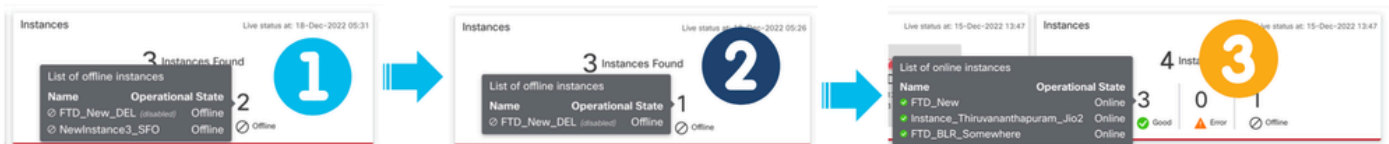


Lists number of interfaces that are operationally up and/or down. It also displays the of dedicated and shared interfaces.

4 .Instances部分：



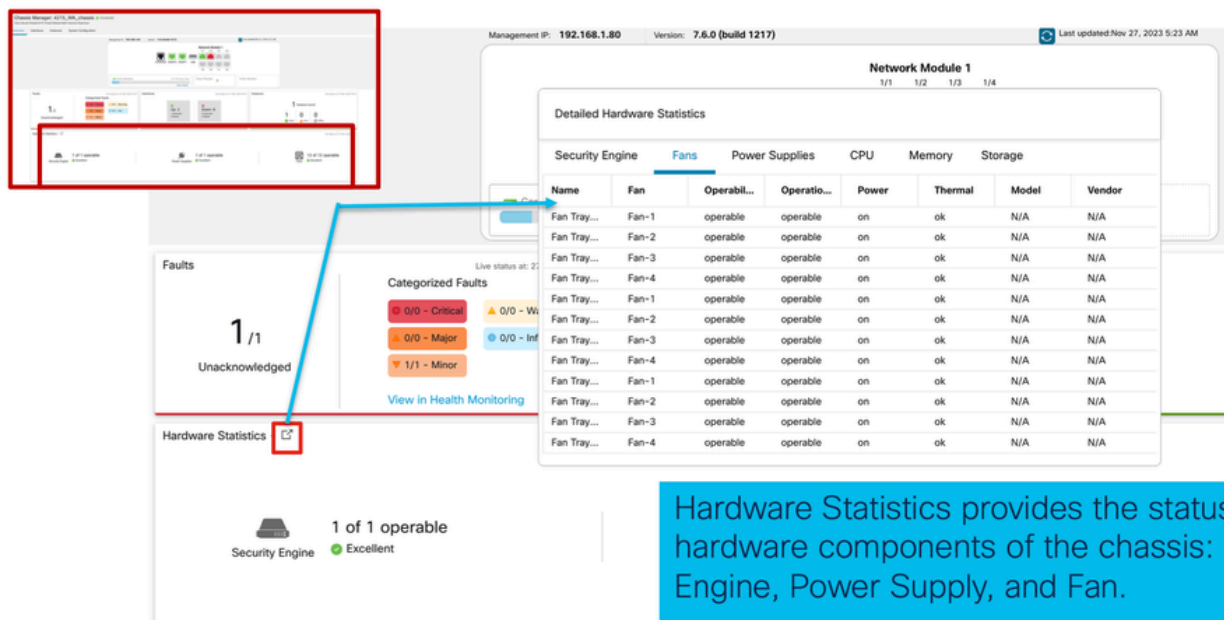
Lists number of instances with their state (online, offline, and error). On hovering , live status of instance is displayed



实例从脱机状态到联机状态的转换如前一图所示。

- 调配后(1)
- 实例处于脱机状态，直到联机(2)
- 中间状态也会反映出来(3)

5. 硬件统计：

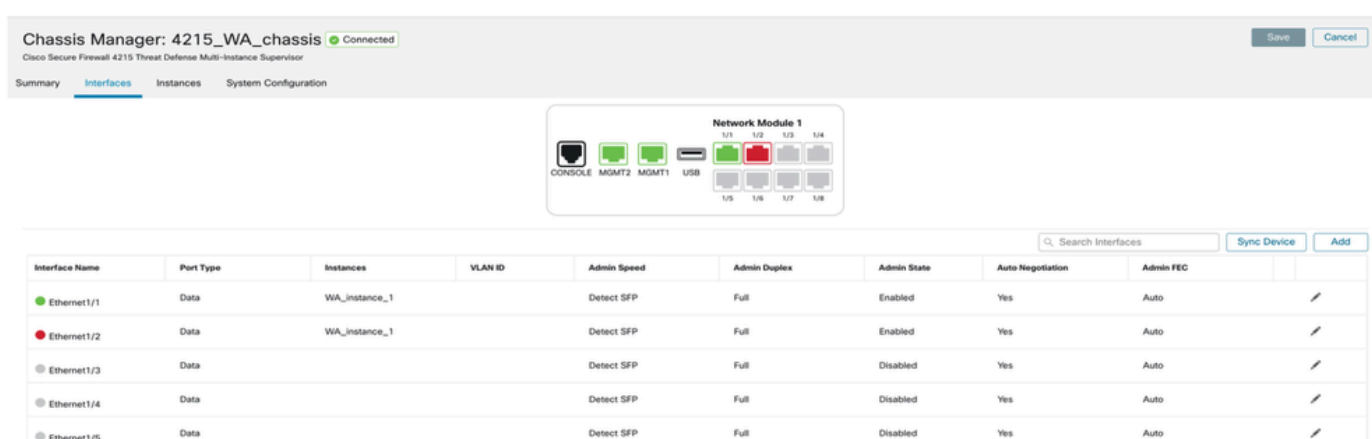


管理接口

Interfaces选项卡支持的操作：

- 物理接口更新
- 创建/更新/删除子接口
- 创建/更新/删除EtherChannel接口
- 同步接口配置
- 网络模块的OIR
- 物理接口中断/连接

Interfaces选项卡摘要



Interfaces选项卡的登录页显示为机箱管理的所有类型的接口，如物理接口、子接口和EtherChannel以及EtherChannel子接口。

修改物理接口配置

可以更新物理接口的以下属性：

- 状态（启用/禁用）
- 端口类型(数据 | 数据共享)
- 管理双工
- 管理速度
- 自动协商

Edit Physical Interface

?

Interface ID

Ethernet1/1

☒ Enabled

Port Type

Data

Admin Duplex

Full

Admin Speed

Detect SFP

Admin FEC

Auto

☒ Auto Negotiation

Cancel

OK

管理子接口

从Add按钮中选择“sub-interface”选项以添加新接口。

可以修改子接口的以下属性：

- 父接口
- 端口类型（数据/数据共享）

- 子接口 ID
- VLAN ID

Search Interfaces		Sync Device	Add
Auto Negotiation	Admin FEC	Sub Interface EtherChannel Interface	
Yes	Auto		

Add Sub Interface



Parent Interface

Port Type

SubInterface ID

(1-4294967295)

VLAN ID

(1-4094)

Cancel

OK

管理Etherchannel

要创建新的EtherChannel接口，请使用Add按钮下的“EtherChannel interface”。

可以为EtherChannel配置的属性包括：

- 以太网通道ID

- 端口类型（数据/数据共享）
- 成员接口
- 管理速度
- 管理双工
- LACP 模式
- LACP速率
- 自动协商

Search Interfaces		Sync Device	Add
Auto Negotiation	Admin FEC	Sub Interface EtherChannel Interface	
Yes	Auto		

Add EtherChannel Interface

Interfaces
Configuration

EtherChannel ID: (1-48)

☐ Enabled

Port Type

Data ▼

Select Member Interface(s)

Available Interfaces (7)

- Ethernet1/1
- Ethernet1/2
- Ethernet1/3
- Ethernet1/4
- Ethernet1/5
- Ethernet1/6

Selected Interfaces (0)

Add EtherChannel Interface

Interfaces
Configuration

Admin Duplex

Full ▼

Admin Speed

1Gbps ▼

LACP Mode

Active ▼

LACP Rate

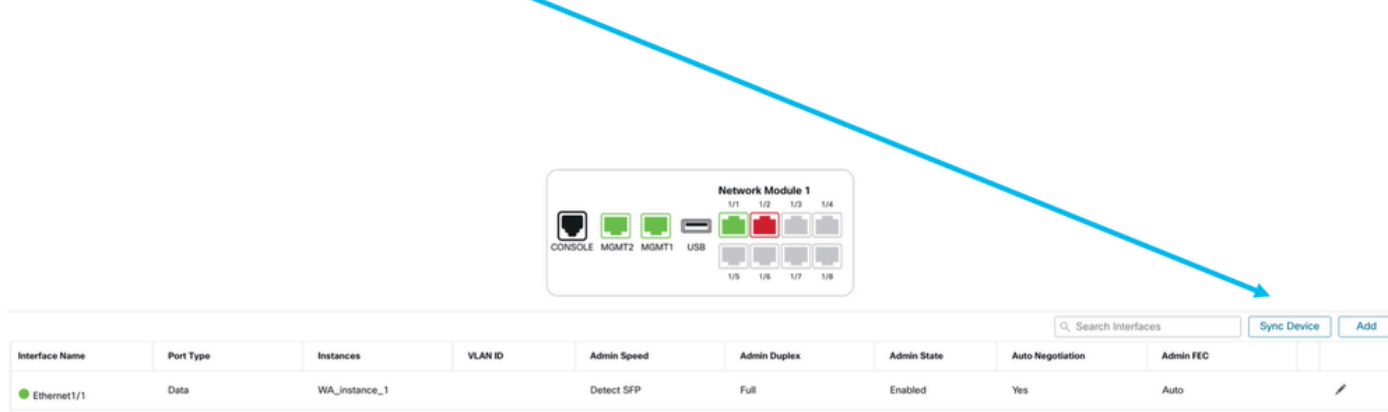
Default ▼

☒ Auto Negotiation

同步设备配置

在某些情况下，FMC配置和设备配置可能会不同步。一种情况是用户删除或插入网络模块。在这种情况下，可以执行同步设备。

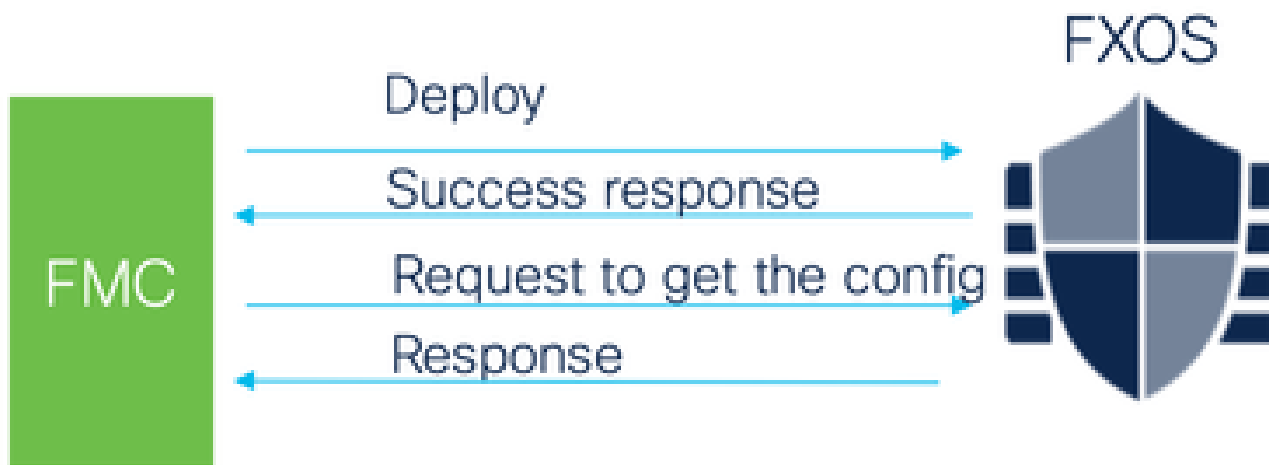
Click “Sync Device”.



网络模块热插拔/中断支持

您的文档中使用的“热插拔”在其他内部文档中称为“在线插拔”或OIR。

启用/禁用网络模块或接口中断或加入时可以立即部署。多实例模式与本地模式下的4200系列相同。



FMC将收到的响应与当前配置进行比较，然后创建接口更改通知供用户确认。

4200本地支持EPM热插拔和分支

独立本地模式安全防火墙4200系列独立版已支持EPM OIR和分支。

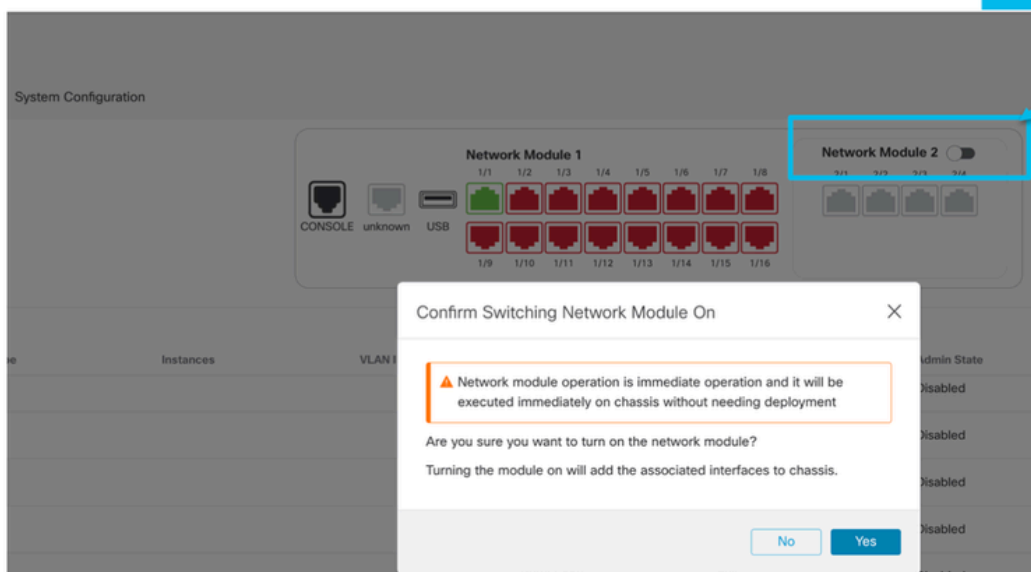
4200系列EPM OIR和分支FMC文档：

- <https://www.cisco.com/c/en/us/td/docs/security/secure-firewall/hardware/4200/fw-4200-install/m-overview.html>

OIR：启用/禁用EPM确认

当用户切换启用模块时，会显示一条警告，以确保这不是偶然的点击。

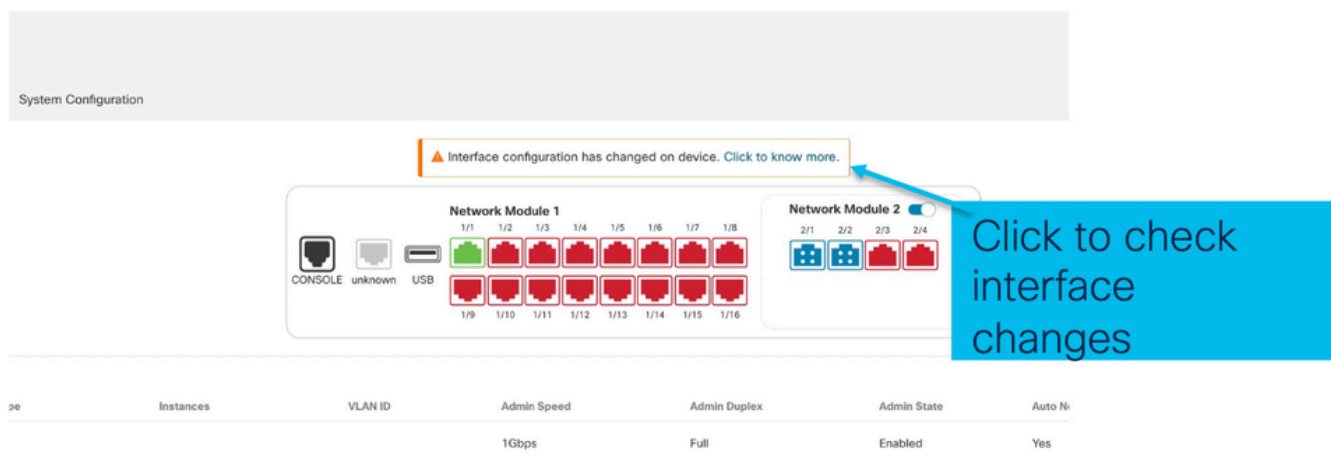
Toggle option to enable/disable module



EPM启用完成：接口通知已接收

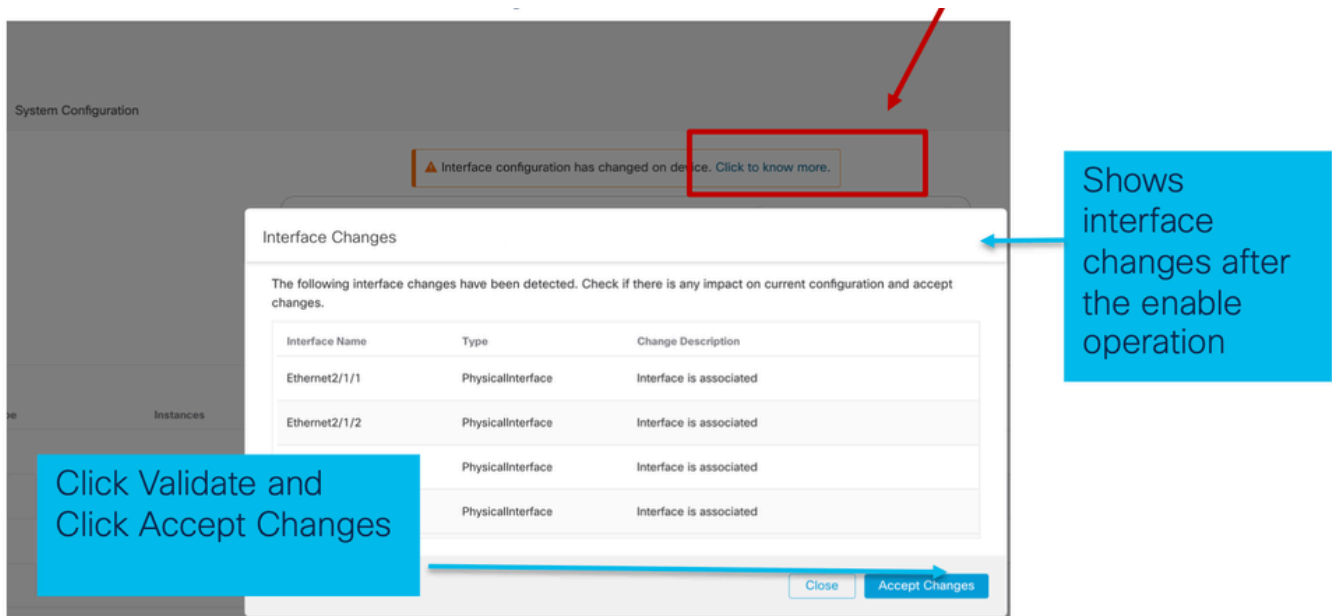
- 启用EPM时，会在设备上关联新接口。
- FMC接收有关关联接口的通知。
- 在FMC上，用户必须接受更改。

此屏幕截图显示用于查看关联接口的选项：



EPM接口更改通知

接口列表页面列出启用EPM时添加的接口。单击以了解更多信息启动“接口更改”对话框。保存后，单击了解更多信息不可用。



“机箱”页中的中断/加入选项

System Configuration

Network Module 1

Network Module 2

CONSOLE unknown USB

1/1 1/2 1/3 1/4 1/5 1/6 1/7 1/8

2/1 2/2 2/3 2/4

1/9 1/10 1/11 1/12 1/13 1/14 1/15 1/16

Search Interfaces Sync Device Add

pe	Instances	VLAN ID	Admin Speed	Admin Duplex	Admin State	Auto Negotiation	Admin FEC
			Detect SFP	Full	Disabled	Yes	Auto
			Detect SFP	Full	Enabled	Yes	Auto
			Detect SFP	Full	Enabled	Yes	Auto
			Detect SFP	Full	Disabled	Yes	Auto
			Detect SFP	Full	Disabled	Yes	Auto
			Detect SFP	Full	Disabled	Yes	Auto
			Detect SFP	Full	Disabled	Yes	Auto
			Detect SFP	Full	Disabled	Yes	Auto

Break option

Join option

系统将触发接口中断确认向导在中断时打开。

Confirm Interface Break



⚠ Interface break out is immediate operation and it will be executed instantly on device without needing deployment

Break operation splits the port to multiple ports, Are you sure you want to continue?

Ethernet2/2will break in following interfaces.

Interface Break	Resulting Interface	Admin Speed
Ethernet2/2 (Admin Speed:40G)	Ethernet2/2/1	10G
	Ethernet2/2/2	10G
	Ethernet2/2/3	10G
	Ethernet2/2/4	10G

No

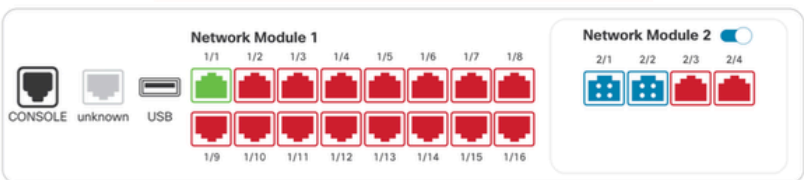


确认接口中断后，机箱页面上将显示接口更新通知。

- Click on the “Click to know more” link to notice the interface changes

System Configuration

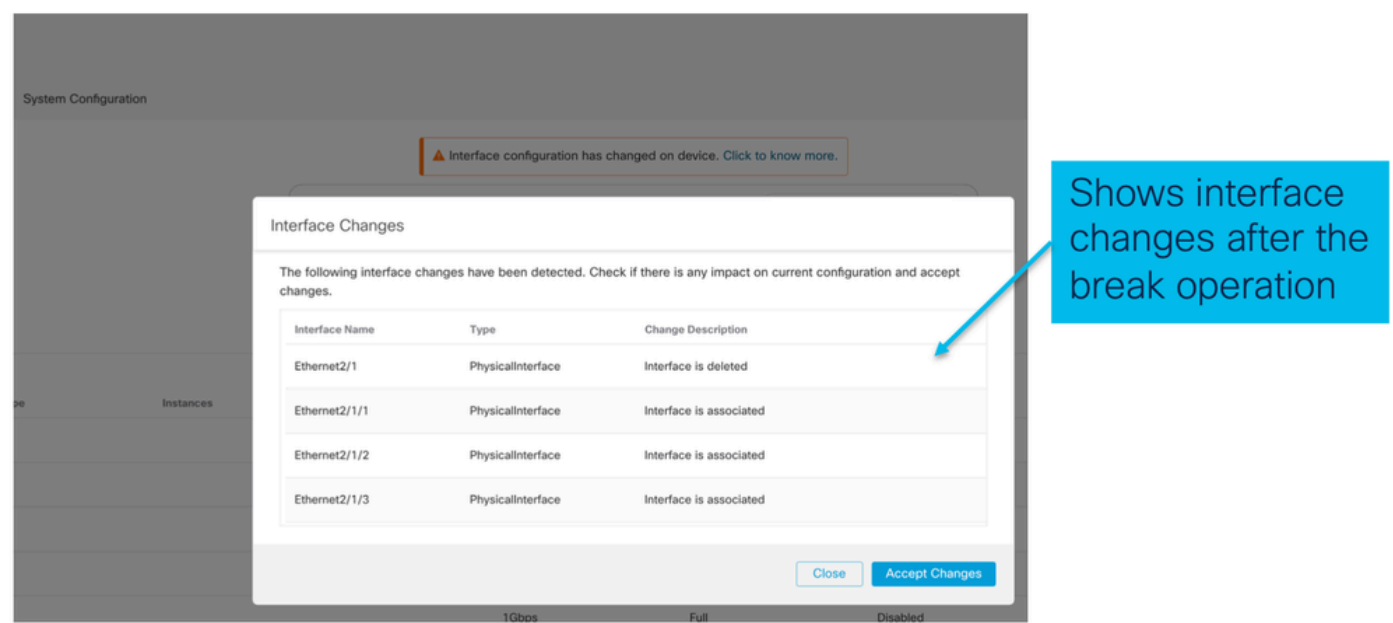
⚠ Interface configuration has changed on device. [Click to know more.](#)



pe	Instances	VLAN ID	Admin Speed	Admin Duplex	Admin State	Auto N
			1Gbps	Full	Enabled	Yes
			1Gbps	Full	Enabled	Yes

中断/加入后的接口更改

单击Accept Changes后，FMC中将提供以下要使用的接口：



接口更改对实例的影响

Change	Behavior
Change a dedicated interface to shared	No validation error
Change a shared interface used in multiple instance to dedicated	Validation error will block the change
Disable of Network module with interfaces assigned to Instance	No validation error during the disable operation, but error will be thrown in case user tries to accept the notifications without removing the assignment from the instance
Break/Join of interfaces assigned to instance	- Validation error will be thrown to initiate such operation - User needs to unassign the interfaces from the Logical Device before initiating Break/Join operation

实例管理

实例管理使您能够：

- 查看4200系列（MI模式）设备上的所有现有FTD实例及其详细信息。
- 创建/更新具有所需CPU内核和软件版本的FTD实例。
- 删除现有FTD实例。
- 允许用户选择FTD策略- FTD实例的访问策略和平台设置策略。
- 在FMC上线后，自动向FMC注册FTD实例。

View By: Group

All (1)
Error (0)
Warning (0)
Offline (0)
Normal (1)
Deployment Pending (0)
Upgrade (0)

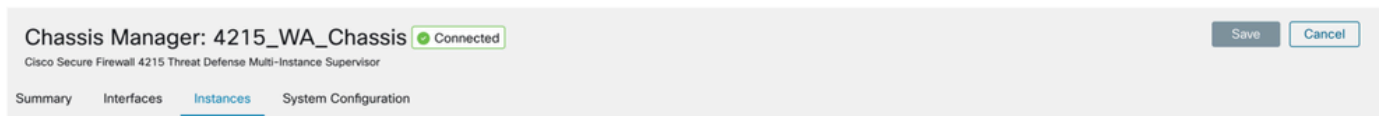
[Collapse All](#)
[Download Device List Report](#)

☐	Name	Model	Version	Chassis	Licenses	Access Control Policy	Auto RollBack	
☐	Ungrouped (1)							
☐	4215_WA_Chassis 192.168.1.80	Firewall 4215 Threat Defense Multi-Instance Supervisor	7.6.0	Manage	N/A	N/A	N/A	

Click 'Manage' to view 4200 Series (MI mode) Chassis overview

创建实例

通过单击Add Instance启动向导。



Click 'Instances' tab to navigate to instance listing page.

Click on 'Add an Instance' to launch FTD Instance create wizard. When there are no existing instances, you will see 'Add an FTD Instance' link.

步骤1:协议：

Firewall Management

Chassis Manager: 4215

Summary Interfaces **Instances**

Add Instance

1 Agreement 2 Instance Configuration 3 Interface Assignment 4 Device Management 5 Summary

End User License Agreement
Effective: May 10, 2022
Secure Firewall Terms and Conditions
By clicking 'Accept' below or using this Cisco Technology, you agree that such use is governed by the Cisco End User License Agreement and applicable Product Specific Terms available at:
<https://www.cisco.com/c/en/us/about/legal/cloud-and-software/software-terms.html>
You also acknowledge that you have read the Cisco Privacy Statement at:
<https://www.cisco.com/c/en/us/about/legal/privacy-full.html>
If you are a Cisco partner accepting on behalf of an end customer, you must inform the end customer that the EULA is a legal document that governs the end customer's use of the Cisco Technology and provide the end customer with access to all relevant terms. If you do not have the authority to bind your company and its affiliates, or if you do not agree with the terms of the EULA, do not click 'Accept' or use the Cisco Technology.
☐ I understand and accept the agreement.

Click on 'Add an Instance' will launch FTD instance creation guided wizard.

Read EULA and click check box to accept. Once accepted 'Next' button will be enabled.

Add FTD instance wizard. First step is to approve EULA

第二步：

- 实例配置基础知识：

Add Instance

1 Agreement 2 **Instance Configuration** 3 Interface Assignment 4 Device Management 5 Summary

Display Name *
WA_instance_1

Device Version *
7.6.0.1208

Resource Profile *
Default-Small

Management IP *
192.168.1.81

Network Mask *
255.255.255.0

Network Gateway *
192.168.1.254

Search Domain

FQDN

Firewall Mode *
Routed

DNS Servers

Device SSH Password *

Confirm Password *

Cancel BACK NEXT

Step 2 in instance creation wizard is to configure FTD instance.

Display name of FTD instance. FMC lists the device with the same name as on listing page.

Allows configuring core allocation for this FTD instance. You can pick a pre-defined resource profile (Default-Small, Default-Medium, or Default-Large) or make a new one. Use the '+' icon to define a custom resource profile object.

FTD version and build number. In 7.6.0, only possible version will be 7.6.0-XX.

- 实例配置IP：

Add Instance

1 Agreement 2 Instance Configuration 3 Interface Assignment 4 Device Management 5 Summary

Display Name *
WA_instance_1

Device Version *
7.6.0.1208

Resource Profile *
Default-Small

☐ Permit Expert mode for CLI

IPv4 IPv6 Both

IPv4
 Management IP *
192.168.1.81
 Network Mask *
255.255.255.0
 Network Gateway *
192.168.1.254

Search Domain
FQDN
Firewall Mode *
Routed

DNS Servers
Device SSH Password *
Confirm Password *
☐ Show Password

IPv6
 Management IP *
2001:a00::192:168:1235
 Prefix *
112
 Network Gateway *
2001:a00::192:168:1240

IPv4 IPv6 Both

IPv4
 Management IP *
192.168.1.81
 Network Mask *
255.255.255.0
 Network Gateway *
192.168.1.254

IPv6
 Management IP *
2001:a00::192:168:1235
 Prefix *
112
 Network Gateway *
2001:a00::192:168:1240

Cancel Back Next

Allows user to configure IPv4, IPv6 or Both IPv4 and IPv6 management IP address for FTD instance. Customer will be able to SSH to FTD device using this management IP address

第三步：接口分配：

Add Instance

1 Agreement 2 Instance Configuration 3 Interface Assignment 4 Device Management 5 Summary

Available Interfaces (14)

Ethernet1/1
Ethernet1/3
Ethernet1/5
Ethernet1/5.11
Ethernet1/5.12
Ethernet1/9
Ethernet1/10
Ethernet1/11
Ethernet1/12
Ethernet1/13
Ethernet1/14
Ethernet1/15
Ethernet1/16
Port-channel1

Selected Interfaces (2)

Ethernet1/2
Ethernet1/4

>> <<

Cancel Back Next

Step 3 allows you to assign interfaces to FTD instance.

Lists all available physical, sub-interfaces and port-channel interfaces.

Lists all interfaces selected for this instance.

Bulk add all and remove all interfaces. Moves all available interfaces as selected interfaces and vice-versa.

Delete icon allows you to remove interface from the Selected to Available lists.

Add icon '+' allows you to add an available interface as selected interface.

A share icon Indicates the interface is shared.

第四步：设备管理：

Add Instance

1 Agreement 2 Instance Configuration 3 Interface Assignment 4 Device Management 5 Summary

Device Group
Select...

Access Control Policy*
Policy1

Platform Settings
Select...

Smart Licensing
☒ Carrier
☒ Malware Defense
☐ IPS
☐ URL

Step 4 allows to assign default access policy, platform setting, device group and choose smart license for FTD.

Select an existing device group. FTD instance will be part of the group once online.

Select default access policy. The '+' icon allows creation of a new access policy. It is mandatory to assign an access policy.

Select default platform settings policy. The '+' icon allows creation of a new chassis platform setting policy. It is not mandatory.

Select smart license(s) applicable for FTD instance.

Cancel Back Next

第五步：摘要：

Add Instance

1 Agreement 2 Instance Configuration 3 Interface Assignment 4 Device Management 5 Summary

Instance Configuration

Name: WA_instance_1
 Version: 7.6.0.1208
 Resource Profile: Default-Small
 IP: 192.168.1.81
 Mask: 255.255.255.0
 Gateway: 192.168.1.254
 Mode: routed
 Password: *****
 FQDN:
 DNS Servers:
 Search Domain:
 Expert Mode: disabled

Device Management - This info is required only during instance creation.

Access Policy: Policy1
 Device Group:
 Platform Policy:
 Licenses: Carrier, Malware Defense

Interface Assignment - 2 dedicated and 0 shared interfaces attached [Link](#)

Name	Port Type
Ethernet1/1	DATA
Ethernet1/2	DATA

Each tile summarizes sections of configuration performed in previous steps of the wizard.

Edit icon in each tile will navigate user to respective section of the wizard, allowing them to edit configuration.

Final step is to click 'Save'. Configuration will be staged in FMC.

Cancel Back Save

要完成配置，请保存和部署。

Firewall Management Center Overview Analysis Policies Devices Objects Integration Deploy

Chassis Manager: 4215_WA_Chassis Connected

You have unsaved changes Save Cancel

1

Step 1. Click on the Save button to save the changes on the chassis.

2

Step 2. Click on Deploy to push the staged configuration in FMC to Chassis.

Name	Version	Resource Profile	Management IP	Management Gateway	Licenses
WA_instance_1	7.6.0.1208	Default-Small	192.168.1.81	192.168.1.254	Carrier, ...

Firewall Management Center Overview Analysis Policies Devices Objects Integration Deploy

Chassis Manager: 4215_WA_Chassis Connected

Instance configuration has changed. A deployment is required.

Summary Interfaces Instances System Configuration

Name	Version	Resource Profile	Management IP	Management Gateway
WA_instance_1	7.6.0.1208	Default-Small	192.168.1.81	192.168.1.254

Advanced Deploy Deploy All Cancel

4215_WA_Chassis Ready for Deployment

1 device is available for deployment

3

Step 3. Select the device and click on Deploy All to immediately deploy the changes or click on 'Advanced Deploy' to review the changes and then deploy.

成功部署后FTD实例的自动注册：

Chassis Manager: 4215_WA_chassis Connected
Cisco Secure Firewall 4215 Threat Defense Multi-Instance Supervisor
Summary Interfaces **Instances** System Configuration

Name	Version	Resource Profile	Management IP	Management Gateway	Licenses	AC Policy
starting_1	7.6.0.1217	Default-Small	192.168.1.81	192.168.1.254	Carrier, ...	Pol

Dismiss all notifications

Chassis
4215_WA_chassis
WA_instance_1: provisioning

Chassis
4215_WA_chassis
WA_instance_1: installing

On successful deployment, FTD instance will boot up. Instance will transition from offline to starting, and, then, online state. Once online, auto-registration will kick in and FTD instance will get registered and listed in the device listing page. Task Manager messages will inform the user on progress of instance creation and registration.

注册到管理中心的实例：

All (2) Error (1) Warning (0) Offline (0) Normal (1) Deployment Pending (1) Upgrade (0) Snort 3 (1) Search Device Add

Collapse All Download Device List Report

Name	Model	Version	Chassis	Licenses	Access Control Policy	Auto RollBack
Un grouped (2)						
4215_WA_chassis 192.168.1.80	Firewall 4215 Threat Defense Multi-Instance Supervisor	7.6.0	Manage	N/A	N/A	N/A
WA_instance_1 192.168.1.81 - Routed	Firewall 4215 Threat Defense	7.6.0	N/A	Essentials, Malware (1 more...)	None	

FMC Device Listing Page
Once auto-registration is successful, the FTD instance gets listed on the device listing page.

编辑实例

点击铅笔图标编辑FTD实例：

Chassis Manager: 4215_WA_chassis Connected Save Cancel

Cisco Secure Firewall 4215 Threat Defense Multi-Instance Supervisor

Summary Interfaces Instances System Configuration

Search an instance Add Instance

Name	Version	Resource Profile	Management IP	Management Gateway	Licenses	AC Policy	Platform Settings	
> WA_instance_1	7.6.0.1217	Default-Small	192.168.1.81	192.168.1.254	Carrier, ...	Pol	N.A	

Click on the pencil icon to open the edit instance dialog.

步骤1:编辑FTD实例：

Edit Instance 1

1 Instance Configuration 2 Interface Assignment 3 Summary

Display Name *
WA_instance_1

Device Version *
7.6.0.1217

☒ Admin State ☐ Permit Expert mode for CLI

Resource Profile *
Default-Small

IPv4
Management IP *
192.168.1.81

Network Mask *
255.255.255.0

Network Gateway *
192.168.1.254

Search Domain

FQDN

Firewall Mode *
Routed

DNS Servers

Device SSH Password *

Confirm Password *

Cancel Next

The Edit Instance dialog is like the Create Instance wizard.

However, the user does not have the option to edit EULA, display name, or device version.

Click on the 'Next' button to edit interface assignments

第二步：编辑实例的接口分配：

Edit Instance

1 Instance Configuration 2 Interface Assignment 3 Summary

Available Interfaces (7)

- Ethernet1/3
- Ethernet1/4
- Ethernet1/5
- Ethernet1/6
- Ethernet1/8
- Ethernet1/8.10
- Port-channel2

Selected Interfaces (2)

- Ethernet1/1
- Ethernet1/2

>>

<<

Cancel Back Next

The next step allows the user to modify interface assignments. User can add new interface or remove existing interfaces.

Click on the 'Next' button to view a summary of changes made to the instance

第三步：编辑实例摘要：

Edit Instance

1 Instance Configuration 2 Interface Assignment 3 Summary

Instance Configuration

Name: WA_Instance_1

Version: 7.6.0.1217

Resource Profile: Default-Small

IP: 192.168.1.81

Mask: 255.255.255.0

Gateway: 192.168.1.254

Mode: routed

Password: *****

FOON:

DNS Servers:

Search Domain:

Expert Mode: disabled

Interface Assignment - 2 dedicated and 0 shared interfaces attached [View](#)

Name	Port Type
Ethernet1/1	DATA
Ethernet1/2	DATA

Cancel Back Save

The last step of editing an instance is to view the summary of changes made to the instance.

Each tile has a pencil icon that navigates user to respective section of the edit steps.

Click the 'Save' button to stage the configuration changes in FMC. The user can review and deploy the changes at a later point in time.

删除实例



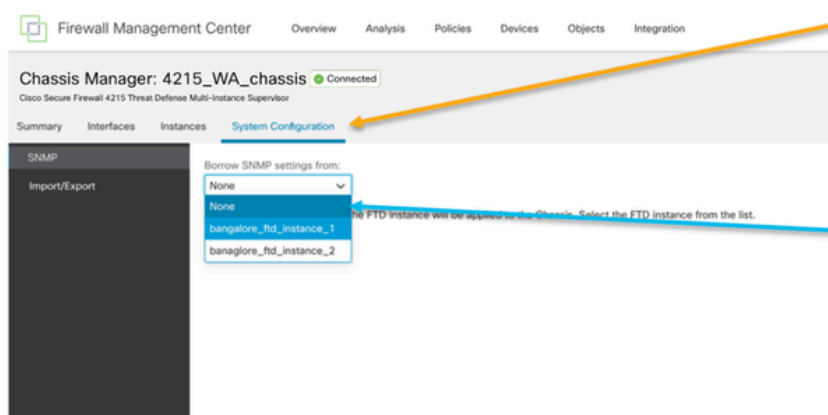
Use the Delete option (from the trash can icon) to delete an existing instance.

Deleting an instance will stage the changes in FMC. Clicking delete will not impact device unless configuration saved and then deployed.

Deleting an instance will free up core allocation.

SNMP配置

导航到用于配置SNMP的系统配置选项卡：



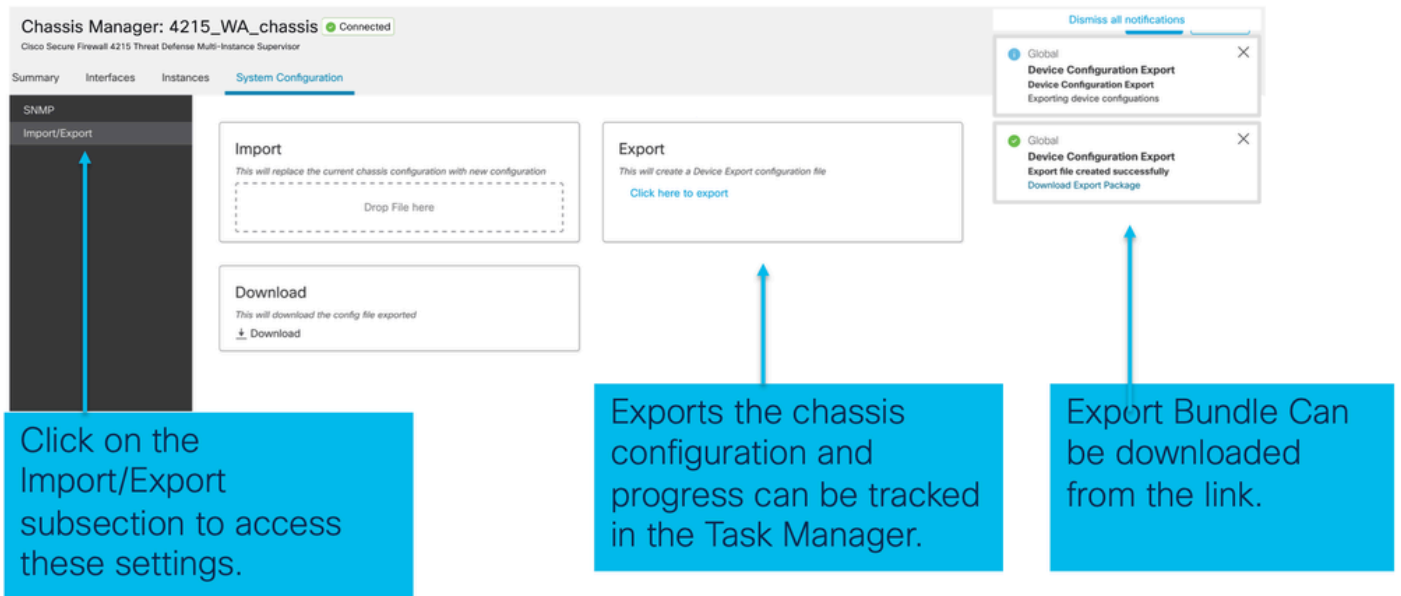
Click on the System Configuration Tab to access the SNMP settings

Select the FTD Instance for SNMP

机箱导入/导出

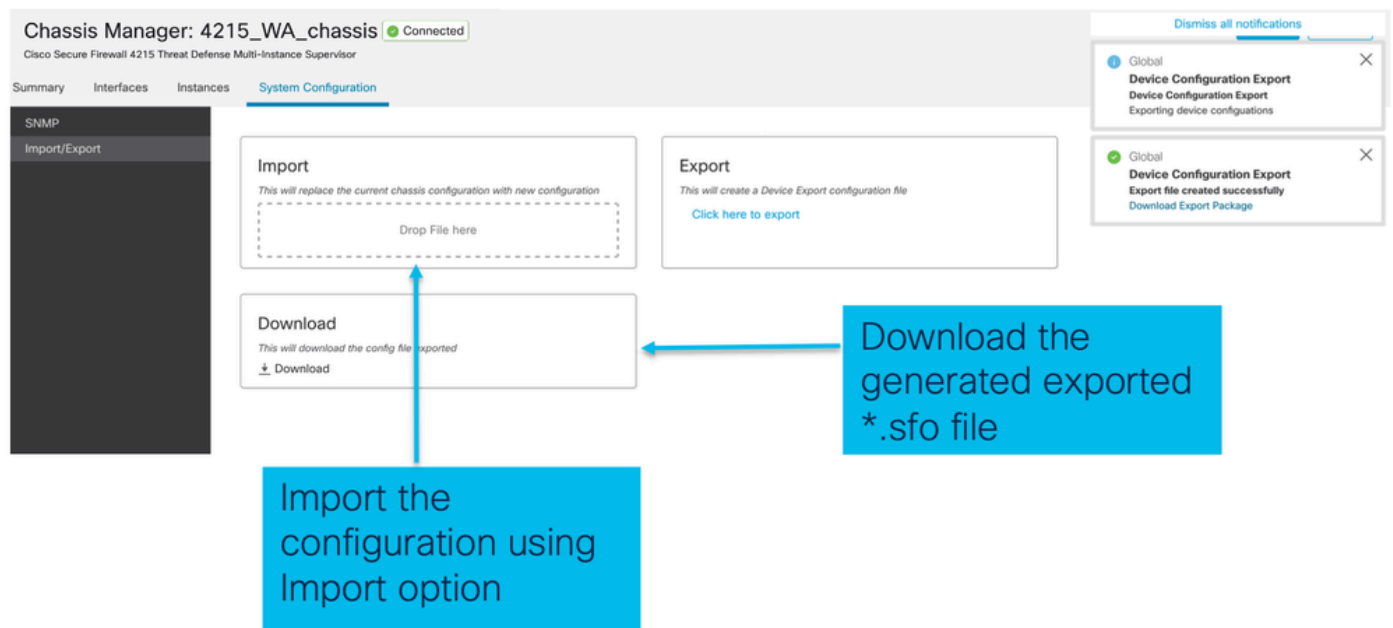
导出配置

导航到管理机箱>系统配置>导入/导出：



导入配置

导航到管理机箱>系统配置>导入/导出：



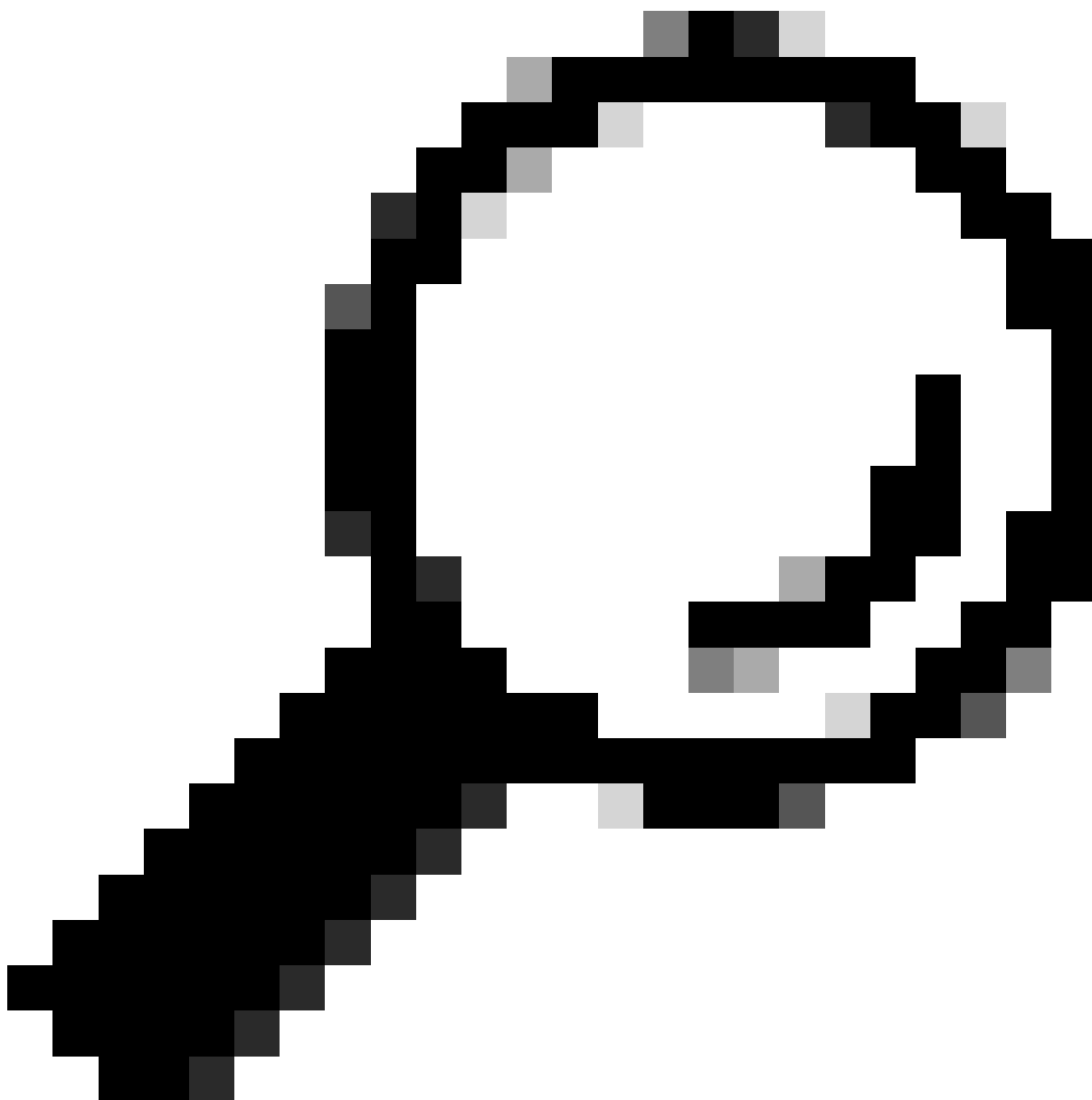
有关机箱导入/导出的注意事项

- 机箱上的所有现有配置将被导入文件中的配置替换。
- 导入配置的平台软件版本必须与导出的版本相同。
- 导入配置的机箱在进行导出时必须安装相同数量的网络模块。
- 导入配置的机箱必须为逻辑设备安装相同的应用映像。
- 不导出特定于应用程序的配置设置。仅导出机箱配置。
- FTD实例备份需要单独进行。

机箱平台设置策略

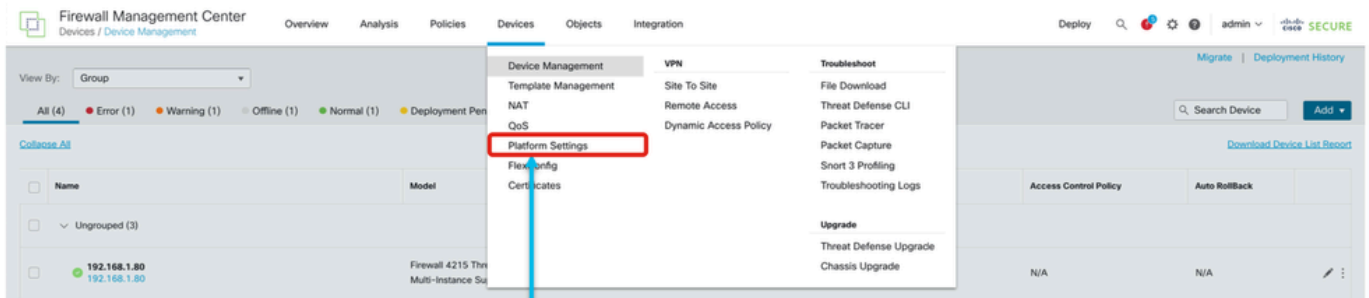
机箱平台设置策略允许用户配置以下平台特定配置：

- 时间同步(NTP)
 - DNS
 - 系统日志
 - 时区
 - 用户可以创建新的“机箱平台设置”策略，并将其分配到多个4200系列（MI模式）机箱。
-



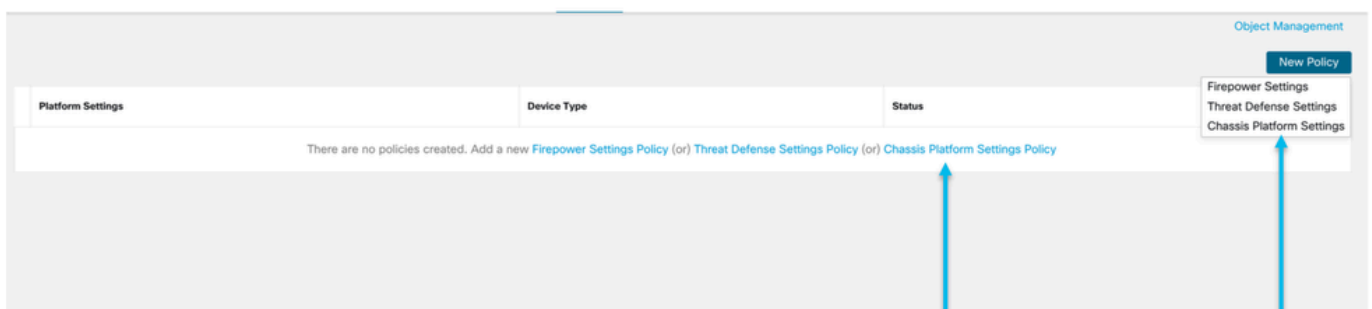
提示：机箱平台设置仅适用于机箱。如果用户要将平台设置应用于其实例，则可以使用威胁防御平台设置策略。

1. 导航到机箱平台设置策略：



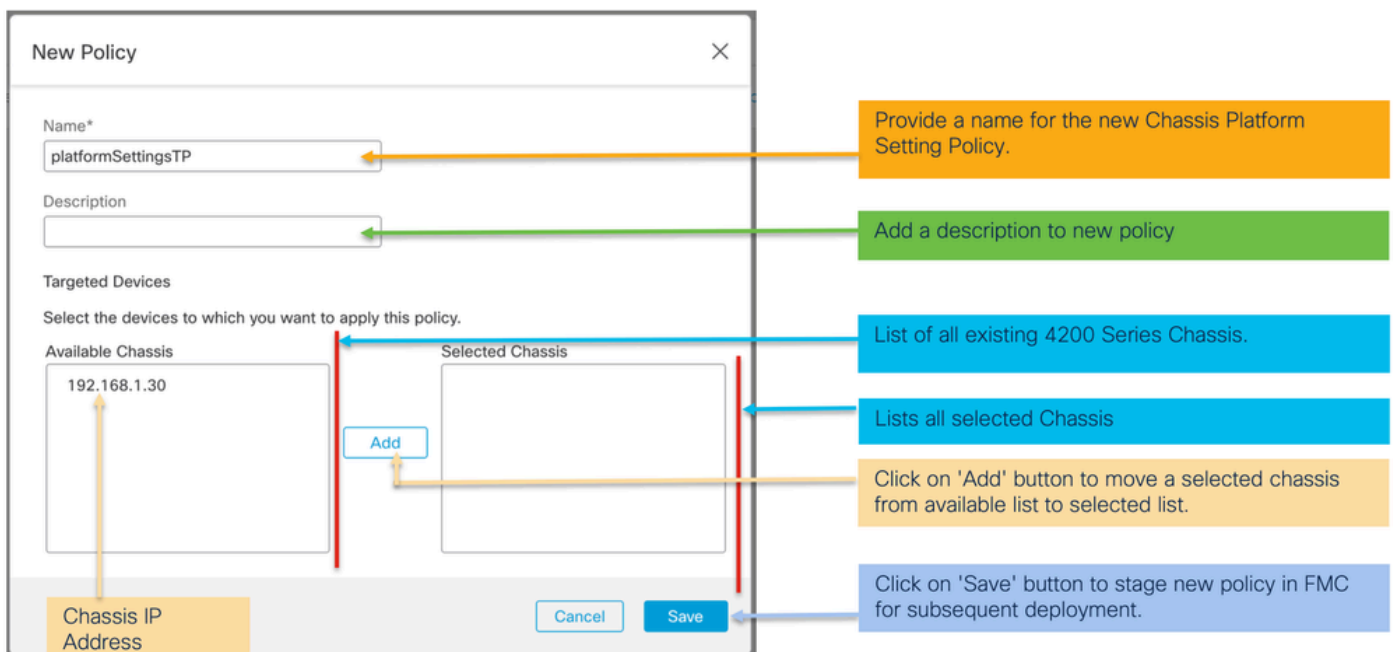
Head to the Platform Settings page to manage your Chassis Platform Settings.

2. 创建机箱平台设置：



'Chassis Platform Settings' was added in 7.4.1.

- To create a new Chassis Platform Settings Policy click on 'Chassis Platform Settings' under 'New Policy' to launch new platform settings dialog.
- When there are no existing platform setting policies, you will see the 'Chassis Platform Settings Policy' link. This is your launch point to create.



3. 机箱平台设置策略页：



PlatformSettingsTP /

Enter Description

DNS

SSH

SSH Access List

Syslog

Time Synchronization

Time Zones

DNS Resolution Settings

Specify DNS servers groups.

☐ Enable DNS name resolution by device

DNS Server Groups

Add

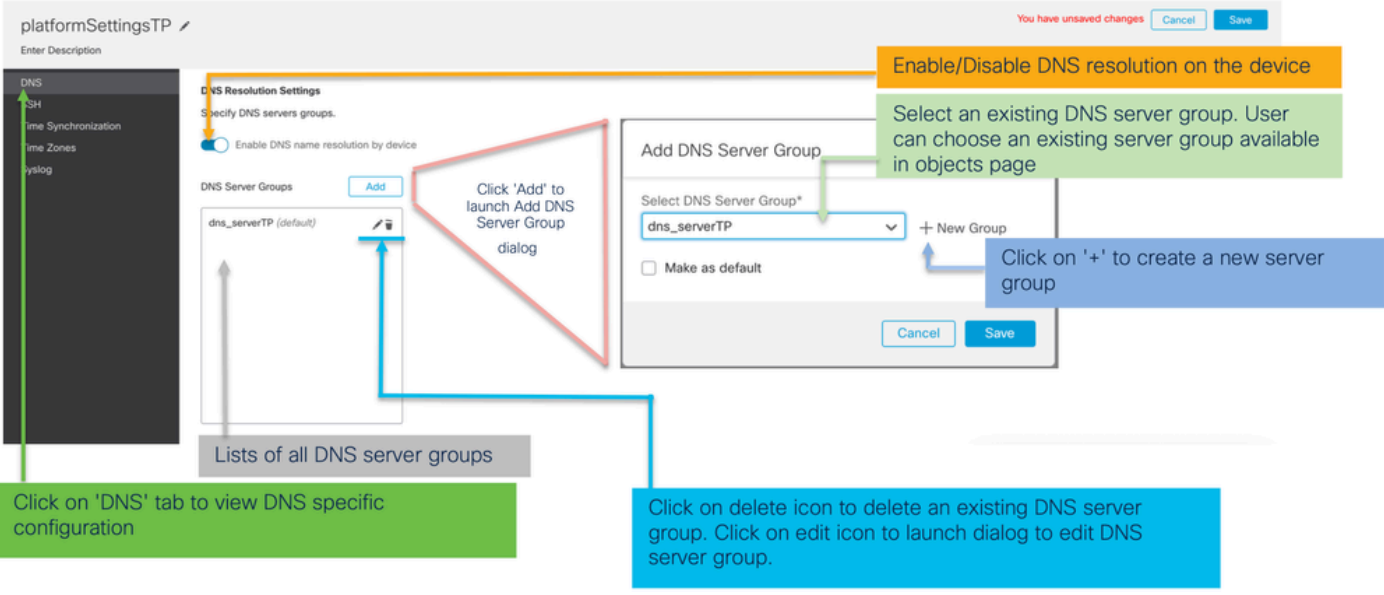
Policy Assignments (1)

Each platform setting has its own individual tab. Click on a tab to make configuration changes.

Shows the number of 4200 Series (MI mode) Chassis assigned to this policy.
(In this screenshot, there is one.)

机箱平台设置：DNS

在机箱平台设置策略的DNS部分下启用和添加DNS服务器组：



platformSettingsTP /

Enter Description

DNS

SSH

Time Synchronization

Time Zones

Syslog

DNS Resolution Settings

Specify DNS servers groups.

☐ Enable DNS name resolution by device

DNS Server Groups

Add

dns_serverTP (default)

Click 'Add' to launch Add DNS Server Group dialog

Add DNS Server Group

Select DNS Server Group*

dns_serverTP

+ New Group

☐ Make as default

Cancel

Save

Enable/Disable DNS resolution on the device

Select an existing DNS server group. User can choose an existing server group available in objects page

Click on '+' to create a new server group

Click on '+' to launch Add DNS Server Group dialog

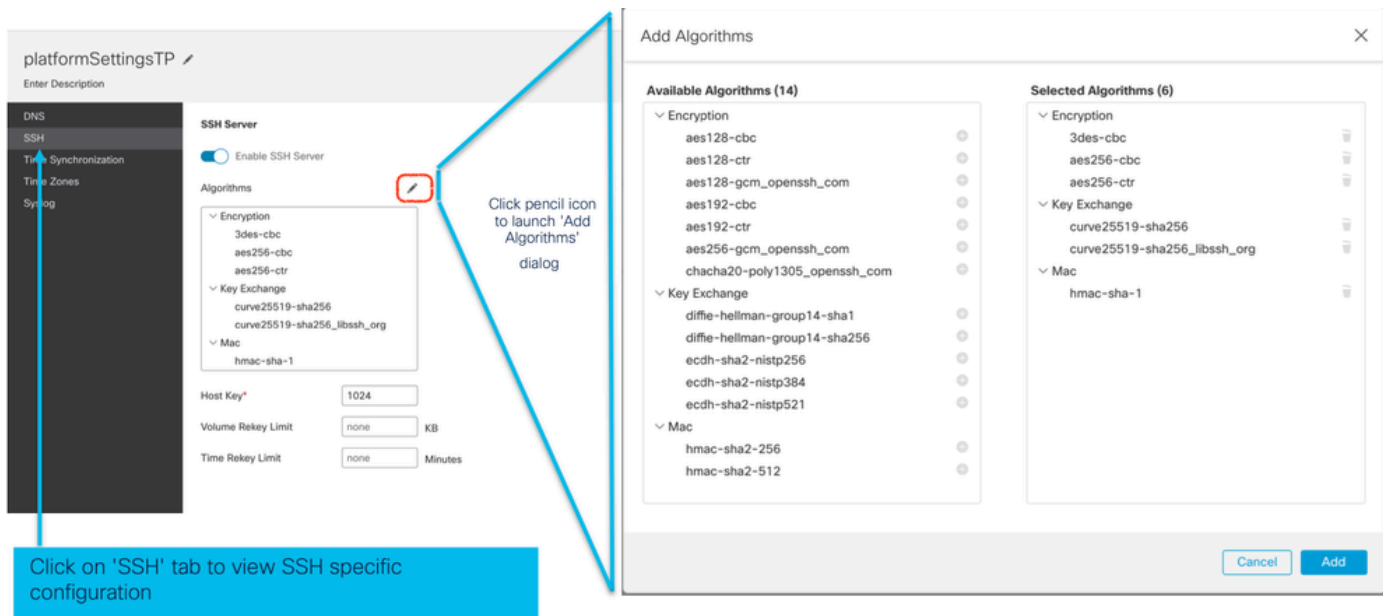
Lists of all DNS server groups

Click on 'DNS' tab to view DNS specific configuration

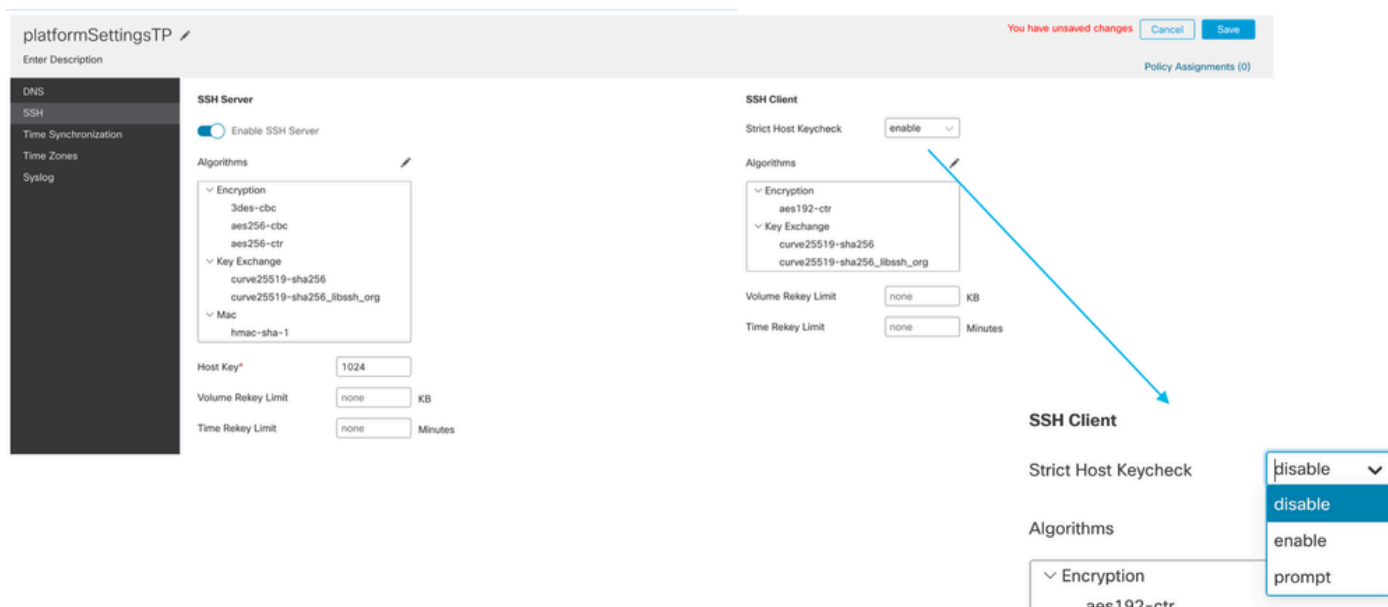
Click on delete icon to delete an existing DNS server group. Click on edit icon to launch dialog to edit DNS server group.

机箱平台设置：SSH

- 在机箱平台设置策略的SSH部分下启用和添加SSH服务器：



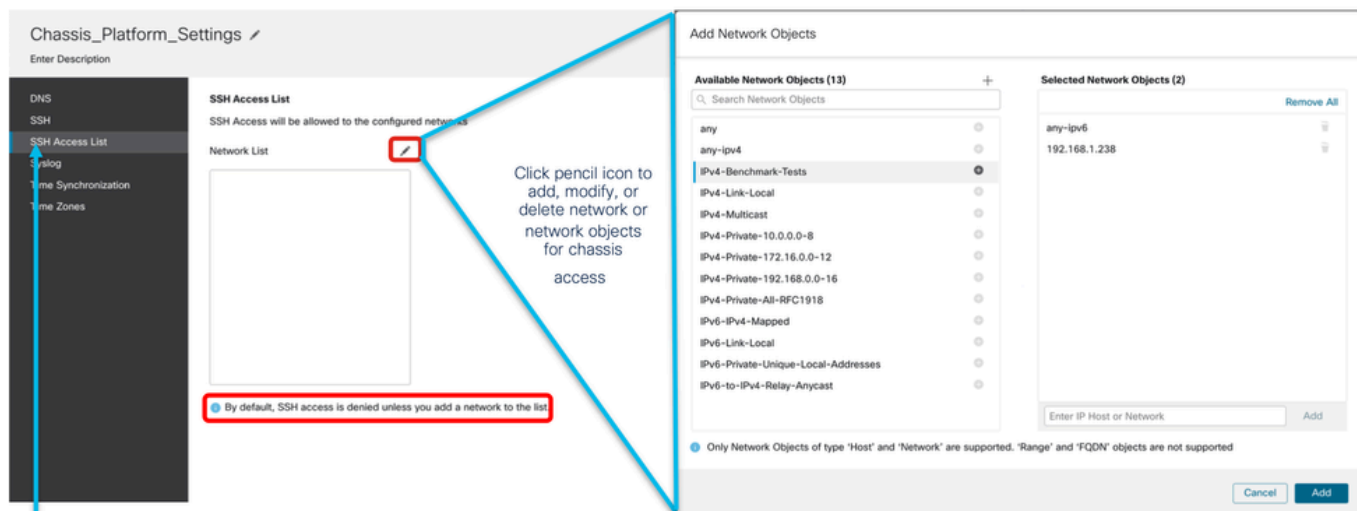
- 启用并添加SSH客户端：



机箱平台设置：SSH访问列表

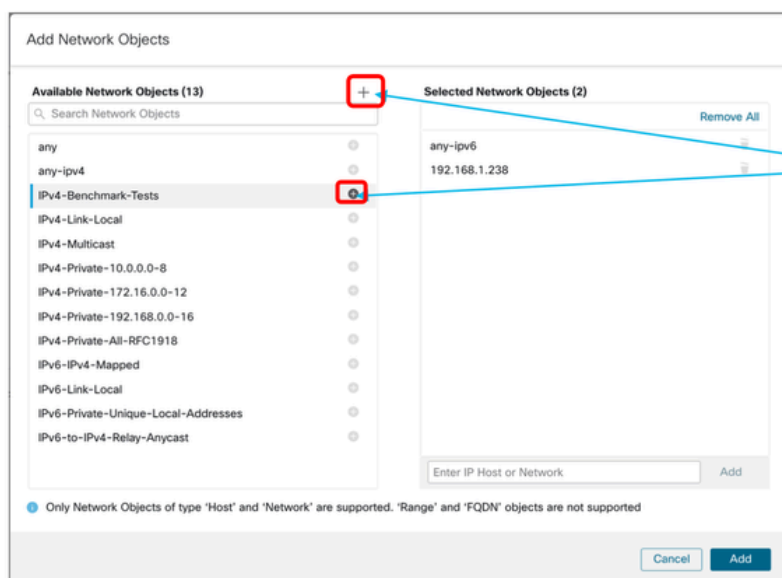
仅当在“机箱平台设置”的“SSH”部分下启用SSH后，才会显示此选项卡。

- 创建SSH访问列表：



Click on 'SSH Access List' tab to view Access List specific configuration

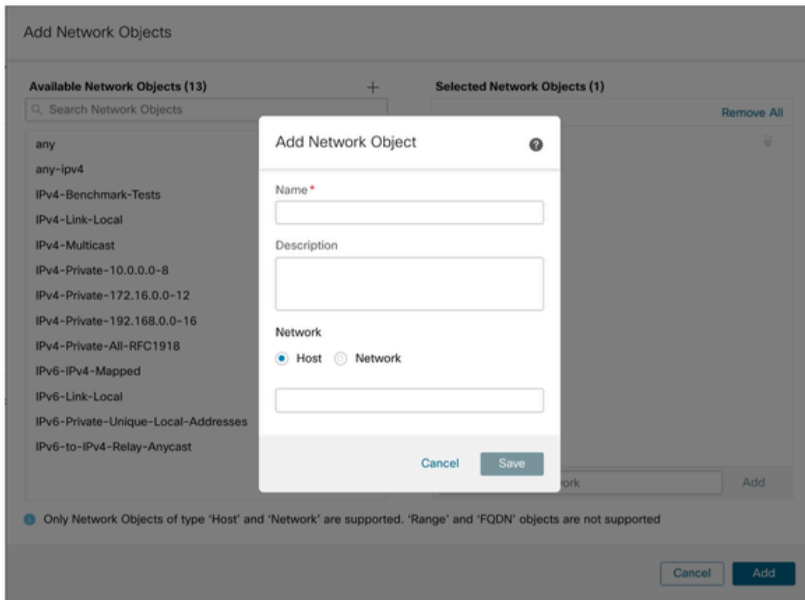
- 为SSH访问列表添加网络对象：



Network objects can be selected by:

1. Choosing from left side pane.
2. By creating a new object using the "+" icon.

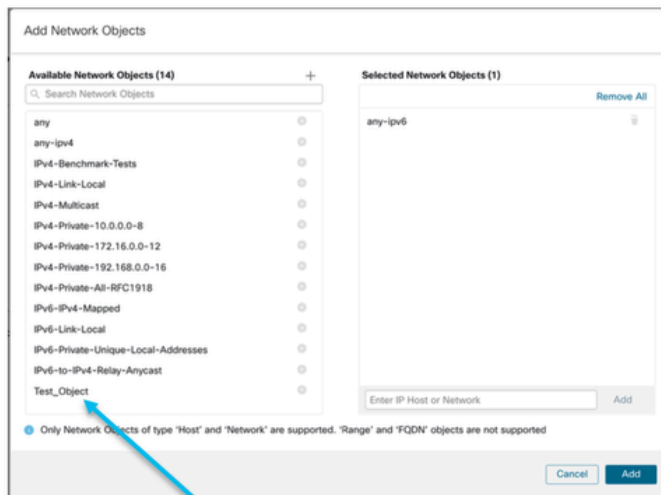
- 添加新的网络对象：



Only Host and Network types are supported for chassis access list.

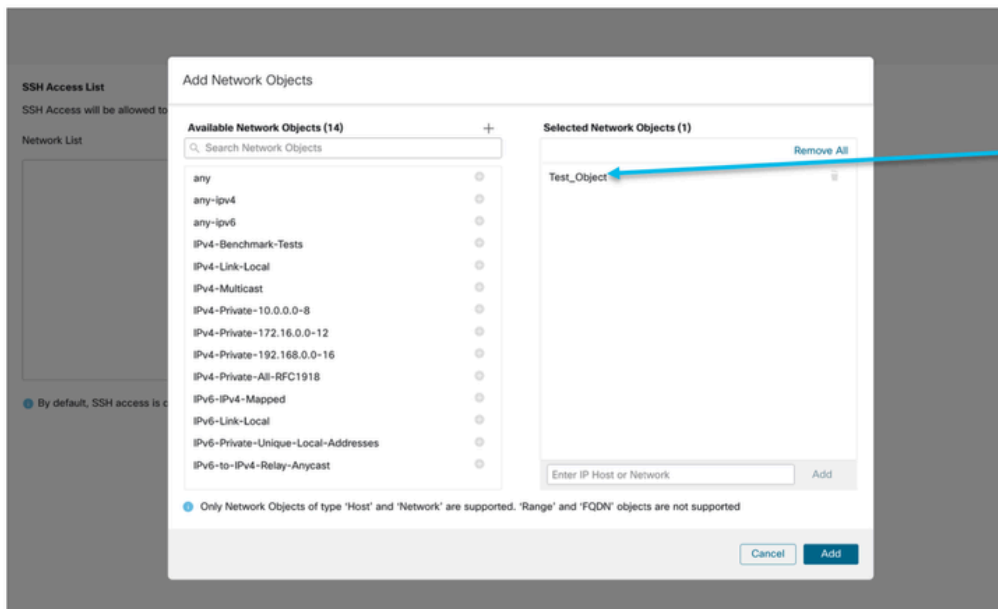
Range and FQDN are NOT allowed.

- 查看网络对象：



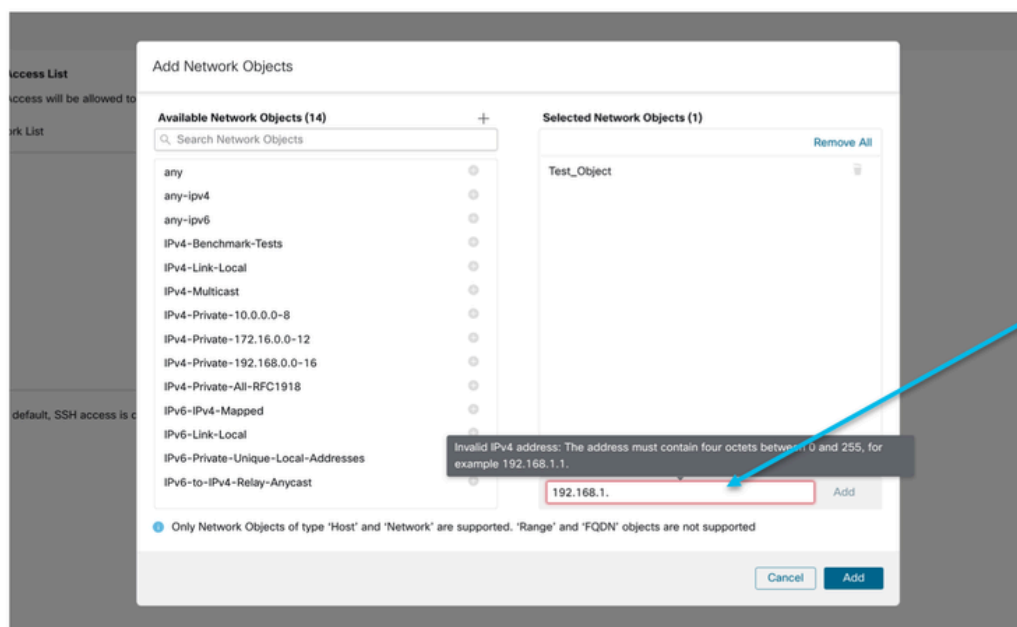
After creation of host object, it will be listed in the available network objects.

- 选择网络对象：



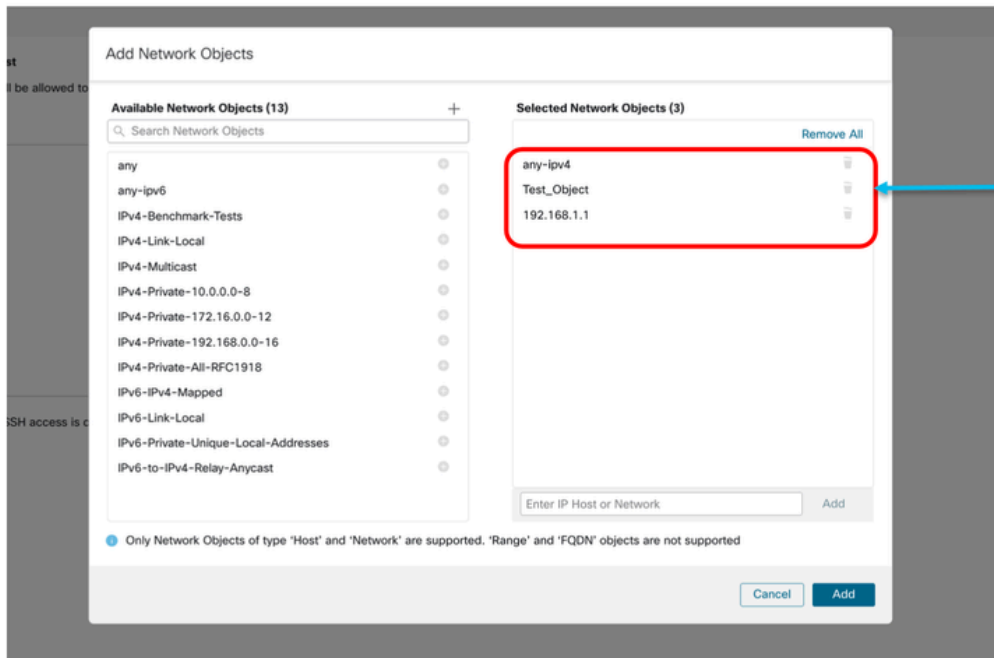
After selecting Network Objects using the “+” icon from available network objects, it will be listed in the selected pane.

- 可以创建网络对象，如下图所示：



Host and network objects can also be added directly from here by providing host IP or Network IP.

- 查看添加的网络对象：



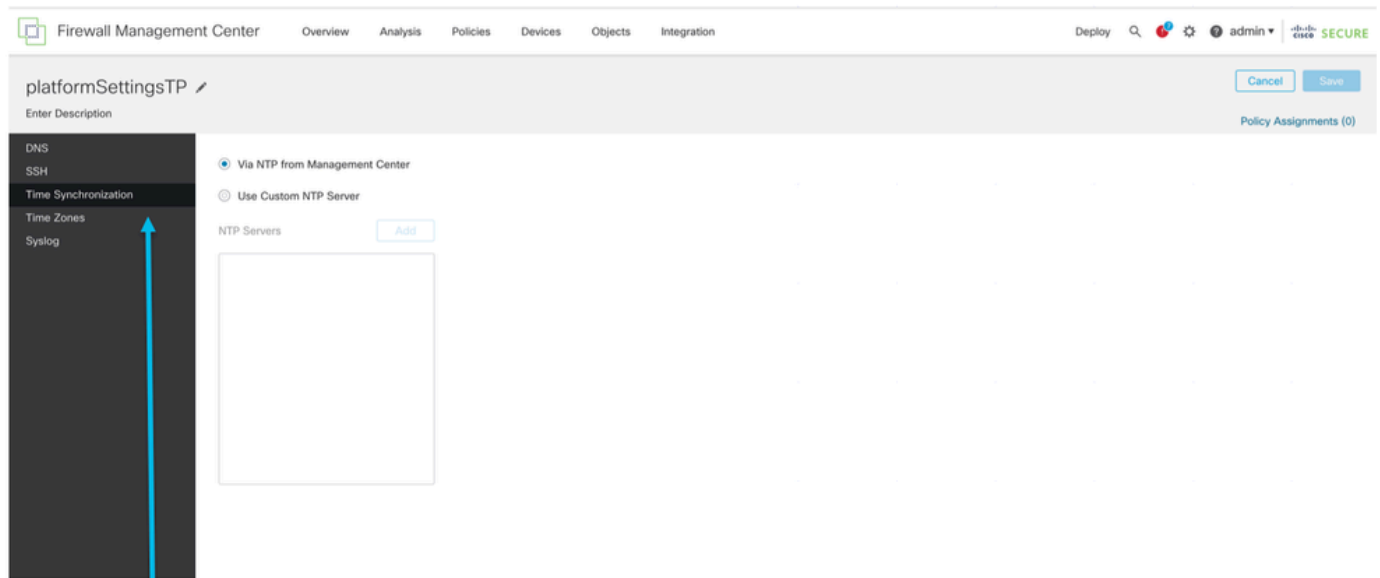
Once the objects are added, they will be listed in the Selected Network Objects pane.

机箱平台设置：时间同步

可以通过两种方式完成时间同步：

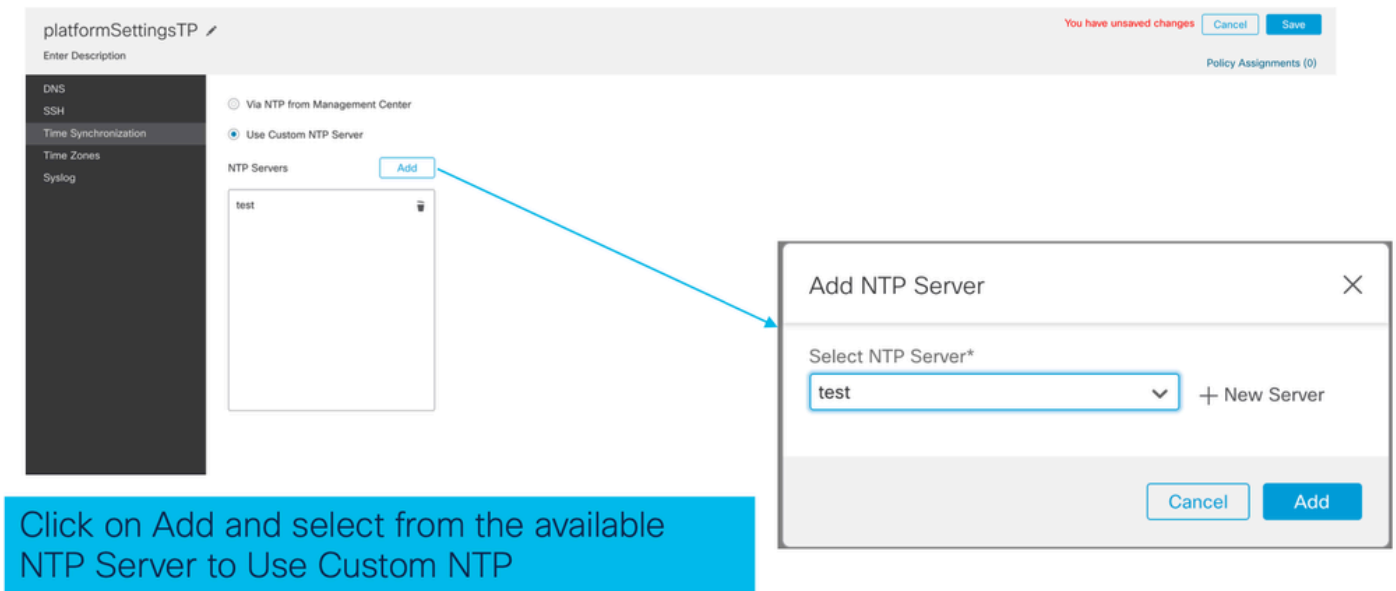
1. 通过管理中心的NTP
2. 在自定义NTP服务器上

从管理中心的NTP



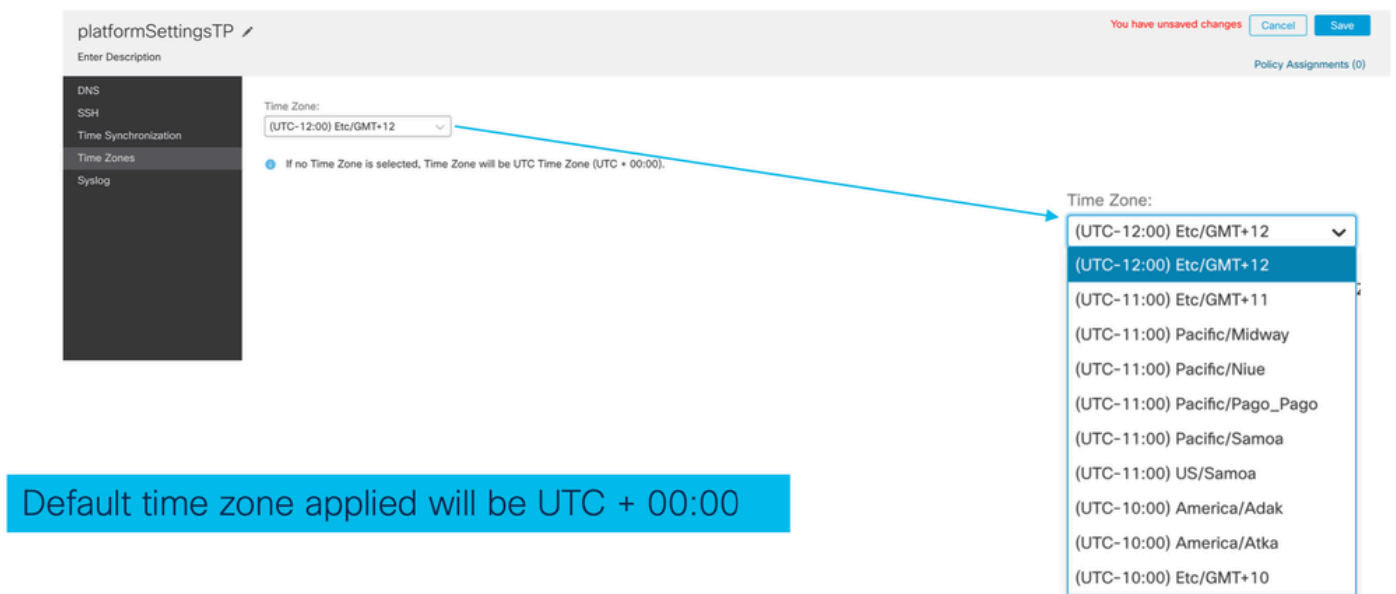
Time Synchronization can be achieved via NTP from Management Center or using a custom NTP Server

在自定义NTP服务器上



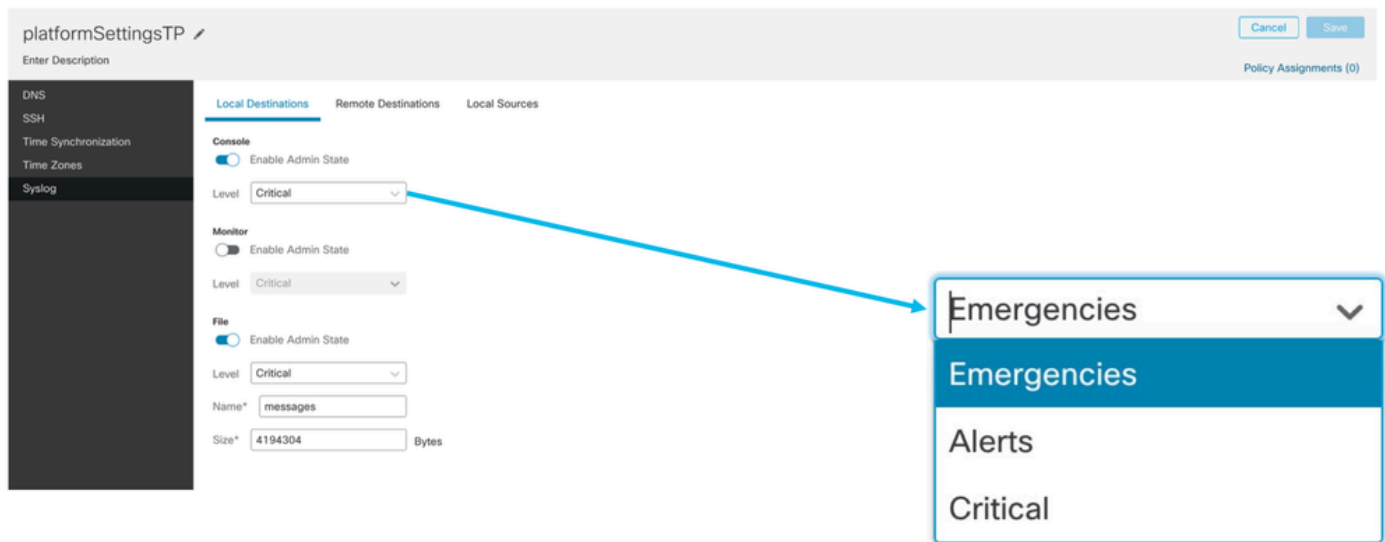
机箱平台设置：时区

设置时区：

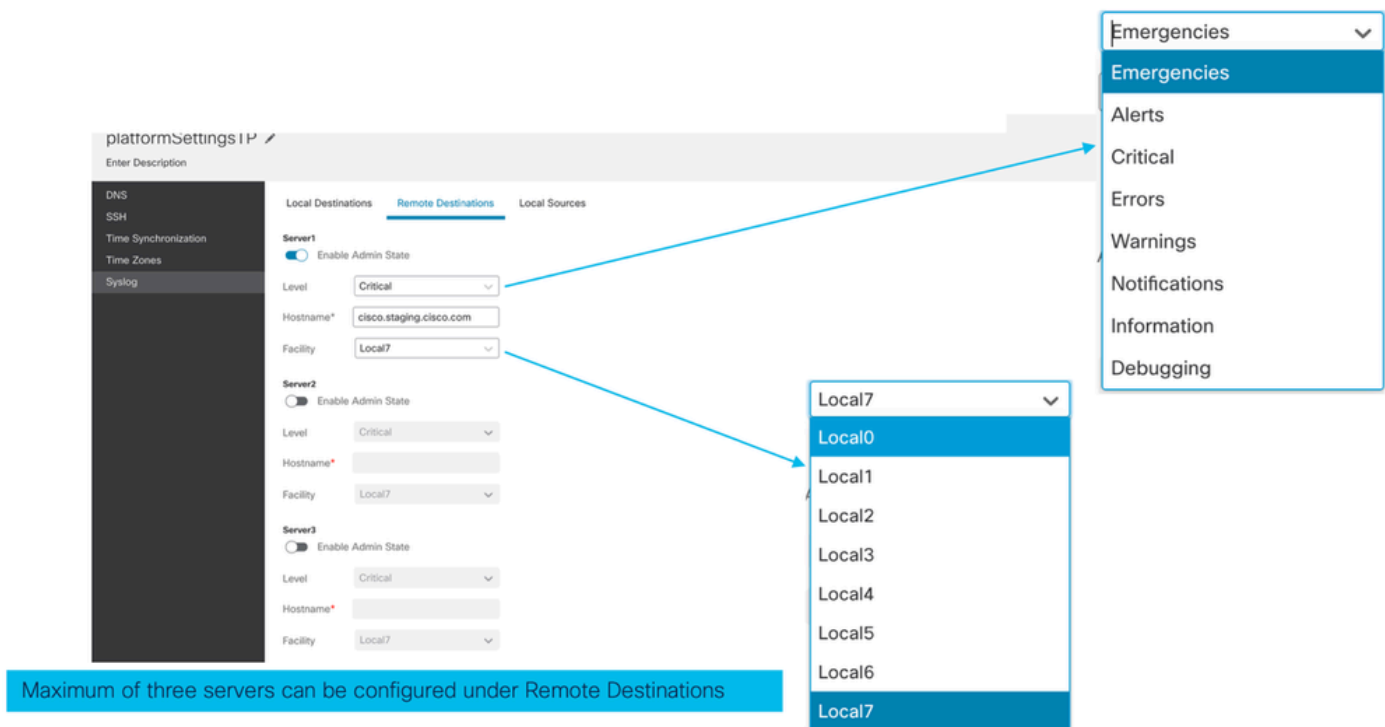


机箱平台设置：系统日志

- Syslog Local Destinations选项卡：



- Syslog Remote Destinations选项卡：



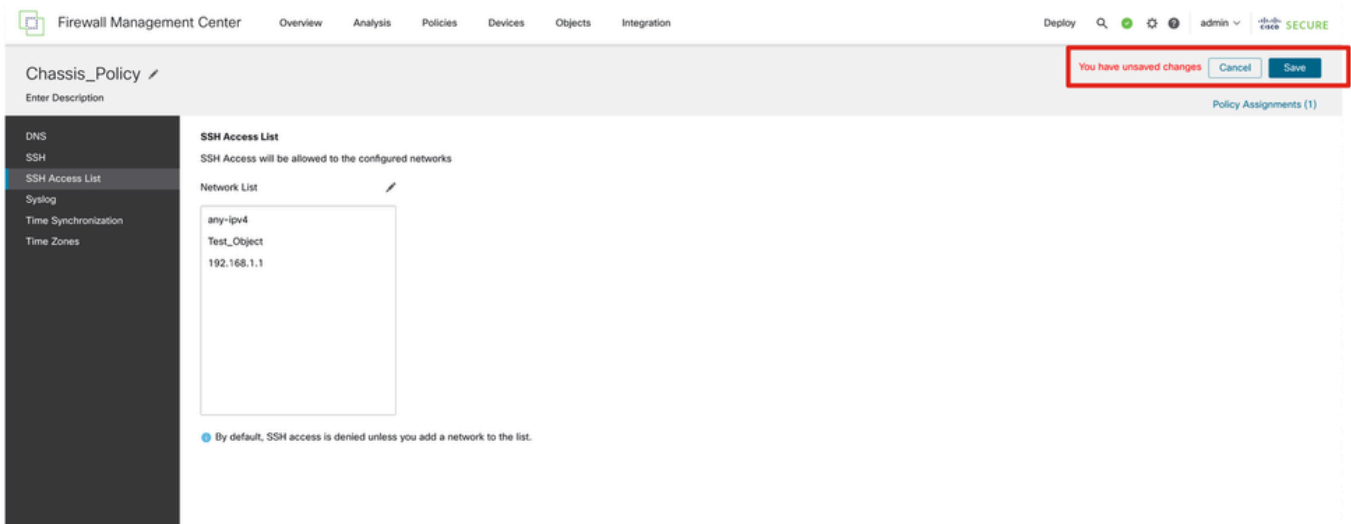
- Syslog Local Sources选项卡：



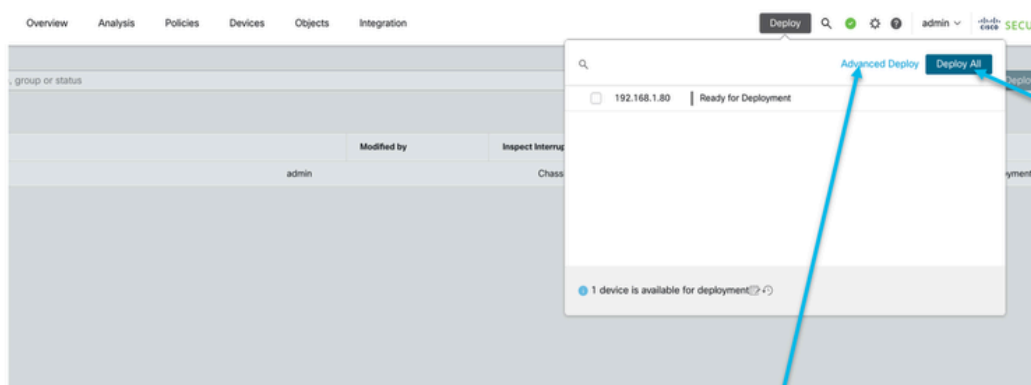
Click on the Local Sources tab to configure Faults/Audits/Events for Local Sources

机箱平台设置：保存和部署

保存机箱平台设置更改，然后部署：



Now, save the changes which has all the platform settings. Chassis will go for pending deployment.

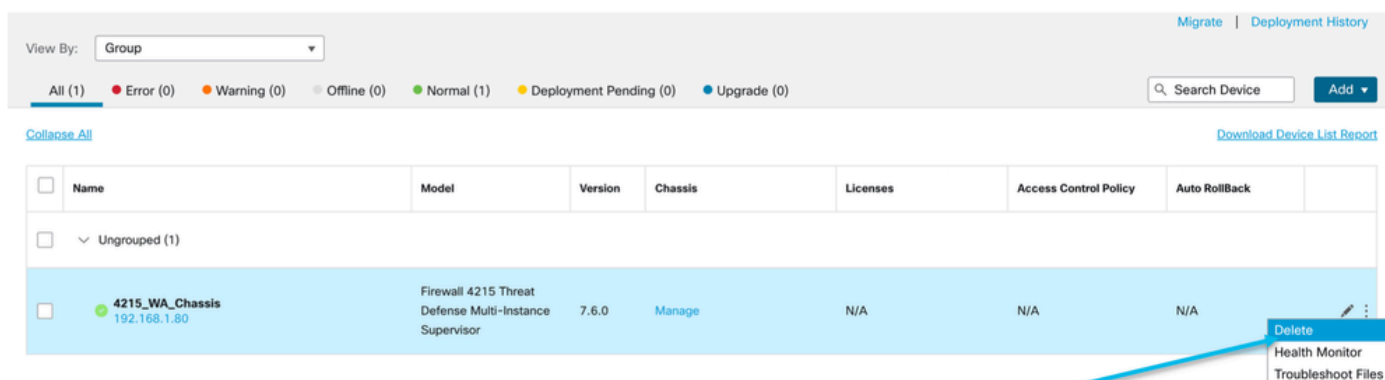


1. Trigger deployment.
2. Once deployment is completed, all chassis platform settings are deployed.

Now, chassis is ready for deployment. User can check the deployment preview for changes done.

正在注销机箱

要从FMC取消注册机箱，请导航到设备>设备管理>删除。



Click 'Delete' to unregister 4200 Series (MI mode) device from FMC

从多实例转换为本机模式

目前，FMC仅支持从本地到多实例的转换。因此，要将设备转换回本地模式，用户必须使用CLI。

第1步：从FMC注销机箱。

第2步：使用以下CLI命令将4200系列设备转换为本地模式：

```
firepower-4215# scope system
firepower-4215 /system # set deploymode native
```


FMC Rest API

FMC公共REST API可用于FMC支持的所有操作。

Chassis	
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{objectId}
DELETE	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{objectId}
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis
POST	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/networkmodules/{objectId}
PUT	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/networkmodules/{objectId}
PUT	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/syncnetworkmodule
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/interfaces/{interfaceUUID}
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterfaces/{interfaceUUID}
POST	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/breakoutinterfaces
POST	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/joininterfaces
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterfaces/{interfaceUUID}/evaluateoperation
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices/{objectId}
PUT	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices/{objectId}
DELETE	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices/{objectId}
GET	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices
POST	/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices

用于本地到多实例转换的REST API

POST API用于验证本地设备是否已准备好进行多实例转换：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/operational/switchmodereadiness

POST请求JSON示例：

```
{
  "devices": [
    {
      "id": "DeviceUUID",
      "type": "Device"
    }
  ],
  "conversionType": "NATIVE_TO_MULTI_INSTANCE"
}
```

POST API以触发单个本机到多实例转换：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/operational/switchmode

POST请求JSON示例：

```
{
  "items": [
    {
      "id": "

    }, { "displayName": "Sample_Chassis_Name1" } ], "conversionType": "NATIVE_TO_MULTI_INSTANCE" }
```

POST API以触发多实例本地批量转换：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/operational/switchmode

POST请求JSON示例：

```
{
  "items": [
    {
      "id": "

    }, { "displayName": "Sample_Chassis_Name1" }, { "id": "

    }, { "displayName": "Sample_Chassis_Name2" } ], "conversionType": "NATIVE_TO_MULTI_INSTANCE" }
```

用于机箱管理的REST API

POST将机箱添加到管理中心：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis

获取所有机箱：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/

通过uuid获取特定机箱：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{objectId}

通过uuid删除机箱：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{objectId}

POST请求JSON示例：

```
{
  "type": "FMCManagedChassis",
  "chassisName": "CHASSIS123",
  "chassisHostName": "192.168.xx.74",
  "regKey": "*****"
}
```

用于管理网络模块 (网络模块) 的REST API

通过uuid获取网络模块：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/networkmodules/

获取所有网络模块：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/networkmodules/

PUT -通过uuid编辑现有网络模块：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/networkmodules/

PUT -从FXOS检索网络模块数据并更新管理中心：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/syncr

GET响应示例

```
{
  "metadata": {
    "timestamp": 1688670821060,
    "domain": {
      "name": "Global",
      "id": "e276abec-e0f2-11e3-8169-*****",
      "type": "Domain"
    }
  }
}
```

```

},
"links": {
  "self": "https://u32c01p10-vrouter.cisco.com:32300/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169",
},
"id": "0050568A-3F3F-0ed3-0000-*****",
"moduleState": "ENABLED",
"type": "NetworkModule",
"description": "Cisco FPR 8X1G 8X10G 1RU Module",
"model": "FPR-3120",
"operationState": "ok",
"numOfPorts": 16,
"slotId": "1",
"vendor": "Cisco Systems, Inc.",
"name": "Network Module 1"
}

```

用于实例管理的REST API

POST将机箱添加到管理中心：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices

获取所有机箱：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices

通过uuid获取特定实例：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices/{ob

PUT -按uuid编辑实例：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices/{ob

通过uuid删除机箱：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/logicaldevices/{ob

PUT请求示例：

```

{
  "name": "ftd1",
  "operationalState": "string",
  "deviceRegistration": {
    "licenseCaps": [
      "MALWARE",
      "URLFilter",
      "CARRIER",
      "PROTECT"
    ],
    "accessPolicy": {
      "name": "AC Policy name",
      "id": "

```

```
", "type": "AccessPolicy" }, "deviceGroup": { "name": "DeviceGroup name", "id": "
```

```
", "type": "DeviceGroup" } }, "managementBootstrap": { "ipv4": { "gateway": "192.168.xx.68", "ip
```

```
", "type": "ChassisInterface" }, { "name": "Ethernet2/2.1", "id": "
```

```
", "type": "ChassisInterface" } ], "type": "LogicalDevice" }
```

用于SNMP管理的REST API

通过uuid获取SNMP设置：

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/snmpsettings/{ob
```

获取所有SNMP设置：

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/snmpsettings/
```

PUT -通过uuid编辑现有网络模块：

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/snmpsettings/{ob
```

GET响应示例：

```
{
  "snmpAdminInstance": {
    "id": "logicalDeviceUuid",
    "type": "LogicalDevice",
    "name": "ftd3"
  },
  "id": "snmpsettingsUUID2",
  "type": "SnmpSetting"
```

```
}
```

用于获取摘要的REST API

此列表包含有关用于获取摘要的REST API的详细信息：

- 故障
- 实例
- 资产
- 接口
- 应用信息

获取机箱的GET故障摘要：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/faultsummary

示例响应：

```
{
  "links": {
    "self": "
```

/api/fmc_config/v1/domain/domainUUID/chassis/fmcmanagedchassis/containerUUID/faultsummary?offset=

获取机箱的GET实例摘要：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/instancesummary

示例响应：

```
{
  "links": {
    "self": "
```

/api/fmc_config/v1/domain/domainUUID/chassis/fmcmanagedchassis/containerUUID/instancesummary?offs

获取机箱的资产摘要：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/inventorysummary

示例响应：

```
{
  "links": {
    "self": "
```

/api/fmc_config/v1/domain/domainUUID/chassis/fmcmanagedchassis/containerUUID/inventorysummary?off

获取机箱的GET接口摘要：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/interfacesummary

示例响应：

```
{
  "links": {
    "self": "
```

/api/fmc_config/v1/domain/domainUUID/chassis/fmcmanagedchassis/containerUUID/interfacesummary?off

获取机箱的应用信息：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}
/inventorysummary

示例响应：

```
{
  "links": {
    "self": "
```

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/appinfo?offset=0&lim
```

用于接口管理的REST API

本节包含有关用于接口配置管理的REST API的详细信息：

- 用于修改接口配置的URL
- 用于中断/加入接口的URL
- 用于同步设备配置的URL

更新物理接口

为了支持物理接口的更新，引入了这些URL。

GET所有物理接口：

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/physicalinterfaces
```

按接口uuid获取特定物理接口：

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/physicalinterfaces/{interfaceUUID}
```

按接口UUID更新接口：

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/physicalinterfaces/{interfaceUUID}
```

物理接口模型如下所示：

```
{
  "metadata": {
    "supportedSpeed": "TEN_GBPS,ONE_GBPS,TWENTY_FIVE_GBPS,DETECT_SFP",
    "mediaType": "sfp",
    "sfpType": "none",
```



```

    "isBreakoutCapable": false,
    "isSplitInterface": false,
    "timestamp": 1692344434067,
    "domain": {
      "name": "Global",
      "id": "e276abec-e0f2-11e3-8169-*****",
      "type": "Domain"
    }
  },
  "type": "PhysicalInterface",
  "name": "Ethernet2/2",
  "portType": "DATA",
  "adminState": "DISABLED",
  "hardware": {
    "flowControlSend": "OFF",
    "fecMode": "AUTO",
    "autoNegState": true,
    "speed": "DETECT_SFP",
    "duplex": "FULL"
  },
  "LLDP": {
    "transmit": false,
    "receive": false
  },
  "id": "*****"
}

```

配置子接口

为了支持子接口管理，我们引入了这些URL。

获取所有子接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/subinterfaces

按接口uuid获取特定子接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/subinterfaces/{int

POST新子接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/subinterfaces

按接口UUID更新接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/subinterfaces/{int

通过接口uuid删除子接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/subinterfaces/{int

子接口模型如下所示：

```
{
  "metadata": {
    "isBreakoutCapable": false,
    "isSplitInterface": false,
    "timestamp": 1692536476265,
    "domain": {
      "name": "Global",
      "id": "e276abec-e0f2-11e3-8169-*****",
      "type": "Domain"
    }
  },
  "type": "SubInterface",
  "name": "Ethernet1/3.3",
  "portType": "DATA",
  "subIntfId": 3,
  "parentInterface": {
    "type": "PhysicalInterface",
    "id": "00505686-9A51-0ed3-0000-*****",
    "name": "Ethernet1/3"
  },
  "vlanId": 3,
  "id": "*****"
}
```

配置Etherchannel接口

为了支持EtherChannel EtherChannel接口的管理，引入了以下URL。

获取所有EtherChannel接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/etherchannelinter

按接口uuid获取特定etherchannel接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/etherchannelinter

对新的EtherChannel接口执行POST：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/etherchannel接口

按接口UUID更新接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/etherchannelinter

通过接口uuid删除EtherChannel接口：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/etherchannelinter

EtherChannel接口模型如下所示：

```
{
  "metadata": {
```

```

    "supportedSpeed": "HUNDRED_MBPS,TEN_MBPS,ONE_GBPS",
    "timestamp": 1692536640172,
    "domain": {
      "name": "Global",
      "id": "e276abec-e0f2-11e3-8169-*****",
      "type": "Domain"
    }
  },
  "type": "EtherChannelInterface",
  "name": "Port-channel45",
  "portType": "DATA",
  "etherChannelId": 45,
  "selectedInterfaces": [
    {
      "type": "PhysicalInterface",
      "id": "00505686-9A51-0ed3-0000-*****",
      "name": "Ethernet1/4"
    },
    {
      "type": "PhysicalInterface",
      "id": "00505686-9A51-0ed3-0000-*****",
      "name": "Ethernet1/5"
    }
  ],
  "lACPMode": "ON",
  "lACPRate": "FAST",
  "adminState": "DISABLED",
  "hardware": {
    "flowControlSend": "OFF",
    "autoNegState": true,
    "speed": "ONE_GBPS",
    "duplex": "FULL"
  },
  "LLDP": {
    "transmit": true,
    "receive": true
  },
  "id": "00505686-9A51-0ed3-0000-*****"
}

```

REST API中断/加入接口

为了支持4200系列中的接口分组/加入，可以使用以下URL：

GET：

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterfaces

评估接口中断/加入的可行性

POST:

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/break

中断接口

POST:

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/joinin
连接一组中断的接口

接口中断的REST流

1. 使用fmcmanagedchassis终端查找FMC受管机箱设备(4200)。

GET /api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis

返回FMC受管机箱设备列表以及多实例设备，其中包含每个设备的ID、名称、型号等详细信息。选择“MULTIINSTANCE”设备。

示例响应：

```
{
  "id": "fcaa9ca4-85e5-4bb0-b049-*****",
  "type": "FMCManagedChassis",
  "chassisName": "192.168.0.75",
  "chassisMode": "MULTIINSTANCE",
  "links": {
    "self": "https://u32c01p06-vrouter.cisco.com:22512/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169"
  }
}
```

2. 使用interfaces/physicalinterfaces endpoint检查接口是否支持分流。

只有当“isBreakoutCapable”为true且mediaType为QSFP时，才能进行分流。

GET

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/interfaces

示例响应：

```
{
  "metadata": {
    "supportedSpeed": "FORTY_GBPS, DETECT_SFP", >>>>>>>
    "mediaType": "qsfp", >>>>>>>
    "sfpType": "none",
    "isBreakoutCapable": true, >>>>>>>
    "breakoutFactor": "4", >>>>>>>
    "isSplitInterface": false,
    "timestamp": 1692344434067,
    "domain": {
      "name": "Global",
      "id": "e276abec-e0f2-11e3-8169-*****",
      "type": "Domain"
    }
  },
}
```

```

"type": "PhysicalInterface",
"name": "Ethernet2/4",
"portType": "DATA",
"adminState": "DISABLED",
"hardware": {
  "flowControlSend": "OFF",
  "fecMode": "AUTO",
  "autoNegState": true,
  "speed": "DETECT_SFP",
  "duplex": "FULL"
},
"LLDP": {
  "transmit": false,
  "receive": false
},
"id": "00505686-9A51-0ed3-0000-*****"
}

```

3. 在接口上，使用evaluateoperation endpoint评估中断操作的可行性。

GET

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterfaces

如果响应中没有警告/错误，用户可以执行中断操作。

示例响应：

```

{
  "operationType": "BREAKOUT",
  "readinessState": "READY",
  "links": {
    "self": "https://u32c01p06-
vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169-
6d9ed49b625f/chassis/fmcmanagedchassis/19d967e6-ef81-4f2e-b311-
85ff6cef6d3f/chassisinterfaces/00505686-662F-0ed3-0000-
004294969274/evaluateoperation/00505686-662F-0ed3-0000-004294969274"
  },
  "type": "ChassisInterface",
  "id": "00505686-662F-0ed3-0000-004294969274"
}

```

如果响应中有错误，则不允许用户执行中断操作：

```

{
  "operationType": "BREAKOUT",
  "interfaceUsages": [
    {
      "conflictType": "Interface usage on instance(s)",
      "severity": "ERROR",
      "description": "Interface Ethernet2/4 can not be split. Remove it from instances [FTD1] and try a
    }
  ],
  "readinessState": "NOT_READY",
}

```

```

"links": {
  "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169",
},
"type": "ChassisInterface",
"id": "00505686-662F-0ed3-0000-*****"
}

```

4. 如果接口支持分流且就绪状态为“就绪”，请使用分流接口终结点断开接口。

POST

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational/break

请求：

```

{
  "targetInterfaces": [
    {
      "id": "*****ed3-0000-004294969276",
      "metadata": {
        "type": "PhysicalInterface"
      }
    }
  ],
  "type": "BreakoutInterface"
}

```

回复：

```

{
  "id": "4294969716",
  "type": "TaskStatus",
  "links": {
    "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169",
  },
  "taskType": "DEVICE_DEPLOYMENT",
  "message": "Deployment status for *****: SUCCEEDED",
  "status": "Interface notification received"
}

```

5. 使用中断响应中的任务ID跟踪任务完成。将Task状态设置为“Interface Notification received”。

获取/api/fmc_config/v1/domain/{domainUUID}/job/taskstatuses/{objectId}

```

{
  "metadata": {
    "task": {
      "id": "4294969699",

```

```

    "links": {
      "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-
    }
  },
  "targetInterfaces": [
    {
      "id": "00505686-662F-0ed3-0000-*****",
      "type": "PhysicalInterface"
    }
  ],
  "type": "BreakoutInterface"
}

{
  "id": "4294969716",
  "type": "TaskStatus",
  "links": {
    "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169
  },
  "taskType": "DEVICE_DEPLOYMENT",
  "message": "Deployment status for *****: SUCCEEDED",
  "status": "Interface notification received"
}

```

6. 使用chassisinterfaceevents终结点获取接口更改。

GET /api/fmc_config/v1/domain/{domainUUID}/chassis/
fmcmanagedchassis/{containerUUID}/chassisinterfaceevents

示例响应：

```

[
  {
    "change": "Interface is deleted",
    "type": "PhysicalInterface",
    "state": "DISASSOCIATED",
    "name": "Ethernet2/3"
  },
  {
    "change": "Interface is associated",
    "type": "PhysicalInterface",
    "state": "ASSOCIATED",
    "name": "Ethernet2/3/2"
  },
  {
    "change": "Interface is associated",
    "type": "PhysicalInterface",
    "state": "ASSOCIATED",
    "name": "Ethernet2/3/3"
  },
  {
    "change": "Interface is associated",
    "type": "PhysicalInterface",
    "state": "ASSOCIATED",
    "name": "Ethernet2/3/4"
  }
]

```

]

7. 如果未收到接口通知，请务必使用机箱接口事件终结点同步设备，并检查是否有挂起的更改。

POST /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecories/{containerUUID}/chassisinterfaceevents

请求：

```
{
  "action": "SYNC_WITH_DEVICE"
}
```

回复：

```
{
  "action": "SYNC_WITH_DEVICE",
  "hasPendingChanges": true
}
```

8. 收到通知后，使用chassisinterfaceevents终结点接受更改。

POST /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecories/{containerUUID}/chassisinterfaceevents

请求：

```
{
  "action": "ACCEPT_CHANGES"
}
```

9. 获取所有机箱接口并使用接口终点查找拆分（断开）接口。

GET

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/interfaces

一个40G接口（例如eth2/2）拆分为4x10G接口- eth2/2/1、eth2/2/2、eth2/2/3和eth2/2/4

接口连接的REST流

1. 使用interfaces/physicalinterfaces endpoint检查接口是否损坏。

只有当“isSplitInterface”为true且mediaType为SFP时，才能执行加入操作

GET

```
/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/interfaces
```

```
{
  "metadata": {
    "supportedSpeed": "TEN_GBPS,DETECT_SFP",
    "mediaType": "sfp",
    "sfpType": "none",
    "isBreakoutCapable": false,
    "breakoutFactor": "4",
    "isSplitInterface": true,
    "timestamp": 1692541554935,
    "domain": {
      "name": "Global",
      "id": "e276abec-e0f2-11e3-8169-*****",
      "type": "Domain"
    }
  },
  "type": "PhysicalInterface",
  "name": "Ethernet2/3/4",
  "portType": "DATA",
  "adminState": "DISABLED",
  "LLDP": {
    "transmit": false,
    "receive": false
  },
  "hardware": {
    "flowControlSend": "OFF",
    "speed": "DETECT_SFP",
    "duplex": "FULL",
    "fecMode": "AUTO",
    "autoNegState": true
  },
  "id": "00505686-662F-0ed3-0001-*****"
}
```

2. 使用四个拆分接口之一上的evaluateoperation endpoint评估Join操作的可行性。

GET /api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterfaces/{interfaceUUID}/evaluateoperation

- 如果响应中没有警告/错误，用户可以执行加入操作。

```
{
  "operationType": "JOIN",
  "readinessState": "READY",
  "links": {
    "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169"
  },
  "type": "ChassisInterface",
  "id": "00505686-662F-0ed*****"
}
```

```
}
```

- 如果响应中有错误，则不允许用户执行加入操作。

```
{
  "operationType": "JOIN",
  "interfaceUsages": [
    {
      "conflictType": "Interface used in EtherChannel Configuration",
      "severity": "ERROR",
      "description": "Interface (Ethernet2/3/4) referred to in Ether Channel Interface (Port-channel32)"
    }
  ],
  "readinessState": "NOT_READY",
  "links": {
    "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169"
  },
  "type": "ChassisInterface",
  "id": "00505686-662F-0ed*****"
}
```

3. 如果接口已损坏，并且就绪状态为“就绪”，请使用加入接口终结点加入接口。Interface_uuid可以是4个中断接口中任意一个的ID。

POST/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/operational

请求：

```
{
  "targetInterfaces": [
    {
      "id": "*****ed3-0001-692539698200",
      "type": "PhysicalInterface"
    }
  ],
  "type": "JoinInterface"
}
```

回复：

```
{
  "metadata": {
    "task": {
      "id": "4294970217",
      "links": {
        "self": "
```

```
/api/fmc_config/v1/domain/e27"*****-8169-6d9ed49b625f/job/taskstatuses/4294970217" } }
```

4. 使用加入响应中的任务ID跟踪任务完成。将Task状态设置为“Interface Notification received”。

获取/api/fmc_config/v1/domain/{domainUUID}/job/taskstatuses/{objectId}

回复：

```
{
  "id": "4294970237",
  "type": "TaskStatus",
  "links": {
    "self": "https://u32c01p06-vrouter.cisco.com:22542/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169",
  },
  "taskType": "SSP_EPM_OIR",
  "message": "Deployment status for 19d967e6-xxxx-xxxx-xxxx-85ff6cef6d3f: SUCCEEDED",
  "status": "Interface notification received"
}
```

5. 使用chassisinterfaceevents终结点获取接口更改。

GET

/api/fmc_config/v1/domain/{domainUUID}/devices/devicerecories/{containerUUID}/chassisinterfaceevents

回复：

```
[
  {
    "change": "Interface is associated",
    "type": "PhysicalInterface",
    "state": "ASSOCIATED",
    "name": "Ethernet2/3"
  },
  {
    "change": "Interface is deleted",
    "type": "PhysicalInterface",
    "state": "DISASSOCIATED",
    "name": "Ethernet2/3/1"
  },
  {
    "change": "Interface is deleted",
    "type": "PhysicalInterface",
    "state": "DISASSOCIATED",
    "name": "Ethernet2/3/2"
  },
]
```

```

{
  "change": "Interface is deleted",
  "type": "PhysicalInterface",
  "state": "DISASSOCIATED",
  "name": "Ethernet2/3/3"
},
{
  "change": "Interface is deleted",
  "type": "PhysicalInterface",
  "state": "DISASSOCIATED",
  "name": "Ethernet2/3/4"
}
]

```

6. 如果未收到接口通知，请务必使用机箱接口事件终结点同步设备，并检查是否有挂起的更改。

POST

/api/fmc_config/v1/domain/{domainUUID}/devices/devicerecories/{containerUUID}/chassisinterfaceevents

请求：

```

{
  "action": "SYNC_WITH_DEVICE"
}

```

回复：

```

{
  "action": "SYNC_WITH_DEVICE",
  "hasPendingChanges": true
}

```

7. 收到通知后，使用chassisinterfaceevents终结点接受更改。

POST

/api/fmc_config/v1/domain/{domainUUID}/devices/devicerecories/{containerUUID}/chassisinterfaceevents

请求：

```

{
  "action": "ACCEPT_CHANGES"
}

```

8. 获取所有机箱接口并查找加入的接口以及使用接口终结点的其他接口。

GET

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/interfaces

假设在10G接口eth2/2/1上发起了Join，那么在响应中有一个40G接口eth2/2可用。

同步设备REST API

为了支持网络模块和接口的同步，引入了以下URL。

POST:

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterface
events

带负载

{"action": "SYNC_WITH_DEVICE"} - >触发同步

{"action": "ACCEPT_CHANGES"} - >接受更改

GET:

/api/fmc_config/v1/domain/{domainUUID}/chassis/fmcmanagedchassis/{containerUUID}/chassisinterface
events

列出生成的已更改事件

故障排除/诊断

FXOS日志记录

如果注册失败，可以使用这些FXOS CLI检查sftunnel、sfiproxy进程是否已启动。

```
firepower# connect local-mgmt
firepower-4215(local-mgmt)# show processes | include sftunnel grep: (standard input): binary file match
3323 root 20 0 80328 2024 1544 S 0.0 0.0 0:11.53 /opt/cisco/sftunnel/sfiproxy -d -f /etc/sf/sfiproxy.
22066 root 20 0 376880 7140 5944 S 0.0 0.0 0:41.18 /opt/cisco/sftunnel/sftunnel -d -f /etc/sf/sftunnel.
```

如果将terminal console用于CLI，请使用下面所示的CLI将终端宽度设置为适当的值，以确保show processes的输出不被截断：

```
firepower-4215(local-mgmt)# terminal width 100
```

如果SFTunnel进程已启动且正在运行，但注册失败，则可以使用这些命令查找失败的任何潜在原因。

在FXOS中从connect local-mgmt引入新的CLI以查看/opt/cisco/platform/logs/sfmessages中的系统日志消息

```
firepower# connect local-mgmt
firepower(local-mgmt)# tail-mgmt-log sfmessages
```

```
Dec 9 18:31:17 firepower Ipc [30483]: add ep: 1,0x5613aa0e2fe8 total = 1 Dec 9 18:31:17 firepower
```

FMC日志记录

- 如果设备注册失败，请在此位置找到usmsharedsvcs.log和vmssharedsvcs.log，并查找字符串“CHASSIS DISCOVERY”或“NATIVE_TO_MULTI_INSTANCE”以查找失败的可能原因。
 - 此外，请在/var/log/action_queue.log和/var/sf/messages中查找SFTunnel问题。
 - /var/opt/CSCOpX/MDC/log/operation/usmsharedsvcs.log
 - /var/opt/CSCOpX/MDC/log/operation/vmssharedsvcs.log
- 如果机箱自动注册失败，请找到usmsharedsvcs.log 和vmssharedsvcs.log，并查找字符串“CHASSIS DISCOVERY”和“NATIVE_TO_MULTI_INSTANCE”以查找失败的可能原因。
- 如果实例自动注册失败，请找到usmsharedsvcs.log 和vmssharedsvcs.log，然后查找字符串“MI_FTD_INSTANCE_AUTO_REGISTRATION”，查找失败的可能原因。
- 如果设备上存在部署故障，请导航到部署->部署历史记录->单击失败的部署->打开脚本。此文件包含失败的原因。

机箱故障排除

FMC支持从设备管理页面生成机箱故障排除(FPRM)。

- 与FTD设备类似，有一个用于机箱设备的故障排除选项，可生成机箱故障排除并允许用户从FMC下载故障排除捆绑包。
- 这将从机箱中收集“show tech-support form”捆绑包：

☐	Name	Model	Version	Chassis	Licenses	Access Control Policy	Auto RollBack	
☐	Ungrouped (2)							
☐	4215_WA_chassis 192.168.1.80	Firewall 4215 Threat Defense Multi-Instance Supervisor	7.6.0	Manage	N/A	N/A	N/A	Delete Health Monitor Troubleshoot Files
☐	WA_Instance_1 192.168.1.81 - Routed	Firewall 4215 Threat Defense	7.6.0	N/A	Essentials, Malware (1 more...)	Pol		

机箱故障排除选项和生成：

- Click On Generate to start generating troubleshooting.

Generate Troubleshoot Files - 4215_WA_chassis

1 This operation generates troubleshooting logs for Secure Firewall 3100 chassis

1 This operation may take several minutes to complete, the status can be tracked in Message Center Tasks.

Please select the data to include:

☒ All Data

☒ FXOS Logs

[Cancel](#) [Generate](#)

机箱故障排除进度和下载：

- Task Manager messages show the progress of troubleshooting generation.
- Once completed, the user can download the troubleshoot bundle.

Deployments Upgrades **Health** **Tasks** [Filter](#) [Show Pop-up Notifications](#)

12 total 0 waiting 2 running 0 retrying 10 success 0 failures

Chassis

Generate Troubleshooting Files
Generate troubleshooting files for 4215_WA_chassis
Remote status: Generating troubleshoot files 11s

Deployments Upgrades **Health** **Tasks** [Filter](#) [Show Pop-up Notifications](#)

12 total 0 waiting 1 running 0 retrying 11 success 0 failures

Chassis

Generate Troubleshooting Files
Generate troubleshooting files for 4215_WA_chassis
[Click to retrieve generated files.](#) 7m 57s X

排查演练中的问题示例

在FMC中自动注册机箱故障

问题：在FMC中自动注册机箱失败。

预期结果：

- 从FMC开始转换后，需要在FMC中注销并自动注册。

实际结果：

- 机箱自动注册失败

排除故障

1. 支票兑换：

- 确保已在FMC上触发转换。
- 登录设备，检查设备是否已转换为容器模式。
- 运行命令以查看设备是否已转换：

```
firepower# scope sys
firepower /system # show
Systems:
Name Mode Deploy Mode System IP Address System IPv6 Address
-----
firepower Stand Alone Container 192.168.xx.xx ::
```

2. 检查设备管理器：

- 检查设备管理器是否已正确设置：

```
firepower# show device-manager
Device manager:
  Name: manager
  Hostname: 10.10.xx.xx
  NAT id: 3ab4bb1a-d723-11ee-a694-89055xxxxxxx
  Registration Status: Completed
  Error Msg:
```

3. 要检查的日志：

3.1. 导航至/var/opt/CSCOpX/MDC/log/operation/vmssharedsvcs.log和
/var/opt/CSCOpX/MDC/log/operation/usmsharedsvcs.log

3.2. 在文件中搜索关键字“NATIVE_TO_MI_CONVERSION”和“CHASSIS DISCOVERY”，查找失败的原因。

在FMC中自动注册实例

问题：在FMC中自动注册实例失败。

预期结果：

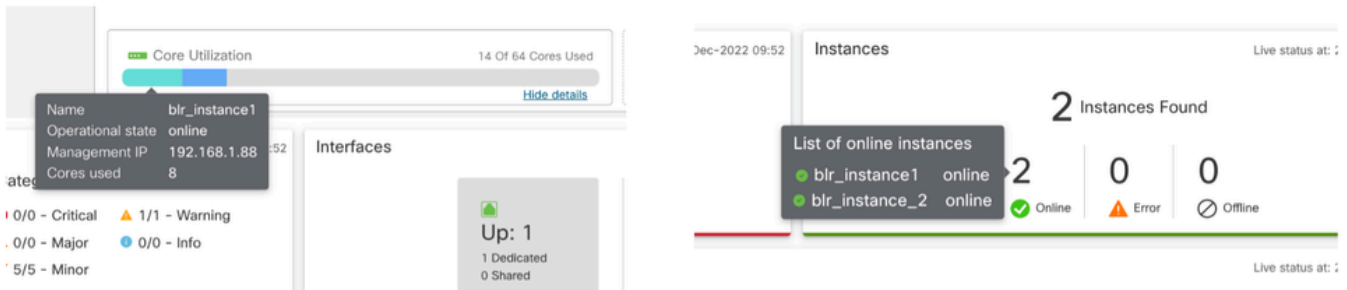
- 从FMC调配实例后，预计该实例将在FMC中自动注册

实际结果：

- 实例自动注册失败

排除故障

- 确保实例创建后触发了部署。
 - 如果未完成部署，请确保将更改部署到设备。
 - 如果部署失败，请继续执行部署历史记录->点击脚本。请检查失败原因，修复并重试部署。
- 确保实例已安装且运行状态为联机。您可以使用机箱的摘要页面检查实例调配的状态。



- 使用以下命令检查SFTunnel是否已在实例FTD上启动并运行：

```
ps -ef | grep -i "sftunnel"
```

- 如果SFTunnel未运行，请尝试执行restart命令：

```
pmtool restartById sftunnel
```

- 导航至/var/opt/CSCOpX/MDC/log/operation/vmssharedsvcs.log和
/var/opt/CSCOpX/MDC/log/operation/usmssharedsvcs.log
- 在文件中搜索关键字“MI_FTD_INSTANCE_AUTO_REGISTRATION”，查找失败原因。

FMC中的本地设备注册

问题：在将设备转换回本地模式后，FMC中的本地设备注册失败

- 如果用户将机箱（MI模式）转换回本机模式，但忘记从FMC中删除机箱，则设备会在FMC上脱机。
- 如果用户尝试将此本地设备重新注册回FMC，注册将失败。

排除故障

- 在将设备转换回本地模式之前，请确保已从FMC删除机箱条目。
- 删除条目后，尝试将本地设备重新注册到FMC。

有用的参考

- 有关共享接口的信息：

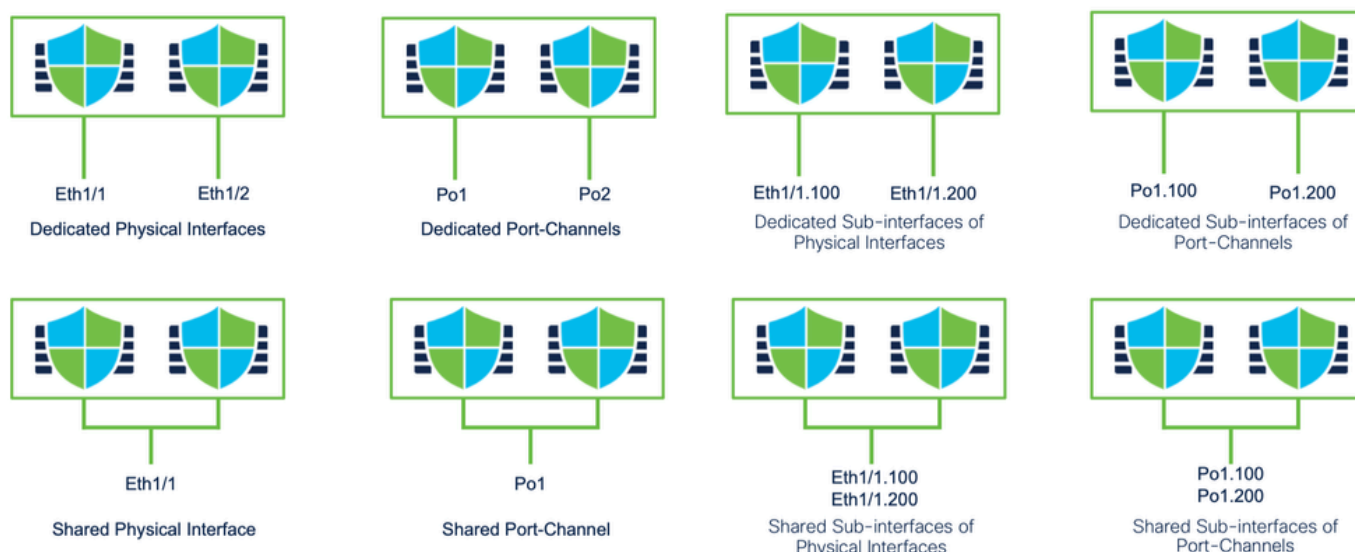
<https://www.cisco.com/c/en/us/td/docs/security/secure-firewall/threat-defense/use-case/multi-instance-sec-fw/multi-instance-sec-fw.html#shared-interface-scalability-WGUIEF>

- 思科支持站点上的3100 Multi-Instance页面：

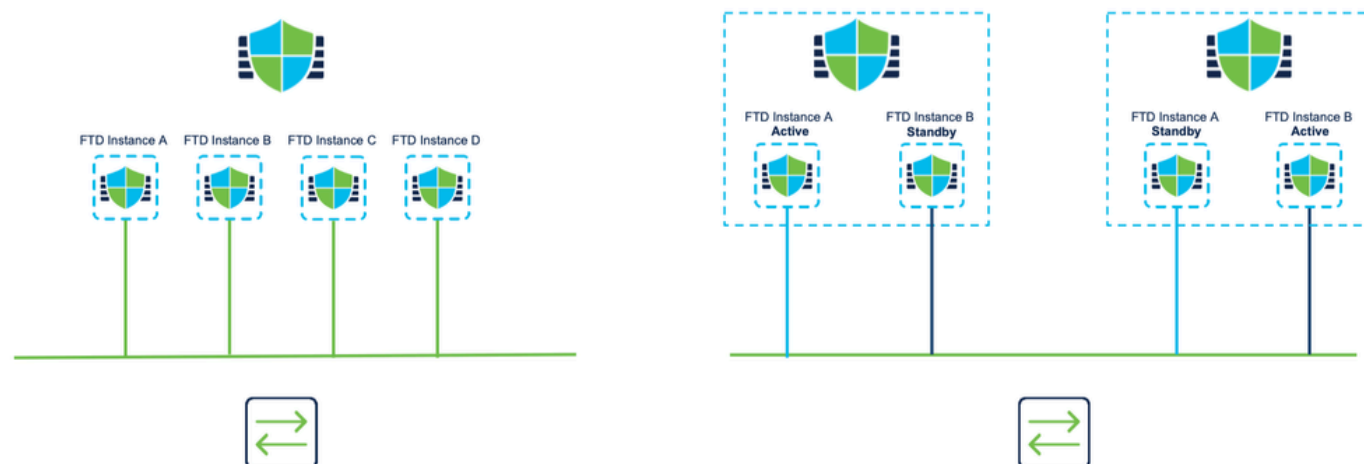
<https://www.cisco.com/c/en/us/td/docs/security/secure-firewall/threat-defense/use-case/multi-instance-sec-fw/multi-instance-sec-fw.html>

接口选项和高可用性

接口选项



独立或高可用性



利用双管理接口

- 与本地模式下的4200类似，提供两个物理管理端口以支持管理流量的接口冗余，或支持用于

管理和事件处理的独立接口。

- 9300和4100设备以及4200系列具有双管理接口。第二个管理接口Management 1/2供您用于事件。
- 在多实例（也称为“容器”）模式下，您可以在每个实例中的威胁防御CLI上配置此接口。为每个实例分配同一网络上的IP地址。
- 当处于容器模式时，每个FTD实例都会自动分配管理1/1和管理1/2接口。
 - 第二个管理接口默认为禁用。
 - 不能使用FMC配置管理1/2；必须通过FTD CLISH对其进行配置（在9300/4100上，相比之下，在FXOS CLI中完成）。将此命令用于所需的IP地址类型、地址、子网和静态路由：

```
configure network ipv4 manual 192.168.0.xx 255.255.255.0 192.168.0.1 management1
```

内部跟踪信息

Functional Spec	EDCS-24403363
Target Process	TP-794577
Addresses Bug(s)	CSCwh98021 WA Conversion
Bugs for this feature are in this Project > Product > Component in CDETS	CSC.content-security > sfims > fmc_mi_ui
Eng Contact(s)	Bhargav Kumar Rasetty (brasetty)

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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