明确FMC上FTD的内联集顺序

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简介

本文档说明内联集的接口顺序不同的原因,即使接口命名约定对所有集都相同。

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)
- 安全防火墙可扩展操作系统(FXOS)
- REST-API

使用的组件

本文档中的信息基于以下软件和硬件版本:

- 安全防火墙威胁防御7.2.5.1版
- 安全防火墙管理器中心版本7.2.5.1
- 安全防火墙可扩展操作系统2.12(1.48)
- 安全防火墙机箱管理器(FCM)

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。

分析

案例示例

在本例中,以内联对形式设置具有六(6)个接口的FTD:

Ethernet1/1 (Inside-A) Ethernet1/2 (Outside-A) Ethernet1/3 (Inside-B) Ethernet1/4 (Outside-B) Ethernet1/5 (Inside-C) Ethernet1/6 (Outside-C)

Firewall Management Ce Devices / Secure Firewall Interfaces	overvie S	w Analysi	s Policies	Devices	Objects	Integration		Deploy	۹ 🖌	\$	🕜 admin '	- diadia cisco	SECURE
FTD Cisco Firepower 4110 Threat Defense												Save	Cancel
Device Routing Interfaces	Inline Sets DHCI	P VTEP					Q Search by name					Add Inter	faces 🔻
Interface	Logical Name	Туре	Security Zones	MAC A	Idress (Active/S	standby)	IP Address		Path Monito	oring	Virtual Rout	er	
12 Ethernet1/1	Inside-A	Physical						ı	Disabled				1
12 Ethernet1/2	Outside-A	Physical						ı	Disabled				/
thernet1/3	Inside-B	Physical						ı	Disabled				1
thernet1/4	Outside-B	Physical						ı	Disabled				1
thernet1/5	Inside-C	Physical						ı	Disabled				1
thernet1/6	Outside-C	Physical						I	Disabled				1
Ethernet1/8	diagnostic	Physical						ı	Disabled		Global		/
						Displaying 1	-7 of 7 interfaces I < Pa	ige 1				of 1 >	ж¢

FTD接口列表

已计划为每对配置从Inside到Outside的内联集,这会导致进行下一次设置:

Inline Set A: Inside-A <-> Outside-A
Inline Set B: Inside-B <-> Outside-B
Inline Set C: Inside-C <-> Outside-C

用户希望接口的顺序按接口逻辑名称或接口物理名称的字母顺序显示。但是,此设置会产生不同的 顺序,如下图所示:

Firewall Management Center Devices / Secure Firewall InlineSets	Overview A	Analysis Policies	Devices	Objects	Integration	Deploy Q 🦧 🏚	admin ▼ dealle SECURE
FTD							Save
Cisco Firepower 4110 Threat Defense							
Device Routing Interfaces Inline S	ets DHCP VT	ΈP					
Name	Interface Pairs						
A	Inside-A<->Outside-A						/1
В	Inside-B<->Outside-B						/1
c	Outside-C<->Inside-C						/1
						Displaying 1-3 of 3 rows	< < Page 1 of 1 > > C

FTD内联集

用户注意到,内联集C的顺序与其他两个内联集不同。



注意:请注意,内联集接口对的顺序不会导致任何通信或操作问题,但出于美学考虑,这 可能令人担忧。

说明

内联集接口顺序不是按名称分配的,而是按ID分配的,通过REST-API进行验证。

步骤1:要验证这一点,需要访问FMC REST-API资源管理器。这可以通过访问下一个URL语法来实现:

https://FMC IP/api/api-explorer

←	\rightarrow C	A ↔ https://10.88.243.58.43010/api/api-explorer/		☆ ♡	ර ≡
ili cis	ilii co		Download OAS 2.0 Spec	Download OAS 3.0 Spec	Logout
	Cisco /mc_oas3): Specifies Cisco Tech Send emai Cisco Firev	Construction of the REST URLs and methods supported in the Cisco Firewall Management of Inical Assistance Center (TAC) - Website to Cisco Technical Assistance Center (TAC) and Management Center Licensing	Center API. Refer to the version specific <u>REST API Quick Start Guide</u> for additional information.		
	Global	~) leshoot		>	
	Netw	ork Map		>	
	Devi	es		>	

FMC REST-API资源管理器

第二步:导航到设备并展开菜单。

omains Global ~	
Troubleshoot	>
Network Map	>
Devices	~
GET /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{objectId}	
PUT /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{objectId}	
DELETE /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{objectId}	
GET /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords	
POST /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords	
GET /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/fpphysicalinterfaces/{objectId}	
PUT /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/fpphysicalinterfaces/{objectId}	
GET /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/fplogicalinterfaces/{objectId}	
PUT /api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/fplogicalinterfaces/{objectId}	

Devices菜单

第三步:导航到GET 选项可以:

/api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets



内联集GET选项

第四步:单击Try it Out按钮。

Gar /ap1/fmc_cor	fig/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets/{objectId}
PUT /api/fmc_cor	fig/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets/{objectId}
DELETE /api/fmc_co	fig/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets/{objectId}
GET /api/fmc_cor	fig/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets
Retrieves, deletes, creates NGIPS device ID.	or modifies the inline set associated with the specified NGIPS device ID and inline set ID. If no inline set ID is specified, retrieves list of all inline sets associated with the specifier
Parameters	Try it out
Name	Description
containerUUID * required string (path)	The container id under which this specific resource is contained.
1	bf03d7e0-bdef-11ee-be2a-b0be30d93c81
domainUUID * required string	Domain UUID
(noth)	
(path)	e2/6abec-e0f2-11e3-8169-6d9ed49b625f
(poth) OffSet integer(\$int32) (merv)	e2/6abec-e0/2-11e3-8169-6d9ed49b625t Index of first item to return.

内联集GET Try it Out按钮

第五步:用FTD UUID替换containerUUID字段(可通过FTD命令行上的show version命令显示),然后单击

Execute。

Name	Description
containerUUID * required string (msth)	The container id under which this specific resource is contained.
(parn)	bf03d7e0-bdef-11ee-be2a-b0be30d93c81
<pre>domainUUID * required string (path)</pre>	Domain UUID
()/	e276abec-e0f2-11e3-8169-6d9ed49b625f
OffS@t integer(\$int32) (query)	Index of first item to return.
	offset - Index of first item to return.
limit integer(\$int32) (query)	Number of items to return.
	limit - Number of items to return.
expanded boolean (query)	If set to true, the GET response displays a list of objects with additional attributes.
	<u> </u>
	Evenida

内联集执行

第六步:向下滚动到Response Body并复制故障排除所需的接口ID,在本例中为Inline Set C。

"id": "005056B3-BB52-0ed3-0000-021474837838",

Code	Details
200	Response body { "name": "A", "ad": "A", "id": "05958-8852-0xd3-0000-021474837758", "type: "InlineSet",
	<pre>"self": "https://10.88.243.58:43010/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169-6d9ed49b625f/devices/devicerecords/bf03d7e0-bdef-11ee-be2a-b0be30d93c81/inlinesets/00505683-8852-0ed3-000 0-022474837758" } }, { "name": "8", "idf": "005055683-8852-0ed3-0000 -0.21474837837", "type": "Tainine5et", "inline5et", "inline5et", "inline5et", "inline5et", "inline5et", "inline5et", "exter": "Nttps://10.88.243.58:43010/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169-6d9ed49b625f/devices/devicerecords/bf03d7e0-bdef-11ee-be2a-b0be30d93c81/inlinesets/00505683-8852-0ed3-000 0-021474837837", "type": "Tainine5et", "inline5et", "inline5</pre>
	<pre>} } { anae*: "C", "name*: "C", "id": "05055683-8852-0ed3-0000-021474837838", "type: "Taina6st", "inas*: { "sype: "Taina6st", "links: { "stif: "https://10.88.243.58:43010/api/fmc_config/v1/domain/e276abec-e0f2-11e3-8169-6d9ed49b635f/devices/devicerecords/bf03d7e0-bdef-11ee-be2a-b0be30d93c81/inlinesets/00505683-8852-0ed3-000</pre>
	(2) Download

内联集GET响应正文

步骤 7. 导航到GET 选项可以:

/api/fmc_config/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets/{objectId}



内联集获取对象ID

步骤 8 单击Try it Out按钮。

GET /api/fmc_con	fig/v1/domain/{domainUUID}/devices/devicerecords/{containerUUID}/inlinesets/{objectId}
Retrieves, deletes, creates, NGIPS device ID.	or modifies the inline set associated with the specified NGIPS device ID and inline set ID. If no inline set ID is specified, retrieves list of all inline sets associated with the specifie
Parameters	Try it out
Name	Description
<pre>objectId * required string (path)</pre>	Unique identifier of an inline set.
	objectId - Unique identifier of an inline set.
<pre>containerUUID * required string (path)</pre>	The container id under which this specific resource is contained.
	containerUUID - The container id under which
domainUUID * required	Domain UUID
(path)	

内联集GET对象ID试用

步骤 9使用步骤6中采取的ID替换objectId字段,使用步骤5中使用的FTD UUID替换containerUUID。之后,单击Execute按钮。

NGIPS device ID.	
Parameters	Cance
Name	Description
<pre>objectId * required string (path)</pre>	Unique identifier of an inline set. 005056B3-BB52-0ed3-0000-021474837838
containerUUID * requi string (path)	The container id under which this specific resource is contained. bf03d7e0-bdef-11ee-be2a-b0be30d93c81
<pre>domainUUID * required string (path)</pre>	a Domain UUID
	e276abec-e0/2-11e3-8169-6d9ed49b625f
	Execute
Responses	
Code Description	Lin
200	Na

内联集GET对象ID执行

步骤 10验证REST-API查询的响应正文。

https://	<pre>www.sec</pre>	3c81/inlinesets/00505683-8852-0ed3-0000-021474837838
Server res	ver response	
Code	de Details	
200	Response body { find the set of the set	0-bdsf-llee-be2a-b0bs30d93c81/inlinesets/00505683-8852-0ed3-0000-0214
	<pre>"type": "PhysicalInterface" } second":{ "second":{ "second":{ "second":{ "set": "90905663-8852-0ed3-0000-021474637340", "name": "Ethernell/S", "type": "PhysicalInterface" } </pre>	E Download
	Response headers	
	accept-ranges: bytes cache-control: no-store connection: Keep-Alive content-encoding: gip	

内联集GET对象ID响应正文

接口Ethernet1/6被添加为内联集的第一个组件,而Ethernet1/5被添加为第二个组件。这是因为为Ethernet1/6分配的接口ID的字母顺序低 于Ethernet1/5。这将验证FMC在内联集上进行接口分配所采用的逻辑。

解决方法

接口ID由FXOS在创建逻辑设备时分配,因此,需要在FXOS级别删除接口,然后按所需顺序读取,以便再次分配ID。



警告:下一个解决方法仅适用于FPR4100和FPR9300系列,任何其他安全防火墙硬件都需要重新映像。此外,此解决方法 会中断流量,从这个意义上说,强烈建议使用FMC、FTD和FXOS备份以及计划维护窗口。

步骤1:登录FMC并删除下一个路径上的有问题的内联集:

Devices > Device Management > Edit the desired FTD > Inline Sets.

FFD tors line set tor line set tor line set tor line set Name Inside -A -> Outside -A Inside -A -> Outside -A Inside -B -> Outside -C -> Inside -C Displaying 1-3 of 3 rows 1/c < Page 1 of 1 > 1/c	Firewall Management Center Devices / Secure Firewall InlineSets	er Overview	Analysis Policies	Devices	Objects	Integration	Deploy Q 🦧 🛱	admin ▼
Device Routing Interfaces DHCP VTEP A Interface Pairs A Inside-A B Inside-A C Outside-C Outside-C Displaying 1-3 of 3 rows C < Page 1 of 1 > C	FTD							Save Cancel
Add Inline Set Name Inside-A<->Outside-A A Inside-A<->Outside-A B Inside-B<	Device Routing Interfaces Inli	ine Sets DHCP \	VTEP					
Name Interface Pairs A Inside-A B Inside-B C Outside-C								Add Inline Set
A Inside-A<->Outside-A ✓ i B Inside-B ✓ i C Outside-C<->Inside-C ✓ i Displaying 1-3 of 3 rows < < Page 1 of 1 >> C C	Name	Interface Pairs						
B Inside-B ✓ C Outside-C ✓ Displaying 1-3 of 3 rows ζ < Page 1 of 1 >> C C	A	Inside-A<->Outside-	A					/1
C Outside-C<->Inside-C Displaying 1-3 of 3 rows < < Page 1 of 1 > > C	В	Inside-B<->Outside-	в					/1
Displaying 1-3 of 3 rows < < Page 1 of 1 > > ℃	с	Outside-C<->Inside-	-C					/1
Displaying 1-3 of 3 rows < < Page 1 of 1 > > C								
Displaying 1-3 of 3 rows < < Page 1 of 1 > > C								
Displaying 1-3 of 3 rows < < Page 1 of 1 > > C								
Displaying 1-3 of 3 rows < < Page 1 of 1 > > C								
							Displaying 1-3 of 3 rows 🛛	$\langle Page 1 \text{ of } 1 \rangle \Rightarrow C$

内联集删除

第二步:保存更改并进行部署。

FDD Cisco Firepower 4110 Threat Defense Cancel Device Routing Interfaces DHCP VTEP A Interface Pairs Add Inline Set Add Inline Set B Inside Ac->Outside -A Inside Ac->Outside -A
Name Interface Pairs A Inside-A<>Outside-A B Inside-B<>Outside-B
Name Interface Pairs A Inside-A<->Outside-A B Inside-B
A Inside-A<->Outside-A B Inside-B
B Inside-B<->Outside-B

内联集删除部署

第三步:登录设备FCM并导航到逻辑设备并编辑所需的逻辑设备。

Overview	v Interfaces	Logical Devices	Security Engine	Platform Setti	ngs					System Tools Help admir
Logical De	vice List			(1 Native i	instance) 0% (0 of 22) Core	es Available				C Refresh 🖉 Add •
FTD-1			Standalone	Status:ok						
Appl	cation	Version	Resource	Profile	Management IP	Gateway	Manage	ement Port	Status	
B FTD		7.2.5.1.29			10.88.171.89	10.88.171.1	Etherne	t1/8	Online	🚾 🕅 C 🕍
	Interface Name				Туре		Attributes			
	Ethernet1/1				data		Cluster Operational Statu	is : not-applicable		
	Ethernet1/2				data		FIREPOWER-MGMT-IP	: 10.88.171.89		
	Ethernet1/3				data		HA-ROLE	: nttps:// : standalone		
	Ethernet1/4				data		UUID	: bf03d7e0-bdef-11ee	-be2a-b0be30d93c81	
	Ethernet1/5				data					
	Ethernet1/6				data					

第四步:删除属于有问题的内联集的两个接口(在本例中为Ethernet1/5和Ethernet1/6),并保存更改。

o	verview Interfaces	Logical Devices Secur	ity Engine Platform Set	ings				System Tools	Help admin
E S	diting - FTD-1 tandalone Cisco Secu	re Firewall Threat Defense	7.2.5.1.29					Save	Cancel
	tta Ports Uthernet1/1 Uthernet1/2 Uthernet1/3 Uthernet1/6 Uthernet1/6 Uthernet1/7 Corrators			Ethernet1/6 Ethernet1/4 Ethernet1/5 Ethernet1/2 Ethernet1/2 Ethernet1/3 Ethernet1/1 Ethernet1/1		Ethernatt/a Cick to configure			
	Application	Version	Resource Profile	Management IP	Gateway	Management Port	Status		
	FTD Interface Name Ethernet1/1 Ethernet1/2 Ethernet1/3	7.2.5.1.29		10.88.171.89 Type data data data	10.88.171.1	Ethernet1/8	online		

内联集接口删除

第五步:在FMC上,导航到设备>设备管理,编辑所需的FTD,然后导航到接口选项卡,点击同步设备按钮,保存更改并部署。

Firewall Management Co	enter _{Overv}	view Analysis	Policies	Devices	Objects	Integration		Deploy	۹	🥐 🌣	🕜 admin	• alsala cisco	SECURE
FTD Cisco Firepower 4110 Threat Defense Device Routing Interfaces	Inline Sets DH	ICP VTEP									d change:	Save	Cancel
Interface configuration has changed on	device. Click to know						Q Search by name			Sync	Device	Add Inter	faces 🔻
Interface	Logical Name	Туре	Security Zones	MAC Ad	dress (Active/S	tandby)	IP Address		Path Me	nitoring	Virtual Rout	ler	
the Ethernet1/1	Inside-A	Physical							Disable	i			/
Ethernet1/2	Outside-A	Physical							Disable	1			/
to Ethernet1/3	Inside-B	Physical							Disable	1			/
thernet1/4	Outside-B	Physical							Disable	i			/
😑 🕫 Ethernet1/5	Inside-C	Physical							Disable	i	Global		
😑 🕏 Ethernet1/6	Outside-C	Physical							Disable	i	Global		
Ethernet1/8	diagnostic	Physical							Disable	i	Global		1
						Displaying	1-7 of 7 interfaces 1 < Pa	ige 1				of 1 >	> C

删除后内联集FTD同步

第六步:再次编辑逻辑设备,再次添加第一个接口(Ethernet1/5),然后保存更改。

Overview Interfaces Logical Devices Security Engine Platform S	Settings				System Tools	Help admin
Editing - FTD-1 Standalone Cisco Secure Firewall Threat Defense 7.2.5.1.29					Save	Cancel
Data Ports						
Ethernet1/1						
Ethernet1/2						
Ethernet1/3						
Ethernet1/4						
Ethernet1/5	Ethernet1/4		_			
Ethernet1/6						
Ethernet1/7	Ethernet1/2					
	Ethernet1/3		FTD - 7.2.5.208 Ethernet1/8 Click to configure			
Decorators	Ethernet1/1		_			
Application Version Resource Profile	Management IP	Gateway	Management Port	Status		
G FTD 7.2.5.1.29	10.88.171.89	10.88.171.1	Ethernet1/8	online		
Interface Name	Туре					
Ethernet1/1	data					
Ethernet1/2	data					
Ethernet1/3	data					

```
内联集第一个接口添加
```

步骤 7.点击 Sync Device 按钮,保存更改,然后再次部署。

Firewall Management Cen Devices / Secure Firewall Interfaces	nter _{Overvier}	w Analysis	Policies	Devices	Objects	Integration		Deploy	۹ 🖌	•	admin	▼ dualu cisco	SECURE
FTD Cisco Firepower 4110 Threat Defense Device Routing Interfaces I	Inline Sets DHCf	P VTEP									d changes	Save	Cancel
Interface configuration has changed on de	evice. Click to know n						Q Search by name			Sync	Device	Add Inter	faces 🔻
Interface	Logical Name	Туре 5	Security Zones	MAC Ad	dress (Active/S	tandby)	IP Address	1	Path Moni	toring	Virtual Rou	ter	
thernet1/1	Inside-A	Physical						(Disabled				1
12 Ethernet1/2	Outside-A	Physical						ſ	Disabled				1
12 Ethernet1/3	Inside-B	Physical						(Disabled				/
the Ethernet1/4	Outside-B	Physical						(Disabled				1
Ethernet1/5	Inside-C	Physical						(Disabled		Global		/
😑 🌾 Ethernet1/6	Outside-C	Physical						(Disabled		Global		
Ethernet1/8	diagnostic	Physical						(Disabled		Global		1
						Displaying 1	-7 of 7 interfaces < < Pa	ge 1				of 1 >	×с

首次添加接口后的FTD同步

步骤 8再次编辑逻辑设备,再次添加第一个接口(Ethernet1/6),然后保存更改。

Overvi	ew Interfaces Log	gical Devices Security En	gine Platform Setti	ngs					System Tools	Help admin
Editing Standa	- FTD-1 lone Cisco Secure Fir	rewall Threat Defense 7.2.5.	1.29						Save	Cancel
Data Por	ts 🔺									
Etherne	t1/1									
Etherne	t1/2									
Etherne	t1/3									
Etherne	t1/4									
Etherne	t1/5			Ethernet1/4			-			
Etherne	t1/6									
Etherne	t1/7			Ethernet1/5						
				Ethernet1/2			FTD - 7.2.5.208			
				Ethernet1/3			Click to configure			
Decorate	ors 🔺	1		Ethernet1/1			-			
Appl	ication Vers	ion Reso	urce Profile	Managemen	t IP	Gateway	Management Port	Status		
FTD	7.2.5	.1.29		10.88.171.89		10.88.171.1	Ethernet1/8	online		
	Interface Name			Туре						
	Ethernet1/1			data						
	Ethernet1/2			data						
	Ethernet1/3			data						

步骤 9 通过点击Sync Device 按钮,保存更改,然后部署来重复第5步。

Firewall Management Center Devices / Secure Firewall Interfaces	Overview Ana	lysis Policies	Devices	Objects	Integration		Deploy Q	🖉 🔅	🕜 admin -	cisco SI	ECURE
FTD Cisco Firepower 4110 Threat Defense Device Routing Interfaces Inline Set	s DHCP VTEP								ed change	Save	Cancel
Interface configuration has changed on device. Clic	k to know more.					Q Search by name		Sync	Device	Add Interfa	ces 🔻
Interface Logical N	ame Type	Security Zones	MAC Ad	ddress (Active/S	Standby)	IP Address	Path	Monitoring	Virtual Route	r	
the Ethernet 1/1 Inside-A	Physical						Disat	led			/
& Ethernet1/2 Outside-A	Physical						Disat	led		,	/
thernet1/3 Inside-B	Physical						Disat	led		,	/
the Ethernet1/4 Outside-B	Physical						Disat	led		,	/
thernet1/5 Inside-C	Physical						Disat	led	Global	,	/
🗢 🏂 Ethernet1/6	Physical						Disat	led			
Ethernet1/8 diagnostic	Physical						Disat	led	Global	,	/
					Displaying 1	-7 of 7 interfaces I < Pa	nge 1			of 1 > →	C

添加第二个接口后的FTD同步

步骤 10使用与之前相同的参数配置接口,然后再次添加内联集。

内联集第二个接口添加

Firewall Management Center Devices / Secure Firewall InlineSets	Overview Analysis	Policies Devices	Objects Int	tegration	Deploy Q 🦧 🌣 🕜 admin 🕶 🖓 secure
FTD Cisco Firepower 4110 Threat Defense					You have unsaved changes Save Cancel
Device Routing Interfaces Inline	Sets DHCP VTEP				
Name	Interface Pairs				
A	Inside-A<->Outside-A				/=
В	Inside-B<->Outside-B				/1
c	Inside-C<->Outside-C				/1
				Die	splaying 1-3 of 3 rows $ \langle \langle Page 1 ight $ of 1 $\rangle > C$

内联集配置

此时,内联集接口顺序按预期方式显示。保存更改并最后一次部署。



注意:将再次执行本文档的"案例示例"部分,以验证接口ID现在的顺序是否正确。

相关信息

• <u>思科技术支持和下载</u>

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