透過HTTP伺服器重新映像APIC控制器的步驟

目錄 簡介 問題 必要條件 解決方案 步驟1.首先,您需要從Cisco網站下載韌體。 <u>第2步:輸入APIC並在此處為ACI選擇適當的版本。在此選擇4.2(7f)。</u> 步驟 3.將APIC軟體.iso映像複製到HTTP伺服器 步驟 4.透過SSH/控制檯連線到思科整合管理控制器 <u>從終端窗口登入CIMC控制檯</u> <u>將範圍變更為虛擬媒體:</u> <u>將.iso映像對映到HTTP伺服器</u> <u>檢查對映狀態:</u> <u>連線到SOL以監視安裝過程:</u> 步驟 5.從CIMC GUI的KVM控制檯重新通電 <u>步驟 6.返回CIMC CLI並監控「連線主機」的輸出。</u> <u>第7步:輸入HTTP URL後,引導過程將繼續進行。</u> 第8步:正確檢查介面 第9步:關閉電源後退出SOL 第10步:初始配置

簡介

本文檔介紹如何藉助HTTP伺服器對APIC進行重新映像。

問題

如果APIC集群發生故障或硬體從L2/M2遷移到L4/M4,單個APIC裝置可能需要重新映像才能恢復功 能。此過程概述了使用HTTP伺服器逐一對APIC進行重新映像的簡化方法,有助於以最小的中斷實 現更快的群集恢復。

對需要重新映像的每個APIC裝置依次重複此過程。重新映像所有APIC後,根據需要恢復集群配置 ,並進行徹底測試以驗證功能。

此簡明程式可實現高效的APIC恢復,使管理員能夠及時解決集群故障並有效地恢復網路運營。

必要條件

1. 必須使用OOB IP地址配置CIMC。

2. 檢視APIC版本說明,並確認您需要對哪個APIC軟體映像進行重新映像。

- 3. 從software.cisco.com獲取軟體映像
- 4. 確認映像的MD5校驗和與Cisco.com上發佈的校驗和匹配
- 5. 將APIC映像上傳到HTTP伺服器上。

解決方案

要使用HTTP伺服器重新映像APIC,需要執行以下步驟。

步驟1.首先,您需要從Cisco網站下載韌體。

打開software.cisco.com/download。

第2步:輸入APIC並在此處為ACI選擇適當的版本。在此選擇4.2(7f)。

舉例來說:

Downloads Home / Cloud and Systems Management / Policy and Automation Controllers / Application Policy Infrastructure Controller (VHC) / APIC Software - 4.2(1)

(0, Search	Application Policy Infrastructure Controller (APIC) Release 4.2(71) Ny Notification Related Links and Documentation Related Links for 4.270			C) I Documentation	
4.329					
4.0759	File Information		Release Date	Size	
4.2(2)	APIC Image for 4.2(20) Release ect-apic-dx3.4.2.75as		18-Mar-2021	5689.41 MB	⊥∀∎
4.2(%)	Advisories (2				
4.3(7)	Vapic image for 4.2(7) Release ed-spin-dk1.4.2.7/ove Advisories (*		16-Mar-2021	\$261.22 MB	1 X W 🗎
4.3(71)					

步驟 3.將APIC軟體.iso映像複製到HTTP伺服器

示例:-<u>http://x.x.x.x/iso/</u>

Index of /iso

	Name	Last modified	Size	Description
د	Parent Directory			
	DCApps/	2024-03-28 11:06	-	
E)	NAB for ND_NDFC_NDLpdf	2023-10-21 13:35	401K	
?	aci-apic-dk9.2.2.3j.iso	2021-04-16 08:18	2.96	
?	aci-apic-dk9.2.2.3t.iso	2020-11-11 17:31	2.9G	
?	aci-apic-dk9.2.2.4r.iso	2020-11-11 17:34	3.1G	
?	aci-apic-dk9.3.0.2k.iso	2020-11-26 13:56	3.3G	
?	aci-apic-dk9.3.2.3n.iso	2020-10-26 11:56	3.5G	
2	aci-apic-dk9.3.2.4d.iso	2021-02-26 13:41	3.3G	
?	aci-apic-dk9.3.2.7f.iso	2020-12-08 08:55	2.7G	
?	aci-apic-dk9.3.2.7k.iso	2024-03-07 20:58	2.7G	
?	aci-apic-dk9.3.2.8d.iso	2020-09-24 16:41	3.0G	
?	aci-apic-dk9.3.2.9h.iso	2020-11-10 22:07	3.2G	
2	aci-apic-dk9.4.2.3Liso	2020-04-20 18:19	5.1G	
2	aci-apic-dk9.4.2.4k.iso	2020-09-18 14:21	5.6G	
2	aci-apic-dk9.4.2.4o.iso	2020-07-29 13:21	5.6G	
2	aci-apic-dk9.4.2.5k.iso	2020-09-24 16:08	5.6G	
2	aci-apic-dk9.4.2.5Liso	2024-03-15 10:08	5.6G	
2	aci-apic-dk9.4.2.5n.iso	2020-11-02 17:20	5.6G	
2	aci-apic-dk9.4.2.6d.iso	2020-12-03 19:30	0	
?	aci-apic-dk9.4.2.6h.iso	2023-07-26 13:53	6.0G	
?	aci-apic-dk9.4.2.7f.iso	2021-03-26 18:32	5.6G	
Contraction of			-	

步驟 4.透過SSH/控制檯連線到思科整合管理控制器

• 從終端窗口登入CIMC控制檯

<#root>

ssh admin@cimc_ip

其中cimc_ip是CIMC IP地址。舉例來說:

<#root>

ssh admin@x.x.x.x

admin@x.x.x.x's password:

system#

• 將範圍變更為虛擬媒體:

<#root>

system# scope vmedia

system /vmedia #

• 將.iso映像對映到HTTP伺服器

<#root>

system /vmedia # map-www volume_name http://http_server_ip_and_path iso_file_name

其中:

- volume_name是磁碟區的名稱。
- http_server_ip_and_path是HTTP伺服器的IP地址和.iso檔案位置的路徑。
- iso_filename是.iso檔案的名稱。

注意:http_server_ip_and_path和iso_filename之間存在空格

舉例來說:

system /vmedia # map-www apic http://x.x.x.x/iso/ aci-apic-dk9.4.2.7f.iso
Server username: admin
Server password:
Confirm password:

注意: /*如果此處不需要身份驗證,請按Enter鍵

• 檢查對映狀態:

<#root>

system /vmedia #

show mappings detail

Map-Status必須顯示為OK。

舉例來說:

<#root>

system /vmedia #

show mappings detail

```
Volume apic:
Map-Status: OK
Drive-Type: CD
Remote-Share: http://x.x.x.x/iso/
Remote-File: aci-apic-dk9.4.2.7f.iso
Mount-Type: www
Mount-Options: noauto,username=admin,password=*******3
system /vmedia #
```

• 連線到SOL以監視安裝過程:

<#root>

system /vmedia #

connect host

CISCO Serial Over LAN: Press Ctrl+x to Exit the session

步驟 5.從CIMC GUI的KVM控制檯重新通電

選擇「Power > Power Cycle System (cold boot)(電源>重新通電系統(冷啟動))」,對控制器重新 通電

Cisco Integrated Management Controller				
Fire View Macros Tools Plant Boot Device White Media I	140			
Prover Or Species Prover Of Species Recal System (warm.boat)	Policy	Infrastructure	Controller	
Pewer Cycle System (paid loon)	,			

從SOL控制檯:在引導過程中觀察螢幕,準備在適當的時間按F6進入引導選擇選單。

舉例來說:



按下F6之後

注意:如果錯過機會,並且無法在適當的時刻按F6,請返回步驟5以重新啟動控制器並重複該過程 ,直到可以按F6進入引導選擇選單為止。



您也必須輸入BIOS密碼。預設密碼為password



在引導選擇選單中,選擇Cisco CIMC-Mapped vDVD1.22選項作為一次性引導裝置。





步驟 6.返回CIMC CLI並監控「連線主機」的輸出。

監控CIMC cli ,當收到To speed the install , enter iso url in next ten minutes消息時,請輸入帶有 APIC映象的http伺服器URL。

<#root>

```
++ grep /run/install/repo
++ cut -f 1 -d ' '
++ tr -d '[:digit:]'
+ usbdevice=/dev/sr
+ mkdir /mnt/usbdata
+ mount /dev/sr2 /mnt/usbdata
mount: special device /dev/sr2 does not exist
+ true
+ '[' -f /mnt/usbdata/ifabric.iso ']'
+ mountpoint -q /mnt/usbdata
+ true
+ echo 'INFO: found second partition on install media but did not find ifabric.iso. '
INFO: found second partition on install media but did not find ifabric.iso.
+ echo 'Continuing on to ISO URL prompt.'
Continuing on to ISO URL prompt.
+ '[' 0 -eq 0 ']'
+ read_iso_url
+ true,,
+ echo
'To speed up the install, enter iso url in next ten minutes
: '
<< Enter the http server URL with apic image >>
To speed up the install, enter iso url in next ten minutes:
+ read -t 600 -p '? ' url
?
<#root>
http://x.x.x.x/iso/aci-apic-dk9.4.2.7f.iso
```

5:program-log

<< Enter the http server details >>

[anaconda] 1:main* 2:shell 3:log 4:storage-lo> Switch tab: Alt+Tab | Help: F1

注意:http_server_ip_and_path和iso_filename之間沒有空格。

第7步:輸入HTTP URL後,引導過程將繼續進行。

﹐注意:如果選擇靜態選項,系統會要求您輸入介面名稱、管理IP地址和網關。

<#root>

```
+ '[' 0 -eq 0 ']'
```

```
+ read_iso_url
```

```
+ true
```

+ echo 'To speed up the install, enter iso url in next ten minutes: '

```
To speed up the install, enter iso url in next ten minutes:
+ read -t 600 -p '? ' url
2
[ahttp://x.x.x.x/iso/aci-apic-dk9.4.2.7f.iso 5:program-log
++ awk -F '/|:' '{print $4}'
+ urlip=x.x.x.x
+ '[' -z http://x.x.x/iso/aci-apic-dk9.4.2.7f.iso ']'
+ '[' -z x.x.x.x ']'
+ break
+ '[' -n http://x.x.x/iso/aci-apic-dk9.4.2.7f.iso ']'
+ set +e
+ configured=0
+ '[' 0 -eq 0 ']'
+ echo 'Configuring network interface'
Configuring network interface
+ echo
'type static, dhcp, bash for a shell to configure networking,
or url to re-enter the url: '
>>
<< Type static and configure the APIC OOB IP address with it's gateway>>
type static, dhcp, bash for a shell to configure networking, or url to re-enter the url:
+ read -p '? ' ntype
```

```
<#root>
```

?

static

<< Enter the static to configure the networking >>

[anaconda] 1:main* 2:shell 3:log 4:storage-lo> Switch tab: Alt+Tab | Help: F1

注意:鍵入靜態地址後,它將列出CIMC介面,選擇正確的介面。如果選擇了錯誤的介面,則資料包 丟失率為100%,在三次嘗試執行ping失敗後,它將再次要求選擇正確的介面,直到資料包丟失為 0。如果您不知道介面,則逐一選擇所有介面。

舉例來說:

<#root>

```
+ case $ntype in
+ configure_static
+ echo 'Available interfaces'
Available interfaces
+ ls -l /sys/class/net
total 0
lrwxrwxrwx. 1 root root 0 May 3 07:08
```

enp11s0

-> ../../devices/pci0000:00/0000:00:03.0/0000:06:00.0/0000:07:01.0/0000:09:00.0/0000:0a:00.0/0000:0b:0 lrwxrwxrwx. 1 root root 0 May 3 07:08

enp12s0

-> ../../devices/pci0000:00/0000:00:03.0/0000:06:00.0/0000:07:01.0/0000:09:00.0/0000:0a:01.0/0000:0c:0 lrwxrwxrwx. 1 root root 0 May 3 07:08

enp1s0f0

-> ../../devices/pci0000:00/0000:00:01.0/0000:01:00.0/net/enp1s0f0 lrwxrwxrwx. 1 root root 0 May 3 07:08

enp1s0f1

-> ../../devices/pci0000:00/0000:00:01.0/0000:01:00.1/net/enp1s0f1
lrwxrwxrwx. 1 root root 0 May 3 07:08 lo -> ../../devices/virtual/net/lo
+ read -p 'Interface to configure: ' interface

<#root>

Interface to configure:

enp1s0f0

```
<< select the correct interface >>
```

[anaconda] 1:main* 2:shell 3:log 4:storage-lo>

第8步:正確介面檢查

進入介面後,它將嘗試ping http伺服器,如果選定的介面正確,則資料包丟失率必須為0%,並開始 從http伺服器提取映像。

例如:在輸入正確介面但0%的資料包丟失後。

<#root>

```
+ read -p 'Interface to configure: ' interface
Interface to configure:
```

enp1s0f0

+ read -p 'address: ' addr address: x.x.x.x/24 + read -p 'gateway: ' gw gateway: x.x.x.x + ip addr add x.x.x.x/24 dev enp1s0f0 + ip link set enp1s0f0 up + ip route add default via x.x.x.x ++ seq 1 2 + for count in '\$(seq 1 2)' + ping -c 1 x.x.x.x

```
PING x.x.x.x (x.x.x.x) 56(84) bytes of data.
64 bytes from x.x.x.x: icmp_seq=1 ttl=64 time=55.0 ms
--- x.x.x.x ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time Oms
rtt min/avg/max/mdev = 55.056/55.056/55.056/0.000 ms
+ configured=1
+ break
+ '[' 1 -eq 0 ']'
+ echo 'Fetching http://x.x.x.x/iso/aci-apic-dk9.4.2.7f.iso'
```

Fetching http://x.x.x.x/iso/aci-apic-dk9.4.2.7f.iso

>> started fetching the apic image from HTTP server

+ wget -o /dev/null -0 /tmp/cdrom.iso http://x.x.x.x/iso/aci-apic-dk9.4.2.7f.iso

如果選擇了錯誤的介面,則資料包丟失率將為100%,在三次嘗試執行ping失敗後,它將再次要求選 擇正確的介面。

例如:在輸入錯誤介面且資料包丟失100%後

<#root>

```
+ read -p 'Interface to configure: ' interface
Interface to configure:
```

enp11s0

```
+ read -p 'address: ' addr
address: x.x.x.x/24
+ read -p 'gateway: ' gw
gateway: x.x.x.x
+ ip addr add x.x.x.x/24 dev enp11s0
+ ip link set enp11s0 up
+ ip route add default via x.x.x.x
++ seg 1 2
+ for count in '$(seq 1 2)'
+ ping -c 1 x.x.x.x
PING x.x.x.x (x.x.x.x) 56(84) bytes of data.
From x.x.x.x icmp_seq=1 Destination Host Unreachable
--- x.x.x.x ping statistics ---
1 packets transmitted, 0 received, +1 errors, 100% packet loss, time Oms
+ sleep 20
+ for count in '$(seq 1 2)'
+ ping -c 1 x.x.x.x
PING x.x.x.x (x.x.x.x) 56(84) bytes of data.
From x.x.x.x icmp_seq=1 Destination Host Unreachable
--- x.x.x.x ping statistics ---
1 packets transmitted, 0 received, +1 errors, 100% packet loss, time Oms
+ sleep 20
+ '[' 0 -eq 0 ']'
+ echo 'Configuring network interface'
```

```
Configuring network interface
+
echo 'type static, dhcp, bash for a shell to configure networking, or url to re-enter the url: '
<<Asking again to select the interface after selecting the type i,e static >>
type static, dhcp, bash for a shell to configure networking, or url to re-enter the url:
+ read -p '? ' ntype
```

請保持監控CIMC CLI並等待約40-50分鐘,您將在CLI上獲得以下輸出。

[anaconda] 1:main* 2:shell 3:log 4:storage-lo> Switch tab: Alt+Tab | Help: F1 [OK] Started Show Plymouth Power Off Screen. Γ OK] Stopped Availability of block devices. Stopping Logout off all iSCSI sessions on shutdown... Stopping LVM2 metadata daemon... OK] Stopped LVM2 metadata daemon. Ε OK] Stopped Logout off all iSCSI sessions on shutdown. Ε Ε OK] Stopped target Network. OK] Stopped Remount Root and Kernel File Systems. Ε Stopping Remount Root and Kernel File Systems... OK] Started Restore /run/initramfs. Ε OK] Reached target Shutdown. Г dracut Warning: Killing all remaining processes Powering off.

reboot: Power down

第9步:關閉電源後退出SOL

請等候您在SOL主控台中看到關閉電源訊息,然後按下Ctrl和x (Ctrl+x)從SOL結束,再登入CIMC並 再次變更範圍。

(i) Change the scope to virtual media again: system# scope vmedia system /vmedia #

(ii) Unmap the .iso image that you mapped in 2.c: system /vmedia # unmap volume_name At the Save mapping prompt, enter yes if you want to save the mapping or no if you do not want to save system /vmedia # unmap apic Save mapping? Enther 'yes' or 'no' to confirm (CTRL-C to cancel) → yes system /vmedia #

(iii) Connect back to SOL again: system /vmedia # connect host

第10步:初始配置

在KVM控制檯上:選擇Power > Power on System以打開控制器和Lunch KVM的電源,它將要求 APIC初始配置

Cinco Integrated Management Cantrolor					
Fis Vax Nexs Sub Powr Barlooks VitalNets IND					
Starting Wait for Plymouth Boot Screen to Quit					
Press any key to continue					
Starting Setup Utility					
bootstrap: setup: False clean: False init: False reboot: True					
This setup utility will guide you through the basic configuration of the system. Setup configures only enough connectivity for management of the system.					
*Note: setup is mainly used for configuring the system initially, when no configuration is present. So setup always assumes system defaults and not the current system configuration values.					
Press Enter at anytime to assume the default values. Use ctrl-d at anytime to restart from the beginning.					
Cluster configuration Enter the fabric name [ACI Fabric1]:					

關於此翻譯

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