

Promova um par ASA HA em dispositivos de FirePOWER

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Introdução

Este documento descreve o procedimento de upgrade de uma Alta disponibilidade (HA) dos pares das ferramentas de segurança adaptáveis (ASA) instaladas em ferramentas de hardware de firePOWER.

Pré-requisitos

Requisitos

A Cisco recomenda que você tenha conhecimento destes tópicos:

- Gerenciamento ASA
- Failover ASA

[Componentes Utilizados](#)

As informações neste documento são baseadas nestas versões de software e hardware:

- 2 código running 2.0.1-86 x FP4150
- ASA 9.6.2.1 (promovido a 9.6.2.3)

As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. Todos os dispositivos utilizados neste documento foram iniciados com uma

configuração (padrão) inicial. Se sua rede está viva, assegure-se de que você compreenda o impacto potencial do comando any.

Informações de Apoio

O procedimento de upgrade de um módulo ASA instalado nos dispositivos de FirePOWER (FPR4100, FPR9300 etc.) quando o HA é configurado (Active/à espera ou ativo/Active) é descrito no manual de configuração elástico do sistema operacional de FirePOWER (FXO). Está aqui a parte relevante:

Updating the Image Version for a Logical Device

Before You Begin

Download the application image you want to use for the logical device from [Cisco.com](#) (see [Downloading Images from Cisco.com](#)) and then upload that image to the FXOS chassis (see [Uploading an Image to the Firepower Security Appliance](#)).

If you are upgrading both the Platform Bundle image and one or more Application images, you must upgrade the Platform Bundle first.

 **Note** You cannot directly upgrade a Firepower Threat Defense logical device. To upgrade a Firepower Threat Defense logical device, you must delete the existing device and then create a new one using the updated image.

Procedure

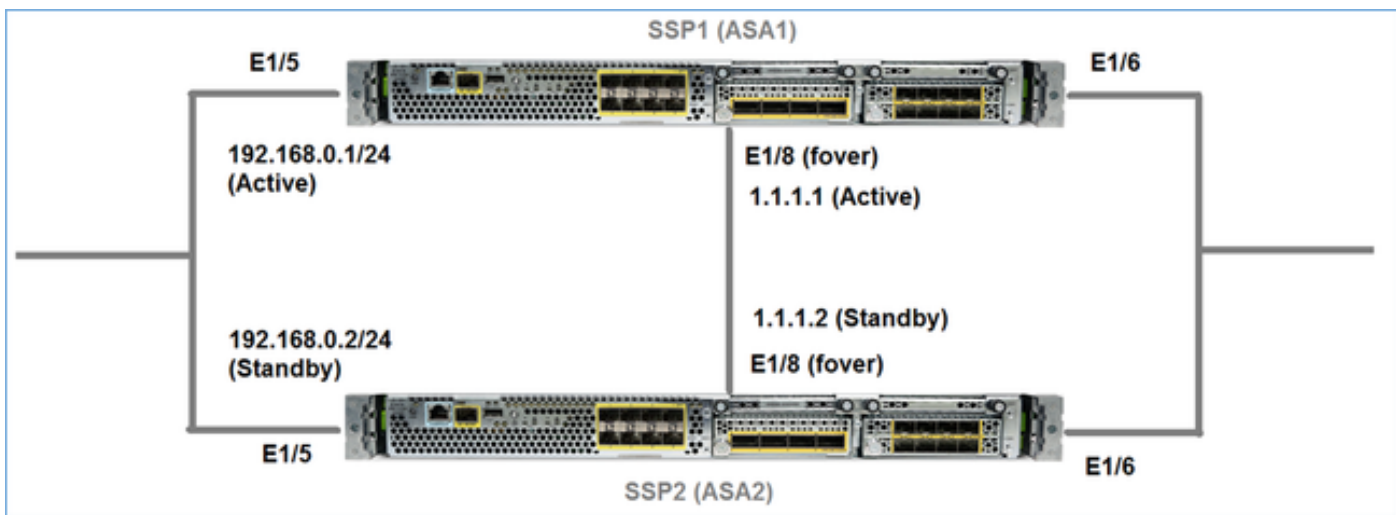
- Step 1** Choose **Logical Devices** to open the Logical Devices page. The Logical Devices page shows a list of configured logical devices on the chassis. If no logical devices have been configured, a message stating so is shown instead.
- Step 2** Click **Update Version** for the logical device that you want to update to open the **Update Image Version** dialog box.
- Step 3** For the **New Version**, choose the software version to which you want to update.
- Step 4** Click **OK**.

O objetivo deste documento é fornecer um pouco mais visão detalhada do processo de upgrade em um ambiente HA.

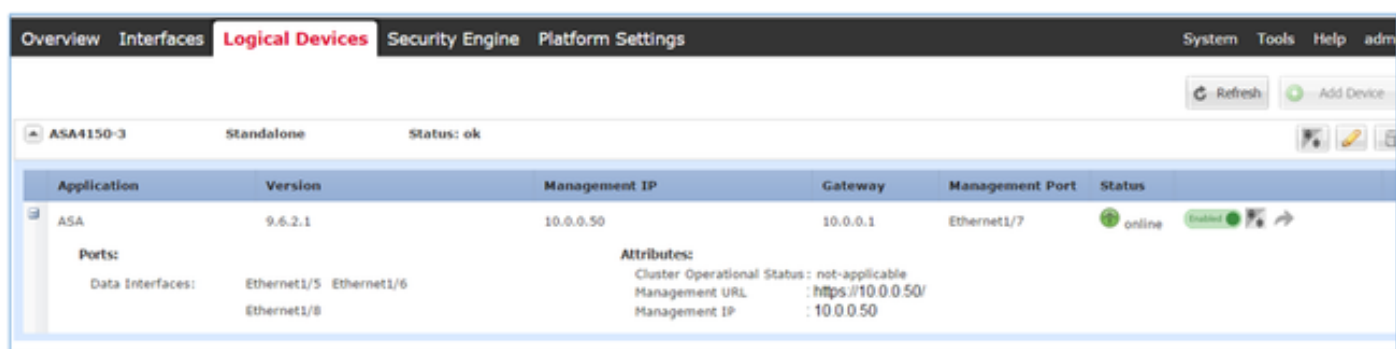
Note: O documento supõe que a versão ASA do alvo é compatível com a versão FXO que existe, assim que os FXO empacotam a elevação não são precisados nesta encenação. Verifique sempre a matriz de compatibilidade FXO para confirmar se a versão ASA do alvo é compatível com a imagem FXO. Se não, promova então as imagens FXO primeiramente como descrito nos Release Note FXO.

Configurar

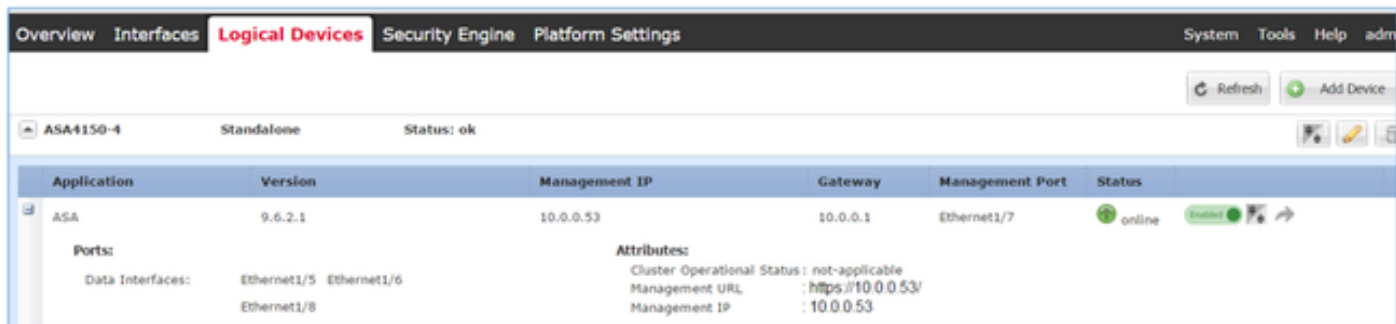
Diagrama de Rede



ASA1 enquanto se vê no gerente do chassi de FirePOWER (FCM) UI:



ASA2:



Transferência da tarefa 1. as imagens ASA das páginas da transferência de software Cisco

Navegue às transferências em casa >> segurança do Produtos > Firewall > Firewall da próxima geração (NGFW) e selecione a plataforma do HW (por exemplo 4100, 9000 etc.) segundo as indicações da imagem.

Download Software

Download Cart (0 items)

[Downloads Home](#) > [Products](#) > [Security](#) > [Firewalls](#) > [Next-Generation Firewalls \(NGFW\)](#) > [Firepower 4100 Series](#) > [Firepower 4150 Security Appliance](#)

Select a Software Type:

Adaptive Security Appliance (ASA) Software

[Firepower Extensible Operating System](#)

[Firepower Threat Defense Software](#)

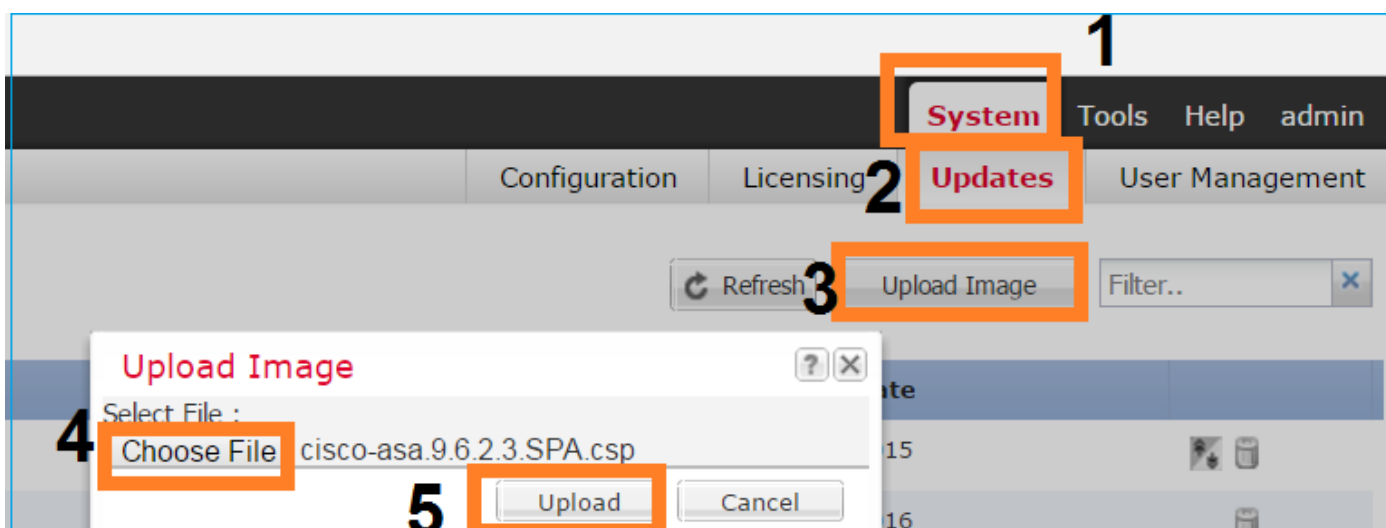
[Radware Virtual Defense Pro \(vDP\)](#)

Encarregue a transferência de arquivo pela rede 2. as imagens ASA ao gerente do chassi de FirePOWER

Transfira arquivos pela rede as imagens ASA aos chassis de FirePOWER. Isto pode ser feito do gerente do chassi de FirePOWER (FCM) UI ou do comando line interface(cli) FXO.

Transferência de arquivo pela rede do método 1. as imagens ASA de FCM UI.

Navegue ao **sistema > às atualizações**. Selecione a **imagem da transferência de arquivo pela rede**, especifique o nome de arquivo e selecione a **transferência de arquivo pela rede**:



Transferência de arquivo pela rede do método 2. as imagens ASA de FXO CLI.

Você pode transferir arquivos pela rede a imagem de um FTP, do SCP, do SFTP ou de um servidor TFTP. A fim verificar a Conectividade entre a interface de gerenciamento do chassi e o servidor remoto faça como mostrado:

```
FPR4100# connect local-mgmt
FPR4100(local-mgmt)# ping 10.48.40.70
PING 10.48.40.70 (10.48.40.70) from 10.62.148.88 eth0: 56(84) bytes of data.
64 bytes from 10.48.40.70: icmp_seq=1 ttl=61 time=34.4 ms
64 bytes from 10.48.40.70: icmp_seq=2 ttl=61 time=34.3 ms
64 bytes from 10.48.40.70: icmp_seq=3 ttl=61 time=34.3 ms
```

A fim transferir a imagem ASA navegue a este espaço e execute o comando da **imagem da transferência**:

```
FPR4100# scope ssa
```

```
FPR4100 /ssa # scope app-software
FPR4100 /ssa/app-software # download image ftp://ftp_username@ 10.48.40.70/cisco-asa.9.6.2.3.SPA.csp
Password:
```

A fim monitorar o progresso de transferência de imagem execute o comando detail da transferência-tarefa da mostra:

```
FPR4100 /ssa/app-software # show download-task detail
```

```
Downloads for Application Software:
  File Name: cisco-asa.9.6.2.3.SPA.csp
  Protocol: Ftp
  Server: 10.48.40.70
  Port: 0
  Userid: anonymous
  Path:
  Downloaded Image Size (KB): 94214
  Time stamp: 2016-12-08T10:21:56.775
  State: Downloading
  Transfer Rate (KB/s): 450.784698
  Current Task: downloading image cisco-asa.9.6.2.3.SPA.csp from 10.48.40.70(FSM-STAGE:sam:dme:ApplicationDownloaderDownload:Local)
```

Você pode igualmente usar este comando verificar transferência bem sucedida:

```
FPR4100 /ssa/app-software # show download-task
```

```
Downloads for Application Software:
  File Name           Protocol  Server           Port  Userid           State
  -----
  cisco-asa.9.6.2.2.SPA.csp  Ftp      10.48.40.70      0    0 anonymous      Downloaded
```

Para detalhes adicionais:

```
FPR4100 /ssa/app-software # show download-task fsm status expand
```

```
File Name: cisco-asa.9.6.2.3.SPA.csp
```

FSM Status:

```
Affected Object: sys/app-catalogue/dnld-cisco-asa.9.6.2.3.SPA.csp/fsm
Current FSM: Download
Status: Success
Completion Time: 2016-12-08T10:26:52.142
Progress (%): 100
```

FSM Stage:

```
Order  Stage Name           Status      Try
-----
1      DownloadLocal         Success     1
2      DownloadUnpackLocal   Success     1
```

A imagem ASA é mostrada no repositório do chassi:

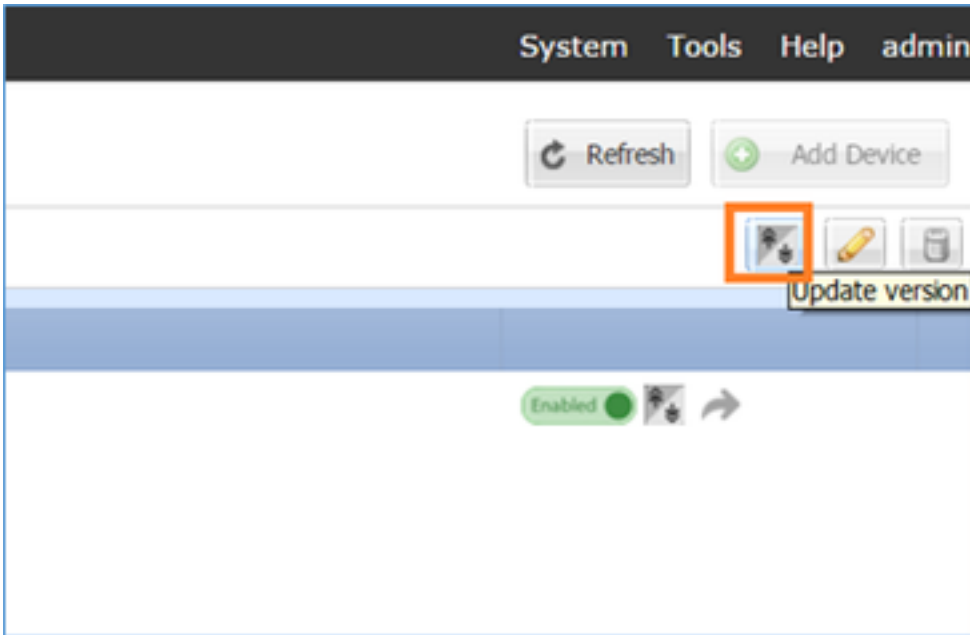
```
FPR4100 /ssa/app-software # exit
FPR4100 /ssa # show app
```

Application:

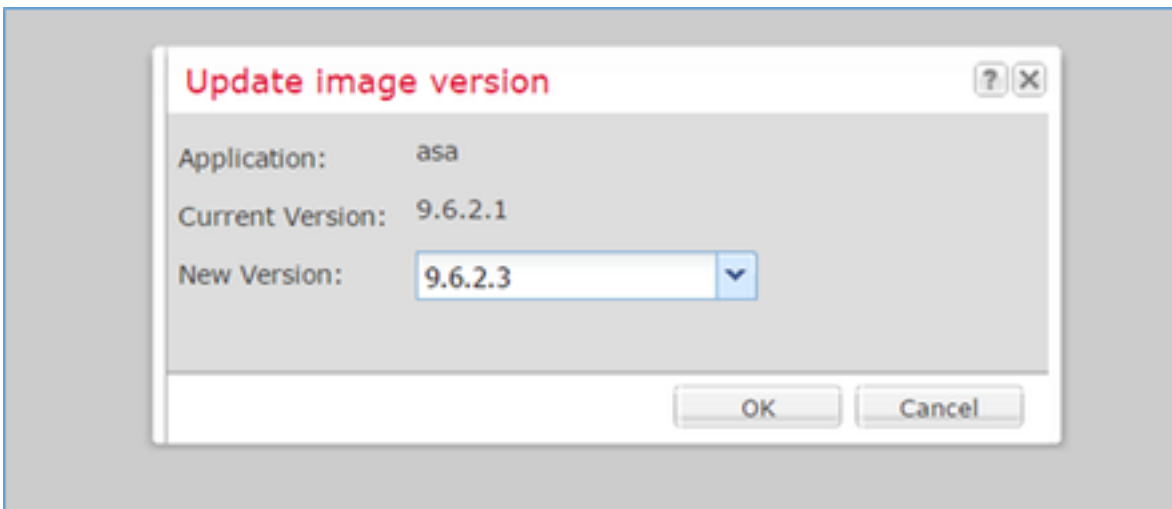
Name	Version	Description	Author	Deploy Type	CSP Type	Is Default App
asa	9.6.2.1	N/A	cisco	Native	Application	No
asa	9.6.2.3	N/A	cisco	Native	Application	No

Elevação da tarefa 3. a primeira unidade ASA

Promova a unidade à espera ASA primeiramente segundo as indicações da imagem:



Especifique a imagem nova e a **APROVAÇÃO** seleta no começo do orderto a elevação:



Verificação

O progresso da elevação ASA de FCM GUI:

Application	Version	Management IP	Gateway	Management Port	Status
ASA	9.6.2.1	10.0.0.53	10.0.0.1	Ethernet1/7	updating

Ports: Ethernet1/5, Ethernet1/6, Ethernet1/8

Attributes: Cluster Operational Status: not-applicable, Management URL: https://10.0.0.53/, Management IP: 10.0.0.53

Após 1-2 minuto as mostras FCM UI:

Application	Version	Management IP	Gateway	Management Port	Status
ASA	9.6.2.3	10.0.0.53	10.0.0.1	Ethernet1/7	update-succeeded

Ports: Ethernet1/5, Ethernet1/6, Ethernet1/8

Attributes: Cluster Operational Status: not-applicable, Management URL: https://10.0.0.53/, Management IP: 10.0.0.53

Os reloads do módulo ASA:

Application	Version	Management IP	Gateway	Management Port	Status
ASA	9.6.2.3	10.0.0.53	10.0.0.1	Ethernet1/7	Security module not responding

Ports: Ethernet1/5, Ethernet1/6, Ethernet1/8

Attributes: Cluster Operational Status: not-applicable, Management URL: https://10.0.0.53/, Management IP: 10.0.0.53

O processo de upgrade ASA do chassi CLI de FirePOWER.

O CLI mostra que o dispositivo lógico (ASA) reinicia. O processo de upgrade inteiro da inicialização de módulo CLI nesta saída:

```
asa/sec/stby(config)#
[screen is terminating]
Disconnected from asa console!
Firepower-module1>
INIT: SwitchingStopping OpenBSD Secure Shell server: sshdstopped /usr/sbin/sshd (pid 5738)
.
Stopping Advanced Configuration and Power Interface daemon: stopped /usr/sbin/acpid (pid 5742)
acpid: exiting

acpid.
Stopping system message bus: dbus.
Stopping ntpd: stopped process in pidfile '/var/run/ntp.pid' (pid 6186)
done
Stopping crond: OK
Deconfiguring network interfaces... done.
Sending all processes the TERM signal...
```

SIGKILL_ALL will be delayed for 1 + 5 secs
Sending all processes the KILL signal...
Deactivating swap...
Unmounting local filesystems...
Rebooting... [1679.605561] Restarting system.

Cisco Systems, Inc.
Configuring and testing memory..

Cisco Systems, Inc.
Configuring and testing memory..
Configuring platform hardware...
Bios Version : FXOSSM1.1.2.1.3.031420161207
Platform ID : FXOSSM1
Processor(s) Intel(R) Xeon(R) CPU E5-2699 v4 @ 2.20GHz
Total Memory = 256 GB Effective Memory = 256 GB
Memory Operating Speed 2400 Mh

Please wait, preparing to boot..

.....
.....
UEFI Interactive Shell v2.0. UEFI v2.40 (American Megatrends, 0x0005000B). Revision 1.02

Mapping table

fs0: Alias(s):HD17a65535a1:;blk1:
PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)/HD(1,MBR,0x000EC692,0x800,0xEE6800)
blk0: Alias(s):
PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)
blk2: Alias(s):
PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)/HD(2,MBR,0x000EC692,0xEE7000,0x3BA000)
blk3: Alias(s):

PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)/HD(3,MBR,0x000EC692,0x12A1000,0x950000)
blk4: Alias(s):

PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)/HD(4,MBR,0x000EC692,0x1BF1000,0x2CD20800)
blk5: Alias(s):

PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)/HD(4,MBR,0x000EC692,0x1BF1000,0x2CD20800)/HD(1,MBR,0x00000000,0x1BF1800,0x5D22000)
blk6: Alias(s):

PciRoot(0x0)/Pci(0x1F,0x2)/Sata(0x0,0xFFFF,0x0)/HD(4,MBR,0x000EC692,0x1BF1000,0x2CD20800)/HD(2,MBR,0x00000000,0x7914000,0x26FFD800)

To launch ROMMON.

CpuFrequency = 2200002 KHz
Cisco FXOSSM1 Blade Rommon 1.2.1.3, Mar 14 2016 12:11:29
Platform: SSPXRU

INFO: enic_identify: Enabling Cruz driver...
INFO: enic_identify: Cruz driver enabled.
INFO: init_spi_interface: HSFS_BERASE_4K.
INFO: enic_init: bar[0].vaddr 0xc6e00000.
INFO: enic_init: bar[2].vaddr 0xc6e10000.
INFO: enic_init: eNic port MTU is 1500.
INFO: enic_init: eNic bsize 1500 ring size 512.
INFO: enic_init: Waiting for Cruz link...
INFO: enic_init: Cruz link detected.
INFO: nb_eth_app_init: MAC address for interface 0: 00 15 a5 01 01 00
INFO: nb_eth_app_init: IP address 127.128.1.254

Start communicating with MIO in blade slot 1...

INFO: Allocated 1000 bytes of memory for cmd at 0x78a7d018.
INFO: Allocated 1000 bytes of memory for status at 0x76d34918.


```
INFO: Allocated 196608 bytes of memory for key file at 0x76d03018.
INFO: Status code 1: 'rommon initialize is completed'.

INFO: tftp_open: '/rommon/status_1.txt'@127.128.254.1 via 127.128.254.1
!
INFO: nb_tftp_upload: 31 bytes sent.
tftpget 0x78a7d018 1000
INFO: tftp_open: '/rommon/command_1.txt'@127.128.254.1 via 127.128.254.1
Received 154 bytes
WARNING: retrieve_mio_cmd_info: Invalid checksum 0x0.
tftpget 0x76d03018 196608
INFO: tftp_open: 'rommon/key_1.bin'@127.128.254.1 via 127.128.254.1
!
Received 131072 bytes
INFO: Status code 8: 'rommon succeeds to retrieve key file'.
INFO: tftp_open: '/rommon/status_1.txt'@127.128.254.1 via 127.128.254.1
!
INFO: nb_tftp_upload: 31 bytes sent.
INFO: Primary keys in flash are up-to-date.
INFO: Backup keys in flash are up-to-date.
continue check local image
the image file path: installables/chassis/fxos-lfbff-k8.9.6.2.2.SPA
the image file name only: fxos-lfbff-k8.9.6.2.2.SPA
local_image_file: fs0:fxos-lfbff-k8.9.6.2.2.SPA
INFO: File 'fs0:fxos-lfbff-k8.9.6.2.2.SPA' has 104831328 bytes.
local_image_file_size 104831328
Found image fs0:fxos-lfbff-k8.9.6.2.2.SPA in local storage, boot local image.
set pboot_image fxos-lfbff-k8.9.6.2.2.SPA
INFO: File 'fs0:fxos-lfbff-k8.9.6.2.2.SPA' has 104831328 bytes.
INFO: 'fs0:fxos-lfbff-k8.9.6.2.2.SPA' has 104831328 bytes
INFO: Booting LFBFF image...
INFO: Status code 7: 'rommon about to verify image signature from local disk'.
INFO: tftp_open: '/rommon/status_1.txt'@127.128.254.1 via 127.128.254.1
!
INFO: nb_tftp_upload: 31 bytes sent.
INIT: version 2.88 booting
Starting udev
Configuring network interfaces... done.
Populating dev cache
rw console=ttyS0,38400 loglevel=2 auto kstack=128 reboot=force panic=1
ide_generic.probe_mask=0x1 idel=noprobe pci=nocrs processor.max_cstate=1 iommu=pt
platform=sspxru boot_img=disk0:/fxos-lfbff-k8.9.6.2.2.SPA ciscodmasz=786432 cisconrsvsz=2359296
hugepagesz=lg hugepages=24 ssp_mode=0
No Partitions for HDD2.. Creating partition..
mount: special device /dev/sdb1 does not exist
rw console=ttyS0,38400 loglevel=2 auto kstack=128 reboot=force panic=1
ide_generic.probe_mask=0x1 idel=noprobe pci=nocrs processor.max_cstate=1 iommu=pt
platform=sspxru boot_img=disk0:/fxos-lfbff-k8.9.6.2.2.SPA ciscodmasz=786432 cisconrsvsz=2359296
hugepagesz=lg hugepages=24 ssp_mode=0
Create libvirt group
Start libvirtd Service
* Starting virtualization library daemon: libvirtd
no /usr/bin/dnsmasq found; none killed
2016-12-07 12:47:24.090+0000: 4373: info : libvirt version: 1.1.2
2016-12-07 12:47:24.090+0000: 4373: warning : virGetHostname:625 : getadd[ ok ]failed for
'ciscoasa': Name or service not known
Disable the default virtual networks
Network default destroyed

Done with libvirt initialization
rw console=ttyS0,38400 loglevel=2 auto kstack=128 reboot=force panic=1
ide_generic.probe_mask=0x1 idel=noprobe pci=nocrs processor.max_cstate=1 iommu=pt
platform=sspxru boot_img=disk0:/fxos-lfbff-k8.9.6.2.2.SPA ciscodmasz=786432 cisconrsvsz=2359296
hugepagesz=lg hugepages=24 ssp_mode=0
```

```

+++++ BOOT CLI FILES COPIED +++++
rw console=ttyS0,38400 loglevel=2 auto kstack=128 reboot=force panic=1
ide_generic.probe_mask=0x1 idel=noprobe pci=nocrs processor.max_cstate=1 iommu=pt
platform=sspxru boot_img=disk0:/fxos-lfbff-k8.9.6.2.2.SPA ciscodmasz=786432 ciskonrsvsz=2359296
hugepagesz=1g hugepages=24 ssp_mode=0
Turbo Boost is UNSUPPORTED on this platform.
Configuration Xml found is /opt/cisco/csp/applications/configs/cspCfg_cisco-
asa.9.6.2.3__asa_001_JAD201200C64A93395.xml
INIT: Entering runlevel: 3
rw console=ttyS0,38400 loglevel=2 auto kstack=128 reboot=force panic=1
ide_generic.probe_mask=0x1 idel=noprobe pci=nocrs processor.max_cstate=1 iommu=pt
platform=sspxru boot_img=disk0:/fxos-lfbff-k8.9.6.2.2.SPA ciscodmasz=786432 ciskonrsvsz=2359296
hugepagesz=1g hugepages=24 ssp_mode=0
Starting system message bus: dbus.
Starting OpenBSD Secure Shell server: sshd
    generating ssh RSA key...
    generating ssh ECDSA key...
    generating ssh DSA key...
done.
Starting Advanced Configuration and Power Interface daemon: acpid.
acpid: starting up

acpid: 1 rule loaded

acpid: waiting for events: event logging is off

Starting ntpd: done
Starting crond: OK
    Cisco Security Services Platform
        Type ? for list of commands
Firepower-module1>
Firepower-module1>show services status
Services currently running:
Feature | Instance ID | State | Up Since
-----|-----|-----|-----
asa | 001_JAD201200C64A93395 | RUNNING | :00:00:20
Firepower-module1>

```

As tomadas do procedimento inteiro em torno dos minutos 5.

Você pode igualmente usar o comando do APP-exemplo da mostra do chassi CLI verificar que o aplicativo ASA tem o **Online** vindo:

```

FPR4100# scope ssa
FPR4100 /ssa # show app-instance
Application Name      Slot ID   Admin State   Operational State   Running Version   Startup
Version Cluster Oper State
-----|-----|-----|-----|-----|-----
--|-----|-----|-----|-----|-----
asa                1         Enabled       Online              9.6.2.3           9.6.2.3
Not Applicabl

```

Os módulos ASA descobrem-se:

```

asa/sec/actNoFailover>
*****WARNING****WARNING****WARNING***** Mate version 9.6(2)1
is not identical with ours 9.6(2)3
*****WARNING****WARNING****WARNING*****

```

```
Detected an Active mate
Beginning configuration replication from mate.
End configuration replication from mate.
```

```
asa/sec/stby>
```

Verificação

```
FPR4100# connect module 1 console
Telnet escape character is '~'.
Trying 127.5.1.1...
Connected to 127.5.1.1.
Escape character is '~'.
```

```
CISCO Serial Over LAN:
Close Network Connection to Exit
```

```
Firepower-module1> connect asa
asa> enable
Password:
asa/sec/stby# show failover
Failover On
Failover unit Secondary
Failover LAN Interface: fover Ethernet1/8 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 2 of 1041 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.6(2)3, Mate 9.6(2)1
Serial Number: Ours FLM2006EQFW, Mate FLM2006EN9U
Last Failover at: 12:48:23 UTC Dec 7 2016
  This host: Secondary - Standby Ready
    Active time: 0 (sec)
    slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)3) status (Up Sys)
      Interface INSIDE (192.168.0.2): Normal (Not-Monitored)
      Interface OUTSIDE (192.168.1.2): Normal (Monitored)
      Interface management (0.0.0.0): Normal (Waiting)
  Other host: Primary - Active
    Active time: 10320 (sec)
    slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)1) status (Up Sys)
      Interface INSIDE (192.168.0.1): Normal (Not-Monitored)
      Interface OUTSIDE (192.168.1.1): Normal (Monitored)
      Interface management (10.0.0.50): Normal (Waiting)
```

...

Para confirmar a operação apropriada do Failover entre as unidades ASA execute estes comandos:

- show conn count
- mostre a contagem do xlate
- show crypto ipsec sa

Elevação da tarefa 4. a segunda unidade ASA

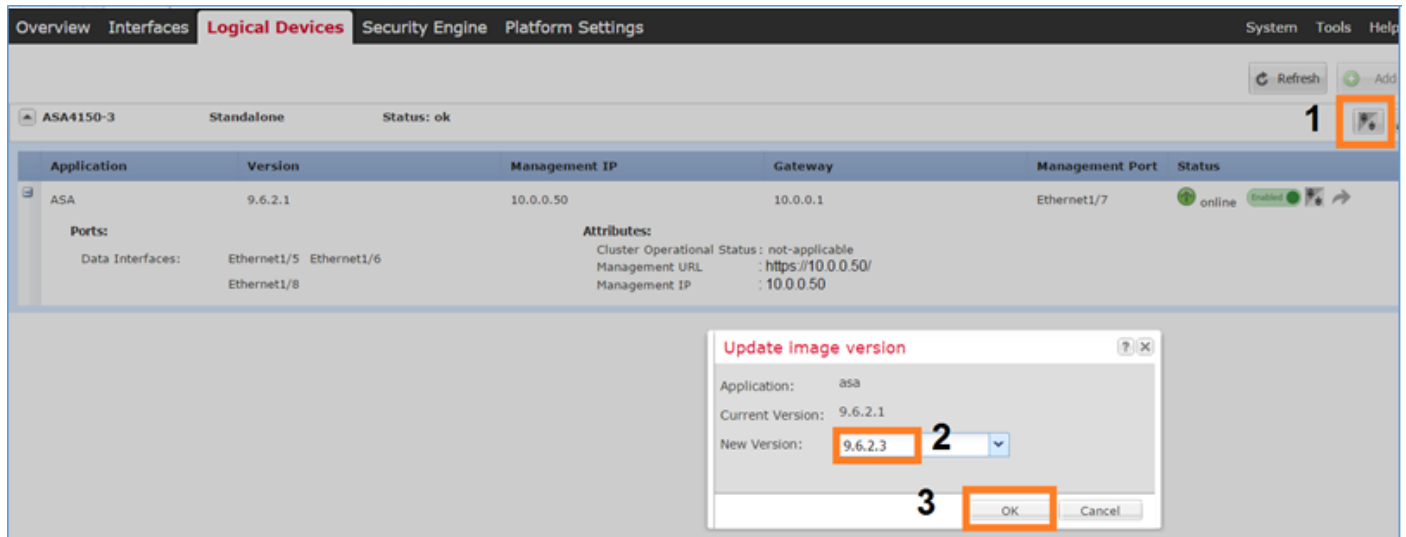
Comute os pares do Failover e promova o ASA preliminar:

```
asa/sec/stby# failover active
```

Switching to Active

```
asa/sec/act#
```

Especifique a imagem nova e comece a elevação:



Após os minutos 5, os revestimentos da elevação.

Verificar

Do chassi o CLI verifica que o aplicativo ASA tem o **Online** vindo:

```
FPR4100# scope ssa
FPR4100 /ssa # show app-instance
Application Name      Slot ID   Admin State   Operational State   Running Version   Startup
Version Cluster Oper State
-----
asa                   1         Enabled       Online               9.6.2.3           9.6.2.3
Not Applicable
```

Do módulo ASA verifique a operação do Failover:

```
asa/pri/stby# show failover
Failover On
Failover unit Primary
Failover LAN Interface: fover Ethernet1/8 (up)
Reconnect timeout 0:00:00
Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds
Interface Policy 1
Monitored Interfaces 2 of 1041 maximum
MAC Address Move Notification Interval not set
Version: Ours 9.6(2)3, Mate 9.6(2)3
Serial Number: Ours FLM2006EN9U, Mate FLM2006EQFW
Last Failover at: 14:35:37 UTC Dec 7 2016
This host: Primary - Standby Ready
```

```
Active time: 0 (sec)
slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)3) status (Up Sys)
  Interface INSIDE (192.168.0.2): Normal (Not-Monitored)
  Interface OUTSIDE (192.168.1.2): Normal (Waiting)
  Interface management (0.0.0.0): Normal (Waiting)
Other host: Secondary - Active
Active time: 656 (sec)
slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)3) status (Up Sys)
  Interface INSIDE (192.168.0.1): Failed (Not-Monitored)
  Interface OUTSIDE (192.168.1.1): Normal (Waiting)
  Interface management (10.0.0.50): Normal (Waiting)
```

Stateful Failover Logical Update Statistics

```
Link : fover Ethernet1/8 (up)
Stateful Obj   xmit      xerr      rcv        rerr
General        7          0         8          0
```

...

Comute para trás o Failover para ter preliminar/Active, secundário/apoio:

```
asa/pri/stby# failover active
```

```
      Switching to Active
```

```
asa/pri/act#
```

Troubleshooting

Atualmente, não existem informações disponíveis específicas sobre Troubleshooting para esta configuração.

Informações Relacionadas

- [Manual de configuração FXO](#)
- [Guia da compatibilidade FXOS-ASA](#)
- [Release Note FXO](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)