Promovendo um FTD HA emparelhe em dispositivos da potência de fogo

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Introdução

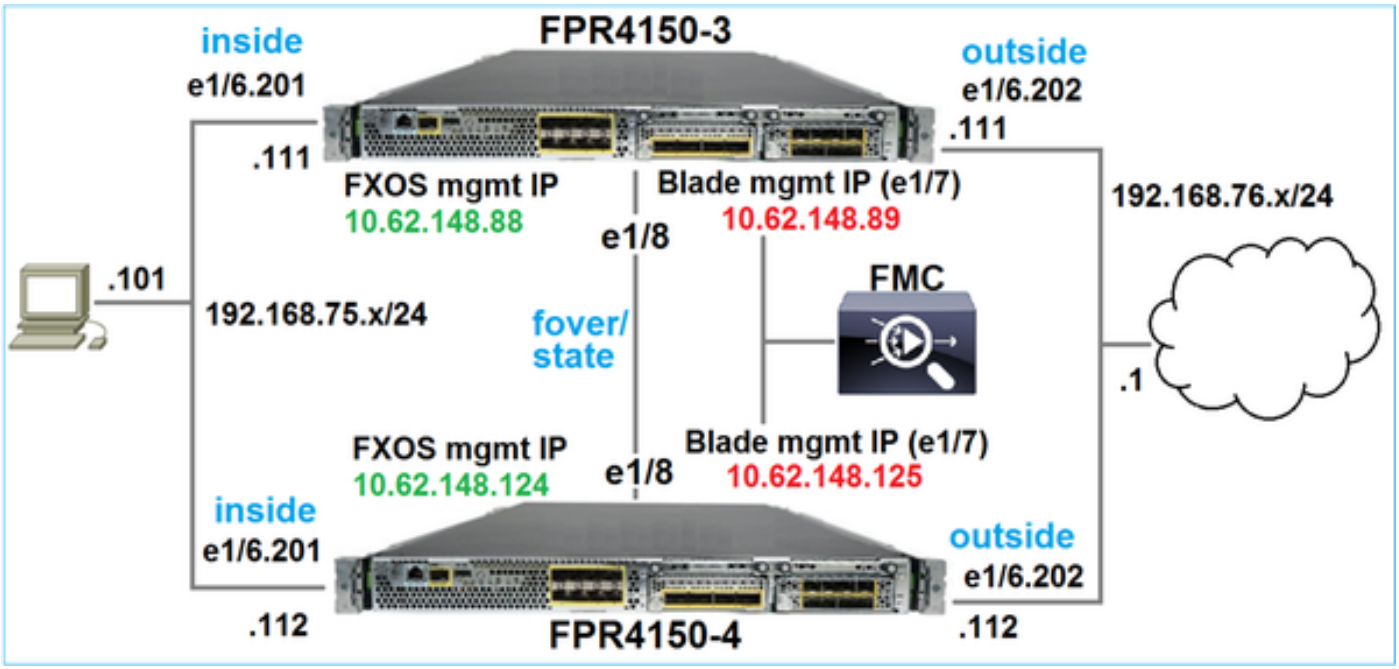
Objetivo

O objetivo deste documento é demonstrar o processo de upgrade da defesa da ameaça da potência de fogo (FTD) na Alta disponibilidade do modo em dispositivos da potência de fogo.

Componentes do laboratório

- 2 x FP4150
- 1 x FS4000
- 1 PC

Topologia



As versões de imagem de software antes de começar a atividade:

- Centro de gerenciamento da potência de fogo (FMC) 6.1.0-330
- FTD 6.1.0-330 preliminares
- FTD 6.1.0-330 secundários
- FXO 2.0.1-37 preliminares
- FXO 2.0.1-37 secundários

Plano de ação

Passo 1: Verifique as condições prévias

Passo 2: Transfira arquivos pela rede as imagens a FMC e a SSP

Passo 3: Promova os FXO secundários 2.0.1-37 - > 2.0.1-86

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Passo 5: Promova os FXO preliminares 2.0.1-37 - > 2.0.1-86

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O processo de upgrade FTD HA

Passo 1: Verifique as condições prévias

Consulte o guia da compatibilidade FXO para determinar no meio a compatibilidade:

- Vise a versão de software FTD e a versão de software FXO
- Plataforma do HW da potência de fogo e versão de software FXO

http://www.cisco.com/c/en/us/td/docs/security/firepower/fxos/compatibility/fxos-compatibility.html#pgfId-136544

Verifique os Release Note FXO da versão de destino para determinar o caminho de upgrade FXO:

http://www.cisco.com/c/en/us/td/docs/security/firepower/fxos/fxos201/release/notes/fxos201_rn.html#pgfId-141076

Consulte os Release Note da versão de destino FTD para determinar o caminho de upgrade FTD:

http://www.cisco.com/c/en/us/td/docs/security/firepower/601/6012/relnotes/firepower-system-release-notes-version-6012.html#pgfId-378288

Passo 2: Transfira arquivos pela rede as imagens

Nos 2 FCMs transfere arquivos pela rede as imagens FXO (fxos-k9.2.0.1.86.SPA)

Na transferência de arquivo pela rede FMC a elevação FMC e FTD empacota:

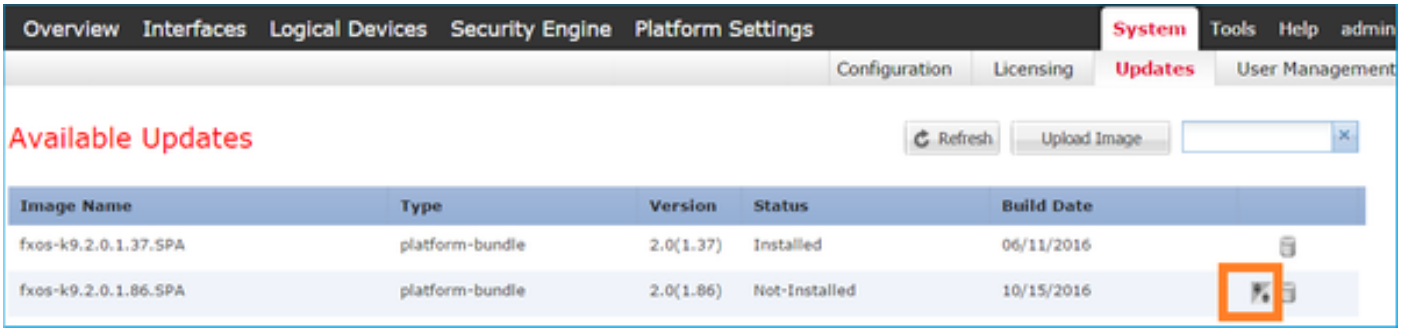
- Para a elevação FMC: Sourcefire_3D_Defense_Center_S3_Patch-6.1.0.1-53.sh
- Para a elevação FTD: Cisco_FTD_SSP_Patch-6.1.0.1-53.sh

Passo 3: Promova os FXO secundários

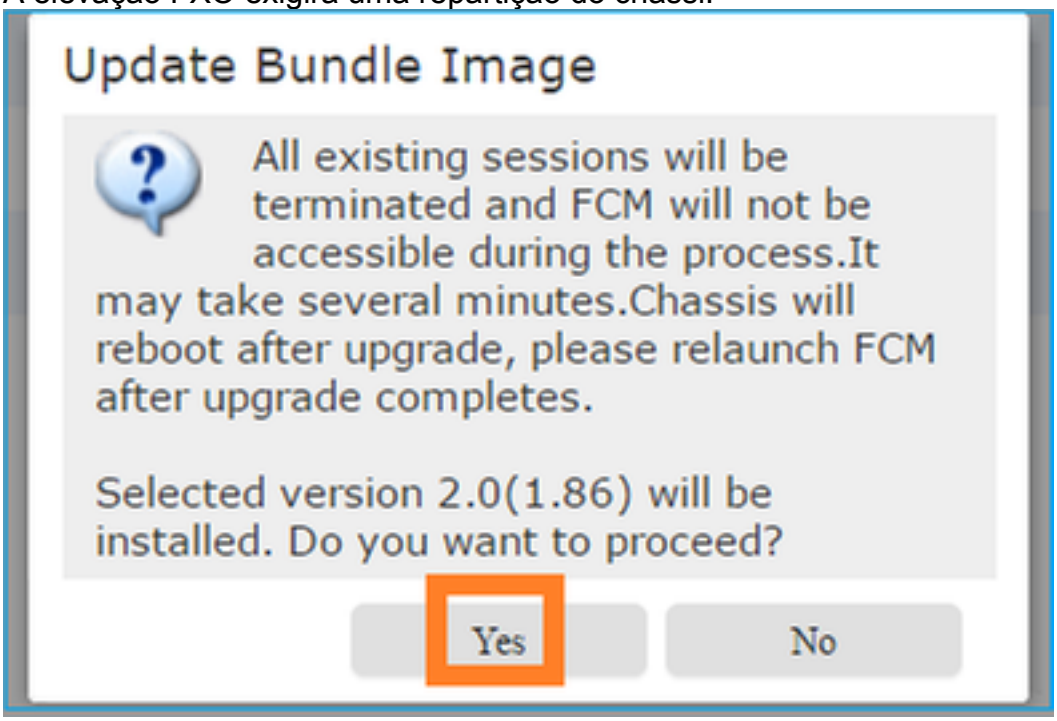
Antes da elevação:

```
FPR4100-4-A /system # show firmware monitor FPRM: Package-Vers: 2.0(1.37) Upgrade-Status: Ready
Fabric Interconnect A: Package-Vers: 2.0(1.37) Upgrade-Status: Ready Chassis 1: Server 1:
Package-Vers: 2.0(1.37) Upgrade-Status: Ready
```

Comece a elevação FXO:



A elevação FXO exigirá uma repartição do chassi:



Você pode monitorar a elevação FXO dos FXO CLI. Todos os 3 componentes (FPRM, interconexão da tela e chassi) têm que ser promovidos:

```
FPR4100-4-A# scope system FPR4100-4-A /system # show firmware monitor FPRM: Package-Vers: 2.0(1.37) Upgrade-Status: Upgrading Fabric Interconnect A: Package-Vers: 2.0(1.37) Upgrade-Status: Ready Chassis 1: Server 1: Package-Vers: 2.0(1.37) Upgrade-Status: Ready
```

Nota – Poucos minutos após ter começado o processo de upgrade FXO você pôde ser desligado de FXO CLI e de GUI. Você deve poder entrar outra vez após poucos segundos.

Após o minuto ~5 a elevação componente FPRM termina:

```
FPR4100-4-A /system # show firmware monitor FPRM: Package-Vers: 2.0(1.86) Upgrade-Status: Ready Fabric Interconnect A: Package-Vers: 2.0(1.37) Upgrade-Status: Upgrading Chassis 1: Server 1: Package-Vers: 2.0(1.37) Upgrade-Status: Upgrading
```

Após ~10 mínimos e como parte do processo de upgrade FXO o dispositivo secundário da

potência de fogo reinicia:

```
Please stand by while rebooting the system...
... Restarting system.
```

Após o reinício os resumos do processo de upgrade:

```
FPR4100-4-A /system # show firmware monitor FPRM: Package-Vers: 2.0(1.86) Upgrade-Status: Ready
Fabric Interconnect A: Package-Vers: 2.0(1.37) Upgrade-Status: Upgrading Chassis 1: Server 1:
Package-Vers: 2.0(1.37) Upgrade-Status: Upgrading
```

Após um total do minuto ~30 a elevação FXO termina:

```
FPR4100-4-A /system # show firmware monitor FPRM: Package-Vers: 2.0(1.86) Upgrade-Status: Ready
Fabric Interconnect A: Package-Vers: 2.0(1.86) Upgrade-Status: Ready Chassis 1: Server 1:
Package-Vers: 2.0(1.86),2.0(1.37) Upgrade-Status: Ready
```

Passo 4: Troque os estados do Failover FTD

Antes de trocar os estados do failver certifique-se de que o módulo FTD no chassi secundário está inteiramente ACIMA:

```
FPR4100-4-A# connect module 1 console Firepower-module1>connect ftd Connecting to ftd console...
enter exit to return to bootCLI > show high-availability config 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 3 of 1041 maximum MAC Address Move Notification Interval
not set failover replication http Version: Ours 9.6(2), Mate 9.6(2) Serial Number: Ours
FLM2006EQFW, Mate FLM2006EN9U Last Failover at: 15:08:47 UTC Dec 17 2016 This host: Secondary -
Standby Ready Active time: 0 (sec) slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)) status (Up Sys)
Interface inside (192.168.75.112): Normal (Monitored) Interface outside (192.168.76.112): Normal
(Monitored) Interface diagnostic (0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up)
slot 2: diskstatus rev (1.0) status (up) Other host: Primary - Active Active time: 5163 (sec)
Interface inside (192.168.75.111): Normal (Monitored) Interface outside (192.168.76.111): Normal
(Monitored) Interface diagnostic (0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up)
slot 2: diskstatus rev (1.0) status (up) Stateful Failover Logical Update Statistics Link :
FOVER Ethernet1/8 (up) Stateful Obj xmit xerr rcv rerr General 65 0 68 4 sys cmd 65 0 65 0 ...
```

Troque os estados do Failover FTD. Do FTD ativo CLI:

```
> no failover active Switching to Standby >
```

Nota - Neste momento você pôde ter o pacote ~1 de tráfego de trânsito FTD deixado cair

Passo 5: Promova o dispositivo preliminar FXO

Similar à elevação de etapa 2 o dispositivo FXO onde o FTD preliminar é instalado - esta etapa pode tomar ~30 minutos ou mais para terminar.

Passo 6: Promova o software FMC

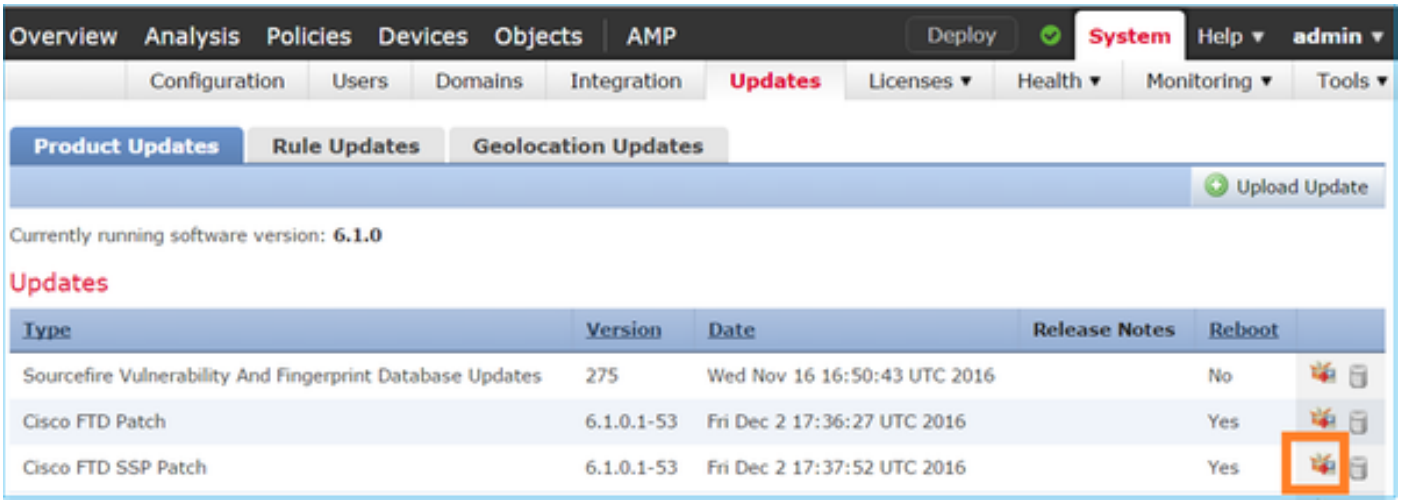
Promova o FMC, nesta encenação de 6.1.0-330 a 6.1.0.1.

Passo 7: Promova os pares FTD HA

Antes da elevação:

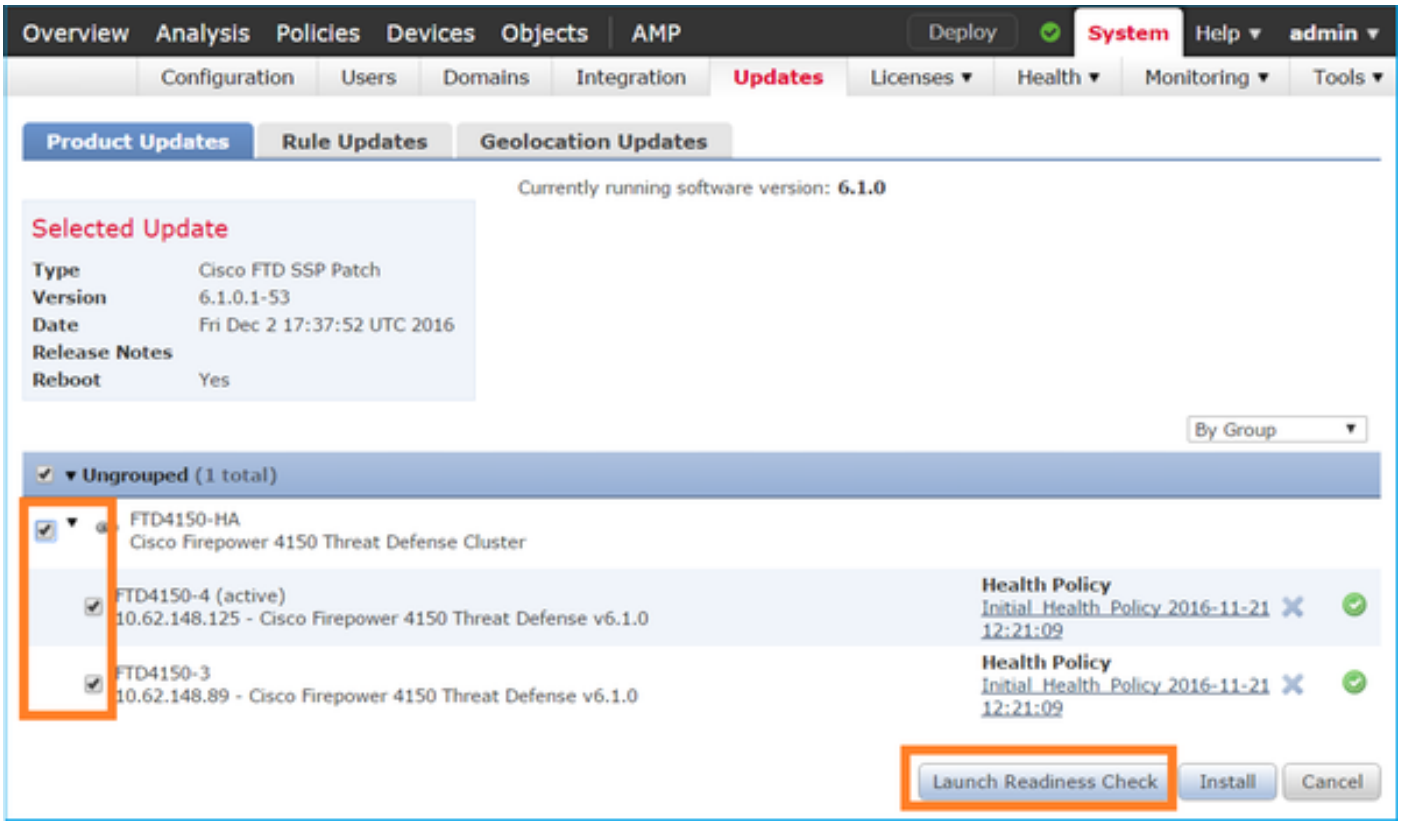
```
> show high-availability config Failover On Failover unit Primary Failover LAN Interface: FOVER
Ethernet1/8 (up) Reconnect timeout 0:00:00 Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds Interface Policy 1 Monitored Interfaces
3 of 1041 maximum MAC Address Move Notification Interval not set failover replication http
Version: Ours 9.6(2), Mate 9.6(2) Serial Number: Ours FLM2006EN9U, Mate FLM2006EQFW Last
Failover at: 15:51:08 UTC Dec 17 2016 This host: Primary - Standby Ready Active time: 0 (sec)
slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)) status (Up Sys) Interface inside (192.168.75.112):
Normal (Monitored) Interface outside (192.168.76.112): Normal (Monitored) Interface diagnostic
(0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up) slot 2: diskstatus rev (1.0)
status (up) Other host: Secondary - Active Active time: 1724 (sec) Interface inside
(192.168.75.111): Normal (Monitored) Interface outside (192.168.76.111): Normal (Monitored)
Interface diagnostic (0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up) slot 2:
diskstatus rev (1.0) status (up) Stateful Failover Logical Update Statistics Link : FOVER
Ethernet1/8 (up) Stateful Obj xmit xerr rcv rerr General 6 0 9 0 sys cmd 6 0 6 0
...
```

Do menu do **sistema > das atualizações** FMC inicie o processo de upgrade FTD HA:

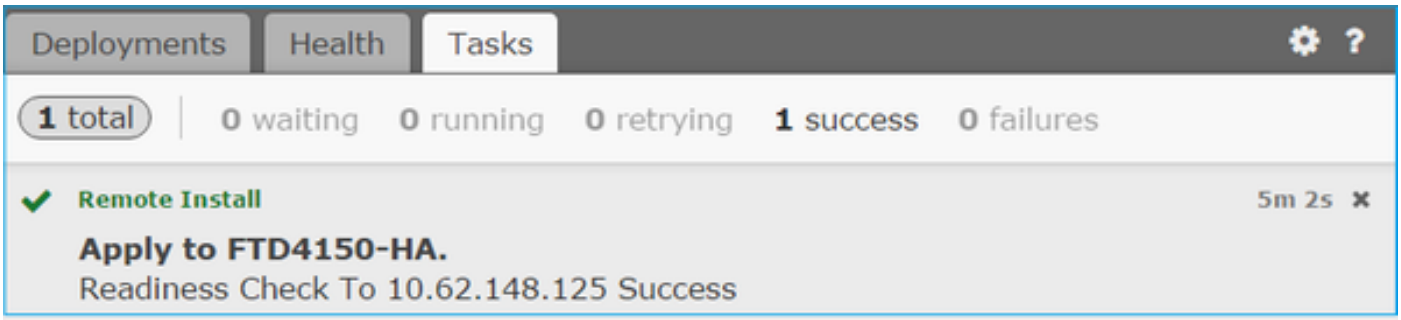


Opcionalmente você pode lançar a verificação da prontidão da elevação FTD que inclui uma

verificação de integridade FTD DB:

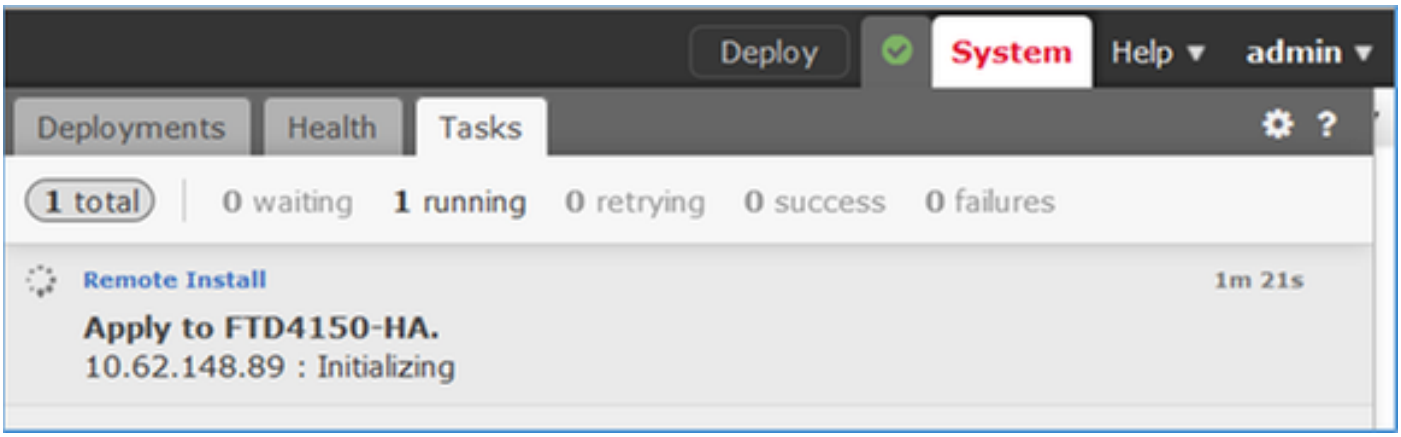


A verificação tomou ~5 mínimos e foi bem sucedida:

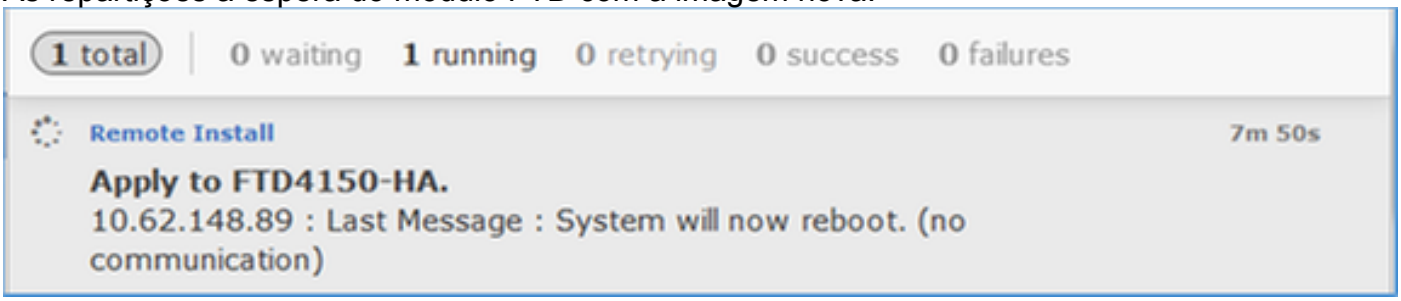


Inicie o processo de instalação:

FTD primeiramente preliminar/à espera é promovido:



As repartições à espera do módulo FTD com a imagem nova:



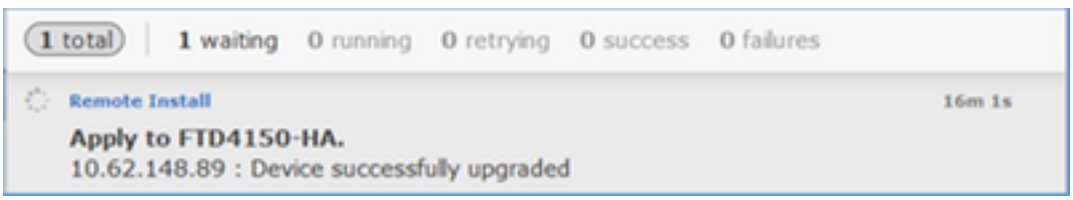
Você pode verificar o estado FTD do modo FXO BootCLI:

```
FPR4100-3-A# connect module 1 console Firepower-module1> show services status Services currently running: Feature | Instance ID | State | Up Since ----------------------------------------------
------------ ftd | 001_JAD201200R4WLYCWO6 | RUNNING | :00:00:33
```

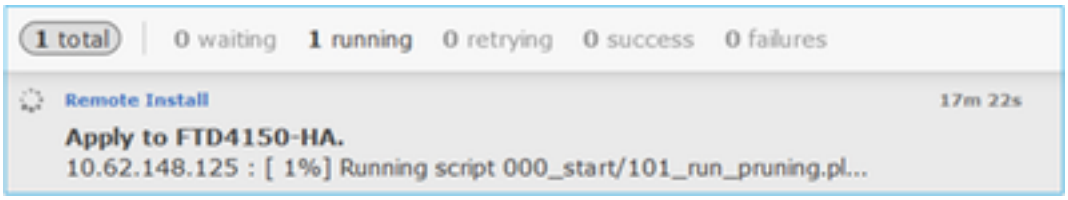
FTD secundário/ativo CLI mostra um mensagem de advertência devido à má combinação da versão de software entre os módulos FTD:

```
firepower#
************WARNING****WARNING****WARNING*******************************
Mate version 9.6(2) is not identical with ours 9.6(2)4
************WARNING****WARNING****WARNING******************************* Beginning
configuration replication: Sending to mate. End Configuration Replication to mate
```

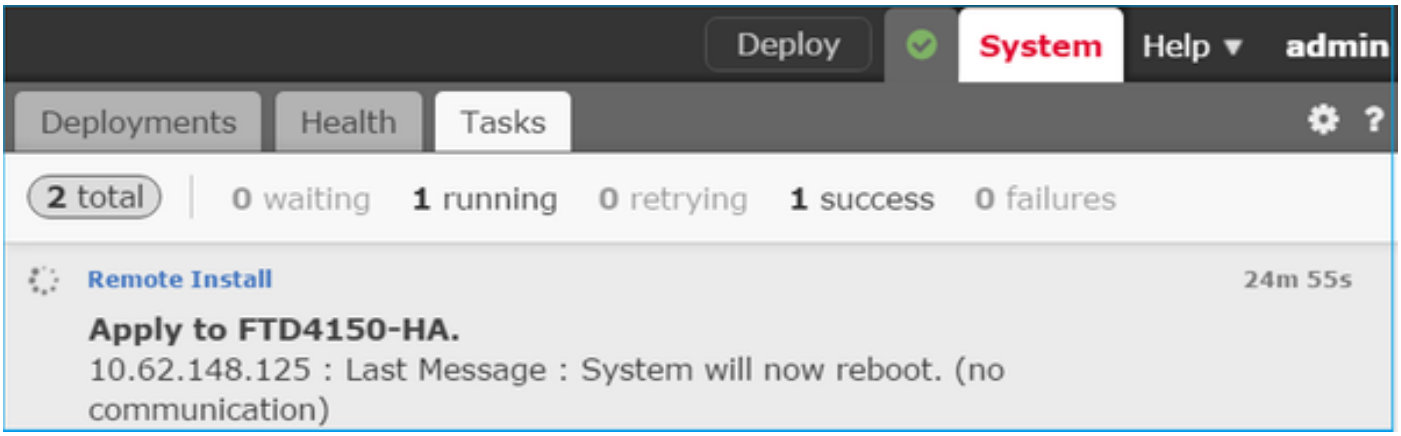
O FMC mostra que o dispositivo FTD esteve promovido com sucesso:



A elevação do segundo módulo FTD começa:



No fim do processo o FTD secundário carreg com a imagem nova:



No fundo o FMC, usando o usuário interno “enable_1”, troca os estados do Failover FTD e remove temporariamente a configuração de failover do FTD secundário:

```
firepower# show logging Dec 17 2016 16:40:14: %ASA-5-111008: User 'enable_1' executed the 'no failover active' command. Dec 17 2016 16:40:14: %ASA-5-111010: User 'enable_1', running 'N/A' from IP 0.0.0.0, executed 'no failover active' Dec 17 2016 16:41:19: %ASA-5-111008: User 'enable_1' executed the 'clear configure failover' command. Dec 17 2016 16:41:19: %ASA-5-111010: User 'enable_1', running 'N/A' from IP 0.0.0.0, executed 'clear configure failover' Dec 17 2016 16:41:19: %ASA-5-111008: User 'enable_1' executed the 'copy /noconfirm running-config disk0:/modified-config.cfg' command. Dec 17 2016 16:41:19: %ASA-5-111010: User 'enable_1', running 'N/A' from IP 0.0.0.0, executed 'copy /noconfirm running-config disk0:/modified-config.cfg' firepower# Switching to Standby firepower#
```

Nota - Neste momento você pôde ver a queda de pacote de informação ~1 devido à troca do estado do Failover

Neste caso a elevação inteira FTD (ambas as unidades) tomou ~30 minutos:

Verificação

Verificação FTD CLI do dispositivo preliminar FTD:

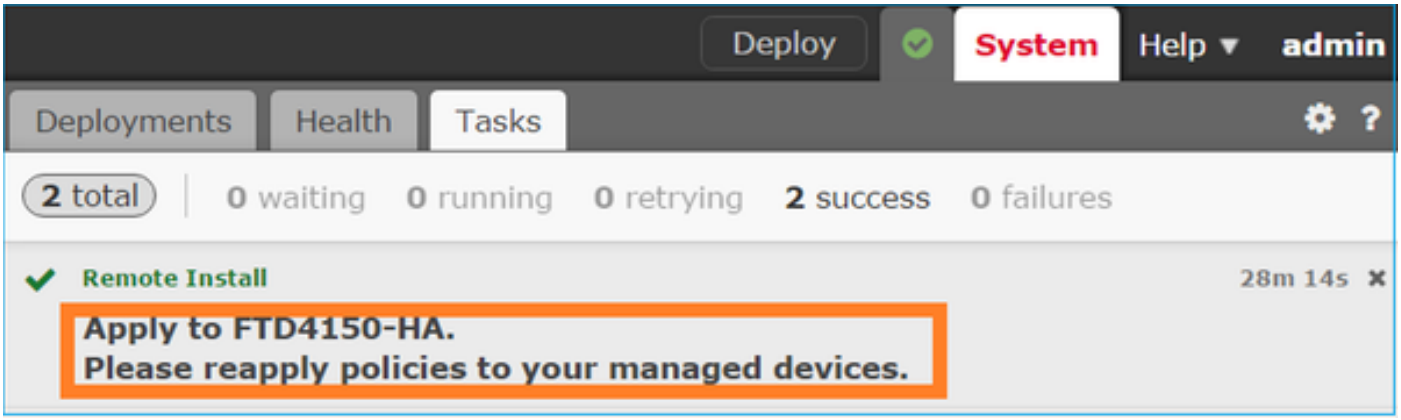
```
> show high-availability config Failover On Failover unit Primary Failover LAN Interface: FOVER
Ethernet1/8 (up) Reconnect timeout 0:00:00 Unit Poll frequency 1 seconds, holdtime 15 seconds
Interface Poll frequency 5 seconds, holdtime 25 seconds Interface Policy 1 Monitored Interfaces
3 of 1041 maximum MAC Address Move Notification Interval not set failover replication http
Version: Ours 9.6(2)4, Mate 9.6(2)4 Serial Number: Ours FLM2006EN9U, Mate FLM2006EQFW Last
Failover at: 16:40:14 UTC Dec 17 2016 This host: Primary - Active Active time: 1159 (sec) slot
0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)4) status (Up Sys) Interface inside (192.168.75.111):
Normal (Monitored) Interface outside (192.168.76.111): Normal (Monitored) Interface diagnostic
(0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up) slot 2: diskstatus rev (1.0)
status (up) Other host: Secondary - Standby Ready Active time: 0 (sec) slot 0: UCSB-B200-M3-U
hw/sw rev (0.0/9.6(2)4) status (Up Sys) Interface inside (192.168.75.112): Normal (Monitored)
Interface outside (192.168.76.112): Normal (Monitored) Interface diagnostic (0.0.0.0): Normal
(Waiting) slot 1: snort rev (1.0) status (up) slot 2: diskstatus rev (1.0) status (up) Stateful
Failover Logical Update Statistics Link : FOVER Ethernet1/8 (up) Stateful Obj xmit xerr rcv rerr
General 68 0 67 0 ... >
```

Do dispositivo secundário FTD:

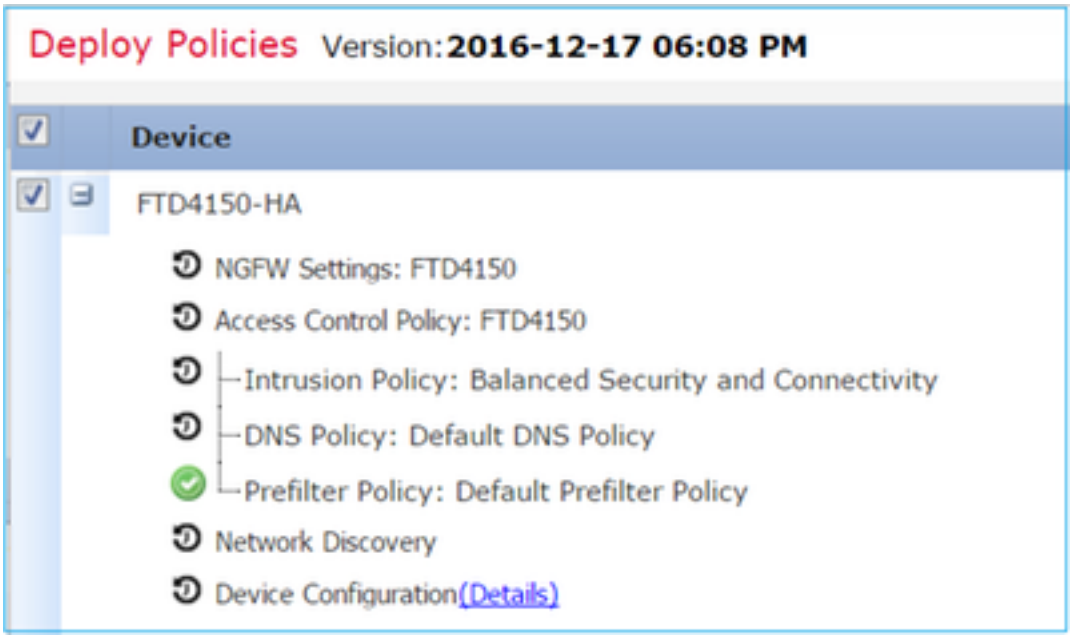
```
> show high-availability config Failover On Failover unit Secondary Failover LAN Interface:
FOVER Ethernet1/8 (up) Reconnect timeout 0:00:00 Unit Poll frequency 1 seconds, holdtime 15
seconds Interface Poll frequency 5 seconds, holdtime 25 seconds Interface Policy 1 Monitored
Interfaces 3 of 1041 maximum MAC Address Move Notification Interval not set failover replication
http Version: Ours 9.6(2)4, Mate 9.6(2)4 Serial Number: Ours FLM2006EQFW, Mate FLM2006EN9U Last
Failover at: 16:52:43 UTC Dec 17 2016 This host: Secondary - Standby Ready Active time: 0 (sec)
slot 0: UCSB-B200-M3-U hw/sw rev (0.0/9.6(2)4) status (Up Sys) Interface inside
(192.168.75.112): Normal (Monitored) Interface outside (192.168.76.112): Normal (Monitored)
Interface diagnostic (0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up) slot 2:
diskstatus rev (1.0) status (up) Other host: Primary - Active Active time: 1169 (sec) Interface
inside (192.168.75.111): Normal (Monitored) Interface outside (192.168.76.111): Normal
(Monitored) Interface diagnostic (0.0.0.0): Normal (Waiting) slot 1: snort rev (1.0) status (up)
slot 2: diskstatus rev (1.0) status (up) Stateful Failover Logical Update Statistics Link :
FOVER Ethernet1/8 (up) Stateful Obj xmit xerr rcv rerr General 38 0 41 0
... >
```

Passo 8: Distribua uma política aos pares FTD HA

Depois que a elevação é terminada há uma necessidade de distribuir uma política aos pares HA. Isto é mostrado no FMC UI:

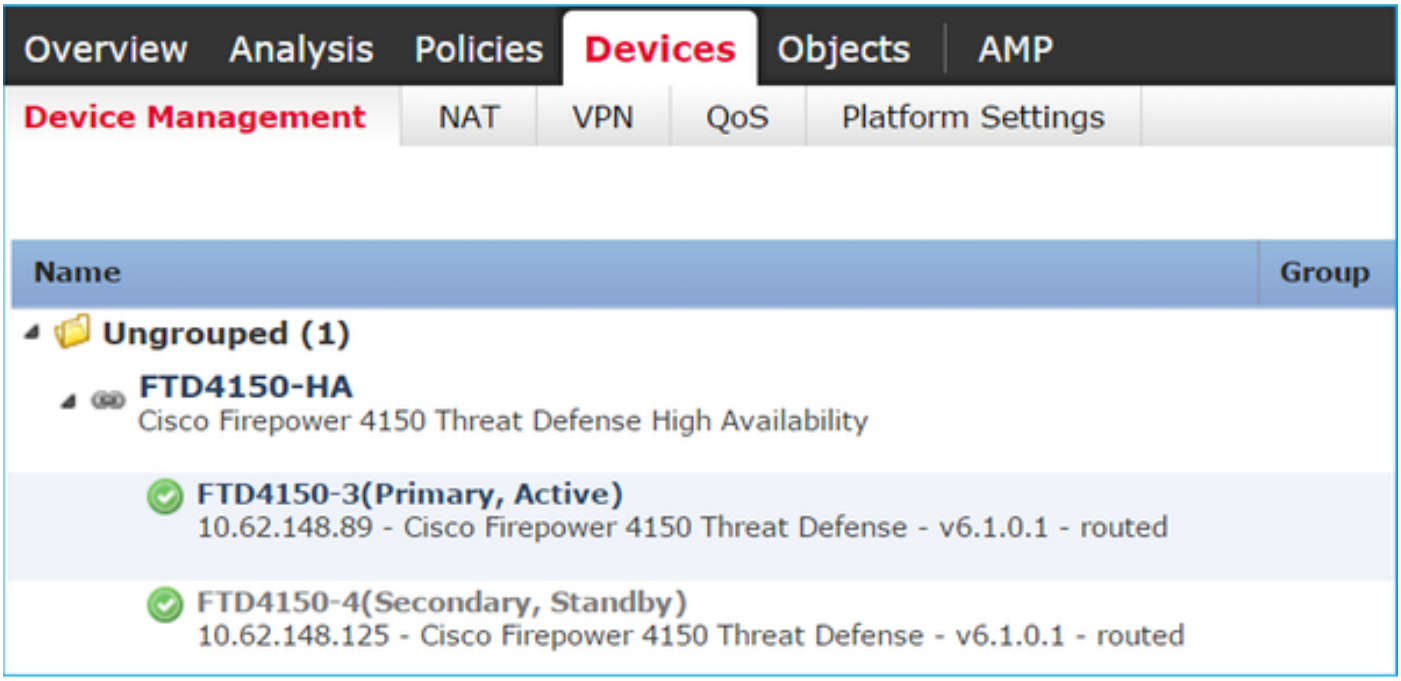


Distribua as políticas:

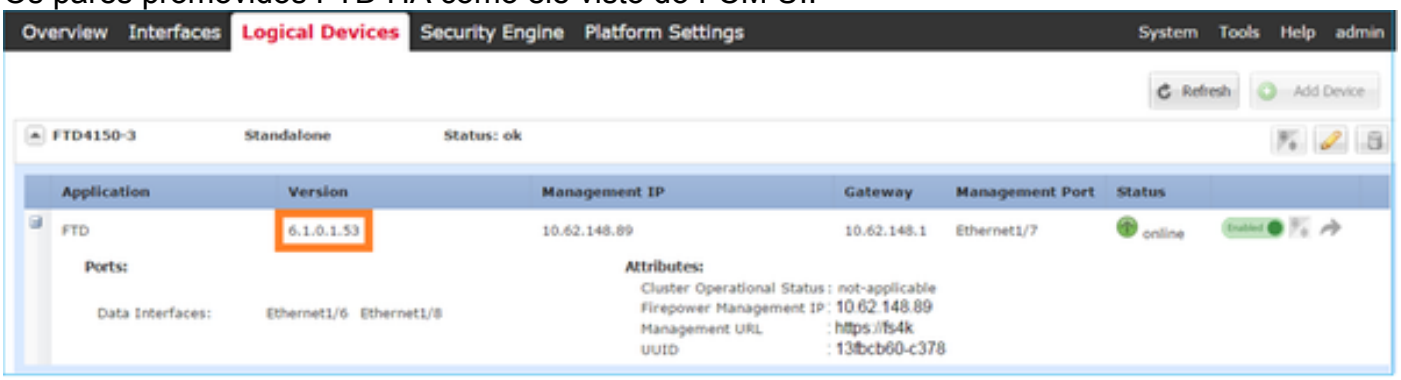


Verificação

Os pares promovidos FTD HA como ela vista do FMC UI:



Os pares promovidos FTD HA como ele visto do FCM UI:



Documentos relacionados

[Potência de fogo NGFW de Cisco]