

在ASA 55xx-X设备上安装和升级Firepower威胁防御

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简介

本文档介绍ASA55xx-X设备上的Firepower威胁防御(FTD)安装、升级和注册过程。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- ASA5508-X
- ASA5512-X
- 运行6.0.1的FireSIGHT管理中心(FMC) (内部版本1213)

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是可安装在以下平台上的统一软件映像：

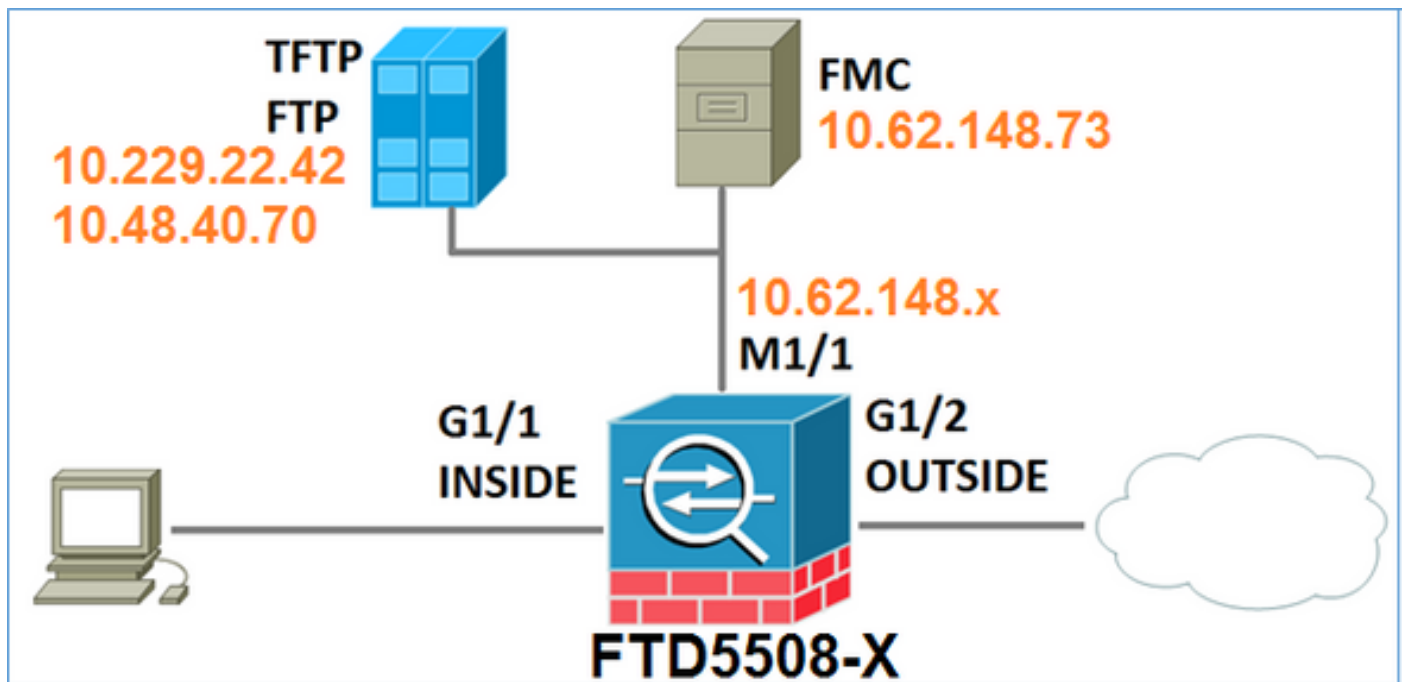
- ASA5506-X、ASA5506W-X、ASA5506H-X、ASA5508-X、ASA5516-X
- ASA5512-X、ASA5515-X、ASA5525-X、ASA5545-X、ASA5555-X
- FPR4100、FPR9300
- VMware(ESXi)
- Amazon Web Services(AWS)
- KVM
- ISR路由器模块

本文档旨在演示：

- 在ASA5508-X和ASA5512-X平台上安装FTD版本6.0.0
- FTD从版本6.0.0升级到版本6.0.1的过程
- Firepower管理中心(FMC)注册和基本许可

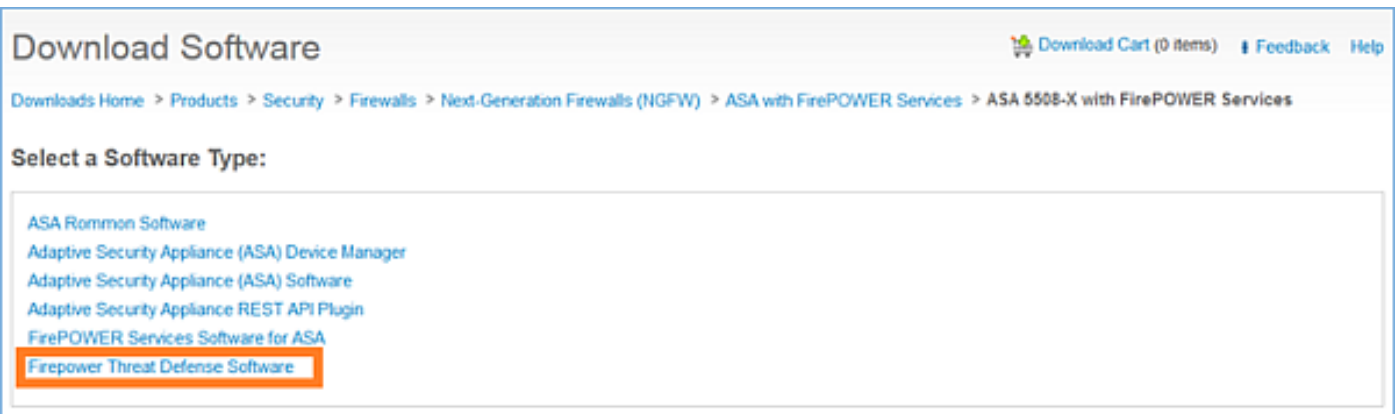
配置

网络图



FTD软件下载

导航至下一代防火墙(NGFW)>具备FirePOWER服务的ASA >具备FirePOWER服务的ASA 5508-X，并选择Firepower威胁防御软件：



同样适用于ASA5512-X软件。

任务1.检验必备条件

在安装FTD之前检验必备条件。

解决方案：

对于FTD安装，您使用两个映像：

1. OS映像（AKA引导映像）— 用于ASA5506-X、ASA5506H-X、ASA5506W-X、ASA5508-X、ASA5516-X上的Firepower威胁防御*.lfbff文件。对于Saleen(ASA5512-X、ASA5515-X、ASA5525-X、ASA5545-X、ASA5555-X)上的Firepower威胁防御，是*.cdisk文件。
2. 系统映像— 这是.pkg文件。

在继续FTD安装之前，请验证以下信息：

- ASA闪存必须至少具有3.1 GB空间（3 GB字节+引导映像大小）
- 启动映像上传到TFTP服务器
- 系统映像上传到HTTP或FTP服务器
- 在ASA5506/08/16上，ROMMON至少为1.1.8版

验证可用空间：

```
FTD5508X# show flash | i free
7859437568 bytes total (4273819648 bytes free)
```

验证以下映像：

文件名	描述
ftd-boot-9.6.1.0.lfbff	v6.0.1 5506/5508/5516的Firepower威胁防御引导映像。 这是5506/5508/5516上的全新安装的启动映像
ftd-boot-9.6.1.0.cdisk	v6.0.1 ASA 5512/5515/5525/5545/5555的Firepower威胁防御引导映像。 这是5512/5515/5525/5545/5555上的全新安装的启动映像
ftd-6.0.0-1005.pkg	v6.0.0 Firepower威胁防御，适用于所有受支持的ASA:5506/5508/5512/5515/5516/5525/5545/5555的多播地址发送一次邻居消息。 这是用于全新安装的系统映像

任务2.升级ASA5508-X ROMMON

如前提条件中所述，ASA5506-X、ASA5508-X和ASA5516-X设备必须在ROMMON v1.1.8上。如果不安装asa5500-firmware-1108.SPA（可在Cisco ASA下载页中找到）。

任务要求：

将ASA5508 ROMMON从1.1.1升级到1.1.8。

解决方案：

ASA ROMMON升级指南中[介绍了该步骤](#)。

步骤1.检验现有ROMMON版本：

```
FTD5508X# show module
Mod  Card Type                               Model                               Serial No.
-----
  1  ASA 5508-X with FirePOWER services, 8GE, AC, ASA5508          JAD192100SZ
sfr  FirePOWER Services Software Module    ASA5508          JAD192100SZ

Mod  MAC Address Range                       Hw Version  Fw Version  Sw Version
-----
  1  188b.9d1e.ca7c to 188b.9d1e.ca84  1.0         1.1.1       9.5(2)
sfr  188b.9d1e.ca7b to 188b.9d1e.ca7b  N/A         N/A         5.4.1-211
```

步骤2.将ROMMON固件下载到ASA的闪存中：

```
FTD5508X# copy ftp://10.48.40.70/ANG/mzafeiro/asa5500-firmware-1108.SPA disk0:asa5500-firmware-1108.SPA
Address or name of remote host [10.48.40.70]?

Source filename [ANG/mzafeiro/asa5500-firmware-1108.SPA]?

Destination filename [asa5500-firmware-1108.SPA]?

Accessing ftp://10.48.40.70/ANG/mzafeiro/asa5500-firmware-1108.SPA...!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Done!
Computed Hash   SHA2: d824bdeecee1308fc64427367fa559e9
              eefe8f182491652ee4c05e6e751f7a4f
              5cdea28540cf60acde3ab9b65ff55a9f
              4e0cfb84b9e2317a856580576612f4af

Embedded Hash   SHA2: d824bdeecee1308fc64427367fa559e9
              eefe8f182491652ee4c05e6e751f7a4f
              5cdea28540cf60acde3ab9b65ff55a9f
              4e0cfb84b9e2317a856580576612f4af

Digital signature successfully validated
Writing file disk0:/asa5500-firmware-1108.SPA...
!!!!!!!!!!!!
9241408 bytes copied in 18.890 secs (513411 bytes/sec)
```

步骤3.升级ASA ROMMON映像：

```
FTD5508X# upgrade rommon disk0:asa5500-firmware-1108.SPA
Verifying file integrity of disk0:/asa5500-firmware-1108.SPA
```

Computed Hash SHA2: d824bdeeceel308fc64427367fa559e9
eefe8f182491652ee4c05e6e751f7a4f
5cdea28540cf60acde3ab9b65ff55a9f
4e0cfb84b9e2317a856580576612f4af

Embedded Hash SHA2: d824bdeeceel308fc64427367fa559e9
eefe8f182491652ee4c05e6e751f7a4f
5cdea28540cf60acde3ab9b65ff55a9f
4e0cfb84b9e2317a856580576612f4af

Digital signature successfully validated

File Name : disk0:/asa5500-firmware-1108.SPA
Image type : Release

Signer Information

Common Name : abraxas
Organization Unit : NCS_Kenton_ASA
Organization Name : CiscoSystems
Certificate Serial Number : 55831CF6
Hash Algorithm : SHA2 512
Signature Algorithm : 2048-bit RSA
Key Version : A

Verification successful.

System config has been modified. Save? [Y]es/[N]o: **Y**
Cryptochecksum: cb47de8a cad3b773 7fc07212 3e76ef4f

2804 bytes copied in 0.260 secs

Proceed with reload? [confirm]

*** --- START GRACEFUL SHUTDOWN ---

*** Message to all terminals:

*** **Performing upgrade on rom-monitor.**

Shutting down License Controller
Shutting down File system

*** --- SHUTDOWN NOW ---

*** Message to all terminals:

*** **Performing upgrade on rom-monitor.**

Process shutdown finished
Rebooting.....
INIT: Sending processes the TERM signal
Deconfiguring network interfaces... done.
Sending all processes the TERM signal...
Sending all processes the KILL signal...
Deactivating swap...
Unmounting local filesystems...
Rebooting...
Rom image verified correctly

Cisco Systems ROMMON, Version 1.1.01, RELEASE SOFTWARE
Copyright (c) 1994-2014 by Cisco Systems, Inc.
Compiled Mon 10/20/2014 15:59:12.05 by builder

Current image running: Boot ROM0

Platform ASA5508 with 8192 Mbytes of main memory
MAC Address: 18:8b:9d:1e:ca:7c

Use BREAK or ESC to interrupt boot.
Use SPACE to begin boot immediately.

Located '.boot_string' @ cluster 859024.

Attempt autoboot: "boot disk0:/asa952-lfbff-k8.SPA"
Located 'asa952-lfbff-k8.SPA' @ cluster 818273.

#####

LFBBFF signature verified.
INIT: version 2.88 booting
Starting udev
Configuring network interfaces... done.
Populating dev cache
dosfsck 2.11, 12 Mar 2005, FAT32, LFN
There are differences between boot sector and its backup.
Differences: (offset:original/backup)
65:01/00
Not automatically fixing this.
Starting check/repair pass.
/cisco_config
"." is missing. Can't fix this yet.
/cisco_config
".." is missing. Can't fix this yet.
Starting verification pass.
/cisco_config
"." is missing. Can't fix this yet.
/cisco_config
".." is missing. Can't fix this yet.
/dev/sdb1: 182 files, 849380/1918808 clusters
dosfsck(/dev/sdb1) returned 0
IO Memory Nodes: 1
IO Memory Per Node: 499122176 bytes

Global Reserve Memory Per Node: 314572800 bytes Nodes=1

Processor memory 3807834603
LCMB: got 499122176 bytes on numa-id=0, phys=0x1b8000000, virt=0x2aaaaae0000
LCMB: HEAP-CACHE POOL got 314572800 bytes on numa-id=0, virt=0x2aaac8a0000

Compiled on Sat 28-Nov-15 00:16 PST by builders

Total NICs found: 13
i354 rev03 Gigabit Ethernet @ irq255 dev 20 index 08 MAC: 188b.9d1e.ca7c
ivshmem rev03 Backplane Data Interface @ index 09 MAC: 0000.0001.0002
en_vtun rev00 Backplane Control Interface @ index 10 MAC: 0000.0001.0001
en_vtun rev00 Backplane Int-Mgmt Interface @ index 11 MAC: 0000.0001.0003
en_vtun rev00 Backplane Ext-Mgmt Interface @ index 12 MAC: 0000.0000.0000

Rom-monitor was successfully upgraded.

...

验证：

您可以使用**show module**命令来验证ROMMON软件版本：

```
FTD5508X> enable
Password:
FTD5508X# show module
```

Mod	Card Type	Model	Serial No.
1	ASA 5508-X with FirePOWER services, 8GE, AC, sfr FirePOWER Services Software Module	ASA5508 ASA5508	JAD192100SZ JAD192100SZ

Mod	MAC Address Range	Hw Version	Fw Version	Sw Version
1	188b.9d1e.ca7c to 188b.9d1e.ca84	1.0	1.1.8	9.5(2)
sfr	188b.9d1e.ca7b to 188b.9d1e.ca7b	N/A	N/A	5.4.1-211

任务3.在ASA55xx-X上安装FTD引导映像

任务要求：

在ASA5508-X上安装FTD引导映像ftd-boot-9.6.1.0.lfbff。

解决方案：

有多种方法可以执行此操作。第一个是：

方法1.从ROMMON

步骤1.重新加载ASA并进入ROMMON模式：

```
FTD5508X# reload
Proceed with reload? [confirm]
FTD5508X#
```

```
***
*** --- START GRACEFUL SHUTDOWN ---
Shutting down isakmp
Shutting down webvpn
Shutting down sw-module
Shutting down License Controller
Shutting down File system

***
*** --- SHUTDOWN NOW ---
Process shutdown finished
Rebooting.....
INIT: Sending processes the TERM signal
Deconfiguring network interfaces... done.
Sending all processes the TERM signal...
Sending all processes the KILL signal...
Deactivating swap...
Unmounting local filesystems...
```



```
Boot image size = 100308208 (0x5fa94f0) bytes
[image size]      100308208
[MD5 signature]   781dde41844d750f8c0db1cd1e1e164f
LFBFF signature verified.
INIT: version 2.88 booting
Starting udev
Configuring network interfaces... done.
Populating dev cache
Detected PID ASA5508.
Found device serial number JAD192100SZ.
Found USB flash drive /dev/sdb
Found hard drive(s): /dev/sda
fsck from util-linux 2.23.2
dosfsck 2.11, 12 Mar 2005, FAT32, LFN
/dev/sdb1: 47 files, 24618/1919063 clusters =====
Launching boot CLI ... Configuring network interface using static IP Bringing up network
interface. Depending on your network, this might take a couple of minutes when using DHCP...
ifup: interface lo already configured Using IPv4 address: 10.62.148.62
Using IPv6 address: fe80::1a8b:9dff:fe1e:ca7b
Using DNS server: 10.62.145.72
Using default gateway: 10.62.148.100
INIT: 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 syslog-ng:.
Starting crond: OK
```

Cisco FTD Boot 6.0.0 (9.6.1.)

Type ? for list of commands

firepower-boot>

在ASA5512/15/25/45/55上，过程相同，只有引导映像名称不同：

```
rommon #0> ADDRESS=10.62.148.10
rommon #1> SERVER=10.229.22.42
rommon #2> GATEWAY=10.62.148.1
rommon #3> IMAGE=ftd-boot-9.6.1.0.cdisk
```

方法2.从ASA模式

步骤1.从ASA执行模式 (无ROMMON) 将FTD引导映像复制到ASA闪存：

```
ciscoasa# copy ftp://10.48.40.70/ANG/mzafeiro/ftd-boot-9.6.1.0.lfbff flash
```

步骤2.从磁盘中删除任何ASA映像：

```
ciscoasa# delete flash:asa*
```

删除ASA映像后的闪存内容：

```
ciscoasa# show flash
--#-- --length-- -----date/time----- path
 131 33          May 20 2016 09:27:28  .boot_string
   11 4096       Mar 03 2016 11:48:34  log
 154 16767     May 20 2016 09:23:48  log/asa-appagent.log
 155 465       Mar 03 2016 11:54:58  log/asa-ssp_ntp.log
   21 4096       Jun 10 2015 06:45:42  crypto_archive
   22 4096       Jun 10 2015 06:46:00  coredumpinfo
   23 59         Jun 10 2015 06:46:00  coredumpinfo/coredump.cfg
 134 25627616  Dec 01 2015 04:01:58  asdm-752.bin
 135 52563     Feb 09 2016 02:49:58  system.cfg
 136 25028660  Feb 09 2016 02:50:28  asdm-751-112.bin
 137 38409858  Feb 09 2016 02:51:14  anyconnect-win-3.1.10010-k9.pkg
 138 25629676  Feb 09 2016 04:38:10  asdm-752-153.bin
151 100308208 May 20 2016 09:39:57 ftd-boot-9.6.1.0.lfbff <--
```

步骤3.重新加载ASA。它从FTD引导映像启动：

```
Located 'ftd-boot-9.6.1.0.lfbff' @ cluster 45093.
#####
..
LFBFF signature verified.
INIT: version 2.88 booting
..
          Cisco FTD Boot 6.0.0 (9.6.1.)
          Type ? for list of commands
```

firepower-boot>

任务4.在ASA55xx-X上安装FTD系统映像

在ASA5508-X上安装FTD系统映像。

解决方案

firepower-boot> **setup**

```
Welcome to Cisco FTD Setup
[hit Ctrl-C to abort]
Default values are inside []
```

```
Enter a hostname [firepower]: FTD5508
Do you want to configure IPv4 address on management interface?(y/n) [Y]:
Do you want to enable DHCP for IPv4 address assignment on management interface?(y/n) [Y]: N
Enter an IPv4 address: 10.62.148.29
Enter the netmask: 255.255.255.128
Enter the gateway: 10.62.148.1
Do you want to enable DHCP for IPv4 address assignment on management interface?(y/n) [N]: Enter
an IPv4 address [10.62.148.29]: Enter the netmask [255.255.255.128]: Enter the gateway
[10.62.148.1]: Do you want to configure static IPv6 address on management interface?(y/n) [N]:
Stateless autoconfiguration will be enabled for IPv6 addresses. Enter the primary DNS server IP
address: 173.38.200.100
Do you want to configure Secondary DNS Server? (y/n) [n]: y
Enter the secondary DNS server IP address: 144.254.71.184
Do you want to configure Local Domain Name? (y/n) [n]:
Do you want to configure Search domains? (y/n) [n]:
Do you want to enable the NTP service? [Y]:
```

Enter the NTP servers separated by commas [203.0.113.126]: **171.68.38.65**

Please review the final configuration:

Hostname: FTD5508

Management Interface Configuration

IPv4 Configuration: static
IP Address: 10.62.148.29
Netmask: 255.255.255.128
Gateway: 10.62.148.1

IPv6 Configuration: Stateless autoconfiguration

DNS Configuration:
DNS Server:
173.38.200.100
144.254.71.184

NTP configuration:
171.68.38.65

CAUTION:

You have selected IPv6 stateless autoconfiguration, which assigns a global address based on network prefix and a device identifier. Although this address is unlikely to change, if it does change, the system will stop functioning correctly. We suggest you use static addressing instead.

Apply the changes?(y,n) [Y]:

Configuration saved successfully!

Applying...

Done.

Press ENTER to continue...

firepower-boot>

检验与FTP服务器的连接：

```
firepower-boot> ping 10.229.22.42
PING 10.229.22.42 (10.229.22.42) 56(84) bytes of data.
64 bytes from 10.229.22.42: icmp_seq=1 ttl=124 time=1.30 ms
64 bytes from 10.229.22.42: icmp_seq=2 ttl=124 time=1.32 ms
64 bytes from 10.229.22.42: icmp_seq=3 ttl=124 time=1.45 ms
^C
--- 10.229.22.42 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 1.302/1.360/1.458/0.075 ms
```

安装系统包：

```
firepower-boot> system install ftp://10.229.22.42/ftd-6.0.0-1005.pkg
```

```
##### WARNING #####
# The content of disk0: will be erased during installation! #
#####
```

Do you want to continue? [y/N] **y**

Erasing disk0 ...

Verifying

Enter credentials to authenticate with ftp server

Username: **ftp**

Password:

Verifying Downloading Extracting

<-- Here give it some time (~10 min)

Package Detail

Description: Cisco ASA-NGFW 6.0.0-1005 System Install
Requires reboot: Yes

Do you want to continue with upgrade? [y]: <-- Press Enter

Warning: Please do not interrupt the process or turn off the system.
Doing so might leave system in unusable state.

Starting upgrade process ...

Populating new system image <-- Here give it some time (~5 min)

Reboot is required to complete the upgrade. Press 'Enter' to reboot the system. <-- Press Enter

Broadcast message from root@firepow: Stopping OpenBSD Secure Shell server: sshd stopped
/usr/sbin/sshd (pid 1963)

.
Stopping Advanced Configuration and Power Interface daemon: stopped /usr/sbin/acpid (pid 1967)
acpid: exiting

acpid.

Stopping system message bus: dbus.

Stopping ntpd: stopped process in pidfile '/var/run/ntp.pid' (pid 2055)
done

Stopping crond: OK

Deconfiguring network interfaces... done.

Sending all processes the TERM signal...

Sending all processes the KILL signal...

Deactivating swap...

Unmounting local filesystems...

Rebooting... y

Rom image verified correctly

Cisco Systems ROMMON, Version 1.1.8, RELEASE SOFTWARE
Copyright (c) 1994-2015 by Cisco Systems, Inc.
Compiled Thu 06/18/2015 12:15:56.43 by builders

Current image running: Boot ROM1

Last reset cause: PowerCycleRequest

DIMM Slot 0 : Present

DIMM Slot 1 : Present

Platform ASA5508 with 8192 Mbytes of main memory

MAC Address: 18:8b:9d:1e:ca:7c

Use BREAK or ESC to interrupt boot.

Use SPACE to begin boot immediately.

Located '.boot_string' @ cluster 186016.

#

Attempt autoboot: "boot disk0:os.img"

Located 'os.img' @ cluster 160001.

#####

LFBBFF signature verified.

INIT: version 2.88 booting

Starting udev

Configuring network interfaces... done.

Populating dev cache

Detected PID ASA5508.

Found device serial number JAD192100SZ.
Found USB flash drive /dev/sdb
Found hard drive(s): /dev/sda
fsck from util-linux 2.23.2
dosfsck 2.11, 12 Mar 2005, FAT32, LFN
/dev/sdb1: 7 files, 26064/1919063 clusters

=====

Use ESC to interrupt boot and launch boot CLI.
Use SPACE to launch Cisco FTD immediately.
Cisco FTD launch in 20 seconds ...

Running on kenton

Mounting disk partitions ...

Initializing Threat Defense ... [OK]

Starting system log daemon... [OK]

Flushing all current IPv4 rules and user defined chains: ...success

Clearing all current IPv4 rules and user defined chains: ...success

Applying iptables firewall rules:

Flushing chain `PREROUTING'

Flushing chain `INPUT'

Flushing chain `FORWARD'

Flushing chain `OUTPUT'

Flushing chain `POSTROUTING'

Flushing chain `INPUT'

Flushing chain `FORWARD'

Flushing chain `OUTPUT'

Applying rules succeeded

Flushing all current IPv6 rules and user defined chains: ...success

Clearing all current IPv6 rules and user defined chains: ...success

Applying ip6tables firewall rules:

Flushing chain `PREROUTING'

Flushing chain `INPUT'

Flushing chain `FORWARD'

Flushing chain `OUTPUT'

Flushing chain `POSTROUTING'

Flushing chain `INPUT'

Flushing chain `FORWARD'

Flushing chain `OUTPUT'

Applying rules succeeded

Starting nscd...

mkdir: created directory '/var/run/nscd' [OK]

Starting , please wait...grep: /ngfw/etc/motd: No such file or directory

...complete.

Firstboot detected, executing scripts

Executing S01reset_failopen_if [OK]

Executing S04fix-httpd.sh [OK]

Executing S05set-mgmt-port [OK]

Executing S06addusers [OK]

Executing S07uuid-init [OK]

Executing S09configure_mysql [OK]

***** Attention *****

Initializing the configuration database. Depending on available system resources (CPU, memory, and disk), this may take 30 minutes or more to complete.

***** Attention *****

Executing S10database [OK]

Executing S12install_infodb [OK]

Executing S15set-locale.sh [OK]

Executing S16update-sensor.pl [OK]

```
Executing S19cert-tun-init [ OK ]
Executing S20cert-init [ OK ]
Executing S21disable_estreamer [ OK ]
Executing S25create_default_des.pl [ OK ]
Executing S30init_lights_out_mgmt.pl [ OK ]
Executing S40install_default_filters.pl [ OK ]
Executing S42install_default_dashboards.pl [ OK ]
Executing S43install_default_report_templates.pl [ OK ]
Executing S44install_default_app_filters.pl [ OK ]
Executing S45install_default_realms.pl [ OK ]
Executing S47install_default_sandbox_EO.pl [ OK ]
Executing S50install-remediation-modules [ OK ]
Executing S51install_health_policy.pl [ OK ]
Executing S52install_system_policy.pl [ OK ]
Executing S53change_reconciliation_baseline.pl [ OK ]
Executing S70update_sensor_objects.sh [ OK ]
Executing S85patch_history-init [ OK ]
Executing S90banner-init [ OK ]
Executing S95copy-crontab [ OK ]
Executing S96grow_var.sh [ OK ]
```

***** Attention *****

Initializing the system's localization settings. Depending on available system resources (CPU, memory, and disk), this may take 10 minutes or more to complete.

***** Attention *****

```
Executing S96localize-templates [ OK ]
Executing S96ovf-data.pl [ OK ]
Executing S97compress-client-resources [ OK ]
Executing S97create_platinum_forms.pl [ OK ]
Executing S97install_cloud_support.pl [ OK ]
Executing S97install_geolocation.pl [ OK ]
Executing S97install_ssl_inspection.pl [ OK ]
Executing S97update_modprobe.pl [ OK ]
Executing S98check-db-integrity.sh [ OK ]
Executing S98htaccess-init [ OK ]
Executing S99correct_ipmi.pl [ OK ]
Executing S99start-system [ OK ]
Executing S99z_db_restore [ OK ]
Firstboot scripts finished.
Configuring NTP... [ OK ]
Model reconfigure detected, executing scripts
Pinging mysql
Found mysql is running
Executing 45update-sensor.pl [ OK ]
Executing 55recalculate_arc.pl [ OK ]
Starting xinetd:
Mon Mar 14 18:28:11 UTC 2016
Starting MySQL...
Pinging mysql
Pinging mysql, try 1
Found mysql is running
Running initializeObjects...
Stopping MySQL...
Killing mysqld with pid 10993
Wait for mysqld to exit\c
done
Mon Mar 14 18:28:21 UTC 2016
Starting sfid... [ OK ]
Starting Cisco ASA5508-X Threat Defense, please wait...No PM running!
...started.
INIT: 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.
Starting crond: OK
Mar 14 18:28:26 ciscoasa SF-IMS[11490]: [11490] init script:system [INFO] pmmon Setting affinity
to 5-7...
pid 11486's current affinity list: 0-7
pid 11486's new affinity list: 5-7
Mar 14 18:28:26 ciscoasa SF-IMS[11492]: [11492] init script:system [INFO] pmmon The Process
Manager is not running...
Mar 14 18:28:26 ciscoasa SF-IMS[11493]: [11493] init script:system [INFO] pmmon Starting the
Process Manager...
Mar 14 18:28:26 ciscoasa SF-IMS[11494]: [11494] pm:pm [INFO] Using model number 75K
```

```
Cisco ASA5508-X Threat Defense v6.0.0 (build 1005)
ciscoasa login:
Compiled on Sat 07-Nov-15 16:13 PST by builders
```

```
Total NICs found: 13
i354 rev03 Gigabit Ethernet @ irq255 dev 20 index 08 MAC: 188b.9d1e.ca7c
ivshmem rev03 Backplane Data Interface @ index 09 MAC: 0000.0001.0002
en_vtun rev00 Backplane Control Interface @ index 10 MAC: 0000.0001.0001
en_vtun rev00 Backplane Int-Mgmt Interface @ index 11 MAC: 0000.0001.0003
en_vtun rev00 Backplane Ext-Mgmt Interface @ index 12 MAC: 0000.0000.0000
```

```
INFO: Unable to read firewall mode from flash
      Writing default firewall mode (single) to flash
```

```
INFO: Unable to read cluster interface-mode from flash
      Writing default mode "None" to flash
```

```
Verify the activation-key, it might take a while...
```

```
Failed to retrieve permanent activation key.
```

```
Running Permanent Activation Key: 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000
```

```
The Running Activation Key is not valid, using default settings:
```

```
Licensed features for this platform:
```

Maximum Physical Interfaces	: Unlimited	perpetual
Maximum VLANs	: 50	perpetual
Inside Hosts	: Unlimited	perpetual
Failover	: Active/Active	perpetual
Encryption-DES	: Enabled	perpetual
Encryption-3DES-AES	: Disabled	perpetual
Security Contexts	: 2	perpetual
GTP/GPRS	: Disabled	perpetual
AnyConnect Premium Peers	: 4	perpetual
AnyConnect Essentials	: Disabled	perpetual
Other VPN Peers	: 100	perpetual
Total VPN Peers	: 100	perpetual
Shared License	: Disabled	perpetual
AnyConnect for Mobile	: Disabled	perpetual
AnyConnect for Cisco VPN Phone	: Disabled	perpetual
Advanced Endpoint Assessment	: Disabled	perpetual
Total UC Proxy Sessions	: 320	perpetual
Botnet Traffic Filter	: Disabled	perpetual
Cluster	: Disabled	perpetual
VPN Load Balancing	: Enabled	perpetual

```
Encryption hardware device : Cisco ASA Crypto on-board accelerator (revision 0x1)
```

```
Cisco Adaptive Security Appliance Software Version 99.1(3)194
```


***** Warning *****

This product contains cryptographic features and is subject to United States and local country laws governing, import, export, transfer, and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute, or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return the enclosed items immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

***** Warning *****

... output omitted ...

Reading from flash...

!
Cryptochecksum (changed): 6129864f 6298b553 75f279ea e547792b

INFO: Power-On Self-Test in process.

.....

INFO: Power-On Self-Test complete.

INFO: Starting HW-DRBG health test...

INFO: HW-DRBG health test passed.

INFO: Starting SW-DRBG health test...

INFO: SW-DRBG health test passed.

Cisco ASA5508-X Threat Defense v6.0.0 (build 1005)

firepower login: **admin**

Password: <-- **Admin123**

You must accept the EULA to continue.

Press

... EULA is displayed - output is omitted

END USER LICENSE AGREEMENT

Please enter 'YES' or press to AGREE to the EULA:

System initialization in progress. Please stand by.

You must change the password for 'admin' to continue.

Enter new password:

Confirm new password:

You must configure the network to continue.

You must configure at least one of IPv4 or IPv6.

Do you want to configure IPv4? (y/n) [y]: Do you want to configure IPv6? (y/n) [n]:

Configure IPv4 via DHCP or manually? (dhcp/manual) [manual]:

Enter an IPv4 address for the management interface [192.168.45.45]: **10.62.148.29**

Enter an IPv4 netmask for the management interface [255.255.255.0]: **255.255.255.128**

Enter the IPv4 default gateway for the management interface []: **10.62.148.1**

Enter a fully qualified hostname for this system [firepower]: **FTD5508**

Enter a comma-separated list of DNS servers or 'none' []: **173.38.200.100,144.254.71.184**

Enter a comma-separated list of search domains or 'none' []:

If your networking information has changed, you will need to reconnect.

For HTTP Proxy configuration, run 'configure network http-proxy'

Configure firewall mode? (routed/transparent) [routed]:
Configuring firewall mode ...

Update policy deployment information
- add device configuration

You can register the sensor to a Firepower Management Center and use the Firepower Management Center to manage it. Note that registering the sensor to a Firepower Management Center disables on-sensor Firepower Services management capabilities.

When registering the sensor to a Firepower Management Center, a unique alphanumeric registration key is always required. In most cases, to register a sensor to a Firepower Management Center, you must provide the hostname or the IP address along with the registration key.

```
'configure manager add [hostname | ip address ] [registration key ]'
```

However, if the sensor and the Firepower Management Center are separated by a NAT device, you must enter a unique NAT ID, along with the unique registration key.

```
'configure manager add DONTRESOLVE [registration key ] [ NAT ID ]'
```

Later, using the web interface on the Firepower Management Center, you must use the same registration key and, if necessary, the same NAT ID when you add this sensor to the Firepower Management Center.

>

提示：可以使用noconfirm选项安装映像。在这种情况下，在安装过程中不会收到提示。

```
firepower-boot>system install noconfirm ftp://10.229.22.42/ftd-6.0.0-1005.pkg
```

在FTD 6.1.x及更高版本上，系统会提示您输入管理模式（本地与远程）。

For HTTP Proxy configuration, run 'configure network http-proxy'

Manage the device locally? (yes/no) [yes]: no
Configure firewall mode? (routed/transparent) [routed]:

本地模式=仅适用于ASA55xx-X设备。从Firepower设备管理器(FDM)管理FTD。

远程模式=您从FMC管理FTD

确认

```
> show version
-----[ FTD5508 ]-----
Model           : Cisco ASA5508-X Threat Defense (75) Version 6.0.0 (Build 1005)
UUID            : 8c3f4b7e-ea11-11e5-94f1-f3a55afb51a3
Rules update version : 2015-10-01-001-vrt
VDB version     : 252
-----
```

>

ASA5512/15/25/45/55上的系统映像安装与上面相同。

任务5.将FTD注册到FMC

将FTD注册到FMC服务器 使用以下设置：

主机	10.62.148.29
显示名称	FTD5508
注册密钥	思科
组	无
访问控制策略	FTD5508
访问控制策略基本策略	无
访问控制策略默认操作	阻止所有流量

解决方案

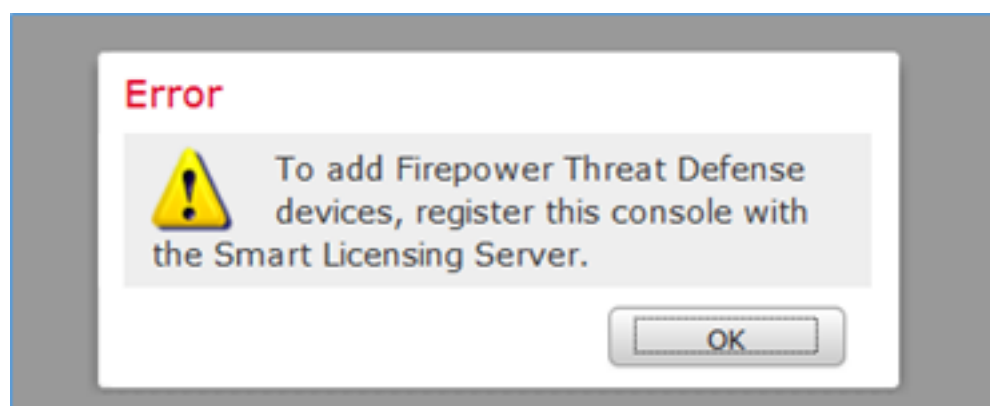
步骤1:在FTD上，指定FMC服务器：

```
> configure manager add 10.62.148.73 cisco
Manager successfully configured.
Please make note of reg_key as this will be required while adding Device in FMC.
```

```
> show managers
Host                : 10.62.148.73
Registration Key    : ****
Registration        : pending
RPC Status         :
Type               : Manager
Host               : 10.62.148.73
Registration        : Pending
```

>

第二步：在添加FTD之前，您需要在智能许可服务器中注册FMC。如果您尝试添加FTD设备而没有智能许可证，则会出现以下错误：



您可以选择评估模式。这样，您可以使用FTD 90天，而无需强加密（例如VPN）功能。

Overview Analysis Policies Devices Objects AMP Deploy System Help admin

Configuration Users Domains Integration Updates Licenses > Smart Licenses Health Monitoring Tools


Welcome to Smart Licenses

Before you use Smart Licenses, obtain a registration token from [Cisco Smart Software Manager](#), then click Register

Smart License Status

Usage Authorization:	--
Product Registration:	Unregistered
Assigned Virtual Account:	--
Export-Controlled Features:	--

Evaluation Mode

 You are about to start your evaluation period. Evaluation period is a one time 90 day period in which you will be able to explore your Cisco products full functionality. When evaluation mode ends, you will have to register with the Smart Licensing Cloud to continue to use your product. Do you wish to begin your evaluation period now?

Overview Analysis Policies Devices Objects AMP Deploy System Help admin

Configuration Users Domains Integration Updates Licenses > Smart Licenses Health Monitoring Tools

Welcome to Smart Licenses

Before you use Smart Licenses, obtain a registration token from [Cisco Smart Software Manager](#), then click Register

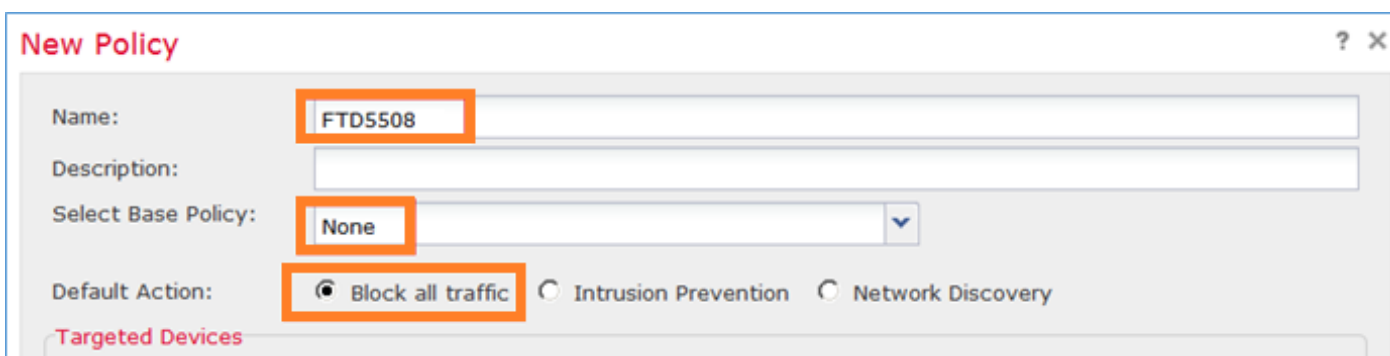
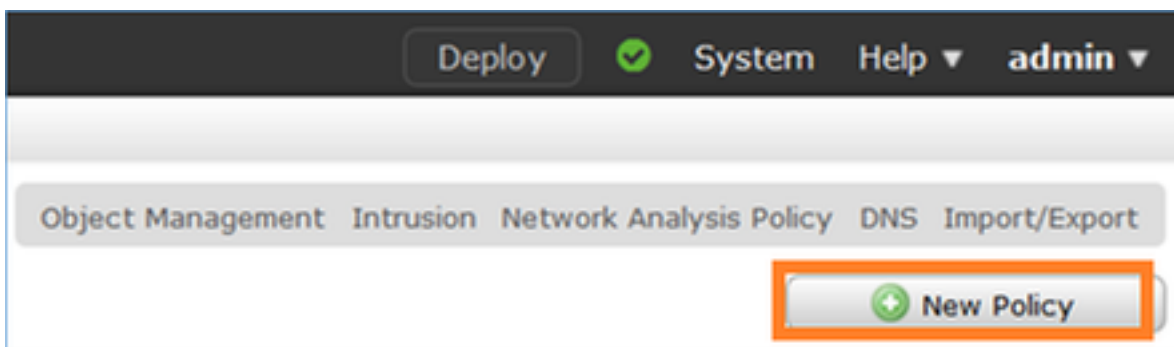
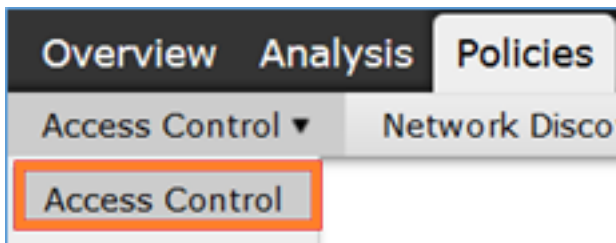
Smart License Status [Cisco Smart Software Manager](#)

Usage Authorization:	N/A
Product Registration:	✔ Evaluation Period (Expires in 89 days)
Assigned Virtual Account:	Evaluation Mode
Export-Controlled Features:	Enabled

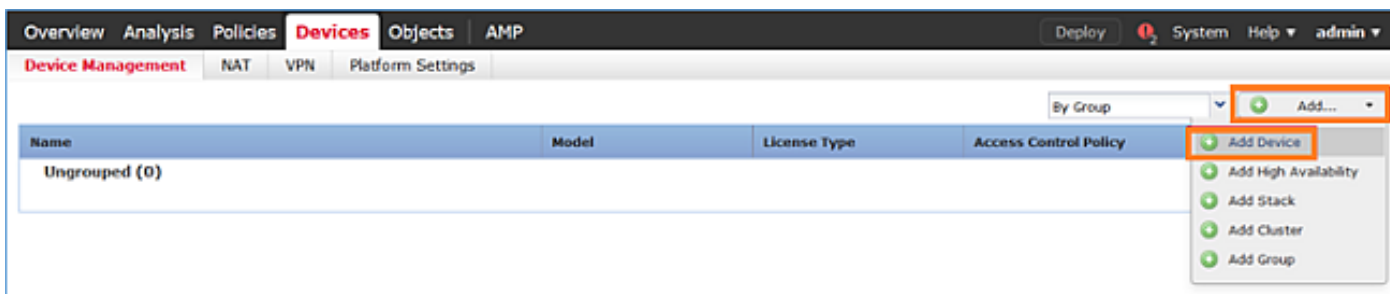
Smart Licenses

License Type/Device Name	License Status	Device Type	Domain	Group
Base (0)				
Malware (0)				
Threat (0)				
URL Filtering (0)				

步骤3.在FMC上，首先创建FTD将使用的访问控制策略。导航至“策略”>“访问控制”，然后选择“新策略”：



然后添加FTD设备：



Add Device

Host: 10.62.148.29

Display Name: FTD5508

Registration Key: cisco

Group: None

Access Control Policy: FTD5508

Smart Licensing

Malware:

Threat:

URL Filtering:

Advanced

On version 5.4 devices or earlier, the licensing options will need to be specified from [licensing page](#).

Register Cancel

在FTD添加结束时，将部署策略：

Deploy System Help admin

Deployments Health Tasks

1 total | 1 running 0 success 0 warnings 0 failures

FTD5508 Deployment to device in progress. 35s 80%

要检查在添加FTD设备时后台发生的情况，请在FMC和FTD上启用“尾”功能。

在FMC上：

```
admin@fs4k:~$ sudo pigtail
```

```
*****
*****
** Displaying logs: ACTQ HTTP DCSM VMSS MOJO NGFW NGUI VMSB TCAT DEPL MSGS USMS
*****
*****
```

在FTD上：

> `piptail`

```
*****  
** Displaying logs: HTTP ACTQ DCSM VMSS MOJO NGUI NGFW TCAT VMSB DEPL USMS MSGS  
*****
```

注意：如果FTD管理接口状态为down，请确保confreg值为0x1。

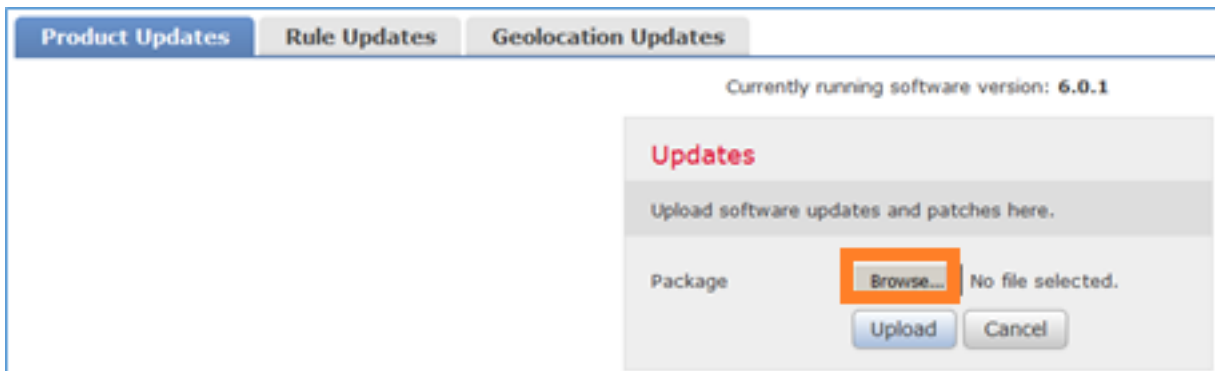
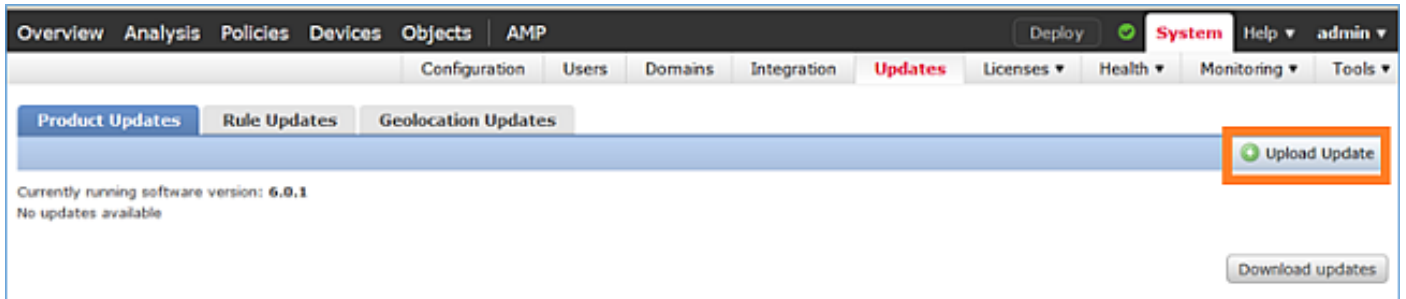
任务6.升级FTD

在本任务中，将FTD从6.0.0升级到6.0.1。

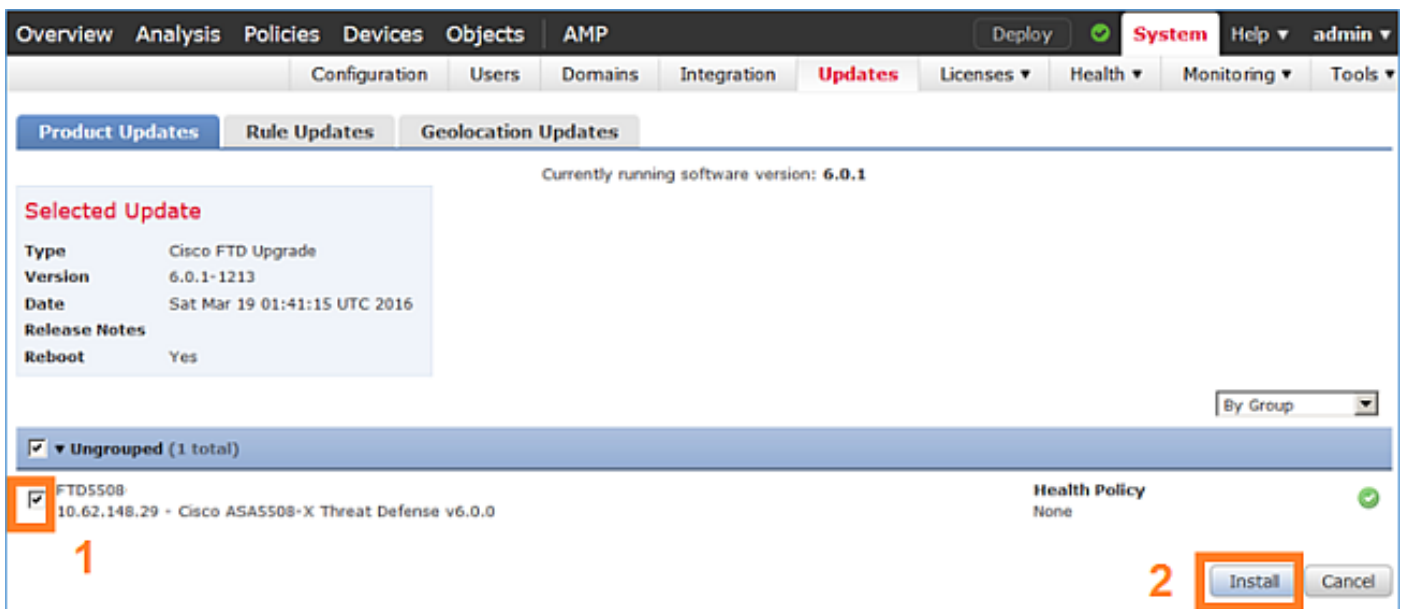
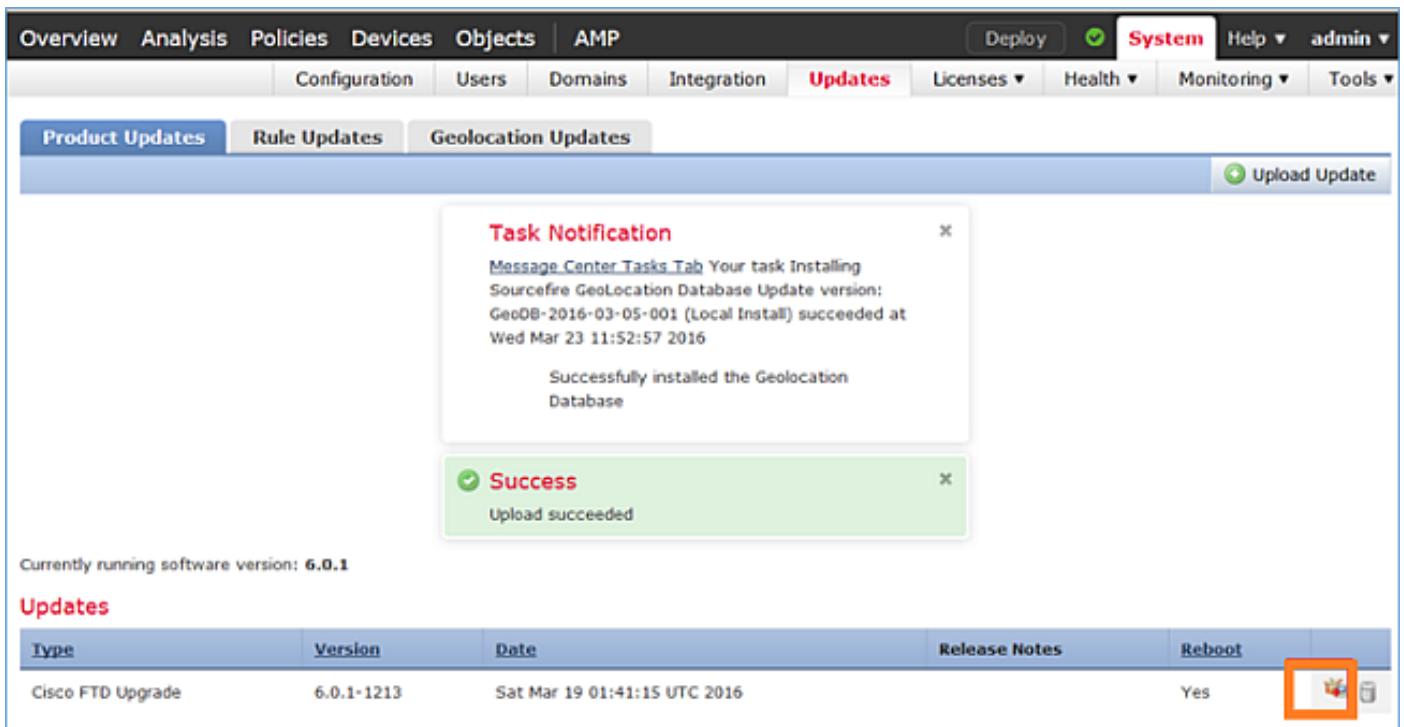
	version	文件名
初始FTD映像	版本6.0.0 (内部版本1005)	ftd-6.0.0-1005.pkg
目标FTD映像	版本6.0.1 (内部版本1213)	Cisco_FTD_Upgrade-6.0.1-1213.sh

解决方案

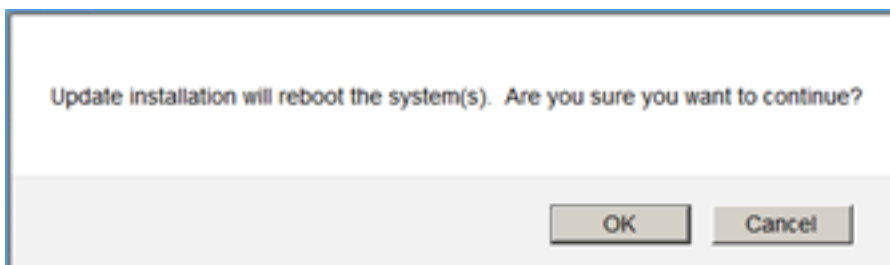
步骤1.将FTD映像上传到FMC:



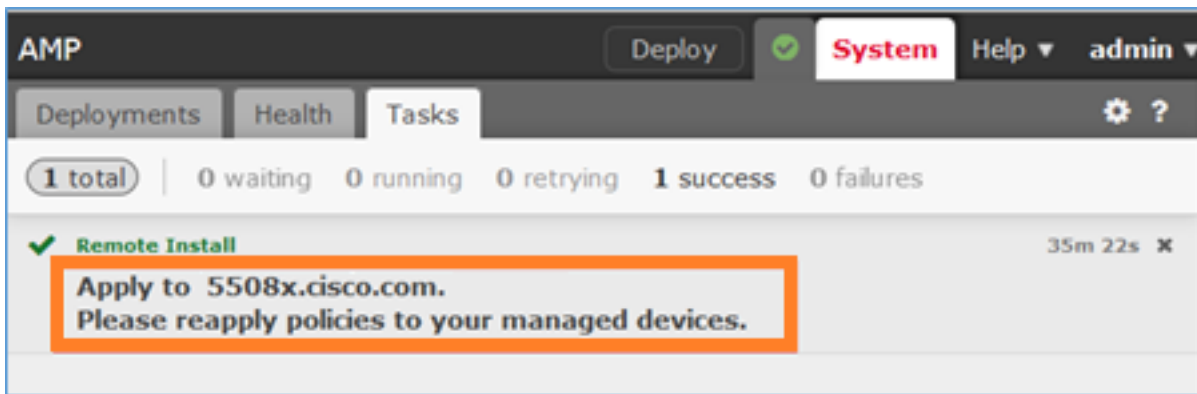
步骤2.安装FTD映像：



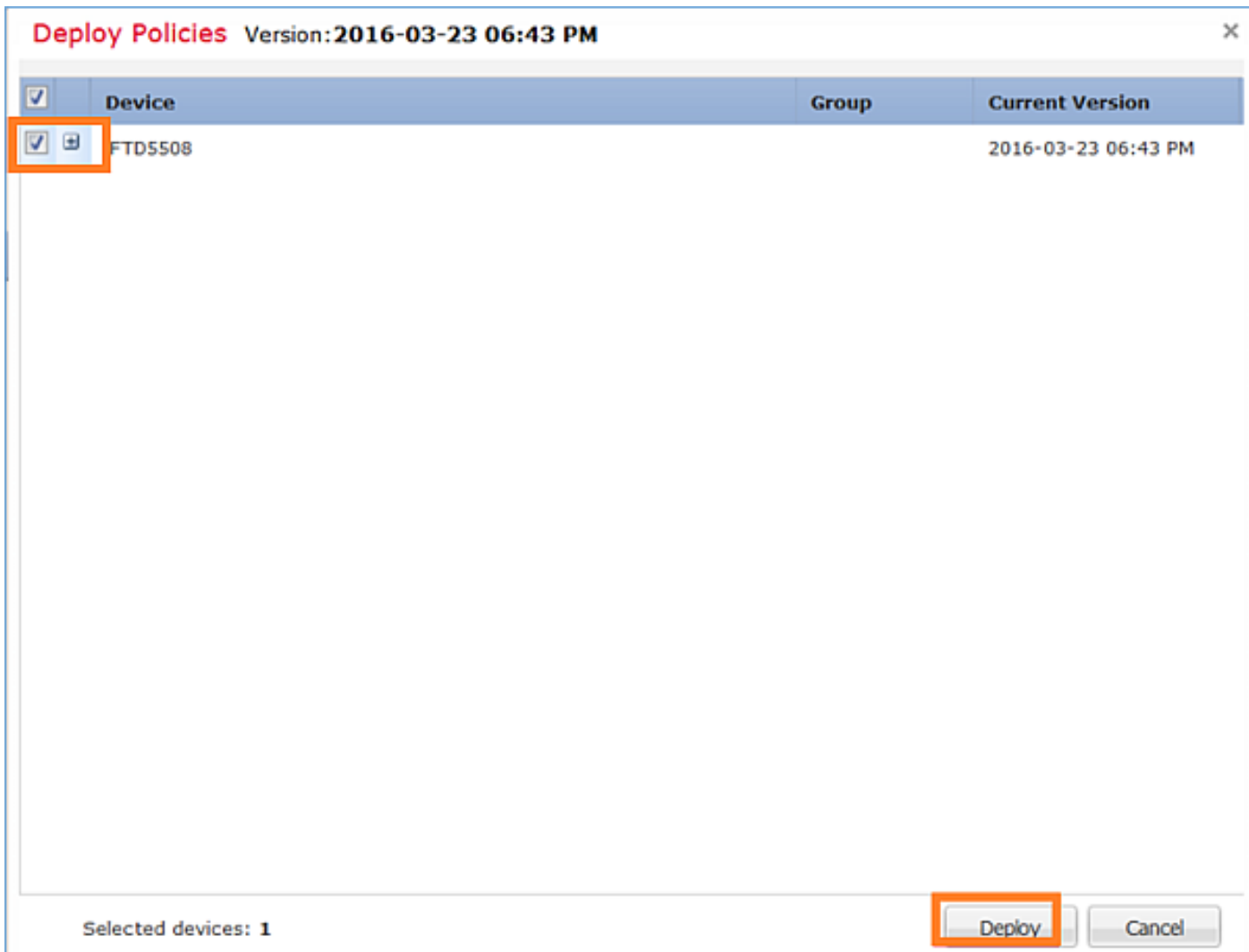
显示有关FTD重新加载的警告：



本例中的升级大约需要35分钟。如下所示，需要重新应用策略：



部署策略：



确认

FTD升级后：

```
> show version
-----[ FTD5508 ]-----
Model           : Cisco ASA5508-X Threat Defense (75) Version 6.0.1 (Build 1213)
UUID            : 53b44806-f0f4-11e5-88cc-c72c24d24877
Rules update version : 2016-03-04-001-vrt
VDB version     : 259
-----
```

>

任务7.连接和断开LINA引擎CLI模式

进入LINA CLI模式，然后断开与其的连接。

解决方案

在FTD CLISH模式下，键入以下命令：

```
> system support diagnostic-cli
Attaching to ASA console ... Press 'Ctrl+a then d' to detach.
Type help or '?' for a list of available commands.
```

```
firepower>
firepower> enable
Password: <-- by default empty (null)
firepower#
```

如上所述，要断开（分离）与FTD LINA控制台的连接，请键入CTRL + a，然后按d:

```
firepower# <- 'Ctrl+a then d' Console connection detached.
admin@FTD5508:~$
```

任务8.重新映像现有FTD安装

要求

重新映像现有FTD映像并安装版本6.1.0-330

解决方案

此任务假设有运行代码6.0.1.x的FTD设备，并且出于任何原因需要重新映像它（例如，无法恢复的数据库损坏、不允许软件升级的灾难性缺陷等）。

步骤摘要

1. 兼容性检查。
2. 从FMC注销FTD。
3. 重新加载FTD设备并输入BootCLI。
4. 运行安装向导。
5. 安装FTD系统映像。

6. 将FTD注册到FMC。

详细步骤

步骤1.检查Firepower版本说明，并确保要使用的FTD映像与FMC兼容。如果不先升级FMC，

步骤2.从FMC注销（删除）FTD。由于FTD重新映像其UUID更改后，无法再次注册，但必须从头添加，因此需要执行此步骤。

步骤3.重新加载FTD设备并输入BootCLI。由于已安装现有FTD映像，因此可跳过FTD引导映像安装：

```
> reboot
```

```
This command will reboot the system. Continue?
```

```
Please enter 'YES' or 'NO': YES
```

```
Broadcast message: Stopping Cisco ASA5506-X Threat Defense.....ok
Shutting down sfisd... [ OK ]
Clearing static routes
Unconfiguring default route [ OK ]
Unconfiguring address on br1 [ OK ]
Unconfiguring IPv6 [ OK ]
Downing interface [ OK ]
Stopping nsd... [ OK ]
Stopping system log daemon... [ OK ]
Stopping Threat Defense ...
cp: cannot stat '/etc/ssh': No such file or directory
Stopping system message bus: dbus.
rmdir: failed to remove directory '/etc': Directory not empty [ OK ]
Un-mounting disk partitions ...
...
Device root is still in use.
mdadm: Cannot get exclusive access to /dev/md0:Perhaps a running process, mounted filesystem or
active volume group?
Stopping OpenBSD Secure Shell server: sshdstopped /usr/sbin/sshd (pid 4209)
.
Stopping Advanced Configuration and Power Interface daemon: stopped /usr/sbin/acpid (pid 4213)
acpid: exiting

acpid.
Stopping system message bus: dbus.
Deconfiguring network interfaces... ifdown: interface br1 not configured
done.
Sending all processes the TERM signal...
Sending all processes the KILL signal...
Deactivating swap...
```

Unmounting local filesystems...
Rebooting... Ÿ
Rom image verified correctly

Cisco Systems ROMMON, Version 1.1.8, RELEASE SOFTWARE
Copyright (c) 1994-2015 by Cisco Systems, Inc.
Compiled Thu 06/18/2015 12:15:56.43 by builders

Current image running: Boot ROM0
Last reset cause: PowerCycleRequest
DIMM Slot 0 : Present

Platform ASA5506 with 4096 Mbytes of main memory
MAC Address: 84:3d:c6:1a:cf:39

Use BREAK or ESC to interrupt boot.
Use SPACE to begin boot immediately.

Located '.boot_string' @ cluster 260275.

Attempt autoboot: "boot disk0:"
Located 'os.img' @ cluster 235457.

#####

LFBBFF signature verified.
INIT: version 2.88 booting
Starting udev
Configuring network interfaces... done.
Populating dev cache
Detected PID ASA5506.
Found device serial number JAD2034008E.
Found USB flash drive /dev/sdb
Found hard drive(s): /dev/sda
fsck from util-linux 2.23.2
dosfsck 2.11, 12 Mar 2005, FAT32, LFN
/dev/sdb1: 42 files, 24805/1798467 clusters

=====
Use ESC to interrupt boot and launch boot CLI.
Use SPACE to launch Cisco FTD immediately.
Cisco FTD launch in 23 seconds ... < Press ESC to enter BootCLI
Launching boot CLI ...
Configuring network interface using DHCP
Bringing up network interface.
Depending on your network, this might take a couple of minutes when using DHCP...
ifup: interface lo already configured
Using IPv6 address: fe80::863d:c6ff:fe1a:cf38
IPv4 address not assigned. Run 'setup' before installation.

```
INIT: 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 syslog-ng:[2017-01-14T11:20:33.699619] Connection failed; fd='15',
server='AF_INET(127.128.254.1:514)', local='AF_INET(0.0.0.0:0)', error='Network is unreachable
(101)'
[2017-01-14T11:20:33.699704] Initiating connection failed, reconnecting; time_reopen='60'
.
Starting crond: OK
```

```
                Cisco FTD Boot 6.0.0 (9.6.2.)
                  Type ? for list of commands
firepower-boot>
```

第四步：运行设置向导并设置基本网络参数：

```
firepower-boot>setup
```

```
                Welcome to Cisco FTD Setup
                  [hit Ctrl-C to abort]
                Default values are inside []
```

```
Enter a hostname [firepower]: FTD5506
Do you want to configure IPv4 address on management interface?(y/n) [Y]: Y
Do you want to enable DHCP for IPv4 address assignment on management interface?(y/n) [Y]: n
Enter an IPv4 address: 10.48.66.83
Enter the netmask: 255.255.255.128
Enter the gateway: 10.48.66.1
Do you want to configure static IPv6 address on management interface?(y/n) [N]: N
Stateless autoconfiguration will be enabled for IPv6 addresses.
Enter the primary DNS server IP address: 192.168.0.1
Do you want to configure Secondary DNS Server? (y/n) [n]: n
Do you want to configure Local Domain Name? (y/n) [n]: n
Do you want to configure Search domains? (y/n) [n]: n
Do you want to enable the NTP service? [Y]: n
Please review the final configuration:
Hostname:                FTD5506
Management Interface Configuration

IPv4 Configuration:      static
    IP Address:          10.48.66.83
    Netmask:             255.255.255.128
    Gateway:             10.48.66.1

IPv6 Configuration:      Stateless autoconfiguration
```

```
DNS Configuration:
    DNS Server:      192.168.0.1
```

```
NTP configuration:      Disabled
```

CAUTION:

You have selected IPv6 stateless autoconfiguration, which assigns a global address based on network prefix and a device identifier. Although this address is unlikely to change, if it does change, the system will stop functioning correctly. We suggest you use static addressing instead.

```
Apply the changes?(y,n) [Y]:      y
Configuration saved successfully!
Applying...
Restarting network services...
Done.
Press ENTER to continue...
firepower-boot>
```

第五步：验证与包含FTD系统映像的服务器（FTP、HTTP等）的连接并开始安装：

```
firepower-boot>ping 10.48.40.70
PING 10.48.40.70 (10.48.40.70) 56(84) bytes of data.
64 bytes from 10.48.40.70: icmp_seq=1 ttl=64 time=555 ms
64 bytes from 10.48.40.70: icmp_seq=2 ttl=64 time=0.465 ms
64 bytes from 10.48.40.70: icmp_seq=3 ttl=64 time=0.511 ms
--- 10.48.40.70 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2000ms
rtt min/avg/max/mdev = 0.465/185.466/555.424/261.599 ms

firepower-boot > system install noconfirm ftp://anonymous:cisco@10.48.40.70/ftd-6.1.0-330.pkg

##### WARNING #####
# The content of disk0: will be erased during installation! #
#####

Do you want to continue? [y/N] y
Erasing disk0 ...
Verifying
Downloading
Extracting
Package Detail
    Description:          Cisco ASA-FTD 6.1.0-330 System Install
    Requires reboot:      Yes

Warning: Please do not interrupt the process or turn off the system.
Doing so might leave system in unusable state.

Starting upgrade process ...
Populating new system image

... output omitted ...
Firstboot detected, executing scripts
Executing S01reset_failopen_if                [ OK ]
Executing S01virtual-machine-reconfigure      [ OK ]
Executing S02aws-pull-cfg                      [ OK ]
Executing S02configure_onbox                   [ OK ]
```

```
Executing S04fix-httpd.sh [ OK ]
Executing S05set-mgmt-port [ OK ]
Executing S06addusers [ OK ]
Executing S07uuid-init [ OK ]
Executing S08configure_mysql [ OK ]
```

***** Attention *****

Initializing the configuration database. Depending on available system resources (CPU, memory, and disk), this may take 30 minutes or more to complete.

***** Attention *****

```
Executing S09database-init [ OK ]
Executing S11database-populate [ OK ]
Executing S12install_infodb [ OK ]
Executing S15set-locale.sh [ OK ]
Executing S16update-sensor.pl [ OK ]
Executing S19cert-tun-init [ OK ]
Executing S20cert-init [ OK ]
Executing S21disable_estreamer [ OK ]
Executing S25create_default_des.pl [ OK ]
Executing S30init_lights_out_mgmt.pl [ OK ]
Executing S40install_default_filters.pl [ OK ]
Executing S42install_default_dashboards.pl [ OK ]
Executing S43install_default_report_templates.pl [ OK ]
Executing S44install_default_app_filters.pl [ OK ]
Executing S45install_default_realms.pl [ OK ]
Executing S47install_default_sandbox_EO.pl [ OK ]
Executing S50install-remediation-modules [ OK ]
Executing S51install_health_policy.pl [ OK ]
Executing S52install_system_policy.pl [ OK ]
Executing S53change_reconciliation_baseline.pl [ OK ]
Executing S70remove_casuser.pl [ OK ]
Executing S70update_sensor_objects.sh [ OK ]
Executing S85patch_history-init [ OK ]
Executing S90banner-init [ OK ]
Executing S95copy-crontab [ OK ]
Executing S96grow_var.sh [ OK ]
Executing S96install_vmware_tools.pl [ OK ]
```

***** Attention *****

Initializing the system's localization settings. Depending on available system resources (CPU, memory, and disk), this may take 10 minutes or more to complete.

***** Attention *****

```
Executing S96localize-templates [ OK ]
Executing S96ovf-data.pl [ OK ]
Executing S97compress-client-resources [ OK ]
Executing S97create_platinum_forms.pl [ OK ]
Executing S97install_cas [ OK ]
Executing S97install_cloud_support.pl [ OK ]
Executing S97install_geolocation.pl [ OK ]
Executing S97install_ssl_inspection.pl [ OK ]
Executing S97update_modprobe.pl [ OK ]
Executing S98check-db-integrity.sh [ OK ]
Executing S98htaccess-init [ OK ]
Executing S98is-sru-finished.sh [ OK ]
Executing S99correct_ipmi.pl [ OK ]
Executing S99start-system [ OK ]
Executing S99z_db_restore [ OK ]
```

```
Executing S99_z_cc-integrity.sh [ OK ]
Firstboot scripts finished.
Configuring NTP... [ OK ]
fatattr: can't open '/mnt/disk0/.private2': No such file or directory
fatattr: can't open '/mnt/disk0/.ngfw': No such file or directory
Model reconfigure detected, executing scripts
Pinging mysql
Found mysql is running
Executing 45update-sensor.pl [ OK ]
Executing 55recalculate_arc.pl [ OK ]
Starting xinetd:
Sat Jan 14 12:07:35 UTC 2017
Starting MySQL...
Pinging mysql
Pinging mysql, try 1
Pinging mysql, try 2
Found mysql is running
Running initializeObjects...
Stopping MySQL...
Killing mysqld with pid 22354
Wait for mysqld to exit\c
done
Sat Jan 14 12:07:57 UTC 2017
Starting sfid... [ OK ]
Starting Cisco ASA5506-X Threat Defense, please wait...No PM running!
...started.
... output omitted ...
firepower login: admin
Password: < Admin123
You must accept the EULA to continue.
Press <ENTER> to display the EULA:
END USER LICENSE AGREEMENT

...

Please enter 'YES' or press <ENTER> to AGREE to the EULA:

System initialization in progress. Please stand by.
You must change the password for 'admin' to continue.
Enter new password:
Confirm new password:
You must configure the network to continue.
You must configure at least one of IPv4 or IPv6.
Do you want to configure IPv4? (y/n) [y]:
Do you want to configure IPv6? (y/n) [n]:
Configure IPv4 via DHCP or manually? (dhcp/manual) [manual]:
Enter an IPv4 address for the management interface [192.168.45.45]: 10.48.66.83
Enter an IPv4 netmask for the management interface [255.255.255.0]: 255.255.255.128
Enter the IPv4 default gateway for the management interface [192.168.45.1]: 10.48.66.1
Enter a fully qualified hostname for this system [firepower]: FTD5506
Enter a comma-separated list of DNS servers or 'none' []: 192.168.0.1
Enter a comma-separated list of search domains or 'none' []:
If your networking information has changed, you will need to reconnect.
For HTTP Proxy configuration, run 'configure network http-proxy'

Manage the device locally? (yes/no) [yes]: no
Configure firewall mode? (routed/transparent) [routed]:
Configuring firewall mode ...

Update policy deployment information
- add device configuration
- add network discovery
- add system policy
```


You can register the sensor to a Firepower Management Center and use the Firepower Management Center to manage it. Note that registering the sensor to a Firepower Management Center disables on-sensor Firepower Services management capabilities.

When registering the sensor to a Firepower Management Center, a unique alphanumeric registration key is always required. In most cases, to register a sensor to a Firepower Management Center, you must provide the hostname or the IP address along with the registration key.

```
'configure manager add [hostname | ip address ] [registration key ]'
```

However, if the sensor and the Firepower Management Center are separated by a NAT device, you must enter a unique NAT ID, along with the unique registration key.

```
'configure manager add DONTRESOLVE [registration key ] [ NAT ID ]'
```

Later, using the web interface on the Firepower Management Center, you must use the same registration key and, if necessary, the same NAT ID when you add this sensor to the Firepower Management Center.

步骤6.将FTD注册到FMC

```
> configure manager add 10.62.148.50 cisco
```

Manager successfully configured.

Please make note of reg_key as this will be required while adding Device in FMC.

```
> show managers
```

```
Host                : 10.62.148.50
Registration Key     : ****
Registration         : pending
RPC Status           :
```

在FMC上，导航到**Devices > Device Management**以添加FTD设备。

将FTD添加到FMC后，您需要：

- 重新配置设备设置，如接口和路由
- 重新配置VPN和QoS等策略
- 重新应用以前应用的策略和设置，如访问控制策略、NAT和平台设置

相关信息

- [安装和升级指南](#)
- [重新映像Cisco ASA或Firepower威胁防御设备](#)
- [技术支持和文档 - Cisco Systems](#)