

FDM에서 Air-Gapped Networks에 영구 라이선스 적용

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소개

이 문서에서는 FDM(Firepower 장치 관리자)에서 Air-Gapped Networks에 영구 라이선스를 적용하는 방법에 대해 설명합니다.

사전 요구 사항

요구 사항

이 주제에 대한 지식을 가지고 있는 것이 좋습니다.

- Cisco Secure Firewall Threat Defense 초기 구성

사용되는 구성 요소

이 문서의 정보는 소프트웨어 버전을 기반으로 합니다.

- Firepower Threat Defense 버전 7.4.1

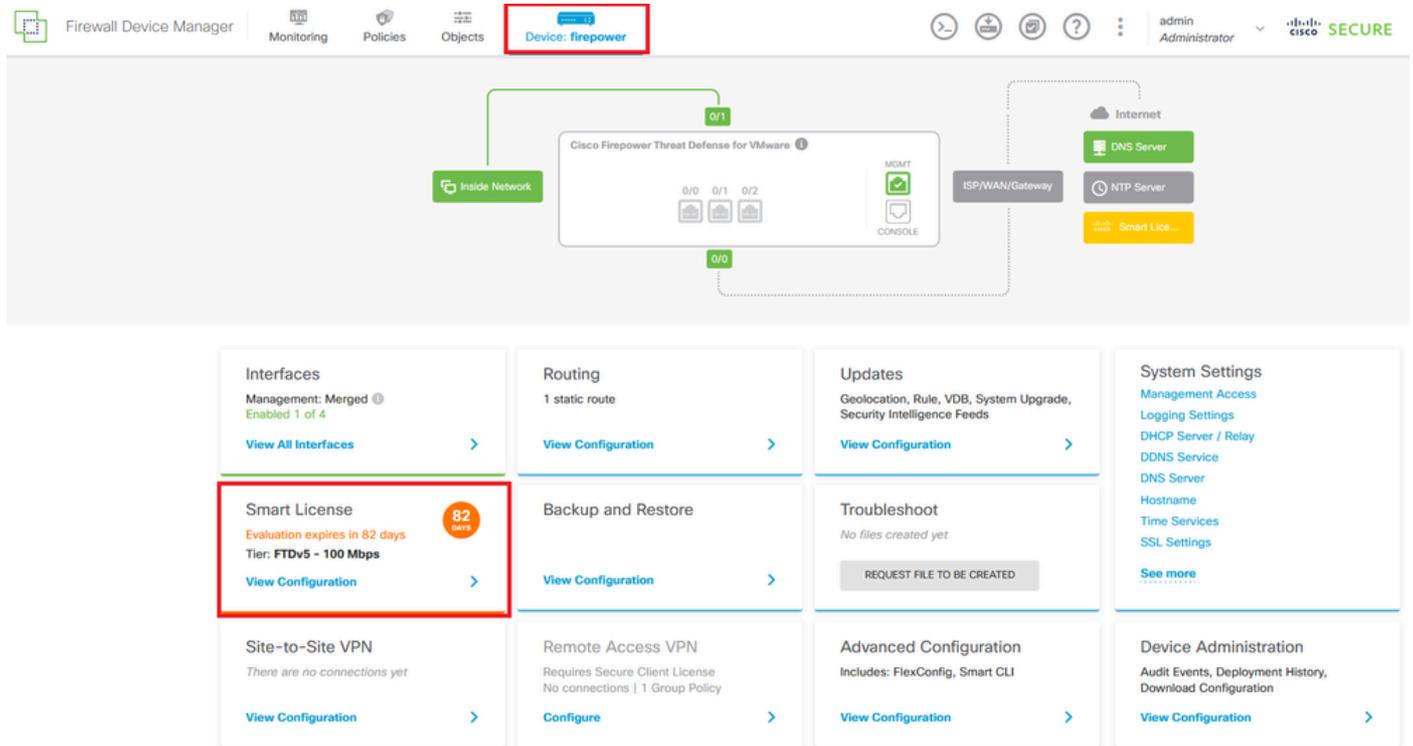
이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다. 이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다. 현재 네트워크가 작동 중인 경우 모든 명령의 잠재적인 영향을 미리 숙지하시기 바랍니다.

구성

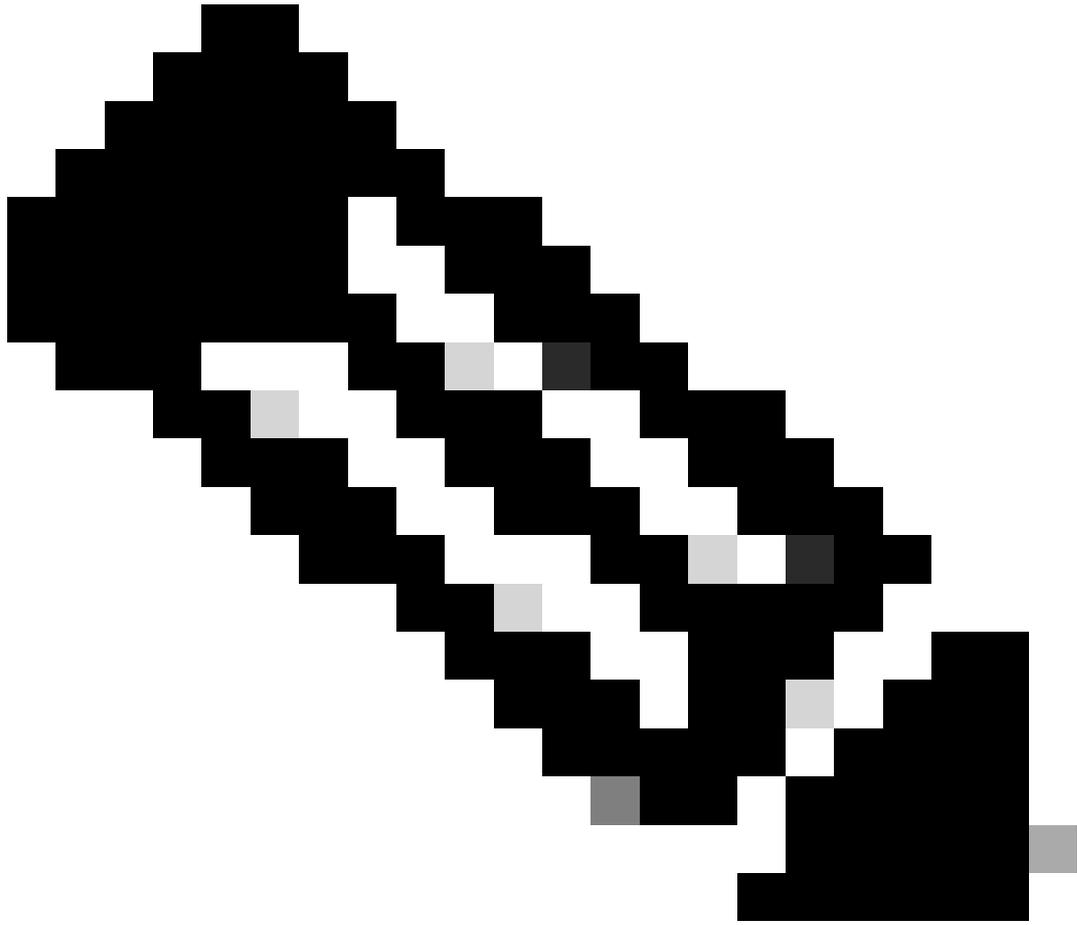
PLR 모드 활성화

1단계. 디바이스에서 PLR 모드를 활성화합니다.

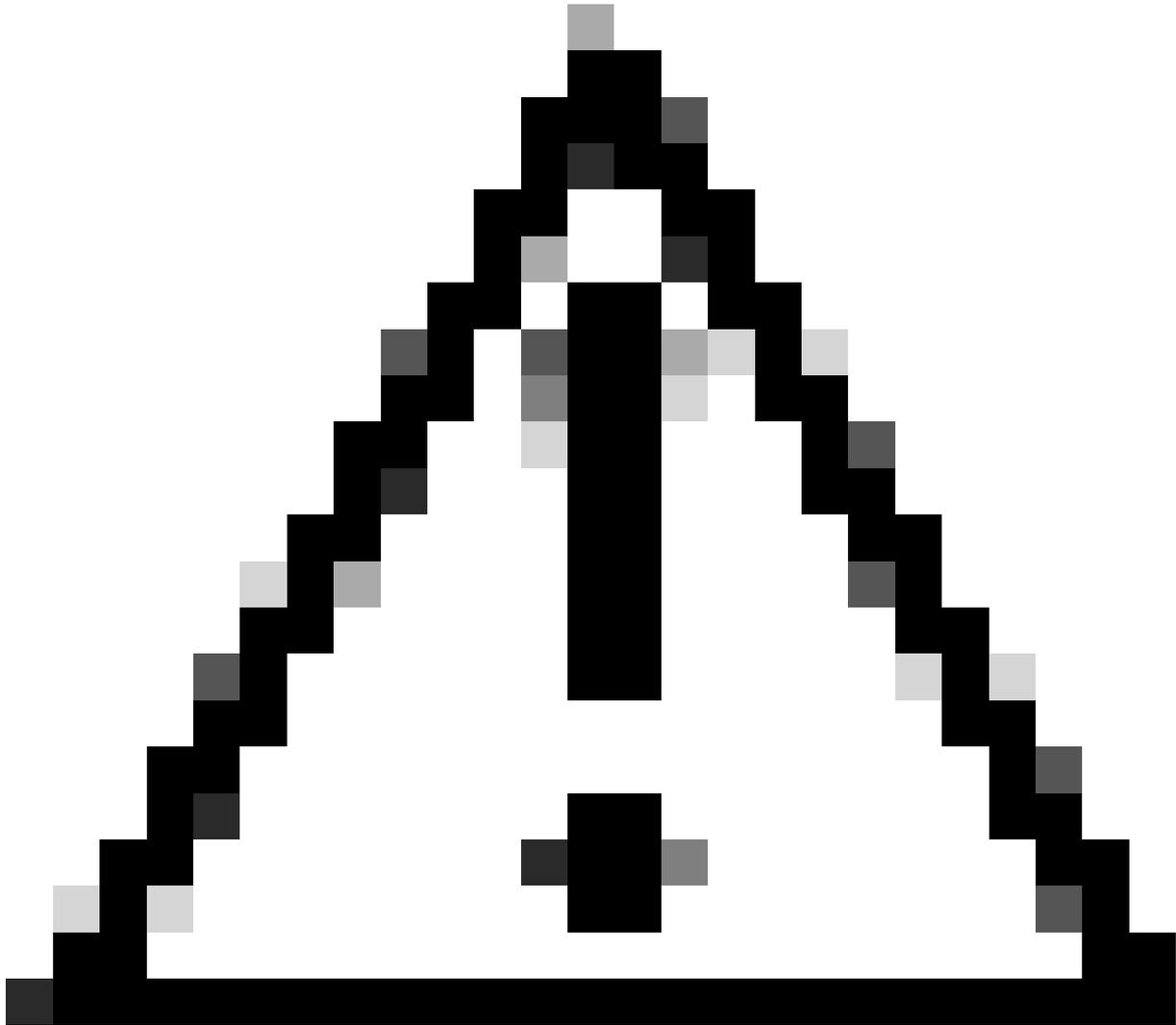
Device(디바이스)를 클릭하고 Smart License로 이동합니다.



2단계. 기어를 클릭하고 Switch to Universal PLR(범용 PLR로 전환)을 선택합니다.



참고: 디바이스에서 Smart Licensing을 사용하는 경우 디바이스의 등록을 취소해야 합니다.



주의: PLR 모드로 전환하면 평가 모드로 다시 전환할 수 없습니다.

Firewall Device Manager | Monitoring | Policies | Objects | Device: firepower | admin Administrator | CISCO SECURE

Device Summary
Smart License

LICENSE ISSUE
Evaluation Period
You are in Evaluation mode now.

82/90 days left | REGISTER DEVICE | Need help?

Resync connection
Switch to Universal PLR

미리 보기 창에서 성능 계층을 선택하고 예 를 클릭합니다.

⚠ Change to Permanent License



If you switch to Universal Permanent License Reservation mode, you cannot switch back to Evaluation mode.

Are you sure you want to use Universal Permanent License Reservation for this device?

Select Performance Tier

The selected performance tier determines VPN session limits and device throughput, click [here](#) to learn more.

Make sure the performance tier selected matches the license in your [Cisco Smart Software Manager](#) account.

Performance Tier

Pick a Tier



Your Device Specifications

Cores / RAM 4 core / 8 GB

NO

YES

3단계. 요청 코드를 저장합니다.

Universal Permanent License Reservation



i If you have **Cloud Services enabled** you might want to disable them.

1 Save Request Code for this Device.



Request Code

DE-ZNGFWv:9ADKC86E1VU-CCRvmZyqM-BF

SAVE AS TXT

PRINT

2 Log into your [Cisco Smart Software Manager](#) account, go to the Inventory > Licenses page, and start the License Reservation process. Use the request code to generate an Authorization Code. Note that you must work with your Cisco representative to enable Universal Permanent License Reservation mode in your account. If you cannot start the License Reservation process (that is, the button does not appear on the Inventory > License page), please contact your Cisco representative.

3 Paste or type in the Authorization Code:

Authorization Code

Paste code from clipboard here

? For a more detailed overview on Cisco Licensing, go to cisco.com/go/licensingguide

CANCEL

REGISTER

4단계. CSSM 계정에 로그인하여 Smart Software Licensing > Inventory > Licenses로 이동하고 License Reservation을 클릭합니다.

Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)

Alerts **Inventory** [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)

General

Licenses

Product Instances

Event Log

Available Actions

Manage License Tags

License Reservation...



Show License Transactions

By Name | By Tag

Search by License



Proceed(진행)를 클릭합니다.



Use of the Software contained in this Smart Account is subject to Cisco's EULA. Cisco may restrict the availability or features of this Smart Account or the Smart Licensing capabilities in any region, or modify or discontinue features to comply with applicable laws and regulations. You may only use the Software in the country for which it is purchased and intended to be used.

Proceed

요청 코드를 붙여넣은 후 다음을 클릭합니다.

Smart License Reservation



STEP 1

Enter Request Code

STEP 2

Select Licenses

STEP 3

Review and Confirm

STEP 4

Authorization Code

You can reserve licenses for product instances that cannot connect to the Internet for security reasons. You will begin by generating a Reservation Request Code from the product instance. To learn how to generate this code, see the configuration guide for the product being licensed.

Once you have generated the code:

- 1) Enter the Reservation Request Code below
- 2) Select the licenses to be reserved
- 3) Generate a Reservation Authorization Code
- 4) Enter the Reservation Authorization Code on the product instance to activate the features

* Reservation Request Code:

DE-ZNGFW:9ADKC86E1VU-CCRVmZyqM-BF



Upload File

Browse

Upload

Cancel

Next

라이센스를 선택하고 다음을 클릭합니다.

Smart License Reservation

3

STEP 1 ✓ Enter Request Code

STEP 2 Select Licenses

STEP 3 Review and Confirm

STEP 4 Authorization Code

Product Instance Details

Product Type: VIRTSEC
UDI PID: NGFW
UDI Serial Number: 9ADKC86E1VU

Licenses to Reserve

In order to continue, ensure that you have a surplus of the licenses you want to reserve in the Virtual Account.

- Cisco Firepower Virtual Threat Defense Universal License

Cancel

Next

Generate Authorization Code를 클릭합니다.

Smart License Reservation

x

STEP 1 ✓ Enter Request Code

STEP 2 ✓ Select Licenses

STEP 3 Review and Confirm

STEP 4 Authorization Code

Product Instance Details

Product Type: VIRTSEC
UDI PID: NGFW
UDI Serial Number: 9ADKC86E1VU

Licenses to Reserve

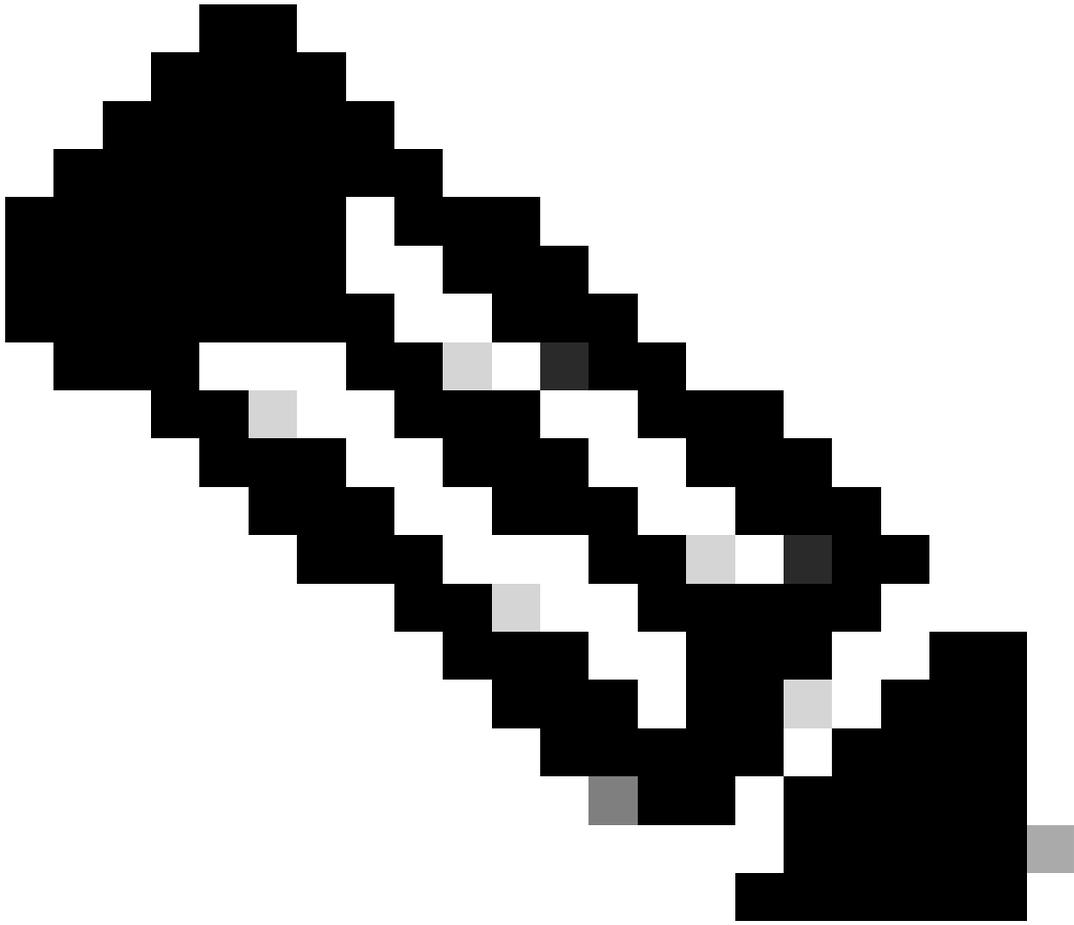
License	Expires	Quantity to Reserve
Cisco Firepower Virtual Threat Defense Universal License <small>Cisco Firepower Virtual Threat Defense Universal License</small>	-	1

Cancel

Back

Generate Authorization Code

인증 코드를 저장하려면 파일로 다운로드 또는 클립보드에 복사를 클릭합니다.



참고: 페이지를 새로 고쳐 라이선스의 현재 상태를 확인합니다.

The screenshot shows the Cisco Firepower Device Manager (FDM) interface for a device named 'firepower'. The top navigation bar includes 'Monitoring', 'Policies', 'Objects', and 'Device: firepower'. The main content area displays a network diagram and a grid of configuration tiles. The 'Smart License' tile is highlighted with a red border and shows 'Evaluation expires in 82 days' and 'Tier: FTDv5 - 100 Mbps'. Other tiles include 'Interfaces', 'Routing', 'Updates', 'System Settings', 'Backup and Restore', 'Troubleshoot', 'Site-to-Site VPN', 'Remote Access VPN', 'Advanced Configuration', and 'Device Administration'.

2단계. 기어를 클릭하고 PLR 취소(Cancel PLR)를 선택합니다.

The screenshot shows the 'Licensing' page in the Cisco Firepower Device Manager. A warning message 'UNIVERSAL PLR NOT FINISHED' is displayed with a 'Resync connection' button. Below this, there is a 'Performance Tier' dropdown set to 'FTDv20 - 3 Gbps'. A table shows the device's capabilities: 'Your Device: Cores / RAM' with '4 core / 8 GB'. A 'Cancel PLR' button is highlighted with a red box in the bottom right corner.

3단계. I have a license in CSSM을 선택합니다.

Cancel Permanent License Reservation



Are you sure you want to cancel the Permanent License Reservation?

License States

I have a License in CSSM

I do not have a License in ...

1 Get Authorization Code from CSSM and paste it here:



Authorization Code

Paste code from clipboard here

2 Generate a Release License Code using your Authorization Code.



GENERATE RELEASE CODE

3 In your [Cisco Smart Software Manager](#) account free up license by putting Release Code.

CANCEL

OK

4단계. 인증 코드를 붙여넣은 다음 Generate Release Code(릴리스 코드 생성)를 클릭합니다.

Cancel Permanent License Reservation



Are you sure you want to cancel the Permanent License Reservation?

License States

I have a License in CSSM

I do not have a License in ...

1 Get Authorization Code from CSSM and paste it here:

↓
Authorization Code

DAKwJ-KeIke2-fGtuzD-coNBoo-uMz7-ID-QeGQtz-+Qzkes-MQ-55-DI

2 Generate a Release License Code using your Authorization Code.

↓
Release License Code

DKvxiU-zchZA5-M6ekJk-EmeitQ-85pErd-Ft7

SAVE AS TXT

PRINT

You will not be able to regenerate the Release Code after you unregister. Please make sure that you save this code for use in Cisco Smart Software Manager.

3 In your [Cisco Smart Software Manager](#) account free up license by putting Release Code.

CANCEL

OK

5단계. CSSM 계정에 로그인하여 Smart Software Licensing > Inventory > Product Instances로 이동합니다.

General | Licenses | **Product Instances** | Event Log

Authorize License-Enforced Features...  Search by Device or by Product Type 

Name	Product Type	Last Contact	Alerts	Actions
10.106.60.161	FP	2024-Feb-08 21:22:04		Actions ▾
68.com	ESA	2024-Feb-08 15:47:37		Actions ▾
724FMC	FP	2024-Jan-16 18:30:52		Actions ▾
A-TSZ-HIS-FMC01	FP	2023-Oct-03 21:05:28	✘ Failed to Renew	Actions ▾
a4115	FPRUHI	2024-Jan-27 17:05:40		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 19:07:58		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 11:25:38		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 20:14:33		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 05:30:17		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 08:00:04		Actions ▾

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6단계. 이름으로 장치를 검색합니다.

참고: Name(이름)은 디바이스 일련 번호입니다.

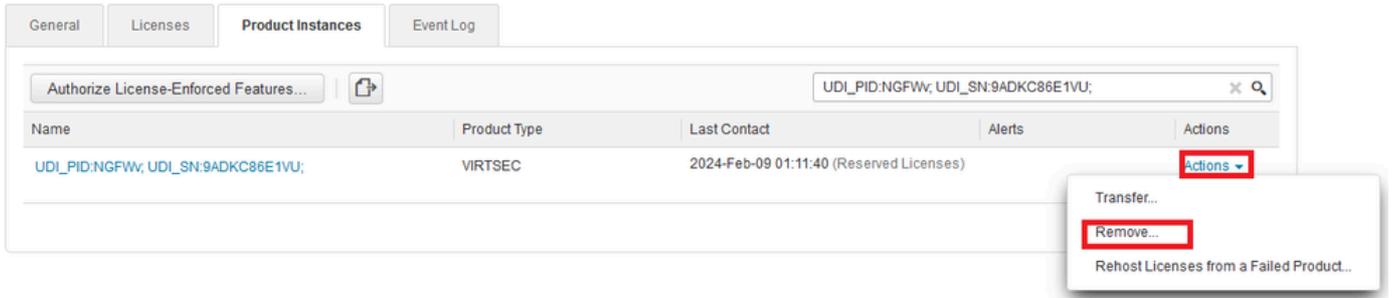
General Licenses **Product Instances** Event Log

Authorize License-Enforced Features...  UDI_PID:NGFW; UDI_SN:9ADKC86E1VU;  

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:NGFW; UDI_SN:9ADKC86E1VU;	VIRTSEC	2024-Feb-09 01:11:40 (Reserved Licenses)		Actions ▾

Showing 1 Record

7단계. Actions(작업)를 클릭하고 드롭다운 목록에서 Remove(제거)를 선택합니다.



Release License Code(릴리스 라이선스 코드)를 붙여넣고 Remove Reservation(예약 제거)을 클릭합니다.

Remove Reservation ✕

To remove a Product Instance that has reserved licenses and make those licenses once again available to other Product Instances, enter in the Reservation Return Code generated by the Product Instance. If you cannot generate a Reservation Return Code, contact [Cisco Support](#)

★ Reservation Return Code:

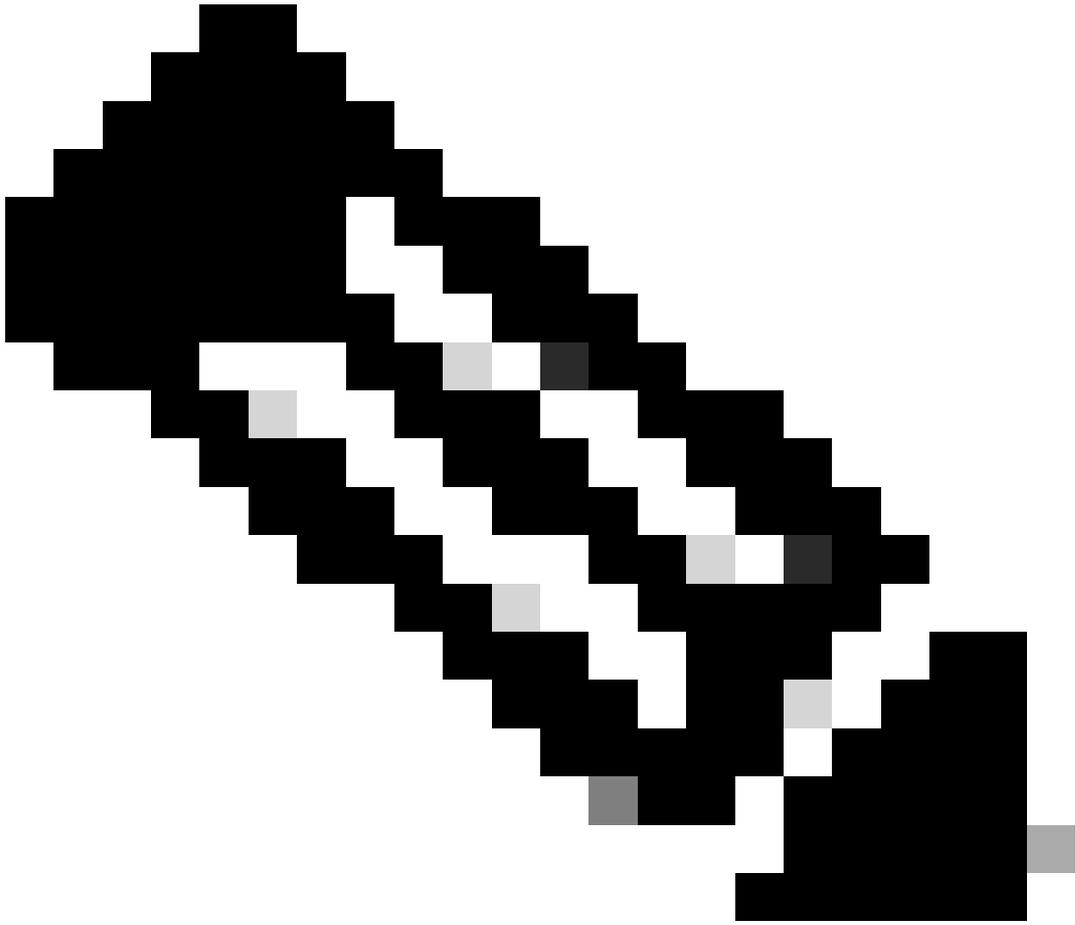
DKvxiU-zchZA5-M6ekJk-EmeitQ-85pErd-Ft7



Remove Reservation

Cancel

8단계. 장치로 돌아가 Ok(확인)를 클릭합니다.



참고: 페이지를 새로 고쳐 라이선스의 현재 상태를 확인합니다.

Cancel Permanent License Reservation



Are you sure you want to cancel the Permanent License Reservation?

License States

I have a License in CSSM

I do not have a License in ...

1 Get Authorization Code from CSSM and paste it here:



Authorization Code

DKVxiU-zchZA5-M6ekJk-EmeitQ-85pErd-Ft7

2 Generate a Release License Code using your Authorization Code.



Release License Code

DKVxiU-zchZA5-M6ekJk-EmeitQ-85pErd-Ft7

SAVE AS TXT

PRINT



You will not be able to regenerate the Release Code after you unregister. Please make sure that you save this code for use in Cisco Smart Software Manager.

3 In your [Cisco Smart Software Manager](#) account free up license by putting Release Code.

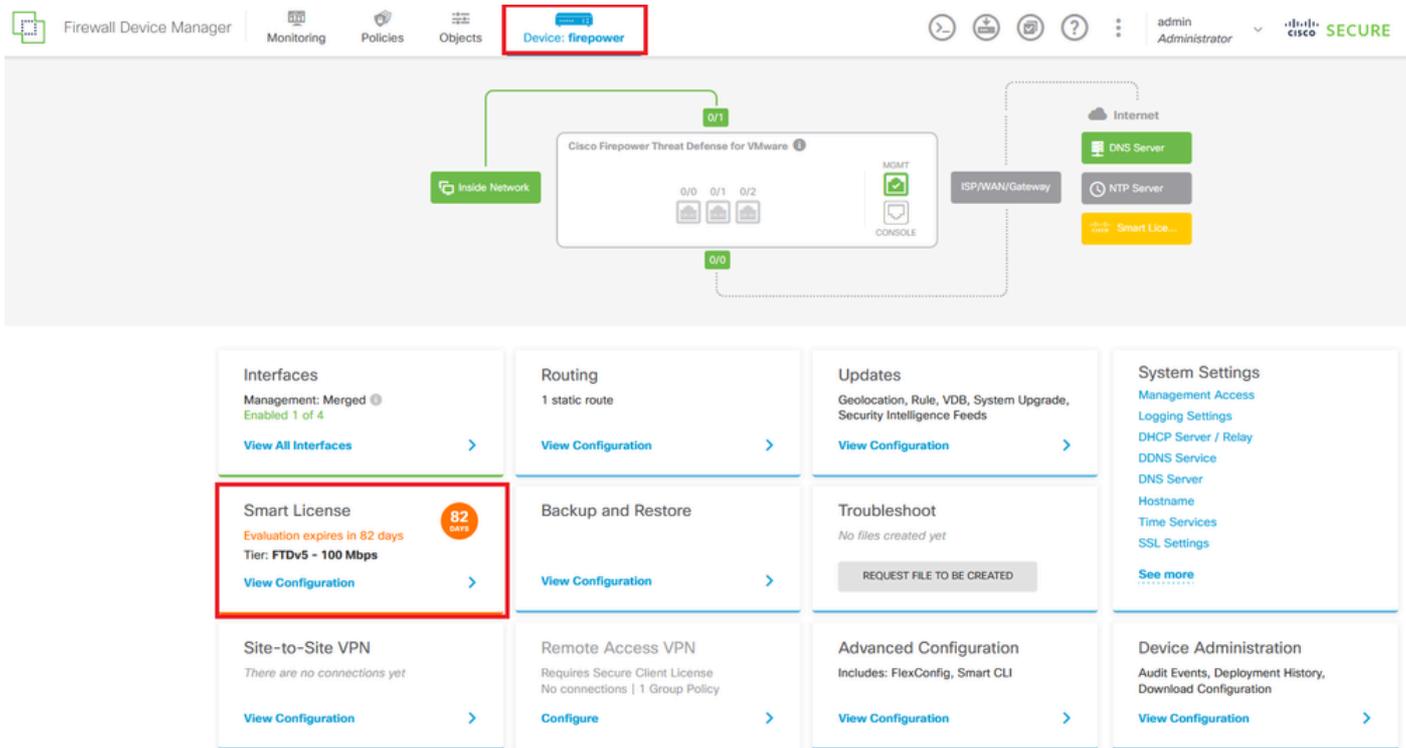
CANCEL

OK

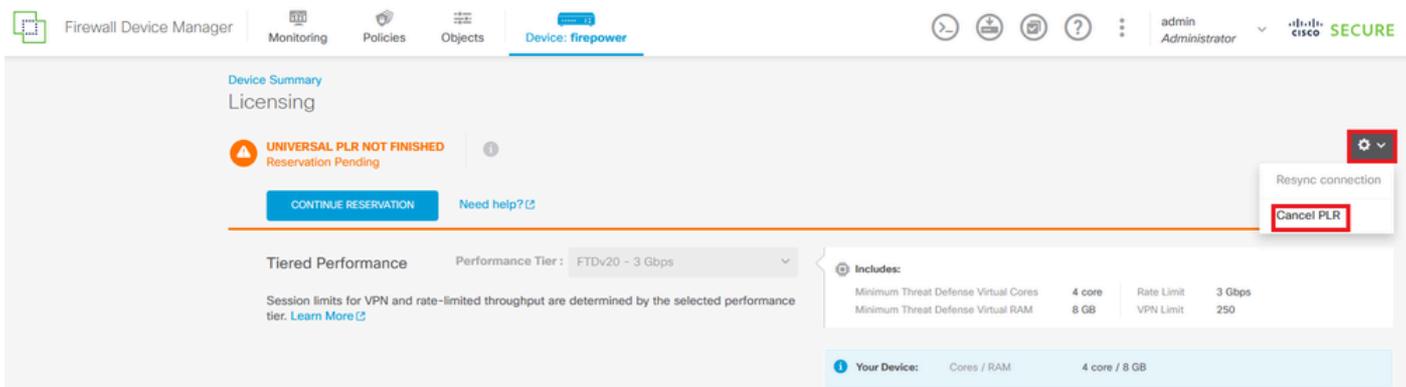
CSSM에 라이선스가 없습니다.

CSSM에서 라이선스 등록 마법사를 완료하지 않은 경우 이 옵션을 사용합니다. 예를 들어 FDM에서 PLR 프로세스를 시작했지만 CSSM에 올바른 라이선스가 없습니다.

1단계. Device(디바이스)를 클릭하고 Smart License로 이동합니다.



2단계. 기어를 클릭하고 PLR 취소(Cancel PLR)를 선택합니다.



3단계. CSSM에서 I don't have license(라이센스가 없음)를 선택합니다.

Cancel Permanent License Reservation



Are you sure you want to cancel the Permanent License Reservation?

License States

I have a License in CSSM

I do not have a License in ...

i In this case you can proceed with Cancelling Permanent License Reservation.

CANCEL

OK

OK(확인)를 클릭하여 완료합니다.

PLR 모드에서 디바이스 등록 취소

1단계. Device(디바이스)를 클릭하고 Smart License로 이동합니다.

The screenshot shows the Firewall Device Manager interface for a device named 'firepower'. The top navigation bar includes 'Monitoring', 'Policies', 'Objects', and 'Device: firepower'. The main content area displays a network diagram with 'Inside Network' and 'ISP/WAN/Gateway' connected to the device. Below the diagram are several configuration panels: 'Interfaces', 'Routing', 'Updates', 'System Settings', 'Smart License', 'Backup and Restore', and 'Troubleshoot'. The 'Smart License' panel is highlighted with a red box and shows 'Universal PLR' and 'Tier: Not selected (Threat Defense Virtual - Variable)'. The 'System Settings' panel lists various services like 'DNS Server', 'NTP Server', and 'Universal P...'. The 'Updates' panel shows 'Geolocation, Rule, VDB, System Upgrade, Security Intelligence Feeds'. The 'Routing' panel shows '1 static route'. The 'Interfaces' panel shows 'Management: Merged' and 'Enabled 1 of 4'. The 'Backup and Restore' panel shows 'View Configuration'. The 'Troubleshoot' panel shows 'No files created yet' and a 'REQUEST FILE TO BE CREATED' button.

2단계. 기어를 클릭하고 Unregister Universal PLR을 선택합니다.

The screenshot shows the 'Device Summary' page for the 'firepower' device. The 'Licensing' section is visible, showing a green checkmark and 'UNIVERSAL PLR Sufficient License'. In the bottom right corner, there is a gear icon with a dropdown menu, and the 'Unregister Universal PLR' option is highlighted with a red box.

3단계. 예를 클릭하여 프로세스를 계속 진행합니다.

Warning

If you unregister the device, you cannot make any changes to the device configuration. You will have to re-register the device using either Smart Licensing or Universal Permanent License Reservation mode to make changes.

Are you sure you want to unregister the device?

NO YES

4단계. Release License Code를 저장합니다.

Unregister Universal Permanent License Reservation

- Save Release Code for this Device.
↓
Release License Code
DCsSXH-D2rBtc-UZzer8-Un5yqp-vcKF1v-EG4 SAVE AS TXT PRINT

⚠ You will not be able to regenerate the Release Code after you unregister. Please make sure that you save this code for use in Cisco Smart Software Manager.

- In your [Cisco Smart Software Manager](#) free up license by inserting Release License Code from here.

CANCEL UNREGISTER

5단계. CSSM 계정에 로그인하여 Smart Software Licensing > Inventory > Product Instances로 이동합니다.

General | Licenses | **Product Instances** | Event Log

Authorize License-Enforced Features...  Search by Device or by Product Type 

Name	Product Type	Last Contact	Alerts	Actions
10.106.60.161	FP	2024-Feb-08 21:22:04		Actions ▾
68.com	ESA	2024-Feb-08 15:47:37		Actions ▾
724FMC	FP	2024-Jan-16 18:30:52		Actions ▾
A-TSZ-HIS-FMC01	FP	2023-Oct-03 21:05:28	✘ Failed to Renew	Actions ▾
a4115	FPRUHI	2024-Jan-27 17:05:40		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 19:07:58		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 11:25:38		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 20:14:33		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 05:30:17		Actions ▾
AAALAB	ASAHIGH	2024-Jan-18 08:00:04		Actions ▾

10 ▾ Showing Page 1 of 97 (963 Records) |<< >>|

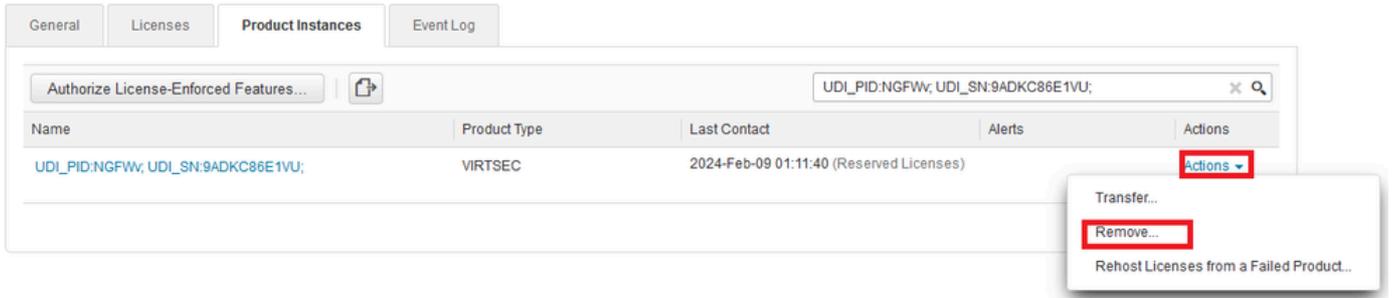
6단계. 이름으로 장치를 검색합니다.

참고: Name(이름)은 디바이스 일련 번호입니다.

General Licenses Product Instances Event Log				
Authorize License-Enforced Features...		UDI_PID:NGFW; UDI_SN:9ADKC86E1VU;		
Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:NGFW; UDI_SN:9ADKC86E1VU;	VIRTSEC	2024-Feb-09 01:11:40 (Reserved Licenses)		Actions ▾

Showing 1 Record

7단계. Actions(작업)를 클릭하고 드롭다운 목록에서 Remove(제거)를 선택합니다.



Release License Code(릴리스 라이선스 코드)를 붙여넣고 Remove Reservation(예약 제거)을 클릭합니다.

Remove Reservation



To remove a Product Instance that has reserved licenses and make those licenses once again available to other Product Instances, enter in the Reservation Return Code generated by the Product Instance. If you cannot generate a Reservation Return Code, contact [Cisco Support](#)

* Reservation Return Code:

DCsSXH-D2rBtc-UZzer8-Un5yqp-vcKF1v-EG4



Remove Reservation

Cancel

8단계. 디바이스로 돌아가 Unregister(등록 취소)를 클릭합니다.

Unregister Universal Permanent License Reservation



1 Save Release Code for this Device.



Release License Code

DCsSXH-D2rBtc-UZzer8-Un5yqp-vcKF1v-EG4

SAVE AS TXT

PRINT

⚠ You will not be able to regenerate the Release Code after you unregister. Please make sure that you save this code for use in Cisco Smart Software Manager.

2 In your [Cisco Smart Software Manager](#) free up license by inserting Release License Code from here.

CANCEL

UNREGISTER

다음을 확인합니다.

Device(디바이스) > Smart License(스마트 라이선스)로 이동하면 라이선스가 Universal PLR임을 확인할 수 있습니다.



Firewall Device Manager

Monitoring

Policies

Objects

Device: firepower

Device Summary

Licensing



UNIVERSAL PLR
Sufficient License



문제 해결

1. /ngfw/var/log/cisco/smart_agent.log에서 오류를 확인합니다.

예를 들어, 이러한 로그에서 등록 프로세스가 성공했음을 확인할 수 있습니다.

```
<#root>
```

```
> expert
```

```
admin@firepower:~$ sudo su
```

```
Password:
```

```
root@firepower:/home/admin# cd /ngfw/var/log/cisco/
root@firepower:/ngfw/var/log/cisco# tail smart_agent.log
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO LicenseSoftwareIds:82 - Selected software ID: regid.2019-
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO DefaultSmartAgentFactoryProvider:398 - New platform tag i
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO PLRUnhandledNotificationHandler:31 - Handling listener cl
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO PLRUnhandledNotificationHandler:31 - Handling listener cl

2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO SmartAgentConfFileSync:178 - RegistrationStatus : REGISTERED

2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO SmartAgentConfFileSync:192 - updated the smart Agent File
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO PLRUnhandledNotificationHandler:31 - Handling listener cl
2024-02-09 03:21:21 ajp-nio-8009-exec-8: INFO DefaultSmartAgentManager:159 - Received notification from
```

2. TAC 지원을 요청할 수 있는 피그 테일을 가져와서 케이스 노트에 첨부합니다. [Cisco Technical Support & Downloads](#)에서 지원 지원을 요청할 수 있습니다.

```
> expert
admin@firepower:~$ sudo su
root@firepower:/home/admin# pigtail all -outfile LogsRegistration.txt
```

3. 라이선스 상태는 /etc/sf/smart_agent.conf 파일에도 보고됩니다. 디바이스가 Universal Permanent Licensing Reservation 모드에 있는 경우 smart_agent.conf는 REGISTERED 및 AUTHORIZED로 표시됩니다.

```
> expert
admin@firepower:~$ sudo su
root@firepower:/home/admin# tail /etc/sf/smart_agent.conf
#Fri Feb 09 03:21:21 UTC 2024
virtual_acct=
registration=REGISTERED,null
authorization=AUTHORIZED,1707448881842
```

일반적인 문제

라이선스가 부족합니다.

라이선스 예약 프로세스에서 다음 오류가 발생했습니다.

Smart License Reservation x

STEP 1 ✓ Enter Request Code	STEP 2 Select Licenses	STEP 3 Review and Confirm	STEP 4 Authorization Code
--------------------------------	---------------------------	------------------------------	------------------------------

✘ The licenses cannot be reserved because the Virtual Account does not contain a sufficient surplus of the following perpetual licenses: FTDv 3 Gbps Universal License.

권장 조치.

CSSM 어카운트에 충분한 라이선스가 있는지 확인합니다. 라이선스가 충분한 경우 TAC 지원을 요청합니다.

License Reservation(라이선스 예약) 버튼이 표시되지 않습니다.

Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)

[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)

General Licenses Product Instances Event Log

Available Actions ▾ Manage License Tags 📄 Show License Transactions By Name | [By Tag](#) 🔍

권장 조치

계정에서 PLR 모드를 사용하려면 Cisco 담당자에게 문의해야 합니다.

관련 정보

- [Cisco Secure Firewall Device Manager 컨피그레이션 가이드, 버전 7.4](#)

이 번역에 관하여

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