

Configure Flexible PLR Licensing for ASAv

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Introduction

This document describes Flexible Permanent License Reservation (PLR) which is designed for highly secure environment.

Prerequisites

Requirements

- Adaptive Security Virtual Appliance (ASAv).
- Smart Account must be enabled for Permanent License Reservation (PLR).
- Virtual Account needs to have the Permanent License Reservation (PLR) License which you want to use.

Components Used

The information in this document is based on these software and hardware versions:

- Adaptive Security Virtual Appliance (ASAv) running version 9.23.1 or higher.
- Cisco Smart Software Manager Release 9-202502.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

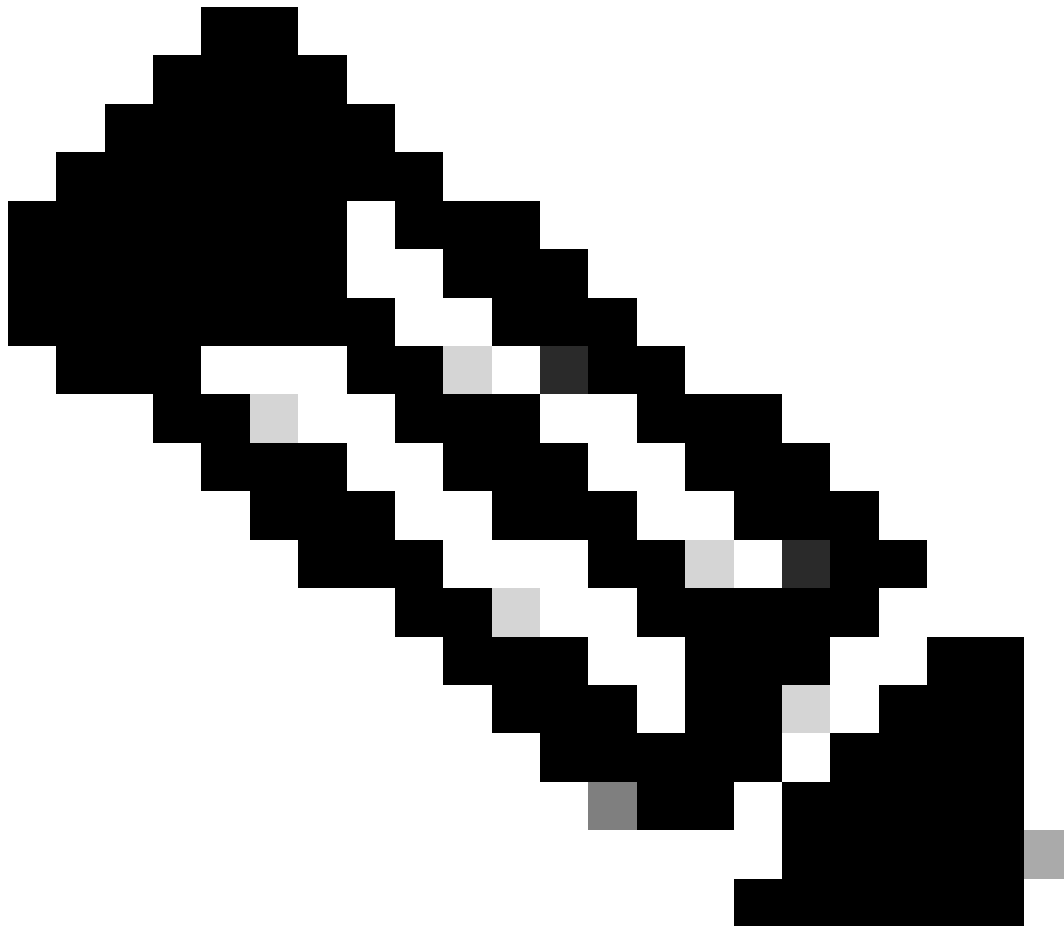
- Currently, the PLR entitlement is determined based on the RAM with which the device boots.
- The Flexible PLR Licensing Model feature enables users to select any entitlement based on their requirements, starting from ASA release 9.23.1 onwards.
- In ASA version 9.22 and earlier, the PLR entitlement depends on the allocated memory. From ASA

version 9.23.1 onwards, users can choose the PLR entitlement regardless of memory.

Configure

PLR feature is supported for ASAv on all virtual supported Public Cloud Platforms including Azure, AWS, GCP and OCI.

It is supported on Private Cloud Platforms as well including VMware, KVM, Hyper-V ,Nutanix, and OpenStack.



Note: It is recommended to take configuration backups before doing any license modifications.

Steps to Register Flexible Permanent License Reservation (PLR):

1. Open the **Command Line interface** on ASAv and enter the configuration mode by typing **configure terminal**.

2. On the ASAv CLI, enter flexible PLR command to select the entitlement of your choice. In this example, asav50_plr is chosen.

license smart flex-model asav50_plr

In the previous command **asav50_plr** is the Entitlement for a device with 10GB of RAM.

This String varies depending upon the desired Entitlement and all the available Entitlements are listed in the Smart Account on CSSM.

For other models of the ASA hardware, licensing information is written in this link.

[CLI Book 1: Cisco Secure Firewall ASA Series General Operations CLI Configuration Guide, 9.23](#)

3. To enter the PLR mode, type command **license smart reservation**.

```
[ciscoasav(config)# license smart flex-model asav50_plr
[ciscoasav(config)# license smart reservation
[ciscoasav(config)#
```

4. Get a request code from the ASAv CLI by entering the command **license smart reservation request universal**. Copy the **reservation request code** to enter it in the Cisco Smart Software Manager Portal (CSSM).

```
ciscoasa(config)# license smart reservation request universal
Enter this request code in the Cisco Smart Software Manager portal:
UDI: PID:ASAv,SN:9B6ST9ACC24
Request code: DB-ZASAv:9A6ST9ABC24-Bk2XuYYa9-90
```

5. Log in to CSSM, click **Licenses** tab and then click **License Reservation** and an alert pops up. Click **Proceed**.

[Cisco Smart Software Manager](#)

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:

DD-ZASAv:9AF8UGL8V58-A8vZRMf9p-FB

Upload File

Browse

Upload

Cancel

Next

7. Verify the PLR Entitlement that is displayed. In this example, it is ASAv50. Select the **License** and click **Next**.

Smart License Reservation

STEP 1 ✓
Enter Request Code

STEP 2
Select Licenses

STEP 3
Review and Confirm

STEP 4
Authorization Code

Product Instance Details

Product Type:	ASAHIGH
UDI PID:	ASAv
UDI Serial Number:	9AF8UGL8V58

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 ASAv50

Cancel

Next

8. Review the **details** and click **Generate Authorization Code**.

STEP 1 ✓
Enter Request Code

STEP 2 ✓
Select Licenses

STEP 3
Review and Confirm

STEP 4
Authorization Code

Product Instance Details

Product Type:

ASAHIGH

UDI PID:

ASAv

UDI Serial Number:

9AF8UGL8V58

Licenses to Reserve

License	Expires	Quantity to Reserve
Cisco ASAv50 <small>ASAv50 (10Gbps) with Standard tier features and PLR enabled</small>	-	1

Cancel

Back

Generate Authorization Code

9. Copy the displayed **Authorization Code** and click **Close**.

STEP 1 ✓
Enter Request Code

STEP 2 ✓
Select Licenses

STEP 3 ✓
Review and Confirm

STEP 4
Authorization Code

✓ The Reservation Authorization Code below has been generated for this product instance. Enter this code into the Smart Licensing settings for the product, to enable the licensed features.

Product Instance Details

Product Type:

ASAHIGH

UDI PID:

ASAv

UDI Serial Number:

9AF8UGL8V58

Authorization Code:

DAGstm-WxY6M-cuGgEd-bUuGQJ-NAggFq-hSRmRm-XgWetq-sHLJrm-gS

To learn how to enter this code, see the configuration guide for the product being licensed

Download as File

Copy to Clipboard

Close

10. Install the **Authorization Code** in ASAv .

```
ciscoasa(config)# license smart reservation install DAGabc-
ABCD6E-fgHiJk-lMnOPQ-RStuVr-sTUVWx-YzAbcd-eFGhij-kL
INFO: ASAv platform license state is Licensed.
```

11. Verify the License registration using **show license features** command and check the **Active entitlement**. It must show our selected entitlement.

```
[ciscoasav(config)# sh lic features
Serial Number: 9AEJMLUP4D4
Export Compliant: YES

License mode: Smart Licensing
License reservation: Enabled
ASAv Platform License State: Licensed
Active entitlement: ASAv50_PLR, enforce mode: Authorized
Firewall throughput limited to 10 Gbps

Licensed features for this platform:
Maximum VLANs                : 1024
Inside Hosts                  : Unlimited
Failover                      : Active/Standby
Encryption-DES                : Enabled
Encryption-3DES-AES          : Enabled
Security Contexts             : 0
Carrier                       : Enabled
AnyConnect Premium Peers      : 10000
AnyConnect Essentials         : Disabled
Other VPN Peers               : 10000
Total VPN Peers               : 10000
AnyConnect for Mobile         : Enabled
AnyConnect for Cisco VPN Phone : Enabled
Advanced Endpoint Assessment  : Enabled
Shared License                : Disabled
Total TLS Proxy Sessions      : 10000
Botnet Traffic Filter          : Enabled
Cluster                      : Enabled

ciscoasav(config)#
```

12. Verify the License commands saved in running configuration.
show run license

```
[ciscoasav(config)# sh run license
!
license smart flex-model asav50_plr
license smart reservation
ciscoasav(config)#
```

13. Save the **config** to the **startup config** to avoid losing any config during reboot.
write memory

```
ciscoasav#write memory
Building configuration...
[OK]
ciscoasav#
```



Warning: When modifying or removing the PLR, ensure it is done during a maintenance window. Modifying or removing the PLR can affect the device throughput, concurrent sessions and much more.

In ASAv cluster and High availability setup, it is recommended to license each unit with the licensing server before you enable clustering.

When ASA is configured in multi-context mode, the license is still managed at the system (admin) context level, not per individual context.

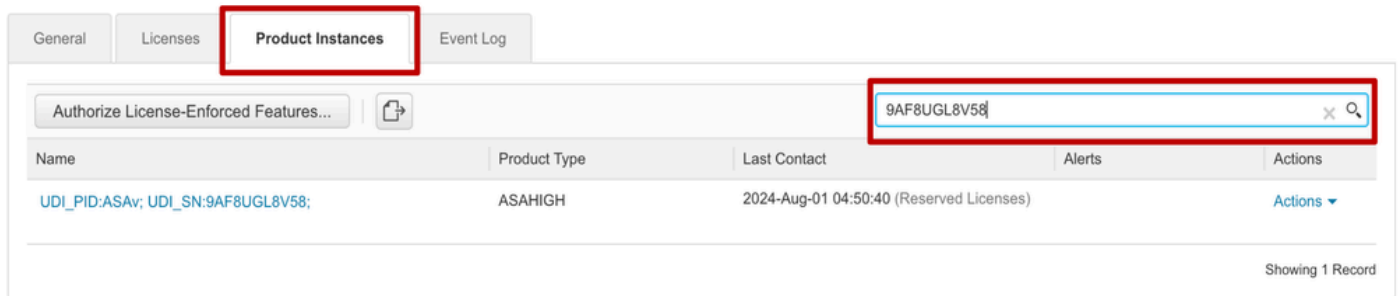
Deregister PLR

1. Open the **command line interface** on ASA v and enter the configuration mode by typing **configure terminal**.
2. Enter the command **license smart reservation return** to get the reservation return code and copy the **serial number**.

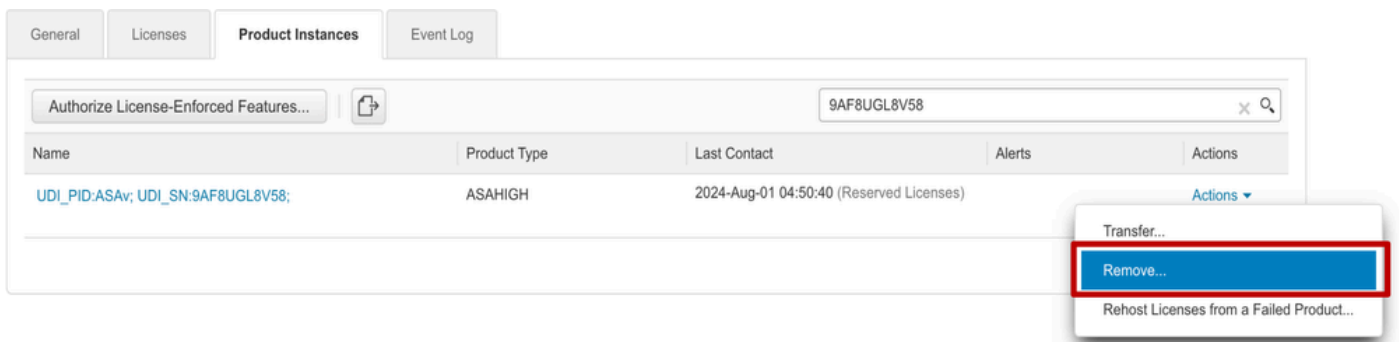
```
ciscoasa(config)# license smart reservation return
WARNING: ASA v platform license state is Limited functionality.
Enter this return code in Cisco Smart Software Manager portal:
UDI: PID:ASA v,SN:9A6ST9AXQ24
Return code: DrT1pZ-8cRT2N-jhC8fj-64ABCD-xXYZeM-qD1
```

Limited functionality means ASA v is currently running with a trial License.

3. Log in to CSSM and click **Product Instances** tab.



4. Click the **Actions** dropdown and select **Remove**.



5. Paste the **reservation request code** in the dialog box and click **Remove Reservation**.

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:**

DGstme-U8VuhQ-wK27M1-v4aNa2-X7WE6G-NSw

Remove Reservation

Cancel

6. The License can be removed from CSSM and in the ASAv.

GeneralLicensesProduct InstancesEvent Log

Authorize License-Enforced Features...

9AF8UGL8V58

Name	Product Type	Last Contact	Alerts	Actions
No Records Found				

No Records to Display

```
ciscoasa(config)#
Warning: ASAv platform license state is Unlicensed.
Install ASAv platform license for full functionality.
```

7. Come out of PLR mode by typing this command in the ASAv CLI.

no license smart reservation

8. Disable the **Flexible PLR** command.

no license smart flex-model asav50_plr

9. Verify the license commands are removed from the running configuration:

Show running-config license

```
[ciscoasav(config)# no license smart reservation
[ciscoasav(config)# no license smart flex-model asav50_plr
[ciscoasav(config)# show running-config license
[ciscoasav(config)#
```

10. Verify the output of **show license features** to confirm the license is deregistered.

```
ciscoasa(config)# show license features
Serial Number: 9AF8UGL8V58
Export Compliant: NO

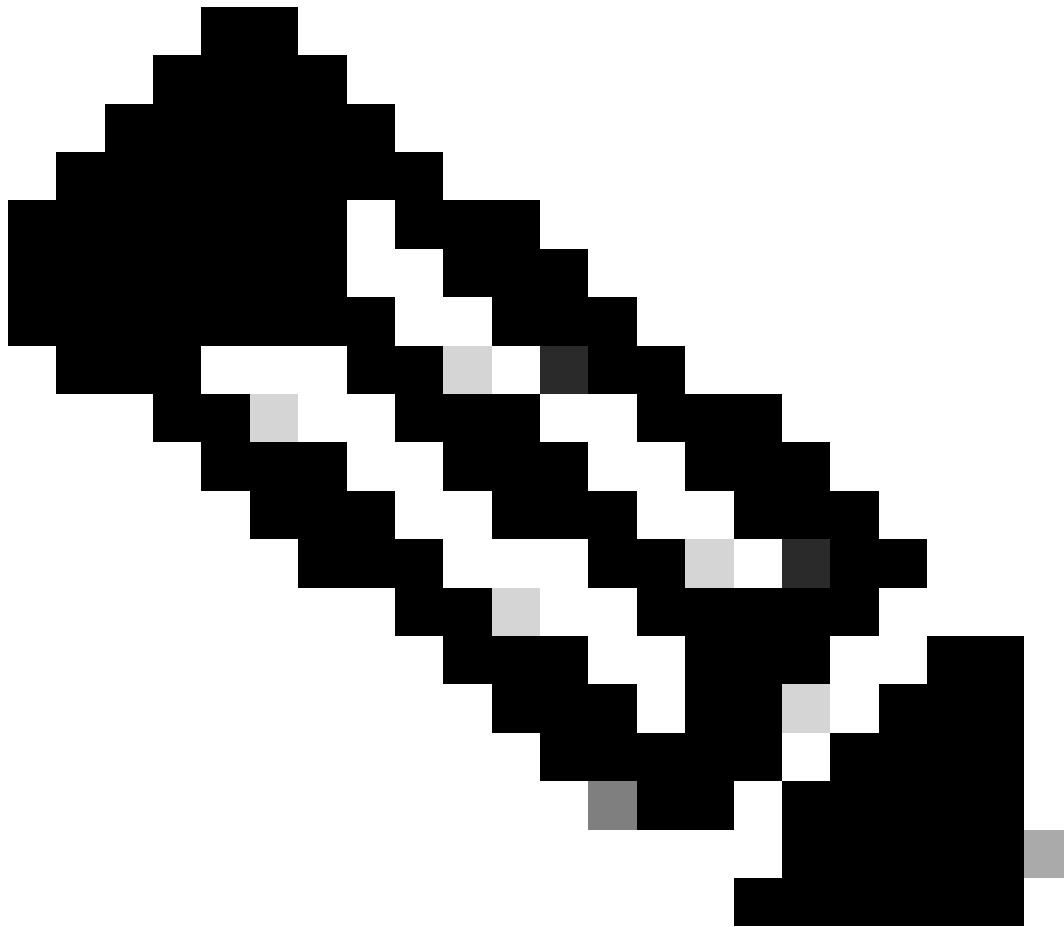
License mode: Smart Licensing
ASAv Platform License State: Limited Functionality
No active entitlement: no feature tier and no throughput level configured
Firewall throughput limited to 10 Gbps

Licensed features for this platform:
Maximum VLANs                : 1024
Inside Hosts                  : Unlimited
Failover                      : Active/Active
Encryption-DES                : Enabled
Encryption-3DES-AES           : Enabled
Security Contexts             : 2
Carrier                       : Disabled
AnyConnect Premium Peers      : 2
AnyConnect Essentials         : Disabled
Other VPN Peers               : 20000
Total VPN Peers               : 20000
AnyConnect for Mobile         : Disabled
AnyConnect for Cisco VPN Phone : Disabled
Advanced Endpoint Assessment  : Disabled
Shared License                : Disabled
Total TLS Proxy Sessions      : 2
Botnet Traffic Filter         : Enabled
Cluster                      : Enabled

ciscoasa(config)#
```

11. Save the **configuration** to the **startup configuration** to avoid losing any configuration during reboot.
write memory

```
ciscoasav#write memory
Building configuration...
[OK]
ciscoasav#
```



Note: Re-use of the entitlement can be done and license can also be transferred after de-registering.

Verify

1. **Show License all** command can show the status as Registered and Authorized for successful Registration.

```
[ciscoasa(config)# show license all

Smart Licensing Status
=====

Smart Licensing is ENABLED
License Reservation is ENABLED

Registration:
  Status: REGISTERED – UNIVERSAL LICENSE RESERVATION
  Export-Controlled Functionality: ALLOWED
  Initial Registration: SUCCEEDED on Aug 06 2024 05:56:07 UTC

License Authorization:
  Status: AUTHORIZED – RESERVED on Aug 06 2024 05:56:07 UTC
```

2. The Smart agent logs are present in **disk0:/smart-log/agentlog**

Look for License Registration Successful message in the **agentlog** to verify if the License has registered successfully.

<#root>

```
more disk0:/smart-log/agentlog
2024-09-17 05:28:27.658: Received reservation install message type 19
2024-09-17 05:28:27.658: Received auth_code = DArT1p-f7dLoA-gx4RLa-mHiWEf-3cJAaa-kJe5Ji-EzfdSP-rC6hp5-v
2024-09-17 05:28:27.658: >> PLError: Tue Sep 17 05:28:27.658 UTC-SAResInstall_v2-OPLR Parse Error: Inco
OPLR auth length
2024-09-17 05:28:27.658: >> PLError: Tue Sep 17 05:28:27.658 UTC-SAResInstall_v2-OPLR Parse Error: Inco
OPLR auth length
2024-09-17 05:28:27.671: >> PISyslog: Info - %SMART_LIC-6-AGENT_REG_SUCCESS:Smart Agent for Licensing
Registration successful. udi PID:ASAv,SN9A9ABC24
2024-09-17 05:28:27.671: >> PISyslog: Notice - %SMART_LIC-5-IN_COMPLIANCE:All entitlements and licenses
on this device are authorized
2024-09-17 05:28:27.671: >> PISyslog: Info - %SMART_LIC-6-AUTH_RENEW_SUCCESS:Authorization renewal succ
State=authorized for udi PID:ASAv,SN9A9ABC24

2024-09-17 05:28:27.671: >> PISyslog: Info - %SMART_LIC-6-RESERVED_INSTALLED:Universal License Reservati

Authorization code installed for udi PID:ASAv,SN9A9ABC24

2024-09-17 05:28:27.671: >> PISyslog: Info - %SMART_LIC-6-EXPORT_CONTROLLED:Usage of export controlled f

is allowed
```

2024-09-17 05:28:27.671: >> PISyslog: Info - %SMART_LIC-6-RESERVED_INSTALLED:Universal License Reservation Authorization code installed for udi P:ASAv,S:9A6ST9SMQ24

2024-09-17 05:28:27.673: Received SmartAgentNotifyRegisterSuccess

2024-09-17 05:28:27.673: Processing registration result 1

[Troubleshoot ASA Smart License on FXOS Firepower Appliances](#)

Related Information

[CLI Book 1: Cisco ASA Series General Operations CLI Configuration Guide, 9.8](#)

[Cisco Secure Firewall ASA Series Feature Licenses](#)

[Release Notes for the Cisco Secure Firewall ASA, 9.23\(x\)](#)

[Smart Software Manager On-Prem User Guide](#)