

Juniper Agile Licensing Guide



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Juniper Agile Licensing Guide
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YEAR 2000 NOTICE

Juniper Networks hardware and software products are Year 2000 compliant. Junos OS has no known time-related limitations through the year 2038. However, the NTP application is known to have some difficulty in the year 2036.

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About This Guide

Juniper Networks introduced the Juniper Agile Licensing Portal to install and manage licenses for hardware and software features. Juniper Agile Licensing is the new and improved license management system to simplify the license management in a network.



Juniper Agile Licensing Overview

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Juniper Agile Licensing Overview

SUMMARY

Learn about Juniper Agile Licensing, an improved license management system to activate, install, manage, and monitor licenses on Juniper Networks devices.

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- Juniper Agile Licensing Workflow for Procuring and Managing Licenses | 4

Juniper Agile Licensing Overview

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- Components of Juniper Agile Licensing | 3

Benefits of Juniper Agile Licensing

- Provides an intuitive user experience and simplified operational processes.
- Provides seamless lifecycle management of licenses.
- Offers flexible license administration and deployment.
- Enables monitoring of software usage through centralized administrator and reporting.
- Allows users to proactively adjust usage based on real-time reporting.
- Provides consistent license management workflow for all Juniper products.

Understand Juniper Agile Licensing

Juniper Networks introduced the Juniper Agile Licensing solution to provide an efficient way for customers and partners to manage licenses for hardware and software features. To use a licensed feature, you need to purchase and activate a license that corresponds to that feature and deploy that license so that it can be utilized by the software during normal operation. You can administer and manage the licenses through the Juniper Agile Licensing Portal. The portal provides an intuitive taskbased user interface that provides full lifecycle management of licenses.

Juniper Agile Licensing ensures that features are used in compliance with Juniper's End User License Agreement. There are currently two main modes for deploying licenses:

• Standalone mode allows you to activate a license on a single hardware device or software instance. Such a license can only be used by the instance on which it is activated. Sharing a license with multiple instances is not permissible.

Support for each deployment mode varies by product. Both deployment modes enable efficient management of both subscription and perpetual licenses and may enable combinations of features and capacity depending on the specific license purchased.

Components of Juniper Agile Licensing

1. Juniper Agile Licensing Portal

The Juniper Agile Licensing Portal provides the features shown in Figure 1 on page 3.

Figure 1: Juniper Agile Licensing Portal Features

Entitlements View account-wide entitlements for your

- Juniper Networks products.
- Display your software license purchases that are linked to your company account associations and awaiting activation.

Activations



- Activate quickly from the portal home page.
- Activate from the My Entitlements section.
- · Download and send them through email.
- View related information about activated entitlements.



Transfer license keys from a defective to a replacement device.

You use the Juniper Agile Licensing Portal to activate and deliver the required license keys for products you have purchased.

Depending on the type of license, the fulfillment e-mail you receive from Juniper after purchase of a license indicates whether your device can be used without installing license keys. If you need to install license keys, you can view and activate the purchased entitlements in the Agile Licensing Portal.

NOTE: In some cases, the fulfillment e-mail might include a license key, in which case it is not necessary to manage the entitlement through the Agile Licensing Portal.

2. Juniper Entitlement Management System

The Juniper Agile Entitlement Management System is a repository of all your entitlements. It simplifies the licensing life cycle by providing a centralized license management interface that you can access using the Agile Licensing Portal.

Juniper Agile Licensing Workflow for Procuring and Managing Licenses

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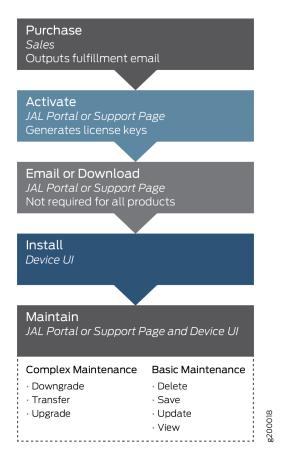
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Procuring and Managing Licenses

For procuring and managing licenses, Juniper Agile Licensing comprises the following phases:

The phases of the licensing life cycle are shown in Figure 2 on page 5.

Figure 2: Licensing Phases



Purchase Licenses from Juniper Networks

Licenses to use Juniper software are purchased through Juniper's standard sales order process. After meeting with your Sales Representative or Juniper Partner, submit a sales order to Juniper. License sales order lines will send you an e-mail that includes your activation code and Software Support Reference Number (SSRN) relating to your entitlements. The system creates entitlements associated with your user account (e-mail ID) that you can subsequently manage through the Juniper Agile Licensing Portal.

Depending on the type of license, access the Agile Licensing Portal to activate license keys or send the keys by e-mail to yourself.

NOTE: Keep a record of your SSRN, which is used as a proof of purchase and for support entitlement purposes.

Manage Entitlements using the Agile Licensing Portal

You use the information from the fulfillment e-mail to activate your entitlements. This process generates software license activation keys (license keys) that you can install on devices directly, or automatically synchronize to previously installed licenses.

NOTE: Some software licenses can be only activated, and do not generate or require a license activation key to be installed on the device. Refer to the fulfillment e-mail that you receive after purchase for this information.

Juniper Agile License Management

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Juniper Agile License Management

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Table 1 on page 7 lists licensing tasks and links to procedures where you can perform those tasks. Complex tasks require you to use both the Juniper Agile Licensing portal (or Support page) and a user interface to the device.

Table 1: Licensing Tasks Used to Manage Your Licenses

Licensing Task	Link
View entitlements, activate products to generate licenses, and mail or download licenses. (Juniper Agile Licensing Portal or Support page)	Manage Product Licenses (select product to launch Juniper Agile Licensing Portal or Support page)
Install license keys on a device.	Adding a License
Delete license keys on a device.	Deleting a License

Licensing Models

Juniper Agile Licensing supports two models described in Table 2 on page 7.

Table 2: Juniper Agile Licensing Models

Licensing Model	Description
Subscription	Prepaid, term-based licenses that enable the right to use for a fixed duration. At the end of the subscription period, customers must renew the subscription or the license is deemed out of compliance.
Perpetual	Prepaid licenses that are activated in perpetuity for the life of the product or device.

Juniper Agile Licensing supports the license types described in Table 3 on page 8. Unless otherwise stated, license types apply to Juniper Networks customers and potential customers.

Table 3: Types of Juniper Agile Licenses

License Type	Purpose	Term
Production	Use in a production environment	Perpetual: In perpetuity Subscription: 1 or 3 years or 5 years
Trial	Marketing of Juniper Networks products	90 days



Activate and Deploy Software Entitlements

Activating and Deploying Software Entitlements | 10

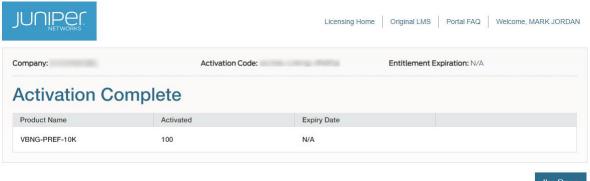
Activating and Deploying Software Entitlements

To activate and deploy your software entitlements, perform the following steps:

- 1. Log in to the Juniper Agile Licensing Portal.
- 2. Navigate to the My Entitlements section on the landing page.
- 3. Click the Activate.
- **4.** In the Product Activation screen, select the Software Version and the quantity to activate. You can add any useful information in the Notes field. Click **Activate**.

When the activation is complete, the following screen is displayed:

5. Click Activate. Once complete, the screen will display as shown below:



I'm Done



Configure Licenses

Install and Manage License | 12

Install and Manage License

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- Configuring Licenses on vMX Virtual Routers | 13
- Managing vMX Licenses | 13
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- Managing QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C Devices License | 24

NOTE: After you install or delete a license, system might take up to one minute to synchronize license between master and backup. You must allow one minute interval before performing any actions such as switchover or reboot.

Junos OS generates alarms for capacity (scale) features such as bandwidth to indicate the license requirement if the feature usage on a device exceeds the installed license. The alarm detail shows the current feature usage information.

You can see the list of alarms at System Log Explorer.

For example, see the below scenarios where alarms are generated for license requirement:

Scenario 1

If a device is configured with a 100G bandwidth license and current usage is 200G bandwidth, the Junos OS generates an alarm as the bandwidth usage exceeded the installed license.

The alarm specifies that the current usage of 200G bandwidth requires a license.

Scenario 2

If a device is configured with a 128K RIB license and uses 130K RIB, the Junos OS generates an alarm as the RIB feature scale exceeded the installed licenses.

The alarm specifies 130K RIB requires a license.

Configuring Licenses on vMX Virtual Routers

Configure the licenses that are available in your Juniper Agile License portal.

- **1.** Log in to the vMX device and enter configuration mode.
- **2.** Set the chassis license along with the type of license required.

3. Set the chassis license bandwidth in Mbps.

Managing vMX Licenses

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- Adding a License | 14
- Deleting a License | 15

You must add a license to use vMX features. The licensed features are enforced based on the license you purchased.

Starting in Junos OS Release 17.4 for AWS, you must add a license if you are using vMX in the Bring Your Own License (BYOL) model.

If you upgrade from a BASE package license to an ADVANCE or PREMIUM package license or if you downgrade from an ADVANCE or PREMIUM package license to a BASE package license, you must

restart the routing protocol process (restart routing). If your configuration has logical systems, you must restart the routing protocol process for all logical systems (restart routing logical-system *logical-system-name*).

If you need to move your vMX installation to another host, you must remove vMX from the current host before installing vMX and adding the license on the new host.

Adding a License

To add a license key to the vMX:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

```
user@vmx> request system license add filename
```

Or, you can copy and paste the license activation key directly to add the license key. For example:

Starting from Junos OS Evolved Release 21.2R2, you can view additional information field as follows.

2. Verify that the license is installed. VMX-BANDWIDTH indicates the licensed bandwidth (in Mbps) and VMX-SCALE indicates the application package. (VMX-SCALE 1 is the BASE package, VMX-SCALE 2 is the ADVANCE package, and VMX-SCALE 3 is the PREMIUM package.) This information

is also listed as Features in the Licenses installed section. For example, this output indicates that the 40G perpetual license for the PREMIUM application package is installed.

user@vmx> show system license

```
License usage:
                              Licenses
                                           Licenses
                                                        Licenses
                                                                    Expiry
 Feature name
                                          installed
                                  used
                                                          needed
 scale-subscriber
                                     0
                                               1000
                                                                    permanent
 scale-12tp
                                     0
                                               1000
                                                               0
                                                                    permanent
 scale-mobile-ip
                                     0
                                               1000
                                                               0
                                                                    permanent
 VMX-BANDWIDTH
                                 40000
                                               40000
                                                                    permanent
 VMX-SCALE
                                                   3
                                     3
                                                                    permanent
Licenses installed:
 License identifier: JUNOS640113
 License version: 4
 Software Serial Number: XXXXXXX
 Customer ID: vMX-Juniper
 Features:
   vmx-bandwidth-40g - vmx-bandwidth-40g
      permanent
   vmx-feature-premium - vmx-feature-premium
      permanent
```

3. Verify the configured bandwidth for PFE traffic matches the licensed bandwidth (VMX-BANDWIDTH). The current and average bandwidth are also displayed.

```
user@vmx> show pfe statistics traffic bandwidth
```

Configured Bandwidth : 40000000000 bps

Bandwidth : 0 bps Average Bandwidth : 0 bps

Deleting a License

To delete a vMX license:

1. Display the installed licenses.

```
user@vmx> show system license installed
```

```
License identifier: JUNOS640113

License version: 4

Features:

vmx-bandwidth-40g - vmx-bandwidth-40g

permanent

vmx-feature-premium - vmx-feature-premium

permanent
```

2. Delete the license.

```
user@vmx> request system license delete license-identifier
```

For example:

```
\verb"user@vmx"> \textbf{request system license delete JUNOS640113}
```

3. Verify that the license is deleted.

user@vmx> show system license

	Licenses	Licenses	Licenses	Expiry
Feature name	used	installed	needed	
scale-subscriber	0	1000	0	permanent
scale-12tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
Licenses installed: none				
Licenses installed: none				

Managing cRPD Licenses

You must add a license to use cRPD features. The licensed features are enforced based on the license you purchased.

There are two methods to add license on containerized routing protocol process (cRPD).

Adding a License to cRPD

Method 1:

To add a license key to the cRPD:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

```
user@crpd> request system license add filename
```

Or, you can copy and paste the license activation key directly to add the license key. For example:

2. Verify the installed license.

```
user@crpd> show system license
show system license
License usage:
                             Licenses
                                        Licenses
                                                 Licenses
                                                              Expiry
 Feature name
                                used
                                       installed
                                                     needed
                                   1
 containerized-rpd-standard
                                              1
                                                              2020-06-05 23:59:00 UTC
Licenses installed:
 License SKU: CRPD-STD
 License version: 1
 Order Type: commercial
 Customer ID: |**CustomerId**|
 Features:
   containerized-rpd-standard - Containerized routing protocol daemon with standard features
     date-based, 2019-06-06 00:00:00 UTC - 2020-06-05 23:59:00 UTC
```

Method 2:

To add a license key to the cRPD:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

2. Verify the installed license.

```
user@crpd> show system license
show system license
License usage:
                            Licenses
                                        Licenses Licenses
                                                             Expiry
 Feature name
                                used installed
                                                    needed
 containerized-rpd-standard
                                                             2020-06-05 23:59:00 UTC
Licenses installed:
 License SKU: CRPD-STD
 License version: 1
 Order Type: commercial
 Customer ID: |**CustomerId**|
   containerized-rpd-standard - Containerized routing protocol daemon with standard features
     date-based, 2019-06-06 00:00:00 UTC - 2020-06-05 23:59:00 UTC
```

Managing cSRX Licenses

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There are two methods to add license on cSRX.

Add license using a license file

To add a license file to the cSRX:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

```
user@csrx> request system license add filename
```

Or, you can copy and paste the license activation key directly to add the license key. For example:

2. Verify the installed license.

```
user@csrx> show system license
show system license
License usage:
                             Licenses
                                         Licenses Licenses
                                                               Expiry
 Feature name
                                 used installed
                                                     needed
                                               1
                                                               2024-12-04 23:59:00 UTC
 anti_spam_key_sbl
                                    0
                                               1
                                                               2024-12-04 23:59:00 UTC
 idp-sig
 appid-sig
                                    0
                                               1
                                                               2024-12-04 23:59:00 UTC
                                                               2024-12-04 23:59:00 UTC
 av_key_sophos_engine
                                    0
                                               1
                                                               2024-12-04 23:59:00 UTC
 wf_key_websense_ewf
 cSRX
                                    1
                                                1
                                                               2024-12-04 23:59:00 UTC
Licenses installed:
 License SKU: S-CSRX-A2-5
 License version: 1
 Order Type: commercial
 Customer ID: |**CustomerId**|
 License count: 1
 Features:
                 - IDP Signature
   idp-sig
     date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
   av_key_sophos_engine - Anti Virus with Sophos Engine
     date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
```

```
appid-sig - APPID Signature
date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
cSRX - Containerized Firewall
date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
anti_spam_key_sbl - Anti-Spam
date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
wf_key_websense_ewf - Web Filtering EWF
date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
```

Add license using a license key

To add a license key to the cSRX:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

2. Verify the installed license.

```
user@csrx> show system license
show system license
License usage:
                             Licenses
                                        Licenses
                                                   Licenses
                                                               Expiry
 Feature name
                                        installed
                                                     needed
                                 used
 anti_spam_key_sbl
                                   0
                                               1
                                                               2024-12-04 23:59:00 UTC
                                   0
                                               1
                                                               2024-12-04 23:59:00 UTC
 idp-sig
                                                          0
 appid-sig
                                   0
                                                          0
                                                               2024-12-04 23:59:00 UTC
                                               1
 av_key_sophos_engine
                                   0
                                               1
                                                          0
                                                               2024-12-04 23:59:00 UTC
                                   0
                                               1
 wf_key_websense_ewf
                                                          0
                                                               2024-12-04 23:59:00 UTC
 cSRX
                                   1
                                                               2024-12-04 23:59:00 UTC
Licenses installed:
 License SKU: S-CSRX-A2-5
 License version: 1
 Order Type: commercial
 Customer ID: |**CustomerId**|
 License count: 1
 Features:
           - IDP Signature
   idp-sig
```

```
date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC

av_key_sophos_engine - Anti Virus with Sophos Engine

date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC

appid-sig - APPID Signature

date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC

cSRX - Containerized Firewall

date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC

anti_spam_key_sbl - Anti-Spam

date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC

wf_key_websense_ewf - Web Filtering EWF

date-based, 2019-12-06 00:00:00 UTC - 2024-12-04 23:59:00 UTC
```

Managing vSRX Licenses Using Standalone Mode

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- Add License Using a License Key | 23

There are two methods to add licenses on vSRX.

Add License Using a License File

To add a license file to vSRX:

1. Copy the license activation key file to the Virtual Chassis Port (VCP) and add the license key by specifying the filename.

```
user@vSRX> request system license add filename
```

Or, you can copy and paste the license activation key directly to add the license key. For example:

2. Verify the installed license.

user@vSRX> show system license License usage: Licenses Licenses Licenses Expiry Feature name installed used needed anti_spam_key_sbl 0 1 30 days 1 idp-sig 0 30 days appid-sig 0 1 0 30 days av_key_sophos_engine 0 1 0 30 days logical-system 3 0 permanent wf_key_websense_ewf 0 1 0 30 days Virtual Appliance 1 1 0 59 days remote-access-ipsec-vpn-client 2 permanent Licenses installed: License identifier: XXXX-XXXX-XXXXX-XXXX License version: 4 Software Serial Number: \$ABC123 Customer ID: |**CustomerId**| Features: - IDP Signature idp-sig count-down, Original validity: 30 days wf_key_websense_ewf - Web Filtering EWF count-down, Original validity: 30 days anti_spam_key_sbl - Anti-Spam count-down, Original validity: 30 days - APPID Signature appid-sig count-down, Original validity: 30 days av_key_sophos_engine - Anti Virus with Sophos Engine count-down, Original validity: 30 days License identifier: XXXX-XXXX-XXXXX-XXXXX License version: 4 Software Serial Number: \$ABC123 Customer ID: |**CustomerId**| Features:

```
Virtual Appliance - Virtual Appliance count-down, Original validity: 60 days
```

Add License Using a License Key

To add a license key to vSRX:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

2. Verify the installed license.

```
user@vSRX> show system license
License usage:
                                 Licenses
                                              Licenses
                                                          Licenses
                                                                      Expiry
  Feature name
                                             installed
                                                            needed
                                     used
  anti_spam_key_sbl
                                        0
                                                     1
                                                                      30 days
  idp-sig
                                        0
                                                     1
                                                                      30 days
  appid-sig
                                        0
                                                     1
                                                                 0
                                                                      30 days
  av_key_sophos_engine
                                                                      30 days
                                        1
  logical-system
                                                     3
                                                                 0
                                                                      permanent
  wf_key_websense_ewf
                                        0
                                                     1
                                                                 0
                                                                      30 days
  Virtual Appliance
                                        1
                                                     1
                                                                      59 days
  remote-access-ipsec-vpn-client
                                                     2
                                                                      permanent
Licenses installed:
  License identifier: XXXX-XXXX-XXXXX-XXXXX
  License version: 4
  Software Serial Number: $ABC123
  Customer ID: |**CustomerId**|
  Features:
    idp-sig
                     - IDP Signature
      count-down, Original validity: 30 days
   wf_key_websense_ewf - Web Filtering EWF
      count-down, Original validity: 30 days
    anti_spam_key_sbl - Anti-Spam
      count-down, Original validity: 30 days
    appid-sig
                     - APPID Signature
      count-down, Original validity: 30 days
```

av_key_sophos_engine - Anti Virus with Sophos Engine count-down, Original validity: 30 days

License identifier: XXXX-XXXX-XXXXX-XXXXX

License version: 4

Software Serial Number: \$ABC123
Customer ID: |**CustomerId**|

Features:

Virtual Appliance - Virtual Appliance count-down, Original validity: 60 days

Managing QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C Devices License

You must add a license to use QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C devices features. The licensed features are enforced based on the license you purchased.

To manage a license on the QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C devices, use below methods:

• Using operational command on the device, see "No Link Title" on page 24.

There are two methods to add license on QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C devices.

Add license using a license file:

To add a license key to the QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C devices:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

user@qfx> request system license add filename

Or, you can copy and paste the license activation key directly to add the license key. For example:

2. Verify the installed license.

```
user@qfx> show system license
show system license
License usage:
                          Licenses Licenses
                                                         Expiry
 Feature name
                              used
                                    installed
                                                needed
 esi-lag
                                0
                                         1
                                                         permanent
                                1
 13static
                                           0
                                                    1
                                                         invalid
Licenses installed:
 License SKU: DEV-SKU-jnpr
 License version: 1
 Order Type: commercial
 Software Serial Number: xxxxxxxxx-xxxx
 Customer ID: JUNIPER NETWORKS
 License count: 1
 Features:
   esi-lag
                - ESI-LAG
    permanent
```

Add license using a license key:

To add a license key to the QFX5220-32CD, QFX5220-128C, PTX10003-80C, and PTX10003-160C devices:

1. Copy the license activation key file to the VCP and add the license key by specifying the filename.

2. Verify the installed license.

```
user@qfx> show system license
show system license
License usage:
                                Licenses
                                             Licenses
                                                        Licenses
                                                                    Expiry
 Feature name
                                    used
                                            installed
                                                           needed
 esi-lag
                                       0
                                                    1
                                                                    permanent
 13static
                                                                    invalid
```

Licenses installed:

License SKU: DEV-SKU-jnpr

License version: 1
Order Type: commercial

Software Serial Number: xxxxxxxx-xxxx

Customer ID: JUNIPER NETWORKS

License count: 1

Features:

esi-lag - ESI-LAG

permanent

For more information on install, save, and delete the license, see Managing Licenses.

Release History Table

Release	Description
17.4	Starting in Junos OS Release 17.4 for AWS, you must add a license if you are using vMX in the Bring Your Own License (BYOL) model.