

Licensing User Guide

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Licensing User Guide

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The information in this document is current as of the date on the title page.

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.

END USER LICENSE AGREEMENT

The Juniper Networks product that is the subject of this technical documentation consists of (or is intended for use with) Juniper Networks software. Use of such software is subject to the terms and conditions of the End User License Agreement ("EULA") posted at <https://support.juniper.net/support/eula/>. By downloading, installing or using such software, you agree to the terms and conditions of that EULA.

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About This Guide

This guide describes how to activate, install, manage, and monitor licenses on Juniper Networks devices.

You can find information about Juniper Flex licensing in the [Juniper Licensing Administration Guide](#).

Table 1: Platforms Supported in the Licensing User Guide

Category	Products
Routing	ACX710, ACX5448, ACX5448-D, ACX5448-M, MX10K3-L2103, MPC5E, MPC7E-10G, MPC7E-MRATE, MPC10E-10C, MPC10E-15C, MX2K-MPC6E, MX2K-MPC8E, MX2K-MPC9E, MX2K-MPC11E, MX10K-LC2101 Line Cards and MX204 Routers, PTX10003, PTX10008, vMX, and vBNG
Security	cSRX, JATP400, JATP700, ATP Appliances, SRX Series, and vSRX
Switching	EX Series and QFX Series Switches
Network Management	Apstra, Contrail Service Orchestration (CSO), Junos Space, Network and Security Manager (NSM), J-Web Device Manager, NFX350, NorthStar Controller, NorthStar Planner, and Paragon Insights

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Activate License Keys

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Activate Junos OS Licenses

In case of Junos OS upgrade, you might need the new license keys. See the ["2" on page 2](#) to generate license keys. If you have any problem in generating license keys, contact Juniper Customer Care.

1. Gather your activation codes.

Activation Code: The 17-digit alphanumeric activation code is sent through email in response to your order and is used to generate license capacity / feature activation key(s) for your Juniper Networks software. The activation code is used to generate your license activation key—it is not the license activation key itself.

2. Generate license keys and activation key(s).

Upon initial setup, a base activation key might be required to activate the software. If further capacity or feature(s) were purchased and are being added to the software, each capacity increment and feature needs to be added via another activation key. Generate license activation keys using the [Juniper Agile Licensing Portal](#). At the top of the portal, enter your activation code, and click Activate. Then follow the instructions on screen. Juniper provides license activation keys in one of two ways:

- Download: You can download activation keys from the [Juniper Agile Licensing Portal](#).
- Email: You receive an email that contains the license activation key(s).

3. Install license

To install and manage licenses, see [Managing Licenses](#).

Activate Contrail Insights Licenses

This topic describes how to obtain the appropriate product keys and software required for your Juniper® Contrail® Insights product.

1. Create a user account.

To download your software, you need an approved user account with Juniper Networks. If you do not already have one, you can create an account through the [User Registration Portal](#).

2. Forward your fulfillment e-mail to the Juniper account activation team.

Locate the fulfillment e-mail(s) that you received and forward it to <mailto:appformix-key-request@juniper.net>. (These e-mails verify that you purchased the product.) Identify the subject as "AppFormix Product Keys Needed." Add the following information to the e-mail:

- Company name
- Primary contact name
- Full company address
- Contact e-mail address
- Contact phone number

You will receive an e-mail confirmation acknowledging your activation request. The Juniper product activation team will complete the activation request within two business days.

3. Retrieve your software serial number.

The software serial number is a unique 14-digit number that Juniper uses to identify your Juniper Networks software installation (or purchased capacity). You can find this number in the Software Serial Number Certificate attached to the e-mail sent when you ordered your Juniper Networks Service. Store the Software Serial Number in a safe place, as it will be necessary to identify your installation when engaging Juniper for support.

4. Download your Software.

Find your product software on the [Juniper Software Downloads page](#). You will need to sign in with your Juniper user account and provide your Software Serial Number.

5. Install your Software.

Install your software according to the instructions in the software documentation at [Contrail Insights](#). Make sure to enter the license key as instructed during installation.

Need Help?

For additional assistance, you may contact Juniper Networks by opening a case online through the Juniper Customer Support Center (CSC) [Service Request Manager](#).

RELATED DOCUMENTATION

| [Contrail Insights Documentation](#)

Activate CSO and Juniper Sky Enterprise Licenses

This topic describes how to activate Juniper Contrail Service Orchestration and Juniper Sky Enterprise.

Note: These instructions are written for the customer who will be using the product. If you are a partner, reseller, or distributor who is setting up Contrail Service Orchestration and Juniper Sky Enterprise for an end customer, please fill in the details about the customer.

1. Create a user account.

If you don't already have a Juniper user account, go to the [User Registration Portal](#) to create one. (For detailed instructions, see [KB 9946: Create a New User Login Account with Juniper Networks](#).)

Important: When creating your account, do not select *Guest User Access* or *Use your Cloud Marketplace or Cloud Service Provider credentials*. If you choose either of these options, you will not be able to use the resulting user account to activate your licenses in the next step.

2. Locate your license certificate.

When you purchased your Juniper product, you should have received an e-mail containing information about your software license. Locate that e-mail and the attached certificate, which contains details you need to activate your product.

3. Enter your activation code.

Sign into the [Juniper Agile Licensing Portal](#). At the top of the screen, enter the activation code (also sometimes called an authorization code) located in your license certificate, and click **Activate**.

4. Activate your licenses.

Choose one of the following options in the Product Activation screen:

- **Add devices to an existing account instance:** Select this option if you are simply adding additional licenses to an existing Contrail Service Orchestration or Juniper Sky Enterprise account. Then, select your preexisting account.
- **Register a new account instance:** Select this option if you are activating Contrail Service Orchestration or Juniper Sky Enterprise for the first time. Then, provide relevant account details.

Note: When creating an account, you will be asked to select an account type (Enterprise or Service Provider). If you are a partner, distributor, or reseller filling in this form for a customer, specify your customer's business type, not your own.

5. Complete your request.

Juniper will complete the request and e-mail you the details you need to activate your new product within two (2) business days.

Need Help?

For additional assistance, you may contact Juniper Networks by opening a case online through the Juniper Customer Support Center (CSC) [Service Request Manager](#).

RELATED DOCUMENTATION

[Contrail Service Orchestration Documentation](#)

[Juniper Sky Enterprise Documentation](#)

Activate Juniper ATP Appliance Licenses

This topic describes how to obtain the appropriate license keys and software required for your Juniper Networks Advanced Threat Prevention Appliance.

1. Create a user account.

To download your software, you need an approved user account with Juniper Networks. If you do not already have one, you can create an account through the [User Registration Portal](#).

Note: Compliance approval typically takes two hours following the creation of a new Juniper User Account.

2. Retrieve your software serial number.

The software serial number is a unique 14-digit number that Juniper uses to identify your Juniper Networks software installation (or purchased capacity). You can find this number in the Software Serial Number Certificate attached to the e-mail sent when you ordered your Juniper Networks Service. Store the Software Serial Number in a safe place, as it will be needed to identify your installation when engaging Juniper for support. Note that this number is different than the license key described in Step 3.

3. Request your license key.

Open an admin service request (case) using our [Service Request Manager](#) on the Juniper Customer Support Center (CSC) and enter the following information to facilitate your request. You may also call Customer Care via telephone if you prefer:

- Subject Line: Juniper ATPA Software License Request

- Description:
 - Sales order number
 - Software product SKU
 - UUID (for assistance finding your UUID, see [kb.juniper.net\kb32301](https://kb.juniper.net/kb32301))
 - Serial Number/SSRN (enter the software serial number provided in your license fulfillment e-mail). If available, please attach the software serial number certificate (PDF) to the admin service request.

Once your service request is processed, your license key will be sent to you.

4. Download your software.

If you need to download your software, you can find it on the [Juniper Software Downloads page](#). You will need to sign in with your Juniper user account and provide your Software Serial Number.

Note: If you receive an account privileges error, please contact Customer Care to have your account upgraded. Be prepared to provide your Software Serial Number as proof of purchase.

5. Install your software.

Install your software according to the instructions in the software documentation at [JATP400 Advanced Threat Prevention Appliance](#) and [JATP700 Advanced Threat Prevention Appliance](#). Make sure to enter the license key as instructed during installation.

Need Help?

For additional assistance, you may contact Juniper Networks by opening a case online through the Juniper Customer Support Center (CSC) [Service Request Manager](#).

RELATED DOCUMENTATION

[JATP and SRX Series Integration Guide](#)

[JATP Operator's Guide](#)

[JATP Technical Documentation](#)

Activate NorthStar Controller Licenses

This topic describes how to obtain the appropriate license keys and software required for your Juniper Networks NorthStar Controller product.

1. Create a user account.

To download your software, you need an approved user account with Juniper Networks. If you do not have one already, you can create an account through the [User Registration Portal](#).

2. Request your software serial number certificates (if you don't already have them).

The software serial number is a unique 14-digit number that Juniper uses to identify your Juniper Networks software installation (or purchased capacity). You can find this number in the software serial number certificate attached to the e-mail sent when you ordered your Juniper Networks service. Store the software serial number in a safe place, as it will be necessary to identify your installation when engaging Juniper for support. Note that this number is different than the license key described in Step 3.

3. Forward your fulfillment e-mail to the Juniper account activation team.

Locate the fulfillment e-mail(s) that you received and forward it/them to northstar-key-request@juniper.net as well as to your Juniper account manager. (These e-mails verify that you purchased the product.) Identify the subject as "(your company name) NorthStar license keys needed" and add the following information to the e-mail:

- Company name
- Primary contact name
- Full company address
- Contact e-mail address
- Contact phone number
- Existing customers only: Copy of the existing NorthStar license file (obtainable in the NorthStar GUI)
- Releases before 6.0: Card name and MAC address (e.g., eth0, MAC = C8:1F:66:B9:70:AF)

You will receive an e-mail confirming your activation request. The Juniper product activation team will complete the activation request within two business days and send you a license key.

4. Download your software.

Find your product software on the [Juniper Software Downloads page](#). You will need to sign in with your Juniper user account and provide your software serial number.

5. Install your software.

Install your software according to the instructions in the software documentation at [NorthStar Controller](#). Make sure to enter the license key as instructed during installation.

Need Help?

For additional assistance, you may contact Juniper Networks by opening a case online through the Juniper Customer Support Center (CSC) [Service Request Manager](#).

RELATED DOCUMENTATION

| [NorthStar Controller Technical Documentation](#)

Activate Juniper Cloud Workload Protection Licenses

This topic describes how to obtain the appropriate license keys and software required for your Juniper Networks Cloud Workload Protection software.

1. Create a user account.

To access your software, you need an approved user account with Juniper Networks. If you do not already have one, you can create an account through the [User Registration Portal](#).

Note: Compliance approval typically takes two hours following the creation of a new Juniper User Account.

2. Retrieve your software serial number.

The software serial number is a unique 14-digit number that Juniper uses to identify your Juniper Networks software installation (or purchased capacity). You can find this number in the Software Serial Number Certificate attached to the e-mail sent when you ordered your Juniper Networks Service. Store the Software Serial Number in a safe place, as you'll need it later to identify your installation when engaging Juniper for support.

3. Request your licensed software.

Open an admin case by going to support on <https://www.juniper.net/> and then selecting [Juniper Support Portal](#). Under cases, you can now open a case and enter the following information to facilitate your request. You may also call Customer Care via telephone if you prefer:

- Subject Line: Juniper Cloud Workload Protection Software Request
- Description:

- Sales order number
- Software product SKU
- Serial Number/SSRN (enter the software serial number provided in your license fulfillment e-mail). If available, please attach the software serial number certificate (PDF) to the admin service request.
- Email address for the master admin account – this can be the same as the Juniper user account or a different email address if preferred. Ensure that the incoming email from outside your organization is allowed.

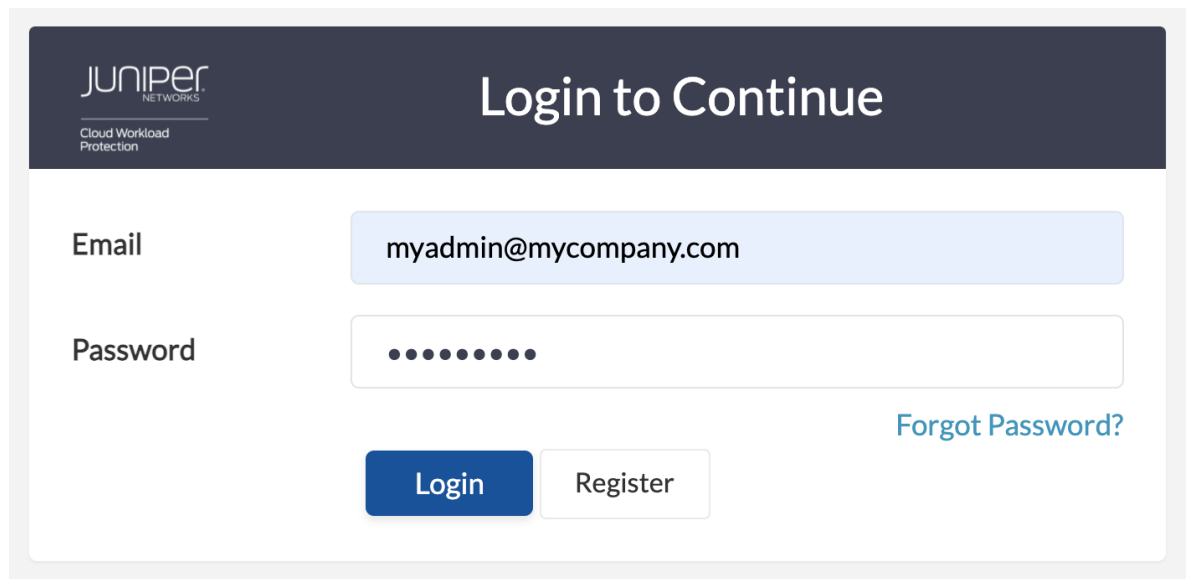
Temporary log in details are emailed automatically once your account is set up. Once your service request is processed, you'll receive an email with your account information. Your product is automatically licensed.

4. Access Juniper Cloud Workload Protection portal.

1. Go to [Juniper Cloud Workload Protection](#).

NOTE: If you have purchased the on-prem version of the software, you'll still need to login initially to the SaaS portal in order to download the full software.

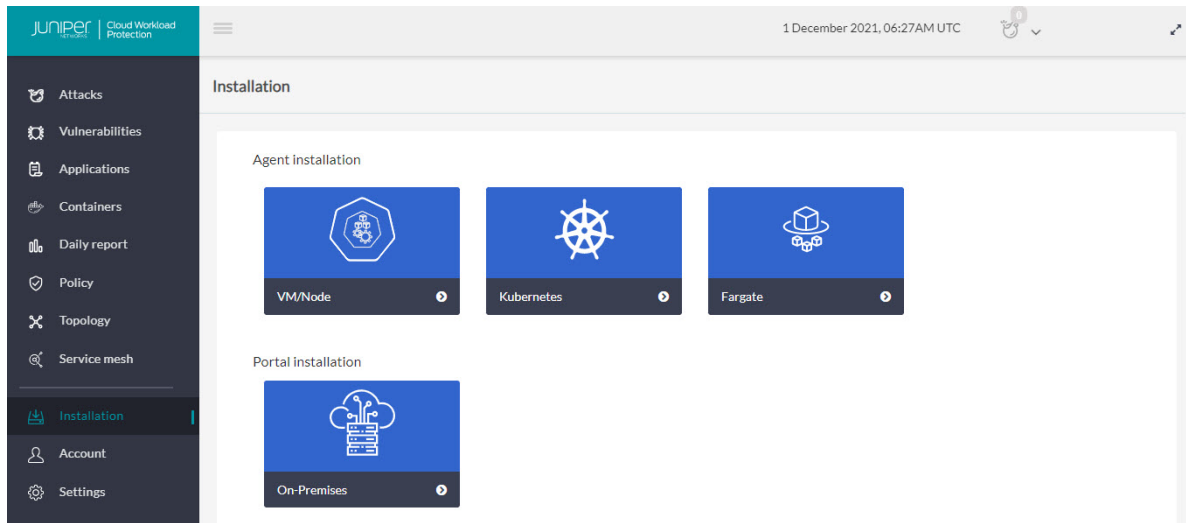
2. Enter your log in details. Use the log in information you received in the email to sign into your account for the first time.



The screenshot shows the Juniper Cloud Workload Protection login interface. At the top left is the Juniper Networks logo and the text 'Cloud Workload Protection'. The main heading is 'Login to Continue'. Below this are two input fields: 'Email' with the value 'myadmin@mycompany.com' and 'Password' with masked characters. To the right of the password field is a link 'Forgot Password?'. At the bottom are two buttons: 'Login' (highlighted in blue) and 'Register'.

Click **Login** to continue. Upon successful authentication, you'll be directed to the Juniper Cloud Workload Protection dashboard.

5. Navigate to the Installation tab.



6. Use Agent installation option for both the SaaS and on-prem options. The Portal installation option is only accessible if you purchase on-prem option. Follow the instructions on the screen to download and install agents.

RELATED DOCUMENTATION

[Juniper Cloud Workload Protection](#)

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Managing Licenses

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Install and Manage License

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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.

```
# set chassis license scale ?
Possible completions:
  advance          Advance license
```

base	Base license
premium	Premium license

3. Set the chassis license bandwidth in Mbps.

```
# set chassis license bandwidth ?
Possible completions:
<bandwidth>          Configure bandwidth of FPC in Mbps
```

Managing vMX Licenses

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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:

```
user@vmx> request system license add terminal
XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX
```

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

```
user@vmx> request system license add terminal
XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX

information: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX: Ignoring the license for feature id:
272(License for activating IP Tunnels scale).This feature is not used by your product.
XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX: successfully added
XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX: successfully added
add license complete (no errors)
```

2. Verify that the license is installed. VMX-BANDWIDTH indicates the licensed bandwidth (in Mbps) and VMX-SCALE indicates the application package. In Juniper Agile Licensing, when you execute `show system license`, super features are expanded to base feature and base feature name is displayed in the Licenses installed section.

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

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
VMX-BANDWIDTH	0	40000	0	2023-05-11 05:30:00 IST

Licenses installed:

```
License identifier: xxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxxxx
License SKU: (NCKT)S-VMX-40G-P-TEST
License version: 1
Order Type: demo
Software Serial Number: 20222021-00XXX
Customer ID: Juniper Internal
License count: 40000
```

Features:

VMX-BANDWIDTH - Max bandwidth supported by the VMX
 date-based, 2022-05-11 05:30:00 IST - 2023-05-11 05:30:00 IST

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:

```
user@vmx> request system license delete JUNOS640113
```

3. Verify that the license is deleted.

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

License usage:

	Licenses	Licenses	Licenses	Expiry
Feature name	used	installed	needed	
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent

Licenses installed: none

Apply 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 the cloud-native router controller (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:

```
user@crpd> request system license add terminal
XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX
XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX
XXXXXXXX XXXXXXXXXXX
```

2. Verify the installed license.

```
show system license
```

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
containerized-rpd-standard	1	1	0	2023-03-09 00:00:00 UTC

Licenses installed:

License identifier: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX

License SKU: (NCKT)S-CRPD-DEMOLAB

License version: 1

Order Type: demo

Software Serial Number: XXXXXXXXXXXX-XXXXX

Customer ID: Juniper Internal

License count: 1

Features:

containerized-rpd-standard - Containerized routing protocol daemon with standard features
date-based, 2022-03-09 00:00:00 UTC - 2023-03-09 00:00:00 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.

```
user@crpd# set system license keys key "XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX  
XXXXXXXXX .....XXXXXXXXXXXX XXXXXXXXXXX"
```

2. Verify the installed license.

```
show system license
```

License usage:

Licenses	Licenses	Licenses	Expiry
----------	----------	----------	--------

Feature name	used	installed	needed	
containerized-rpd-standard	1	1	0	2023-03-09 00:00:00 UTC

Licenses installed:

License identifier: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX

License SKU: (NCKT)S-CRPD-DEMOLAB

License version: 1

Order Type: demo

Software Serial Number: XXXXXXXXXXXX-XXXXX

Customer ID: Juniper Internal

License count: 1

Features:

containerized-rpd-standard - Containerized routing protocol daemon with standard features
date-based, 2022-03-09 00:00:00 UTC - 2023-03-09 00:00:00 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:

```
user@csrx> request system license add terminal
XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX
```

```
XXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXX XXXXXXXXXXXX
```

2. Verify the installed license.

```
user@csrx> show system license
```

```
show system license
```

```
License usage:
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
anti_spam_key_sb1	0	1	0	2024-12-04 23:59:00 UTC
idp-sig	0	1	0	2024-12-04 23:59:00 UTC
appid-sig	0	1	0	2024-12-04 23:59:00 UTC
av_key_sophos_engine	0	1	0	2024-12-04 23:59:00 UTC
wf_key_websense_ewf	0	1	0	2024-12-04 23:59:00 UTC
cSRX	1	1	0	2024-12-04 23:59:00 UTC

```
Licenses installed:
```

```
License identifier: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX
```

```
License SKU: S-CSRX-A2-5
```

```
License version: 1
```

```
Order Type: commercial
```

```
Customer ID: |**CustomerId**|
```

```
License count: 1
```

```
Features:
```

```
idp-sig          - IDP Signature
    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_sb1 - 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.

```
user@csrx# set system license keys key "XXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX
XXXXXXXXX .....XXXXXXXXX XXXXXXXXXX"
```

2. Verify the installed license.

```
user@csrx> show system license
```

```
show system license
```

```
License usage:
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
anti_spam_key_sbl	0	1	0	2024-12-04 23:59:00 UTC
idp-sig	0	1	0	2024-12-04 23:59:00 UTC
appid-sig	0	1	0	2024-12-04 23:59:00 UTC
av_key_sophos_engine	0	1	0	2024-12-04 23:59:00 UTC
wf_key_websense_ewf	0	1	0	2024-12-04 23:59:00 UTC
cSRX	1	1	0	2024-12-04 23:59:00 UTC

```
Licenses installed:
```

```
License identifier: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX
```

```
License SKU: S-CSRX-A2-5
```

```
License version: 1
```

```
Order Type: commercial
```

```
Customer ID: |**CustomerId**|
```

```
License count: 1
```

```
Features:
```

```
idp-sig - IDP Signature
```

```
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

IN THIS SECTION

- [Add License Using a License File | 22](#)
- [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:

```
user@vSRX> request system license add terminal
XXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXXXX XXXXXXXXXXXX
```

2. Verify the installed license.

```
user@vSRX> show system license
```

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
anti_spam_key_sbl	0	1	0	30 days
idp-sig	0	1	0	30 days
appid-sig	0	1	0	30 days
av_key_sophos_engine	0	1	0	30 days
logical-system	1	3	0	permanent
wf_key_websense_ewf	0	1	0	30 days

Virtual Appliance	1	1	0	59 days
remote-access-ipsec-vpn-client	0	2	0	permanent

Licenses installed:

License identifier: XXXX-XXXX-XXXXX-XXXX

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-XXXX

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.

```
user@vSRX# set system license keys key "XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX
XXXXXXXXX .....XXXXXXXXXXXXXXXXXXXX"
```

2. Verify the installed license.

```
user@vSRX> show system license
License usage:
```

Feature name	Licenses		Licenses needed	Expiry
	used	installed		
anti_spam_key_sbl	0	1	0	30 days
idp-sig	0	1	0	30 days
appid-sig	0	1	0	30 days
av_key_sophos_engine	0	1	0	30 days
logical-system	1	3	0	permanent
wf_key_websense_ewf	0	1	0	30 days
Virtual Appliance	1	1	0	59 days
remote-access-ipsec-vpn-client	0	2	0	permanent

Licenses installed:

License identifier: XXXX-XXXX-XXXXX-XXXX

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-XXXX

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:

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:

```
user@qfx> request system license add terminal
XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX
XXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX XXXXXXXXXXX
XXXXXXXX XXXXXXXXXXX
```

2. Verify the installed license.

```
user@qfx> show system license
show system license
License usage:

Feature name          Licenses   Licenses   Licenses   Expiry
                     used      installed  needed
esi-lag                0           1           0  permanent
l3static               1           0           1  invalid

Licenses installed:
License identifier: XXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX
License SKU: DEV-SKU-jnpr
License version: 1
Order Type: commercial
Software Serial Number: xxxxxxx-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.

```
user@qfx# set system license keys key "XXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX
XXXXXXXXX .....XXXXXXXXX XXXXXXXXXX"
```

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         0    permanent
l3static        1         0         1     invalid

Licenses installed:
License identifier: XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX
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](#).

Adding New Licenses (CLI Procedure)

IN THIS SECTION

- [Installing a License Using a Configuration Statement | 27](#)
- [Installing a License Using an Operational Command | 32](#)

Before adding new licenses, complete the following tasks:

- Purchase the required licenses.
- Establish basic network connectivity with the router or switch. For instructions on establishing basic connectivity, see the *Getting Started Guide* or *Quick Start Guide* for your device.

There are two ways to add licenses using the Junos OS CLI:

- The `system license keys key` configuration statement enables you to configure and delete license keys in a Junos OS CLI configuration file.
- The `request system license add` operational command installs a license through URL or using the license file.

On QFabric systems, install your licenses in the default partition of the QFabric system and not on the individual components (Node devices and Interconnect devices).

To add licenses, complete one of the following procedures:

Installing a License Using a Configuration Statement

IN THIS SECTION

- [Installing Licenses Using the CLI Directly | 28](#)
- [Installing Licenses Using a Configuration File | 29](#)

Starting with Junos OS Release 15.1, you can configure and delete license keys in a Junos OS CLI configuration file. The `system license keys key` statement at the `[edit]` hierarchy level installs a license by using a configuration statement.

The `system license keys key` configuration statement is not required to install a license. The operational command `request system license add` installs a license immediately. But because the `set system license keys key` command is a configuration statement, you can use it to install a license as part of a configuration commit, either directly or by configuration file.

The license keys are validated and installed after a successful commit of the configuration file. If a license key is invalid, the commit fails and issues an error message. You can configure individual license keys or multiple license keys by issuing Junos OS CLI commands or by loading the license key configuration contained in a file. All installed license keys are stored in the `/config/license/` directory.

Select a procedure to install a license using configuration:

Installing Licenses Using the CLI Directly

To install an individual license key using the Junos OS CLI:

1. Issue the `set system license keys key name` statement.

The *name* parameter includes the license ID and the license key. For example:

```
[edit]
user@device# set system license keys key "JUNOS_TEST_LIC_FEAT xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx"
```

To install multiple license keys in the Junos OS CLI, issue the `set system license keys key name` statement for each license key to install. For example:

```
[edit]
user@device# set system license keys key "key_1"
set system license keys key "key_2"
set system license keys key "key_2"
set system license keys key "key_4"
```

2. Issue the `commit` command.

```
[edit]
user@device# commit
commit complete
```

3. Verify that the license key was installed.

For example:

```
user@device# run show system license
```

License usage:

	Licenses used	Licenses installed	Licenses needed	Expiry
Feature name				
sdk-test-feat1	0	1	0	permanent

Licenses installed:

License identifier: JUNOS_TEST_LIC_FEAT

License version: 2

Features:

 sdk-test-feat1 - JUNOS SDK Test Feature 1
 permanent

Alternatively, you can issue the `show system license` command from operational mode.

Installing Licenses Using a Configuration File

Before you begin, prepare the configuration file. In this example, use the Unix shell `cat` command to write the `license.conf` file:

1. Go to the shell.

```
[edit]
user@device# exit
user@device> exit
%
```

2. Open the new `license.conf` file.

```
% cat > license.conf
```

3. Type the configuration information for the license key or keys:

- For a single license, for example, type the following content:

```
system {
  license {
```

```

        keys {
            key "JUNOS_TEST_LIC_FEAT xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx";
        }
    }
}

```

- For multiple license keys, for example, type something like this:

```

system {
    license {
        keys {
            key "key_1"
            key "key_2"
            key "key_3"
            ...
            key "key_n"
        }
    }
}

```

4. Press Ctrl+d to save the file.

To install a license key configuration in a file:

1. Go to the CLI configuration mode.

```

% cli
user@device> configure
[edit]
user@device#

```

2. Load and merge the license configuration file.

For example:

```

user@device# load merge license.conf
load complete

```

3. Issue the `show | compare` command to see the configuration.

For example:

```
[edit]
user@device# show | compare
[edit system]
+ license {
+   keys {
+       key "JUNOS_TEST_LIC_FEAT xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx";
+   }
+ }
```

4. Issue the `commit` command.

```
[edit]
user@device# commit
```

5. To verify that the license key was installed, issue the `show system license` command.

For example:

```
root@switch> show system license
```

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
sdk-test-feat1	0	1	0	permanent

Licenses installed:

License identifier: JUNOS_TEST_LIC_FEAT

License version: 2

Features:

 sdk-test-feat1 - JUNOS SDK Test Feature 1
 permanent

Reboot the device after license installation on the SRX300, SRX320, SRX320-POE, SRX340, SRX345, SRX380, SRX550, and SRX550-M devices. Rebooting the device sets system resources to support session capacity of the installed license.

Installing a License Using an Operational Command

IN THIS SECTION

- [Adding a License to a Device with a Single Routing Engine | 32](#)
- [Adding a License to a Device with Dual Routing Engines | 32](#)

Complete the procedure that relates to your system:

Adding a License to a Device with a Single Routing Engine

To add a new license key to the device using an operational command:

1. From the CLI operational mode, enter one of the following CLI commands:

- To add a license key from a file or URL, enter the following command, specifying the filename or the URL where the key is located:

```
user@host> request system license add filename | url
```

- To add a license key from the terminal, enter the following command:

```
user@host> request system license add terminal
```

2. When prompted, enter the license key, separating multiple license keys with a blank line.

If the license key you enter is invalid, an error appears in the CLI output when you press Ctrl+d to exit license entry mode.

3. Go on to ["Verifying Junos OS License Installation \(CLI\)" on page 36](#).

Adding a License to a Device with Dual Routing Engines

On routers that have graceful Routing Engine switchover (GRES) enabled, after successfully adding the new license on the primary Routing Engine, the license keys are automatically synchronized on the backup Routing Engine as well. However, in case GRES is not enabled, the new license is added on each

Routing Engine separately. This ensures that the license key is enabled on the backup Routing Engine during changeover of primary role between the Routing Engines.

To add a new license key to a router with dual Routing Engines without GRES:

1. After adding the new license key on the primary Routing Engine, use the `request chassis routing-engine master switch` command to have the backup Routing Engine become the primary Routing Engine.
2. Log in to the active Routing Engine and add the new license key, repeat the same step.

Adding a license key to the router or switch might be delayed if a kernel resynchronization operation is in progress at that time. The following message is displayed on the CLI when the license-adding operation is about to be delayed:

A kernel re-sync operation is in progress. License update may take several minutes to complete.

Deleting License Keys (CLI)

IN THIS SECTION

- [Using the Operational Command to Delete Licenses | 33](#)
- [Using a Configuration Command to Delete Licenses | 34](#)

Before deleting a license, ensure that the features enabled by the license will not be needed.

You can use the `request system license delete` operational command, or the `delete` or `deactivate` configuration command to delete a license:

Using the Operational Command to Delete Licenses

To delete licenses using the `request system license delete` command:

1. Display the licenses available to be deleted.

```
user@host> request system license delete license-identifier-list ?
Possible completions:
  E00468XXX4      License key identifier
  JUNOS10XXX1     License key identifier
  JUNOS10XXX2     License key identifier
```

JUNOS10XXX3	License key identifier
JUNOS10XXX4	License key identifier
[Open a set of values

2. To delete a license key or keys from a device using the CLI operational mode, select one of the following methods:

- Delete a single license by specifying the license ID. Using this option, you can delete only one license at a time.

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

- Delete all license keys from the device.

```
user@host> request system license delete all
```

- Delete multiple license keys from the device. Specify the license identifier for each key and enclose the list of identifiers in brackets.

```
user@host> request system license delete license-identifier-list [JUNOS10XXX1 JUNOS10XXX3  
JUNOS10XXX4 ...]
```

```
Delete license(s) ?  
[yes,no] (no) yes
```

3. Verify the license was deleted by entering the `show system license` command.

Using a Configuration Command to Delete Licenses

Starting in Junos OS Release 16.1, to remove licenses from the configuration, you can use either the `delete` or `deactivate` configuration command. The `delete` command deletes a statement or identifier, and all subordinate statements and identifiers contained within the specified statement path are deleted with it. The `deactivate` command adds the `inactive:` tag to a statement, effectively commenting out the statement or identifier from the configuration. Statements or identifiers marked as inactive do not take effect when you issue the `commit` command. To remove the `inactive:` tag from a statement, issue the `activate` command. Statements or identifiers that have been activated take effect when you next issue the `commit` command.

The following procedure uses the `delete` command, but you could use the `deactivate` command as well.

To delete one or all licenses using the `delete` command:

You can use the deactivate command instead of the delete command in this procedure.

1. Display the licenses available to be deleted.

Issue the `run request system license delete license-identifier-list ?` command from the configuration mode of the CLI.

```
[edit]
user@host# run request system license delete license-identifier-list ?
```

A list of licenses on the device is displayed:

```
Possible completions:
E00468XXX4      License key identifier
JUNOS10XXX1     License key identifier
JUNOS10XXX2     License key identifier
JUNOS10XXX3     License key identifier
JUNOS10XXX4     License key identifier
[               Open a set of values
```

2. Delete the license or licenses you want.

- To delete a single license, for example:

```
[edit]
user@host# delete system license keys key "E00468XXX4"
```

- To delete all licenses, for example:

```
[edit]
user@host# delete system license keys
```

3. Commit the configuration by entering the `commit` command.

4. Verify the license was deleted by entering the `show system license` command.

Verifying Junos OS License Installation (CLI)

IN THIS SECTION

- [Displaying Installed Licenses | 36](#)
- [Displaying License Usage | 38](#)

To verify Junos OS license management, perform the following tasks:

Displaying Installed Licenses

IN THIS SECTION

- [Purpose | 36](#)
- [Action | 36](#)
- [Meaning | 37](#)

Purpose

Verify that the expected licenses are installed and active on the device.

Action

From the CLI, enter the `show system license` command.

Sample Output

command-name

```
user@host> show system license
License usage:
      Licenses      Licenses      Licenses      Expiry
Feature name    used    installed    needed
subscriber-acct      0          1          0    permanent
```

subscriber-auth	0	1	0	permanent
subscriber-addr	0	1	0	permanent
subscriber-vlan	0	1	0	permanent
subscriber-ip	0	1	0	permanent
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent

Licenses installed:

License identifier: E000185416

License version: 2

Features:

subscriber-acct - Per Subscriber Radius Accounting
permanent

subscriber-auth - Per Subscriber Radius Authentication
permanent

subscriber-addr - Address Pool Assignment
permanent

subscriber-vlan - Dynamic Auto-sensed Vlan
permanent

subscriber-ip - Dynamic and Static IP
permanent

Meaning

The output shows a list of the license usage and a list of the licenses installed on the device. Verify the following information:

- Each license is present. Licenses are listed in ascending alphanumeric order by license ID.
- The state of each license is permanent.

A state of `invalid` indicates that the license key is not a valid license key. Either it was entered incorrectly or it is not valid for the specific device.

- The feature for each license is the expected feature. The features enabled are listed by license. An all-inclusive license has all features listed.
- All configured features have the required licenses installed. The Licenses needed column must show that no licenses are required.

Displaying License Usage

IN THIS SECTION

- Purpose | 38
- Action | 38
- Meaning | 38

Purpose

Verify that the licenses fully cover the feature configuration on the device.

Action

From the CLI, enter the `show system license usage` command.

Sample Output

command-name

```
user@host> show system license usage
```

	Licenses	Licenses	Licenses	Expiry
Feature name	used	installed	needed	
subscriber-addr	1	0	1	29 days
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent

Meaning

The output shows any licenses installed on the device and how they are used. Verify the following information:

- Any configured licenses appear in the output. The output lists features in ascending alphabetical order by license name. The number of licenses appears in the third column. Verify that you have installed the appropriate number of licenses.

- The number of licenses used matches the number of configured features. If a licensed feature is configured, the feature is considered used. The sample output shows that the subscriber address pooling feature is configured.
- A license is installed on the device for each configured feature. For every feature configured that does not have a license, one license is needed.

For example, the sample output shows that the subscriber address feature is configured but that the license for the feature has not yet been installed. The license must be installed within the remaining grace period to be in compliance.

Saving License Keys (CLI)

To save the licenses installed on a device:

From operational mode, do one of the following tasks

- To save the installed license keys to a file or URL, enter the following command:

```
user@host> request system license save filename | url
```

For example, the following command saves the installed license keys to a file named **license.config**:

```
user@host> request system license save license.config
```

- To output installed license keys to the terminal, enter the following command:

```
user@host> request system license save terminal
```

show system license

IN THIS SECTION

● Syntax | 40

- [Description | 40](#)
- [Options | 40](#)
- [Required Privilege Level | 40](#)
- [Output Fields | 41](#)
- [Sample Output | 42](#)
- [Release Information | 51](#)

Syntax

```
show system license
<brief | detail | installed | key-content filename | keys | usage>
```

Description

Display licenses and information about how they are used.

Options

brief	Display brief output (default).
detail	Display detailed output.
installed	(Optional) Display installed licenses only.
key-content <i>filename</i>	(Optional) Display license key contents of the specified filename.
keys	(Optional) Display a list of license keys. Use this information to verify that each expected license key is present.
usage	(Optional) Display the state of licensed features.

Required Privilege Level

maintenance

Output Fields

Table 2 on page 41 lists the output fields for the `show system license` command. Output fields are listed in the approximate order in which they appear.

Table 2: show system license Output Fields

Field Name	Field Description
Feature name	Name assigned to the configured feature. You use this information to verify that all the features for which you installed licenses are present.
Licenses used	<p>Number of licenses used by a router or switch. You use this information to verify that the number of licenses used matches the number configured. If a licensed feature is configured, the feature is considered used.</p> <p>In Junos OS Release 10.1 and later, the Licenses used column displays the actual usage count based on the number of active sessions or connections as reported by the corresponding feature daemons. This is applicable for scalable license-based features such as Subscriber Access (scale-subscriber), L2TP (scale-l2tp), Mobile IP (scale-mobile-ip), and so on.</p>
Licenses installed	<p>Information about the installed license key:</p> <ul style="list-style-type: none"> • License identifier—Identifier associated with a license key. • State—State of the license key:valid or invalid. An invalid state indicates that the key was entered incorrectly or is not valid for the specific device. • License version—Version of a license. The version indicates how the license is validated, the type of signature, and the signer of the license key. • Customer ID—Name of the customer license is for. Feature added as of Junos OS Release 15.1 for data center customers (for example QFX Series platform users). • Valid for device—Device that can use a license key. • Group defined—Group membership of a device. • Features—Feature associated with a license, such as data link switching (DLSw).
Licenses needed	Number of licenses required for features being used but not yet properly licensed.

Table 2: show system license Output Fields (Continued)

Field Name	Field Description
Expiry	Amount of time left within the grace period before a license is required for a feature being used.

Sample Output

show system license (Virtual devices such as VMX and vSRX)

```
user@host> show system license
```

```
License usage:
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
VMX-SCALE	0	1	0	permanent
VMX-BANDWIDTH	0	130000	0	permanent
mobile-next-DPI-base	0	1000	0	permanent
mobile-next-policy-prepaid-scaling	0	1000	0	permanent
mobile-next-http-app-scaling	0	1000	0	permanent
mobile-next-scaling	0	1000	0	permanent
logical-system	0	1	0	permanent
ax411-wlan-ap	0	2	0	permanent
dynamic-vpn	0	2	0	permanent
scale-mobile-ip	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-subscriber	0	64010	0	permanent

```
Licenses installed:
```

```
License identifier: RMS818090001
```

```
License version: 1
```

```
Software Serial Number: AID000000001
```

```
Customer ID: LABJuniperTest
```

```
License count: 1
```

```
Features:
```

```
VMX-SCALE - Max scale supported by the VMX
```

```
date-based, 2017-03-15 05:30:00 IST - 2017-05-14 05:30:00 IST
```

```
License identifier: RMS818020001
```

```
License version: 1
```

```

Software Serial Number: AID000000001
Customer ID: VMX-JuniperNetworks
License count: 1
Features:
  VMX-SCALE      - Max scale supported by the VMX
                  permanent
...

```

show system license

```
user@host> show system license
```

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
subscriber-accounting	2	2	0	permanent
subscriber-authentication	1	2	0	permanent
subscriber-address-assignment	2	2	0	permanent
subscriber-vlan	2	2	0	permanent
subscriber-ip	0	2	0	permanent
scale-subscriber	2	3	0	permanent
scale-l2tp	4	5	0	permanent
scale-mobile-ip	1	2	0	permanent

Licenses installed:

License identifier: XXXXXXXXXX

License version: 2

Customer ID: ACME CORPORATIOM

Features:

subscriber-accounting - Per Subscriber Radius Accounting
permanent

subscriber-authentication - Per Subscriber Radius Authentication
permanent

subscriber-address-assignment - Radius/SRC Address Pool Assignment
permanent

subscriber-vlan - Dynamic Auto-sensed Vlan
permanent

subscriber-ip - Dynamic and Static IP
permanent

show system license installed

```

user@host> show system license installed
License identifier: XXXXXXXXXX
License version: 2
Features:
  subscriber-accounting - Per Subscriber Radius Accounting
    permanent
  subscriber-authentication - Per Subscriber Radius Authentication
    permanent
  subscriber-address-assignment - Radius/SRC Address Pool Assignment
    permanent
  subscriber-vlan - Dynamic Auto-sensed Vlan
    permanent
  subscriber-ip - Dynamic and Static IP
    permanent

```

show system license keys

```

user@host> show system license keys
XXXXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXX

```

show system license usage

```

user@host> show system license usage
License usage:

```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
subscriber-accounting	2	2	0	permanent
subscriber-authentication	1	2	0	permanent
subscriber-address-assignment	2	2	0	permanent
subscriber-vlan	2	2	0	permanent
subscriber-ip	0	2	0	permanent
scale-subscriber	2	3	0	permanent
scale-l2tp	4	5	0	permanent
scale-mobile-ip	1	2	0	permanent

show system license (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```
user@host> show system license
License usage:

Feature name          Licenses    Licenses    Licenses    Expiry
                     used      installed   needed
scale-subscriber      0         1000        0      permanent
scale-l2tp            0         1000        0      permanent
scale-mobile-ip       0         1000        0      permanent
MX104-2x10Gig-port-0-1 0           1           0      permanent

Licenses installed:
License identifier: XXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1) upgrade
permanent
```

show system license installed (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```
user@host > show system license installed
License identifier: XXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1) upgrade
permanent
```

show system license keys (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```
user@host > show system license keys

XXXXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXX
```

show system license usage (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```
user@host > show system license usage
```

	Licenses	Licenses	Licenses	Expiry
Feature name	used	installed	needed	
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent

show system license (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```
user@host > show system license
License usage:
```

	Licenses	Licenses	Licenses	Expiry
Feature name	used	installed	needed	
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

Licenses installed:

License identifier: XXXXXXXXXX

License version: 2

Features:

MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1) upgrade
permanent

License identifier: XXXXXXXXXX

License version: 2

Features:

MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3) upgrade
permanent

show system license installed (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

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

License identifier: XXXXXXXXXX

License version: 2

Features:

MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1) upgrade
permanent

License identifier: XXXXXXXXXX

License version: 2

Features:

MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3) upgrade
permanent

show system license keys (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```
user@host > show system license keys
```

XXXXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX

XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX

```

XXXXXX XXXX

XXXXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
XXXXXX XXXX

```

show system license usage (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```

user@host > show system license usage

```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

show system license (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```

user@host > show system license
License usage:

```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

```

Licenses installed:
License identifier: XXXXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1) upgrade

```

```

permanent
MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3) upgrade
permanent

```

show system license installed (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```

user@host > show system license installed
License identifier: XXXXXXXXXX
License version: 2
Features:
  MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1) upgrade
    permanent
  MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3) upgrade
    permanent

```

show system license keys (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```

user@host > show system license keys

XXXXXXXXXX  xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx
            xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx
            xxxxxxx xxxxxxx x

```

show system license usage (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```

user@host > show system license usage

```

	Licenses used	Licenses installed	Licenses needed	Expiry
Feature name				
scale-subscriber	0	1000	0	permanent

scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

show system license (QFX Series)

```
user@switch> show system license
```

License usage:

	Licenses used	Licenses installed	Licenses needed	Expiry
Feature name				
qfx-edge-fab	1	1	1	permanent

Licenses installed:

License identifier: JUNOS417988

License version: 1

Features:

qfx-edge-fab - QFX3000 Series QF/Node feature license
permanent

show system license (QFX5110 Switch with Disaggregated Feature License)

```
user@switch> show system license
```

License usage:

	Licenses used	Licenses installed	Licenses needed	Expiry
Feature name				
bgp	0	1	0	2017-07-05 00:00:00 UTC
isis	0	1	0	2017-07-05 00:00:00 UTC
vxlan	0	1	0	2017-07-05 00:00:00 UTC
ovsdb	0	1	0	2017-07-05 00:00:00 UTC
jbs1	0	1	0	2017-07-02 00:00:00 UTC
upgrade1	0	1	0	2017-07-05 00:00:00 UTC

Licenses installed:

License identifier: JUNOS797095

License version: 4

Software Serial Number: 91730A00223925

Customer ID: Juniper

Features:

JUNOS-BASE-SERVICES-CLASS-1 - QFX Junos Base Services license for Class 1 HW
date-based, 2016-07-01 00:00:00 UTC - 2017-07-02 00:00:00 UTC

```

License identifier: JUNOS797646
License version: 4
Software Serial Number: 91730A00224207
Customer ID: Juniper
Features:
  CLASS-1-JUNOS-BASE-ADVANCED-UPGRADE - Class 1 Junos Base to Advanced Services Upgrade
    date-based, 2016-07-04 00:00:00 UTC - 2017-07-05 00:00:00 UTC

{master:0}

```

show system license key-content srx_1year_sub.lic

```

License Key Content:
  License Id: LICENSE-1
  License version: 4
  Valid for device: CW2716AF0740
  Features:
    idp-sig          - IDP Signature
    date-based, 2016-07-03 00:00:00 GMT - 2017-07-03 00:00:00 GMT

```

Release Information

Command introduced before Junos OS Release 7.4.

Customer ID added to output of data center users in Junos OS Release 15.1.

Corrected output for duration of license added in Junos OS Release 17.4R1.

show system macsec license

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- [Syntax | 52](#)
- [Description | 52](#)
- [Required Privilege Level | 52](#)

- [Output Fields | 52](#)
- [Sample Output | 53](#)
- [Release Information | 53](#)

Syntax

```
show system macsec license
```

Description

Displays MACsec bandwith license usage.

Required Privilege Level

view

Output Fields

[Table 3 on page 52](#) lists the output fields for the `show system macsec license` command. Output fields are listed in the approximate order in which they appear.

Table 3: show system license Output Fields

Field Name	Field Description
Flex-only line cards	The Flex-only line cards requires MACsec bandwidth license. Junos OS displays a warning when you commit the configuration and generates alarms, if the MACsec bandwidth license is not installed or the MACsec bandwidth usage is more than the installed value.
Flex-capable linecards	The Flex-capable line cards does not require MACsec bandwidth license. There will be no alarms or syslog messages for these line cards if license is not installed. However, the MACsec bandwidth usage on these line cards will be tracked.
Total MACSec Bandwidth Usage	Displays the total bandwidth used by the MACsec feature.

Table 3: show system license Output Fields (Continued)

Field Name	Field Description
Total MACSec Bandwidth Usage on Flex-only + Flex-capable line cards	Displays the sum of total MACsec bandwidth used on Flex-only and Flex-capable line cards.

Sample Output

show system macsec license

```

user@host> show system macsec license
Flex-only linecards:
Total MACSec Bandwidth Usage: 100G

Flex-capable linecards:
Total MACSec Bandwidth Usage: 200G

Total MACSec Bandwidth Usage on Flex-only + Flex-capable cards: 300G

```

Release Information

Command introduced in Junos OS Release 23.1R1.

show system license (View)

IN THIS SECTION

- [Syntax | 54](#)
- [Description | 54](#)
- [Options | 54](#)
- [Required Privilege Level | 54](#)

- [Output Fields | 54](#)
- [Sample Output | 55](#)
- [Release Information | 57](#)

Syntax

```
show system license
<installed | keys | status | usage>
```

Description

Display licenses and information about how licenses are used.

Options

- none** Display all license information.
- installed** (Optional) Display installed licenses only.
- keys** (Optional) Display a list of license keys. Use this information to verify that each expected license key is present.
- status** (Optional) Display license status for a specified logical system or for all logical systems.
- usage** (Optional) Display the state of licensed features.

Required Privilege Level

view

Output Fields

[Table 4 on page 55](#) lists the output fields for the `show system license` command. Output fields are listed in the approximate order in which they appear.

Table 4: show system license Output Fields

Field Name	Field Description
Feature name	Name assigned to the configured feature. You use this information to verify that all the features for which you installed licenses are present.
Licenses used	Number of licenses used by the device. You use this information to verify that the number of licenses used matches the number configured. If a licensed feature is configured, the feature is considered used.
Licenses installed	Information about the installed license key: <ul style="list-style-type: none"> • License identifier—Identifier associated with a license key. • License version—Version of a license. The version indicates how the license is validated, the type of signature, and the signer of the license key. • Valid for device—Device that can use a license key. • Features—Feature associated with a license.
Licenses needed	Number of licenses required for features being used but not yet properly licensed.
Expiry	Time remaining in the grace period before a license is required for a feature being used.
Logical system license status	Displays whether a license is enabled for a logical system.

Sample Output

show system license

```
user@host> show system license
```

```
License usage:
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
av_key_kaspersky_engine	1	1	0	2012-03-30 01:00:00 IST

wf_key_surfcontrol_cpa	0	1	0	2012-03-30 01:00:00 IST
dynamic-vpn	0	1	0	permanent
ax411-wlan-ap	0	2	0	permanent

Licenses installed:

License identifier: JUNOS301998

License version: 2

Valid for device: AG4909AA0080

Features:

av_key_kaspersky_engine - Kaspersky AV

date-based, 2011-03-30 01:00:00 IST - 2012-03-30 01:00:00 IST

License identifier: JUNOS302000

License version: 2

Valid for device: AG4909AA0080

Features:

wf_key_surfcontrol_cpa - Web Filtering

date-based, 2011-03-30 01:00:00 IST - 2012-03-30 01:00:00 IST

show system license installed

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

License identifier: JUNOS301998

License version: 2

Valid for device: AG4909AA0080

Features:

av_key_kaspersky_engine - Kaspersky AV

date-based, 2011-03-30 01:00:00 IST - 2012-03-30 01:00:00 IST

License identifier: JUNOS302000

License version: 2

Valid for device: AG4909AA0080

Features:

wf_key_surfcontrol_cpa - Web Filtering

date-based, 2011-03-30 01:00:00 IST - 2012-03-30 01:00:00 IST

show system license keys

```
user@host> show system license keys

XXXXXXXXXX xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx
          xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx
          xxxxxxx xxxxxxx xxx
```

show system license usage

```
user@host> show system license usage
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
av_key_kaspersky_engine	1	1	0	2012-03-30 01:00:00 IST
wf_key_surfcontrol_cpa	0	1	0	2012-03-30 01:00:00 IST
dynamic-vpn	0	1	0	permanent
ax411-wlan-ap	0	2	0	permanent

show system license status logical-system all

```
user@host> show system license status logical-system
all
Logical system license status:
```

logical system name	license status
root-logical-system	enabled
LSYS0	enabled
LSYS1	enabled
LSYS2	enabled

Release Information

Command introduced in Junos OS Release 9.5. Logical system status option added in Junos OS Release 11.2.

SEE ALSO

[Adding New Licenses \(CLI Procedure\)](#)

traceoptions (System License)

IN THIS SECTION

- [Syntax | 58](#)
- [Hierarchy Level | 59](#)
- [Description | 59](#)
- [Options | 59](#)
- [Required Privilege Level | 60](#)
- [Release Information | 60](#)

Syntax

```
traceoptions {  
  file {  
    filename;  
    files number;  
    match regular-expression;  
    size maximum-file-size;  
    (world-readable | no-world-readable);  
  }  
  flag flag;  
  no-remote-trace;  
}
```

Hierarchy Level

[edit system license]

Description

Set trace options for licenses.

Options

file	Configure the trace file information.
<i>filename</i>	Name of the file to receive the output of the tracing operation. Enclose the name within quotation marks. All files are placed in the directory /var/log . By default, the name of the file is the name of the process being traced.
<i>files number</i>	<p>Maximum number of trace files. When a trace file named trace-file reaches its maximum size, it is renamed trace-file.0, then trace-file.1, and so on, until the maximum number of trace files is reached. Then the oldest trace file is overwritten.</p> <p>If you specify a maximum number of files, you also must specify a maximum file size with the <i>size maximum file-size</i> option.</p> <ul style="list-style-type: none">• Range: 2 through 1000 files• Default: 10 files
<i>match regular-expression</i>	Refine the output to include lines that contain the regular expression.
<i>size size</i>	<p>Maximum size of each trace file, in kilobytes (KB), megabytes (MB), or gigabytes (GB). If you specify a maximum file size, you also must specify a maximum number of trace files with the <i>files number</i> option.</p> <ul style="list-style-type: none">• Range: 10 KB through 1 GB• Default: 128 KB
<i>world-readable</i> <i> no-world-readable</i>	<p>By default, log files can be accessed only by the user who configures the tracing operation. The <i>world-readable</i> option enables any user to read the file. To explicitly set the default behavior, use the <i>no-world-readable</i> option.</p>

flag *flag* Specify which tracing operation to perform. To specify more than one tracing operation, include multiple **flag** statements. You can include the following flags.

- **all**—Trace all operations.
- **config**—Trace license configuration processing.
- **events**—Trace licensing events and their processing.

no-remote-trace Disable the remote tracing.

Required Privilege Level

trace—To view this statement in the configuration.

trace-control—To add this statement to the configuration.

Release Information

Statement introduced in Junos OS Release 8.5.

request system license add

IN THIS SECTION

- [Syntax | 61](#)
- [Description | 61](#)
- [Options | 61](#)
- [Additional Information | 61](#)
- [Required Privilege Level | 62](#)
- [Output Fields | 62](#)
- [Sample Output | 62](#)
- [Release Information | 62](#)

Syntax

```
request system license add (filename | terminal)
```

Description

Adding a license key to the Junos OS devices to activate the feature.

Starting in Junos OS Release 18.3R1, the `display xml rpc` CLI option is supported for `request system license add` and `request system license save` commands while installing licenses on Juniper Networks devices.

Options

filename License key from a file or URL. Specify the filename or the URL where the key is located.

terminal License key from the terminal.

Additional Information

The `| display xml rpc` filter returns “xml rpc equivalent of this command is not available,” the following RPC is supported for license installation:

The following RPC is supported for license installation:

```
<rpc>
<request-license-add>
<key-data> key </key-data>
</request-license-add>
</rpc>
```

Where *key-data* is the license key data.

```
<rpc>
<request-license-add>
<filename> key-file </filename>
</request-license-add>
</rpc>
```

Where *source* is the URL of the source license key file.

Required Privilege Level

maintenance

Output Fields

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system license add

```
user@host> request system license add terminal
XXXXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
          XXXXXX XXXXXX XXX
XXXXXXXXXX: successfully added
add license complete (no errors)
```

Release Information

Command introduced before Junos OS Release 7.4.

Added additional information section on XML RPC in Junos OS Release 17.4.

request system license save

IN THIS SECTION

- [Syntax | 63](#)
- [Description | 63](#)
- [Options | 63](#)
- [Additional Information | 63](#)
- [Required Privilege Level | 63](#)
- [Output Fields | 64](#)

- [Sample Output | 64](#)
- [Release Information | 64](#)

Syntax

```
request system license save (filename | terminal)
```

Description

Save installed license keys to a file or URL.

Starting in Junos OS Release 18.3R1, the `display xml rpc` CLI option is supported for `request system license add` and `request system license save` commands while installing licenses on Juniper Networks devices.

Options

filename License key from a file or URL. Specify the filename or the URL where the key is located.

terminal License key from the terminal.

Additional Information

The following RPC is supported for saving installed license keys to a file or URL:

```
<rpc>
<request-license-save>
<filename>destination</filename>
</request-license-save>
</rpc>
```

Where *destination* is the URL of the destination license key file.

Required Privilege Level

maintenance

Output Fields

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system license save

```
user@host> request system license save ftp://user@host/license.conf
```

Release Information

Command introduced before Junos OS Release 7.4.

Added additional information section on XML RPC in Junos OS Release 17.4.

request system license update

IN THIS SECTION

- [Syntax | 64](#)
- [Description | 65](#)
- [Options | 65](#)
- [Required Privilege Level | 65](#)
- [Output Fields | 65](#)
- [Sample Output | 65](#)
- [Release Information | 66](#)

Syntax

```
request system license update
```

Description

Starts autoupdating license keys from the license portal.

- The **request system license update** command always uses the default Juniper license server: <https://ae1.juniper.net/>.
- The **request system license update** command is supported only on SRX, vSRX, and QFX Series devices.

The products supported by the [Juniper Agile Licensing](#) (JAL) portal includes: QFX series, SRX Series, EX Series, NFX, vBNG, vMX, vSRX, and ACX. For other Juniper products (SPACE, JSA, SBR Carrier, Screen OS and so on) access the [License Management System](#) (LMS).

Options

trial—Immediately updates trial license keys from the license portal.

Required Privilege Level

maintenance

Output Fields

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system license update

```
user@host> request system license update
```

```
Trying to update license keys from https://ae1.juniper.net has been sent, use show system  
license to check status.
```

request system license update trial

```
user@host> request system license update trial
```

Request to automatically update trial license keys from <https://ae1.juniper.net> has been sent, use `show system license` to check status.

Release Information

Command introduced in Junos OS Release 9.5.

request system license delete

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Syntax

```
request system license delete ( license-identifier | license-identifier-list [ licenseid001
licenseid002 licenseid003 ] | all )
```

Description

Delete a license key. You can choose to delete one license at a time, all licenses at once, or a list of license identifiers enclosed in brackets.

Options

license-identifier

Text string that uniquely identifies a license key.

`license-identifier-list [licenseid001
licenseid002 licenseid003...]`

Delete multiple license identifiers as a list enclosed in brackets.

all

Delete all licenses on the device.

Required Privilege Level

maintenance

Release Information

Command introduced before Junos OS Release 7.4.

Option `license-identifier-list` introduced in Junos OS Release 13.1.

license

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- [Hierarchy Level | 68](#)
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Syntax

```
license {  
  autoupdate {  
    url url <password password>;  
  }  
  keys {  
    key key  
  }  
  renew {  
    before-expiration number;
```

```

        interval interval-hours;
    }
    traceoptions {
        file {
            filename;
            files number;
            match regular-expression;
            size maximum-file-size;
            (world-readable | no-world-readable);
        }
        flag flag;
        no-remote-trace;
    }
}

```

Hierarchy Level

```
[edit system]
```

Description

Specify license information for the device.

Options

<code>autoupdate</code>	Autoupdate license keys from license servers.
<code>before-expiration</code> <i>number</i>	License renewal lead time before expiration, in days. <ul style="list-style-type: none"> • Range: 0 through 60 days
<code>interval</code> <i>interval-hours</i>	License checking interval, in hours. <ul style="list-style-type: none"> • Range: 1 through 336 hours
<code>keys</code> <code>key</code> <i>key</i>	Configure one or more license keys. For example,

```

[edit]
user@device# set system license keys key "key_1"
user@device# set system license keys key "key_2"

```

```

user@device# set system license keys key "key_3"
user@device# set system license keys key "key_4"
user@device# commit
commit complete

```

renew License renewal lead time and checking interval.

url URL of a license server.

The remaining statements are explained separately. See [CLI Explorer](#).

Required Privilege Level

system—To view this statement in the configuration.

system-control—To add this statement to the configuration.

Release Information

Statement introduced in Junos OS Release 8.5.

Options **keys** introduced in Junos OS Release 14.1X53-D10.

license-type

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- [Hierarchy Level | 70](#)
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Syntax

```
license-type license deployment-scope [ deployments ];
```

Hierarchy Level

```
[edit system extensions providersprovider-id]
```

Description

Configure the license type and the scope of SDK application deployment.

Options

- license*—Type of license. Obtain correct value from the application’s provider.
- deployment*—Scope of SDK application deployment. You can configure a set of deployments. Obtain correct value from the application’s provider.

Required Privilege Level

- admin—To view this statement in the configuration.
- admin-control—To add this statement to the configuration.

Release Information

Statement introduced in Junos OS Release 11.1.

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.
16.1	Starting in Junos OS Release 16.1, to remove licenses from the configuration, you can use either the delete or deactivate configuration command.

3

PART

Manage Your Licenses Using JAL

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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 | 74](#)

Juniper Agile Licensing Overview

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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 task-based 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.

- 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.

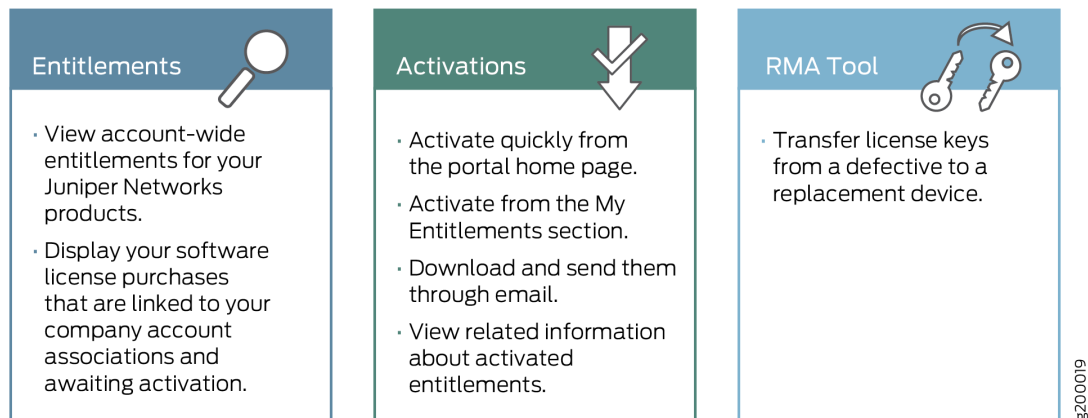
Support for each deployment mode varies by product. Both deployment modes enable efficient management of both subscription and perpetual licenses and may enable combinations of features and capacity depending on the specific license purchased.

Components of Juniper Agile Licensing

1. Juniper Agile Licensing Portal

The Juniper Agile Licensing Portal provides the features shown in [Figure 1 on page 73](#).

Figure 1: Juniper Agile Licensing Portal Features



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

IN THIS SECTION

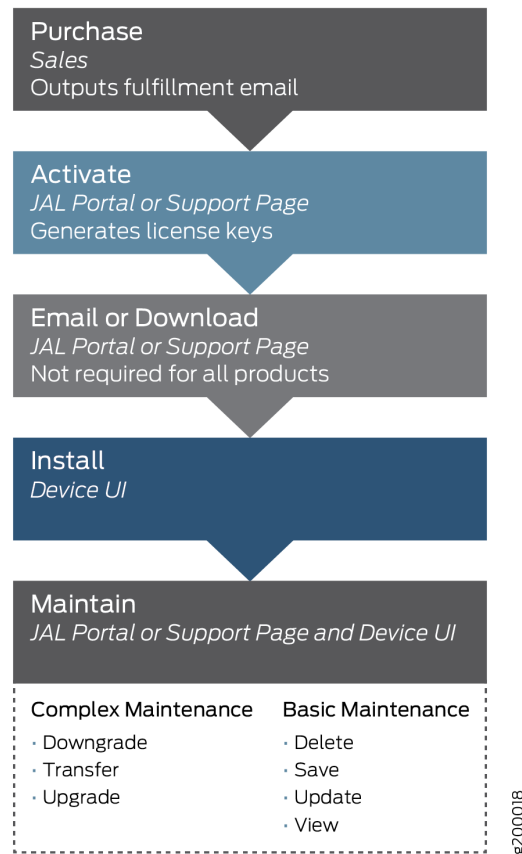
- [Procuring and Managing Licenses | 74](#)

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 75](#).

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 | 76](#)
- [Activating and Deploying Software Entitlements | 78](#)

Juniper Agile License Management

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- [Licensing Models | 77](#)

[Table 5 on page 77](#) 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 5: Licensing Tasks Used to Manage Your Licenses

Licensing Task	Link
View entitlements, activate products to generate licenses, and mail or download licenses.	Activating and Deploying Software Entitlements
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 6 on page 77](#).

Table 6: 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 7 on page 77](#). Unless otherwise stated, license types apply to Juniper Networks customers and potential customers.

Table 7: 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

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

The screenshot shows the Juniper Networks Agile Licensing Portal interface. At the top, there is a navigation bar with the Juniper Networks logo on the left and links for 'Licensing Home', 'Original LMS', 'Portal FAQ', and 'Welcome, MARK JORDAN' on the right. Below the navigation bar, there is a header section with 'Company:', 'Activation Code:', and 'Entitlement Expiration: N/A'. The main content area displays 'Activation Complete' in a large blue font. Below this, there is a table with the following data:

Product Name	Activated	Expiry Date
VBNG-PREF-10K	100	N/A

At the bottom right of the screen, there is a blue button labeled 'I'm Done'.

Generate Voucher Certificate

IN THIS SECTION

- [Generate Voucher Certificate for One Device | 79](#)
- [Generate Voucher Certificates for Multiple Devices | 79](#)

The Juniper Agile Licensing (JAL) Portal generates voucher certificate for your network device. This voucher certificate validates that a device with serial number belongs to the correct owner.

Generate Voucher Certificate for One Device

Let's generate voucher certificate for your network device using the JAL Portal.

1. To onboard a device, open a Web browser and log in to [JAL Portal](#).
2. Click My Entitlements, find the S-ALL-S-DV-P SKU, and click Activate.
3. On the Product Activation page, fill the following details:
 - a. Select the Software Version.
 - b. Enter the Device Serial Number. To find the device serial number, see [Locating my Product Serial Number or Software Support Reference Number \(SSRN\)](#).
 - c. Select the Voucher Certificate expiration date.
 - d. Enter Email ID to which you want to receive the confirmation mail.
 - e. Upload the Pinned Domain Certificate or select the previously uploaded Pinned Domain. To find the pinned domain certificate, see [Generate a Root CA Certificate with CLI](#).
 - f. Read the agreement and select I Agree with Terms and Conditions.
 - a. Click Activate.
4. On the Activation Complete page, you can download or email the activation code using the Download and E-Mail options. Click I'm Done to activate the SKU.
5. You have successfully onboarded your device. You can see the activated SKU in My Activations section.

Generate Voucher Certificates for Multiple Devices

Let's generate voucher certificates for multiple network devices using the JAL Portal.

1. To onboard multiple devices, open a Web browser and log in to [JAL Portal](#).
2. Click Bulk Tool.
3. On the Bulk License Activation Tools page click Bulk Activation Tool.
4. On the Bulk Voucher Certificate Entitlement Activation page, click Download Excel File. A voucher certificate template file gets downloaded.
5. Open the voucher certificate template file and enter the activation code, serial number, software version, and expiration date.
 - a. To find the activate code, navigate to My Entitlements and find the S-ALL-S-DV-P SKU.

- b. To find the device serial number, see [Locating my Product Serial Number or Software Support Reference Number \(SSRN\)](#).
 - c. You can choose a date up to when you want the SZTP to be active.
6. Save the voucher certificate template.
 7. Upload the saved voucher certificate template file.
 8. Upload the Pinned Domain Certificate or select the previously uploaded Pinned Domain. To find the pinned domain certificate, see [Generate a Root CA Certificate with CLI](#).
 9. Enter Email ID to which you want to receive the confirmation mail.
 10. Read the agreement and select I Agree with Terms and Conditions.
 11. Click Upload File.
 12. After the voucher certificate template file is uploaded, you receive two mails.
 - a. First mail informs about the submission of SKUs for activation.
 - a. Second mail to confirm the activation of the SKUs, you can find the activation code in the attached file.
 13. You have successfully onboarded your device. You can see the activated SKU in My Activations section.