

# Juniper Licensing User Guide

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*Juniper Licensing User Guide*

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## YEAR 2000 NOTICE

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

## END USER LICENSE AGREEMENT

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# Table of Contents

## 1

### **Getting Started with Juniper Licenses**

#### **Junos Product Licenses | 3**

ACX Series Licensing Lifecycle | 3

cRPD Licensing Lifecycle | 4

cSRX Licensing Lifecycle | 5

EX Series Switches Licensing Lifecycle | 6

Juniper Secure Connect Licensing Lifecycle | 6

MX Series Routers and MPC Service Cards Licensing Lifecycle | 7

NFX Series Licensing Lifecycle | 8

PTX Series Routers Licensing Lifecycle | 9

QFX Series Switches Licensing Lifecycle | 9

SRX Series Firewall Licensing Lifecycle | 10

vSRX Virtual Firewall Licensing Lifecycle | 11

#### **Cloud and Networking Management Licenses | 12**

ATP Appliance Licensing Lifecycle | 12

ATP Cloud Licensing Lifecycle | 13

Juniper Security Director Cloud Licensing Lifecycle | 14

Junos Space Security Director Licensing Lifecycle | 15

#### **Data Center Licenses | 16**

Juniper Apstra Licensing Lifecycle | 16

#### **Subscriber Services Licenses | 17**

Address Pool Manager Licensing Lifecycle | 17

Access Gateway Function Licensing Lifecycle | 18

Juniper BNG CUPS Licensing Lifecycle | 18

## **Juniper Licensing Operational Process**

**Juniper Software License Model | 21**

Juniper Software License Model Overview | 21

Juniper Flex Three-Tier License Model | 25

**Juniper Licensing Terminology | 27**

**Juniper License Lifecycle | 33**

**Juniper Agile Licensing | 36**

Juniper Agile Licensing (JAL) Portal Overview | 36

| How do I log in to the JAL Portal? | 37

Juniper RMA License Process | 38

Understand Juniper License Delivery | 38

**Activate Juniper Licenses | 43**

Activate Licenses for Juniper Hardware Products | 43

Activate Licenses for Juniper Software Products | 46

Activate Licenses for Juniper Software Products with UUID | 49

Generate Secure ZTP Vouchers | 51

**Monitor Juniper Licenses | 53**

Monitor Licenses in JAL Portal | 53

Monitor Junos Licenses | 55

| Add License | 55

Autoupdate Your License | 57

Renew Your License | 58

Delete License | 59

View License | 62

license | 63

show system license | 65

System Log for License | 79

Product-Specific Licensing Tasks | 79

Viewing Licenses with Network Director	80
Install VCF Software Licenses	82
Junos Space License Installation	82
Exporting the License Inventory	83
Juniper Connected Security for VMware NSX Licensing	86
License Duration	88
License Procurement and Installation	88

## **Juniper License Keys Upgrade | 90**

Upgrade Juniper License Keys During Software Upgrades	90
---	----

## **Juniper License FAQs | 95**

Juniper Licensing Frequently Asked Questions	95
--	----

## **Juniper Software Licenses**

Licenses for Juniper Software	99
Software Licenses for ACX Series	100
Software Licenses for ATP Appliance	107
Software Licenses for ATP Cloud	109
Software Licenses for Contrail Service Orchestration	113
Software Licenses for cRPD	126
Software Licenses for cSRX	128
Software Licenses for EX Series Switches	130
Software Licenses for Juniper Apstra	139
Software Licenses for Juniper Coherent Optics	143
Software Licenses for Juniper Secure Connect	144
Software Licenses for Juniper Security Director Cloud	147
Software Licenses for Junos Space Security Director	149
Software Licenses for MX Series Routers and MPC Service Cards	150
Software Licenses for NFX Series	159

Software Licenses for Northstar Controller	162
Software Licenses for Northstar Planner	166
Software Licenses for Paragon Automation	170
Software Licenses for Paragon Insights	175
Software Licenses for PTX Series Routers	179
Software Licenses for QFX Series Switches	186
Software Licenses for SRX Series Firewalls	195
Software Licenses for Subscriber Services	207
Software Licenses for vSRX Virtual Firewall	210

## 4

**Archive**

Legacy Licensing for EX Series Switches	221
Legacy Licensing for PTX Series Routers	229
Legacy Licensing for QFX Series Switches	233

# Juniper Licenses

## Overview

Juniper Networks offers software feature licenses that meet your business needs. You have the flexibility to purchase licenses as per your network requirements.

Software feature licenses provide Juniper customers the 'right to use' our software. Juniper licenses are simple to implement and transparent with no hidden costs. See [Juniper Software License Model Overview](#).

Go over the next sections to understand the licensing lifecycle for your product.

Find out the software feature license available and how to activate license for your product. Learn how to deploy and monitor the license for your product. Additionally, refer to the license renewal guidelines.

Customers who have not renewed on a timely basis no longer have the right to use (RTU) the software after their term has expired.

# 1

PART

## Getting Started with Juniper Licenses

---

- Juniper Licenses | 2
  - Junos Product Licenses | 3
  - Cloud and Networking Management Licenses | 12
  - Data Center Licenses | 16
  - Subscriber Services Licenses | 17
-

# Juniper Licenses

## IN THIS SECTION

● [Overview](#) | 0

## Overview

Juniper Networks offers software feature licenses that meet your business needs. You have the flexibility to purchase licenses as per your network requirements.

Software feature licenses provide Juniper customers the 'right to use' our software. Juniper licenses are simple to implement and transparent with no hidden costs. See [Juniper Software License Model Overview](#).

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Customers who have not renewed on a timely basis no longer have the right to use (RTU) the software after their term has expired.

# Junos Product Licenses

IN THIS CHAPTER

- ACX Series Licensing Lifecycle | 3
- cRPD Licensing Lifecycle | 4
- cSRX Licensing Lifecycle | 5
- EX Series Switches Licensing Lifecycle | 6
- Juniper Secure Connect Licensing Lifecycle | 6
- MX Series Routers and MPC Service Cards Licensing Lifecycle | 7
- NFX Series Licensing Lifecycle | 8
- PTX Series Routers Licensing Lifecycle | 9
- QFX Series Switches Licensing Lifecycle | 9
- SRX Series Firewall Licensing Lifecycle | 10
- vSRX Virtual Firewall Licensing Lifecycle | 11

## ACX Series Licensing Lifecycle

SUMMARY

Learn about the ACX Series Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for ACX Series</a>

*(Continued)*

Know About	Refer
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## cRPD Licensing Lifecycle

### SUMMARY

Learn about the cRPD Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for cRPD</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>

*(Continued)*

Know About	Refer
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## cSRX Licensing Lifecycle

### SUMMARY

Learn about the cSRX Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for cSRX</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## EX Series Switches Licensing Lifecycle

### SUMMARY

Learn about the EX Series Switches Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for EX Series Switches</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## Juniper Secure Connect Licensing Lifecycle

### SUMMARY

Learn about the Juniper Secure Connect License Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software License for Juniper Secure Connect</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Your Licenses</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## MX Series Routers and MPC Service Cards Licensing Lifecycle

### SUMMARY

Learn about the MX Series Routers and MPC Service Cards Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for MX Series Routers and MPC Service Cards</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>

*(Continued)*

Know About	Refer
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## NFX Series Licensing Lifecycle

### SUMMARY

Learn about the NFX Series Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for NFX Series</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## PTX Series Routers Licensing Lifecycle

### SUMMARY

Learn about the PTX Series Routers Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for PTX Series Routers</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## QFX Series Switches Licensing Lifecycle

### SUMMARY

Learn about the QFX Series Switches Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for QFX Series Switches</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## SRX Series Firewall Licensing Lifecycle

### SUMMARY

Learn about the SRX Series Firewall Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for SRX Series Firewall</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>

*(Continued)*

Know About	Refer
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## vSRX Virtual Firewall Licensing Lifecycle

### SUMMARY

Learn about the vSRX Virtual Firewall Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">vSRX Virtual Firewall</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

# Cloud and Networking Management Licenses

IN THIS CHAPTER

- [ATP Appliance Licensing Lifecycle | 12](#)
- [ATP Cloud Licensing Lifecycle | 13](#)
- [Juniper Security Director Cloud Licensing Lifecycle | 14](#)
- [Junos Space Security Director Licensing Lifecycle | 15](#)

## ATP Appliance Licensing Lifecycle

SUMMARY

Learn about the ATP Appliance Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for ATP Appliance</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>

*(Continued)*

Know About	Refer
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## ATP Cloud Licensing Lifecycle

### SUMMARY

Learn about the ATP Cloud Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for ATP Cloud</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<ul style="list-style-type: none"> <li> <b>For SRX Series Firewall Deployment:</b>            Juniper ATP Cloud does not require you to install a license key onto your SRX Series Firewall.            See <a href="#">License Management and SRX Series Firewalls</a> </li> <li> <b>For vSRX Virtual Firewall Deployment:</b>            See <a href="#">Deploy a License</a> </li> </ul>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>

*(Continued)*

Know About	Refer
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## Juniper Security Director Cloud Licensing Lifecycle

### SUMMARY

Learn about the Juniper Security Director Cloud Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for Juniper Security Director Cloud</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

# Junos Space Security Director Licensing Lifecycle

## SUMMARY

Learn about the Junos Space Security Director Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for Junos Space Security Director</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

# Data Center Licenses

IN THIS CHAPTER

- [Juniper Apstra Licensing Lifecycle | 16](#)

## Juniper Apstra Licensing Lifecycle

SUMMARY

Learn about the Juniper Apstra Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for Juniper Apstra</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

# Subscriber Services Licenses

IN THIS CHAPTER

- [Address Pool Manager Licensing Lifecycle | 17](#)
- [Access Gateway Function Licensing Lifecycle | 18](#)
- [Juniper BNG CUPS Licensing Lifecycle | 18](#)

## Address Pool Manager Licensing Lifecycle

SUMMARY

Learn about the Address Pool Manager Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for Subscriber Services</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## Access Gateway Function Licensing Lifecycle

### SUMMARY

Learn about the Access Gateway Function Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for Subscriber Services</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

## Juniper BNG CUPS Licensing Lifecycle

### SUMMARY

Learn about the Juniper BNG CUPS Licensing Lifecycle.

Know About	Refer
Software Feature License	<a href="#">Software Licenses for Subscriber Services</a>
Activate Your License	<a href="#">Activate a License</a>
Deploy Your License	<a href="#">Deploy a License</a>
Monitor Your License	<a href="#">Monitor Licenses in JAL Portal</a>
Renew Your License	<a href="#">"Renew Your License" on page 32</a> <a href="#">Juniper License Keys Upgrade</a>

# 2

PART

## Juniper Licensing Operational Process

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- Juniper Software License Model | 21
  - Juniper Licensing Terminology | 27
  - Juniper License Lifecycle | 33
  - Juniper Agile Licensing | 36
  - Activate Juniper Licenses | 43
  - Monitor Juniper Licenses | 53
  - Juniper License Keys Upgrade | 90
  - Juniper License FAQs | 95
-

# Juniper Software License Model

## IN THIS CHAPTER

- [Juniper Software License Model Overview | 21](#)
- [Juniper Flex Three-Tier License Model | 25](#)

## Juniper Software License Model Overview

### SUMMARY

Learn about the Juniper Flex three-tier license model and find out about the Juniper license types.

### IN THIS SECTION

- [Juniper Software Licensing Overview | 21](#)
- [Benefits of Juniper Software Licensing | 22](#)
- [Juniper Software License Model | 22](#)
- [Juniper Perpetual Licenses | 22](#)
- [Juniper Subscription Licenses | 23](#)
- [License Portability | 23](#)
- [CapEx vs. OpEx | 24](#)
- [License Renewals | 24](#)
- [License Expiry | 24](#)
- [Trial and Evaluation Licenses | 25](#)

## Juniper Software Licensing Overview

Juniper Networks offers software feature licenses to meet your business needs. Juniper software feature licenses provide you the 'right to use' our software. Our licenses serve all customer segments - enterprise, service provider, and cloud. Juniper software licenses cater to all use cases for Juniper Networks' hardware and software products.

## Benefits of Juniper Software Licensing

- Offers flexibility to purchase licenses as per your network requirements
- Supports flexible, three-tier (Standard/Advanced/Premium) licensing model for products (see “Juniper Flex Three-tier model”)
- Integrates with Juniper Support Services

## Juniper Software License Model

The Juniper software license model, also referred to as ‘Juniper Flex,’ allows you to purchase software licenses of your choice across Juniper high-performance hardware platforms, virtual and cloud platforms, and standalone software and services.

Software on High-performance platforms	Software on Juniper, virtual, and cloud platforms	Standalone Software and Services
PTX, MX, QFX, EX, SRX, NFX, and ACX Series	vMX, vSRX, cSRX, and cRPD	Contrail, Paragon Automation, Wi-Fi/Wired/WAN Assurance

## Juniper Perpetual Licenses

For details on Juniper perpetual license, see the table below:

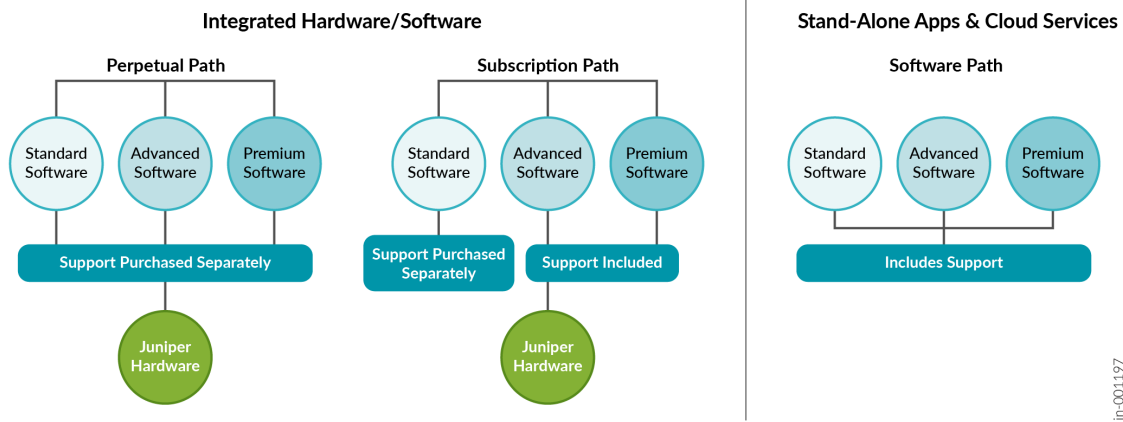
Juniper Perpetual License	Portable?	Customer Support	Available In
Chassis-based license tied to the serial number of the device.	No	Purchase Separately	<ul style="list-style-type: none"> <li>• Perpetuity</li> <li>• Full bandwidth</li> <li>• Scale on Demand (SoD) [pay-as-you-grow (PaYG) model]</li> <li>• Supports scaling up</li> </ul>

In case of RMA, you can exchange the perpetual license keys to the RMA device. Contact Juniper Customer Care to exchange the license keys for RMA devices.

## Juniper Subscription Licenses

For details on Juniper Subscription license, see the table below:

Juniper Subscription License	Portable?	Customer Support	Available In
Term-based licenses	Yes  Portability is across like-device classes	Includes customer support	<ul style="list-style-type: none"> <li>1-year, 3-year, or 5-year terms</li> <li>Full bandwidth</li> <li>Scale on Demand (SoD) [pay-as-you-grow (PaYG) model]</li> <li>Supports upgrades and downgrades</li> </ul>



## License Portability

License portability allows you to balance feature licenses across hardware platforms in the network without having to buy another license. Subscription licenses are portable. License portability is applicable only across like-device classes. Perpetual licenses are not portable except for cases of RMA.

Example scenario: You have a BGP software feature license on a Juniper device (device-1). You buy another similar Juniper device in the same device class as device 1 (device-2). You can move the BGP

software feature license from device-1 to device-2 (assuming device-1 and device-2 are like-device classes).

CapEx vs. OpEx

Depending on your goals, many customers:

- Select perpetual license as a capital expense for long-term benefits.
- Select subscription-based license as an operational expense to serve day-to-day operations.



License Renewals

Renewals are not automatic. At the end of the license period, you need to renew the license to continue using the software feature(s) and ensure a seamless transition.

License Expiry

At license expiry, if you are using:		
Perpetual License, then	Subscription License, then	Trial and evaluation licenses, then
You can continue to use the hardware and any software features.	You might decline to renew or purchase a replacement subscription.  <b>Impact:</b> You may no longer use the features and scale granted under the expired subscription.	System generates alarms, sys logs, and warnings that the trial license is due for expiry.  <b>Impact:</b> At this point, purchase the license to continue using the software feature.

## Trial and Evaluation Licenses

Trial and Evaluation license	Validity	How to avail	Features available
You gain access to a software feature prior to purchase	Temporary Duration	Available from the Juniper Sales Engineer (SE) Manager.  Available to download from product pages.	Not all features are available for trials or evaluation.  For example, an extended license upgrade, capacity key, or VSYS license is not available as a temporary license key.

Juniper Products for which Trial or Evaluation License Keys are available:

Hardware	Virtual and cloud platforms
PTX Series	vSRX
QFX Series	cRPD
EX Switches	cSRX
MX Series	

## Juniper Flex Three-Tier License Model

### SUMMARY

Learn about Juniper Flex three-tier license model.

The Juniper Flex License Model simplifies licensing and consolidates multiple licenses into a single, easy-to-manage, three-tier model. This three-tier model is designed to provide customers with flexible and scalable software consumption options and caters to a wide range of customer needs.

## Standard Tier

The Standard tier is the entry-level option, offering basic features and functionalities for customers who require essential networking capabilities.

## Advanced Tier

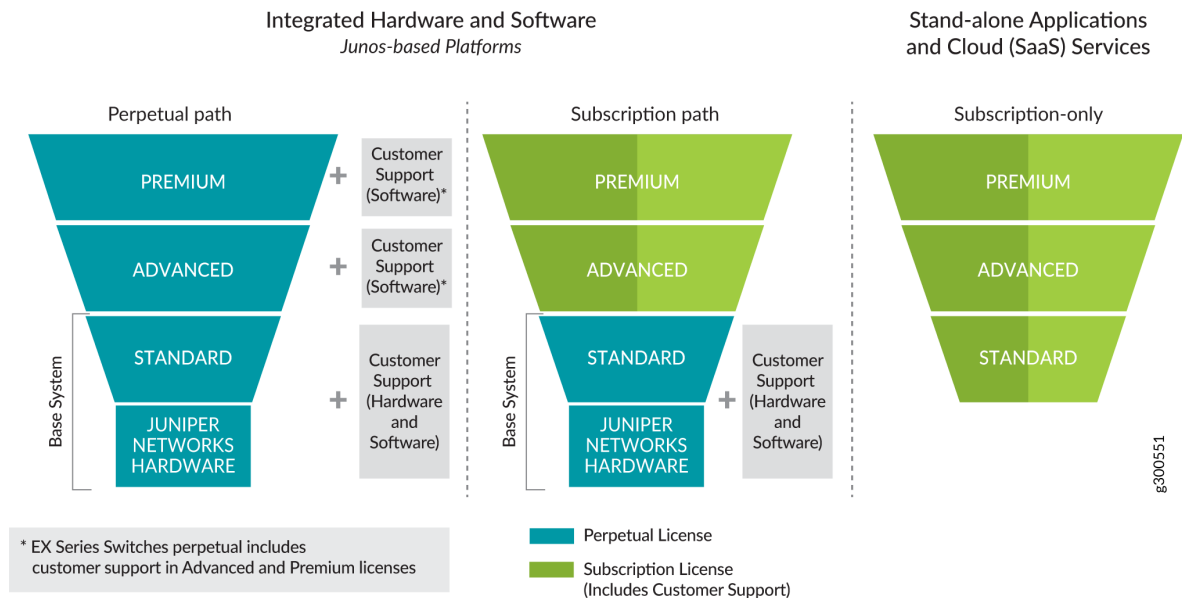
The Advanced tier builds upon the Standard tier, providing additional features and capabilities for customers with more complex networking requirements. Includes all Standard tier features.

## Premium Tier

The Premium tier is the most comprehensive option, offering the full suite of Juniper's software features and capabilities. Includes all Standard and Advanced tier features.

See table below for further details.

Tier	Software on high-performance Hardware platforms	Software on virtual and cloud platforms, Standalone Software, and Services
Premium	Term: Subscription  Superset of Advanced Tier plus (+) additional Premium features	Term: Subscription  Superset of Advanced Tier plus (+) additional Premium features
Advanced	Term: Subscription  Superset of Standard Tier plus (+) additional Advanced features	Term: Subscription  Superset of Standard Tier plus (+) additional Advanced features
Standard	Term: Perpetual  Hardware platform that includes base (standard) software feature set	Term: Subscription  Software (virtual or cloud) platforms, standalone software, and Services that includes standard software feature set



# Juniper Licensing Terminology

## SUMMARY

Learn about Juniper licensing terminology. Get familiar with the common terms, license types, business models, license renewals and tools for managing your Juniper licenses.

Licensing Term	Description
<b>Common Terms</b>	
Entitlement	An entitlement identifies and describes your software feature license purchase.

*(Continued)*

Licensing Term	Description
Activation	<p>An activation is an activated entitlement. Activation identifies the product instance where you deploy the entitlement. Typically, the serial number, the UUID of the compute, or the unique cloud application instance serves as the identity for the product instance.</p>
License Key	<p>A license key is an encrypted, unique, alpha-numeric string of characters. The license key enables you to transfer an entitlement from the Juniper licensing system to the target device or application.</p> <p>License key details include the Software Support Reference Number, start and end dates of the subscription term, the purchased product features and scale, and the target device or application serial number.</p> <p>Enter the license key into the product. The target device/application securely and uniquely decrypts the license key.</p>
License Enforcement	<p><b>Soft Enforcement</b></p> <ul style="list-style-type: none"> <li>• Default mode for Juniper licenses.</li> <li>• If a device or an application doesn't have a valid license, the product triggers event notifications to indicate non-compliance.</li> </ul> <p><b>Hard Enforcement</b></p> <ul style="list-style-type: none"> <li>• Applies to a small number of Juniper licenses.</li> </ul> <p><b>No Enforcement</b></p> <ul style="list-style-type: none"> <li>• Doesn't communicate the entitlement details to the target product.</li> <li>• No active license enforcement. Non-compliance notifications aren't sent to users.</li> </ul>

*(Continued)*

Licensing Term	Description
Software Support Reference Number (SSRN)	This is a software serial number provided on the fulfillment document which ships electronically on the purchase of your Juniper software license.
Upgrade	<a href="#">Upgrade Juniper License Keys during Software Upgrades</a>
<b>License Types</b>	
Perpetual License	<ul style="list-style-type: none"> <li>• A perpetual license applies for the life of the Juniper device or application. Perpetual license keys don't have an end date.</li> <li>• You must purchase technical support for a perpetual license separately.</li> <li>• After you activate a perpetual license, you cannot port perpetual licenses to another device. In the case of hardware replacement as part of an RMA, you can transfer the perpetual license keys from the defective device to the replacement device. Use self-service in the Juniper Agile Licensing Portal for RMA.</li> </ul>

(Continued)

Licensing Term	Description
Subscription License	<ul style="list-style-type: none"><li>• Term-based license that provides you the right-to-use the feature for a fixed duration.</li><li>• Term starts on the day Juniper fulfills the license. Initial subscriptions add a 30-day grace period to the term.</li><li>• Subscription license keys include an end date.</li><li>• When a subscription license key reaches its end date, the license is no longer valid. The software implements the license enforcement.</li><li>• Purchase a renewal subscription term license to continue to comply. Renewing provides you a new license key with a fresh end date. Install the new license key to your product. <a href="#">"License Renewals" on page 32.</a></li><li>• Subscription license typically includes technical support. At times, the subscription license that you buy from Juniper Partners might include technical support provided by the partner.</li><li>• In the case of hardware replacement as part of an RMA, you can transfer the subscription license keys from the defective device to the replacement device. Use self-service in the Juniper Agile Licensing Portal for RMA.</li></ul>

*(Continued)*

Licensing Term	Description
Trial License	<p>Trial license allows you to access product software prior to purchase. Trial licenses are valid for a limited time and are available for most Juniper products.</p> <ul style="list-style-type: none"> <li>Assisted Trial licenses can be obtained through Juniper Account Teams and normally provide a 60-day trial period.</li> <li>Trial licenses for many software-only products are available from <a href="#">Juniper's Trials</a>. Trial periods for these licenses vary between products. The Trials site provides additional details.</li> </ul>
<b>Business Models</b>	
PAYG Model	Juniper's Pay as You Grow (PAYG) model is now referred to as Scale on Demand (SoD).
Scale on Demand	<p>Juniper Scale on Demand (SoD) is capacity licensing available for Juniper devices and software. Juniper's Pay as You Grow (PAYG) model is now referred to as SoD.</p> <p>SoD enables you to buy software feature licenses from Juniper's Premium or Advanced tiers at a price point proportional to your current capacity requirements. With SoD, you can purchase capacity licenses to fit your current requirement.</p>

*(Continued)*

Licensing Term	Description
<b>License Renewals</b>	<b>License Renewal Summary</b> <ul style="list-style-type: none"> <li>• Every calendar quarter Juniper systems create a renewal quote for subscription licenses in tandem with renewal quotes for maintenance and support contracts.</li> <li>• Renewal quote includes a line for each subscription license that is due to expire in the next quarter. The quote might also include lines for subscription licenses that are due to expire in a future quarter.</li> <li>• Each line on the renewal quote identifies the unique Software Support Reference Number (SSRN) of the original subscription license.</li> <li>• Utilize the renewal quote to place a renewal sales order with Juniper.</li> <li>• When you fulfill each line on the renewal sales order, you automatically renew each license for the new subscription term.</li> <li>• The new license term displays automatically for each SSRN in the My Activations tab when you log into the Juniper Agile Licensing Portal.</li> </ul> <p>You can then download the new License Key that includes the end date for the new subscription term. Download and install that license key into your device.</p>
<b>Tools for Managing Your Juniper Licenses</b>	

*(Continued)*

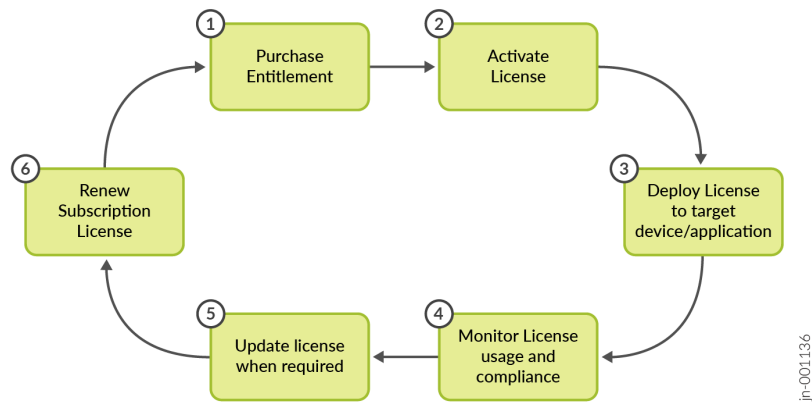
Licensing Term	Description
Juniper Agile Licensing (JAL) Portal	<p>Juniper Web portal that provides full management of your Juniper software licenses. See further documentation for details of license management for all your Juniper products.</p> <p>See <a href="#">JAL FAQs</a> and <a href="#">Juniper Licensing Frequently Asked Questions</a>.</p> <p>Watch the <a href="#">Juniper Agile Licensing (JAL) Portal: JAL Overview</a>.</p>
Order Status Tool (OST)	<p>Juniper Partners or Authorized Distributors can check the status of their orders in the Juniper Networks <a href="#">Order Status Tool (OST)</a> located within the Juniper Networks Partner Center. Juniper customers can contact their Sales Representative.</p>

## Juniper License Lifecycle

### SUMMARY

Learn about Juniper's software license lifecycle. Understand the software lifecycle phases: purchase license, activate license, deploy license, monitor license, update license and renew subscription licenses.

Let's go over the Juniper Software license lifecycle. The figure illustrates the lifecycle and the table describes the lifecycle phases and purpose.



Software License Lifecycle Phase	Purpose
1. Purchase Entitlement	<p>Place a Juniper Sales Order to purchase a Juniper license.</p> <p>Juniper delivers a Fulfillment Email with details of the purchased license and the Activation steps for the specific product.</p>
2. Activate License	<p>Activate a license to generate a license key.</p> <p>The Juniper Agile Licensing (JAL) Portal supports the Activation process for most Juniper product licenses. We use the Activation process to identify the specific Juniper product (Serial Number, UUID, and so on) on which you intend to use the license.</p> <p>For many products, the Activation process generates a License Key. This License Key is installed on the target device or application.</p> <p>The activation process varies from product to product. Refer to the Fulfillment Email you receive from Juniper.</p>
3. Deploy License	<p>Install the license key on the target device or application. Note that some devices and software versions do not require a license key to be installed.</p>

*(Continued)*

Software License Lifecycle Phase	Purpose
4. Monitor License	<p>Monitor license usage and compliance for a single device/application at the device or software.</p> <p>Monitor license usage and compliance for all your licenses at the JAL Portal.</p>
5. Update Licenses	<p>When required, update the license key. Update license scenarios include:</p> <ul style="list-style-type: none"><li>• Hardware RMA</li><li>• Software version upgrades</li><li>• Network-related modifications</li></ul>
6. Renew Subscription License	<p>Renew licenses at the end of a Subscription term to continue using the product.</p>

# Juniper Agile Licensing

IN THIS CHAPTER

- [Juniper Agile Licensing \(JAL\) Portal Overview | 36](#)
- [Juniper RMA License Process | 38](#)
- [Understand Juniper License Delivery | 38](#)

## Juniper Agile Licensing (JAL) Portal Overview

SUMMARY

Learn about Juniper Agile Licensing (JAL) Portal. Understand the license management tasks that you can accomplish in the JAL Portal. Find out how to log in to the JAL Portal.

IN THIS SECTION

- [How do I log in to the JAL Portal? | 37](#)

[Juniper Agile Licensing \(JAL\) Portal](#) enables you to activate and manage your Juniper licenses for Juniper hardware, software, and SaaS/Cloud products and services.

Complete the following license-management tasks in the JAL Portal:

Management Task	Description
View your Juniper-purchased Entitlements	<p>Manage Entitlements for your entire network.</p> <p>JAL Portal shows a complete inventory of Entitlements for your user account, even for products that don't need you to install license keys.</p> <p>Note that JAL Portal doesn't display certain products such as Mist and SSR.</p>

*(Continued)*

Management Task	Description
Activate your licenses	Activate licenses to generate license keys for your devices and software. Carry out bulk activations.
Relocate the licenses	Relocate a license to a replacement serial number by using the self-service RMA process.  Move a license to a different serial number if required (subscription licenses only).
Revoke activations	Revoke activations when the license is no longer required for the specific product serial number.  You can revoke a perpetual license within 30 days after activation. You can revoke a subscription license at any time.
Upgrade license	Upgrade your license to obtain a license key for a newer version of product software. At times, newer versions of product software might require an updated license key to be installed or might introduce new licensed features.  If a new software version requires you to install a new license key, the product Release Notes for the software version provides this information. Ensure to review the Release Notes for your Juniper product and software versions.

Watch the [JAL Portal Overview video](#) for more details.

## How do I log in to the JAL Portal?

To log in to the JAL Portal, use your Juniper Single Sign On (SSO) account username and password. If you do not already have a Juniper User account, create a new account at [Juniper User Registration](#).

Your Juniper User account and your company's Account ID that is used to purchase Juniper licenses determine the Entitlements and Activations that you view in the JAL Portal. If a company Account ID purchases an Entitlement but the User account is unrelated to the Account ID, then the JAL Portal won't display the Entitlement when you log in to the JAL Portal.



**Video:** [Juniper Agile Licensing \(JAL\) Portal: JAL Overview](#)

## Juniper RMA License Process

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### SUMMARY

Learn how to use the self-service tool in the Juniper Agile Licensing (JAL) Portal to complete the RMA license process.

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JAL Portal provides a self-service tool to complete the RMA license process. Do the following to complete RMA process:

1. Log in to the [JAL Portal](#) as usual and click **RMA Tool**. The **RMA License Transfer** tool window displays.
2. In the **RMA License Transfer Tool** window, enter the following details:
  - a. RMA Number
  - b. Defective Device Serial Number
  - c. Replacement Device Serial Number
  - d. Click **Submit**

The replacement device's serial number doesn't need to match the one shipped on the RMA. The serial number of a same platform device from your stock can be used. However, the replacement device must be the same platform as the defective unit.

3. In the updated **RMA License Transfer Tool** window, enter the email address where you want to receive the new License Key. Click **Transfer**.

The RMA license transfer process is now complete. You can download or email the new License Key.

## Understand Juniper License Delivery

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### SUMMARY

Learn about Juniper's License delivery process and also how Juniper Agile Licensing (JAL) supports the licensing process.

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Place a Juniper Sales Order to purchase a Juniper license. Juniper's business system fulfills the sales order line for the entitlement or license. License fulfillment triggers multiple activities.

JAL supports most Juniper products. If JAL doesn't support your product, see [product-specific documentation](#), or see the Fulfillment Email that includes details of the purchased license and the activation steps for the specific product.

The table below describes the JAL licensing process steps:

JAL Licensing Process Step	Description
Sales Orders	Sales Orders might include multiple Account IDs for customers and partners. Just as for hardware and service sales, account IDs control which licenses are assigned and visible.
Fulfillment	<p>You can request fulfillment (ship) dates based on your requirements.</p> <p>When placing the order, work with your Account Team or Juniper Partner to ensure to capture the required ship dates accurately.</p>

*(Continued)*

JAL Licensing Process Step	Description
Fulfillment Email	<p>Juniper business system fulfills (ships) a license and sends a Fulfillment Email to all email addresses that are included on the Sales Order.</p> <p>The Fulfillment Email contains the following license details:</p> <ul style="list-style-type: none"> <li>• License name</li> <li>• License description</li> <li>• Unique Activation Code</li> <li>• Unique Software Support Reference Number (SSRN)</li> <li>• Link to instructions about how to use the purchased license</li> <li>• Key details about your software license Entitlement</li> <li>• Software Entitlement certificate attachment. This certificate provides the Entitlement purchase details.</li> </ul> <p>You can proceed to deploy and utilize the software feature license even without receiving this Fulfillment Email. Simply log in to the JAL Portal and you will see all Entitlements that are associated with your Juniper user account.</p>
Entitlements	<p>When the system fulfills (ships) a license, it also automatically creates an Entitlement record in the Juniper Agile Licensing System. Log in to the JAL Portal to view all your account Entitlements.</p> <p>If you do not see the expected Entitlements when you log in to the JAL Portal, contact Customer Care. Customer Care helps to ensure that your user Contact ID is associated with the correct Account IDs to provide visibility of all your Entitlements.</p>

*(Continued)*

JAL Licensing Process Step	Description
Subscription timer	<p>Subscription timer begins when a subscription license is fulfilled (shipped).</p> <p>Initial subscriptions add a 30-day grace period to the subscription term.</p>
Heritage products	<p>Certain heritage products do not use the JAL system. Even for those products, the Juniper system provides a Fulfillment Email.</p> <p>Scenarios as follows:</p> <ol style="list-style-type: none"> <li>1. Fulfillment Email provides an attachment that includes a License Key. Install the License Key in your product.</li> <li>2. Fulfillment Email might provide an attachment that describes your purchased Entitlement. But doesn't require a License Key to be installed in your product.</li> <li>3. Fulfillment Email might provide an attachment that describes your purchased Entitlement but doesn't require license activation.</li> <li>4. In a small number of cases, you may need to access to <a href="#">Juniper Agile Licensing (JAL) Portal</a> to obtain your license keys.</li> <li>5. In some legacy cases, the license you purchased is supplied as a paper document that is included with the hardware delivery.</li> </ol> <p>Ensure that you read the details in the Fulfillment Email, or the guidance provided in the documentation for your purchased product.</p>

Sample Juniper Fulfillment Email and Software Entitlement Certificate

Juniper Certificate & License Information (Sales Order Number: [REDACTED])

To [REDACTED]

Retention Policy JNPR - 6 Months Retention Policy - Inbox (6 months)

Expires 11/4/2024

Wed 5/8/2024 1:02 PM

PDF

11 KB

Reply

Reply All

Forward

Thank you for your Juniper Networks software purchase. The attached certificate includes information you will need when setting up your product. For complete instructions on how to get your new product up and running, go to <https://www.juniper.net/day-one-plus/>. If your product is already set up, and you simply want to activate and install your new license, you can find instructions at <https://www.juniper.net/activate-license/>.

Model Number

: S-MX-1C-A1-C1-P

Model Description

: SW, MX, 1C, A1, C1, w/out CS, Prpl

Quantity

: 4

Disti/Customer PO

: [REDACTED]

SO Number

: [REDACTED]

Line Number

: [REDACTED]

Reseller PO

:

End User PO

:

End User

: [REDACTED]

The attached Juniper Software Entitlement Certificate certifies that you have purchased license(s) for the product identified in the certificate. Please keep the attached certificate as record of your purchase. This license allows you to run the software product. The software is subject to terms of the [End User License Agreement](#). The software is subject to US Export Administration Regulations and other export control laws and regulations, and export, re-export or other diversion contrary to any such laws and regulations is prohibited. Special download, export and re-export prohibitions may apply depending upon the encryption content of the software and what it is used for.

JUNIPER  
NETWORKS

Juniper Networks (US), Inc.  
(California)  
1133 Innovation Way  
Sunnyvale  
94089

Date Issued : 07-MAY-2024

Customer PO : [REDACTED]

Order Number : [REDACTED]

Model Number : S-MX-1C-A1-C1-P

Model Description : SW, MX, 1C, A1, C1, w/out CS, Prpl

Juniper Software Entitlement Certificate

Item#	Activation Code	Support Ref.No.	Quantity
1	[REDACTED]	[REDACTED]	4

## CHAPTER 7

# Activate Juniper Licenses

## IN THIS CHAPTER

- [Activate Licenses for Juniper Hardware Products | 43](#)
- [Activate Licenses for Juniper Software Products | 46](#)
- [Activate Licenses for Juniper Software Products with UUID | 49](#)
- [Generate Secure ZTP Vouchers | 51](#)

## Activate Licenses for Juniper Hardware Products

### SUMMARY

Learn how to activate Juniper licenses for Juniper hardware products.

### IN THIS SECTION

- [Activate Juniper ATP Appliance Licenses | 44](#)

License keys for Juniper hardware products are associated with the serial number of the device or application on which the license is to be used. When you activate a license, you generate a unique encrypted license key. The license key functions only on the intended device or application.

Note the following device details on which you plan to install the license:

- The **Junos OS version** installed.
  - The **serial number** of the Juniper device. This is typically the serial number of the device chassis.
1. In the JAL Portal, under **My Entitlements**, locate the product SKU of the license you want to activate. Click **Activate**.
  2. On the **Product Activation** screen, select the **Software Version** aligned to the Junos OS installed on the device.
    - The software version you select might cover a range of Junos OS versions.

- In some cases, the software version that you select might be specific to the hardware model of the target device.
3. Select the Quantity of Licenses to activate.
    - The quantity you can select depends upon the license SKU being activated.
    - In most cases, the quantity value is locked to 1.
    - For licenses that include a scale component (such as bandwidth), you can activate the licenses in multiple quantities based on the scale you require on the target device.
    - The JAL Portal generates a single License Key to install on the target device even when the quantity exceeds one. The single License Key contains the selected amount of scale.
  4. Enter the **serial number** of the device.
  5. (Optional) Enter text in the **Notes** field.  
The license key email includes the text you include in the Notes . You can also view the notes in the **My Activations** section.
  6. (Optional) Enter one or more email addresses you want the License Key to be delivered to in the **Send License Key via E-Mail** field.
  7. Check the **I Agree with Terms & Conditions** checkbox.
  8. Click **Activate**. On the **Activation Complete** screen, download the License Key or e-mail it to additional recipients.

You can download the License Key at any time from **My Activations**.

You can now proceed to install the License Key in the target device or application serial number.

Watch the [Juniper Agile Licensing \(JAL\) Portal: Hardware and Software License Activation](#).

## Activate Juniper ATP Appliance Licenses

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.

You can request license key by opening an admin case in the [Juniper Support Portal](#) or contact [Customer Care](#) and provide the below information:

- 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](http://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 Support Portal](#).

## Activate Licenses for Juniper Software Products

### SUMMARY

Learn how to activate Juniper licenses for Juniper software products.

### IN THIS SECTION

- [Licenses for Non-JAL Products | 47](#)
- [Activate Contrail Insights Licenses | 47](#)
- [Activate CSO and Juniper Sky Enterprise Licenses | 48](#)
- [Example: Content Security License Activation Video | 49](#)

License keys for Juniper software products aren't tied to the serial number of the product that the license is to be used on.

To activate your software product, make a note of the following:

- The **Software version** installed on the product the license key will be used on.
1. In the JAL Portal, under **My Entitlements**, locate the software product you would like to activate. Click the **Activate** button on the right side of the Entitlement.
  2. On the **Product Activation** screen, select the **Software Version** aligned to the software you are using. The Software Version that you select covers a range of Junos OS versions.
  3. Select the **Quantity of Licenses** to activate.
    - The quantity you can select depends upon the license SKU that you want to activate.
    - In many cases, the quantity value is locked to 1.
    - For licenses that include a scale component (such as bandwidth or CPU cores), you can activate in multiple quantities if required.
    - The JAL Portal generates a single License Key to install on the target device even when the quantity exceeds one. The single license key contains the selected amount of scale.
  4. (Optional) Enter text in the **Notes** field.
    - The license key email includes the text you include in the Notes .
    - You can also view the notes in the **My Activations** section.
  5. (Optional) Enter one or more email addresses you want the License Key to be delivered to in the **Send License Key via E-Mail** field.

6. Check the **I Agree with Terms & Conditions** checkbox.

7. Click **Activate**.

In the **Activation Complete** screen, download the License Key or e-mail it to additional recipients.

You can download the License Key at any time from the **My Activations**.

You can now install the License Key in the target device or application.

Watch the [Juniper Agile Licensing \(JAL\) Portal: Hardware and Software License Activation](#).

## Licenses for Non-JAL Products

JAL Portal manages licenses for most Juniper hardware and software feature licenses.

### Other Products

Some products such as ACX do not require you to activate Entitlements.

No further action is required after you receive the Fulfillment Email and Software Certificate from Juniper.

Refer to the product-specific Fulfillment Email.

## Activate Contrail Insights Licenses

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 Support Portal](#).

## Activate CSO and Juniper Sky Enterprise Licenses

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 Support Portal](#).

### Example: Content Security License Activation Video

Use the [License Activation](#) video for a walkthrough of license activation and basic management using the J-Web.

## Activate Licenses for Juniper Software Products with UUID

### SUMMARY

Learn how to activate Juniper licenses for Juniper Software products with Universal Unique ID (UUID).

License keys for certain Juniper software products are associated with the Universal Unique ID (UUID) of the compute resource that the product license is to be used on. To activate licenses, make a note of the following software details:

- The **Software version** installed on the product the License Key will be used on.
- The **Universal Unique ID (UUID)** of the compute resource the License Key will be used on.

1. In the JAL Portal, under **My Entitlements**, locate the hardware product to activate. Click **Activate** button on the right side of the Entitlement.
2. On the **Product Activation** screen, select the **Software Version** aligned to the software installed on the product.

Note that in many cases, the Software Version that you choose will cover a range of actual Junos versions.

3. Choose the quantity of licenses you want to activate.
  - The quantity you can choose is dependent on the license SKU being activated.
  - In many cases, the quantity value is locked to 1.
  - Licenses that include a scale component (such as bandwidth or cores) can be activated in multiple quantities. By choosing a quantity greater than 1, the JAL Portal will still generate just a single license key to install in the target product, but that single License Key will contain the selected amount of scale.
4. Enter the **UUID** of the compute resource the application is installed on.

Product Activation

Company: [Redacted] Activation Code: [Redacted] Entitlement Expiration: 30-Jun-2025

Product Name	Activated	Available	Start Date	Expiry Date
S-PAA-500ST-M-OP-1	1	9	01-May-2024	30-Jun-2025

Software Version: [Select] Quantity to Activate: 1

Additional Information

Universal Unique ID (UUID): [Field] Notes: [Field]

License Key Delivery

Send License Key via E-Mail: [user@mydomain.com]

☐ I Agree with Terms & Conditions View Agreement

Cancel Activate

5. (Optional) Enter text in the **Notes** field.

This text is part of the license key email. You can also view the notes in the **My Activations** section.

6. (Optional) In the **Send License Key via E-Mail** field, enter one or more email addresses to which JAL must deliver the License Key.
7. Check the **I Agree with Terms & Conditions** checkbox.
8. Click the **Activate** button.

On the **Activation Complete** screen, download the License Key or e-mail it to additional recipients.

When you return to the **My Activations** section, you can always download the license key.

You can now proceed to install the License Key in the target device or application serial number.

## Generate Secure ZTP Vouchers

### SUMMARY

Learn how to generate a secure voucher certificate.

To learn about secure ZTP, see [Secure Zero Touch Provisioning](#) . To determine if you require secure ZTP, go through [RFC 8572: Secure Zero Touch Provisioning \(SZTP\)](#).

Click the **Voucher Tool** button to launch the Voucher Activation screen.

To activate a Voucher:

1. Type in the DevID enabled Hardware serial number in the **Device Serial Number**.
2. Select a desired **Voucher Expiration Date** from calendar picklist.
3. Upload a **Pinned Domain Certificate**, or choose one that you have uploaded previously.



## Voucher Activation

Device Serial Number \* :

Voucher Expiration Date \* :

Pinned Domain Certificate \* :

Choose File No file chosen

OR

Select

Notes:

Notes

Select an Option

☒ I am activating for myself
 ☐ Activate on behalf of an end customer

Voucher Delivery

Send Voucher via E-Mail

user@mydomain.com

☐ I Agree with Terms & Conditions. [View Agreement](#)

Cancel

Activate

4. (Optional) In the **Send Voucher via E-Mail** field, enter one or more email addresses to which JAL Portal must deliver the voucher.

5. Check the **I Agree with Terms & Conditions** checkbox.

6. Click **Activate**.

After you request voucher activation, the system generates a voucher and emails it to you.

# Monitor Juniper Licenses

IN THIS CHAPTER

- [Monitor Licenses in JAL Portal | 53](#)
- [Monitor Junos Licenses | 55](#)
- [Product-Specific Licensing Tasks | 79](#)

## Monitor Licenses in JAL Portal

SUMMARY

Learn how to monitor licenses in Juniper Agile Licensing (JAL) Portal. Understand how you can monitor the status of licenses that are installed.

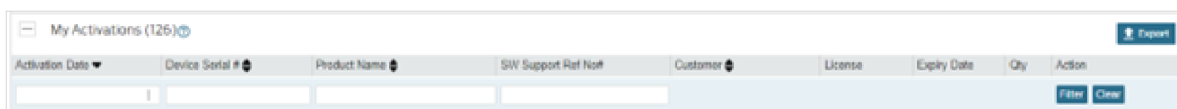
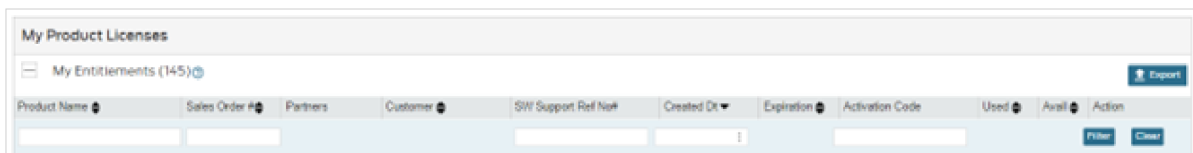
IN THIS SECTION

- [Monitor Juniper Product-Specific Licenses | 54](#)

Monitor licenses easily using the JAL Portal. Refer this table to understand the monitoring tasks that JAL Portal supports:

Monitor Task	Description
View license status	<p>Use the sort or filter functions in <b>My Entitlements</b> section to locate the Entitlements. You can view the status of each Entitlement.</p> <ul style="list-style-type: none"> <li>• <b>Expiration</b> column indicates when the Entitlement will expire. Note: Entitlements that have already expired do not appear in the JAL Portal.</li> <li>• <b>Used</b> and <b>Avail.</b> (for Available) columns display the number of licenses activated (used) and how many are still available to activate.</li> </ul>
View activations	Use the sort or filter functions in <b>My Activations</b> section to view the activations.
Download list of activations and entitlements	<b>Export</b> button in the <b>My Entitlements</b> and <b>My Activations</b> sections allows you to download the full list of entitlements and activations from your account.

The following images show the **My Entitlements** and **My Activations** sections in the JAL Portal.



Watch the [Juniper Agile Licensing \(JAL\) Portal: Finding License Entitlements and Activations](#) video for more details.

## Monitor Juniper Product-Specific Licenses

All Juniper products provide utilities to monitor the status of licenses that are installed. The details for each product are included in that product's user documentation.

- For Junos products, see [View License](#).

## Monitor Junos Licenses

### SUMMARY

Learn how to monitor Junos licenses.

### IN THIS SECTION

- [Add License | 55](#)
- [Autoupdate Your License | 57](#)
- [Renew Your License | 58](#)
- [Delete License | 59](#)
- [View License | 62](#)
- [license | 63](#)
- [show system license | 65](#)
- [System Log for License | 79](#)

## Add License

### IN THIS SECTION

- [Add License Through Configuration Mode | 56](#)
- [Add License Through Operational Mode | 56](#)
- [Add License Through RPC Command | 57](#)

Before adding a new license, complete the following tasks:

- Purchase the required license.
- 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.
- Activate the license.
- **Configuration Mode:** Use the `set system license keys key license-key configuration mode` command to add license.
- **Operational Mode:** Use the `request system license add operational mode` command to add license.

- **RPC command:** Add license using RPC commands.

You can add license to the Junos device in following ways:

### Add License Through Configuration Mode

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

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

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 add 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. You must commit the configuration using the `commit` command.
3. You have successfully installed the license. You can verify the installed licenses using the `show system license` command from operational mode.

### Add License Through Operational Mode

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, specify 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
```

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

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

2. You have successfully installed the license. You can verify the installed licenses using the `show system license` command from operational mode.

### Add License Through RPC Command

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

1. Issue the RPC command to add license key from a file or URL.

```
<rpc><request-license-add><source>/var/tmp/sample.lic</source></request-license-add></rpc>
```

Issue the RPC command to add license key from a key content.

```
<rpc><request-license-add><key-data>JUNOS639151947 xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx</key-data></  
request-license-add></rpc>
```

2. You have successfully installed the license. You can verify the installed licenses using the `show system license` command from operational mode.

## Autoupdate Your License

### SUMMARY

Learn how to autoupdate license on your Junos devices.

Before you autoupdate license, complete the following tasks:

- Purchase the required license.

- 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.
- Activate the license.

To autoupdate licenses using a configuration command:

1. From the CLI configuration mode, enter the following CLI command:

```
set system license autoupdate url <URL>
```

You can autoupdate the license using the proxy server available in the private network to be able to connect to the EMS server and download the license updates. The devices in the private network connect to the proxy server to download the license or license updates.

```
set system proxy server IP address
set system proxy port port number
set system proxy username user name
set system proxy password password
```

The license-check process reads the URL from the configuration and validates it.

- For hardware products, the URL query uses the device chassis serial number to fetch the required license key. The physical products support first time license fetching and license renewal.
- For virtual software products, you need to do the first-time installation. Subsequent fetching and renewal of the license key from the EMS portal can be done based on Software Serial Number (SSN).

2. You must commit the configuration using the `commit` command.

By default, the autoupdate command sets renew before-expiration days as 60 days and renew time interval as 24 hours. The last devices are allowed to contact the EMS server 60 days before the current license expiry and check for an automatic update every 24 hours.

## Renew Your License

### SUMMARY

Learn how to renew the license on your Junos devices.

Before renewing 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.

To renew licenses using a configuration command:

1. From the CLI configuration mode, enter the following CLI command:

```
set system license renew before-expiration days
```

```
set system license renew interval hours
```

- You must commit the configuration using the `commit` command.
- You have successfully renewed the license.

## Delete License

### SUMMARY

Learn how to delete the installed license on your Junos devices.

### IN THIS SECTION

- [Using the Operational Command to Delete Licenses | 60](#)
- [Using a Configuration Command to Delete Licenses | 61](#)
- [Delete License Through RPC Command | 62](#)

Before you delete a new 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:

- If you installed license through configuration mode, use the configurational mode command to delete the license.
- If you installed license through operation mode, use the operational mode command to delete the license.

You can delete license from Junos device in following ways:

- **Configuration Mode:** Use the `delete system license keys configuration mode` command to delete license.
- **Operational Mode:** Use the `request system license delete license-identifier-list identifier-list` operational mode command to delete license.
- **RPC command:** Delete license using RPC commands.

### Using the Operational Command to Delete Licenses

You can delete the installed license through operational mode 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. You have successfully deleted the license. Verify the license was deleted by entering the `show system license` command.

### Using a Configuration Command to Delete Licenses

You can delete the installed license through configuration mode using the `delete system license keys` command.

1. Delete the license or licenses you want.

- To delete a single license, for example:

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

- To delete all licenses, for example:

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

2. You must commit the configuration using the `commit` command.
3. You have successfully deleted the license. Verify the license was deleted by entering the `show system license` command.

## Delete License Through RPC Command

1. Issue the RPC command to delete all license keys.

```
<rpc><request-license-delete><all/></request-license-delete></rpc>
```

Issue the RPC command to delete specific license key.

```
<rpc><request-license-add><key-data>JUNOS639151947 xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx</key-data></  
request-license-add></rpc>
```

2. You have successfully deleted the license. You can verify the licenses using the `show system license` command from operational mode.

## View License

### SUMMARY

Learn how to view the installed license on your Junos devices.

You can view the installed licenses on the device using the `show system license` command from operational mode.

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

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

License usage:

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Feature name				
l3static	1	1	0	2023-02-25 05:30:00 IST
ADV Bandwidth (in gbps)	150	100	50	2023-02-25 05:30:00 IST

Licenses installed:

License identifier: JUNOS100365120

License version: 4

Order Type: commercial

## Features:

```

l3static          - L3 Static feature
                  date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST
ADV Bandwidth (in gbps) - ADVANCE Bandwidth (in gbps)
Capacity: 100
                  date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST

```

The output shows a list of the **Feature name**, **Licensed Feature used**, **Licenses Feature installed**, **Licensed Feature needed**, and **Expiry** fields.

## license

### IN THIS SECTION

- [Syntax | 63](#)
- [Hierarchy Level | 64](#)
- [Description | 64](#)
- [Options | 64](#)
- [Required Privilege Level | 65](#)
- [Release Information | 65](#)

## Syntax

```

license {
  autoupdate {
    url name {
      password password;
    }
  }
  keys {
    key name;
  }
  log-frequency(time-interval seconds | time-of-day time-of-day);
  renewbefore-expiration before-expirationinterval interval;
  traceoptions {
    file< filename><files files><match match><size size><(world-readable | no-world-

```

```
readable)>;
    flag name;

    no-remote-trace;
}
}
```

## Hierarchy Level

```
[edit system]
```

## Description

License configuration for this router

## Options

<b>autoupdate</b>	<p>You can autoupdate the license using the proxy server available in the private network to be able to connect to the EMS server and download the license updates. The devices in the private network connect to the proxy server to download the license or license updates.</p> <p>By default, the autoupdate command sets renew before-expiration day as 60 days and renew time interval as 24 hours. The last devices are allowed to contact the EMS server 60 days before the current license expiry and check for an automatic update every 24 hours.</p>
<b>keys</b>	You can install the license using license key.
<b>log-frequency</b>	You can configure frequency of alarms and non-compliance license log messages. By default, the alarms raised and logs are generated at 06:00 AM.
<b>renewbefore-expiration</b>	You can renew the license before the license expires.
<b>traceoptions</b>	You can set the trace options for licenses.

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

## Required Privilege Level

trace—To view this statement in the configuration.

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

maintenance.

## Release Information

Statement introduced in Junos OS Release 8.5.

## show system license

### IN THIS SECTION

- [Syntax | 65](#)
- [Description | 66](#)
- [Required Privilege Level | 66](#)
- [Output Fields | 66](#)
- [Sample Output \(Junos OS and Junos OS Evolved\) | 68](#)
- [Sample Output \(Junos OS Evolved\) | 77](#)
- [Release Information | 78](#)

## Syntax

```
show system license ?
```

Possible completions:

<[Enter]>	Execute this command
bandwidth	Show license bandwidth summary
brief	Display brief output (default)
detail	Display detailed output
feature-list	Show all applicable licensed features
fpc	Show license fpc information
installed	Show installed feature licenses
key-content	Display license key contents
keys	Show license keys

usage	Show licensed features
	Pipe through a command

**Description**

Display detailed output of the license.

**Required Privilege Level**

View

**Output Fields**

Table 1 on page 66 lists the output fields for the show system license command.

The following table lists all possible fields for the show system license command. The fields that appear may vary depending on the platform and software release.

**Table 1: Show System License Output Fields**

Field Name	Field Description
Advance Bandwidth Usage	Displays bandwidth usage of the advanced features
Expiry	Indicates the license expiry date
Feature ID	Displays the feature ID
Feature Name	Displays the feature name
Features	Lists the installed license feature with details
Flex capable linecards	Displays bandwidth usage of flex capable line cards
Flex only linecards	Displays bandwidth usage of the flex only line cards
License identifier	Indicates the license ID

**Table 1: Show System License Output Fields (Continued)**

Field Name	Field Description
License key	Displays the license key information
License version	Indicates the version of the license
Licensed Feature available	Indicates the available licenses for the feature
Licensed Feature installed	Indicates the installed feature license
Licensed Feature needed	Indicates the additional license required for the feature
Licensed Feature used	Indicates the used licensed feature
Linecard Type	Displays the line cards on the device
Premium Bandwidth Usage	Displays bandwidth usage of the premium features
Invalid	No feature license is installed, and no default license is included  For MX Series devices: No license is installed including no bandwidth license installed
Permanent	Permanent or perpetual license is installed
Date (2023-02-25 05:30:00)	Timed or subscription license is installed
Expired	Timed license has expired

## Sample Output (Junos OS and Junos OS Evolved)

### show system license bandwidth flex-only

```
user@host> show system license bandwidth flex-only
```

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed
Linecard Type			
LC4800 Bandwidth (in gbps)	500	800	0
Other Flex-only Bandwidth (in gbps)	200	1000	0

### show system license bandwidth

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

```
Advance Bandwidth Usage: 20
Premium Bandwidth Usage: 0
```

### show system license bandwidth fpc 0

```
user@host> show system license bandwidth fpc 0
```

```
Advance Bandwidth Usage: 20
Premium Bandwidth Usage: 0
```

### show system license bandwidth fpc port-details 0

```
user@host> show system license bandwidth fpc port-details 0
```

Port name	Bandwidth used(in gbps)	License tier
-----------	----------------------------	-----------------

xe-0/0/1:0	10	advance
xe-0/0/1:1	10	advance

## show system license brief

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

### License usage:

Feature name	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Filter Based Forwarding	0	1	0	2025-11-17 05:30:00 IST
FIB Scale	0	65000	0	2025-11-17 05:30:00 IST
RIB Scale	24	65000	0	2025-11-17 05:30:00 IST
LSP Scale	0	1000	0	2025-11-17 05:30:00 IST
GRE Tunnel	1	0	1	invalid
Firewall Filters Scale	0	1000	0	permanent
Firewall Filters Terms Scale	0	4000	0	permanent

### Licenses installed:

License identifier: JUNOS719106327

License version: 4

Order Type: commercial

#### Features:

FIB Scale - Forwarding Information Base Scale

Capacity: 1000

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

RIB Scale - Routing Information Base Scale

Capacity: 1000

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

LSP Scale - Label Switched Path Scale

Capacity: 1000

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

Filter Based Forwarding - Filter Based Forwarding

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

## show system license detail

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

```
show system license detail
```

Feature name	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Licensed Feature available	Expiry
Filter Based Forwarding	0	1	0	1	2025-11-17
05:30:00 IST					
FIB Scale	0	65000	0	65000	2025-11-17
05:30:00 IST					
RIB Scale	24	65000	0	64976	2025-11-17
05:30:00 IST					
LSP Scale	0	1000	0	1000	2025-11-17
05:30:00 IST					
GRE Tunnel	1	0	1	0	invalid
Firewall Filters Scale	0	1000	0	1000	permanent
Firewall Filters Terms Scale	0	4000	0	4000	permanent

Licenses installed:

License identifier: JUNOS719106327

License version: 4

Order Type: commercial

Features:

FIB Scale - Forwarding Information Base Scale

Capacity: 1000

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

RIB Scale - Routing Information Base Scale

Capacity: 1000

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

LSP Scale - Label Switched Path Scale

Capacity: 1000

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

Filter Based Forwarding - Filter Based Forwarding

date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

Licensing Mode: Agile Licensing Standalone

Licensing Persona: JUNOS LKG

## show system license feature-list

The `show system license feature-list` command displays all the feature names and feature IDs supported for your product and Junos release.

```
user@host> show system license feature-list
```

```
33          subscriber-vlan
34          subscriber-ip
40          subscriber-res-dpc
41          subscriber-res-ic
42          video-service-dhcp-relay
43          video-service-mcac
64          feeva-media-enabler
105         radware-adc
118         virtual-chassis
```

## show system license fpc

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

```
Flex only linecards:
  FPC          Serial Number
   0          BUILTIN
Advance Bandwidth Usage: 20
Premium Bandwidth Usage: 0

Flex capable linecards:
FPC bandwidth usage: none
```

**show system license installed**

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

```
License identifier: JUNOS719106327
License version: 4
Order Type: commercial
Features:
  FIB Scale      - Forwarding Information Base Scale
    Capacity: 1000
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
  RIB Scale      - Routing Information Base Scale
    Capacity: 1000
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
  LSP Scale      - Label Switched Path Scale
    Capacity: 1000
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
  Filter Based Forwarding - Filter Based Forwarding
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
```

**show system license key-content**

```
user@host> show system license key-content /var/tmp/license.txt
```

```
License Key Content:
License version: 4
Order Type: commercial
Features:
  LSP Scale      - Label Switched Path Scale
    Capacity: 1000
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
  RIB Scale      - Routing Information Base Scale
    Capacity: 1000
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
  FIB Scale      - Forwarding Information Base Scale
    Capacity: 1000
    date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST
```

Filter Based Forwarding - Filter Based Forwarding  
date-based, 2022-11-17 05:30:00 IST - 2025-11-17 05:30:00 IST

show system license keys

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

```
JUNOS719106327 aeaqie blakaq xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
```

show system license usage

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

License usage:

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Filter Based Forwarding	0	1	0	2025-11-17 05:30:00 IST
FIB Scale	0	65000	0	2025-11-17 05:30:00 IST
RIB Scale	24	65000	0	2025-11-17 05:30:00 IST
LSP Scale	0	1000	0	2025-11-17 05:30:00 IST
GRE Tunnel	1	0	1	invalid
Firewall Filters Scale	0	1000	0	permanent
Firewall Filters Terms Scale	0	4000	0	permanent

show system license (License not installed and no default license)

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

License usage:

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Feature name				

```
l3static          1          0          1  invalid
```

```
Licenses installed: none
```

### show system license (License not installed and there is a default license)

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

```
License usage:
```

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Feature name				
scale-subscriber	0	10	0	permanent

```
Licenses installed: none
```

### show system license (Installed a perpetual license )

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

```
License usage:
```

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Feature name				
l3static	1	1	0	permanent
evpn-vxlan	0	1	0	permanent

```
Licenses installed:
```

```
License identifier: JUNOS100365120
```

```
License version: 4
```

```
Order Type: commercial
```

```
Features:
```

```
l3static          - L3 Static feature
permanent
```

```
License identifier: JUNOS081157102
```

```
License version: 4
```

```
Order Type: commercial
```

## Features:

evpn-vxlan - EVPN feature with VXLAN encapsulation  
 permanent

**show system license (Installed a subscription-based license)**

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

## License usage:

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Feature name				
l3static	1	1	0	2023-02-25 05:30:00 IST
ADV Bandwidth (in gbps)	150	100	50	2023-02-25 05:30:00 IST

## Licenses installed:

License identifier: JUNOS100365120

License version: 4

Order Type: commercial

## Features:

l3static - L3 Static feature  
 date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST  
 ADV Bandwidth (in gbps) - ADVANCE Bandwidth (in gbps)  
 Capacity: 100  
 date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST

**show system license (License expired)**

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

## License usage:

	Licensed Feature used	Licensed Feature installed	Licensed Feature needed	Expiry
Feature name				
l3static	1	1	1	expired
ADV Bandwidth (in gbps)	150	100	150	expired

```

Licenses installed:
License identifier: JUNOS100365120
License version: 4
Order Type: commercial
Features:
  l3static          - L3 Static feature
                    date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST
  ADV Bandwidth (in gbps) - ADVANCE Bandwidth (in gbps)
                    Capacity: 100
                    date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST

```

### show system license (License not installed and no bandwidth license)

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

```

License usage:

                    Licensed   Licensed   Licensed
                    Feature     Feature     Feature
Feature name       used      installed  needed    Expiry
l3static           1          0          1      license not installed

Licenses installed: none

```

### show system license (Installed subscription-based advanced tier license installed with Layer 3 static feature)

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

```

License usage:

                    Licensed   Licensed   Licensed
                    Feature     Feature     Feature
Feature name       used      installed  needed    Expiry
l3static           1          1          0      expired
ADV Bandwidth (in gbps) 0        100        0      expired

Licenses installed:
License identifier: JUNOS100365120

```

```

License version: 4
Order Type: commercial
Features:
  l3static          - L3 Static feature
                    date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST
  ADV Bandwidth (in gbps) - ADVANCE Bandwidth (in gbps)
                    Capacity: 100
                    date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST

```

### show system license (License from point 2 has expired)

The non-commercial license such as emergency, lab, and test licenses are automatically removed from the device on license expiry.

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

```

License usage:

              Licensed      Licensed      Licensed
              Feature       Feature       Feature
Feature name      used    installed    needed    Expiry
l3static           1         1           0  2023-02-25 05:30:00 IST
ADV Bandwidth (in gbps)  100       100           0  2023-02-25 05:30:00 IST

Licenses installed:
License identifier: JUNOS100365120
License version: 4
Order Type: commercial
Features:
  l3static          - L3 Static feature
                    date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST
  ADV Bandwidth (in gbps) - ADVANCE Bandwidth (in gbps)
                    Capacity: 100
                    date-based, 2022-02-25 05:30:00 IST - 2023-02-25 05:30:00 IST

```

### Sample Output (Junos OS Evolved)

**Port Bandwidth Usage**—PTX Series devices consume licenses only when you configure a licensed feature on a port.

The PTX Series device does not consume licenses when you bring up a port or insert a transceiver.

**show system license bandwidth (PTX10001-36MR, PTX10002-36QDD, PTX10003, PTX10004, PTX10008, and PTX10016)**

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

```
Bandwidth Usage (in gbps) : 400
```

**show system license bandwidth fpc (PTX10001-36MR, PTX10002-36QDD, PTX10003, PTX10004, PTX10008, and PTX10016)**

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

```
port-details 0
```

	Bandwidth	License
Port name	used(in gbps)	tier
et-0/0/1	400	advance

**show system license fpc (PTX10001-36MR, PTX10002-36QDD, PTX10003, PTX10004, PTX10008, and PTX10016)**

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

```
Flex only linecards:
```

FPC	Serial Number
0	BUILTIN

```
Bandwidth Usage (in gbps) : 400
```

## Release Information

Command introduced before Junos OS Release 7.4.

The options `feature-list` and `bandwidth` are introduced in Junos OS Release 24.2R1.

## System Log for License



**NOTE:** After you add or delete a license, the 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 added 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 added 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 added licenses.

The alarm specifies 130K RIB requires a license.

## Product-Specific Licensing Tasks

### SUMMARY

Learn how to complete licensing related tasks on specific products.

### IN THIS SECTION

- [Viewing Licenses with Network Director | 80](#)
- [Install VCF Software Licenses | 82](#)
- [Junos Space License Installation | 82](#)
- [Exporting the License Inventory | 83](#)

- [Juniper Connected Security for VMware NSX Licensing | 86](#)
- [License Duration | 88](#)
- [License Procurement and Installation | 88](#)

## Viewing Licenses with Network Director

To view the license for a Juniper Networks device on your network:

1. Select the **Build** icon in the Network Director banner.
2. In the View pane, select wired device.
3. In the Tasks pane, select **View License Information**.

Table 2: Viewing Licenses with Network Director

Field	Description
Feature Name	Name of the licensed SKU or feature. It can be used to look up the license with Juniper Networks. Not all devices support this.
License Count	Number of times an item has been licensed. This value can have contributions from more than one licensed SKU or feature. Alternatively, it can be 1, no matter how many times it has been licensed.
Used Count	Number of times the feature is used. For some types of licenses, the license count will be 1, no matter how many times it is used. For capacity-based licensable items, if infringement is supported, the license count can exceed the given count, which has a corresponding effect on the need count.
Need Count	Number of times the feature is used without a license. Not all devices can provide this information.
Given Count	Number of instances of the feature that are provided by default.

If a device does not have a license, a blank page is displayed with the message, No license is installed on this device. If you are sure the device has a license, try resynchronizing the device before displaying the license again.

4. Optionally, expand the license information by feature name to view the feature SKU information.

**Table 3: Additional Licensing Information**

Field	Description
Validity Type	Validity type can be Databased (license expires on end date), Permanent, Countdown (license expires when time remaining is zero), or Trial. If the validity type is either Databased or Countdown, more information is displayed—License Name, License Version, License State, and Time Remaining. Additional information can be added in the details grid based on the SKU type (SKU or Feature)—Start Date, End Date, or Original Time Allowed.
License Name	If the validity type is either Databased or Countdown, the identifier associated with a license key is displayed.
License Version	If the validity type is either Databased or Countdown, the version of a license is displayed. The version indicates how the license is validated, the type of signature, and the signer of the license key.
License State	If the validity type is either Databased or Countdown, the state of the license is displayed—Valid, Invalid, or Expired.
Time Remaining	If the validity type is either Databased or Countdown, the remaining time left on the license is displayed. For a trial license, the number of days remaining after you installed the device is displayed. For a commercial license, the time remaining is unlimited.
Start Date	Based on the SKU type, the start date of the license can be displayed in the details grid.
End Date	Based on the SKU type, the end date of the license can be displayed in the details grid.

Table 3: Additional Licensing Information (*Continued*)

Field	Description
Original Time Allowed	Based on the SKU type, the original license timeframe can be displayed here.

## Install VCF Software Licenses

To install a VCF software license:

1. Purchase two VCF software license keys (QFX-VCF-LIC) from your [Juniper Networks sales representative](#).

The sales representative will provide you with the feature license files and license keys. You will be asked to supply the chassis serial number of your switch; you can obtain the serial number by issuing the `show virtual-chassis` command.

2. Install the first software license on one device in the VCF (for example, the device acting in the primary role):

```
user@device> request system license add (filename | url)
```

3. Install the second software license on a second device in the VCF (for example, the device acting in the backup role):

```
user@device> request system license add (filename | url)
```

## Junos Space License Installation

Junos Space Network Management Platform comes with a 60-day full-featured trial license. You must procure and install a valid license during this period to ensure continued operation beyond the trial period.

If you fail to upload a valid license during the 60-day trial period, the Junos Space user interface displays an error message when you log in indicating that the license has expired. Your access is limited to the Licenses page (**Administration > Licenses**) from where you can execute the **Import License** task to enter a valid license.

For Junos Space Platform licensing details, see [Generating and Uploading the Junos Space License Key File](#) and [Viewing Junos Space Licenses](#).

You can use either of the following options to install a valid license for Junos Space Platform:

- If you plan to use the Junos Space Platform with only the Support Automation applications (Service Now and Service Insight), you can navigate to the **Add Organization** page (**Service Now > Administration > Organizations > Add Organization**) in the Service Now user interface to activate these applications. However, to activate these applications, you must have a valid support contract for your Juniper Networks devices and valid credentials to access the Juniper Support System (JSS) back end.

If you choose this option and if you want to use other Junos Space applications beyond the trial period, you must purchase a license for Junos Space Platform (as explained in the bulleted item that follows).

- If you want to use Junos Space applications other than Service Now and Service Insight, or if you do not have a valid support contract for your Juniper Networks devices, you must purchase a license for Junos Space Platform. After you obtain the license file, you can install the license from the **Import License** page (**Administration > Licenses > Import License**). For more information about installing a valid license for Junos Space Platform, see the [Generating and Uploading the Junos Space License Key File](#) topic (in the *Junos Space Network Management Platform Workspaces Feature Guide*).

## Exporting the License Inventory

The Device License Inventory feature enables you to display the currently installed license inventory information for all DMI schema-based devices under Junos Space Network Management Platform management.

The license inventory is generated when the device is first discovered and synchronized in Junos Space Network Management Platform.

The licenses used by all Juniper Networks devices are based on SKUs, which represent lists of features. Each license includes a list of features that the license enables and information about those features. Sometimes the license information also includes the inventory keys of hardware or software elements upon which the license can be installed.

To view the license(s) for Junos Space Network Management Platform itself, see [Viewing Junos Space Licenses](#).

This topic also covers:

- Absence of license
- Trial information
- Count-down information
- Date-based information

DMI enables each device family to maintain its own license catalog in the DMI Update Repository. The license catalog is a flat list of all the licenses used by a device family. The key for a license element is its SKU name. Each license element in the catalog includes a list of features that the license enables and information about each feature (that is, its name and value). Optionally, the license element can also list the inventory keys of hardware or software elements and where it can be installed.

If the license inventory on the device is changed, the result depends on whether the network is the system of record or Junos Space Network Management Platform is the system of record. See [Systems of Record in Junos Space Overview](#).

If the network is a system of record, Junos Space Network Management Platform automatically synchronizes with the managed device. You can also manually resynchronize the Junos Space Network Management Platform license database with the device by using the Resynchronize with Network action. See [Resynchronizing Managed Devices with the Network](#).

If Junos Space Network Management Platform is the system of record, neither automatic nor manual resynchronization is available.

Viewing device license inventory does not include pushing license keys to devices. You can, however, push licenses with the Configuration Editor to any device that has license keys in its configuration. You can export device license inventory information to a CSV file for use in other applications.

License inventory information shows individually installed licenses as well as a license usage summary, with statistics for various features.

To export the license inventory for a device:

1. On the Network Management Platform user interface, select **Devices > Device Management**.

The Device Management page displays the devices managed in Junos Space Network Management Platform.

2. Select **Device Inventory > View License Inventory** from the Actions menu.

Need Counts in red indicate violations. In other words, entries in red indicate that you are using features that you are not licensed to use. You may also encounter the message that you have no licenses installed.

3. (Optional) View the list of licensed features for the selected license by double-clicking a license usage summary or clicking on the forward action icon to the left of a license usage summary.
4. (Optional) Click **Return to Inventory View** at the top of the inventory page.
5. (Optional) Click **Export** at the top of the inventory page, to export the license inventory information.

The Export Device License Information dialog box appears, displaying a link: Download license file for selected device (CSV format).

6. (Optional) Click the download link.

The Opening Device License-xxxxxxCSV dialog box appears, where xxxxxx represents a number.

7. Open the file with an application of your choice or download the file by clicking **Save**.

Exporting device license information generates an audit log entry.

**Table 4: License Usage Summary Fields**

Field	Description
Feature name	Name of the licensed SKU or feature. It can be used to look up the license with Juniper Networks. Not all devices support this.
License count	Number of times an item has been licensed. This value may have contributions from more than one licensed SKU or feature. Alternatively, it may be 1, no matter how many times it has been licensed.
Used count	Number of times the feature is used. For some types of licenses, the license count will be 1, no matter how many times it is used. For capacity-based licensable items, if infringement is supported, the license count may exceed the given count, which has a corresponding effect on the need count.
Need count	Number of times the feature is used without a license. Not all devices can provide this information.
Given count	Number of instances of the feature that are provided by default.

**Table 5: License Feature or SKU Fields**

Field	Description
Feature Name	Name of the licensed SKU or feature. It can be used to look up the license with Juniper Networks. Not all devices support this.
Validity Type	The SKU or feature is considered permanent if it is not trial, count-down, or data-based.

**Table 6: Additional Fields in CSV Files**

Field	Description
State	Status of the license: valid, invalid, or expired. Only licenses marked as valid are considered when calculating the license count.
Version	Version of the license.
Type	Permanent, trial, and so on.
Start Date	Licensed feature starting date.
End Date	Licensed feature ending date.
Time Remaining	Licensed feature time remaining.

## Juniper Connected Security for VMware NSX Licensing

VMware NSX is VMware's network virtualization platform for the Software Defined Data Center (SDDC). You can add the vSRX Virtual Firewall Virtual Services Gateway as a partner security service in the VMware NSX environment. The vSRX Virtual Firewall security service is managed by the Junos Space Security Director and VMware NSX Manager to deliver a complete and integrated virtual security solution for your SDDC environment. The vSRX Virtual Firewall provides advanced security services (Layer 7 services), including intrusion detection and prevention (IDP), and application control and visibility services through AppSecure.

The Juniper Connected Security for VMware NSX licensing includes support for Juniper's virtual firewall (vSRX Virtual Firewall), Network Security services (AppSecure, IDP) and the Juniper Connected Security and Security Management solutions (Policy Enforcer and Security Director) for VMware NSX-based private cloud advanced security.

### Juniper Connected Security for VMware NSX Advanced Security Licenses

The Juniper Connected Security for NSX Advanced Security (ADS) licenses that are available from Juniper Networks provide entitlement for protection of one physical CPU socket, with one vSRX Virtual Firewall instance key provided for each license. Typically, a VMware ESXi server has multiple CPU sockets, and each CPU socket has multiple cores.

All Juniper Connected Security for NSX ADS licenses have an associated time duration; you purchase licenses as subscription based for a 1-year, 3-year, or 5-year duration.

A Juniper Connected Security for NSX ADS license cannot be purchased as a perpetual (never expire) license. Each license is only available on a subscription basis.

Each license includes support for the following:

- Juniper vSRX Virtual Firewall Series Virtual Services Gateway, including:
  - Stateful L3-L4 firewall
  - Advanced Application Security (ASEC) features (such as AppID, AppFW, AppQoS, and AppTrack)
  - Intrusion Detection and Prevention (IDP)
- Juniper Security Management solutions, including:
  - Junos Space Security Director
  - Juniper Connected Security Policy Enforcer

The licenses available in the Juniper Connected Security for VMware NSX ADS licensing model are based on SKUs which represent the terms of subscription and the supported features.

**Table 7: Juniper Connected Security for VMware NSX ADS Licensing Packages**

License Model Number	Description
JNSX-ADS-1-1Y	<p>Juniper Connected Security for NSX Advanced Security with vSRX Virtual Firewall for 1 physical CPU socket - 1 Year Subscription</p> <p>The 1-year subscription license includes support for Security Director, Policy Enforcer, 1 vSRX Virtual Firewall entitlement for 1 physical CPU socket protection with AppSecure and IDP feature support</p>
JNSX-ADS-1-3Y	<p>Juniper Connected Security for NSX Advanced Security with vSRX Virtual Firewall for 1 physical CPU socket - 3-year Subscription</p> <p>The 3-year subscription license includes support for Security Director, Policy Enforcer, 1 vSRX Virtual Firewall entitlement for 1 physical CPU socket protection with AppSecure and IDP feature support</p>

**Table 7: Juniper Connected Security for VMware NSX ADS Licensing Packages (Continued)**

License Model Number	Description
JNSX-ADS-1-5Y	<p>Juniper Connected Security for NSX Advanced Security with vSRX Virtual Firewall for 1 physical CPU socket - 5 Year Subscription</p> <p>The 5-year subscription license includes support for Security Director, Policy Enforcer, 1 vSRX Virtual Firewall entitlement for 1 physical CPU socket protection with AppSecure and IDP feature support</p>

## License Duration

The Juniper Connected Security for NSX ADS license model is subscription based. A subscription license is an annual license that allows you to use the licensed software for the matching duration. Subscriptions might involve periodic downloads of content (such as for IDP threat signature files). At the end of the license period, you need to renew the license to continue using it.

Subscription licenses start when you retrieve the license key or 30 days after purchase if you have not retrieved the license key. All subscription licenses are renewable.

## License Procurement and Installation

To enable a Juniper Connected Security for NSX ADS license, you must purchase, install, and manage the license key that corresponds to the specific terms of each license. The presence of the appropriate software unlocking key on your virtual instance allows you to configure and use that license.

Licenses are usually ordered when the software application is purchased, and this information is bound to a customer ID. If you did not order the licenses when you purchased your software application, contact your account team or [Juniper Networks Customer Care](#) for assistance. Licenses can be procured from the [Juniper Agile Licensing \(JAL\) Portal](#).

From the Junos Space Security Director, you discover the NSX Manager and perform service registration of the vSRX Virtual Firewall VM with the NSX Manager. The NSX Manager is added as a device in Security Director and its inventory is synchronized with Security Director. Discovering the NSX Manager and registering vSRX Virtual Firewall as a security service in Security Director are described in detail in [Deploying the vSRX as an Advanced Security Service in a VMware NSX Environment](#).

As part of the service registration procedure, in the Service Manager Registration section of the Add NSX Manager page, you enter the license key.

Figure 1: Service Manager Registration: Entering the License Key

Add NSX Manager ⓘ

1 NSX Manager 2 Service Manager Registration 3 vCenter Server

Security Service Registration

SD Username

SD Password

License Key \*

[Cancel](#) [Back](#) [Next](#)

# Juniper License Keys Upgrade

## IN THIS CHAPTER

- [Upgrade Juniper License Keys During Software Upgrades | 90](#)

## Upgrade Juniper License Keys During Software Upgrades

### SUMMARY

Learn how to upgrade Juniper License Keys during software upgrades. Understand the Juniper License Key upgrade process, and license change scenarios.

### IN THIS SECTION

- [Juniper License Key Upgrade Process | 90](#)
- [Juniper License Change Scenarios | 91](#)

When you typically upgrade the software version for your Juniper device or software:

- You don't normally need to install an updated License Key.
- The old License Key will continue to work in the device or software.

Sometimes, a new software version might require you to install a new License Key for these reasons:

- Support a different License Key format.
- Support new software features that are available with the upgraded software version.

If a new software version requires you to install an updated License Key, the product Release Notes for the software version provides this information. Ensure to review the Release Notes for your Juniper product and software versions.

## Juniper License Key Upgrade Process

Here are the steps to get the new License Key for your upgraded software version from the Juniper Agile Licensing (JAL) Portal.

1. Log in to the [JAL Portal](#).

Under My Activations, find the activated license that you want to upgrade. You can search using Device Serial Number, Product Name, Software Support Reference Number, and so on.

2. Click Upgrade.

Software Version Upgrade/Downgrade window displays details of the currently active license.

3. Select the required new software version from the pulldown menu.

4. Add any notes you require for this new activation. Add an Email Address to receive new License Key by email.

5. Click Activate.

You can receive the new License Key for the new software version by email. You can even download the new License Key from My Activations.

## Juniper License Change Scenarios

License Change Scenario	License Change Guidance
I require a new License Key when I upgrade the software version of my Juniper product.	Refer to and follow the <a href="#">"Juniper License Key Upgrade Process" on page 90</a> .
I want to change the license on a device from one license tier to another. For example, from Advanced tier to Premium tier.	<p>When you move from one license to another, you are effectively moving to a different product. Hence, this change requires you to purchase a new license.</p> <p>Contact your Juniper Partner or Account Team for assistance with this license tier upgrade.</p>
I want to move from a legacy license model to the Flex three-tier license model.	<p>Moving from a legacy license SKU to Flex three-tier license model SKU is only available as part of a Subscription license renewal.</p> <p>When available, your license renewal quote automatically includes the new Flex three-tier license SKU. See the <a href="#">"License Renewal Summary " on page 93</a>.</p>

*(Continued)*

License Change Scenario	License Change Guidance
<p>I want to change the term of my Subscription license so that my subscription end dates are co-terminated.</p>	<p>Change in license duration or term is available as part of a Subscription license renewal only. Request the new term as a modification to the renewal quote before placing the renewal sales order.</p> <p>If you need to change the license term at another time, you need to purchase the new license term. Contact your Juniper Partner or Account Team for assistance.</p>
<p>I want to move from an on-premise application to a cloud-hosted SaaS service.</p>	<p>If you need to move from an on-premise product to a cloud-hosted SaaS service, then it is considered new product purchase.</p> <p>Hence, you need to purchase a new entitlement for the new SaaS service. Contact your Juniper Partner or Account Team for assistance.</p>
<p>I have an existing 'universal' License Key for my product, and I want to migrate to the Flex three-tier model license.</p>	<p>When you move from one license type to another, you are effectively moving to a different product.</p> <p>Hence, you must purchase a new license.</p> <p>Contact your Juniper Partner or Account Team for assistance.</p>

*(Continued)*

License Change Scenario	License Change Guidance
<p>I want to renew my Subscription license.</p>	<p>Juniper supports a standard process to renew Subscription licenses. This process aligns with the maintenance and support renewal process.</p> <p><b>License Renewal Summary</b></p> <ul style="list-style-type: none"> <li>• Every calendar quarter Juniper systems create a renewal quote for subscription licenses in tandem with renewal quotes for maintenance and support contracts.</li> <li>• Renewal quote includes a line for each subscription license that is due to expire in the next quarter. The quote might also include lines for subscription licenses that are due to expire in a future quarter.</li> <li>• Each line on the renewal quote identifies the unique Software Support Reference Number (SSRN) of the original Subscription license.</li> <li>• Utilize the renewal quote to place a renewal sales order with Juniper.</li> <li>• When you fulfill each line on the renewal sales order, you automatically renew each license for the new subscription term.</li> <li>• The new license term displays automatically for each SSRN in the My Activations tab when you log in to the Juniper Agile Licensing Portal.</li> </ul> <p>You can then download the new License Key that includes the end date for the new subscription term.</p> <p>Download and install that License Key in to your device.</p>

*(Continued)*

License Change Scenario	License Change Guidance
<p>I want to view, download and install the renewed license.</p>	<ol style="list-style-type: none"><li data-bbox="833 373 1414 478">1. Log in to the Juniper Agile Licensing Portal and view the new license term for each SSRN in the My Activations tab.</li><li data-bbox="833 510 1414 573">2. Download the new License Key that includes the end date for the new subscription term.</li><li data-bbox="833 604 1414 636">3. Install that License Key in to your device.</li></ol>

# Juniper License FAQs

## IN THIS CHAPTER

- [Juniper Licensing Frequently Asked Questions | 95](#)

## Juniper Licensing Frequently Asked Questions

### SUMMARY

Get answers to FAQs related to Juniper Licensing and Juniper Agile Licensing (JAL) Portal.

### IN THIS SECTION

- [What is a Juniper Entitlement? | 95](#)
- [How can I view all my Juniper Entitlement in the JAL Portal? | 96](#)
- [How does Juniper deliver Non-JAL licenses? How does Juniper deliver Paper licenses and Legacy license SKUs? | 96](#)

## What is a Juniper Entitlement?

An entitlement defines the right to use a software license. Entitlement provides you the following license-related information:

- License details
- Who can use the license
- License validity duration

Activate the entitlement to generate a license key. The license key contains the software features of the product. License key for term-based licenses comes with an expiry date.

Even if you didn't receive the fulfillment email, you can log in to the Juniper Agile Licensing (JAL) Portal and automatically view your purchased Entitlements.

Juniper systems create new Entitlements when the license SKU is fulfilled (shipped). Hence, when you log into the JAL Portal you can view the Entitlements.

## How can I view all my Juniper Entitlement in the JAL Portal?

If you cannot find your Entitlements on the JAL Portal, you could be experiencing visibility issues. The visibility of Entitlements depends on how your user account is associated with your company Account ID. If you cannot view an Entitlement, then contact Customer Care <https://support.juniper.net/support/requesting-support/>.

Provide details such as the Sales Order number or the Support Reference Number listed in the fulfillment email to the Customer Care team.

## How does Juniper deliver Non-JAL licenses? How does Juniper deliver Paper licenses and Legacy license SKUs?

Certain heritage products do not use the JAL system.

Scenario	Do the Following
The Fulfillment email provides an attachment that includes a License Key.	Install the License Key in your product.
The Fulfillment email provides an attachment that describes your purchased Entitlement but does not require a License Key to be installed in your product.	Save the Fulfillment email. You do not need to install the License Key in your product.
The Fulfillment Email provides an attachment that describes your purchased Entitlement. In this scenario you need not activate your license.	Save the Fulfillment email.
You receive the license as paper document.	Save the paper document for future reference.

Ensure that you read the details in the Fulfillment email, or the guidance provided in the documentation for your purchased product.

# 3

PART

## Juniper Software Licenses

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- Licenses for Juniper Software | 99
- **Software Licenses for ACX Series | 100**
- Software Licenses for ATP Appliance | 107
- Software Licenses for ATP Cloud | 109
- Software Licenses for Contrail Service Orchestration | 113
- Software Licenses for cRPD | 126
- Software Licenses for cSRX | 128
- Software Licenses for EX Series Switches | 130
- Software Licenses for Juniper Apstra | 139
- Software Licenses for Juniper Coherent Optics | 143
- Software Licenses for Juniper Secure Connect | 144
- Software Licenses for Juniper Security Director Cloud | 147
- Software Licenses for Junos Space Security Director | 149
- Software Licenses for MX Series Routers and MPC Service Cards | 150
- Software Licenses for NFX Series | 159
- Software Licenses for Northstar Controller | 162
- Software Licenses for Northstar Planner | 166
- Software Licenses for Paragon Automation | 170
- Software Licenses for Paragon Insights | 175
- Software Licenses for PTX Series Routers | 179
- Software Licenses for QFX Series Switches | 186
- Software Licenses for SRX Series Firewalls | 195
- Software Licenses for Subscriber Services | 207



# Licenses for Juniper Software

In this topic, you can view the licensing information for Juniper products.

License information for Juniper products is as follows:

- [Software Licenses for ACX Series](#)
- [Software Licenses for ATP Appliance](#)
- [Software Licenses for ATP Cloud](#)
- [Software Licenses for Contrail Service Orchestration](#)
- [Software Licenses for cRPD](#)
- [Software Licenses for cSRX](#)
- [Software Licenses for EX Series Switches](#)
- [Software Licenses for Juniper Apstra](#)
- [Software Licenses for Juniper Coherent Optics](#)
- [Software Licenses \(Subscriptions\) for Juniper Mist](#)
- [Software Licenses for Juniper Secure Connect](#)
- [Software Licenses for Juniper Security Director Cloud](#)
- [Software Licenses for Juniper Security Director On-Premises](#)
- [Software Licenses for MX Series Routers and MPC Service Cards](#)
- [Software Licenses for NFX Series](#)
- [Software Licenses for Northstar Controller](#)
- [Software Licenses for Northstar Planner](#)
- [Software Licenses for Paragon Automation](#)
- [Software Licenses for Paragon Insights](#)
- [Software Licenses for PTX Series Routers](#)
- [Software Licenses for QFX Series Switches](#)
- [Software Licenses for SRX Series Firewalls](#)

- [Software Licenses for Subscriber Services](#)
- [Software Licenses for vSRX Virtual Firewall](#)

## Software Licenses for ACX Series

ACX Series Routers support subscription and perpetual licenses.

Go through the following tables:

- [ACX Series SKUs Definition on page 100](#)
- [ACX Series Software Licenses Use Case and Scale Information on page 101](#)
- [ACX Series Software Licenses for Metro on page 101](#)
- [ACX Series Software Licenses for Data Center on page 103](#)
- [ACX Series License SKUs on page 105](#)
- [Legacy ACX Series License SKUs on page 106](#)

**Table 8: ACX Series SKUs Definition**

SKU	SKU Character Description
S-ACX-100GE/400GE-A/A1/P/P1-P/1/3/5 /7 S-EACX-400G/100G-A/A1/P/P1-1/3/5/7/P	<b>S</b> —Software <b>ACX</b> —Product name: ACX <b>400G/100G</b> —Bandwidth <b>100GE/400GE</b> —Bandwidth <b>A/A1</b> —Advanced license Model <b>P/P1</b> —Premium license Model <b>1/3/5/7</b> —Subscription term: 1, 3, 5, 7 years <b>P</b> —Perpetual

**Table 9: ACX Series Software Licenses Use Case and Scale Information**

ACX Series	Use Case	Scale
Premium	Metro and Service Edge	32+ VRFs and 2+ million FIBs
Advanced	Metro Service over MPLS or SR	32 VRFs and up to 2 million FIBs

**Table 10: ACX Series Software Licenses for Metro**

Features with License	ACX710	ACX5448, ACX5448-D/M	ACX7100-32 C/48L	ACX7024, ACX7024X	ACX7509	ACX7348
Pseudowire Headend Termination (PWHT) and all available features* in the router other than those requiring standalone licenses with full platform scale of FIB and VPNs	Premium	Premium	Premium	Premium	Premium	Premium
All Layer 2 features* (ERPS, LAG, MCLAG, Q-in-Q, Layer 2 filters, Layer 2 QoS, Ethernet OAM, VXLAN, CFM, IRB)	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced

Table 10: ACX Series Software Licenses for Metro *(Continued)*

Features with License	ACX710	ACX5448, ACX5448-D/M	ACX7100-32 C/48L	ACX7024, ACX7024X	ACX7509	ACX7348
Layer 2 VPN (PWE, VPLS, E-VPN)	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
Layer 3 VPN	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
Timing (SYNCE and PTP)	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
H-QoS	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
Telemetry	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
RFC2544	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
LFM	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
CFM	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
Layer 2 or Layer 3 Filters (CIR/EIR/storm control)	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced

Table 10: ACX Series Software Licenses for Metro *(Continued)*

Features with License	ACX710	ACX5448, ACX5448-D/M	ACX7100-32 C/48L	ACX7024, ACX7024X	ACX7509	ACX7348
All routing protocols for IPv4 and IPv6 (OSPF, BGP, LDP, ISIS, RIP, PCEP, EVPN)	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
Timing features (PTP and SYNCE)	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
Segment Routing	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
SR-TE	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
SRv6	Advanced	Advanced	Advanced	Advanced	Advanced	Advanced
<b>Perpetual</b>						
MACsec (100-Gigabit MACsec, 400-Gigabit MACsec)	Not supported	Not supported	Perpetual Support only on ACX7100-32 C	Not supported	Perpetual	Perpetual

## Software License for ACX Series Routers for Data Center

Table 11: ACX Series Software Licenses for Data Center

Features with License	ACX7100 Series
Use Case for Advanced 2 (includes Advanced 1 features): Data Center EVPN-VXLAN fabric	

Table 11: ACX Series Software Licenses for Data Center *(Continued)*

Features with License	ACX7100 Series
CFM	Advanced 2
EVPN-VXLAN	Advanced 2
Layer 3 multicast	Advanced 2
OAM	Advanced 2
PTP	Advanced 2
Q-in-Q	Advanced 2
Virtual Chassis	Advanced 2
<b>Use Case for Advanced 1 (includes Standard features): Data Center IP fabric</b>	
BGP	Advanced 1
FBF	Advanced 1
GRE	Advanced 1
IS-IS	Advanced 1
JTI	Advanced 1
OSFP	Advanced 1
ROCEv2	Advanced 1

Table 11: ACX Series Software Licenses for Data Center *(Continued)*

Features with License	ACX7100 Series
sFlow	Advanced 1
VRF	Advanced 1
VRRP	Advanced 1

Table 12: ACX Series License SKUs

ACX Series Device	Standard	Advanced	Premium	MACsec Licenses
ACX710	ACX710DC	S-ACX-100GE-A1-P/A-1*/3/5	S-ACX-100GE-P1-P, P-1*/3/5	NA
ACX5448, ACX5448-D, ACX5448-M	ACX5448-AC-AFI, AFO, DC-AFI, AFO ACX5448-D-AC-AFO, DC-AFO, AC-AFI, DC-AFI ACX5448-M-AC-AFO, DC-AFO, AC-AFI, DC-AFI	S-ACX-400GE-A1-P, A-1*/3/5	S-ACX-400GE-P1-P, P-1*/3/5	NA
ACX7100-32C	ACX7100-32C-AC-AO, DC-AO	S-EACX-400G-A-1/3/5, A1-P  S-EACX-100G-A-1 /3/5, A1-P  <b>Data Center - Advanced 1</b>  S-ACXCLDDC32C-A1-1/3/5/P  <b>Data Center - Advanced 2</b>  S-ACXCLDDC32C-A2-1/3/5/P	S-EACX-400G-P-1/3/5, P1-P  S-EACX-100G-P-1/3/5, P1-P	S-ACXEVO100GMSEC-P  S-ACXEVO400GMSEC-P

Table 12: ACX Series License SKUs (Continued)

ACX Series Device	Standard	Advanced	Premium	MACsec Licenses
ACX7100-48L ACX7024 ACX7348	ACX7100-48L-AC-AI, AC-AO, DC-AI, DC- AO	S-EACX-400G-A-1/3/5, A1-P  S-EACX-100G-A-1/3/5, A1-P  <b>Data Center - Advanced 1</b>  S-ACXCLDDC48L-A1-1/3/5/P  <b>Data Center - Advanced 2</b>  S-ACXCLDDC48L-A2-1/3/5/P	S-EACX-400G-P-1/3/5, P1-P  S-EACX-100G-P-1/3/5, P1-P	S-ACXEVO100GMSE C-P  S-ACXEVO400GMSE C-P  Support only on ACX7100-48L and ACX7348

\*1 year subscription term is for renewal only.

#### Legacy Licensing for ACX Series Routers

Table 13: Legacy ACX Series License SKUs

Features with License	ACX5448-D and ACX5448-M	Scale	SKUs
IP, MPLS, timing, CoS, E-OAM, telemetry, RFC2544	Advanced	32 Layer 3 VPN and 8 NG- MVPN	S-ACX-400G-A-1/3/5
All advanced software subscription license features with full-scale.	Premium	Full-scale	S-ACX-400G-P-1/3/5

# Software Licenses for ATP Appliance

ATP Appliance supports subscription licenses.

Go through the following tables:

- [ATP Appliance SKU Definition on page 107](#)
- [ATP Appliance Software Licenses on page 108](#)
- [ATP Appliance Software Licenses SKUs on page 108](#)

**Table 14: ATP Appliance SKU Definition**

SKU	SKU Character Description
S-JATP-100M/500M/1G/5G/10G-S1/S2/A1/A2-1/3/5	<p>S—Software</p> <p>JATP—Product name: ATP Appliance</p> <p>100M—100 Mbps</p> <p>500M—500 Mbps</p> <p>1G—1 Gbps</p> <p>5G—5 Gbps</p> <p>10G—10 Gbps</p> <p>S1—Standard 1</p> <p>S2—Standard 2</p> <p>A1—Advanced 1</p> <p>A2—Advanced 2</p> <p>1/3/5—Subscription term 1, 3, or 5 years</p>

**Table 15: ATP Appliance Software Licenses**

Features with Licenses	ATP Appliance	Use Case
Threat analytics and threat mitigation using third-party products	Advanced 2 (includes standard 2 features)	ATP Appliance as an on-premises appliance with third-party integrations, ATP Appliance Core with an SRX Series Firewall, ATP Appliance collectors, analytics, and threat mitigation
Threat analytics and threat mitigation using third-party products	Advanced 1 (includes standard 1 features)	ATP Appliance as an on-premises appliance with third-party integrations, ATP Appliance Core with an SRX Series Firewall, ATP Appliance collectors, analytics, and threat mitigation
Malware analysis, SecIntel, and McAfee antivirus	Standard 2	ATP Appliance as an on-premises appliance with ATP Appliance Core and an SRX Series Firewall device as the collector
Malware analysis, SecIntel, and Avira antivirus	Standard 1	ATP Appliance as an on-premises appliance with ATP Appliance Core and an SRX Series Firewall device as the collector

**Table 16: ATP Appliance Software Licenses SKUs**

ATP Appliance	SKUs
Advanced 2	S-JATP-100M/500M/1G/5G/10G-A2-1/3/5
Advanced 1	S-JATP-100M/500M/1G/5G/10G-A1-1/3/5
Standard 2	S-JATP-100M/500M/1G/5G/10G-S2-1/3/5
Standard 1	S-JATP-100M/500M/1G/5G/10G-S1-1/3/5

License stacking is allowed. You can combine individual or bundled licenses to combine features or increase the total throughput. For example, you can combine a 5-Gbps license and another 5-Gbps license to supply 10-Gbps throughput to the ATP Appliance.

Supported bandwidth are 100 Mbps, 500 Mbps, 1 Gbps, 5 Gbps, and 10 Gbps.

## Software Licenses for ATP Cloud

ATP Cloud supports subscription and perpetual licenses.

ATP Cloud licenses are offered as SRX Series Firewall and SRX Series Firewall Data Protection (DP) and Edge Protection (EP) software license bundles.

Premium 2 features are not supported on SRX300 and SRX320 devices.

The Advanced features in Advanced 1, Advanced 2, and Advanced 3 are identical.

The Premium features in Premium 1, Premium 2, and Premium 3 are identical.

Go through the following tables:

- [ATP Cloud SKUs Definition on page 110](#)
- [ATP Cloud Software Licenses on page 110](#)
- [ATP Cloud License SKUs on page 112](#)

Table 17: ATP Cloud SKUs Definition

SKU	SKU Character Description
S-SRX3XX/SRX1500/SRX1600/ SRX4100/SRX4200/ SRX5XXX/vSRX	<p>S—Software</p> <p>SRX3XX/SRX1500/SRX1500/SRX4100/SRX4200/ SRX5XXX/vSRX—Product name</p> <p>A1—Advanced 1</p> <p>A2—Advanced 2</p> <p>A3—Advanced 3</p> <p>P1—Premium 1</p> <p>P2—Premium 2</p> <p>P3—Premium 3</p> <p>1/3/5—Subscription term 1, 3, or 5 years</p>
SRX1500DP/EP/ SRX1600DP/EP/ SRX2300DP/EP/ SRX4100DP/EP/ SRX4200DP/EP/ SRX4300DP/EP/ SRX4600DP/EP/-A1/A2/P1/P2-1/3/5	<p>S—Software</p> <p>SRX1500/SRX1600/SRX2300/SRX4XXX—Product name</p> <p>DP—Data center protection security</p> <p>EP—Enterprise edge protection security</p> <p>A1—Advanced 1</p> <p>A2—Advanced 2</p> <p>P1—Premium 1</p> <p>P2—Premium 2</p> <p>1/3/5—Subscription term 1, 3, or 5 years</p>

Table 18: ATP Cloud Software Licenses

Features with Licenses	ATP Cloud
Use Case for Premium (includes Advanced features): Datacenter security	

**Table 18: ATP Cloud Software Licenses (Continued)**

Features with Licenses	ATP Cloud
Adaptive threat profiling	Premium
DNS security	Premium
Encrypted traffic insights	Premium
IoT security	Premium
Malware analysis and threat detection	Premium
Reverse shell detection	Premium
Sandboxing	Premium
SecIntel	Premium
<b>Use Case for Advanced (includes Standard features): Datacenter security</b>	
Allowlist and blocklist feed	Advanced
Command and Control (C&C) cloud feed	Advanced
Custom cloud feed	Advanced
GeoIP cloud feed	Advanced
Infected host feed	Advanced
SecIntel	Advanced
File scanning limits	Standard

**Table 18: ATP Cloud Software Licenses (Continued)**

Features with Licenses	ATP Cloud
Limited feeds	Standard
Limited file types	Standard

**Table 19: ATP Cloud License SKUs**

Subscription Licenses	SRX300, SRX320, SRX340, SRX345, and SRX380	SRX1500	SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600	SRX4100, SRX4200, and SRX4600	SRX5400, SRX5600, and SRX5800
Premium 3	Not Applicable	S-SRX1500-P3-1/3/5	Not Applicable	S-SRX4XXX-P3-1/3/5	S-SRX5XXX-P3-1/3/5
Premium 2	S-SRX3XX-P2-1/3/5	S-SRX1500-P2-1/3/5	S-SRX1X00EP/SRX2300EP/SRX4X00EP-P2-1/3/5	S-SRX4XXX-P2-1/3/5	S-SRX5XXX-P2-1/3/5
Premium 1	S-SRX3XX-P1-1/3/5	S-SRX1500-P1-1/3/5	S-SRX1X00DP/SRX2300DP/SRX4X00DP-P1-1/3/5	S-SRX4XXX-P1-1/3/5	S-SRX5XXX-P1-1/3/5
Advanced 3	Not Applicable	S-SRX1500-A3-1/3/5	Not Applicable	S-SRX4XXX-A3-1/3/5	S-SRX5XXX-A3-1/3/5
Advanced 2	S-SRX3XX-A2-1/3/5	S-SRX1500-A2-1/3/5	S-SRX1X00EP/SRX2300EP/SRX4X00EP-A2-1/3/5	S-SRX4XXX-A2-1/3/5	S-SRX5XXX-A2-1/3/5

**Table 19: ATP Cloud License SKUs (Continued)**

Subscription Licenses	SRX300, SRX320, SRX340, SRX345, and SRX380	SRX1500	SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600	SRX4100, SRX4200, and SRX4600	SRX5400, SRX5600, and SRX5800
Advanced 1	S-SRX3XX-A1-1/3/5	S-SRX1500-A1-1/3/5	S-SRX1X00DP/SRX2300DP/SRX4X00DP-A1-1/3/5	S-SRX4XXX-A1-1/3/5	S-SRX5XXX-A1-1/3/5

## Software Licenses for Contrail Service Orchestration

Contrail Service Orchestration supports subscription licenses.

Go through the following tables:

- [CSO Software Licenses on page 113](#)
- [CSO Supported Devices on page 116](#)
- ["Legacy Licenses for Contrail Service Orchestration" on page 117](#)

**Table 20: CSO Software Licenses**

Features with License	Advanced: A, B, and C class devices	Standard: A, B, and C class devices	Standard: D and E class devices
Use Case	Hybrid WAN, next-generation firewall management, and SD-WAN	Hybrid WAN, next-generation firewall management, and SD-LAN	Hybrid WAN, next-generation firewall management, and SD-LAN
Authentication for VPNs	Supported	Supported	Not Supported

**Table 20: CSO Software Licenses (Continued)**

Features with License	Advanced: A, B, and C class devices	Standard: A, B, and C class devices	Standard: D and E class devices
Firewall	Supported	Supported	Not Supported
Hybrid WAN-dual WAN links (active/backup)	Supported	Supported	Not Supported
NAT	Supported	Supported	Not Supported
Security event logs and reporting	Supported	Supported	Not Supported
Single-WAN link-managed CPE	Supported	Supported	Not Supported
User firewall	Supported	Supported	Not Supported
Content Security	Supported	Supported	Not Supported
Zero-touch provisioning (ZTP) for CPE devices	Supported	Supported	Not Supported
Automated switch deployment through ZTP	Not Supported	Not Supported	Supported
LAN configuration and monitoring	Not Supported	Not Supported	Supported
Mist Wi-Fi integration	Not Supported	Not Supported	Supported
Switch management	Not Supported	Not Supported	Supported
Virtual chassis (VC)	Not Supported	Not Supported	Supported
APBR	Supported	Not Supported	Not Supported

**Table 20: CSO Software Licenses (Continued)**

Features with License	Advanced: A, B, and C class devices	Standard: A, B, and C class devices	Standard: D and E class devices
AppQoE	Supported	Not Supported	Not Supported
AWS cloud endpoint	Supported	Not Supported	Not Supported
Bandwidth-optimized SLA (RPM)	Supported	Not Supported	Not Supported
Dual CPE	Supported	Not Supported	Not Supported
Full mesh or dynamic VPN	Supported	Not Supported	Not Supported
Hub multihoming	Supported	Not Supported	Not Supported
Internet Zscaler breakout	Supported	Not Supported	Not Supported
Network segmentation	Supported	Not Supported	Not Supported
Real-time-optimized SLA (AppQoE)	Supported	Not Supported	Not Supported
SD-WAN up to four WAN links (active/active)	Supported	Not Supported	Not Supported
SLA-based dynamic path selection	Supported	Not Supported	Not Supported

For more information on device categories, see [Table 21 on page 116](#) CSO supported Device Classification.

Table 21: CSO Supported Devices

Device Class	Supported Devices	
A	<b>SD-WAN Supported Devices</b>	<b>Next-Generation Firewall</b>
	<b>CPE/Spoke (&lt;250)</b> SRX300 line of devices with Junos Software Enhanced (JSE) NFX150 vSRX (2 vCPUs)	<b>Next-Generation Firewall Devices</b> Next-Generation Firewall services with Junos Software Enhanced (JSE) SRX300 line of devices vSRX (2 vCPUs)
B	<b>CPE/Spoke (&lt;1Gbps)</b> NFX250 SRX550 with Junos Software Enhanced (JSE) vSRX (5 vCPUs) <b>Enterprise Hub Devices (Gateway) (&lt;1Gbps)</b> SRX1500 (CSO release 5.0x onwards) Services gateways with Junos Software Enhanced (JSE) <b>Cloud Hub Devices (&lt;1Gbps)</b> SRX1500 Services gateways with Junos Software Enhanced (JSE)	<b>Next-Generation Firewall Devices</b> Next-Generation Firewall services with Junos Software Enhanced (JSE) vSRX (5 vCPUs)

Table 21: CSO Supported Devices *(Continued)*

Device Class	Supported Devices	
C	<b>Enterprise Hub Devices (Gateway) (&gt;1Gbps)</b>  SRX4100 and SRX4200  Services gateways with Junos Software Enhanced (JSE)  <b>Cloud Hub Devices (&gt;1Gbps)</b>  Services gateways with Junos Software Enhanced (JSE)  SRX4100 and SRX4200  vSRX (7 or 19 vCPUs)	<b>Next-Generation Firewall Devices</b>  Next-Generation Firewall services with Junos Software Enhanced (JSE)  vSRX (7 or 19 vCPUs)
D	Class D does not support any SD-WAN devices	<b>SD-LAN Devices</b>  EX2300, EX3400, and EX4300 switches
E	Class E does not support any SD-WAN devices	<b>SD-LAN Devices</b>  EX4600 and EX4650 switches

## Legacy Licenses for Contrail Service Orchestration

To access this page, click **Administration > Licenses> Device Licenses**.

You can use the Device License Files page to upload licenses for devices and virtual network services from your local file system. Each device license file should contain only one license key. A license key is required to enable various features including virtual network services such as application-based routing, application monitoring, and vSRX Virtual Firewall security features.

### Tasks You Can Perform

You can perform the following tasks from this page:

- Add device license files. See [Uploading a License File](#).
- Edit and delete device license entries.

- Push licenses to devices.
- View details of a device license. Click the details icon that appears when you mouse over the row for each license file or click **More > Details**. See [Viewing Object Details](#).
- Show or hide columns about the device license files.
- Sort the device license files. See [Sorting Objects](#).
- Search an object about the device license files. See [Searching for Text in an Object Data Table](#).

## Field Descriptions

describes the fields on the License Files page.

**Table 22: Fields on the License Files Page**

Field	Description
File Name	Displays the filename of the license.  Example: license_image_v1.txt
Description	Displays the description of the license.  Example: License file for application routing.
Tenant	Displays the name of the tenant if the license is associated with a tenant.  Example: Tenant 1
Uploaded By	Displays the administrator who uploaded the license.  Example: test_admin
Uploaded	Displays the date and time when the license was uploaded.  Example: Jun 5, 2018, 12:41:08 PM
Devices	Displays the number of devices to which the license is pushed.  Click the number to view the devices to which the license is pushed.

## Uploading a Device License File

To upload a device license file:

1. Click **Administration > Licenses > Device Licenses**.

The Device License Files page appears.

2. Click the plus icon (+).

The Add Device Licenses page appears.

3. In the Device License File field, specify the location of the license file that you want to upload. Alternatively, you can click Browse to navigate to the file location and select the file.



**NOTE:** Each license file should contain only one license key.

4. (Optional) From the Tenants list, select the tenant to which you want to associate the license file.

If you associate a license with a tenant, you can apply that license only to devices that belong to that tenant. If a tenant has licenses associated with the tenant, when a device is activated during ZTP, a matching license from the licenses associated with the tenant is downloaded to the device.

You can apply a license that is not associated with a tenant to any device of any of the tenants. During ZTP, when a device is activated for a tenant that does not have any license associated with it, a matching license from the licenses that are not associated with any tenant is downloaded to the device.

5. In the Description field, enter a description for the license that you want to upload.
6. Click **OK** to upload the license.

You are returned to the Device License Files page.

### Editing a Device License Entry

You can edit a device license entry to modify the description for the license file.

1. Click **Administration > Licenses > Device Licenses**.

The Device License Files page appears.

2. Select the device license for which you want to modify the description and click the Edit icon.

The Update Device License page appears.

3. Update the description.
4. Click **OK** to save the changes. To discard the changes, click **Cancel**.

If you click **Cancel**, a confirmation message appears. Click **Yes** to confirm that you want to cancel the update.

### Deleting a Device License

To delete a device license:

1. Click **Administration > Licenses > Device Licenses**.

The Device License Files page appears.

2. Select the device license that you want to delete and click the delete icon.
3. In the confirmation message, click **Yes** to delete the device license.

To cancel the delete operation, click **No**.

### Pushing a License to Devices

You can push licenses on to devices from the Licenses page of the Administration portal. If a license is associated with a tenant, you can push that license only to devices associated with that tenant. However, if no tenant is associated with a license, you can apply the license to any device that belongs to any tenant.

When a license is applied to a device, the license information is added to the device object. When the same license is pushed to the device again, a device-level error message is created. Similarly, if a pushed license does not match a device, the device generates an error message.

To push a license to a device:

1. Click **Administration > Licenses > Device Licenses**.

The License Files page appears.

2. Select the license that you want to push to a device.

The **Push License** button is enabled.

3. Click the **Push License** button.

The Push License page appears.

4. From the Tenants list, select the tenant associated with the site and devices to which you want to apply the license.



**NOTE:** If the license has already been associated with a tenant, you cannot select a different tenant. You can apply the license only to the sites and devices associated with the tenant.

Sites and devices associated with the selected tenant appear.

5. Select the sites and devices to which you want to apply the license and click **Push Licenses**.

CSO applies the license to the selected devices.

### About the CSO Licenses Page

To access this page, click **Administration > Licenses > CSO Licenses**.

Users with the OpCo Administrator role can use the CSO Licenses page to view information about the CSO licenses issued by the SP administrator, assign the licenses to one or more tenants, and update or unassign license assignments.

### Tasks You Can Perform

You can perform the following tasks from this page:

- Assign CSO licenses to one or more tenants.
- View the tenants previously assigned to a CSO license—Click *assigned-number* corresponding to a license. The View Assigned page appears displaying the tenants and quantity assigned to each tenant.
- Update or unassign CSO license assignments.
- Search for CSO licenses by using keywords—Click the search icon and enter the search term in the text box and press Enter. The search results are displayed on the same page.

You can search using license SKU, sales order, type, tier, or device class.

- Sort CSO licenses—Click a column name to sort based on the column name.



**NOTE:** Sorting is applicable only to some fields.

- Show or hide columns—Click the **Show Hide Columns** icon at the top right corner of the page and select the columns that you want displayed on the CSO Licenses page.

### Field Descriptions

**Table 23: Fields on the CSO Licenses Page**

Field	Description
License SKU	Displays the license SKU name; for example, S-CSO-C-S1-A-3.
Sales Order	Sales order number; for example, 15563238.
Type	Type of site—on-premise or cloud.
Tier	Support tier associated with the license; for example, Standard.
Device Class	Class of the Juniper device associated with the license; for example, B-class.
SSRN	Software support reference number, which is necessary to identify your purchase order when you contact Juniper Networks for support
Start Date	Date (in MMM DD, YYYY format) from which the license is valid; for example, Aug 29, 2019.
End Date	Date (in MMM DD, YYYY format) up to which the license is valid. CSO calculates the end date based on the validity of the license SKU.
Device Quantity	Total number of devices (that the tenant can add) that you can assign for a license.
Available	Available number of devices (that the tenant can add) that you can assign to tenants.

Table 23: Fields on the CSO Licenses Page *(Continued)*

Field	Description
Assigned	<p>Number of devices (that the tenant can add) that are already assigned to one or more tenants:</p> <ul style="list-style-type: none"> <li>Click <i>assigned-number</i> to view the tenants and quantity assigned for each tenant. The View Assigned page appears displaying the tenants and quantity assigned to each tenant.</li> <li>If the CSO license is not assigned to any tenants, click <b>Assign</b> to assign the license to one or more tenants.</li> </ul>

### Assign CSO Licenses, and Update or Unassign CSO License Assignments

Users with the Operating Company (OpCo) Administrator role can:

- Assign a CSO license to one or more tenants.
- Update the assignment of a CSO license that was previously assigned to one or more tenants.
- Unassign a CSO license that was previously assigned to a tenant.

### Assign CSO Licenses to Tenants

To assign a CSO license that is not yet assigned to a tenant:

1. Select **Administration > Licenses > CSO Licenses**.

The CSO Licenses page appears.

2. Click the **Assign** link corresponding to the license that you want to assign (in the Assigned column).

The Assign CSO License page appears.

3. Configure the fields according to the guidelines.

4. Click **Assign**.

CSO validates the quantities that you assigned against the total quantity for the license:

- If the sum of assigned quantities is greater than the total quantity, an error message is displayed. You must then modify the assigned quantities to proceed.
- If the sum of assigned quantities is less than or equal to the total quantity, a job is triggered. You are returned to the CSO Licenses, and a confirmation message is displayed on the top of the page.

After the job completes successfully, the CSO Licenses page displays the updated information in the Available and Assigned columns.

**Table 24: Fields on the Assign CSO License Page**

Field	Description
License Information	<p>Displays the following information for the license:</p> <ul style="list-style-type: none"> <li>• Sales Order</li> <li>• License SKU</li> <li>• Start Date</li> </ul>
<i>License Assignment</i>	
Device Quantity	Displays the total quantity that can be assigned to tenants.
Available	Displays the available quantity that can be allocated to tenants.
Tenants List	<p>To assign the license to one or more tenants:</p> <ol style="list-style-type: none"> <li>1. Click the + icon. A row is added to the grid and selected.</li> <li>2. In the <b>Tenant</b> column, select the tenant to which you want to assign the license.</li> <li>3. In the <b>Device Quantity</b> column, enter the quantity that you want to assign to the tenant.</li> <li>4. Click ✓ (check mark) to save your changes.</li> <li>5. (Optional) Click the pencil icon to modify the tenant name or the quantity and click ✓ (check mark) to save your changes.</li> <li>6. (Optional) Repeat the steps if you want to assign the license to additional tenants.</li> </ol>

### Update or Unassign CSO License Assignments

For a CSO license that is already assigned to one or more tenants, to update or unassign the license assignment:

1. Select **Administration > Licenses > CSO Licenses**.

The CSO Licenses page appears.

2. Select the license for which you want to update or unassign the license assignment and click the **Update Assignment** button.

The Assign CSO License page appears.

3. From the list of tenants displayed in the grid, select the tenant (row) and do one of the following:

- To update the license assignment:
  - a. Click the edit (pencil) icon.
  - b. In the **Device Quantity** column, modify the device quantity.
  - c. Click ✓ (check mark) to save your changes.

The modification that you made is displayed in the grid.

- To unassign the license assignment:
  - a. Click the delete (trash can) icon.

A popup appears asking you to confirm the unassign operation.

- b. Click **Yes**.

The license is unassigned from the tenant that you selected, and the tenant is removed from the grid.

4. (Optional) If the available quantity is non-zero, you can assign the license to additional tenants.

5. Click **Assign**.

CSO validates the modifications against the total device quantity for the license:

- If the sum of assigned quantities is greater than the total quantity, an error message is displayed. You must then modify the assigned quantities to proceed.
- If the sum of assigned quantities is less than or equal to the total quantity, a job is triggered, and you are returned to the CSO Licenses page. A confirmation message is displayed on the top of the page.

After the job completes successfully, the CSO Licenses page displays the updated information in the Available and Assigned columns.

## Software Licenses for cRPD

cRPD supports subscription licenses.

Starting in Junos OS Release 23.2R1, cRPD uses a different licensing management system from earlier releases. You must regenerate your license keys before you upgrade cRPD to Junos OS Release 23.2R1 or later. License keys generated through the older licensing management system will not work. See [Activate Junos OS Licenses](#) for instructions to generate your new license keys.

Go through the following tables:

- [cRPD SKU Definition on page 126](#)
- [Routing Stack for Host and Route Reflector Software Licenses on page 127](#)
- [cRPD License SKUs on page 128](#)

**Table 25: cRPD SKU Definition**

SKU	SKU Character Description
S-CRPD-AAA-B-CC-D	<p><b>S</b>—Software</p> <p><b>CRPD</b>—Product name cRPD</p> <p><b>AAA</b>—Bundle of 10/25/50/100 licenses</p> <p><b>A</b>—Advanced Software features</p> <p><b>S</b>—Standard Software features</p> <p><b>CC</b>—HR – Host Routing</p> <p><b>D</b>—Subscription term 1, 3, or 5 years</p>
S-CRPD-AAA-BB-CC-D	<p><b>S</b>—Software</p> <p><b>CRPD</b>—Product name cRPD</p> <p><b>AAA</b>—4M/10M/NL – Routing Table Capacity</p> <p><b>A</b>—Advanced Software features</p> <p><b>CC</b>—RR – Route Reflector</p> <p><b>D</b>—Subscription term 1, 3, or 5 years</p>

Table 25: cRPD SKU Definition (*Continued*)

SKU	SKU Character Description
S-CRPD-AAA- B -CC-D	<b>S</b> —Software <b>CRPD</b> —Product name cRPD <b>AAA</b> —100/1K/10K – Software Bundle Licenses <b>A</b> —Advanced Software features <b>S</b> —Standard Software features <b>CC</b> —HR – Host Routing <b>D</b> —Subscription term 1, 3, or 5 years

Table 26: Routing Stack for Host and Route Reflector Software Licenses

Features with Licenses	cRPD Routing Stack for Host	cRPD Route Reflector
BGP sharding	Advanced	Advanced
Enhanced MPLS	Advanced	Advanced
Automation	Not Supported	Advanced
Programmability	Standard	Advanced
BGP	Standard	Advanced
IS-IS	Standard	Advanced
OSPF	Standard	Advanced
Telemetry	Standard	Advanced
Automation with limited BGP peers	Standard	Not Supported

**Table 26: Routing Stack for Host and Route Reflector Software Licenses (Continued)**

Features with Licenses	cRPD Routing Stack for Host	cRPD Route Reflector
Equal-cost multipath (ECMP)	Standard	Not Supported

**Table 27: cRPD License SKUs**

cPRD	Use Case	SKUs	Scale
Routing Stack Host Advanced	Layer 3 deployments with MPLS or SR starting at the host	S-CRPD-A-HR-1/3/5 S-CRPD-100/1K/10K-A-HR-1/3/5	Without scale restrictions on BGP peers and RIB
Routing Stack Host Standard	Layer 3 to the IP host	S-CRPD-S-HR-1/3/5 S-CRPD-100/1K/10K-S-HR-1/3/5	16 BGP Peers and 4M RIB
Route Reflector Advanced	Route Reflector	S-CRPD-4M/10M/NL-A-RR-1/3/5	4M/10M/No limit RIB No FIB

To add, delete, and managing licenses, refer [Software License Model Overview](#) and [Managing Licenses](#).

## Software Licenses for cSRX

cSRX supports subscription licenses.

Go through the following tables:

- [cSRX SKU Definition on page 129](#)
- [cSRX Software Licenses on page 129](#)
- [cSRX License SKUs on page 130](#)

Table 28: cSRX SKU Definition

SKU	SKU Character Description
S-CSRX-S/A1/A2-1/3/5	<b>S</b> —Software <b>CSRX</b> —Product name cSRX <b>S</b> —Standard software subscription <b>A1</b> —Advanced 1 software subscription <b>A2</b> —Advanced 2 software subscription <b>1/3/5</b> —Subscription term 1, 3, or 5 years

Table 29: cSRX Software Licenses

Features with Licenses	cSRX
<b>Use Case for Advanced 2 (includes standard features): Next-generation firewall with cloud-based antivirus</b>	
IPS, Application Security, cloud-based antivirus, and URL filtering	Advanced 2
<b>Use Case for Advanced 1 (includes standard features): Data center security</b>	
IPS and Application Security	Advanced 1
<b>Use Case for Standard: Standard firewall</b>	
Firewall	Standard
ALG	Standard
Screens	Standard
User firewall	Standard

**Table 29: cSRX Software Licenses** *(Continued)*

Features with Licenses	cSRX
NAT	Standard
Static routing	Standard
Logging	Standard
Management	Standard

**Table 30: cSRX License SKUs**

cSRX	SKU
Advanced 2	S-CSRX-A2-1/3/5
Advanced 1	S-CSRX-A1-1/3/5
Standard	S-CSRX-S-1/3/5

## Software Licenses for EX Series Switches

### IN THIS SECTION

- [Pre-Flex License Features for EX4650 | 137](#)
- [Pre-Flex License Features for EX9200 | 138](#)

EX Series Switches offer both subscription and perpetual licensing options.

The following tables provide detailed information on the Flex Three-Tier License Model:

- [Flex Three-Tier License Model SKUs Definition for EX Series Switches on page 131](#)
- [EX Hardware and Classes on page 132](#)
- [Flex Three-Tier License Features for All EX-classes on page 133](#)
- [MACsec License SKUs for EX Devices on page 135](#)
- [Flow Based Telemetry \(FBT\) License SKUs for EX Devices on page 136](#)
- [Pre-Flex License Features for EX4650 on page 137](#)
- [Pre-Flex License Features for EX92XX on page 138](#)
- [Hardware Models for EX92XX on page 139](#)

**Table 31: Flex Three-Tier License Model SKUs Definition for EX Series Switches**

SKU	SKU Character Description
Perpetual Licenses: S-EX-A/P-C1/C2/C3-P  Subscription Licenses are only offered in bundles and are not sold as standalone. For more information, please contact your account rep.	S – Software  EX – Product name EX Series switches  A/P - Advanced or Premium  C1/C2/C3 - Device class  P – Perpetual license

Licenses are offered in Advanced and Premium tiers. Each tier entitles the use of additional features as defined in the tables below. Even without purchasing Advanced or Premium tier licenses, the standard software provides many robust features.

Additional features MACsec and Flow Based Telemetry are supported on select devices. See [Table 34 on page 135](#) and [Table 35 on page 136](#).

Table 32: EX Hardware and Classes

Class 1: 12 Ports or less	Class 2: 24 Ports	Class 3: 32 or 48 Ports
EX2300-C-12P EX2300-C-12T	EX2300-24MP EX2300-24P EX2300-24T	NA
NA	EX3400-24P EX3400-24T	EX3400-48P EX3400-48T
EX4000-12MP EX4000-8P EX4000-12P EX4000-12T	EX4000-24MP EX4000-24P EX4000-24T	EX4000-48MP EX4000-48P EX4000-48T
EX4100-F-12P EX4100-F-12T EX4100-H-12MP	EX4100-24MP EX4100-24P EX4100-24T EX4100-F-24P EX4100-F-24T EX4100-H-24F EX4100-H-24MP	EX4100-48MP EX4100-48P EX4100-48T EX4100-F-48P EX4100-F-48T
NA	EX4300-24P EX4300-24T	EX4300-32F EX4300-48MP EX4300-48P

Table 32: EX Hardware and Classes *(Continued)*

Class 1: 12 Ports or less	Class 2: 24 Ports	Class 3: 32 or 48 Ports
NA	EX4400-24MP EX4400-24P EX4400-24T EX4400-24X	EX4400-48F EX4400-48MXP EX4400-48XP EX4400-48P EX4400-48T

The tables below show the features that are included in the Advanced and Premium tier license SKUs for the current version of software. The features supported vary per device class and tier. To get more detailed information about features, refer [Feature Explorer](#).

If you need details for an earlier version of software, use the License Feature Explorer at [Juniper Agile Licensing Portal](#). Accessing the [Juniper Agile Licensing Portal](#) requires a Juniper SSO Account.

Table 33: Flex Three-Tier License Features for All EX-classes

Feature IDs	Licensed Features	Advanced Licenses	Premium
78	BFD Liveness Detection	Included	Included
89	Connectivity Fault Management	Included	Included
80	Filter Based Forwarding	Included	Included
151	GR-IFD	Included	Included
83	IGMP	Included	Included
98	Juniper MSDP	Included	Included
263	L3 Multicast/IGMP	Included	Included
147	L3 VPN (VXLAN)	Included	Included
150	Multicast Listener Discovery	Included	Included

Table 33: Flex Three-Tier License Features for All EX-classes *(Continued)*

Feature IDs	Licensed Features	Advanced Licenses	Premium
282	OSPF	Included	Included
77	OSPFv2	Included	Included
56	OSPFv3	Included	Included
86	PIM Mode	Included	Included
88	PIM Source Specific Multicast	Included	Included
267	PIM	Included	Included
281	RIP	Included	Included
57	RIPng	Included	Included
97	Services RPM	Included	Included
330	Single EVPN VXLAN Peer	Included	Included
96	SVLAN	Included	Included
81	Unicast RPF	Included	Included
82	Virtual Router	Included	Included
93	VRRP	Included	Included
47	BGP	Not Included	Included
252	esi-lag	Not Included	Included
300	EVPN	Not Included	Included
265	EVPN-MPLS	Not Included	Included
262	EVPN-VXLAN	Not Included	Included

Table 33: Flex Three-Tier License Features for All EX-classes (Continued)

Feature IDs	Licensed Features	Advanced Licenses	Premium
334	GBP Lite	Not Included	Included
333	GBP	Not Included	Included
48	ISIS	Not Included	Included
58	MPLS	Not Included	Included
280	Static MPLS	Not Included	Included
164	VxLAN	Not Included	Included

Table 34: MACsec License SKUs for EX Devices

Feature ID	Licensed Feature	SKU	Hardware Model
154	MACsec	S-EX-MACSEC-C1-P	EX4100-H-12M
		S-EX-MACSEC-C2-P	EX3400-24P EX3400-24T EX4100-24T EX4100-24P EX4100-24MP EX4300-24P EX4300-24T EX4300-32F EX4300-48P EX4300-48T EX4400-24MP EX4400-24P EX4400-24T

Table 34: MACsec License SKUs for EX Devices *(Continued)*

Feature ID	Licensed Feature	SKU	Hardware Model
		S-EX-MACSEC-C3-P	EX3400-24P EX3400-24T EX3400-48P EX3400-48T EX4100-48MP EX4100-48P EX4100-48T EX4300-32F EX4300-48MP EX4300-48P EX4300-48T EX4400-48F EX4400-48MP EX4400-48P EX4400-48T

Table 35: Flow Based Telemetry (FBT) License SKUs for EX Devices

License ID	Licensed Feature	SKU	Hardware Model
285	Flow Based Telemetry	S-EX-FBT-P	EX4400-24MP EX4400-24P EX4400-24T EX4400-48F EX4400-48MP EX4400-48P EX4400-48T

Table 35: Flow Based Telemetry (FBT) License SKUs for EX Devices *(Continued)*

License ID	Licensed Feature	SKU	Hardware Model
		S-EX4100-FBT-P	EX4100

## Pre-Flex License Features for EX4650

EX4650 licenses are offered as PFL and AFL licenses. Note that the name of these licenses do NOT align with the Flex model licenses described before.

Each license entitles the use of additional features as defined in the table below. Even without purchasing licenses, the standard software provides many robust features.

The table below shows the features that are included in the EX4650 PFL and AFL license SKUs for the current version of software. To get more detailed information about features, refer [Feature Explorer](#).

If you need details for an earlier version of software, use the License Feature Explorer at [Juniper Agile Licensing Portal](#). Accessing the [Juniper Agile Licensing Portal](#) requires a Juniper SSO Account.

Table 36: Pre-Flex License Features for EX4650

Feature IDs	Licensed Features	EX4650-PFL License	EX4650-AFL License
47	BGP	Included	Included
48	ISIS	Included	Included
147	L3 VPN (VXLAN)	Not included	Included
164	VxLAN	Included	Included
252	ESI-LAG	Included	Included
257	LDP	Not included	Included
258	RSVP	Not included	Included
259	L2 Circuit	Not included	Included

Table 36: Pre-Flex License Features for EX4650 *(Continued)*

Feature IDs	Licensed Features	EX4650-PFL License	EX4650-AFL License
262	EVPN-VXLAN	Included	Included
266	Segment Routing	Not included	Included
280	Static MPLS	Not included	Included
333	GBP	Included	Included

## Pre-Flex License Features for EX9200

Note that the name of EX9200 family licenses do NOT align with the Flex model licenses described before.

Each license entitles the use of additional features as defined in the table below. Even without additional licenses, the standard software provides many robust features.

The table below shows the features that are included in each license SKU for the current version of software. For more detailed information about features, refer to the [Feature Explorer](#).

If you need details for an earlier version of software, use the License Feature Explorer at [Juniper Agile Licensing Portal](#). Accessing the [Juniper Agile Licensing Portal](#) requires a Juniper SSO Account.

Table 37: Pre-Flex License Features for EX92XX

Feature IDs	Licensed Features	EX9200-SFL License	EX9204-AFL License	EX9208-AFL License	EX9208-ML License
47	BGP	Not included	Included	Included	Not included
48	ISIS	Not included	Included	Included	Not included
58	MPLS	Not included	Included	Included	Not included
154	MACsec	Included	Not included	Not included	Not included
164	VXLAN	Not included	Included	Included	Not included

Table 37: Pre-Flex License Features for EX92XX *(Continued)*

Feature IDs	Licensed Features	EX9200-SFL License	EX9204-AFL License	EX9208-AFL License	EX9208-ML License
178	Mid-Scale for EX9208	Not included	Not included	Not included	Included
179	Mid-Scale for EX9214	Not included	Not included	Not included	Not included

Table 38: Hardware Models for EX92XX

EX9200-SFL License	EX9204-AFL License	EX9208-AFL License	EX9208-ML License	EX9214-ML License
EX9200, EX9204, EX9208, EX9214	EX9200  EX9204	EX9200  EX9208	EX9200  EX9208	EX9214

## RELATED DOCUMENTATION

[Legacy Licensing for EX Series Switches](#) | 221

# Software Licenses for Juniper Apstra

Juniper Apstra supports subscription licenses.

Go through the following tables:

- [Juniper Apstra SKUs Definition on page 140](#)
- [Juniper Apstra Software Licenses on page 140](#)
- [Juniper Apstra License SKUs on page 142](#)

You can see the detailed list of features supported on Juniper Apstra at [Juniper Apstra Datasheet](#).

Table 39: Juniper Apstra SKUs Definition

SKU	SKU Character Description
S-APSTRA-VM-S-1/3/5	S—Software APSTRA—Product name VM—VMware S—Standard 1/3/5—Subscription term 1, 3, or 5 years
S-APSTRA-S/A/P-1/3/5	S—Software APSTRA—Product name S—Standard A—Advanced P—Premium 1/3/5—Subscription term 1, 3, or 5 years

Table 40: Juniper Apstra Software Licenses

Features with Licenses	Juniper Apstra
<b>Use Case for Premium (includes advanced features): Large scale, multi-vendor, and policy control</b>	
More than 3 blueprints	Premium
Third party vendor fabrics*	Premium
Policy assurance	Premium
Flow Data	Premium
ACS application or service awareness	Premium
ACS impact analysis	Premium

Table 40: Juniper Apstra Software Licenses *(Continued)*

Features with Licenses	Juniper Apstra
<b>Use Case for Advanced (includes standard features): Full operation, assurance, and intent-based analytics</b>	
Up to 3 blueprints per instance	Advanced
Advanced Intent Based Analytics (IBA)	Advanced
Apstra telemetry streaming	Advanced
Custom Telemetry Collection	Advanced
Root cause identification and analysis (RCI/RCA)	Advanced
Data Center Interconnect (over-the-top (OTT) Data Center Interconnect (DCI))	Advanced
<b>Use Case for Standard: Basic configuration and operations</b>	
1 blueprint per instance	Standard
Basic Telemetry or Intent Based Analytics (IBA)	Standard
3 or 5 stage IP Clos fabric	Standard
Collapsed fabric	Standard
Device management	Standard
Freeform	Standard
Platform management	Standard

**Table 40: Juniper Apstra Software Licenses (Continued)**

Features with Licenses	Juniper Apstra
Marvis VNA for DC	Standard
<b>Juniper Apstra Connector for VMware</b>	
50 server hosts per license pack	Standard
VMware vCenter	Standard
VMware NSX-T	Standard

- \*Third party vendor fabrics—Fabrics with non-juniper devices requires Premium license.
- The Standard license includes six months of Advanced trial license with Standard license purchase.

You need additional licenses to use the connector for VMware on Juniper Apstra for integrations with VMware vCenter and NSX-T.

**Table 41: Juniper Apstra License SKUs**

Juniper Apstra	SKUs
Premium	S-APSTRA-P-1 /3/5
Advanced	S-APSTRA-A-1/3/5
Standard	S-APSTRA-S-1/3/5
Standard (Connector for VMware)	S-APSTRA-VM-S-1/3/5

# Software Licenses for Juniper Coherent Optics

Juniper Coherent Optics support bundle and perpetual licenses. License bundle includes a set of software features defined for a use case.

Go through the following tables:

- [Juniper Coherent Optics SKUs Definition on page 143](#)
- [Juniper Coherent Optics and Third-party Coherent Optics Software Licenses on page 143](#)

You'll require a license to use coherent optics 400ZR and 400G OpenZR+ on a Juniper Networks device port.

**Table 42: Juniper Coherent Optics SKUs Definition**

SKU	SKU Character Description
QDD-4C-ZR/ZRM-HP-P-B	<b>QDD</b> —Generic Qualified Juniper Product
JCO-4C-ZR/ZRM-P-B	<b>JCO</b> —Juniper Coherent Optics-Co-Developed
	<b>4C</b> —Speed 400 GBPS
	<b>ZR</b> —OIF 400ZR Implementation Agreement (IA)
	<b>ZRM/ZR-M</b> —OpenZR+ MSA
	<b>HP</b> —High Power (0dBm)
	<b>P</b> —Perpetual
	<b>B</b> —Bundle

Right to use license purchase does not include customer support. See [KB69868](#).

**Table 43: Juniper Coherent Optics and Third-party Coherent Optics Software Licenses**

Optics	Juniper Orderable SKUs	License Bundle
OIF 400ZR	QDD-4C-ZR-P-B	QDD-400G-ZR (Generic Qualified) S-JCO-400-A1-ZR-P (400ZR license)

**Table 43: Juniper Coherent Optics and Third-party Coherent Optics Software Licenses *(Continued)***

Optics	Juniper Orderable SKUs	License Bundle
	JCO-4C-ZR-P-B	JCO400-QDD-ZR (Juniper Co-Developed)  S-JCO-400-A1-ZR-P (400ZR license)
400G OpenZR+	QDD-4C-ZRM-P-B	QDD-400G-ZR-M (Generic Qualified)  S-JCO-400-A1-ZRM-P (OpenZR+ license)
	JCO-4C-ZRM-P-B	JCO400-QDD-ZR-M (Juniper Co-Developed)  S-JCO-400-A1-ZRM-P (OpenZR+ license)
400G OpenZR+ (0dBm)	QDD-4C-ZRM-HP-P-B	QDD-400G-ZR-M-HP (Generic Qualified)  S-JCO-400-A1-ZRM-P (OpenZR+ license)

To use a third-party 400G coherent optics, you must purchase the third-party coherent right to use license through the S-JCO-4C-RTU-DCO-P SKU.

## Software Licenses for Juniper Secure Connect

Juniper Secure Connect supports subscription licenses.

Go through the following tables:

- [Juniper Secure Connect SKUs Definition on page 145](#)
- [Juniper Secure Connect Software Licenses on page 145](#)

**Table 44: Juniper Secure Connect SKUs Definition**

License SKU	SKU Character Description
S-RA3-SRX3XX-S-1/3/5	<p>S—Subscription</p> <p>RA3—Juniper Secure Connect</p> <p>SRX3XX—SRX300 line of devices (only supported on SRX300 line of devices)</p> <p>XCCU—X is the number of total connected concurrent users (supported on SRX Series Firewalls and vSRX Virtual Firewall)</p> <p>S—Standard software subscription</p> <p>1/3/5—Subscription term 1 or 3 or 5 years</p>

**Table 45: Juniper Secure Connect Software Licenses**

Supported Devices	License SKUs	Description
SRX300	S-RA3-SRX300-S-1/3/5	25 concurrent users with software support
SRX320	S-RA3-SRX320-S-1/3/5	50 concurrent users with software support
SRX340	S-RA3-SRX340-S-1/3/5	150 concurrent users with software support

Table 45: Juniper Secure Connect Software Licenses *(Continued)*

Supported Devices	License SKUs	Description
SRX345	S-RA3-SRX345-S-1/3/5	250 concurrent users with software support
SRX380	S-RA3-SRX380-S-1/3/5	500 concurrent users with software support
SRX300, SRX320, SRX340, SRX345, SRX380, SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800, and vSRX Virtual Firewall	S-RA3-5CCU-S-1/3/5	5 concurrent users with software support
SRX300, SRX320, SRX340, SRX345, SRX380, SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800, and vSRX Virtual Firewall	S-RA3-25CCU-S-1/3/5	25 concurrent users with software support
SRX320, SRX340, SRX345, SRX380, SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800, and vSRX Virtual Firewall	S-RA3-50CCU-S-1/3/5	50 concurrent users with software support
SRX340, SRX345, SRX380, SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800, and vSRX Virtual Firewall	S-RA3-100CCU-S-1/3/5	100 concurrent users with software support

**Table 45: Juniper Secure Connect Software Licenses (Continued)**

Supported Devices	License SKUs	Description
SRX345, SRX380, SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800, and vSRX Virtual Firewall	S-RA3-250CC U-S-1/3/5	250 concurrent users with software support
SRX380, SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800, and vSRX Virtual Firewall	S-RA3-500CC U-S-1/3/5	500 concurrent users with software support
SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, and SRX5800	S-RA3-1KCCU -S-1/3/5	1000 concurrent users with software support
SRX4600, SRX5400, SRX5600, and SRX5800	S-RA3-5KCCU -S-1/3/5	5000 concurrent users with software support

SRX Series Firewalls and vSRX Virtual Firewall include two built-in concurrent user/devices licenses. You need new license keys to activate additional concurrent user/devices than the two built-in concurrent user licenses on SRX Series Firewalls and vSRX Virtual Firewall. Contact your Juniper Account Team or Juniper Partner for purchasing additional license.

## Software Licenses for Juniper Security Director Cloud

Juniper Security Director Cloud supports subscription licenses.

Go through the following tables:

- [Juniper Security Director Cloud SKUs Definition on page 148](#)
- [Juniper Security Director Cloud Licenses on page 148](#)

**Table 46: Juniper Security Director Cloud SKUs Definition**

SKU	SKU Character Description
S-SDC-SRX-S-C-1/3/5	<b>S</b> —Software <b>SDC-SRX</b> —SRX Series Firewall on Juniper Security Director Cloud <b>S</b> —Standard <b>C</b> —Customer Support <b>1/3/5</b> —Subscription term: 1 year, 3 years, or 5 years
S-SD-LOG-1TB-C-1/3/5	<b>S</b> —Software <b>SD-LOG</b> —Juniper Security Director Log <b>1TB</b> —Storage space of 1 TB <b>C</b> —Customer Support <b>1/3/5</b> —Subscription term: 1 year, 3 years, or 5 years

**Table 47: Juniper Security Director Cloud Licenses**

Features with Licenses	SKU
Logging and reporting application	S-SDC-SRX-S-C-1/3/5
Log storage	S-SD-LOG-1TB-C-1/3/5

# Software Licenses for Junos Space Security Director

Junos Space Security Director supports perpetual licenses.

Go through the following tables:

- [Junos Space Security Director SKUs Definition on page 149](#)
- [Junos Space Security Director Licenses on page 150](#)

**Table 48: Junos Space Security Director SKUs Definition**

SKU	SKU Character Description
S-JSPLT-S2-P	<b>S</b> —Software <b>JSPLT</b> —Junos Space Platform <b>S2</b> —Multinode <b>P</b> —Perpetual
JS-SECDIR-5/10/100	<b>JS</b> —Junos Space <b>SECDIR</b> —Juniper Security Director <b>5/10/100</b> —Number of devices
JS-LOGDIRECTOR-500/1K/5K/10K	<b>JS</b> —Junos Space <b>LOGDIRECTOR</b> —Junos Space Log Director <b>500/1K/5K/10K</b> —Events per second
SDSN-PE-ADD-ON-5/50/100/500/1K	<b>SDSN-PE</b> —Software-Defined Secure Networks Policy Enforcer <b>ADD-ON</b> —Add-on for users with Juniper Security Director <b>5/50/100/500/1K</b> —Number of devices

**Table 48: Junos Space Security Director SKUs Definition (Continued)**

SKU	SKU Character Description
SDSN-PE-5/50/100/500/1K	<b>SDSN-PE</b> —Software-Defined Secure Networks Policy Enforcer  <b>5/50/100/500/1K</b> —Number of devices

**Table 49: Junos Space Security Director Licenses**

Product with Licenses	SKU
Junos Space Platform	S-JSPLT-S2-P
Junos Space Security Director for SRX Series Firewall	JS-SEC DIR-5/10/100
Junos Space Log Director	JS-LOGDIRECTOR-500/1K/5K/10K
Policy Enforcer with existing Security Director	SDSN-PE-ADD-ON-5/50/100/500/1K SDSN-PE-5/50/100/500/1K

## Software Licenses for MX Series Routers and MPC Service Cards

MX Series Routers support subscription and perpetual licenses.

Go through the following tables:

- [MX Series SKU Definition on page 151](#)
- [MX Series Routers Software Licenses on page 151](#)
- [MX-SPC3 Software Licenses on page 154](#)
- [MX Series Routers and MX-SPC3 License SKUs on page 156](#)

Table 50: MX Series SKU Definition

SKU	SKU Character Description
S-MXSPC3-A1/A2/A3/P1/P2/P3-1/3/5/P S-MXSPC3-1/2-IPSEC-1/3/5/P	<p>S—Software</p> <p>MXSPC3— Product name: MXSPC3 line card</p> <p>A1/A2/A3—Advanced 1 or advanced 2 or advanced 3 software features</p> <p>P1/P2/P3—Premium 1 or premium 2 or premium 3 software features</p> <p>1/2-IPSEC—Supported IPsec VPN features list</p> <p>1/3/5—Subscription term 1 or 3 or 5 years</p> <p>P—Perpetual license</p>

Table 51: MX Series Routers Software Licenses

Features with Licenses	MX Series Routers
<b>Use Case for Premium (includes Advanced features): Services</b> <b>Scale: 32+IP VPNs and 8+multicast VPNs</b>	
Highscale IP-VPNs	Premium
IP fabrics (SRv6 and SRm6)	Premium
Inline NAT and inline MDI	Premium
1:1 inline J-Flow	Premium
<b>Use Case for Advanced (includes Standard features): Transport</b> <b>Scale: 32 IP VPNs – all address families and 8 next-generation MVPN</b>	
IP routing	Advanced

**Table 51: MX Series Routers Software Licenses** *(Continued)*

Features with Licenses	MX Series Routers
IGP (OSFP and IS-IS)	Advanced
IP-FRR	Advanced
PIM variants	Advanced
PWHT for Layer 3 VPNs or BNG	Advanced
IGMP	Advanced
Internet eBGP peering	Advanced
BGP multihoming (add path and multi-path)	Advanced
EPE	Advanced
BGP PIC	Advanced
BGP flow specification	Advanced
All Layer 2 services—E-LINE (Layer 2 VPNs, Layer 2 circuit, EVPN VPWS, EVPN FXC), E-LAN (bridging, H-VPLS, EVPN, and IRB), E-TREE (H-VPLS, EVPN, and IRB), Layer 2 multicast (snooping included)	Advanced
All MPLS transport—LDP, RSVP-TE, SR, SR-TE, and MPLS-FRR (including TI-LFA)	Advanced
IP fabrics (GRE, MPLSoUDP, VxLAN, and IPinIP)	Advanced
Streaming telemetry	Advanced

**Table 51: MX Series Routers Software Licenses** *(Continued)*

Features with Licenses	MX Series Routers
SNMP	Advanced
Policers	Advanced
ACLs	Advanced
J-Flow (sampled)	Advanced
sFlow	Advanced
Port mirroring	Advanced
VLAN queuing	Advanced
Timing (all variants)	Advanced
OAM—BFD	Advanced
Ethernet CFM or LFM	Advanced
MPLS or SR (ping and traceroute)	Advanced
Services OAM	Advanced
RPM	Advanced
TWAMP	Advanced
HQoS	Advanced

**Table 51: MX Series Routers Software Licenses (Continued)**

Features with Licenses	MX Series Routers
Logical Systems	Advanced
<b>Use Case for Standard: Basic Layer 2 features</b>	
Bridging with port and single level VLAN (dot1Q)	Standard
LAG	Standard

The Junos Fusion Technology feature requires an additional license in addition to Advanced license.

The subscriber management (BNG or CUPS) feature requires an additional license in addition to Premium license.

Features that are not explicitly listed in Premium license are included in Advanced license, except for the following:

- Junos Fusion Technology requires an additional license in addition to Advanced or Premium license.
- Premium software tier is a prerequisite for running subscriber services (BNG (PL), BNG CUPS, MX Mobile User Plane (SAEGW-U, 5G AGF or UPF)).

**Table 52: MX-SPC3 Software Licenses**

Features with Licenses	MX-SPC3
<b>Use Case for Premium 3: Advanced threat intelligence</b>	
DNS sinkhole, IDS, and URL filtering	Premium 3
<b>Use Case for Premium 2: Service provider edge; Gi firewall for mobile operators; enterprise edge and data center</b>	
CGNAT, DNS sinkhole, IDS, stateful firewall, and URL filtering	Premium 2
<b>Use Case for Premium 1: Enterprise data center and edge; service provider edge</b>	

**Table 52: MX-SPC3 Software Licenses (Continued)**

Features with Licenses	MX-SPC3
CGNAT, DNS sinkhole, IDS, stateful firewall, and URL filtering	Premium 1
<b>Use Case for Advanced 3: Advanced threat intelligence</b>	
Intrusion detection system (IDS)	Advanced 3
<b>Use Case for Advanced 2: Advanced threat intelligence</b>	
Stateful firewall	Advanced 2
<b>Use Case for Advanced 1: Enterprise data center and edge; service provider edge</b>	
Carrier-grade NAT (CGNAT)	Advanced 1
<b>Use Case for Standard: Enterprise data center; service provider edge and data center</b>	
Traffic Load Balancer (TLB)	Standard

IPsec– Full card for Site-to-Site VPN, Dynamic Endpoint, and AutoVPN, use S-MXSPC3-2-IPSEC-1/3/5/P.

IPsec– Half card for Site-to-Site VPN, Dynamic Endpoint, and AutoVPN, use S-MXSPC3-1-IPSEC-1/3/5/P.

IPsec\* – Group VPN, Intra HA, policy-based VPN, passive mode, IPsec tunnel trace route are not supported.

**Table 53: MX Series Routers and MX-SPC3 License SKUs**

MX Series Routers and MX-SPC3	Subscription	Perpetual
MX304	MX304-BASE/PREM MX304-LMIC16-BASE S-MX-1C/16C-A1/P1-C1-3/5/7/1*	MX304-BASE/PREM MX304-LMIC16-BASE S-MX-1C/16C-A1/P1-C1-P
MX204	MX204-HW-BASE S-MX-4C-A1/P1-C1-3/5/7/1*	MX204-HW-BASE S-MX-4C-A1/P1-C1-P
MX10K3-L2103 Supported on MX10003 device	MX10K3-L2103-BASE S-MX-12C-A1/P1-C1-3/5/7/1*	MX10K3-L2103-BASE S-MX-12C-A1/P1-C1-P
MPC5E Supported on MX240, MX480, MX960, MX2008, MX2010, and MX2020	MPC5E/Q-40G10G/100G10G S-MX-2C4-A1/P1-3/5/7/1*	MPC5E/Q-40G10G/100G10G S-MX-2C4-A1/P1-P
MPC7E-10G Supported on MX240, MX480, MX960, MX2008, MX2010, and MX2020	MPC7E-10G S-MX-4C-A1/P1-3/5/7/1*	MPC7E-10G S-MX-4C-A1/P1-P
MPC7E-MRATE Supported on MX240, MX480, MX960, MX2008, MX2010, and MX2020	MPC7E-MRATE S-MX-4C8-A1/P1-3/5/7/1*	MPC7E-MRATE S-MX-4C8-A1/P1-P
MPC10E-10C Supported on MX240, MX480, and MX960 devices	MPC10E-10C-P-BASE S-MX-10C-A1/P1-3/5/7/1*	MPC10E-10C-P-BASE S-MX-1C/10C-A1/P1-P

**Table 53: MX Series Routers and MX-SPC3 License SKUs (Continued)**

MX Series Routers and MX-SPC3	Subscription	Perpetual
MPC10E-15C  Supported on MX240, MX480, and MX960 devices	MPC10E-15C-P-BASE  S-MX-15C-A1/P1-3/5/7/1*	MPC10E-15C-P-BASE  S-MX-15C-A1/P1-P
MX2K-MPC6E  Supported on MX2008, MX2010, and MX2020 devices	MX2K-MPC6E  S-MX-2C/2C4/4C-A1/P1-3/5/7/1*	MX2K-MPC6E  S-MX-2C/2C4/4C-A1/P1-P
MX2K-MPC8E  Supported on MX2008, MX2010, and MX2020 devices	MX2K-MPC8E  S-MX-4C8/8C-A1/P1-3/5/7/1*	MX2K-MPC8E  S-MX-4C8/8C-A1/P1-P
MX2K-MPC9E  Supported on MX2008, MX2010, and MX2020 devices	MX2K-MPC9E  S-MX-8C-A1/P1-3/5/7/1*	MX2K-MPC9E  S-MX-8C-A1/P1-P
MX10K-LC2101  Supported on MX10004, MX10008, and MX10016 devices	MX10K-LC2101-BASE  S-MX-24C-A1/P1-3/5/7/1*	MX10K-LC2101-BASE  S-MX-24C-A1/P1-P
MX10K-LC480  Supported on MX10004, MX10008, and MX10016	MX10K-LC480-BASE  S-MX-4C8-A1-3/5/7/1*	MX10K-LC480-BASE  S-MX-4C8-A1-P
MX10K-LC4800  Supported on MX10004 and MX10008	MX10K-LC4800-BASE  S-MX-48C-A1/P1-3/5/7/1*  S-MX-4C-A1/P1-D-3/5/7/1*	MX10K-LC4800-BASE  S-MX-48C-A1/P1-P  S-MX-4C-A1/P1-D-P

**Table 53: MX Series Routers and MX-SPC3 License SKUs (Continued)**

MX Series Routers and MX-SPC3	Subscription	Perpetual
MX10K-LC9600  Supported on MX10004 and MX10008	MX10K-LC9600-BASE  S-MX-96C-A1/P1-3/5/7/1*  S-MX-4C-A1/P1-D-3/5/7/1*	MX10K-LC9600-BASE  S-MX-96C-A1/P1-P  S-MX-4C-A1/P1-D-P
MX2K-MPC11E  Supported on MX2010 and MX2020 devices	MX2K-MPC11E-BASE  S-MX-40C-A1/P1-3/5/7/1*	MX2K-MPC11E-BASE  S-MX-40C-A1/P1-P
MX-SPC3	MX-SPC3  S-MXSPC3-A1/A2/A3/P1/P2/P3-1/3/5  S-MXSPC3-1/2-IPSEC-1/3/5	MX-SPC3  S-MXSPC3-A1/A2/A3/P1/P2/P3-P  S-MXSPC3-1/2-IPSEC-P

\*1 year subscription term is for renewal only.

MPC10E-10C and MPC10E-15C line cards are supported on MX240, MX480, and MX960 devices.

MX2K-MPC11E line cards are supported on MX2010 and MX2020 devices.

MX10K3-L2103 line card is supported on MX10003 device.

MX10K-LC2101, MX10K-LC480, MX10K-LC9600 line cards are supported on MX10004, MX10008, and MX10016 devices.

The [show system macsec license](#) command displays the total MACsec bandwidth used by the line cards.

The MACsec feature is supported on MX240, MX304, MX480, MX960, MX2008, MX2010, MX2020, MX10003, MX10004, MX10008, and MX10016 device. These licenses are perpetual.

The minimum number of MACsec bandwidth licenses installed must be greater than or equal to the configured bandwidth of MACsec enabled ports.

The MACsec feature licenses are available in the following variants:

- S-MX-1C-MSEC-P - 100-Gigabit Ethernet MACsec bandwidth license
- S-MX-4C-MSEC-P - 400-Gigabit Ethernet MACsec bandwidth license
- S-MX-4C8-MSEC-P - 480-Gigabit Ethernet MACsec bandwidth license

- There will be no alarms or syslog messages for the following line cards if the license is not installed. However, the MACsec bandwidth usage on these line cards will be tracked.
  - MX10K-LC2101
  - MPC5E-100G10G
  - MPC5EQ100G10G
  - MPC5E-40G10G
  - MPC5EQ-40G10G
  - MX2K-MPC6E
  - MPC7E-10G
  - MPC7E-MRATE
  - MX2K-MPC8E
  - MX2K-MPC9E
- The following line cards require 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.
  - MPC10E-10C
  - MPC10E-15C
  - MX2K-MPC11E
  - MX10KM-LC9600-BASE
  - MX10KM-LC480-BASE

## Software Licenses for NFX Series

NFX Series support subscription and perpetual licenses.

Go through the following tables:

- [NFX Series SKU Definition on page 160](#)
- [NFX Series Software Licenses on page 160](#)

- [NFX Series Software License SKUs on page 162](#)

**Table 54: NFX Series SKU Definition**

SKU	SKU Character Description
NFX150/250/350-C/S-ATP/CS-BUN/ATP-BUN/IPS/THRTFEED/W-EWF-1/3/5	<p><b>NFX150/250/350</b>—Product name: NFX150, NFX250, and NFX350</p> <p><b>ATP/CS-BUN/ATP-BUN/IPS/THRTFEED/W-EWF</b></p> <ul style="list-style-type: none"> <li>• ATP—Advanced Threat Prevention</li> <li>• CS-BUN—Content Security bundle</li> <li>• ATP-BUN—Advanced Threat Prevention bundle</li> <li>• IPS—Intrusion Prevention Signature</li> <li>• THRTFEED—Threat Intelligence Feeds</li> <li>• W-EWF—Enhanced Web Filtering</li> </ul> <p><b>1/3/5</b>—Subscription term: 1 year, 3 years, or 5 years</p>

**Table 55: NFX Series Software Licenses**

Features with Licenses	NFX	Use Case
IPS, Application Security, URL filtering, on-box antivirus, and ATP Cloud	Premium 3	Data center security or SD-WAN + Cloud ATP
IPS, Application Security, URL filtering, Sophos antivirus and antispam, and ATP Cloud	Premium 2	Next-generation firewall + Cloud ATP
IPS, Application Security, and ATP Cloud	Premium 1	Data center security or SD-WAN + Cloud ATP
IPS, Application Security, URL filtering, and on-box antivirus	Advanced 3	Next-generation firewall with Avira

Table 55: NFX Series Software Licenses *(Continued)*

Features with Licenses	NFX	Use Case
IPS, Application Security, URL filtering, and Sophos antivirus and antispam	Advanced 2	Next-generation firewall with Sophos
IPS and Application Security	Advanced 1	Data center security + SD-WAN
Junos Base JSB (routing, firewall, switching, NAT, VPN, and MPLS)	Standard (includes hardware)	Basic firewall and secure branch routers

**Table 56: NFX Series Software License SKUs**

NFX Series	NFX150	NFX250	NFX350
SKUs	NFX150-C-CS-BUN-1/3/5  NFX150-C-ATP-BUN-1/3/5  NFX150C-THRTFEED-1/3/5  NFX150-C-W-EWF-1/3/5  NFX150-C-ATP-1/3/5  NFX150-C-IPS-1/3/5  NFX150-S-CS-BUN-1/3/5  NFX150-S-ATP-BUN-1/3/5  NFX150S-THRTFEED-1/3/5  NFX150-S-W-EWF-1/3/5  NFX150-S-ATP-1/3/5  NFX150-S-IPS-1/3/5  NFX150C-THRTFEED-1/3/5	NFX250-S-ATP-1/3/5  NFX250-S-ATP-BUN-1/3/5  NFX250-S-CS-BUN-1/3/5  NFX250-S-IPS-1/3/5  NFX250S-THRTFEED-1/3/5  NFX250-S-W-EWF-1/3/5	S-NFX350S1/S2/S3-A1-1/3/5  S-NFX350S1/S2/S3-A2-1/3/5  S-NFX350S1/S2/S3-A3-1/3/5  S-NFX350S1/S2/S3-P1-1/3/5  S-NFX350S1/S2/S3-P2-1/3/5  S-NFX350S1/S2/S3-P3-1/3/5

## Software Licenses for Northstar Controller

Northstar Controller supports subscription licenses.

Go through the following tables:

- [Northstar Controller SKU Definition on page 163](#)
- [NorthStar Controller Software Licenses on page 163](#)
- [NorthStar Controller License SKUs on page 165](#)

**Table 57: Northstar Controller SKU Definition**

SKU	SKU Character Description
S-NSC-1/10/100-S1/A1/P1-C1/C2/C3/C4-1/3/5	<p><b>S</b>—Software</p> <p><b>NSC</b>—Product name: NorthStar Controller</p> <p><b>1/10/100</b>—Licenses metrics for 1, 10, or 100 devices</p> <p><b>S1/A1/P1</b>—Standard 1, Advanced 1, or Premium 1 software subscription</p> <p><b>C1/C2/C3/C4</b>—Device class</p> <p><b>1/3/5</b>—Subscription term: 1 year, 3 years, or 5 years</p>

**Table 58: NorthStar Controller Software Licenses**

Features with Licenses	Northstar Controller
<b>Use Case for Premium (includes advanced features): Advanced transport engineering</b>	
Egress peering engineering	Premium
Ingress peering engineering	Premium
Multilayer packet-optical support	Premium
Network slicing management	Premium
<b>Use Case for Advanced (includes standard features): LSP provisioning</b>	
Auto-bandwidth LSPs (NorthStar managed)	Advanced

**Table 58: NorthStar Controller Software Licenses (Continued)**

Features with Licenses	Northstar Controller
Diverse LSPs	Advanced
High availability	Advanced
LSP optimization (bandwidth and delay)	Advanced
LSP provisioning (RSVP and SR)	Advanced
LSP templates	Advanced
Maintenance events	Advanced
P2MP LSP provisioning	Advanced
Standby and secondary LSPs	Advanced
Symmetric pair groups	Advanced
TE++ LSPs	Advanced
Time-based LSP scheduling	Advanced
<b>Use Case for Standard: Network visualization and monitoring</b>	
Collection using Paragon Insights	Standard
cRPD support	Standard
Delay visualization	Standard

**Table 58: NorthStar Controller Software Licenses (Continued)**

Features with Licenses	Northstar Controller
Demand visualization (LDP FEC and flow based)	Standard
Dynamic topology acquisition	Standard
Flow collection	Standard
Interface statistics visualization	Standard
JTI telemetry collection	Standard
LSP reporting, statistics visualization (RSVP and SR)	Standard
P2MP LSP visualization	Standard
SNMP based collection	Standard
Topology visualization	Standard

**Table 59: NorthStar Controller License SKUs**

Northstar Controller	SKU
Premium	S-NSC-100-P1-C1-1/3/5 S-NSC-10-P1-C2-1/3/5 S-NSC-1-P1-C3-1/3/5 S-NSC-1-P1-C4-1/3/5

**Table 59: NorthStar Controller License SKUs** *(Continued)*

Northstar Controller	SKU
Advanced	S-NSC-100-A1-C1-1/3/5
	S-NSC-10-A1-C2-1/3/5
	S-NSC-1-A1-C3-1/3/5
	S-NSC-1-A1-C4-1/3/5
Standard	S-NSC-100-S1-C1-1/3/5
	S-NSC-10-S1-C2-1/3/5
	S-NSC-1-S1-C3-1/3/5
	S-NSC-1-S1-C4-1/3/5

**RELATED DOCUMENTATION**

[Activate Licenses for Juniper Software Products](#)

## Software Licenses for Northstar Planner

Northstar Planner supports subscription licenses.

Go through the following tables:

- [Northstar Planner SKUs Definition on page 167](#)
- [NorthStar Planner Software Licenses on page 167](#)
- [Northstar Planner License SKUs on page 169](#)
- [NorthStar Controller and NorthStar Planner Devices Support on page 169](#)

**Table 60: Northstar Planner SKUs Definition**

SKU	SKU Character Description
S-NSP-1/10/100-S1/A1-C1/C2/C3/C4-1/3/5	<p>S—Software</p> <p>NSP—Product name: NorthStar Planner</p> <p>1/10/100—Licenses metrics for 1, 10, or 100 devices</p> <p>S1/A1—Standard 1, or Advanced 1 software subscription</p> <p>C1/C2/C3/C4—Device class</p> <p>1/3/5—Subscription term: 1 year, 3 years, or 5 years</p>

**Table 61: NorthStar Planner Software Licenses**

Features with Licenses	Northstar Planner
<b>Use Case for Advanced (includes standard features): Advanced capacity planning</b>	
Compliance assessment	Advanced
Cost based design	Advanced
Fast reroute planning	Advanced
GRE tunnels	Advanced
Hardware inventory and reports	Advanced
Integrity check and reports	Advanced
Multicast planning	Advanced
Network slicing planning	Advanced

**Table 61: NorthStar Planner Software Licenses (Continued)**

Features with Licenses	Northstar Planner
P2MP planning	Advanced
Traffic matrix solver	Advanced
VPN analysis and planning	Advanced
<b>Use Case for Standard: Basic network planning</b>	
BGP analysis	Standard
Capacity planning	Standard
CoS analysis and planning	Standard
Data collection from Northstar Controller	Standard
Detailed reporting	Standard
ECMP analysis	Standard
Failure simulation	Standard
File based data insertion (configuration, operational, tunnels, delays, and demands)	Standard
Path assignments	Standard
Policy based routes	Standard
Routing protocols	Standard

**Table 61: NorthStar Planner Software Licenses (Continued)**

Features with Licenses	Northstar Planner
Static routes	Standard

**Table 62: Northstar Planner License SKUs**

Northstar Planner	SKU
Advanced	S-NSP-100-A1-C1-1/3/5 S-NSP-10-A1-C2-1/3/5 S-NSP-1-A1-C3-1/3/5 S-NSP-1-A1-C4-1/3/5
Standard	S-NSP-100-S1-C1-1/3/5 S-NSP-10-S1-C2-1/3/5 S-NSP-1-S1-C3-1/3/5 S-NSP-1-S1-C4-1/3/5

**Table 63: NorthStar Controller and NorthStar Planner Devices Support**

Device Class	Description	Supported Devices
C1	Extra-small devices such as mobile backhaul access devices, and small or remote CPE devices	ACX500, ACX710, ACX1000, ACX1100, ACX2100, ACX2200, cSRX, EX2300, and SRX300

Table 63: NorthStar Controller and NorthStar Planner Devices Support *(Continued)*

Device Class	Description	Supported Devices
C2	Small devices such as compact, fixed-form-factor switches, metro access switches, and top-of-rack switches	ACX4000, ACX5048, ACX5096, ACX5448, ACX6160, ACX6360, EX4300, EX4600, EX4650, EX9250, MX5, MX10, MX40, MX80, MX104, MX150, MX204, vMX, PTX1000, PTX10001, QFX5110, QFX5120, QFX5200, QFX5210, QFX5220, QFX10002, SRX550, SRX1500, SRX4100, SRX4200, and vSRX
C3	Small chassis-based switches, routers, and firewalls (chassis with less than or equal to six slots)	EX9204, M Series, MX Series GNFs, MX240, MX480, MX10003, PTX10002, PTX10003, SRX3400, SRX3600, SRX4600, and SRX5400
C4	Large chassis-based systems (chassis with more than six slots)	EX9208, EX9214, MX960, MX2008, MX2010, MX2020, MX10008, MX10016, PTX3000, PTX5000, PTX10008, PTX10016, QFX10008, QFX10016, SRX5600, SRX5800, and T Series

## RELATED DOCUMENTATION

[Activate Licenses for Juniper Software Products](#)

# Software Licenses for Paragon Automation

Paragon Automation supports subscription licenses.

Go through the following tables:

- [Paragon Automation SKU Definition on page 171](#)

- [Paragon Automation Software Licenses on page 171](#)
- [Paragon Automation License SKUs on page 174](#)

Table 64: Paragon Automation SKU Definition

SKU	SKU Character Description
S-PA-PLATFORM-S-1/3/5	<b>S</b> —Software
S-PA-BASE/ORCH/ASSR/NOPT-100/400-S-1/3/5	<b>S</b> —Subscription
S-PA-LAB-S-1	<b>PA</b> —Paragon Automation
	<b>PLATFORM</b> —On-Premises platform
	<b>BASE/ORCH/ASSR/NOPT</b> —Base, Orchestration, or Assurance, or Network Optimization
	<b>LAB</b> —Lab for non-production
	<b>100/400</b> —License capacity 100 Gbps or 400 Gbps
	<b>1/3/5</b> —Subscription term 1, 3 or 5 years

Table 65: Paragon Automation Software Licenses

Features with Licenses	Paragon Automation
Network Optimization	
Congestion link avoidance	Network Optimization
Dynamic endpoint groups	Network Optimization
Intent based traffic optimization	Network Optimization
Interactive visualization	Network Optimization
Optimization profile	Network Optimization

Table 65: Paragon Automation Software Licenses *(Continued)*

Features with Licenses	Paragon Automation
Path diversity	Network Optimization
RSVP, SR-MPLS, and SRv6	Network Optimization
Tunnel profiles	Network Optimization
<b>Service Orchestration</b>	
Customizable service designs	Service Orchestration
Customer management	Service Orchestration
Service management	Service Orchestration
Order management	Service Orchestration
Resource management	Service Orchestration
Layer 2 and Layer 3 VPN model	Service Orchestration
Assurance part of workflows	Service Orchestration
<b>Active Assurance</b>	
Test and monitors	Active Assurance
Test agents (list and drill-in)	Active Assurance
Results (list and drill—in)	Active Assurance
Template builder	Active Assurance
Alerts	Active Assurance
Test agent on ACX and as a container	Active Assurance

Table 65: Paragon Automation Software Licenses *(Continued)*

Features with Licenses	Paragon Automation
Dashboard	Active Assurance
RPM support	Active Assurance
Test agent appliance	Active Assurance
<b>Base</b>	
Trust score	Trust
Compliance	Trust
Vulnerability – SIRT	Trust
Integrity – Software EOL	Trust
Integrity – Hardware EOL	Trust
Up to 71 KPIs monitored	Observability
Graphing and drill-in	Observability
AI or ML (dynamic thresholding, device health, and bad cable detection)	Observability
Alert	Observability
Notification (webhook and email)	Observability
Inventory management	Device Management
Intent based LCM	Device Management
Software management	Device Management
Configuration management	Device Management

**Table 65: Paragon Automation Software Licenses (Continued)**

Features with Licenses	Paragon Automation
Backup and restore	Device Management
License management	Device Management
Alarms	Device Management
Onboarding workflow	Device Onboarding
Intent plans	Device Onboarding
Device profiles	Device Onboarding
Interface profiles	Device Onboarding
Guided workflow for field technician	Device Onboarding
Configuration, device, and network	Device Onboarding
Assurance (Trust, Active Assurance tests, and device health)	Device Onboarding

**Table 66: Paragon Automation License SKUs**

Paragon Automation	SKUs
On-premises platform license	S-PA-PLATFORM-S-1/3/5
Base	S-PA-BASE-100/400-S-1/3/5
Service Orchestration	S-PA-ORCH-100/400-S-1/3/5
Active Assurance	S-PA-ASSR-100/400-S-1/3/5
Network Optimization	S-PA-NOPT-100/400-S-1/3/5

Table 66: Paragon Automation License SKUs *(Continued)*

Paragon Automation	SKUs
Lab	S-PA-LAB-S-1

## Software Licenses for Paragon Insights

Paragon Insights supports subscription licenses. Licenses can be deployed in standalone mode.

Go through the following tables:

- [Paragon Insights SKUs Definition on page 175](#)
- [Paragon Insights Software Licenses on page 176](#)
- [Paragon Insights Software License SKUs on page 177](#)
- [Paragon Insights Devices on page 178](#)

Table 67: Paragon Insights SKUs Definition

SKU	SKU Character Description
S-PIN-S1/A1-1/-3/-5	S—Software
S-PIN-1/10/100-S1/A1-C1/C2/C3/C4-1/-3/-5	PIN—Product name: Paragon Insights
S-PIN-1-S1/A1-C3/C4-1/3/5	S1—Standard
	A1—Advanced
	C1/C2/C3/C4—Device class
	1/3/5—Subscription term: 1 year, 3 years, or 5 years

**Table 68: Paragon Insights Software Licenses**

Detailed Features	Paragon Insights Standard	Paragon Insights Advanced	Paragon Insights Lab
Application high availability and elastic scale	Supported	Supported	Supported
External Kafka data publishing	Supported	Supported	Supported
Generating notifications	Not Supported	Supported	Supported
Generating reports	Not Supported	Supported	Supported
GUI and API data access	Supported	Supported	Supported
Multivendor telemetry data collection	Supported	Supported	Supported
Number of devices allowed is based on the device licenses purchased	Supported	Supported	Supported
Subscription licenses with included support	Supported	Supported	Supported
Unlimited standard default and custom rules	Supported	Supported	Supported
Default and custom rules with user-defined functions.	Not Supported	Supported	Supported

**Table 68: Paragon Insights Software Licenses (Continued)**

Detailed Features	Paragon Insights Standard	Paragon Insights Advanced	Paragon Insights Lab
Default and custom rules with machine learning features such as dynamic thresholds, outlier detection, median prediction, and microburst.	Not Supported	Supported	Supported
Time Inspector for advanced troubleshooting	Not Supported	Supported	Supported
Time Series Database (TSDB) data redundancy	Not Supported	Supported	Supported
Unlimited custom playbooks	Supported	Supported	Supported

**Table 69: Paragon Insights Software License SKUs**

Use Case	SKUs
Paragon Insights Standard	<ul style="list-style-type: none"> <li>• S-PIN-S1-1/3/5</li> <li>• S-PIN-1/10/100-S1-C1-1/3/5</li> <li>• S-PIN-1-S1-C3-1/3/5</li> <li>• S-PIN-1-S1-C4-1/3/5</li> </ul>

**Table 69: Paragon Insights Software License SKUs (Continued)**

Use Case	SKUs
Paragon Insights Advanced	<ul style="list-style-type: none"> <li>• S-PIN-A1-1/3/5</li> <li>• S-PIN-1/10/100-A1-C1-1/-3/-5</li> <li>• S-PIN-1-A1-C3-1/3/5</li> <li>• S-PIN-1-A1-C4-1/3/5</li> </ul>
Paragon Insights Lab  Bundle also includes access to 50 device licenses. Non-production use only.	S-PIN-NONPROD-BB-1/3/5

Standalone mode allows you to activate a license on a software instance and can be used only by the instance on which it is activated. You cannot share a license with multiple instances.

\*For information about Paragon Insights product options or to obtain a trial license, contact your local sales representative.

Enforcement of device license counts is based on the total number of all C1-C4 licenses installed minus the total number of licenses used. This enforcement model might change in future releases of Paragon Automation.

**Table 70: Paragon Insights Devices**

Device Feature Name	Description
C1	Extra small devices such as small remote CPEs, small branch SRX Series Firewalls and small ACX Series
C2	Small switches such as fixed form factor EX Series, ACX Series, and QFX Series
C3	Small chassis-based switches, routers, and firewalls such as MX10003 router and PTX10K3 router

**Table 70: Paragon Insights Devices *(Continued)***

Device Feature Name	Description
C4	Large chassis-based systems like the MX10000 router, PTX Series, and large SRX Series Firewalls

# Software Licenses for PTX Series Routers

From September 2025, PTX licenses are available for 2 specific use cases: WAN, and Data Center. PTX licenses enable features, bandwidth and scale for a complete chassis. The bandwidth and scale amounts enabled by each license are provided in the Feature tables below.

Please note that details for the SKUs used prior to September 2025 are documented in the Archive Licensing section.

- [WAN Use Case License SKUs on page 180](#)
- [Data Center Use Case License SKUs on page 180](#)
- [PTX Hardware for 800G SKU on page 180](#)
- [WAN Flex 800G License Features for PTX on page 181](#)
- [Data Center Flex 800G License Features for PTX on page 183](#)
- [FIB Scale Top-up License SKUs for PTX on page 185](#)
- [MACsec Feature License SKUs on page 185](#)

Table 71: WAN Use Case License SKUs

SKU	SKU Character Description
Perpetual Licenses (without Customer Service):  S-PTX- <b>8C-W-[A1/P1]-P</b>	S—Software  PTX— Product name
Subscription Licenses (with Customer Service):  S-PTX- <b>8C-W-[A1/P1]- [1/3/5]</b>	<b>8C</b> — 800Gbps bandwidth  <b>W</b> — WAN Use-Case  <b>A1/P1</b> — Advanced 1, Premium 1  <b>1/3/5</b> —1 year, 3 years, or 5 years subscription  <b>P</b> —Perpetual

Table 72: Data Center Use Case License SKUs

SKU	SKU Character Description
Perpetual Licenses (without Customer Service):  S-PTX- <b>8C-DC-A2-P</b>	S—Software  PTX— Product name
Subscription Licenses (with Customer Service):  S-PTX- <b>8C-DC-A2- [1/3/5]</b>	<b>8C</b> — 800Gbps bandwidth  <b>DC</b> — Data Center Use-Case  <b>A2</b> — Advanced 2 Tier  <b>1/3/5</b> —1 year, 3 years, or 5 years subscription  <b>P</b> —Perpetual

Table 73: PTX Hardware for 800G SKU

These license SKUs are applicable to the following PTX hardware models:

Fixed Form Systems	Modular Systems with Line Cards
<ul style="list-style-type: none"> <li>• PTX10001-36MR</li> <li>• PTX10002-36QDD</li> </ul>	<ul style="list-style-type: none"> <li>• Chassis <ul style="list-style-type: none"> <li>• PTX10004</li> <li>• PTX10008</li> <li>• PTX10016</li> </ul> </li> <li>• Line Cards <ul style="list-style-type: none"> <li>• PTX10K-LC1201-36CD</li> <li>• PTX10K-LC1202-36MR</li> <li>• PTX10K-LC1301-36DD</li> </ul> </li> </ul>

Table 74: WAN Flex 800G License Features for PTX

FID	Feature Name	A1 (WAN)	P1 (WAN)
		Core, Peering, Metro Agg	High Scale Core, Peering Metro Agg
<b>Bandwidth</b>			
<b>279</b>	Bandwidth (in Gbps) - PTX	Up to 800G	Up to 800G
<b>Scale</b>			
<b>268</b>	FIB Scale	Up to 2M	Up to 4M
<b>319</b>	VRF VXLAN Scale	Up to 1,000	Up to 25,000
<b>269</b>	RIB Scale	Up to 6M	Up to 8M
<b>320</b>	VRF MPLS Scale	Up to 32	Up to 25,000
<b>270</b>	LSP Scale	Up to 32,000	Up to 200,000
<b>271</b>	BGP Peer Scale	Up to 2,000	Up to 4,000

Table 74: WAN Flex 800G License Features for PTX *(Continued)*

FID	Feature Name	A1 (WAN)	P1 (WAN)
283	Firewall Filters Scale	Up to 16,000	Up to 128,000
284	Firewall Filters Terms Scale	Up to 64,000	Up to 512,000
272	IP Tunnel Scale	Up to 5,000	Up to 25,000
274	PIM Scale	Up to 32,000	Up to 100,000
273	VRF Scale	Up to 1,000	Up to 25,000
<b>Features</b>			
47	BGP	Included	Included
147	L3 VPN (VXLAN)	Included	Included
89	Connectivity Fault Management	Included	Included
252	ESI-LAG	Included	Included
262	EVPN-VXLAN	Included	Included
80	Filter Based Forwarding	Included	Included
278	GRE Tunnel	Included	Included
48	ISIS	Included	Included
282	OSPF	Included	Included
267	PIM	Included	Included
94	QinQ	Included	Included
253	Timing PTP/SyncE	Included	Included
93	VRRP	Included	Included

Table 74: WAN Flex 800G License Features for PTX *(Continued)*

FID	Feature Name	A1 (WAN)	P1 (WAN)
288	SRv6	Included	Included
164	VxLAN	Included	Included
265	EVPN-MPLS	Included	Included
259	L2 Circuit	Included	Included
263	L3 Multicast/IGMP	Included	Included
257	LDP	Included	Included
247	PCEP	Included	Included
258	RSVP	Included	Included
266	Segment Routing	Included	Included
280	Static MPLS	Included	Included
140	VPLS	Included	Included
326	HQoS	Not included	Included

Table 75: Data Center Flex 800G License Features for PTX

FID	Feature Name	A2 (Data Center)
		DC IP Spine/Overlays
<b>Bandwidth</b>		
279	Bandwidth (in Gbps) - PTX	Up to 800G
<b>Scale</b>		
268	FIB Scale	Up to 256,000

Table 75: Data Center Flex 800G License Features for PTX *(Continued)*

FID	Feature Name	A2 (Data Center)
319	VRF VXLAN Scale	Up to 1,000
269	RIB Scale	Up to 700,000
270	LSP Scale	Up to 8,000
271	BGP Peer Scale	Up to 1,000
283	Firewall Filters Scale	Up to 16,000
284	Firewall Filters Terms Scale	Up to 64,000
272	IP Tunnel Scale	Up to 3,000
274	PIM Scale	Up to 32,000
273	VRF Scale	Up to 1,000
320	VRF MPLS Scale	Not included
<b>Features</b>		
47	BGP	Included
147	L3 VPN (VXLAN)	Included
89	Connectivity Fault Management	Included
252	ESI-LAG	Included
262	EVPN-VXLAN	Included
80	Filter Based Forwarding	Included
278	GRE Tunnel	Included
48	ISIS	Included

**Table 75: Data Center Flex 800G License Features for PTX (Continued)**

FID	Feature Name	A2 (Data Center)
282	OSPF	Included
267	PIM	Included
94	QinQ	Included
253	Timing PTP/SyncE	Included
93	VRRP	Included
288	SRv6	Included
164	VxLAN	Included

**Table 76: FIB Scale Top-up License SKUs for PTX**

The FIB Scale Top-up License SKUs enable greater than 4,000,000 FIB Scale entries, but actual limits will depend on the capability of the hardware model:

Feature ID	Licensed Feature	SKUs	Hardware Model
268	FIB Scale	Subscription, w/ CS: S-PTX-8C-SCALE-1 S-PTX-8C-SCALE-3 S-PTX-8C-SCALE-5 Perpetual, w/o CS: S-PTX-8C-SCALE-P	PTX10002-36Q PTX10K-LC1301

**Table 77: MACsec Feature License SKUs**

MACsec topup licenses enable bandwidth to be used with the MACsec feature.

Feature ID	Licensed Feature	SKU	Hardware Models
323	MACSec Bandwidth (in gbps)	S-PTX10K100GMSEC-P  <b>100-Gigabit</b> Ethernet MACsec license; can be applied to one 100-Gigabit Ethernet port or two 40-Gigabit Ethernet ports	PTX10001-36MR  PTX10003-160C  PTX10003-80C  PTX10004  PTX10008  PTX10016
		S-PTX10K400GMSEC-P  <b>400-Gigabit</b> Ethernet MACsec license; can be applied to one 400-Gigabit Ethernet port or four 100-Gigabit Ethernet ports	PTX10001-36MR  PTX10003-160C  PTX10003-80C  PTX10004  PTX10008  PTX10016
		S-PTX800GMSEC-P  <b>800-Gigabit</b> Ethernet MACsec license; can be applied to one 800-Gigabit Ethernet port or two 400-Gigabit Ethernet ports or eight 100-Gigabit Ethernet ports	PTX10001-36MR  PTX10003-160C  PTX10003-80C  PTX10004  PTX10008  PTX10016  PTX10K-LC1201-36CD  PTX10K-LC1202-36MR

## Software Licenses for QFX Series Switches

QFX Series Switches support subscription and perpetual licenses.

Tables in this section:

- [Flex Three-Tier License SKUs Definition for QFX Series Switches on page 187](#)
- [QFX Hardware and Classes on page 187](#)
- [Flex Three-Tier License SKUs for QFX Class 1 and Class 2 devices on page 189](#)
- [Flex Three-Tier License SKUs for QFX Class 3 devices on page 190](#)
- [Flex Three-Tier License SKUs for QFX Class 4 and Class 5 devices on page 192](#)
- [MACsec License SKUs for QFX devices on page 194](#)
- [Advanced Telemetry Features License SKUs for QFX devices on page 194](#)

**Table 78: Flex Three-Tier License SKUs Definition for QFX Series Switches**

SKU	SKU Character Description
Perpetual Licenses: <ul style="list-style-type: none"> <li>• S-QFX5K-C1/C2/C3/C4/C5-A1/A2/P1-P</li> </ul>	S—Software QFX5K - Product name QFX5K Series Switches A1/A2//P1 —Advanced 1, Advanced 2 or Premium 1 C1/C2/C3/C4/C5 - Device class P — Perpetual license
Subscription Licenses: <ul style="list-style-type: none"> <li>• S-QFX5K-C1/C2/C3/C4/C5-A1/A2/P1-1/3/5</li> </ul>	1/3/5 — Subscription term 1, 3 or 5 years

Licenses are available in Advanced 1, Advanced 2 and Premium 1 tiers. Each tier entitles the use of additional features as defined in the tables below. If no Advanced or Premium tier licenses are purchased, the standard software provides many robust features.

**Table 79: QFX Hardware and Classes**

Class 1	Class 2	Class 3	Class 4	Class 5
QFX5110-32Q QFX5110-48S				

Table 79: QFX Hardware and Classes *(Continued)*

Class 1	Class 2	Class 3	Class 4	Class 5
QFX5120-48T QFX5120-48Y QFX5120-48YM	QFX5120-32C			
		QFX5130-32CD QFX5130E-32CD QFX5130-48C QFX5130-48CM		
	QFX5200-32C			
		QFX5210-64C		
		QFX5220-32CD QFX5220-128C		
			QFX5230-64CD	
				QFX5240-64C QFX5240-128C
		QFX5700 QFX5700E		

- The tables below show the features that are included in the Advanced and Premium tier license SKUs for the current version of software.
- The features included in each license SKU vary per device class and tier.
- To get more detailed information about features that are supported on each hardware device model, see [Feature Explorer](#) and [Product Information](#).

- If you need details for an earlier version of software, please use the License Feature Explorer at <https://license.juniper.net/licensemanage/tools>. (Requires Juniper Account SSO).

**Table 80: Flex Three-Tier License SKUs for QFX Class 1 and Class 2 devices**

QFX Class 1 & 2 Models: QFX5110-32Q, QFX5110-48S, QFX5120-48T, QFX5120-48Y, QFX5120-48YM, QFX5120-32C, QFX5200-32C

Feature ID	Feature Name	A1	A2	P1
47	BGP	Included	Included	Included
80	Filter Based Forwarding	Included	Included	Included
278	GRE Tunnel	Included	Included	Included
293	INMON SFLOW	Included	Included	Included
48	ISIS	Included	Included	Included
282	OSPF	Included	Included	Included
281	RIP	Included	Included	Included
330	Single EVPN VXLAN Peer (EZ- LAG)	Included	Included	Included
287	Switching VC	Included	Included	Included
93	VRRP	Included	Included	Included
89	Connectivity Fault Management	Not included	Included	Included
252	ESI-LAG	Not included	Included	Included
262	EVPN-VXLAN	Not included	Included	Included
343	Firewall Microsegmentation	Not included	Included	Included
333	GBP	Not included	Included	Included

Table 80: Flex Three-Tier License SKUs for QFX Class 1 and Class 2 devices *(Continued)*

Feature ID	Feature Name	A1	A2	P1
334	GBP Lite	Not included	Included	Included
263	L3 Multicast/IGMP	Not included	Included	Included
256	Link Fault Management	Not included	Included	Included
247	PCEP	Not included	Included	Included
267	PIM	Not included	Included	Included
280	Static MPLS	Not included	Included	Included
253	Timing PTP/SyncE	Not included	Included	Included
164	VXLAN	Not included	Included	Included
265	EVPN-MPLS	Not included	Not included	Included
259	L2 Circuit	Not included	Not included	Included
147	L3 VPN	Not included	Not included	Included
257	LDP	Not included	Not included	Included
258	RSVP	Not included	Not included	Included
266	Segment Routing	Not included	Not included	Included

Table 81: Flex Three-Tier License SKUs for QFX Class 3 devices

The following Features are **NOT supported** in any of the Class 3 tiers:

- 343 - Firewall Micro-segmentation
- 333 - GBP

- 334 - GBP Lite
- 287 - Switching VC

QFX Class 3 Models: QFX5130-32CD, QFX5130E-32CD, QFX5130-48C, QFX5130-48CM, QFX5210-64C, QFX5220-32CD, QFX5220-128C, QFX5700, QFX5700E

Feature ID	Feature Name	A1	A2	P1
47	BGP	Included	Included	Included
80	Filter Based Forwarding	Included	Included	Included
278	GRE Tunnel	Included	Included	Included
293	INMON SFLOW	Included	Included	Included
48	ISIS	Included	Included	Included
282	OSPF	Included	Included	Included
281	RIP	Included	Included	Included
330	Single EVPN VXLAN Peer (EZ- LAG)	Included	Included	Included
93	VRRP	Included	Included	Included
89	Connectivity Fault Management	Not included	Included	Included
252	ESI-LAG	Not included	Included	Included
262	EVPN-VXLAN	Not included	Included	Included
263	L3 Multicast/IGMP	Not included	Included	Included
256	Link Fault Management	Not included	Included	Included
247	PCEP	Not included	Included	Included
267	PIM	Not included	Included	Included

Table 81: Flex Three-Tier License SKUs for QFX Class 3 devices *(Continued)*

Feature ID	Feature Name	A1	A2	P1
280	Static MPLS	Not included	Included	Included
253	Timing PTP/SyncE	Not included	Included	Included
164	VXLAN	Not included	Included	Included
265	EVPN-MPLS	Not included	Not included	Included
259	L2 Circuit	Not included	Not included	Included
147	L3 VPN	Not included	Not included	Included
257	LDP	Not included	Not included	Included
258	RSVP	Not included	Not included	Included
266	Segment Routing	Not included	Not included	Included

Table 82: Flex Three-Tier License SKUs for QFX Class 4 and Class 5 devices

QFX Class 4 &amp; 5 Models: QFX5230-64CD, QFX5240-64OD, QFX5240-64QD

Feature ID	Feature Name	A1	A2	P1
47	BGP	Included	Included	Included
80	Filter Based Forwarding	Included	Included	Included
278	GRE Tunnel	Included	Included	Included
293	INMON SFLOW	Included	Included	Included
48	ISIS	Included	Included	Included

Table 82: Flex Three-Tier License SKUs for QFX Class 4 and Class 5 devices *(Continued)*

Feature ID	Feature Name	A1	A2	P1
282	OSPF	Included	Included	Included
281	RIP	Included	Included	Included
93	VRRP	Included	Included	Included
345	Cognitive Routing	Not included	Included	Included
89	Connectivity Fault Management	Not included	Included	Included
252	ESI-LAG	Not included	Included	Included
262	EVPN-VXLAN	Not included	Included	Included
263	L3 Multicast/IGMP	Not included	Included	Included
256	Link Fault Management	Not included	Included	Included
267	PIM	Not included	Included	Included
344	Selective DLB	Not included	Included	Included
280	Static MPLS	Not included	Included	Included
253	Timing PTP/SyncE	Not included	Included	Included
164	VXLAN	Not included	Included	Included
265	EVPN-MPLS	Not included	Not included	Included
259	L2 Circuit	Not included	Not included	Included
147	L3 VPN	Not included	Not included	Included
257	LDP	Not included	Not included	Included

Table 82: Flex Three-Tier License SKUs for QFX Class 4 and Class 5 devices *(Continued)*

Feature ID	Feature Name	A1	A2	P1
258	RSVP	Not included	Not included	Inclu
266	Segment Routing	Not included	Not included	Inclu

Table 83: MACsec License SKUs for QFX devices

On the platform in the table below, MACsec feature is hard-enforced. You'll need a license to use this feature on these switches.

Feature ID	Licensed Feature	SKUs	Platforms
154	MACsec	S-QFX5KC1-MACSEC-1/3/5/P	QFX5120-48YM
		S-QFX5KC3-MACSEC-1/3/5/P	QFX5130-48CM, QFX5700, QFX5701

Table 84: Advanced Telemetry Features License SKUs for QFX devices

Advanced Telemetry features are supported on QFX5120 platforms.

Feature ID	Licensed Feature	SKUs	Platform
321	Inband Telemetry - IFA	S-QFX5K-C1-ATF-P	QFX5120-48YM, QFX5120-48CM, QFX5120-48YD
		S-QFX5K-C2-ATF-P	QFX5120-48YD

## RELATED DOCUMENTATION

[Legacy Licensing for QFX Series Switches](#) | 233

# Software Licenses for SRX Series Firewalls

SRX Series Firewalls support subscription and perpetual licenses.

SRX Series Firewall offers the following license bundles:

You can choose the license bundle based on your use case and feature requirements.

**Table 85: SRX Series Firewall License Bundles**

SRX Series Firewalls	Use Case	License Bundles
SRX300, SRX320, SRX340, SRX345, SRX380, SRX1500, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, and SRX5800	Data center security or SD- WAN, and Next-generation firewall with Cloud or On-box based antivirus and antispam, ATP Cloud with SecIntel	<a href="#">Flex three-tier license model for SRX Series Firewall on page 197</a>
SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600	Edge Protection with ATP Cloud  Data Protection with Content Security	<a href="#">Data Protection (DP) and Edge Protection (EP) license on page 198</a>

Go through the following tables:

- [SRX Series Firewalls SKU Definition on page 196](#)
- [SRX300, SRX320, SRX340, SRX345, SRX380, SRX1500, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, and SRX5800 Software Licenses on page 197](#)
- [SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600 Data Protection \(DP\) and Edge Protection \(EP\) Software Licenses on page 198](#)
- [Subscription Licenses for SRX Series Firewalls on page 198](#)
- [SRX Series Firewall Software License SKUs on page 199](#)
- [Legacy Feature Licenses for SRX Series Firewalls on page 201](#)
- [Legacy Feature Licenses for Content Security Features on page 204](#)

**Table 86: SRX Series Firewalls SKU Definition**

SKU	SKU Character Description
S-SRX3XX/ SRX1500/SRX1600/ SRX2300/SRX4XXX/ SRX5XXX-A1/A2/A3/P1/P2/P3-1/3/5	S—Software  SRX3XX/SRX1500/SRX1600/SRX2300/SRX4XXX/ SRX5XXX—Product name  A1—Advanced 1  A2—Advanced 2  A3—Advanced 3  P1—Premium 1  P2—Premium 2  P3—Premium 3  1/3/5—Subscription term 1, 3, or 5 years
SRX1500DP/EP/ SRX1600DP/EP/ SRX2300DP/EP/ SRX4100DP/EP/ SRX4200DP/EP/ SRX4300DP/EP/ SRX4600DP/EP-A1/A2/P1/P2-1/3/5	S—Software  SRX1500/SRX1600/SRX2300/SRX4XXX—Product name  DP—Data center protection security  EP—Enterprise edge protection security  A1—Advanced 1  A2—Advanced 2  P1—Premium 1  P2—Premium 2  1/3/5—Subscription term 1, 3, or 5 years

**Table 87: SRX300, SRX320, SRX340, SRX345, SRX380, SRX1500, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, and SRX5800 Software Licenses**

Features Bundle Licenses	SRX Series Firewalls	Use Case
IDP, Application Security*, URL filtering, On-box antivirus, and ATP Cloud	Premium 3	Next-generation firewall or ATP Cloud with SecIntel
IDP, Application Security*, URL filtering, Cloud antivirus and antispam, and ATP Cloud	Premium 2	Next-generation firewall or ATP Cloud with SecIntel
IDP, Application Security*, and ATP Cloud	Premium 1	Data center security or SD-WAN or ATP Cloud with SecIntel
SecIntel, IDP, Application Security*, URL filtering, On-box antivirus and antispam	Advanced 3	Next-generation firewall with On-box antivirus
SecIntel, IDP, Application Security*, URL filtering, Cloud antivirus and antispam	Advanced 2	Next-generation firewall with Cloud based antivirus and antispam
SecIntel, IDP, and Application Security*	Advanced 1	Data center security or SD- WAN
Junos Base JSB (routing, firewall, switching, NAT, VPN, and MPLS)	Standard (includes hardware)	Basic firewall and secure branch routers

**Table 88: SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600 Data Protection (DP) and Edge Protection (EP) Software Licenses**

Features Bundle Licenses	SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600	Use Case
Includes Advanced 2 features, ATP Cloud, Adaptive Threat Profiling, Encrypted Traffic Insights, DNS Security, and IoT	EP Premium 2	EP with ATP Cloud
Includes Advanced 1 features, ATP Cloud, Adaptive Threat Profiling, Encrypted Traffic Insights, DNS Security, and IoT	DP Premium 1	DP with ATP Cloud
Includes Advanced 1 features, NextGen URL Filtering	EP Advanced 2	Edge Protection (EP)
Application Security, IPS, AI-Predictive Threat with Antivirus, SecIntel, and Juniper Security Director Cloud	DP Advanced 1	Data Protection (DP)

\*Application Security includes application visibility and control through unified policy for next-gen firewall capabilities as well as enables SD-WAN capabilities with Advanced policy-based routing (APBR) and Application Quality of Experience (AppQoE).

SD-WAN Software Subscription license includes features supported in Junos OS.

**Table 89: Subscription Licenses for SRX Series Firewalls**

SRX Series Firewalls	Premium 1	Premium 2	Premium 3	Advanced 1	Advanced 2	Advanced 3	Standard
SRX300, SRX320	Supported	Not Supported	Not Supported	Supported	Supported	Not Supported	Supported

**Table 89: Subscription Licenses for SRX Series Firewalls (Continued)**

SRX Series Firewalls	Premium 1	Premium 2	Premium 3	Advanced 1	Advanced 2	Advanced 3	Standard
SRX340, SRX345, SRX380	Supported	Supported	Not Supported	Supported	Supported	Not Supported	Supported
SRX1600, SRX2300, and SRX4300	Supported	Supported	Not Applicable	Supported	Supported	Not Applicable	Supported
SRX1500, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, SRX5800	Supported	Supported	Supported	Supported	Supported	Supported	Supported

**Table 90: SRX Series Firewall Software License SKUs**

Subscription Licenses	SRX300, SRX320, SRX340, SRX345, and SRX380	SRX1500	SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600	SRX4100, SRX4200, and SRX4600	SRX5400, SRX5600, and SRX5800
Premium 3	Not Applicable	S-SRX1500-P3-1/3/5	Not Applicable	S-SRX4XXX-P3-1/3/5	S-SRX5XXX-P3-1/3/5
Premium 2	S-SRX3XX-P2-1/3/5	S-SRX1500-P2-1/3/5	S-SRX1X00EP/SRX2300EP/SRX4X00EP-P2-1/3/5	S-SRX4XXX-P2-1/3/5	S-SRX5XXX-P2-1/3/5

**Table 90: SRX Series Firewall Software License SKUs (Continued)**

Subscription Licenses	SRX300, SRX320, SRX340, SRX345, and SRX380	SRX1500	SRX1500, SRX1600, SRX2300, SRX4100, SRX4200, SRX4300, and SRX4600	SRX4100, SRX4200, and SRX4600	SRX5400, SRX5600, and SRX5800
Premium 1	S-SRX3XX-P1-1/3/5	S-SRX1500-P1-1/3/5	S-SRX1X00DP/SRX2300DP/SRX4X00DP-P1-1/3/5	S-SRX4XXX-P1-1/3/5	S-SRX5XXX-P1-1/3/5
Advanced 3	Not Applicable	S-SRX1500-A3-1/3/5	Not Applicable	S-SRX4XXX-A3-1/3/5	S-SRX5XXX-A3-1/3/5
Advanced 2	S-SRX3XX-A2-1/3/5	S-SRX1500-A2-1/3/5	S-SRX1X00EP/SRX2300EP/SRX4X00EP-A2-1/3/5	S-SRX4XXX-A2-1/3/5	S-SRX5XXX-A2-1/3/5
Advanced 1	S-SRX3XX-A1-1/3/5	S-SRX1500-A1-1/3/5	S-SRX1X00DP/SRX2300DP/SRX4X00DP-A1-1/3/5	S-SRX4XXX-A1-1/3/5	S-SRX5XXX-A1-1/3/5

### Legacy Software Licenses for SRX Series Firewalls

Each feature license is tied to exactly one software feature, and the license is valid for one device. You can use the license to activate the specified advanced software features on a single device. Platform support depends on the Junos OS release in your installation.



**NOTE:** To understand more about Junos OS Software Licensing, see the [Juniper Licensing Guide](#). Please refer to the product [Data Sheets](#) accessible from [Products & Services](#) for details, or contact your Juniper Account Team or Juniper Partner.

ATP Cloud, SecIntel, and Enhanced Web Filtering individual license are available. This is not a complete list of licenses. For the most up-to-date license models available, contact your Juniper Networks representative for license information.

**Table 91: Legacy Feature Licenses for SRX Series Firewalls**

Features with Licenses	SRX300	SRX320	SRX340	SRX345	SRX1500, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, and SRX5800
Enhanced Web Filtering	Supported	Supported	Supported	Supported	Supported
Intrusion Detection and Prevention	Supported	Supported	Supported	Supported	Supported on SRX5400, SRX5600, and SRX5800
Intrusion Prevention Signature	Not supported	Not supported	Not supported	Not supported	Supported on SRX1500, SRX4100, SRX4200, and SRX4600
Juniper Advanced Threat Prevention Cloud	Supported	Supported	Supported	Supported	Supported
SecIntel	Supported	Supported	Supported	Supported	Supported

**Table 91: Legacy Feature Licenses for SRX Series Firewalls (Continued)**

Features with Licenses	SRX300	SRX320	SRX340	SRX345	SRX1500, SRX4100, SRX4200, SRX4600, SRX5400, SRX5600, and SRX5800
Remote Access (5, 10, 25, 50, 100, 150, 250, 500, 1000, 2000, 5000, and 10K Concurrent users, NCP)	Not supported	Not supported	Not supported	Not supported	Supported
Logical System License (1, 5, and 25 Incremental)	Not supported	Not supported	Not supported	Not supported	Supported

SRX4100 support enhanced performance (upgrade to firewall IMIX performance up to 20G IMIX to the base 20G IMIX firewall throughput supported and application security)

## Understanding Chassis Cluster Licensing Requirements

There is no separate license required for chassis cluster. However, some Junos OS software features require a license to activate the feature. To configure and use the licensed feature in a chassis cluster setup, you must purchase one license per feature per device and the license needs to be installed on both nodes of the chassis cluster. Both devices (which are going to form a chassis cluster) must have valid, identical features licenses installed on them. If both devices do not have an identical set of licenses, then after a failover, a particular feature (that is, a feature that is not licensed on both devices) might not work or the configuration might not synchronize in chassis cluster formation. Licensing is usually ordered when the device is purchased, and this information is bound to the chassis serial number. For example, Intrusion Detection and Prevention (IDP) is a licensed feature and the license for this specific feature is tied to the serial number of the device.

For information about how to purchase software licenses, contact your Juniper Networks sales representative at <https://www.juniper.net/in/en/contact-us/>.

## Understanding Licenses for Logical Systems and Tenant Systems on SRX Series Firewall Devices

This topic provides licensing information for SRX Series Firewalls running logical systems and tenant systems.

Starting in Junos OS Releases 20.3R3, 20.4R2, 21.1R2, and 21.2R1, you can use the features for logical systems and tenant systems without a license.

Starting in Junos OS Release 18.3R1, an SRX Series Firewall running logical systems or tenant systems includes three licenses by default. One license for a primary logical system and the other two licenses for user-defined logical system or tenant system. The system does not allow you to configure additional logical systems or tenant systems if the number of logical systems and tenant systems exceeds the number of available licenses. In the earlier releases, the system allowed you to configure an additional logical system even if the number of logical systems exceeds the number of available licenses, but with a warning message of non-licensed logical-systems do not pass traffic. You can purchase licenses for additional logical systems and tenant systems that you intend to create. If you intend to configure an interconnect logical system or interconnect tenant system to use as a switch, it also requires separate licenses.

We enforce that you do not configure more logical systems or tenant systems than the number of licenses you have purchased. If the number of logical systems or tenant systems that you attempt to configure exceeds the number of licenses that you have purchased, then the system displays an error message similar to the following:

```
user@host# commit
error: 2 more multitenancy license(s) are needed!
error: configuration check-out failed
```

You can use the **show system license status all-logical-systems-tenants** or **show system license usage** commands to view the active logical systems and tenant systems on the device.

```
user@host> show system license status all-logical-systems-tenants
logical system name  license status
root-logical-system  enabled
LSYS2                enabled
LSYS0                enabled
LSYS11               enabled
LSYS12               enabled
LSYS23               enabled
TSYS1                enabled
```

TSYS2	enabled
TSYS3	enabled

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

	Licenses used	Licenses installed	Licenses needed	Expiry
Feature name				
logical-system	9	11	0	2019-05-18 08:00:00 CST

When you use SRX Series Firewalls running logical systems or tenant systems in a *chassis cluster*, you must purchase and install the same number of licenses for each node in the chassis cluster. Logical systems or tenant systems licenses pertain to a single chassis, or node, within a chassis cluster and not to the cluster collectively.

## Understanding Content Security Licensing

The majority of Content Security features function as a subscription service requiring a license. You can redeem this license once you have purchased your subscription license SKUs. You redeem your license by entering your authorization code and chassis serial number into the Customer Service license portal interface. Once your entitlement is generated, you can use the CLI from your device to send a license update request to the license portal. The license portal then sends your subscription license directly to the device.



**NOTE:** Content Security requires 1 GB of memory.

**Table 92: Legacy Feature Licenses for Content Security Features**

Content Security Feature	Requires License
Antispam	Yes
Antivirus: sophos	Yes
Content Filtering	No
Web Filtering: integrated	Yes

Web Filtering: redirect	No
Web Filtering: local	No
Web Filtering: enhanced	Yes



**NOTE:** License enforcement is supported on all SRX Series Firewalls. Licensed features including anti-virus or Enhanced Web Filtering will not function until a license has been installed. The license must be installed after installing or upgrading to a new Junos OS Release version. Unlicensed features such as Content Security blocklists and allowlists will continue to function without a license.

## Installing and Verifying Licenses for an Application Signature Package

The Junos OS application signature package update is a separately licensed subscription service. You must install the application signature package update license key on your device to download and install the signature database updates provided by Juniper Networks. If your license key expires, you can continue to use the locally stored application signature package content.

Licensing is usually ordered when the device is purchased, and this information is bound to the chassis serial number. These instructions assume that you already have the license. If you did not order the license during the purchase of the device, contact your account team or Juniper customer care for assistance. For more information, refer to the Knowledge Base article KB9731 at <https://kb.juniper.net/InfoCenter/index?page=home>.

Junos Software Base (JSB) package does not include application signatures. Please refer to the product Data Sheets at [SRX Series Services Gateways](#) for details, or contact your Juniper Account Team or Juniper Partner.

You can install the license on the SRX Series Firewall devices using either the automatic method or manual method as follows:

- Install your license automatically on the device.

To install or update your license automatically, your device must be connected to the Internet.

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

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

- Install the licenses manually on the device.

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

```
[Type ^D at a new line to end input,
enter blank line between each license key]
```

Paste the license key and press Enter to continue.

- Verify the license is installed on your device.

Use the **show system license** command to view license usage, as shown in the following example:

```
License usage:

Feature name          Licenses   Licenses   Licenses   Expiry
                     used      installed  needed
logical-system        4          1          3    permanent

License identifier: JUNOSXXXXXX
License version: 2
Valid for device: AA4XXXX005
Features:
  appid-sig           - APPID Signature
    date-based, 2014-02-17 08:00:00 GMT-8 - 2015-02-11 08:00:00 GMT-8
```

The output sample is truncated to display only license usage details.

## Software Licenses for Subscriber Services

The Subscriber Services support subscription or perpetual licenses.

Go through the following tables:

- [Subscriber Services SKUs Definition on page 207](#)
- [Product and Platform Support on page 208](#)
- [Subscriber Services Licenses for Wireline Broadband on page 208](#)
- [Subscriber Services Licenses for Mobile Broadband on page 208](#)
- [Subscriber Services Licenses SKUs on page 209](#)

**Table 93: Subscriber Services SKUs Definition**

SKU	SKU Character Description
S-WB-APM-10-A1-1/3/5	<b>S</b> —Software
S-WB-1K/10K-A1/P1-P/1*/3/5	<b>WB</b> —Wireline broadband
S-WB-UP/CP/CB-1K/10K-A1-P/1*/3/5	<b>MB</b> —Mobile broadband
S-MB-UP-1K/10K-A1-P/1*/3/5	<b>CP</b> —Control plane
	<b>UP</b> —User plane
	<b>CB</b> — CUPS bundle (CP and UP)
	<b>APM</b> —Address pool manager
	<b>1K/10K</b> —Subscriber (wireline) or Session (mobile) scale
	<b>A1</b> —Advanced license model
	<b>P1</b> —Premium license model
	<b>P/1/3/5</b> —Term: Perpetual, Subscription term: 1 year, 3 years, or 5 years

Table 94: Product and Platform Support

Platform	Access Gateway Function (AGF)	Address Pool Manager (APM)	BNG	BNG CUPS (Control Plane)	BNG CUPS (User Plane)	Mobile Edge
MX	Yes	No	Yes	No	Yes	Yes
Cloud	No	Yes	No	Yes	No	No

Table 95: Subscriber Services Licenses for Wireline Broadband

Features with Licenses	Wireline Broadband	Wireline Broadband Advanced CUPS (Control and User Plane)
AGF	Premium	Not applicable
Layer 2 Tunneling Protocol (L2TP), IPoE, PPPoE, WAG and PWHT	Advanced and Premium	Advanced
Radius and diameter AAA and policy management	Advanced and Premium	Advanced
Lawful intercept for wireline	Advanced and Premium	Advanced
BNG CUPS controller	Not applicable	Advanced
BNG CUPS user plane	Not applicable	Advanced
BNG CUPS interface	Not applicable	Advanced

Table 96: Subscriber Services Licenses for Mobile Broadband

Features with Licenses	Mobile Broadband User Plane
SGW-U, PGW-U, SAEGW-U and UPF	Advanced

Table 96: Subscriber Services Licenses for Mobile Broadband *(Continued)*

Features with Licenses	Mobile Broadband User Plane
Session preservation - HA	Advanced
Lawful intercept for mobile	Advanced

Table 97: Subscriber Services Licenses SKUs

Subscriber Services	Use Case	SKUs	Platforms
Wireline broadband (Advanced)	Residential, business services, and wholesale (LAC and LNS)	S-WB-1K-A1-P/1*/3/5 S-WB-10K-A1-P/1*/3/5	MX5, MX10, MX40, MX80, MX104, MX150, MX204, MX304, MX240, MX480, MX960, MX10K3, MX2008, MX2010, MX2020, and MX10K8
Wireline broadband (Premium)	Residential, business services, and wholesale (LAC and LNS) and AGF	S-WB-1K-P1-P/1*/3/5 S-WB-10K-P1-P/1*/3/5	MX960, MX480, MX240, MX304, MX204, MX10K3, MX10K4, and MX10K8
APM	APM for integrated BNG	S-WB-APM-10-A1-1/3/5	MX204, MX240, MX304, MX480, MX960, MX10003, MX10004 and MX10008
Wireline broadband advanced CUPS control plane	Advanced broadband architectures for wireline (BNG only)	S-WB-CP-1K-A1-1*/3/5 S-WB-CP-10K-A1-1*/3/5	Cloud
Wireline broadband advanced CUPS user plane	Advanced broadband architectures for wireline (BNG only)	S-WB-UP-1K-A1-1*/3/5 S-WB-UP-10K-A1-1*/3/5	MX204, MX304, MX240, MX480, MX960, MX10K3, MX10K4, and MX10K8

Table 97: Subscriber Services Licenses SKUs (Continued)

Subscriber Services	Use Case	SKUs	Platforms
Wireline broadband advanced CUPS bundle	Advanced broadband architectures for wireline (BNG only)	S-WB-CB-1K-A1-1*/3/5 S-WB-CB-10K-A1-1*/3/5	Cloud, MX204, MX304, MX240, MX480, MX960, MX10K3, MX10K4, and MX10K8
Mobile broadband user plane	Mobile broadband and fixed wireless access	S-MB-UP-1K-A1-P/1*/3/5 S-MB-UP-10K-A1-P/1*/3/5	MX960, MX480, MX240, MX304, MX204, MX10K3, MX10K4, and MX10K8

AGF and Mobile Edge support is available on MX204, MX10K3, MX960, MX480, and MX240 with MPC7 and MK10K4, MX10K8 with LC480.

## Software Licenses for vSRX Virtual Firewall

vSRX Virtual Firewall supports subscription licenses.



**IMPORTANT:** Perpetual licenses are not portable. Perpetual licenses are tied to the specific node or platform on which they are running and cannot be moved to a cloud environment. Perpetual licenses can only be used on a hardware x86 platform until the end of life of the platform. For any additional deployments on new servers, you must purchase new vSRX SKUs.

Go through the following tables:

- [vSRX Virtual Firewall SKU Definition on page 211](#)
- [vSRX Virtual Firewall with 2, 5, 9, 17, or 32 virtual CPUs \(vCPUs\) Software Licenses on page 211](#)
- [vSRX Virtual Firewall License SKUs on page 214](#)
- [Legacy Software Features for vSRX Virtual Firewall on page 215](#)
- [Legacy Software Features for vSRX Virtual Firewall on Contrail, KVM, Microsoft Hyper-V, and VMware on page 217](#)

- [Legacy Software Features for Remote Access on vSRX Virtual Firewall on page 219](#)

**Table 98: vSRX Virtual Firewall SKU Definition**

SKU	SKU Character Description
S-VSRX-2C/5C/9C/17C-S/A1/A2/A3/P1/P2/P3-1/3/5	<p><b>S</b>—Software</p> <p><b>VSRX</b>—Product name vSRX Virtual Firewall</p> <p><b>2C/5C/9C/17C</b>—Number of vCPUs</p> <p><b>S/A1/A2/A3/P1/P2/P3</b></p> <ul style="list-style-type: none"> <li>• <b>S</b> = Standard</li> <li>• <b>A1</b> = Advanced 1</li> <li>• <b>A2</b> = Advanced 2</li> <li>• <b>A3</b> = Advanced 3</li> <li>• <b>P1</b> = Premium 1</li> <li>• <b>P2</b> = Premium 2</li> <li>• <b>P3</b> = Premium 3</li> </ul> <p><b>1/3/5</b>—Subscription term 1, 3, or 5 years</p>

For public cloud, vSRX Virtual Firewall software license supports—Pay-As-You-Go (PAYG) and Bring Your Own License (BYOL) license model. Pricing is based on the number of vCPU cores, with a minimum of 2 vCPU cores.



**NOTE:** Advanced 3 and Premium 3 licenses are supported only on vSRX3.0.

**Table 99: vSRX Virtual Firewall with 2, 5, 9, 17, or 32 virtual CPUs (vCPUs) Software Licenses**

Features with Licenses	vSRX Virtual Firewall
<b>Use Case for Premium 3 (includes Advanced 3 features): Next-generation firewall and Juniper ATP Cloud</b>	
Juniper ATP Cloud	Premium 3

**Table 99: vSRX Virtual Firewall with 2, 5, 9, 17, or 32 virtual CPUs (vCPUs) Software Licenses**  
*(Continued)*

Features with Licenses	vSRX Virtual Firewall
<b>Use Case for Premium 2 (includes Advanced 2 features): Next-generation firewall and Juniper ATP Cloud</b>	
Juniper ATP Cloud	Premium 2
<b>Use Case for Premium 1 (includes Advanced 1 features): Data center security and Juniper ATP Cloud</b>	
Juniper ATP Cloud	Premium 1
<b>Use Case for Advanced 3 (includes Standard features): Next-generation firewall with on-box antivirus</b>	
Avira antivirus, Web filtering, antispam, and content filtering	Advanced 3
<b>Use Case for Advanced 2 (includes Standard features): Next-generation firewall with cloud-based antivirus</b>	
Sophos antivirus, Web filtering, antispam, and content filtering	Advanced 2
<b>Use Case for Advanced 1 (includes Standard features): Data center security</b>	
IPS and Application Security	Advanced 1
<b>Use Case for Standard: Standard firewall and secure branch routers</b>	
Application Layer Gateways (ALGs)	Standard
BGP	Standard
Class of service (CoS)	Standard
DHCP	Standard

**Table 99: vSRX Virtual Firewall with 2, 5, 9, 17, or 32 virtual CPUs (vCPUs) Software Licenses**  
*(Continued)*

Features with Licenses	vSRX Virtual Firewall
Diagnostics	Standard
Firewall	Standard
GRE	Standard
IP tunneling	Standard
IPv4 and IPv6	Standard
J-Flow	Standard
Management (J-Web, CLI, and NETCONF)	Standard
MPLS	Standard
Multicast	Standard
NAT	Standard
On-box logging	Standard
OSPF	Standard
Screens	Standard
Site-to-site VPN	Standard
Static routing	Standard
User firewall	Standard

**Table 100: vSRX Virtual Firewall License SKUs**

vSRX	SKUs
Premium 3	S-VSRX-5C/9C/17C-P3-1/3/5
Premium 2	S-VSRX-2C/5C/9C/17C-P2-1/3/5
Premium 1	S-VSRX-2C/5C/9C/17C-P1-1/3/5
Advanced 3	S-VSRX-5C/9C/17C-A3-1/3/5
Advanced 2	S-VSRX-2C/5C/9C/17C-A2-1/3/5
Advanced 1	S-VSRX-2C/5C/9C/17C-A1-1/3/5
Standard	S-VSRX-2C/5C/9C/17C-S-1/3/5

Oracle Cloud Infrastructure (OCI) supports Bring Your Own License (BYOL) licensing model. The BYOL license model allows you to customize your license, subscription and support to fit your needs. You can purchase BYOL from Juniper Networks or Juniper Networks authorized reseller.

### Legacy vSRX Virtual Firewall Licenses

The licenses used by all Juniper Networks instances are based on SKUs, which represent lists of features. Each license includes a list of features that the license enables along with information about those features.

For information about purchasing software licenses, contact your Juniper Networks sales representative at <https://www.juniper.net/in/en/contact-us/>.

vSRX Virtual Firewall licenses are based on application packages and processing capacity.

vSRX Virtual Firewall provides bandwidth in the following capacities (throughput per instance): 1 Gbps, 2 Gbps, and 4 Gbps. Each of these bandwidth tiers is offered with three different packages.

**Table 101: Legacy Software Features for vSRX Virtual Firewall**

License Type	Description	SKUs
STD	<p>Includes the following features:</p> <ul style="list-style-type: none"> <li>• Core security—firewall, ALG, screens, user firewall</li> <li>• IPsec VPN (site-to-site VPN)</li> <li>• NAT</li> <li>• CoS</li> <li>• Routing services—BGP, OSPF, DHCP, J-Flow, IPv4</li> <li>• Foundation—Static routing, management (J-Web, CLI, and NETCONF), on-box logging, diagnostics</li> </ul>	VSRX-1G/2G/4G-STD-CLD-1/3
ASCB	<p>Includes all STD features bundled with IPS and AppSecure signatures, along with the following features:</p> <ul style="list-style-type: none"> <li>• AppID</li> <li>• AppFW</li> <li>• AppQoS</li> <li>• AppTrack</li> </ul>	VSRX-1G/2G/4G-ASB-CLD-1/3
CSB	<p>Includes all STD features, along with the features bundled with ASCB, including the addition of the following Content Security features:</p> <ul style="list-style-type: none"> <li>• Antivirus</li> <li>• Content filtering</li> <li>• Web filtering</li> </ul>	VSRX-1G/2G/4G-CSB-CLD-1/3

**Table 101: Legacy Software Features for vSRX Virtual Firewall (Continued)**

License Type	Description	SKUs
ATP-B	vSRX-1G-ATP-B bundle includes: <ul style="list-style-type: none"> <li>• Juniper ATP Cloud +</li> <li>• Content Security +</li> <li>• ASEC (IDP + AppFW) +</li> <li>• STD</li> </ul>	VSRX-1G-ATP-B-1

License stacking is allowed. So, for example, to license 3 Gbps of throughput for the standard (STD) feature set for 1 year, use a VSRX-1G-STD-CLD-1 license and a VSRX-2G-STD-CLD-1.

### Legacy vSRX Virtual Firewall Licenses for Contrail, KVM, Microsoft Hyper-V, and VMware

The licenses used by all Juniper Networks instances are based on SKUs, which represent lists of features. Each license includes a list of features that the license enables along with information about those features.

For information about purchasing software licenses, contact your Juniper Networks sales representative at <https://www.juniper.net/in/en/contact-us/>.

vSRX Virtual Firewall licenses are based on application packages and processing capacity.

Bandwidth (throughput) licenses allow you to use a single instance of the software for up to the maximum throughput specified in the license entitlement. Throughput licenses can be combined on a single instance of the software so that the maximum throughput for that instance is the aggregate of all the throughput licenses assigned to that instance. A throughput license cannot be split across multiple instances. Throughput licenses are identified in the license entitlement in megabits per second (Mbps), or gigabits per second (Gbps).

vSRX Virtual Firewall provides bandwidth in the following capacities (throughput per instance): 100 Mbps, 1 Gbps, 2 Gbps, 4 Gbps, 10 Gbps, and 20 Gbps. Each of these bandwidth tiers is offered with four different packages along with bandwidth based, a la carte, advanced Layer 7 security services SKUs.

**Table 102: Legacy Software Features for vSRX Virtual Firewall on Contrail, KVM, Microsoft Hyper-V, and VMware**

License Type	Description	Bandwidth	SKUs
STD	<p>Includes the following features:</p> <ul style="list-style-type: none"> <li>• Core security – firewall, ALG, screens, user firewall</li> <li>• IPsec VPN (site-to-site VPN)</li> <li>• NAT</li> <li>• CoS</li> <li>• Multicast services – IP Multicast (PIM, IGMP)</li> <li>• Routing services – BGP, OSPF, DHCP, J-Flow, IPv4, and IPv6</li> <li>• High availability</li> <li>• Foundation – Static routing, management (J-Web, CLI, and NETCONF), on-box logging, diagnostics</li> <li>• Software platform – KVM, Openstack, ESXi 6.0, Contrail</li> </ul>	100M/1G/2G/4G/10G/20G throughput—vSRX Virtual Firewall standard package (1 year, 3 years, and perpetual)	VSRX-100M/1G/2G/4G/10G/20G-STD-1/3
ASCB and ASECB	<p>Includes all STD features bundled with the following additional AppSecure features:</p> <ul style="list-style-type: none"> <li>• AppID</li> <li>• AppFW</li> <li>• AppQoS</li> <li>• AppTrack</li> </ul>	100M/1G/2G/4G/10G/20G throughput—vSRX Virtual Firewall AppSecure package includes all features in the STD package with IPS and AppSecure (1-year or 3-year subscription)	<p>VSRX-100M-ASCB-1/3</p> <p>VSRX-1G/2G/4G/10G/20G-ASECB-1/3</p> <p>VSRX-100M/1G/2G/4G/10G/20G-ASEC-1/3</p>

**Table 102: Legacy Software Features for vSRX Virtual Firewall on Contrail, KVM, Microsoft Hyper-V, and VMware (Continued)**

License Type	Description	Bandwidth	SKUs
CS-B	Includes all STD features bundled with ASEC features and the addition of Content Security capabilities: <ul style="list-style-type: none"> <li>• Antispam</li> <li>• Antivirus</li> <li>• Content filtering</li> <li>• Web filtering</li> </ul>	100M/1G/2G/4G/10G/20G throughput—vSRX Virtual Firewall CS package includes all features in STD, IPS, and AppSecure, enhanced Web filtering, Sophos antivirus, antispam, content filtering, (1-year or 3-year subscription).	VSRX-100M/1G/2G/4G/10G/20G-CS-B-1/3
ATP-B	vSRX-1G-ATP-B bundle includes: <ul style="list-style-type: none"> <li>• ATP Cloud +</li> <li>• Content Security +</li> <li>• ASEC (IDP + AppFW) +</li> <li>• STD</li> </ul>	1G Throughput, 1 year Subscription License for vSRX Virtual Firewall ATP package, including features in Content Security (CS) package, and ATP Cloud.  This license is not supported for Contrail deployments.	vSRX-1G-ATP-B-1
Individual (a la carte) Advanced Security Services (ASEC, S-AV, W-EWF, CS)	Individual (a la carte) Layer 7 security services licenses including: <ul style="list-style-type: none"> <li>• Sophos antivirus</li> <li>• Websense enhanced Web filtering</li> <li>• AppSecure and IPS</li> <li>• Content Security (CS)</li> </ul>	100M/1G/2G/4G/10G/20G throughput—vSRX Virtual Firewall S-AV license (1-year or 3-year subscription).  100M/1G/2G/4G/10G/20G throughput—vSRX W-EWF license (1-year or 3-year subscription).	VSRX-100M/1G/2G/4G/10G/20G-CS-1/3  VSRX-100M/1G/2G/4G/10G/20G-S-AV-1/3  VSRX-100M/1G/2G/4G/10G/20G-WEWF-1/3

License stacking is allowed. For example, to license 3 Gbps of throughput for the standard (STD) feature set for 1 year, use a VSRX-1G-STD-1 license and a VSRX-2G-STD-1.

**Table 103: Legacy Software Features for Remote Access on vSRX Virtual Firewall**

Remote Access Licenses	SKUs
Remote Access (5 Concurrent users, NCP)	VSRX-RA1-5
Remote Access (10 Concurrent users, NCP)	VSRX-RA1-10
Remote Access (25 Concurrent users, NCP)	VSRX-RA1-25
Remote Access (50 Concurrent users, NCP)	VSRX-RA1-50
Remote Access (100 Concurrent users, NCP)	VSRX-RA1-100
Remote Access (150 Concurrent users, NCP)	VSRX-RA1-150
Remote Access (250 Concurrent users, NCP)	VSRX-RA1-250
Remote Access (500 Concurrent users, NCP)	VSRX-RA1-500

# 4

PART

## Archive

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- [Legacy Licensing for EX Series Switches | 221](#)
  - [Legacy Licensing for PTX Series Routers | 229](#)
  - [Legacy Licensing for QFX Series Switches | 233](#)
-

# Legacy Licensing for EX Series Switches

## SUMMARY

Learn about the legacy feature licenses for EX Series Switches.

Legacy Feature Licenses for EX2300, EX3400, EX4300, and EX4600 Series Switches

EX2300, EX3400, EX4300 Series Switches support the new software license model as well as the legacy licenses.

Licenses are offered in Enhanced feature license (EFL) and Advanced feature license (AFL) modes. Read this table to understand the license offerings suitable for your deployment.

**Table 104: Legacy Feature Licenses for EX2300, EX3400, EX4300, and EX4600 Series Switches**

Features with Licenses	EX2300	EX3400	EX4300	EX4600
Ethernet VPN (EVPN) with Virtual Extensible LAN (VXLAN)	Not supported	Not supported	AFL EX4300-48MP only	AFL
Filter-based forwarding (FBF)	EFL	EFL	EFL	Base
IGMP (Internet Group Management Protocol) version 1 (IGMPv1), IGMPv2, and IGMPv3	EFL	EFL	EFL	AFL
Intermediate System-to-Intermediate System (IS-IS)	Not supported	AFL	AFL	AFL
Multiprotocol Label Switching (MPLS)	Not supported	Not supported	Not supported	AFL

**Table 104: Legacy Feature Licenses for EX2300, EX3400, EX4300, and EX4600 Series Switches (Continued)**

Features with Licenses	EX2300	EX3400	EX4300	EX4600
OSPF and OSPFv2/v3	EFL	EFL	EFL	Base
Protocol Independent Multicast (PIM) dense mode, PIM source-specific mode, PIM sparse mode	EFL	EFL	EFL	AFL
Real-time performance monitoring (RPM)	Not supported	EFL	EFL	Base
RIPng (RIPng is for RIP IPv6)	EFL	EFL	EFL	Base
IPv6 routing protocols: Multicast Listener Discovery version 1 and 2 (MLD v1/v2), OSPFv3, PIM multicast, VRRPv3, virtual router support for unicast	EFL	EFL	Not supported	Base
Multicast Source Discovery protocol (MSDP)	EFL	EFL	EFL	Base
Operations Administration Management (OAM) (Connectivity Fault Management (CFM))	EFL	EFL	EFL	Base
Unicast reversepath forwarding (RPF)	Not supported	EFL	EFL	Base
Virtual Router	Not supported	EFL	EFL	Base
Virtual routing and forwarding (VRF) BGP	Not supported	Not supported	EFL	AFL

**Table 104: Legacy Feature Licenses for EX2300, EX3400, EX4300, and EX4600 Series Switches (Continued)**

Features with Licenses	EX2300	EX3400	EX4300	EX4600
Virtual Router Redundancy Protocol (VRRP)	EFL	EFL	Not supported	Base
VXLAN	Not supported	Not supported	Not supported	AFL

Licenses for EX4650 Switch are offered in premium and advanced license modes. Read this table to understand the license offerings suitable for your deployment.

**Table 105: Legacy Feature Licenses for EX4650 Switch**

Features with Licenses	EX4650-PFL	EX4650-AFL
BGP and MBGP	Premium	Premium
Ethernet VPN	Premium	Premium
IPv6 for BGP or MGBP	Premium	Premium
IS-IS or IPv4 and IPv6	Premium	Premium
VRF	Premium	Premium
VXLAN	Premium	Premium
MPLS	Advanced	Advanced
MPLS based Circuit cross-connect (CCC)	Advanced	Advanced
Resource Reservation Protocol (RSVP) label- switched path (LSP)	Advanced	Advanced

Table 105: Legacy Feature Licenses for EX4650 Switch *(Continued)*

Features with Licenses	EX4650-PFL	EX4650-AFL
Segment Routing  MACsec is not supported on EX4650 Switch	Advanced	Advanced
Basic IPv6	Base	Base
BFD	Base	Base
CFM (IEEE 802.1ag)	Base	Base
Class of service (COS)/ Policing/ Shaping/Marking	Base	Base
EZ-LAG (Single EVPN Peer)	Base	Base
Filtering	Base	Base
IGMPv1/v2/v3 (includes IGMP Snooping)	Base	Base
Junos Telemetry Interface	Base	Base
MC-LAG	Base	Base
MLDv1/v2 and MSDP	Base	Base
OSPFv2 and OSPFv3	Base	Base
PIM-DM/SM/SSM and PIMv6	Base	Base
Q-in-Q tunneling (IEEE 802.1ad)	Base	Base
RIPng and RPM	Base	Base



Table 106: EX9204, EX9208, EX9214, and EX9250 Switches *(Continued)*

Features with Licenses	EX3200	EX4200	EX4500	EX4550	EX6200	EX8200	EX9200, EX9204, EX9208, and EX9214
Intermediate System to Intermediate System (IS-IS)	AFL	AFL	AFL	AFL	AFL	AFL	AFL
IPv6 routing protocols: IS-IS for IPv6, IPv6 BGP, IPv6 for MBGP	AFL	AFL	AFL	AFL	AFL	AFL	AFL
Logical systems	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	AFL
MPLS with RSVP based label switched paths (LSPs)*	AFL	AFL	AFL	AFL	AFL	AFL	AFL
MPLS based circuit crossconnects (CCCs)	Not supported	AFL	Not supported	AFL	Not supported	Not supported	Not supported
Open vSwitch Database (OVSDb)	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	AFL
Virtual Extensible LAN (VXLAN)	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	AFL

\*Starting with Junos OS Release 17.3R1, you can enable up to 200 RSVP-TE sessions in the EX9200 advanced feature license (AFL).

EX Series Switch Models	SKU
EX2300-C-12P, T  On purchasing the EFL license, then additional  EX2300- VC license purchase is not required	EX-12-EFL  Includes the EX2300-VC (Virtual Chassis feature license)
EX2300-24T, 24P, 24MP	EX-24-EFL
EX2300-48T, 48P, 48MP	EX-48-EFL
EX2300-24T, 24P, 24MP, EX2300-48T, 48P, 48MP do not include the EX2300-VC (Virtual Chassis feature). To use Virtual Chassis feature, purchase a separate EX2300-VC license for each EX2300 Switch	
EX3400-24T, 24P	EX-24-EFL
EX3400-48P, 48T, 48T-AFI  EX3400-48T-DC, DC-AFI	EX-48-EFL

**Table 107: Legacy License SKUs for EX2300, EX3200, EX3400, EX4200, EX4300, EX4500, EX4550, EX6200, EX8200, EX9200, EX9204, EX9214, EX9208, and EX9250 Switches**

EX Series Switch Models	SKU
EX3400-24T  EX3400-24P	EX-24-AFL
EX3400-48P,48T, 48T-AFI, 48T-DC, DC-AFI	EX-48-AFL
EX3400	EX-QFX-MACSEC-ACC
EX4300-24T,24P	EX4300-24-EFL
EX4300-48MP, 48P, 48T  EX4300-48T-AFI, DC, DC-AFI	EX4300-48-EFL

**Table 107: Legacy License SKUs for EX2300, EX3200, EX3400, EX4200, EX4300, EX4500, EX4550, EX6200, EX8200, EX9214, EX9208, and EX9250 Switches (Continued)**

EX Series Switch Models	SKU
EX4300-32F EX4300-32F-DC	EX4300-32F-EFL
EX4300-24T, 24P	EX4300-24-AFL
EX4300-48MP,48P EX4300-48T, 48T-AFI, 48T-DC EX4300-48T-DC-AFI	EX4300-48-AFL
EX4300-32F, DC	EX4300-32F-AFL
EX4300	EX-QFX-MACSEC-ACC
EX4600	EX4600-AFL
EX4600-40F	
EX4600-40F	EX-QFX-MACSEC-AGG
EX4650-48Y-AFI/AFO EX4650-48Y-DC-AFI/AFO	EX4650-PFL (Premium) EX4650-AFL (Advanced)
EX3200-24P/T EX4200-24F/P/PX/T	EX-24-AFL
EX3200-48P/T EX4200-48F/P/PX/T	EX-48-AFL
EX4500-40F-BF/BF-C EX4500-40F-FB/FB-C	EX-48-AFL

Table 107: Legacy License SKUs for EX2300, EX3200, EX3400, EX4200, EX4300, EX4500, EX4550, EX6200, EX8200, EX9214, EX9208, and EX9250 Switches *(Continued)*

EX Series Switch Models	SKU
EX4550	EX4550-AFL
EX9204	EX9204-AFL
EX9208	EX9208-AFL
EX9214	EX9214-AFL

RELATED DOCUMENTATION

[Software Licenses for EX Series Switches](#) | 130

# Legacy Licensing for PTX Series Routers

## SUMMARY

Learn about the legacy feature licenses for PTX Series Routers.

The following tables describe the legacy licensing structure used on PTX-series routers prior to September 2025.

Table 108: Flex License SKUs for PTX

SKU	SKU Character Description
Perpetual licenses: S-PTX- <b>800G</b> -P1/P2/P3- <b>P</b> S-PTX- <b>72C</b> -P1/P2/P3- <b>P</b> S-PTX- <b>144C</b> -P1/P2/P3- <b>P</b> S-PTX- <b>288C</b> -A1/A2/P1/P2/P3- <b>P</b> Subscription licenses: S-PTX- <b>800G</b> -P1/P2/P3- <b>1/3/5</b> S-PTX- <b>72C</b> -P1/P2/P3- <b>1/3/5</b> S-PTX- <b>144C</b> - P1/P2/P3- <b>1/3/5</b> S-PTX- <b>288C</b> - A1/A2/P1/P2/P3- <b>1/3/5</b>	S—Software PTX— Product name: PTX line of routers <b>800G</b> — 4.8 Gbs <b>72C</b> — 7.2 Tbps <b>144C</b> —14.4 Tbps <b>288C</b> —28.8 Tbps A1/A2—Advanced 1 or advanced 2 software features P1/P2/P3—Premium 1 or premium 2 or premium 3 software features <b>1/3/5</b> —1 year, 3 years, or 5 years subscription <b>P</b> —Perpetual
Perpetual licenses: S-PTX10K- <b>400G</b> -A1/A2/P1/P2- <b>P</b> S-PTX10K- <b>48C</b> -A1/A2/P1/P2- <b>P</b> S-PTX10K- <b>108C</b> -A1/A2/P1/P2- <b>P</b> S-PTX10K- <b>144C</b> -A1/ A2/P1/P2- <b>P</b> Subscription licenses: S-PTX10K- <b>400G</b> -A1/A2/P1/P2- <b>1/3/5</b> S-PTX10K- <b>48C</b> -A1/A2/P1/P2- <b>1/3/5</b> S-PTX10K- <b>108C</b> -A1/A2/P1/P2- <b>1/3/5</b> S-PTX10K- <b>144C</b> -A1/A2/P1/P2- <b>1/3/5</b>	S—Software PTX10K— Product name: PTX10000 line of routers <b>400G</b> — 4.8 Gbps <b>48C</b> — 4.8 Tbps <b>108C</b> —10.8 Tbps <b>144C</b> —14.4 Tbps <b>PAR</b> —Partner A1/A2—Advanced 1 or advanced 2 software features P1/P2—Premium 1 or premium 2 or premium 3 software features <b>1/3/5</b> —1 year, 3 years, or 5 years subscription <b>P</b> —Perpetual

Table 108: Flex License SKUs for PTX (Continued)

SKU	SKU Character Description
Perpetual licenses:	S—Software
S-PTX10K3- <b>2T</b> -A1/A2/P1/P2- <b>P</b>	PTX10K3—Product name: PTX10003 line of routers
S-PTX10K3- <b>4T</b> -A1/A2/P1/P2- <b>P</b>	<b>2T</b> —2 Tbps
S-PTX10K3- <b>8T</b> -A1/ A2/P1/P2- <b>P</b>	<b>4T</b> —4 Tbps
S-PTX10K3- <b>16T</b> -A1/ A2/P1/P2- <b>P</b>	<b>8T</b> —8 Tbps
Subscription licenses:	<b>16T</b> —16 Tbps
S-PTX10K3- <b>4T</b> -A1/A2/P1/P2- <b>1/3/5</b>	PAR—Partner
S-PTX10K3- <b>8T</b> -A1/ A2/P1/P2- <b>1/3/5</b>	A1/A2—Advanced 1 or advanced 2 software features
S-PTX10K3- <b>16T</b> -A1/ A2/P1/P2- <b>1/3/5</b>	P1/P2—Premium 1 or premium 2 software features
	<b>1/3/5</b> —1 year, 3 years, or 5 years subscription
	<b>P</b> —Perpetual
Perpetual licenses:	S—Software
S-PTX- <b>AI-48C</b> -A1/A2- <b>P</b>	PTX—Product name:
S-PTX- <b>AI-108C</b> -A1/A2- <b>P</b>	<b>48C</b> — 4.8 Tbps
S-PTX- <b>AI-144C</b> - A1/A2- <b>P</b>	<b>108C</b> —10.8 Tbps
S-PTX- <b>AI-288C</b> -A1/A2- <b>P</b>	<b>144C</b> —14.4 Tbps
Subscription licenses:	<b>288C</b> —28.8 Tbps
S-PTX- <b>AI-48C</b> -A1/A2- <b>1/3/5</b>	<b>AI</b> — PTX800G-AI 28.8 Tbps
S-PTX- <b>AI-108C</b> -A1/A2- <b>1/3/5</b>	A1/A2—Advanced 1 or advanced 2 software features
S-PTX- <b>AI-144C</b> -A1/A2- <b>1/3/5</b>	<b>1/3/5</b> —1 year, 3 years, or 5 years subscription
S-PTX- <b>AI-288C</b> -A1/A2- <b>1/3/5</b>	<b>P</b> —Perpetual

Premium 3\*- The Premium 3 tier is only applicable to Express 5 products.

Table 109: PTX Series Routers License SKUs

PTX Series Routers	Perpetual SKUs with customer support	Perpetual SKUs without customer support	Subscription SKUs with customer support	Partner SKUs with customer support
PTX10000	PTX10KLC1201-36CD PTX10KLC1202-36MR	S-PTX10K-144C- A1/A2-P S-PTX10K-144C- P1/P2-P	S-PTX10K-144C- A1/A2-3/5 S-PTX10K-144C- P1/P2-3/5	S- PARPTX: 13/15/23 S- PARPTX: 13/15/23
PTX10001-36MR	PTX10001-36MR- AC PTX10001-36MR- DC	S-PTX10K-108C- A1/A2-P S-PTX10K-108C- P1/P2-P	S-PTX10K-108C- A1/A2-3/5 S-PTX10K-108C- P1/P2-3/5	S-PAR- PT10K10 23/25 S-PAR- PT10K10 /23/25
PTX10002-36QDD	PTX10002-36QDD PTX10002-36QDD /DDL-S	S-PTX-72C/144C/ 288C-P1/P2/P3-P S-PTX-AI-288C- A1/A2-P S-PTX-288C- A1/A2-P	S-PTX-72C/144C- P1/P2/P3-5/3/1* S-PTX-AI-288C-A1/ A2-5/3/1* S-PTX-288CA1/A2/P1/P2/ P3-5/3/1*	S-PAR- PTX-288 /13/23/25 S-PAR- PTX-288 13/15/23 23/25/30

Table 109: PTX Series Routers License SKUs (*Continued*)

PTX Series Routers	Perpetual SKUs with customer support	Perpetual SKUs without customer support	Subscription SKUs with customer support	Partner S customer
PTX10003	PTX10003-160C-AC	S-PTX10K3-16T-A1/A2-P	S-PTX10K3-16T-A1/A2-3/5	Not Supp
	PTX10003-160C-DC	S-PTX10K3-16T-P1/P2-P	S-PTX10K3-16T-P1/P2-3/5	
	PTX10003-80C-AC	S-PTX10K3-8T-A1/A2-P	S-PTX10K3-8T-A1/A2-3/5	
	PTX10003-80C-DC	S-PTX10K3-8T-P1/P2-P	S-PTX10K3-8T-P1/P2-3/5	

\*One year subscription SKUs are for renewal only.

## Legacy Licensing for QFX Series Switches

### SUMMARY

Learn about the legacy feature licenses for QFX Series Switches.

Table 110: License SKUs for QFX10K devices

Feature ID	Licensed Feature	SKUs
4242	BGP, ISIS, VxLAN, ovsdb	S-QFX10K2-36Q-A2-3/5/P
		S-QFX10K2-60C-A2-3/5/P
		S-QFX10K2-72Q-A2-3/5/P

Table 110: License SKUs for QFX10K devices *(Continued)*

Feature ID	Licensed Feature	SKUs
		S-QFX10K8-A2-3/5/P
		S-QFX10K16-A2-3/5/P
4178	BGP, ISIS, VxLAN, ovssdb, MPLS	S-QFX10K2-36Q-P1-3/5/P
		S-QFX10K2-60C-P1-3/5/P
		S-QFX10K2-72Q-P1-3/5/P
		S-QFX10K8-P1-3/5/P
		S-QFX10K16-P1-3/5/P

Table 111: Legacy Feature Licenses for QFX5100, QFX5110, QFX5120, QFX5200-32C, QFX5210-64C and QFX10000 Line of Switches

Base Features	Premium Features	Advanced Features
Basic IPv6	BGP	MPLS
BFD	Ethernet VPN	MPLS-based
CFM (IEEE 802.1ag)	IPv6 for BGP/MBGP	RSVP-based
Class of service (COS)/Policing/Shaping/Marking	IS-IS	Segment Routing
Filtering	IS-IS for IPv6	
IGMPv1/v2/v3 (includes IGMP Snooping)	MBGP	
Junos Telemetry Interface	OVSDB	
MC-LAG	VRF(BGP)	
MLDv1/v2	VXLAN	

**Table 111: Legacy Feature Licenses for QFX5100, QFX5110, QFX5120, QFX5200-32C, QFX5210-64C and QFX10000**  
*(Continued)*

Base Features	Premium Features	Advanced Features
OSPFv2		
OSPFv3		
PIM-DM/SM/SSM		
PIMv6		
Q-in-Q tunneling (IEEE 802.1ad)		
RIPng		
RPM		
PTP – Boundary Clock		
PTP – Transparent Clock		
Unicast reverse-path forwarding (RPF)		
Virtual Chassis (VC) Applicable also for QFX5200-48Y switches.		
Virtual Router		
VRRP		
VRRPv6		
Zero Touch Provisioning (ZTP)		
Q-in-Q tunneling (IEEE 802.1ad)		
RIPng		

**Table 111: Legacy Feature Licenses for QFX5100, QFX5110, QFX5120, QFX5200-32C, QFX5210-64C and QFX10000 L**  
*(Continued)*

Base Features	Premium Features	Advanced Features
RPM		
PTP – Boundary Clock		

**Table 112: Legacy Feature Licenses for QFX5200-48Y and QFX5200-32C-L switches**

Base Features	Premium Features	Advanced Features
Basic IPv6	BGP	MPLS
BFD	Ethernet VPN	MPLS-based
CFM (IEEE 802.1ag)	IPv6 for BGP/MBGP	RSVP-based
Class of service (COS)/Policing/Shaping/Marking	IS-IS	Segmentation
Filtering	IS-IS for IPv6	
IGMPv1/v2/v3 (includes IGMP Snooping)	MBGP	
Junos Telemetry Interface	OVSDB	
MLDv1/v2	MC-LAG	
OSPFv2	VXLAN	
OSPFv3	Virtual Chassis (VC) Except for QFX5200-48Y switches.	
PIM-DM/SM/SSM		
PIMv6		
Q-in-Q tunneling (IEEE 802.1ad)		

Table 112: Legacy Feature Licenses for QFX5200-48Y and QFX5200-32C-L switches *(Continued)*

Base Features	Premium Features	Advanced Features
RIPng		
RPM		
PTP – Boundary Clock		
PTP – Transparent Clock		
Unicast reverse-path forwarding (RPF)		
Virtual Router		
VRRP		
VRRPv6		
Zero Touch Provisioning (ZTP)		

- If you try to configure a feature that is not licensed, you will receive syslog messages saying that you are using a feature that is licensable and that you do not possess a license for the feature. If you try to commit configuration changes for a feature that is not licensed, you will receive a commit warning saying that you have exceeded the allowed license limit for the feature. The feature will commit and be usable, but this action violates EULA agreement.
- On QFX5100 and QFX5110, there is no separate license for Virtual Chassis like there is for Virtual Chassis Fabric.
- Premium Feature Licenses (PFL) include the Base License Features. Advanced Feature Licenses (AFL) include the Base and Premium License Features.

Table 113: Legacy Feature Licenses Scale and License SKUs

License	Description	Number of Licenses Required	QFX Devices Supported
Base	Features included with the switch - No License required	-	-

Table 113: Legacy Feature Licenses Scale and License SKUs *(Continued)*

License	Description	Number of Licenses Required	QFX Devices Supported
QFX-JSL-EDGE-ADV1	QFX Series Edge Advanced Feature License	One per switch, two per Virtual Chassis, and two per Virtual Chassis Fabric	QFX3500, QFX3600, QFX5100-48S, QFX5100-48T
QFX5100-HDNSE-LIC	QFX5100-24Q and QFX5100-96S Advanced Feature License	One per switch, two per Virtual Chassis, and two per Virtual Chassis Fabric	QFX5100-24Q, QFX5100-96S
QFX5K-C2-PFL	QFX5000 Class 2 Premium Feature License	One per switch	QFX5210-64C
QFX5K-C2-AFL	QFX5000 Class 2 Advanced Feature License	One per switch	QFX5210-64C
QFX-JSL-EDGE-FC	QFX Series Edge feature license for Fibre Channel	One per switch on which fibre channel ports are configured	QFX3500
EX-QFX-MACSEC- AGG	QFX and EX Series feature license for enabling Media Access Control security (MACsec).	One per switch, two per Virtual Chassis	QFX switches that support MACsec
QFX10000-30C-LFIB	1 million (v4 or v6) Forwarding Information Base (FIB) entries license	One per line card	QFX10000-30C, QFX10K-12C-DW, line cards
QFX10000-36Q-LFIB	1 million (v4 or v6) Forwarding Information Base (FIB) entries license	One per line card	QFX10000-36Q, QFX10K-12C-DW, line cards

**Table 113: Legacy Feature Licenses Scale and License SKUs (Continued)**

License	Description	Number of Licenses Required	QFX Devices Supported
QFX10000-60S-LFIB	1 million (v4 or v6) Forwarding Information Base (FIB) entries license	One per line card	QFX10000-60S-60C
QFX10002-36Q-LFIB	1 million (v4 or v6) Forwarding Information Base (FIB) entries license	One per switch	QFX10002 36-port QSFP+/12-port 10G QSFP28 switch
QFX10002-60C-LFIB	1 million (v4 or v6) Forwarding Information Base (FIB) entries license	One per switch	QFX10002-60C
QFX10002-72Q-LFIB	1 million (v4 or v6) Forwarding Information Base (FIB) entries license	One per switch	QFX10002-72Q

### Understanding Junos Fusion Licenses

New deployments for Multichassis link aggregation groups (MC-LAG) or Ethernet VPN (EVPN) based Junos Fusion Data Center are not recommended.

Starting with Junos OS Release 17.2R1, you need to install a Junos Fusion license in addition to any other feature licenses that you install to track and activate certain QFX5100-48SH and QFX5100-48TH models that are shipped with satellite software. These models can only be used as satellite devices. For these models, you need to install a Junos Fusion license in addition to any other feature licenses that you install. See Table 80 on page 207 for a list of satellite devices that require Junos Fusion licenses.

You do not need Junos Fusion licenses for satellite device models that were purchased as Junos OSbased top-of-rack switches.

Install the Junos Fusion licenses on the aggregation device because the aggregation device is the single point of management in a Junos Fusion. If your Junos Fusion is operating in a topology with multiple aggregation devices, you only need to install the licenses on one aggregation device because the license keys are synchronized between the two aggregation devices.

You can install a single-pack license to activate one satellite device, or you can install multi-pack licenses, which can activate up to 128 satellite devices. If the number of satellite devices in a Junos Fusion exceeds the number of Junos Fusion licenses you have installed, the satellite devices are provisioned, but the system will issue a warning saying that there is a license limit violation. If the

satellite device does not have a corresponding Junos Fusion license installed, the satellite device is provisioned, but the system will issue a warning.

[Table 114 on page 240](#) lists the supported aggregation and satellite devices as well as the model numbers of the Junos Fusion license packs.

For information about how to purchase a software license, contact your Juniper Networks sales representative. For information on standard Junos OS feature licenses, see [Table 111 on page 234](#).

**Table 114: Junos Fusion License Model Numbers for Satellite Devices**

Aggregation Devices Supported	Satellite Devices Requiring Licenses	Model Numbers of License Packs
QFX10002, QFX10008 and QFX10016 switches	<ul style="list-style-type: none"> <li>QFX5100-48SH-AFO</li> <li>QFX5100-48SH-AFI</li> <li>QFX5100-48TH-AFO</li> <li>QFX5100-48TH-AFI</li> </ul>	QFX10K-C1-JFS-1 QFX10K-C1-JFS-4 QFX10K-C1-JFS-8 QFX10K-C1-JFS-16 QFX10K-C1-JFS-32 QFX10K-C1-JFS-64

### Disaggregated Software Feature Licenses on QFX5200 Switches

The disaggregated software feature licenses are only applicable for QFX5200-32C devices. For QFX5200-48Y devices, the base software features are included with the device. Additional licenses are required only for premium and advanced features.

The Junos OS software is disaggregated from the hardware. With disaggregated Junos OS, you can purchase the following feature licenses, which are available on a perpetual basis:

- Junos Base Software (JBS) license:

Includes basic layer 2 switching, basic layer 3 routing, multicast, automation, programmability, Zero Touch Provisioning (ZTP) and basic monitoring.

You must purchase the JBS license to use basic functions, but you do not need to install the license key in Junos OS Release 15.1X53-D30. JBS basic functions work with this release without installing the license key. However, you will need to install the license key in a future release of Junos OS to be determined, so make sure to retain the authorization code you received from the license portal to generate a license key for the JBS license. If the license is not installed, the system triggers the log messages.

- Junos Advanced Software (JAS) license:

Includes features supported in JBS license and Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS), and Virtual Extensible Local Area Network (VXLAN). You need to install the license key to use these features.

- Junos Premium Software (JPS) license:
- Includes features supported in JAS license and Multi-protocol Label Switching (MPLS) feature set. You need to install the license key to use these features.

For information about how to purchase a software feature license, contact your Juniper Networks sales representative.

License SKU	Description	Number of Licenses Required	QFX Devices Supported
QFX5000-35-JBS	Junos base software (JBS) license	One per switch	QFX5200-32C

#### Software Features That Require Licenses on the QFX5200-32C Switch

The standard Junos OS software shipped on the hardware platform for QFX5200-32C switch does not include a perpetual base license.

You must purchase the perpetual base license on the disaggregated Junos OS feature licenses on the QFX5200-32C. This license is valid for the life of the hardware platform.

For information about how to purchase any software license, contact your Juniper Networks sales representative, or an approved [Juniper Partner](#).

If you try to configure a feature that is not licensed, you will receive syslog messages saying that you are using a feature that is licensable and that you do not possess a license for the feature. If you try to commit configuration changes for a feature that is not licensed, you will receive a commit warning saying that you have exceeded the allowed license limit for the feature. The feature will commit and be usable, but this action violates EULA agreement.

Premium Feature Licenses (PFL) include the Base License Features. Advanced Feature Licenses (AFL) include the Base and Premium License Features.

Use the QFX5000-35-JBS SKU for Junos base software (JBS) licenses.

#### RELATED DOCUMENTATION

[Software Licenses for QFX Series Switches](#) | 186