



Junosphere

Frequently Asked Questions

Release

3.0



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Junosphere Frequently Asked Questions

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

YEAR 2000 NOTICE

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

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

By downloading, installing or using such software, you agree to the posted [Terms of Use for Junosphere](#).

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About the Documentation

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Documentation and Release Notes

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.


If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <http://www.juniper.net/books>.

Documentation Conventions

[Table 1 on page vii](#) defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.

[Table 2 on page vii](#) defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the configure command: user@host> configure

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
Fixed-width text like this	Represents output that appears on the terminal screen.	<code>user@host> show chassis alarms</code> <code>No alarms currently active</code>
<i>Italic text like this</i>	<ul style="list-style-type: none"> Introduces important new terms. Identifies book names. Identifies RFC and Internet draft titles. 	<ul style="list-style-type: none"> A policy <i>term</i> is a named structure that defines match conditions and actions. <i>Junos OS System Basics Configuration Guide</i> RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# set system domain-name <i>domain-name</i>
Text like this	Represents names of configuration statements, commands, files, and directories; interface names; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none"> To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level. The console port is labeled CONSOLE.
< > (angle brackets)	Enclose optional keywords or variables.	<code>stub <default-metric metric>;</code>
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	<code>broadcast multicast</code> <code>(string1 string2 string3)</code>
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	<code>rsvp { # Required for dynamic MPLS only</code>
[] (square brackets)	Enclose a variable for which you can substitute one or more values.	<code>community name members [</code> <code>community-ids]</code>
Indentation and braces ({ })	Identify a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop address; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

Requesting Technical Support

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

CHAPTER 1

Frequently Asked Questions About Junosphere

- [What is Junosphere? on page 11](#)
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- [What are the differences between the Classroom and Lab services? on page 13](#)
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What is Junosphere?

Junosphere Cloud is the industry's first cloud-based virtual network environment where you can create and operate networks of virtual machines running various flavors of Junos operating system. It is realistic, scalable, flexible, cost-effective, and interoperable with physical testing environments. The behaviors of the devices in Junosphere are identical to the corresponding physical network elements. Unlike a physical lab, you can easily scale up or down the size of your virtual network. It is also very flexible as you can change your topologies and configurations easily and quickly as many times as you want.

Related Documentation

- [Why should I use Junosphere? on page 12](#)
- [What are the differences between the Classroom and Lab services? on page 13](#)
- [What are the components of Junosphere? on page 12](#)

Why should I use Junosphere?

You can use Junosphere for these purposes:

- To conceptualize, visualize, and emulate your network with a few button clicks when you design a new network.
- To stress-test a new network or pretest a new implementation after designing and configuring the nodes. Moreover, by creating a replica of an existing physical network, you can troubleshoot it in the safety of a risk-free virtual environment.
- To test the service functionality on virtual devices, obviating the need to purchase expensive physical lab hardware when you are developing new services with the Junos SDK.
- To train new hires on Junos OS and to train experienced operators on the particulars of your complex networks.

Related Documentation

- [What is Junosphere? on page 11](#)
- [What are the differences between the Classroom and Lab services? on page 13](#)
- [What are the components of Junosphere? on page 12](#)

What are the components of Junosphere?

You access the Junosphere GUI through a Web browser. The Junosphere GUI allows users to create, modify, launch, and join topologies. It also facilitates management of users and purchased virtual machine (VM) unit capacity.

To provide a complete modeling environment, Junosphere supports this ecosystem:

- **Virtual Routers**—Virtual routers are virtualized software versions of Juniper Networks hardware devices that consist of unmodified Junos OS on a KVM hypervisor running on a generic x86 platform. Currently, Junosphere hosted devices include VJX (virtual J Series router), Firefly Perimeter (virtual Services Gateway), BGP Feed (BGP Service), and VPTX (virtual Packet Transport Router).
- **Junosphere Connector**—Junosphere Connector is the client/server software that enables an SSH tunnel to connect the virtual network environment in the Junosphere public cloud with the physical network on customer's premises anywhere in the world. This also provides support for multivendor environments.
- **Junos Space**—Junos Space can be run within Junosphere to manage your virtual network.
- **Guest OS Images**—While we expect that most people will want to load VJX1000 as their OS, we also provide a CentOS VM so customers can run their own CentOS applications, as well as third-party applications on CentOS.
- **Partner products**—Junosphere Lab is intended to provide a complete and realistic lab environment and we are working with partners to make partner applications available. Today, the partners with applications available in Junosphere include Mu Dynamics,

Packet Design, and WANDL. These are included in Junosphere's usage-based pricing model, wherein it takes one VM unit to run each partner VM for one day. There are no additional license fees.

- Related Documentation**
- [What is Junosphere? on page 11](#)
 - [Why should I use Junosphere? on page 12](#)
 - [What are the differences between the Classroom and Lab services? on page 13](#)

What are the differences between the Classroom and Lab services?

There is not much difference except that they cater to different audiences. The public library contains a few topologies that are relevant to each category.

- Related Documentation**
- [What is Junosphere? on page 11](#)
 - [Why should I use Junosphere? on page 12](#)
 - [What are the components of Junosphere? on page 12](#)

Are there any required settings to work with Junosphere Cloud?

Junosphere Cloud requires these settings:

- Use only Firefox 19 and later or Internet Explorer 9 and later as Web browsers.
- Install the latest Java plug-in (Java 7 Update 25 or later).
- Enable pop-ups for junosphere.net.
- Allow downloads from junosphere.net.



NOTE: As Junosphere is a Software as a Service (SaaS) product, there are no specific requirements regarding your local client CPU for storage, memory, and so forth.

- Related Documentation**
- [What is Junosphere? on page 11](#)
 - [Why should I use Junosphere? on page 12](#)
 - [What are the components of Junosphere? on page 12](#)

Can I load my own virtual device into Junosphere Cloud?

No, customers do not have access to Junosphere Cloud to load their own virtual devices; if there is a compelling business need for a specific device (or a specific Junos OS version) we would be happy to discuss that with you.

- Related Documentation**
- [What is Junosphere? on page 11](#)
 - [Why should I use Junosphere? on page 12](#)
 - [What are the components of Junosphere? on page 12](#)

Do you have APIs for scripting and automation?

Yes, the Junosphere user interface is based entirely on RESTful APIs. For examples of some common tasks, refer to the *Junosphere API Developer Guide*.

- Related Documentation**
- [What is Junosphere? on page 11](#)
 - [Why should I use Junosphere? on page 12](#)
 - [Junosphere API Developer Guide](#)

Can I get a free trial of Junosphere?

Yes, we are currently running a Junosphere Test Drive program that allows customers to access the service on a trial basis for a limited time. For test drive information, refer to https://junosphere.net/junosphere/html/test_drive.html. The Junosphere Test Drive provides 30 days of free access to full-featured Junosphere so customers or partners can evaluate the power of this solution. Upon the expiration of the test drive, the customers or partners can decide to purchase Junosphere for their use.

- Related Documentation**
- [How do I order Junosphere? on page 15](#)
 - [What am I ordering? on page 15](#)

CHAPTER 2

Junosphere Ordering and Fulfillment

- [How do I order Junosphere? on page 15](#)
- [What am I ordering? on page 15](#)
- [How much capacity should I buy? on page 16](#)
- [How do the Junosphere SKUs work? on page 16](#)
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How do I order Junosphere?

You can purchase Junosphere in two ways:

- By the standard PO process
- With a credit card

If you purchase Junosphere with a credit card, use the [Juniper Learning Portal](#) link to place an order.

Credit card use is designed for individuals who want to buy time in Junosphere (typically, people who are studying for the JNCIE) and companies that find it easier to use credit cards for purchases.

If you need help with ordering, send an e-mail to Junosphere_schedule_admin@juniper.net.

Related Documentation

- [What am I ordering? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)

What am I ordering?

When you order a Junosphere SKU, you are buying capacity in Junosphere. In order for you to design, test, or train on Junosphere, you must have capacity in your account in your Junosphere bank. With the PO process or a credit card purchase, you are prepaying for

capacity that you want to use. This is similar to buying a prepaid calling card in that you can use your capacity when you want it.

**Related
Documentation**

- [How do I order Junosphere? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)

How much capacity should I buy?

The capacity needed would depend on each customer use case and various evaluation parameters. Evaluation parameters include the number of network elements, number of topologies to run, the duration of the project, and so forth. Use the Junosphere Capacity Calculator to find the most cost-effective SKU for individual usage. The Junosphere Capacity Calculator is available in the Junosphere toolbox at <https://junosphere.net/junosphere/html/toolbox.html>.

There are two types of capacity you can order:

- Regular capacity, which is based on a specific number of VM units that are ordered on an as-needed basis and used through reservations.
- Annual plan capacity, which provides a fixed number of VM units for a full year. Topologies can be run as frequently or rarely as needed. There is no need for a reservation and no need to purchase additional capacity. This plan also provides additional overflow capacity of a fixed VM unit amount.

In the Annual Plan, overflow capacity is supplemental regular capacity that allows a customer to go beyond the daily limit of the Annual Plan for a fixed amount of time. For example, the 100 VM unit Annual Plan has 2000 VM units of overflow capacity. This allows you to run a topology of 200 VM units (100 VM units included in the Annual Plan and 100 VM units from the overflow capacity) for 20 days, 150 VM units for 40 days, 110 VM units for 200 days, and so on. It is expended on the same pay-per-use basis as other regular Lab and Classroom (non-annual plan) capacity.

**Related
Documentation**

- [How do I order Junosphere? on page 15](#)
- [What am I ordering? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)

How do the Junosphere SKUs work?

Each Junosphere SKU provides a specific amount of VM units. A VM unit is the amount of capacity needed to run one basic virtual machine (VM) for one day. Every virtual network device in Junosphere has a cost of at least one VM unit.

For example, the first SKU shown in [Table 3 on page 17](#) gives $2 \times 10 \times 30 = 600$ VM units. Such a capacity can be used to run a very large topology of 300 basic VMs for two days or a small topology of five basic VMs for 120 days.

The second SKU provides 50 VM units at any time and unlimited connectors. It also provides 1000 VM units of overflow capacity. In the Annual Plan, overflow capacity is supplemental regular capacity that allows a customer to go beyond the daily limit of the Annual Plan for a fixed amount of time. For example, the 100 VM unit Annual Plan has 2000 VM units of overflow capacity. This allows you to run a topology of 200 VM units (100 VM units included in the Annual Plan and 100 VM units from the overflow capacity) for 20 days, 150 VM units for 40 days, 110 VM units for 200 days, and so on. It is expended on the same pay-per-use basis as other regular Lab and Class (non-annual plan) capacity.

The third SKU provides 30 Junosphere Connectors to connect the virtual topology with the physical lab.

Table 3: Sample SKU Orders

SKU	Description	Quantity
JUS-LAB-10VM-30	Provides 300 VM units (10 x 30) regular capacity, with images and tools	2
JUS-ANNUAL-PLAN-50	Provides 50 VM unit annual plan, includes 50 VM units at any time and 1000 VM units of overflow capacity with unlimited Junosphere Connectors	1
JUS-CONNECTOR-30	Connects Junosphere to physical lab and transfers data at 1 Mbps for 30 days	1

Related Documentation

- [How do I order Junosphere? on page 15](#)
- [How does the Junosphere Connector SKU work? on page 17](#)
- [What am I ordering? on page 15](#)

How does the Junosphere Connector SKU work?

The Junosphere Connector SKU—JUS-CONNECT-1—provides the customer with one Junosphere Connector tunnel and the ability to transfer 1 Mbps of data for one day. If you need to have multiple connections with the physical lab, you will have to purchase more Junosphere Connectors.

For example, the JUS-CONNECTOR-30 SKU connects the virtual topology to physical lab and transfers data at 1 Mbps for 30 days.

Related Documentation

- [How do I order Junosphere? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)

What happens after I place a PO or credit card order with Juniper Networks?

When you place a purchase order (PO) or credit card order, the following events occur in order for you to gain access to Junosphere.

1. After you place an order, you will receive an e-mail from RTU-SENDER with authorization codes and instructions.
2. Follow the instructions in the e-mail.
 - a. Log in to the [Juniper Customer Support](#) site.
 - b. Enter your authorization codes.
 - c. Set up your bank.

The bank is created in Junosphere.
3. You receive a WELCOME e-mail from Junosphere Administrator - No Reply. The e-mail includes your login credentials and a two-page *Getting Started* guide.
4. Log in to Junosphere and set up your sandboxes, user accounts, and libraries.

To learn more about ordering capacity, visit the Junosphere toolbox at <https://junosphere.net/junosphere/html/toolbox.html>.

Related Documentation

- [How does the Junosphere Connector SKU work? on page 17](#)
- [How do I order Junosphere? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)

What are the most common mistakes made when setting up a Junosphere account?

The following list shows the most common mistakes made:

- Wrong Contact—Your contact must be someone who is involved in using Junosphere, not an administrator or purchasing agent. Make sure that the best customer e-mail is listed on your order.
- Missed E-mail with authorization codes—You do not notice the first e-mail that contains the authorization codes. You must enter this information to set up the account. Look in the Junk E-mail folder for the e-mail or contact JTAC to make sure that you have started your account.
- Missed WELCOME E-mail—You do not notice the second e-mail with your account credentials. Look in the Junk E-mail folder for the e-mail or contact JTAC to make sure that you have received your account credentials.

Related Documentation

- [How does the Junosphere Connector SKU work? on page 17](#)
- [How do I order Junosphere? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)

How long does it take to set up a Junosphere account?

Order processing time is three to five business days, depending upon whether you order by PO or credit card. After you receive and enter your authorization codes, credentials are sent immediately.



NOTE: RTU authorization codes are sent to you via e-mail and you must take action to register the codes. To expedite the setup of your Junosphere account, make sure you register your authorization codes as soon as you receive them.

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- [How do I order Junosphere? on page 15](#)
- [How do the Junosphere SKUs work? on page 16](#)
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CHAPTER 3

Junosphere Capacity Usage

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- [Do I have to use my time contiguously? on page 21](#)
- [Can I buy an “always on” or long-term license? on page 22](#)
- [Can I continue using my topology for another day even though the reservation will end? on page 22](#)
- [What happens after my purchased time runs out? on page 23](#)

What are VM units and how do they work?

Junosphere is ordered and consumed based on the concept of a virtual machine unit (VM unit). VM units are purchased in increments of 10. A single VM unit allows you to run the basic images available within Junosphere—including the VJX Series, Junos Space, and all partner images—for a period of 24 hours. More advanced images may require using more than one VM unit. Ordering a quantity of one gives you access to 10 VM units. After 24 hours, the spent capacity is removed from your bank. For instance, if you have 10 VM units in your bank and you started a topology consisting of a single virtual device, after 24 hours you would be left with $10 - 1 = 9$ VM units in your bank.

Related Documentation

- [What am I ordering? on page 15](#)
- [How much capacity should I buy? on page 16](#)

Do I have to use my time contiguously?

You do not need to use your time contiguously. However, the time you buy will expire one year after purchase.

You can schedule the time any way you want in increments of whole days. For example, if you buy the JUS-LAB-10VM-30 SKU, you would have access to 300 VM units, each of which can run one basic VM for one day. So you could use all 300 VM units in one day, use 75 VM units for one day once a week for four weeks, use 20 VM units every other day for a month, and so on.



NOTE: The only exception is the free test drive we offer customers. The Junosphere Test Drive must be scheduled in a contiguous fashion.

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Can I buy an “always on” or long-term license?

Yes. In fact, we expect our largest customers to buy Junosphere on a long-term or yearly basis. Currently, Junosphere offers an Annual Plan in three sizes—10, 50, and 100 VM units per day. In the Annual Plan, the customer has that amount of capacity each day, irrespective of prior usage. Each of these plans bundles different amounts of extra, or overflow, capacity to supplement the fixed daily capacity as well as the daily amount of Junosphere Connectors. The purchase price of the three Annual Plans is \$20,000, \$100,000, and \$200,000 for the 10, 50, and 100 VM unit plan, respectively.

In the Annual Plan, overflow capacity is supplemental regular capacity that allows a customer to go beyond the daily limit of the Annual Plan for a fixed amount of time. For example, the 100 VM unit Annual Plan has 2000 VM units of overflow capacity. This allows you to run a topology of 200 VM units (100 VM units included in the Annual Plan and 100 VM units from the overflow capacity) for 20 days, 150 VM units for 40 days, 110 VM units for 200 days, and so on. It is expended on the same pay-per-use basis as other regular Lab and Classroom (non-annual plan) capacity.

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Can I continue using my topology for another day even though the reservation will end?

Yes, you can continue using your started topology by making another reservation for the same number of VM units that starts before your current reservation is about to end. Junosphere will identify another reservation in the same sandbox and will not stop the topology.

- Related Documentation**
- [What am I ordering? on page 15](#)
 - [How do the Junosphere SKUs work? on page 16](#)

What happens after my purchased time runs out?

When your purchased time expires, the VM topology will be shut down by Junosphere. You can still access Junosphere, but you cannot launch new topologies. You can download and store your topologies and configurations on your own machines and bring them back for use later if you buy additional capacity.

Related Documentation

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