

JUNOSPHERE RELEASE NOTES

Release 1.6

28 October 2011

These release notes cover Junosphere Release 1.6. If the information in these release notes differs from the information found in the published documentation set, follow these release notes.

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Release Overview

If the information in your current release notes differs from the information found in the other documentation sources, follow the *Junosphere Release Notes*.

Before You Begin

Before you use your new software, read these release notes in their entirety, especially the section “Known Problems and Limitations.” You need the following documentation to fully understand all the features available in Release 1.6:

- These *Junosphere Release Notes*
- The *Junosphere User Guide*, which provides detailed information about features available in Release 1.6

The entire documentation set, including the release notes, is available in PDF format on the Juniper Networks Web site:

http://www.juniper.net/techpubs/en_US/release-independent/junosphere/information-products/pathway-pages/junosphere/product/index.html

Junosphere Release Highlights

Junosphere provides a virtual network environment in which you can configure network devices in the same manner as on a physical network.

New Junosphere Features

The major features of Junosphere Release 1.6 are:

- The addition of a Junosphere Topology Builder tool into the base Centos image.
- The addition of a Cariden MATE virtual machine image.
- The addition of a Mu Dynamics Test Suite virtual machine image.
- The addition of a WANDL IP/MPLSView Integration Module for Junosphere Lab.
- The addition of PC hardware requirements.
- Updates to backend applications that are not visible to users.

Supported Browsers

Junosphere supports the same browsers as Secure Access 7.1R1, the technology behind the Junosphere Access Portal Page. You can find related information in the latest Supported Platforms guide listed on http://www.juniper.net/techpubs/en_US/sa7.1/information-products/pathway-pages/sa-series/index71.html.

Junosphere Connector Hardware Requirements

The PC requirements to support the Junosphere Connector software are:

- 2 GB RAM
- 1 GB free disk space
- Two Ethernet cards
- VM Player

Junos Software Requirement

You need an application providing SSH or telnet such as Virtual Network Computing (VNC).

Images

Junosphere provides a range of virtual machine image files, depending on the services you purchased. Current virtual image files for this release are listed in Table 1 on page 4. Older virtual image files for this release are listed in Table 2 on page 5. See the virtual machine image descriptions in the online help for information about using and installing the images.

Table 1: Current Virtual Machine Images

Disk Name	Description	Technical Support Provider
VJX1000_LATEST	Latest qualified VJX1000 image This currently maps to VJX1000_10_3R2_3	Juniper Technical Assistance Center (JTAC)
VJX1000_10_3R2_3	Junos OS Release 10.3R2 for VJX1000	JTAC
VJX1000_10_3R1_0_EXP	Unqualified Junos OS Release 10.3R1 for VJX1000	NA
VJX1000_12_1_1_EXP	Unqualified Junos OS Release 12.1R1.1 for VJX1000	NA
SPACE_LATEST	Latest qualified Junos Space image. This currently maps to SPACE_11_2R1_4	JTAC
SPACE_11_2R1_4	Junos Space Release 11.2R1	JTAC
SPACE_11_1R1_8	Junos Space Release 11.1R1	JTAC
BGP_SERVICE	Latest qualified BGP Service image	JTAC
Cariden_MATE_LATEST	Latest qualified Cariden MATE image. This currently maps to Cariden MATE 4.5.1	Cariden
CENTOS_5_3	CentOS 32-bit image	NA
CENTOS64_5_4	CentOS 64-bit image	NA
MU_STUDIO_LATEST MU_TESTENGINE_LATEST	Latest qualified Mu Studio and Test Engine images. This currently maps to Mu Studio 6.1	Mu Dynamics

REX_LATEST	Latest qualified Virtual Route Explorer image This is currently maps to REX_9_3	Packet Design
REX_9_3	Virtual Route Explorer Release 9_3	Packet Design
SPIRENT_LATEST	Latest qualified Virtual Spirent TestCenter image	Spirent

Table 2: Older Virtual Machine Images

These images have newer versions available but are still supported by Junosphere for upgrade or legacy testing.

Disk Name	Description	Technical Support Provider
VJX_12_1_0_EXP	Unqualified Junos OS Release 12.1R1 for VJX1000	NA
VJX1000_10_3R2_2	Junos OS Release 10_3R2_2 for VJX1000	Juniper Technical Assistance Center (JTAC)
VJX1000_10_3R2_1	Junos OS Release 10_3R2_1 for VJX1000	JTAC

VJX1000 Image

By default, the VJX image is configured with a root and non-root user account. The root username is root and the password is **Clouds**. The non-root username is **juniper** and the password is **Clouds**.

Customers running VJX1000 virtual machines based on Release 10.3 of Junos OS for J Series routers will now see new messages during bootup and during commit. The messages will be of the form:

```
/config/license/JNX_LICENSE_TMP.lic:1:(0) JNX_LICENSE_TMP: serial number too large
```

These messages are benign and can be safely ignored.

VJX1000 Image Features

The VJX1000 image supports the following software features in Junos OS Release 10.3:

- IPv4
- IPv6
- OSPF
- BGP
- IS-IS
- MPLS

- L3VPN
- L2VPN
- VPLS
- MPLS-TE
- RSVP
- Multicast
- L2Circuit (PWE3)
- BGP-labeled unicast
- XML
- ISISv6
- OSPFv3
- Ethernet CCC
- The Layer 2 services and CoC support is the same as for J Series routers
- Only forwarding in packet mode has been qualified

VJX Image for Junos OS Release 12.1

The VJX_12_1_0_EXP image is unqualified and based on Junos OS Release 12.1, an early, experimental release. Documentation is not available. The VJX_12_1_0_EXP VJX image runs with a license to prevent unauthorized use. After 30 days of continuous operation, the license expires and the VJX image will halt.

Junos Space Image

This release supports two Junos Space versions:

- SPACE_11_2R1_4
- SPACE_11_1R1_8

In order to use Junos Space in your network topology, refer to the online help file.

BGP Services Image

This release adds support for the following BGP Services image: BGP_SERVICES

Please note that the IPv6 BGP feed is not supported for the current release in Junosphere.

Cariden MATE Image

This release adds support for the Cariden MATE 4.5.1 image.

CentOS Image

This release supports two CentOS Linux versions:

- CENTOS_5_3 for 32 bits
- CENTOS64_5_4 for 64 bits

The Junosphere Centos virtual machine images now contain iperf, mgen, and wireshark and Junosphere Topology Builder.

iperf is a network testing tool that can create TCP and UDP data streams and measure the throughput of a network that is carrying them.

mgen is open source software that provides the ability to perform IP network performance tests and measurements using TCP and UDP/IP traffic.

wireshark is an open source network protocol analyzer.

Junosphere Topology Builder is a spreadsheet to collect network topology information and build network topology filesets.

Mu Studio and Mu Test Engine Images

This release adds support for Mu Studio and Mu Test Engine from Mu Dynamics. The tools enable you to quickly and accurately recreate thousands of different applications to determine how they impact the network infrastructure from a performance and security perspective.

Packet Design REX Images

This release includes support for the following Packet Design Route Explorer images:

- REX_LATEST
- REX_9_3

Virtual Spirent TestCenter Image

This release includes support for the latest qualified Spirent image:

Tools

Junosphere has several tools that sit outside the cloud and provide services to help you develop your network topology.

Table 3: Tools

Tool Name	Description	Technical Support Provider
Junosphere Topology Builder	This is a tool that allows a user to describe their topology using Google docs and convert it into Junosphere topology fileset.	NA
WANDL IP/MPLSView Integration Module for Junosphere Lab	Latest qualified module. This is currently maps to version 5.5.3	WANDL

WANDL IP/MPLSView Integration Module for Junosphere Lab

Create, model, and simulate a Juniper network in WANDL IP/MPLSView and build a Junosphere topology file in the Integration Module.

Network Topology Release Highlights

This section covers the network topology release highlights.

VJX1000 Network Management

All relevant platform manageability components of Junos OS Release 10.3 for J Series routers are supported (such as CLI, SNMP, traps, and logs). The only difference compared to current physical routers is that the virtual routers have virtual interface adapters.

VJX1000 CLI Support

For supported features on the network devices, you can use the CLI features of Junos OS Release 10.3 for J Series routers.

VJX1000 Junos OS Documentation

For help on supported features on the network devices, you can use the documentation of the release supported by Junos OS Release 10.3 for J Series routers.

The Junos OS Release 10.3 documentation can be found at:

<http://www.juniper.net/techpubs/software/junos-jseries/junos-jseries10.3/index.html>

VJX1000 Interfaces

VJX1000 Junos OS Release 10.3 supports up to 16 interfaces.

VJX1000 Hostnames and IP Addresses

While you are able to use your existing hostnames and IP addresses in the Junosphere topology models, and while Junosphere is architected based on secure VPN paradigms, we recommend for additional security that you use alternative names and addresses in your topology files.

A VNC server is enabled on both virtual servers (`vnc: management_Ethernet_address:1`).

Topology File Set Size Constraints

A topology file set must be less than 10 MB, while each file must be less than 6 MB.

Topology Constraints

A maximum of 40 interfaces can be directly connected to each other using a bridge in a network topology.

Features Not Fully Qualified

The Junosphere Release 1.6 documentation set describes a feature that is present but has not yet been fully qualified by Juniper Networks. This feature will be fully tested and supported in a future release:

- Packet forwarding in flow mode

Known Problems and Limitations

This section identifies known problems and limitations in this release.

Virtual Machine

- The IPv6 BGP feed is currently not supported on Junosphere. (PR/ 691145)

User Interface

- Canceling a starting topology lacks a visible sign that it is occurring. (PR/ 669754)

- Scrolling in the Messages box snaps back to the top on each screen refresh.
The window should preserve the relative location of the scroll bar on a refresh. (PR/660363)
- Start/stop access to the “Public” library.
Your account might not have start/stop access to the “Public” library. If it does not, in order to use a Public topology, download that topology and then upload it to your own library.
- User interface save issues.
When you start a topology, the software assigns IP addresses to the EXTERNAL interface as specified by the topology.vmm file. If the user then performs a Save to save configuration changes made to the virtual router devices, these addresses are stored in the configuration file for each router. If the topology is then stopped and restarted, those same addresses are still in the configuration file and might conflict with new addresses assigned by the software. As a workaround, either download the topology file set and purge the addresses from the files, or log in to each router (via the console) and remove the extra configuration from each router. (PR/588040)
- The Save option in the user interface is not always successful. (PR/598741)
- Poweron Reset and Rebuild should show status under the Status heading.
The Poweron Reset (powering the virtual device on and off) and Rebuild (restoring the original disk image) buttons on the Topology page do not work. (PR/594227)

Junosphere Connector

- The Connector statistics are not updated.
When starting a Junosphere Connector session, the statistics on the Connector Data page are not updated for the Virtual Distributed Ethernet switch. (PR/596015)
- To configure 802.1q VLAN tagging pass-through when using Junosphere Connector with the VMWare ESXi server, you must set the VLAN ID of the port group of the vSwitch to 4095.
This will put the port into VGT mode which allows VLAN tags to be preserved across the vSwitch.
- Junosphere Connector works on:
 - Linux:
 - › CentOS release 5.5 (Final)
 - › Fedora release 14 (Laughlin)

Virtual Routers

- Only one process can telnet to the console port at a time. If one connection exists, others cannot be made. There are two ways to recover from this situation: the first is to stop the first telnet (either by exiting telnet or cancelling the telneting process); the second is to click the **Rebuild** button in the Active Topology page. However, the Rebuild function destroys and recreates the virtual machine. (PR/665498)
- The autonegotiation status always shows the status as Incomplete. (PR/582791)
- Web browser access to virtual routers via the Juniper Web Device Manager does not work.
When using a Web browser to access virtual routers, the following problems are observed:
 - The Authentication button keeps spinning with message “loading data.”
 - Clicking the Power Over Ethernet, Virtual chassis, and Switch buttons causes the browser to hang. The workaround is to refresh the URL. (PR/591918)

- A segment fault results when while running NETCONF conformance tests and a validate operation is performed on /var/tmp/netconf.conf. (PR/600780)

Secure Access

Secure Access is the technology behind the Junosphere Access Portal Page. You can find information relating to it in the Secure Access Release Notes. Click the 7.1R1 version on the following page:

http://www.juniper.net/techpubs/en_US/sa7.1/information-products/pathway-pages/sa-series/index71.html.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to techpubs-comments@juniper.net, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release version (if applicable)

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at <http://www.juniper.net/us/en/local/pdf/resourceguides/7100059-en.pdf>.
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

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/>
- 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/>.

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, visit us at <http://www.juniper.net/support/requesting-support.html>.

Revision History

15 April 2011—Revision 1, Junosphere Release 1.0
15 May 2011—Revision 2, Junosphere Release 1.0
10 June 2011—Revision 3 Junosphere Release 1.1
17 June 2011—Revision 4 Junosphere Release 1.1
24 June 2011—Revision 5 Junosphere Release 1.2
29 July 2011—Revision 6 Junosphere Release 1.3
05 August 2011—Revision 7 Junosphere Release 1.3
25 August 2011—Revision 8 Junosphere Release 1.4
23 September 2011—Revision 9 Junosphere Release 1.5
03 October 2011—Revision 10 Junosphere Release 1.5
28 October 2011—Revision 10 Junosphere Release 1.6

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