

Juniper NETWORKS Virtual Lightweight Collector User Guide

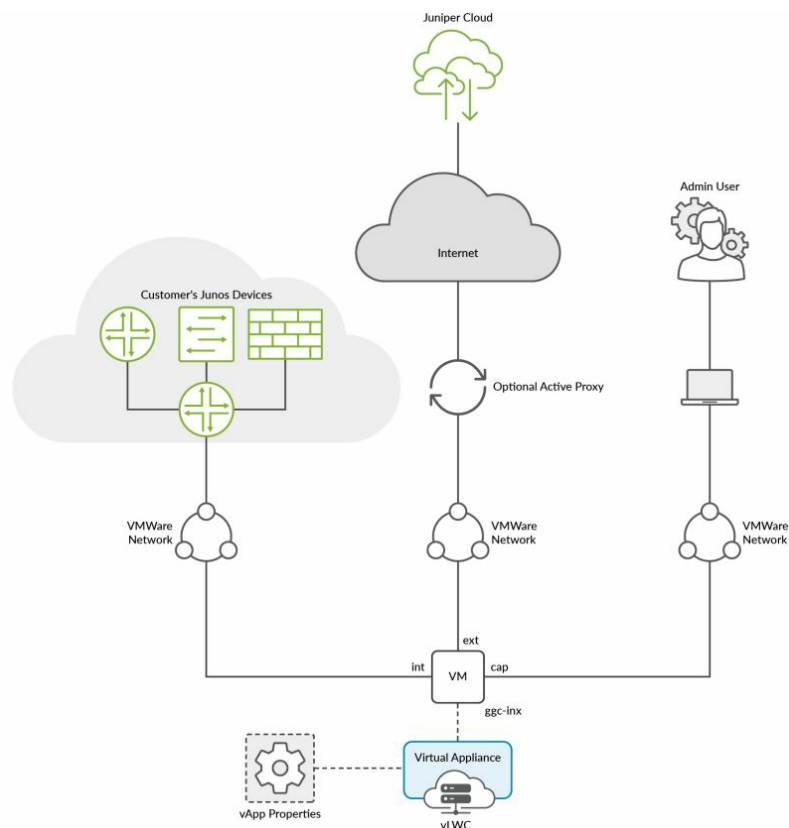
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Juniper NETWORKS Virtual Lightweight Collector



Specifications

- **Publisher:** Juniper Networks, Inc.
- **Published:** 2023-12-01
- **Website:** <https://www.juniper.net>
- **Trademark:** Juniper Networks, Junos

Introduction

Virtual Lightweight Collector Overview

The Virtual Lightweight Collector (vLWC) is a software product developed by Juniper Networks. It is designed to monitor Junos devices and provide network management capabilities. The vLWC is installed with three network interfaces, including internal, external, and management interfaces.

System Requirements

The system requirements for installing and running the vLWC are as follows:

- **Operating System:** Compatible with the latest versions of VMware ESXi and vCenter Server.
- **Hardware:** Sufficient CPU, memory, and storage resources as recommended by VMware.
- **Network Connectivity:** The vLWC requires access to the internal network for monitoring Junos devices, external network for connecting to Juniper Cloud or a proxy server, and management network for configuration and troubleshooting.

Install

Before You Install

Prior to installing the vLWC, ensure that you have met the following requirements:

- Downloaded the vLWC installation package from the Juniper Networks website.
- Verified the compatibility of your VMware environment with the vLWC.
- Prepared the necessary network configurations for the internal, external, and management interfaces.

Install vLWC and Verify Installation

To install the vLWC and verify the installation, follow these steps:

1. Download the vLWC installation package from the Juniper Networks website.
2. Import the vLWC virtual appliance into your VMware environment.
3. Configure the necessary network settings for the internal, external, and management interfaces.
4. Power on the vLWC virtual machine.
5. Access the vLWC through the JSI Shell or Captive Portal web page.
6. Verify the installation by checking the network connectivity and accessing the Junos devices being monitored.

Install vLWC using the vCenter Server

If you are using vCenter Server to manage your VMware environment, you can install the vLWC using the following steps:

1. Download the vLWC installation package from the Juniper Networks website.
2. Log in to your vCenter Server and navigate to the virtual machine inventory.
3. Select "Deploy OVF Template" and choose the downloaded vLWC installation package.
4. Follow the on-screen instructions to configure the necessary settings and complete the installation.

Verify Installation

After installing the vLWC, you should verify the installation by performing the following checks:

- Ensure that the vLWC virtual machine is powered on and running without any errors.
- Check the network connectivity of the internal, external, and management interfaces.
- Access the JSI Shell or Captive Portal web page to confirm the vLWC configuration.
- Test the connectivity to the Junos devices being monitored by the vLWC.

Configure

vLWC Configuration Overview

The vLWC configuration involves setting up the network settings using the JSI Shell or Captive Portal web page. The configuration process is as follows:

Configure Network Settings through JSI Shell

The JSI Shell provides a command-line interface for configuring the network settings of the vLWC. To configure the network settings through JSI Shell, follow these steps:

1. Login to the JSI Shell using the provided credentials.
2. Change the JSI Shell login password for security purposes.
3. Configure the network settings for the internal, external, and management interfaces.

JSI Shell Overview

The JSI Shell is a command-line interface that allows you to interact with the vLWC and perform various

configuration tasks. It provides a set of commands for managing network settings, troubleshooting issues, and accessing Junos devices.

Login to JSI Shell

To login to the JSI Shell, use the provided credentials and follow these steps:

1. Open a terminal or SSH client.
2. Enter the IP address or hostname of the vLWC.
3. Provide the username and password when prompted.

Change JSI Shell Login Password

For security purposes, it is recommended to change the default login password of the JSI Shell. To change the password, follow these steps:

1. Login to the JSI Shell using the default credentials.
2. Enter the “password” command and follow the on-screen instructions to set a new password.

Configure Network Settings

To configure the network settings of the vLWC through the JSI Shell, follow these steps:

1. Login to the JSI Shell using the provided credentials.
2. Enter the “configure network” command to enter the network configuration mode.
3. Follow the on-screen instructions to set the IP addresses, subnet masks, and gateway addresses for the internal, external, and management interfaces.
4. Exit the network configuration mode and save the changes.

Configure Network Settings through Captive Portal

The Captive Portal is a web-based interface that allows you to configure the network settings of the vLWC using a graphical user interface. To configure the network settings through Captive Portal, follow these steps:

1. Access the Captive Portal web page using a web browser.
2. Login with the provided credentials.
3. Navigate to the network settings section and enter the required information for the internal, external, and management interfaces.
4. Save the changes and apply the configuration.

Modify vApp Properties

The vApp properties allow you to customize the behavior and settings of the vLWC. To modify the vApp properties, follow these steps:

1. Access the vCenter Server and navigate to the vLWC virtual machine.
2. Select “Edit Settings” and navigate to the vApp Options or Properties section.
3. Modify the desired properties and save the changes.

Troubleshoot

Troubleshoot Network Settings

If you encounter any issues with the network settings of the vLWC, you can troubleshoot them using the following steps:

1. Login to the JSI Shell or Captive Portal web page.
2. Check the configured network settings and ensure they are correct.
3. Verify the connectivity to the Junos devices being monitored.
4. Review the system logs and error messages for any indications of network issues.

FAQ

What are the network interfaces of the vLWC?

The vLWC has three network interfaces: internal, external, and management interfaces. The internal interface is used to access the Junos devices being monitored, the external interface is used for internet connectivity, and the management interface is used for configuration and troubleshooting.

How can I change the login password of the JSI Shell?

To change the login password of the JSI Shell, login to the JSI Shell using the default credentials and use the "password" command to set a new password.

How can I troubleshoot network issues with the vLWC?

To troubleshoot network issues with the vLWC, login to the JSI Shell or Captive Portal web page, check the configured network settings, verify connectivity to Junos devices, and review system logs and error messages for any indications of network problems.

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YEAR 2000 NOTICE

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

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About This Guide

Use this guide to install the Juniper Networks® Virtual Lightweight Collector (vLWC) on a VMWare infrastructure, perform initial software configuration, and troubleshoot issues with the vLWC network. After completing the installation and basic configuration procedures covered in this guide, refer to the JSI Day One+ guide for information about further software configuration.

See also: <https://www.juniper.net/documentation/product/us/en/juniper-support-insights/>.

Introduction

Virtual Lightweight Collector Overview

Overview

The Juniper Networks® Virtual Lightweight Collector (vLWC) is a VMWare-ready data collection tool for the Juniper Support Insights. The vLWC is an alternative solution to the physical Lightweight Collector (LWC). It brings the capabilities of the LWC in a virtual package to free physical rack space in your data center by making use of your existing VMWare infrastructure. Juniper Support Insights (JSI) is a cloud-based solution that provides IT and network operations teams with actionable operational insights into Junos devices on customer networks. JSI aims to transform the customer support experience by providing insights that help improve the network performance and uptime. The vLWC as a data collection tool is installed on the customer's premises. This provides an added security to the data being collected as the data is locally collected and encrypted.

Virtual Network Interfaces for vLWC

The Virtual Lightweight Collector (vLWC) is installed with three network interfaces where two of the interfaces are the internal and external ports. The third interface is the management interface which will be used to access the vLWC through a JSI shell or a Captive Portal web page to configure network settings and troubleshoot issues. See Table 1 on page 3.

Table 1: Network Interfaces for vLWC

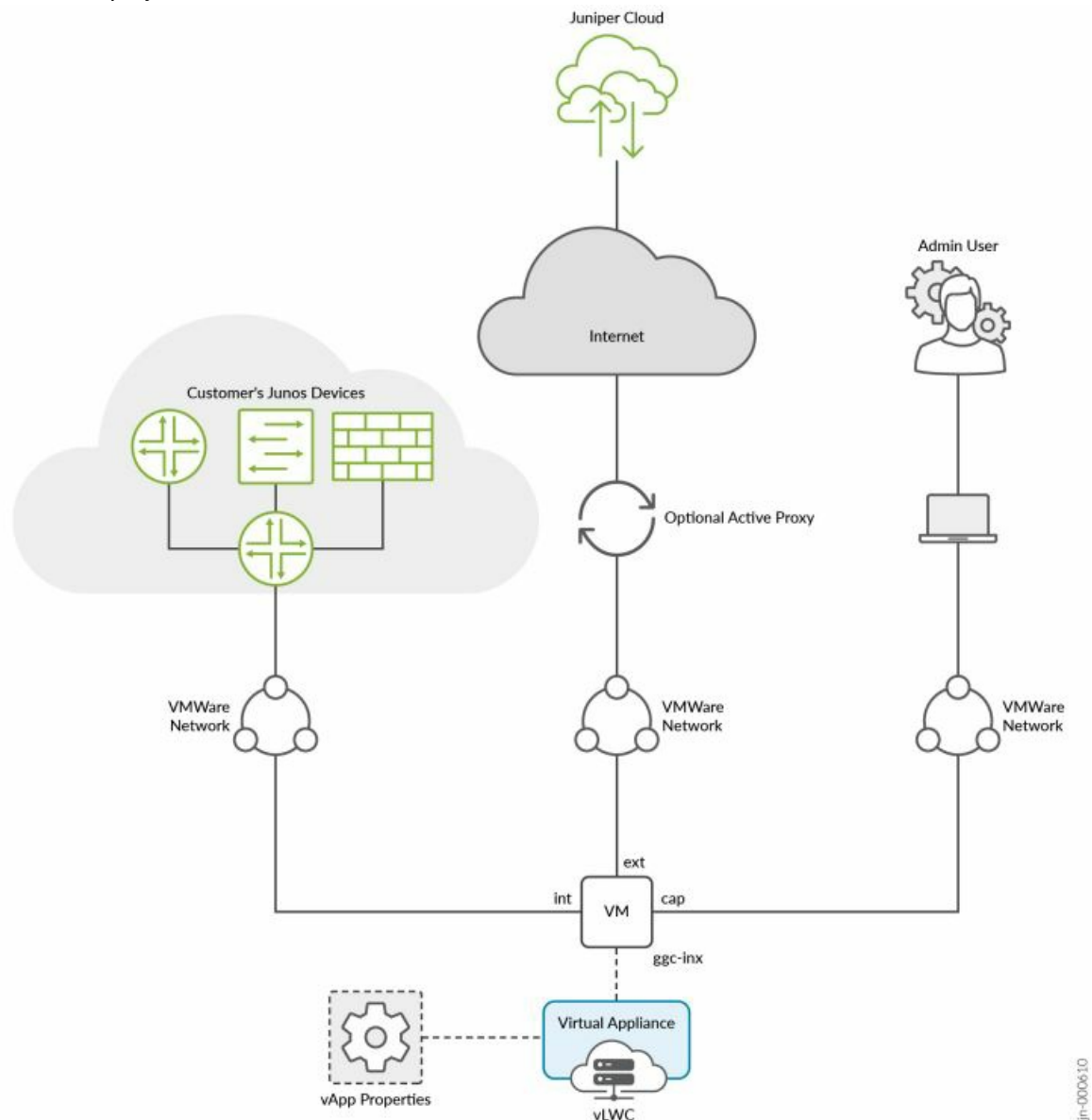
Interface	Interface	Name	Description
Internal	int	Internal network used to access the	
		Junos devices being monitored by	
		JSI. This network should not have	
		access to the Internet.	
External	ext	External network with HTTP/	
		HTTPS and DNS Internet	
		connectivity used to connect to	
		Juniper Cloud directly or through	
		an active proxy server.	
Management	cap	Management network used to	
		access JSI shell or Captive Portal	
		web page.	
		Port requirements:	
		• Port 443/HTTPS for the	
		Captive Portal web page	
		• Port 22/SSH for the JSI shell	

vLWC Installation Overview

The vLWC solution is a single VMWare vApp Open Virtual Appliance (OVA) file deployed on a VMWare virtual network. Anyone with an experience in deploying vApp on VMWare can deploy vLWC. You must configure the network interfaces (int, ext, and cap) to proper networks before the installation process of deploying the OVA file. Once installed in the VMWare environment, the vLWC vApp OVA package will consist of the vApp itself and a

virtual machine (VM) named ggc-lnx attached to the vApp. The ggc-lnx VM runs the vLWC software and performs the data collection. The following figure shows the overall deployment architecture for the vLWC, and how the vApp, VM, network interfaces, and VMWare networks relate to each other:

Figure 1: vLWC Deployment Architecture



System Requirements

Before installing the vLWC software in a VMWare environment, your system must meet the requirements described in the following sections.

VMWare Requirements

Currently, VMWare is the only supported environment for vLWC, where it is deployed as a vApp OVA. To run this vApp, your VMWare environment must meet the following minimum requirements:

- For standalone host configurations:
- VMWare vSphere Hypervisor (ESXi) (6.7.0 or later)
- For host configurations with vSphere:
- VMWare vCenter Server (6.7.0 or later)
- VMWare vSphere Hypervisor (ESXi) (6.7.0 or later)
- Three VM networks (for internal, external and management interfaces)

- Connectivity from internal VM network to Junos devices
- Connectivity from external VM network to Internet or active proxy server
- Support for VMXNET3 network adapters

Hardware Requirements

The ggc-lnx VM that runs the vLWC can be deployed in a small or large hardware configuration. Your system must meet the minimum hardware requirements for the VM to run properly for the desired scale of Junos devices being collected from. See Table 2 on page 6.

Table 2: Hardware Requirements

Configuration	Type	Total Devices Supported	Number	of	vCPUs	Memory	Storage
Small	Up to 10,000 devices		6 CPUs		16 GB RAM		400 GB disk space
Large	Up to 20,000 devices		12 CPUs		32 GB RAM		400 GB disk space

WARNING: The vLWC can experience data collection issues if your system does not meet the minimum requirements. A lack of CPU and/or memory resources can cause the vLWC to go into a holding pattern and stop collecting data.

Before You Install

To successfully install and deploy the vLWC, you must have VMWare vSphere installed on a single ESXi server, VMWare vCenter Server, and you must meet the hardware requirements listed in “Hardware Requirements” on page 6. You must also have one network with Internet connectivity either directly or through an active proxy server along with the other requirements listed in “VMWare Requirements” on page 5.

Prepare VMWare vSphere

Before you begin the installation process for vLWC, you must prepare your VMWare vSphere:

- Make sure that you are able to connect to the vSphere and login to the vCenter Server. As the vLWC will be deployed as a vApp in the vCenter Server, an active user on the vSphere with privileges to deploy vApps is required for this installation process.
- Make sure that all the networks are created in vCenter Server to attach the three network interfaces in the vLWC. These networks need to be setup and functional before vLWC is installed. For more information, see “Virtual Network Interfaces for vLWC” on page 2.

Download vLWC Software

The vLWC software will be provided to you by Juniper Networks® as a single downloadable OVA file. Follow the steps below to request and download the vLWC software:

1. Visit the vLWC request page on Juniper Support Portal at <https://supportportal.juniper.net/s/vlwc-form>.
2. Fill the fields in the Request Virtual Lightweight Collector page with the necessary information. See Table 3 on

Figure 2: Request Virtual Lightweight Collector page

Request Virtual Lightweight Collector
Virtual Lightweight Collector is restricted to VMWare VSphere environments V6.7 and V7.x inclusive.

*Select Account ⓘ
[Account Name] ▼

*Recipients ⓘ
[Recipient Email Address]

*Select Virtual Lightweight Collector Type

☐ VC- Small ⓘ
Add up to 10,000 devices

☐ VC- Large ⓘ
Add up to 20,000 devices

Description
[Description Text]

Back Cancel Submit

3. Verify the information in the form and click Submit. An OVA file will be created specifically for your installation. The OVA file contains your serial number as an encrypted vApp property that will be installed to the vLWC during the initial boot process of the VM. Once the OVA file is created, you will receive an email with a link.
4. Open the email you received from Juniper Support Portal, and click the link to visit the download portal where you can download the vLWC software.
5. Download the vLWC software from the download portal.
NOTE: Ensure that you have a stable internet connection to download the vLWC software as the file size can be between 2GB and 3GB approximately,
6. Once the vLWC software is downloaded, refer “Install vLWC and Verify Installation” on page 10 to install the vLWC software and verify your installation.

Table 3: Fields on the Request Virtual Lightweight Collector Page

Field	Description
Select Account	Account to associate with the vLWC. Default: Primary account.
Recipients	Email IDs associated with the selected account that will receive the vLWC download link. These recipients can onboard devices in the vLWC.
Select virtual Lightweight Collector Type	<p>Hardware configuration for the desired scale of Junos devices being collected from. Values include:</p> <ul style="list-style-type: none"> VC-Small—Configuration can support up to 10,000 devices. VC-Large—Configuration can support up to 20,000 devices. <p>See “Hardware Requirements” on page 6.</p>
Description	(Optional) A custom description for the vLWC setup.

Install vLWC and Verify Installation

SUMMARY

This section explains how you can install the vLWC vApp on a VMWare environment and verify your installation.

Install vLWC using vCenter Server

To install the vLWC vApp using the vCenter Server:

1. Log in to the vCenter Server using your username and password in the vSphere Client.
2. Click Menu > Hosts and Clusters. The Hosts and Clusters page opens. This page lists all your data centers and clusters on the left pane.
3. Right-click your data center and click Deploy OVF Template... from the Actions menu. The Deploy OVF Template page opens.
4. Depending on where your OVA file is available, select the URL option and provide the URL to the OVA file, or select the Local file option and click Choose Files to browse the local drive and upload the vLWC OVA image. Click Next.

Deploy OVF Template

1 Select an OVF template

2 Select a name and folder

3 Select a compute resource

4 Review details

5 Select storage

6 Ready to complete

Select an OVF template

Select an OVF template from remote URL or local file system

Enter a URL to download and install the OVF package from the Internet, or browse to a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.

☐ URL

http | https://remoteserver-address/filetoinstall.ovf | .ova

☒ Local file

vLWC-2.3.0.ova

The Select a name and folder page opens.

5. Enter a unique name for the vLWC vApp. Select the data center where you want the vApp installed and click Next. The Select a compute resource page opens. The vLWC vApp name that you enter is for easy identification only, and has no effect on the vLWC. The default vLWC vApp name is the OVA file name.
6. Select the compute resource (a specific host or a cluster) where you want to install the vApp installed, and click Next. The Review details page opens.
7. Verify the details listed on this page to make sure everything looks correct with the product, version, vendor, downloaded vApp file size, and the storage capacity of the virtual disk. Once you have verified the details, click Next. The Select storage page opens.
8. Select the datastore you want to use for storing the virtual disk of the vLWC. Select Thick Provision Eager Zeroed as the virtual disk format. Select your VM storage policy and click Next. The Select networks page opens.
9. Select the VMWare network to attach to each network interface using the Destination Network drop-down for each of the source network. You can ignore the IP allocation settings as they are not used by the vLWC. Click Next.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- 6 Select networks**
- 7 Customize template
- 8 Ready to complete

Select networks

Select a destination network for each source network.

Source Network	Destination Network
ext	infra0
cap	infra4
int	infra5

3 items

IP Allocation Settings

IP allocation: Static - Manual

IP protocol: IPv4

CANCEL BACK NEXT

The Customize template page opens.

- Specify the network settings for each vLWC interface over a series of 20 vApp properties. For each interface, select the correct address type. For static address, specify the necessary settings for that interface. You can use the same DNS server for all interfaces.

Interface	Supported IP Address
Internal	IPv4 or IPv6 address
External	IPv4 address only
Management	IPv4 address only

Once you have configured your network, click Next.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- 7 Customize template**
- 8 Ready to complete

Network 20 settings

vLWC internal interface IPv4 address type	The current interface type for the internal interface for getting an IPv4 address. The internal interface is responsible for connecting to network devices that the LWC is collecting data from. Possible values are none, static,
	<div>None ✓ DHCP Static</div>
vLWC internal interface network IPv4 address for static interface	IPv4 address for the internal interface when interface type is set to static. The internal interface is responsible for connecting to network devices that the LWC is collecting data from.
vLWC internal interface IPv4 prefix for static interface	IPv4 prefix for the internal interface when interface type is set to static. The internal interface is responsible for connecting to network devices that the LWC is collecting data from.
vLWC internal interface IPv4 gateway address for static interface	IPv4 gateway address for the internal interface when interface type is set to static. The internal interface is responsible for connecting to network devices that the LWC is collecting data from.
vLWC internal interface IPv4 DNS address for static interface	IPv4 DNS address for the internal interface when interface type is set to static. This DNS server address will be used to resolve hostnames for internal

CANCEL BACK NEXT

The Ready to complete page opens.

11. Verify the configured settings for the vApp deployment and click Finish to start the deployment of the vLWC.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks
- ✓ 7 Customize template
- 8 Ready to complete**

Ready to complete
Click Finish to start creation.

Provisioning type	Deploy from template
Name	vLWC-2.3.0
Template name	vLWC-2.3.0
Download size	3.0 GB
Size on disk	7.6 GB
Folder	
Resource	vLWC_Dev01
Storage mapping	1
All disks	Datastore: FN1ZV3E1; Format: Thin provision
Network mapping	3
ext	LWC946CAP16
cap	LWC946CAP16
int	LWC946CAP16
IP allocation settings	
IP protocol	IPv4
IP allocation	Static - Manual
Properties	vLWC internal interface IPv4 address type = DHCP vLWC internal interface network IPv4 address for static interface = vLWC internal interface IPv4 prefix for static interface = vLWC internal interface IPv4 gateway address for static interface = vLWC internal interface IPv4 DNS address for static interface = vLWC internal interface IPv6 address type = None vLWC internal interface network IPv6 address for static interface =

CANCEL BACK FINISH

Wait for VMWare to deploy the vApp. You should see progress bars in the recent tasks section indicating the

progress of the vApp deployment. This process can take approximately 30 minutes or more depending on the speed of your cluster, datastores, and your connection to the vSphere.

NOTE:

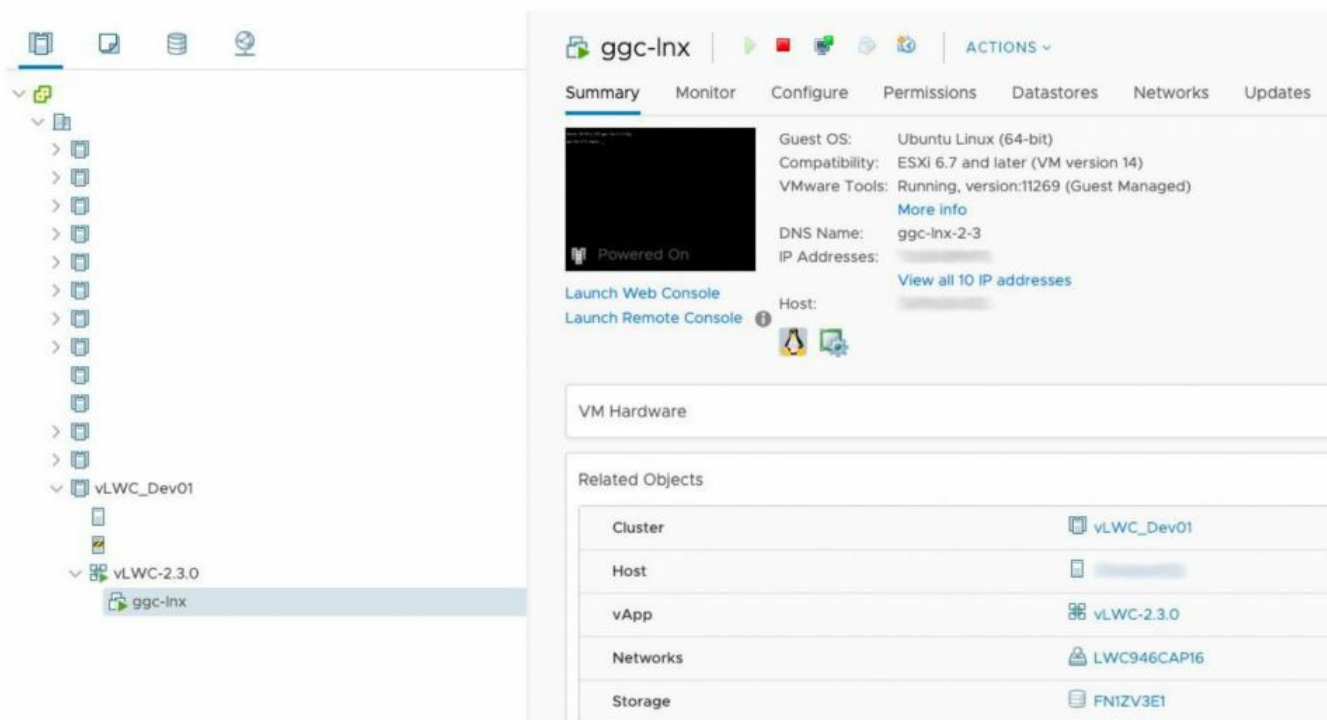
- If you encounter the error message “Failed to deploy OVF package. ThrowableProxy.cause The operation is not supported on the object. The operation failed due to The operation is not supported on the object.”, check if DRS is enabled for the cluster in which you are deploying the vApp.
- If you encounter any other error when you click Finish, it is possible that you took too long to complete the steps above and the deployment process timed out. You can reattempt the deployment process if this happens and if you encounter an error for the second time, open a Juniper TAC case for assistance.

12. Once deployment is complete, to start vLWC, you can right-click the newly created vApp and click Power > Power On from the Actions menu.

Verify Installation

Once installation is complete and view is powered on, you can confirm a successful deployment through the Summary page of the VM. The Summary page of the ggc-Inx VM is located under the vLWC vApp entry. It should show an Ubuntu Linux (64-bit) VM running with VMWare tools also running along with the IP addresses assigned to the VM in the IP addresses list.

Figure 3: ggc-Inx VM Summary page



From the Summary page, you can also launch a console connection to the VM and view the current network status through the JSI Shell.

Configure

vLWC Configuration Overview

Once the vLWC vApp is installed, you can add or modify various vLWC settings using one of the following methods:

Configure Network Settings through JSI Shell

SUMMARY

This section provides information on the JSI Shell.

JSI Shell Overview

The JSI Shell is an SSH menu system for the vLWC. It allows you to view the current network settings and network status through an SSH login. You can use the JSI Shell as an alternate option to configure network settings. You can interact with the JSI Shell menu system through the keyboard. See Table 4 on page 17.

Table 4: Keyboard Navigation

Key	Action
Up and Down arrow keys, or number press	Navigate to an option.
Enter key	Select the option.
Esc key	Go back to the previous menu or exit the shell depending on what menu you are currently in.

Login to JSI Shell

You can access the JSI Shell using one of the following ways:

- SSH to the configured IP address of the management (cap) interface.
- Through the VMWare console if networking has not been setup successfully yet on the management (cap) interface. To login to the console, click ggc-lnx VM under the vLWC vApp and click either Launch Web Console or Launch Remote Console in the Summary tab to open the login prompt for the vLWC.

Use jsuser and the hard coded password to log into the JSI Shell. You can also set a custom login password from the JSI Shell. See “Change JSI Shell Login Password” on page 19.

NOTE: If you are changing the password for the first time, contact Juniper support to get the initial password.

On successful login, the vLWC Main Menu (JSI Shell) screen appears.

Figure 4: vLWC Main Menu (JSI Shell)

```
===== vLWC Main Menu =====
Select an option (<Esc> to exit): (Use arrow keys)
> (1) Reset vLWC to factory defaults and reboot
   (2) Reapply vApp network properties to vLWC and reboot
   (3) Edit Network Settings
   (4) View Current Network Status
   (5) Reboot vLWC
   (6) Change password for jsuser
```

Change JSI Shell Login Password

You can change the login password for jsuser from the JSI Shell Main Menu screen. To change the password,

select Change password for jsuser from the vLWC Main Menu screen (using the arrow key or pressing 6 on the keyboard), press Enter, and follow the prompts to specify the new password.

Configure Network Settings

You can configure the following network settings from the JSI Shell:

- Interfaces—Internal (int), External (ext), Management (cap)
- Active proxy

Follow the steps below to configure the network settings:

1. Login to the vLWC Main Menu (JSI Shell). See “Login to JSI Shell”.
2. Select Edit Network Settings (using the arrow key or pressing 3 on the keyboard) from the vLWC Main Menu screen.

Figure 5: vLWC Edit Network Settings Menu

```
===== vLWC Edit Network Settings Menu =====
Select an option (<Esc> to go back to main menu): (Use arrow keys)
> (1) Change cap interface
   (2) Change int interface
   (3) Change ext interface
   (4) Change active proxy
```

3. To change the various interface settings:
 - Select the interface you want to edit (options one to three) from the vLWC Edit Network Settings Menu screen.
 - Select the appropriate options from the series of menus presented after which a vLWC Edit interface Settings Menu screen appears for the interface you selected.

The upper half of the display lists the current network settings.

The following image provides an example of the vLWC Edit interface Settings Menu screen for a cap interface with IPv4 address:

Figure 6: vLWC Edit Menu (JSI Shell)

```
===== vLWC Edit cap Interface IPv4 Settings Menu =====
----- cap -----
| Source:                                     dhcp |
| IP Address:                               |
| Prefix:                                   |
| Gateway:                                  |
| DNS Server:                               |
-----
Select an option (<Esc> to go back to address type):
> (1) Change interface source
   (2) Change interface static IP address
   (3) Change interface static IP prefix
   (4) Change interface static gateway
   (5) Change interface DNS
   (6) Apply pending changes and return to network settings
```

- Use the options displayed in the bottom half of the display to modify the network settings. You can select an appropriate option and configure the new value when the prompt appears.
The updated values will appear in the upper half of the display.
- Once you have made all the changes, select Apply pending changes and return to network settings to

apply your changes.

NOTE: You can exit the settings from one interface and work on another interface without losing your changes. You can then apply all changes at the same time.

4. To change the active proxy settings:

Select Change active proxy (using the arrow key or pressing 4 on the keyboard) from the vLWC Edit Network Settings Menu screen. The vLWC Edit Active Proxy Settings Menu screen appears. The upper half of the display lists the current active proxy settings.

Figure 7: vLWC Edit Active Proxy Settings Menu

```
===== vLWC Edit Active Proxy Settings Menu =====
----- Active Proxy -----
| Status:                                     Enabled |
| Address:                                   |
| Port:                                     |
-----
Select an option (<Esc> to go back to network settings): (Use arrow keys)
> (1) Enable/disable active proxy
  (2) Change active proxy address
  (3) Change active proxy port
  (4) Apply pending changes and return to network settings
```

You can enable or disable the active proxy (option 1), or configure the active proxy settings from

NOTE: After applying changes, if the network does not work as intended, reboot the vLWC.

Configure Network Settings through Captive Portal

You can use the Captive Portal web page to configure the following elements:

- External Network—Connect the vLWC to Juniper Cloud. You can use the External Network configuration to perform device provisioning.
- Internal Network—Connects the vLWC to the Juniper devices on your network.
- Active Proxy—Use an active proxy in your network infrastructure to control access to the Internet. Configuring an active proxy is optional.

To configure the network settings on vLWC:

1. Open a browser on your computer and enter the URL in the address bar, where cap_interface_address can be the configured static IP address, or the IP address assigned by the DHCP server to the management (cap) interface. The JSI Data Collector login page appears.
2. Enter the vLWC serial number in the Serial Number field and click Submit to log in.

NOTE: version serial version serial

On successful login, the JSI Data Collector page appears.

The following image displays the JSI Data Collector page when the vLWC is not connected.

JSI Data Collector

Configure your Collector Connection Status ? Juniper Cloud Disconnected ? Not Provisioned

External Network

IP Type: IPv4
Source: DHCP
IP Address (LWC SW):
Subnet Mask:
Gateway:
DNS Server:
[EDIT] [C]

Active Proxy ? ☐ Enable/Disable

Internal Network

IPv4 Settings ? ☒ Enable/Disable IPv6 Settings ? ☐ Enable/Disable

IPv4: IP Type: IPv4, Source: DHCP, IP Address: , Subnet Mask: , Gateway: , DNS Server:
IPv6: IP Type: IPv6, Source: Static, IP Address: , Prefix Length (/0 to /128): /128, Gateway: , DNS Server: Not configured

Connection Status IPv4 ? Gateway Disconnected, ? DNS Disconnected
Connection Status IPv6 ? Gateway Disconnected, ? DNS Disconnected

[EDIT] [C]

Instructions

Internal & External Networks
If any Connection Status (Internal or External) is red, click edit to modify the settings of that section until all Connection Status turns to green, at this point Juniper Cloud Connected Status will also be green and you may close this window and proceed with device onboarding.

Troubleshooting
Download the Light Request for Support Information (RSI) and Open a Tech Case in the Juniper Support Portal and attach the Light RSI file.
[DOWNLOAD LIGHT RSI]
File Format: .json*

In some cases, the Support Agent may request an Extensive RSI file. In such instances, you will need to re-enter the Captive Portal to download the Extensive RSI file here and upload to your Tech Case.
[DOWNLOAD EXTENSIVE RSI]
File Format: .json*

Reboot Collector
Press the button below to reboot the Collector. Confirm by pressing the button a second time within 30 seconds.
[REBOOT]

Shutdown Collector
Press the button below to shutdown the Collector. Confirm by pressing the button a second time within 30 seconds.
[SHUTDOWN]

Version: 1.0.43

NOTE: If the default DHCP configuration on the vLWC is successful, the Captive Portal web page shows the vLWC's connection status as connected, and populates the fields in all the configurations sections appropriately.

Click the Refresh icon under the External Network or Internal Network sections to refresh the current connection states for that section.

The JSI Data Collector page displays configuration sections for the following:

- **External Network:** This lets you configure external network port that connects the vLWC to the Juniper's Cloud. Supports DHCP and static addressing. The External Network configuration is used to perform device provisioning.
- **Internal Networks:** This lets you configure the internal network port that connects the vLWC to the Juniper devices on the network. Supports DHCP and static addressing.
- **Active Proxy:** This lets you configure the active proxy IP address as well as the port number if your network infrastructure controls access to the Internet through an active proxy. You need not configure this element if you are not using an active proxy.

3. Click the Edit button under the element that needs to be updated.

You need to modify the fields in:

- The Internal Network and External Network sections if their connection states indicate that they are disconnected.
- The Active Proxy section if you are using an active proxy. This section is collapsed by default if an active proxy is disabled or not configured. To configure, click Enable/disable to expand the Active Proxy section. If you choose to use an active proxy, ensure that it forwards all the traffic from the vLWC to the AWS cloud proxy. Juniper cloud services blocks all the inbound traffic coming through any path other than the AWS cloud proxy.

NOTE: You must use a different subnet for the IP address assigned to the internal network, external network, and the management (cap) interface. This applies to both DHCP and static configurations.

4. After modifying the fields, click Update to apply the changes and return to the homepage (the JSI Data

Collector page).

If you want to discard your changes, click Cancel. If the vLWC connects to the gateway and DNS successfully, the respective configuration element (internal or external network section) on the JSI Data Collector homepage shows the connection status as Gateway Connected and DNS Connected with green tick marks against them.

The JSI Data Collector homepage displays the Connection Status as:

Juniper Cloud Connected if the external connectivity to the Juniper Cloud is established and the active proxy (if applicable) settings are correctly configured. Cloud Provisioned if the device is connected to Juniper Cloud and has completed the Zero Touch Experience (ZTE) process. After the Cloud connection status becomes Juniper Cloud Connected, it takes about 10 minutes for the provision status to become Cloud Provisioned.

The following image displays the JSI Data Collector page when the vLWC is connected successfully.

The screenshot shows the 'JSI Data Collector' configuration page. At the top, it says 'Configure your Collector' and 'Connection Status' with green checkmarks for 'Juniper Cloud Connected' and 'Cloud Provisioned'. The 'External Network' section is expanded, showing fields for IP Type (IPv4), Source (DHCP), IP Address (LWC SW), Subnet Mask, Gateway, and DNS Server. A 'Connection Status' box for the External Network shows 'Gateway Connected' and 'DNS Connected' with green checkmarks. Below this is an 'Active Proxy' toggle set to 'Enable/Disable'. The 'Internal Network' section is also expanded, showing fields for IPv4 and IPv6 settings. The 'IPv4 Settings' are enabled, and the 'IPv6 Settings' are disabled. The 'Connection Status IPv4' box shows 'Gateway Connected' and 'DNS Connected' with green checkmarks. The 'Connection Status IPv6' box shows 'Gateway Disconnected' and 'DNS Disconnected' with red X marks. On the right side, there are sections for 'Instructions', 'Troubleshooting', 'Reboot Collector', and 'Shutdown Collector'. The 'Reboot Collector' section has a 'REBOOT' button, and the 'Shutdown Collector' section has a 'SHUTDOWN' button. The version number 'Version: 1.0.43' is displayed at the bottom right.

Table 5: Fields in the Configure Your Collector section on the JSI Data Collector page

Field	Description
External Network	
IP Type	<p>Select an IP address version:</p> <ul style="list-style-type: none"> IPv4
Source	<p>Select an IP address assignment type.</p> <ul style="list-style-type: none"> DHCP—This option is enabled by default. Static—If you select this option, you must enter the IP addresses manually.
IP Address (VM)	<p>Applicable only if you selected Static as Source.</p> <p>Enter the IP address of the VM inside the vLWC device.</p>
IP Address (LWC)	<p>Applicable only if you selected Static as Source.</p> <p>Enter the IP Address of the vLWC device.</p>

Subnet Mask	<p>Applicable only if you selected Static as Source.</p> <p>Enter the subnet mask address.</p> <p>The subnet of the IP address assigned to the internal network port must be different from the subnet of the IP address assigned to the external network port. This applies to both DHCP and static configurations.</p>
Gateway	<p>Applicable only if you selected Static as Source.</p> <p>Enter the IP address of the default gateway connected to the vLWC.</p>
DNS Server	Enter the DNS server IP address.
Active Proxy	
IP Address	If you want to add an active proxy, enter the IP address of the proxy.
Port	Enter the port number used for the active proxy.
Internal Network	
IP Type	<p>Select an IP address version:</p> <ul style="list-style-type: none"> • IPv4 • IPv6
Source	<p>Select an IP address assignment type.</p> <ul style="list-style-type: none"> • DHCP—This option is enabled by default. • Static—If you select this, you must enter the IP addresses manually.
IP Address	<p>Applicable only if you selected Static as Source.</p> <p>Enter the IP Address of the LWC device.</p>

Subnet Mask	<p>Applicable only if you selected Static as Source.</p> <p>Enter the subnet mask address.</p> <p>The subnet of the IP address assigned to the internal network port must be different from the subnet of the IP address assigned to the external network port. This applies to both DHCP and static configurations.</p>
Gateway	<p>Applicable only if you selected Static as Source.</p> <p>Enter the IP address of the default gateway connected to the LWC.</p>
DNS Server	Enter the DNS server IP address.

Modify vApp Properties

You can modify any vLWC network settings that you had configured in the Customize template page during the installation of your vLWC vApp from the vCenter Server.

CAUTION: It is recommended that you prefer the JSI Shell or the Captive Portal web page to modify the network settings, if possible. Changes made to the vApp properties through the vCenter Server will overwrite all existing settings in the vLWC with the property values, and you will have to change all settings to the correct values. Only use this method as a last resort if you are unable to establish connectivity to the management (cap) interface.

To modify the vApp properties from the vCenter Server:

1. Click Menu > Hosts and Clusters. The Hosts and Clusters page opens. This page lists all your data centers and clusters on the left pane including your vLWC vApp.
2. Select the vLWC vApp in the list of hosts and clusters.
3. Right-click your vLWC vApp and click Power > Power Off from the Actions menu to power off the vApp.
4. Once the vApp is powered off, click the Configure tab in the vApp window.
5. Click Settings > vApp properties from the left-pane. A list of all the vApp properties that were configured in step 10 of the vLWC vApp installation process will appear.

The screenshot shows the vLWC-2.3.0 configuration interface. On the left is a sidebar with a tree view containing 'vLWC-2.3.0' and 'ggc-inx'. The main panel has tabs for 'Summary', 'Monitor', 'Configure', 'Permissions', 'Resource Pools', 'VMs', 'Datastores', 'Networks', and 'Updates'. The 'Configure' tab is active, showing a 'Properties' table with columns: Key, Label, Value, and Default Value. The table lists various network properties for static interfaces, including IPv4 and IPv6 settings for internal, external, and captive portal interfaces. Some properties like 'int6_interface_type' and 'serial_number' have specific values, while others are set to 'None' or 'DHCP'.

Key	Label	Value	Default Value
int6_interface_prefix	vLWC internal interface IPv6 prefix for static interface		
cap4_interface_prefix	vLWC captive portal interface IPv4 prefix for static interface		
ext4_interface_gw	vLWC external interface IPv4 gateway address for static interface		
cap4_interface_dns	vLWC captive portal interface IPv4 DNS address for static interface		
int4_interface_type	vLWC internal interface IPv4 address type	DHCP	DHCP
int4_interface_gw	vLWC internal interface IPv4 gateway address for static interface		
int6_interface_dns	vLWC internal interface IPv6 DNS address for static interface		
ext4_interface_type	vLWC external interface IPv4 address type	DHCP	DHCP
ext4_interface_dns	vLWC external interface IPv4 DNS address for static interface		
ext4_interface_ip	vLWC external interface network IPv4 address for static interface		
int6_interface_type	vLWC internal interface IPv6 address type	None	None
serial_number	vLWC serial number (DO NOT MODIFY)		U2FsdGVkX19Jkr/4M+AyQADK0Kpi4nhr138Fx0t5BH4=
int4_interface_prefix	vLWC internal interface IPv4 prefix for static interface		
int4_interface_dns	vLWC internal interface IPv4 DNS address for static interface		
int6_interface_gw	vLWC internal interface IPv6 gateway address for static interface		
ext4_interface_prefix	vLWC external interface IPv4 prefix for static interface		
int4_interface_ip	vLWC internal interface network IPv4 address for static interface		
int6_interface_ip	vLWC internal interface network IPv6 address for static interface		
cap4_interface_gw	vLWC captive portal interface IPv4 gateway address for static interface		
cap4_interface_type	vLWC captive portal interface IPv4 address type	DHCP	DHCP
cap4_interface_ip	vLWC captive portal interface IPv4 address for static interface		

6. Select the vApp property and click Set Value at the top of the list. In the window that appears, enter the new value for the vApp property. Repeat this step for all the required properties.
7. Once all the properties are updated, right-click your vLWC vApp from the list of hosts and clusters and click Power > Power On.

The vLWC will reboot with the updated network configuration to ensure that all the changes are applied correctly.

Troubleshoot

Troubleshoot Network Settings

If you face connectivity issues with the vLWC, you can troubleshoot the vApp VM using the Captive Portal web page or the JSI Shell.

You can check the status of the management (cap) interface by accessing the Captive Portal from the web browser. For more information on accessing the Captive Portal, see “Configure Network Settings through Captive Portal” on page 21.

If the management (cap) interface is not accessible, you can access the JSI Shell through the VMWare console. This option will always work even if none of the network interfaces are functioning properly. You can use the JSI Shell menu system to check the current network status of the vLWC interfaces and also change the network settings of any of the interfaces (external, internal, management).

Reset Network Settings to Factory Default

You can use the JSI Shell to reset the network settings of vLWC to factory default of DHCP for IPv4 on all interfaces, and reboot the vLWC to apply the changes. To perform this operation, select Reset vLWC to factory defaults and reboot option from the vLWC Main Menu (JSI Shell). Select Yes in the confirmation prompt.

On confirmation, you will see the output of scripts performing the reset operation. This operation may take some time and vLWC reboots once the reset operation is complete. After vLWC reboots, you can log back in to the JSI Shell and check the network status to confirm if IP addresses are received through DHCP.

Reapply vApp Properties

You can force VMWare to reload the current vApp property settings in the following cases:

- When the vApp properties modified through the vCenter Server did not get applied properly.
- When you need to revert the network changes made through the Captive Portal or JSI Shell to what was set in the vApp properties.

To perform this operation, select Reapply vApp network properties to vLWC and reboot option from the vLWC Main Menu (JSI Shell). Select Yes in the confirmation prompt.
On confirmation, you will see the output of scripts reapplying the vApp properties. This operation may take some time and vLWC reboots to ensure that the settings are applied correctly.

Display Network Status

You can confirm the current network status of the vLWC by selecting the View Current Network Status option from the vLWC Main Menu (JSI Shell). vLWC performs reachability test on the network. This operation might take some time to complete. Once the tests complete, the JSI Shell will display the network status for each interface that is currently configured and operational in the vLWC Network Status screen. For more information on each field, refer Table 6 on page 30.

Table 6: vLWC Network Status

Field	Description
Status	The current status of the interface, and whether the network gateway can be reached.
Source	Where the interface is getting its IP information from. Can be either DHCP or Static.
IP Address	Current static IP address assigned to the interface, or the DHCP address assigned by the DHCP server.
Prefix	Current static IP prefix assigned to the interface or the DHCP prefix assigned by the DHCP server.
Gateway	Current gateway address assigned to the interface or the DHCP gateway assigned by the DHCP server.
DNS Server	Current DNS server assigned to the interface or the DHCP DNS provided by the DHCP server. NOTE: vLWC currently supports only one DNS server per interface.

Figure 8: vLWC Network Status (JSI Shell)


```
===== vLWC Network Status =====
----- int4 -----
| Status:                               up |
| Source:                               Static |
| IP Address:                           |
| Prefix:                               28 |
| Gateway:                             |
| DNS Server:                           |
-----
----- ext4 -----
| Status:                               up |
| Source:                               DHCP |
| IP Address:                           |
| Prefix:                               27 |
| Gateway:                             |
| DNS Server:                           |
-----
----- cap4 -----
| Status:                               up |
| Source:                               Static |
| IP Address:                           |
| Prefix:                               28 |
| Gateway:                             |
| DNS Server:                           |
-----
\ Press a key to continue...
```

Reboot the vLWC

Reboot the vLWC if the network settings that you modify do not apply properly to the underlying Operating System of the vLWC. If you face issues while applying new network settings, always attempt a vLWC reboot and confirm if the new network settings are applied before continuing with the other troubleshooting options.

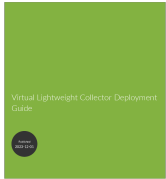
You can reboot the vLWC in one of the following ways:

- JSI Shell—Select Reboot vLWC (using the arrow key or pressing 5 on the keyboard) from the vLWC Main Menu, press, and confirm reboot.
- Captive Portal—Click REBOOT in the Captive Portal web page.
- vCenter Server—Right-click ggc-lnx VM and click Power > Restart Guest OS from the Actions menu to restart the VM.

Contact Juniper Support

If the vLWC does not connect to the cloud, you can click Download Light RSI in the Captive Portal web page to download the light RSI file, create a Tech Case in the Juniper Support Portal, and attach the downloaded RSI file to the case.

In some cases, the Juniper support engineer may ask you to attach the Extensive RSI file to the case. To download it, click Download Extensive RSI.

	<p>Juniper NETWORKS Virtual Lightweight Collector [pdf] User Guide Virtual Lightweight Collector, Virtual, Lightweight Collector, Collector</p>
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References

- [!\[\]\(95b42f0077faf7439a26242a54e021ec_img.jpg\) Juniper Networks – Leader in AI Networking, Cloud, & Connected Security Solutions](#)
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- [!\[\]\(1e9d865c5de095f8e3304757c49e79d7_img.jpg\) End User License Agreement - Support - Juniper Networks](#)
- [!\[\]\(735b10d724a5f0ec5005c4eb3eb9c9d1_img.jpg\) supportportal.juniper.net/s/vlwc-form](#)
- [!\[\]\(e6250f05bc27fa93236b816562b699f9_img.jpg\) Juniper Support Insights \(JSI\) Documentation | Juniper Networks](#)
- [User Manual](#)