



## JUNIPER NETWORKS Paragon Insights User Guide

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### Paragon Insights Quick Start

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### Begin

With Juniper Networks Paragon Insights (formerly HealthBot), you can intuitively monitor the performance and health of your network. Paragon Insights gathers and analyzes configuration and telemetry data from your network devices. It can notify you of current issues, warn you about potential issues, and even take corrective action.

### What's Next

You can set up additional devices to send OpenConfig data to Paragon Insights. You can configure different

devices to send data in different formats for Paragon Insights to collect (ingest). See the Paragon Insights Installation Guide for details.

## Get Ready

Here's a high-level view of the workflow for getting Paragon Insights up and running.



## Before You Begin

To install a single server instance of Paragon Insights, you'll need a virtual or physical server that meets these specifications:

- RAM: 32 GB
- Disk space: 250 GB (SSD recommended)
- Free disk space must be at least 20% of total disk space
- Recommended minimum IOPS for the disks: 1000
- CPU cores: 16
- 10-Gbps network connections to both the management and production networks

This is to ensure the required bandwidth for high volume telemetry data transfer between the device and the HealthBot server.

- Paragon Insights installs on Ubuntu, RedHat Enterprise Linux (RHEL), and CentOS versions of Linux. For more information, see Paragon Insights Software Requirements. See Paragon Insights Server Sizing Calculator for more detailed sizing options.

Whatever operating system you choose, it must use kernel version 4.4.19 or later. The procedure in this document is tested using Ubuntu 16.04 with a 4.15.0-142-generic kernel.

- Docker version 18.09.3 or later

Run the following commands to install docker:

```
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu bionicstable" apt update apt install docker-ce
```

**NOTE:** If you plan to install Paragon Insights as a non-root user (using sudo), you must include that user in the docker user group. Run these commands to include the non-root-username user in the docker group:

```
sudo groupadd docker sudo usermod -aG docker non-root-username
```

After making the changes, ensure that you log out and log back in as the desired user to ensure the changes to group membership are activated.

You'll need root user privileges to install Paragon Insights on the server. Make sure that your user account is listed in the /etc/sudoers file on your server. If you choose to install as the root user you must ensure that SSH login for root is enabled.

## Install Paragon Insights

You can install Paragon Insights using the Debian (.deb) installation file on Ubuntu, or a Red Hat Package Manager (.rpm) file on CentOS and RedHat Enterprise Linux (RHEL). We show you how to install Paragon Insights using Ubuntu. For information on how to install Paragon Insights on other operating systems, see Using the Interactive Installers in the Paragon Insights Installation Guide.

**NOTE:** When you install Paragon Insights on a Kubernetes cluster, you must enter host IP address or hostnames for the cluster nodes. If you use hostnames, ensure that the hostnames resolve to the IP addresses of the nodes used in the Kubernetes cluster.

1. Download the Paragon Insights application package from the download site. Store the package file on the server in an easily accessible location like /var/tmp.

2. Run the `sudo apt-get install -y /var/tmp/healthbot-<version>.deb` command.

3. When the install is complete, run the healthbot setup command.

The setup process asks several questions. When a default option is available, the default values for each question are shown in square brackets ([ ]). If a choice is required, the default option is capitalized (for example, [Y/n]).

You must have the following information when you run the healthbot setup command.

- If you choose to install on an existing Kubernetes cluster, you will need information on IP addresses or hostnames of the Kubernetes master node and worker nodes that make up the cluster.
- If you want the setup to create a new Kubernetes cluster, you must provide the IP addresses or hostnames for the machines that make up the new cluster.
- A virtual IP (VIP) address to access the Paragon Insights web UI.

If you have multiple interfaces connected to different networks, you must specify a virtual IP from each network that you need connectivity from.

4. When the setup process finishes, run the healthbot start command. This initializes Paragon Insights services and starts the Web GUI.

When the start process finishes, you'll see the URL for logging in to the Paragon Insights GUI. For example, `https://<ip-address-of-paragoninsights-server>:8080`.

5. Log in to Paragon Insights with the default credentials—username: admin; password: Admin123!. You'll be prompted to change the default password for the admin user at first log in.

**NOTE:** Starting from Paragon Insights Release 4.1.0, username is case insensitive.

## Set Up Network Devices

Before you begin, ensure the MX240 is running Junos OS 18.3 or later so that the OpenConfig network agent is installed by default.

1. Enable OpenConfig on the MX240. `[edit] user@router# set system service extension-service request-response grpc clear-text port number`
2. Commit the configuration change. `[edit] user@router# commit`

Network devices need some minor configuration before they can send their data to Paragon Insights for monitoring. Here, we provide an example for setting up an MX240 router to send OpenConfig data to Paragon Insights. You can also configure your devices for periodic device polling, telemetry streaming, and sending event data using other options. See Network Device Requirements in the Paragon Insights Installation Guide for details.

Congratulations! Your first device is ready to send telemetry data to Paragon Insights.

## Up and Running

Now that you have installed Paragon Insights and configured at least one device to send telemetry data, it's time to use the GUI to tell Paragon Insights what to do. We'll show you how to onboard and group devices together, apply playbooks to get the desired information from the devices, import the telemetry data, and finally, how to visualize and analyze that data.

### Onboard Devices

1. To onboard a device, open a Web browser and log in at <https://<ip-of-paragoninsights>:8080> as the admin user with the password that you set earlier.

When you log in, you'll see the Paragon Insights dashboard that holds several dashlets, and a getting started panel.

There won't be any data in the dashlets, because you haven't added any devices, device groups, or network groups.

2. Hover your mouse over the left-side navigation (left-nav) bar and select Configuration > Device when the left-nav bar expands.
3. On the Device Configuration page, click the add icon (+) to add a device to Paragon Insights.
4. In the Add Device(s) window that appears, fill in the Name, Hostname/IP address/Range, and Authentication fields as appropriate for your device and network. For authentication, you can use password, SSH, or TLS, as required by your network.
5. Click SAVE & DEPLOY.
6. Click OK to close the confirmation window.

The newly added device appears in the list.

### Create a Device Group

With Paragon Insights, you need to add all devices to device groups and then define which data is collected by applying rules and playbooks to these device groups.

Here's how to create a device group and add your devices to it:

1. From the left-nav bar, select Configuration > Device Group.  
The Device Group Configuration page appears. This page is very similar to the Add Device(s) window.
2. Click the add icon (+) on the Device Group Configuration page.
3. In the Add Device Group window, give the group a name (for example, DevGrp1).
4. Select your device from the Devices drop-down list.
5. Click SAVE & DEPLOY.
6. Click OK to clear the confirmation window.

### Apply Playbooks

Paragon Insights comes with several predefined playbooks. Playbooks contain groups of rules for performing specific tasks such as monitoring the key performance indicators (KPIs) of device interfaces or protocol states. Once you apply a playbook to a device group, the devices in the group begin sending data to Paragon Insights. Here's how to apply a playbook to a device group:

1. From the left-nav bar, select Configuration > Playbooks.

The Playbooks page appears.

2. Click Next to scroll through the alphabetized list of playbooks to locate the interface-kpis-playbook.

Click Apply on the line in the table that starts with interface-kpis-playbook.

The Run Playbook: interface-kpis-playbook window appears.

3. In the Name of Playbook Instance field, name the playbook (for example, test-playbook-1).

4. In the Device Group section, select your device group from the drop-down list.

The name of your device appears in the Devices area.

5. Click Save & Deploy.

6. Click OK to clear the confirmation window.

Soon, the Status circle (next to the interface-kpis-playbook) turns green, indicating that the playbook is running.

## Monitor Device Health

Now that you have a device sending telemetry data to Paragon Insights, let's have a look at the data.

1. Select Monitor > Health from the left-nav bar.

The Health page appears.

2. Click the Device Group button from the Entity Type group of buttons.

The device group you defined earlier is automatically selected as it is the only device group defined.

3. Select All Devices from the Devices bar.

The Tile View and Table View sections update regularly to show current data from your device.

In the Tile View section, there's a group of small, colored squares under the heading interface.statistics. Hover your mouse over the small squares, a pop-up shows information about the specific interface on the device.

If you click one of the small squares, the Table View section shows only the data for that interface.

### What's Next

- Add more devices.
- Customize your dashboard to display the data that you care about.
- Explore Paragon Insights rules by selecting Configuration > Rules from the left-nav bar.
- Create your own playbooks to monitor the things that interest you.

## Keep Going

Congratulations! Your device is now reporting interface statistics to Paragon Insights. Here are some things you can do next:

If you want to	Then
Download, activate, and manage your software licenses to unlock additional features for Paragon Insights	See Paragon Insights Licensing in the Juniper Licensing Guide
See all documentation available for Paragon Insights	Visit Paragon Insights Documentation
Learn about the Junos telemetry interface (JTI) which can feed data to Paragon Insights	Visit Overview of the Junos Telemetry Interface
Learn more about OpenConfig on Junos OS	Visit OpenConfig Overview
Learn to configure NetFlow (IPFix) for Paragon Insights	Visit Configuring Flow Aggregation to Use IPFIX Flow Templates on MX Series, vMX and T Series Routers, EX Series Switches and NFX250, and SRX Series Devices

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## Documents / Resources

	<a href="#">JUNIPER NETWORKS Paragon Insights</a> [pdf] User Guide Paragon Insights, Insights
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## References

- [📄 Downloads](#)
- [📄 Paragon Insights Installation Guide | Paragon Insights | Juniper Networks](#)
- [📄 Paragon Insights Installation Requirements | Paragon Insights | Juniper Networks](#)
- [📄 Paragon Insights Installation Requirements | Paragon Insights | Juniper Networks](#)
- [📄 Using the Interactive Installers to Install or Upgrade to Paragon Insights Release 4.X | Paragon Insights | Juniper Networks](#)
- [📄 Overview of the Junos Telemetry Interface | Junos OS | Juniper Networks](#)
- [📄 OpenConfig Overview | Junos OS | Juniper Networks](#)
- [📄 Configuring Inline Active Flow Monitoring to Use IPFIX Flow Templates on MX, vMX and T Series Routers, EX Series Switches, NFX Series Devices, and SRX Series Firewalls | Junos OS | Juniper](#)

## Networks

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- [!\[\]\(e258e347e7683f87061f627f84598eb5\_img.jpg\) Paragon Insights \(formerly HealthBot\) Documentation | Juniper Networks](#)
- [User Manual](#)