

Release Notes for Juniper[®] HealthBot Release 3.1.0

Release 3.1.0
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These release notes accompany Juniper Networks HealthBot Release 3.1.0.

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Introduction

HealthBot is a highly automated and programmable device-level diagnostics and network analytics tool that provides consistent and coherent operational intelligence across network deployments.

Integrated with multiple data collection methods (such as Junos Telemetry Interface, NETCONF, SNMP, syslog, and NetFlow), HealthBot aggregates and correlates large volumes of time-sensitive telemetry data, providing a multidimensional and predictive view of the network. Additionally, HealthBot translates troubleshooting, maintenance, and real-time analytics into an intuitive user experience to give network operators actionable insights into the health of an individual device and the overall network.

Installation

For information on how to install HealthBot, as well as the software and hardware requirements for HealthBot, see the [HealthBot Installation Guide](#).

New and Changed Features

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We're pleased to announce the availability of HealthBot Release 3.1.0. With this release, the new and changed features include:

HealthBot Flex Software Subscription Licensing

HealthBot now conforms to Juniper Networks' Flex Software Subscription Licensing (Flex) model. The Flex model supports the following three tiers of licenses: free, advanced, and premium. The free tier allows you to run the application, add some devices, and run basic playbooks with those devices. Advanced and premium licenses are paid tiers and allow you access to run advanced playbooks and use TSDB high-availability respectively. Flex licensing also allows for the purchase of HBOT-C1, HBOT-C2, HBOT-C3, and HBOT-C4 device licenses which allow you to manage specific numbers of different device types in HealthBot.

Installation on Existing Kubernetes Clusters

In addition to creating its own, new Kubernetes cluster during install and upgrade, HealthBot can be installed on exiting Kubernetes clusters. During the **healthbot setup** portion of an upgrade, the installer checks whether Kubernetes was already used in the existing installation. If so, the Kubernetes version is checked and upgraded to version 1.17.2 if needed. Then the upgrade of HealthBot continues. If Kubernetes was not used, the upgrade simply continues. During a new installation, if you choose to use Kubernetes with HealthBot, you are given the opportunity to enter information about your existing Kubernetes cluster, if one exists. This allows for better integration with existing network infrastructures.

Holt-Winters Machine Learning Prediction Algorithm

In addition to the median prediction machine learning algorithm, HealthBot now supports the Holt-Winters prediction algorithm. This offers additional ways to train and use HealthBot prediction capabilities.

Tagging Support

HealthBot now supports user-defined tagging of fields for use in identifying the application within flow data, setting different thresholds for network events, or enhancing the machine learning capabilities of HealthBot. To do this, you create tagging profiles that look for specific conditions. When the conditions are met, new fields and custom keys can be created within the rules applied to a device or device-group.

Support for gNMI RPC Protocol

HealthBot now supports sample subscriptions to Junos OS and third-party devices using the gNMI RPC protocol. Using SAMPLE-mode subscriptions allows HealthBot to support existing OpenConfig sensors on a wide variety of third party devices that support the gNMI RPC. For Junos OS devices that do not support gNMI, an error is returned and HealthBot falls back to OpenConfig RPC.

Multi-Vendor Support for iAgent Sensors

When you provide details during the add device workflow, you can now select *other vendor* and fill in the *Vendor Name* and *OS Name* along with the *iAgent Port Number* to allow HealthBot to communicate using SSH with the third-party device. HealthBot uses SaltStack and the Netmiko proxy to ensure that the SSH communication is performed correctly. This implementation also allows for the use of SSH keys between device and HealthBot rather than user credentials.

Health Monitoring Enhancements

Device and Device Group health monitor pages have been combined into one page which is available by navigating to **Monitor > Health** in the left navigation bar.

Field Snapshot for Reports

As an enhancement to the HealthBot's reporting capabilities, you can now enter a list of **XPATH** statements that correspond to field definitions. This list provides a snapshot of those fields that then appear as a tree hierarchy in the details of future reports. These field snapshots can be compared to provide insight about changes to those fields over time.

API Server Enhancements

HealthBot's single REST API server has been enhanced so that HealthBot now uses two REST API servers. One single-threaded server is used for device configuration changes and has a base URL of: <https://<server-ip>:8080/api/v2/config/>. The second, multi-threaded server, is used for operational API calls that do not affect device configuration. This operational API server has a base URL of:

<https://<server-ip>:8080/api/v2/> The configuration server continues to serve “v1” API calls with the base URL of <https://<server-ip>:8080/api/v1/>.

Support for 'eval' Formula in Rule Definitions

You can now use the **eval** formula to evaluate a go language (golang) expression in field definitions. The expression that is evaluated must be a valid go lang expression. If other field names are used in the expression, they must be prefixed with a dollar sign (\$). In addition, each referenced field and operator should be separated by space characters. For example:

```
$a + $b - $c
```

This feature can also make use of the tagging feature described above.

Resolved Issues

Installation on Existing Kubernetes Clusters

A multi-node installation of HealthBot Release 3.1.0 can now be performed on an existing Kubernetes cluster.

Warning Messages During Remove or Install on RPM-based Servers

During HealthBot remove or install operations on RPM-based (CentOS or RedHat) servers for releases 3.0.0 and 3.0.1, a lot of warnings were shown on the terminal regarding inability to remove files because they were not found. This issue has been resolved.

User-Defined Functions as Key Fields

Previously, user-defined functions could not be referenced as key fields within a rule definition. This issue has been resolved.

Docker Compose Service Name Routing Issue

For docker compose-based deployments, under some scenarios the healthbot-gateway service was not able to route API requests to underlying services due to failure in resolving the service name. This issue has been resolved.

iAgent Playbooks

For a certain few iAgent-based playbooks, adding, playing, or pausing a new set of playbooks on top of an already running set of iAgent-based playbooks on the same device group caused the action to fail. This issue has been resolved.

Known Issues

Error Message During Upgrade to 3.1.0

When upgrading from release 3.0.0 or 3.0.1 to release 3.1.0 (or later), a warning message: **Unable to remove healthbot directory** is displayed. This message can be ignored. This issue has been fixed in 3.1.0 so that future upgrade from 3.1.0 to later versions will not display this message.

Upgrade from 2.X to 3.1.0

If you are on a 2.X release of HealthBot and want to move to 3.1.0 release with a multi-node (Kubernetes) installation, you must do a fresh installation. To migrate your data from HealthBot Release 2.X (docker-compose) to 3.1.0 (Kubernetes) follow the procedure here: [Migration from HealthBot Release 2.X to 3.X](#). This issue does not apply if upgrading from release 3.0.0/3.0.1 to release 3.1.0

User Credentials from 2.X

Any user credentials present prior to upgrade from 2.X must be recreated after upgrade from release 2.X to release 3.1.0. This issue does not apply if upgrading from release 3.0.0/3.0.1 to release 3.1.0

RBAC Limitations

The RBAC feature is limited to providing either read-only or read-write access to all pages for any user except the hbadmin user. Fine grained access to pages or features is not controlled in this release.

Retaining Graph and Timeline View Data

In some cases, Graph and timeline view data is not retained during an upgrade or migration from release 2.X to 3.X. To deal with this issue, click Deploy in the left-nav before performing an upgrade. This issue does not apply when upgrading from release 3.0.0/3.0.1 to release 3.1.0

HealthBot CLI

No documentation support is provided for the HealthBot CLI. Contact a Juniper Networks representative for support.

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 Partner Support Service support contract, or are covered under warranty, and need post-sales 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 <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- 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: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>
- Download the latest versions of software and review release notes:
<https://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications:
<https://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum:
<https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

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

Creating a Service Request with JTAC

You can create a service request with JTAC on the Web or by telephone.

- Visit <https://myjuniper.juniper.net>.
- 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, see
<https://support.juniper.net/support/requesting-support/>.

Revision History

7 July 2020—HealthBot Release 3.1.0

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