

Release Notes for Juniper[®] HealthBot Release 4.0.0

Release 4.0.0
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These release notes accompany Juniper Networks HealthBot Release 4.0.0.

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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 4.0.0. With this release, the new and changed features include:

Support for Dynamic Tagging

Starting with HealthBot Release 4.0.0, HealthBot supports dynamic tagging. In dynamic tagging, you can set conditions in a tagging profile, that in turn are checked against values stored in Redis database. When these conditions are met, they are applied to incoming data before HealthBot processes the data. The Redis database acts like a cache memory that stores real-time data. In earlier releases, HealthBot supports static tagging where conditions are checked against values stored in the times series data base (TSDB). Values stored in TSDB are constants and rarely changes.

For more information, see [HealthBot Tagging](#).

Support for HealthBot Ingest Scale-out Based on Number of Devices

Starting in HealthBot Release 4.0.0, you can add more than 50 devices per device group. However, the actual scale of the number of devices you can add depends on the available system resources.

For example, consider that you want to create a device group of 120 devices. In releases earlier than release 4.0.0, it is recommended that you create three device groups of 50, 50, and 20 devices respectively. With HealthBot Release 4.0.0, you just create one device group.

For more information, see [Manage Devices, Device Groups, and Network Groups](#).

Support for Data Rollup Summarization

Starting in HealthBot Release 4.0.0, you can summarize field data by creating a data rollup summarization profile. Field data is processed data that provides information on network devices and its components, and is stored in the time series data base (TSBD).

For more information, see [Configure Data Summarization](#).

Support for Configuring Header Pattern of Syslog Message

Starting in HealthBot Release 4.0.0, you can configure the pattern for parsing the header portion of a syslog message. With this release, unstructured syslog messages of non-Juniper devices are supported. In earlier releases, you can only parse the payload portion of either a structured syslog message as specified in RFC 5424 standard, or a Juniper device's unstructured syslog message.

For more information, see [HealthBot Push-Model Ingest Methods](#).

Support to Configure Multiple Sensors Per Rule in a Device

Starting with Release 4.0.0, an sp-admin user can add multiple sensors per rule that can be applied to a device group. Data from multiple sensors are populated in a single SNMP field table that can be easily exported or used for visualization. For more information, see *HealthBot Concepts*.

Support to Configure Sensor Precedence in Rule Properties

Starting with Release 4.0.0, sp-admin users can configure sensor precedence in HealthBot Rule Properties. This allows you to apply multiple sensors configured in a rule to a device group that has multi-vendor devices with differences in operating system, release versions, and so on. For more information, see *HealthBot Concepts*.

Support for IAM Based Services

Starting with Release 4.0.0, HealthBot executes user management, authentication, and authorization through Identity and Access Management (IAM) service available in the 4.0.0 installation package. IAM service effects the following changes:

- The hbadmin, hbconfig, hbmonitor, and hboperator groups are migrated to sp-admin and sp-operator roles.
- The sp-admin can also backup and restore both deployed and undeployed configuration settings of resources in HealthBot. The backup does not include pre-canned roles in the interface.

- System administrators can reset password of the default admin user in standalone HealthBot deployments. System administrator must run a cURL command in a shell of any node in the Kubernetes cluster that hosts HealthBot.
- Lightweight Directory Access Protocol (LDAP) users can access HealthBot GUI after configuring LDAP settings in HealthBot and mapping LDAP user group to HealthBot roles.

For more information, see *Manage HealthBot Users and Groups*.

Support for SNMPv3 and SNMPv2c Ingests

Starting with Release 4.0.0, users with sp-admin role can configure SNMPv3 and SNMPv2c ingest methods in the HealthBot GUI at the device and device group level. SNMPv3 offers an option to authenticate and encrypt messages between HealthBot and the network elements such as devices or device group. For more information, see *HealthBot Pull-Model Ingest Methods*.

Support for SNMP Trap and Inform Notifications

Starting with Release 4.0.0, an sp-admin can configure devices to send trap notifications to HealthBot using SNMPv3 and SNMPv2c. You can also configure SNMPv3 inform notifications at the device level or the ingest level in HealthBot. For more information, see *HealthBot Pull-Model Ingest Methods*.

Support for TSDB Dashlets and GUI Enhancements in HealthBot

Starting with Release 4.0.0, you can use the following enhancements in the GUI:

- Favorites option – Allows you to bookmark pages under the Favorites section for easier access.
- Launchpad menu (rocket icon) – In the top right corner of the UI, if you click the Launchpad button (rocket icon), you get a drop-down menu that takes you to the Sizing Tool and the Github repository for HealthBot rules called Playbooks (github).
- TSDB dashlets in dashboard – Consists of TSDB dashlets that have line charts for Buffered Bytes, Buffer Length, and donut charts for Read Error for Last 5 Minutes, Write Error for Last 5 Minutes, and Buffer Length
- Alerts – The alarm section accessible from Monitor menu in the left navigation bar in the GUI is renamed Alerts. To access the Alerts page, go to **Monitor > Alerts**.

For more information, see *Monitor Device and Network Health*.

Support for Arista Networks, Linux, and Palo Alto Networks Devices

Starting with HealthBot Release 4.0.0, you can add devices belonging to Arista Networks, Linux, and Palo Alto Networks when you configure a new device.

For more information, see the Adding a Device section of the [Manage Devices, Device Groups, and Network Groups](#) topic.

Support for EOS, PAN-OS, and NX-OS Operating Systems

Starting with HealthBot Release 4.0.0, you can add EOS, PAN-OS, and NX-OS operating systems when you configure a new device.

For more information, see the Adding a Device section of the [Manage Devices, Device Groups, and Network Groups](#) topic.

Support for Cloning NetFlow Template, Syslog Pattern, and Syslog Pattern Set

Starting with HealthBot Release 4.0.0, you can clone an existing NetFlow template, Syslog pattern, and Syslog pattern set.

For more information, see [HealthBot Push-Model Ingest Methods](#).

Support for RHEL 8 and CentOS 8

- Starting with HealthBot Release 4.0.0, for an online installation of HealthBot:
 - RHEL version 7, Release 7.5 or later; RHEL version 8, Release 8.2 or later is supported
 - CentOS version 7, Release 7.3 or later; CentOS version 8, Release 8.2 or later is supported
- Starting with HealthBot Release 4.0.0, for an offline installation of HealthBot:
 - RHEL version 7, Release 7.5 or later; RHEL version 8, Release 8.3 or later is supported
 - CentOS version 7, Release 7.3 or later; CentOS version 8, Release 8.3 or later is supported

For more information, see [HealthBot Installation Requirements](#).

No Kernel Upgrade for Multi-Node Installation

Starting with HealthBot Release 4.0.0, kernel upgrade is not required for multi-node HealthBot installation.

For more information, see [HealthBot Installation Requirements](#).

Resolved Issues

The following are the resolved issues in HealthBot Release 4.0.0:

User Defined Function Execution

User Defined Functions (UDFs) which python can use to extend fields needs to be populated in a rule were earlier executed in each ingest. The python interpreters which are spawned to execute these UDF's were mostly idle but could handle only one request at a time. This increased the overall processing time when using these functions. Even with enough computing power and RAM available, the rate at which HealthBot was able to consume the data was low.

These UDF executions have been moved out of TAND and into a UDF farm which can process multiple requests at a time. This has resulted in a 4.5 to 5 times improvement in the rate at which HealthBot can process rules that have UDFs.

Invalid/Missing Kubernetes Configuration During Install

An error appears during multi-node installation: **Invalid/Missing kubernetes configuration.**

Due to changes in back end infrastructure the HealthBot CLI no longer has access to files outside of the path `/var/local/healthbot/`. To correct this, you can create an environment variable using the command: **`export HB_EXTRA_MOUNT1=/root/.kube/config`**, or copy the kubernetes configuration file into the `/var/local/healthbot/` directory.

After completing one of these two, the installer will complete normally.

Holt-Winters Issue in Anomaly Detection

An issue which prevented the successful use of Holt-Winters anomaly detection and prediction in certain circumstances has been resolved.

Machine Learning Issue

In some rules where tagging was used, machine learning algorithms did not function. This issue has been resolved.

Tagged Field References

In rules that contained tagged fields, using a reference to those fields from other rules would fail. This issue has been resolved.

Known Issues

Upgrade from 2.X to 3.X

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 4.0.0. This issue does not apply if upgrading from release 3.X to release 4.0.0

RBAC Limitations

The RBAC feature is limited to providing either read-only or read-write access to all pages for any user except the hbadm 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 4.0.0

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

15 May, 2021—HealthBot Release 4.0.0

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