

Release Notes for Juniper® Contrail® HealthBot Release 2.1.0

Release 2.1.0
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These release notes accompany Juniper Networks Contrail® HealthBot Release 2.1.0.

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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, and syslog), 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 [Contrail HealthBot Installation Guide](#).

New and Changed Features

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We're pleased to announce the availability of HealthBot Release 2.1.0. With this release, the new and changed features include:

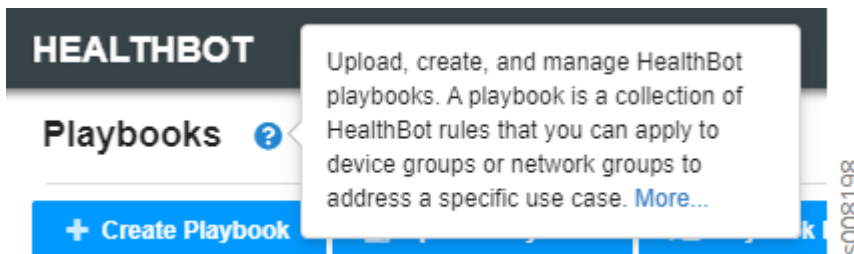
Licensed Features

Starting with Release 2.1.0, HealthBot provides Juniper Agile Licensing to manage licenses for HealthBot features. To use a licensed feature, you need to purchase and activate a license that corresponds to the HealthBot feature you want to deploy.

Feature	Description	License Limit	Usage Count	Valid Until	Compliance
HBOT-BASE	Allow advanced capabilities in Healthbot	0	0	invalid	●
HBOT-G1	Max G1 devices supported by the Healthbot	0	0	invalid	●
HBOT-G2	Max G2 devices supported by the Healthbot	0	0	invalid	●

GUI Tooltips enhancement

Question mark tooltips are added next to the title headings of HealthBot GUI pages. When you hover your pointer over the question mark tooltip, a box appears with information about the GUI page.



Troubleshooting

HealthBot provides four new verification and troubleshooting features: HealthBot self-test, device reachability test, ingest connectivity test, and “No-data” debug.

The screenshot displays the HealthBot troubleshooting interface. At the top, there are four tabs: 'Self Test', 'Device Reachability', 'Ingest Connectivity', and 'Debug No-Data'. The 'Debug No-Data' tab is currently selected. Below the tabs, there are three dropdown menus: 'Device Group' (with a red asterisk), 'Device' (with a red asterisk), and 'Rule' (with a red asterisk). Each dropdown has a placeholder text: 'Select a Device Group', 'Select a Device', and 'Select rule' respectively. To the right of the 'Rule' dropdown is a blue 'Debug' button. Below these inputs is a 'Test Result' modal. The modal has a blue header bar with the text 'Sat 09 Nov, 00:52' and 'Test Result'. Inside the modal, there is a section titled 'HealthBot Services' with a dropdown arrow. Below this is a table with two columns: 'Service Type' and 'Service Status'. The table contains two rows: 'common-services' and 'group-services'. The 'common-services' row has four status indicators: 'influxdb' (red with an 'x'), 'grafana' (red with an 'x'), 'api-server' (green with a checkmark), and 'postgres' (green with a checkmark). The 'group-services' row has two status indicators: 'ji-mon' (green with a checkmark) and 'analytical-engine' (green with a checkmark). Below the table, there is a list of expandable sections: 'Device Reachability', 'Ingest Connectivity', 'Raw Data Streaming', 'Field Processing', 'Trigger Processing', and 'API Verification'. At the bottom right of the modal, there is a 'Close' button.

Service Type	Service Status
common-services	✗ influxdb ✗ grafana ✓ api-server ✓ postgres
group-services	✓ ji-mon ✓ analytical-engine

Syslog Ingest

Syslog is now supported as an ingest/sensor type.

Playbook Schedules

You can now create schedules to automatically run playbook instances. Schedules can be customized to pause and resume running a playbook instance repeatedly over a specified length of time.

mpls-blackhole-detection-playbook 2 0							
Mpls blackhole detection key performance indicators							
Instance name	Schedule	Device/Network Group	No. of devices	Status	Started/Paused at	Next Action	Play/Pause
i1	s2	g1	1	Running (automatic)	Wed 11 Sep, 21:29	Pause at Wed 11 Sep, 21:31	Pause Schedule
i2		g2	1	Running (manual)	Wed 11 Sep, 21:30		Pause Instance

Reports Enhancement

You can now include graphs within the generated HealthBot reports for device groups and networks groups.

Add a report setting

Name *

Format *

HTML

Schedule(s) *

daily

Destination(s) *

Destination1

Canvas(es)

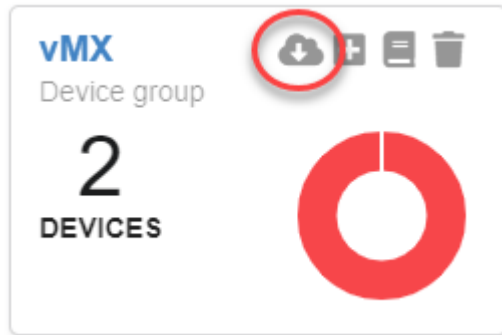
BNG_status

Panel(s)

BNG_status:aux_edited
BNG_status:Radius_latency
BNG_status:histo-latency

On-demand Reports and Compare (Diff) Reports

To provide greater flexibility in working with reports, you can now generate on-demand report snapshots, and compare (diff) two reports.



Notifications using MS Teams and Email

HealthBot can now send notifications to Microsoft Teams and email.

Add Notification

Name* ?

Description ?

Notification Type: *

☐ Web Hook

☐ Slack

☐ Kafka Publish

☐ Microsoft Teams

☒ EMail

Email Addresses* ?

Rule filters ?

Cancel

Save

Save & Deploy

SSL and SSH Authentication

To provide secure data connections for HealthBot devices, HealthBot now supports SSL authentication for OpenConfig sensors and SSH authentication for iAgent sensors.

The screenshot displays the 'Authentication' configuration page in HealthBot. It features a 'Password' section with 'Username' and 'Password' fields. Below this, the 'SSL' option is selected and circled in red. The SSL section includes fields for 'Server Common Name', 'CA Profile', and 'Local Certificate'. The 'SSH' option is also circled in red. The SSH section includes a 'Username' field and an 'SSH Key Profile' dropdown menu. A vertical label 's008200' is visible on the right side of the form.

▼ Authentication

Password

Username ? Password ?

username password

SSL

Server Common Name ? CA Profile ? Local Certificate ?

Common name List of CA Profiles x List of Local Certificates x

SSH

Username ? SSH Key Profile ?

Username List of SSH Key Profiles x

s008200

Data Summarization

To improve the performance and disk space utilization of the HealthBot time series database, you can now configure data summarization algorithms (such as latest or mean value) to summarize the raw data collected by HealthBot. The data can be summarized as a function of time or when a change occurs.

Add Summarization

Name

Type Aggregate

Name

Functions

latest ✕

✖

+ Add Type Aggregate

Path Aggregate

Name

Functions

mean ✕

✖

+ Add Path Aggregate

s008201

Log Level Support for HealthBot Services

You can now collect and download the debug, info, warn, and error level logs for the running HealthBot services of a device group or network group. You can also download the error level logs for the common HealthBot services that are running by default.

▼ Logging Configuration

Global Log Level

debug

Log Level for specific services

open-config

info

iAgent

info

native-gpb

info

snmp

Select log level

trigger-evaluation

Select log level

non-sensor-rules

warn

reports-generation

Select log level

s008202

Kafka Publish for Sensor and Field Data

In addition to publishing alarm notifications to a Kafka cluster, you can now publish HealthBot sensor and field data to a Kafka cluster.

▼ Publish

Destinations

kafka1

Fields

system.cpu/check-system-cpu

system.memory/check-system-memory

linecard.cm-events/check-cm-events

Sensors

/components/

jnpr_cmerror_data_ext

All sensors

CPUutilizationTable

SystemProcExtTable

StorageTable

s008203

Modify UDA and UDF Engines

In cases where UDA and UDF scripts require importing Python modules that are not included in the default HealthBot installation, you can modify the UDA and UDF engine to add any dependencies using a bash script.

```
user@HB-server:~$ healthbot modify-uda-engine --help
usage: healthbot modify-uda-engine [-h] (-s SCRIPT | --rollback) [--simulate]

user@HB-server:~$ healthbot modify-udf-engine --help
usage: healthbot modify-udf-engine [-h] (-s SCRIPT | --rollback) [--simulate]
```

Python Library (HbEZ) for REST API

HealthBot introduces a Python library (HbEZ) that communicates with the HealthBot REST API and enables you to perform common HealthBot tasks through Python scripts.

HealthBot API Updates

The HealthBot REST API is updated to support the new features introduced in Release 2.1.0.

Resolved Issues

The following is a list of resolved issues in Contrail HealthBot Release 2.1.0:

- When the k-means algorithm is used for HealthBot dynamic threshold, data prediction no longer is delayed at the start of each pattern periodicity bucket because of an insufficient number of samples collected.
- In past releases, for factory default HealthBot rules configured with an iAgent sensor the format type of some fields used in the rule's triggers were undefined and stored as string values by default. Consequently, you could not create graphs from these fields. The suggested workaround was to create a copy of the HealthBot rule and save the rule with a different name, then in the rule definition Field block add the fields you want to plot and assign them with the format type integer or float.

With Release 2.1.0, new fields are defined for default HealthBot Rules using the correct data type. These new fields can be plotted in Graphs. The old fields are not removed to maintain backward compatibility.

- On the Graph page:
 - You can now modify existing graphs in a canvas using the new **Edit** option.
 - To improve page loading times, the page layout loads only the graphs visible on-screen. To load the next set of graphs, select the “more” option.
 - Time-range is now editable. Earlier this was limited to maximum of 7 Days.
 - You can now select the plot range in values Y axes.
- Search option added for:
 - Rules page – Specific search on mix of metadata (e.g. Topic, Rule, OS, Sensor-type etc.)
 - Playbooks page – string search on Playbooks content

Known Issues

The following is a list of known issues in Contrail HealthBot Release 2.1.0:

- The HealthBot Debug tool is offered in 'beta' state; some elements of the tool may exhibit unexpected or unwanted behavior.
- In some cases, Graph data is not retained during an upgrade. To deal with this issue, click **Deploy** in the left-nav before performing an upgrade.
- 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

29 November 2019—Contrail HealthBot Release 2.1.0

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