



Release Notes for the Cisco Cloud Native BNG Control Plane, Version 2024.03.0

First Published: 2024-07-31

Cisco Cloud Native BNG Control Plane

Introduction

This Release Notes identifies changes and issues related to this software release.

Release Package Version Information

Software Packages	Version
bng.2024.03.0.SPA.tgz	2024.03.0

Descriptions for the various packages provided with this release are available in the [Release Package Descriptions, on page 5](#) section.

Verified Compatibility

This version of the cnBNG Control Plane has been verified with the following software components/packages. Consult the individual components/packages release notes for details.

Products	Version
BNG UP (ASR 9K)	IOS XR Release 24.3.1
SMI CEE	2024.03.1.i13
SMI Cluster Deployer	2024.03.1.i13
SMI Base ISO Image	20.04.0-20240709

What's New in this Release

New in Documentation

This version of Release Notes includes a new section titled **What's New in this Release** comprising all new features, enhancements, and behavior changes applicable for the release.

This section will be available in all the 5G release notes and will supersede content in the Release Change Reference (RCR) document. Effective release 2024.02, the RCR document will be deprecated.

Features and Enhancements

This section covers a brief description of the features and enhancements introduced in this release. It also includes links to detailed documentation, where available.

Feature	Description
Balancing Transaction Load on the RADIUS Server	This feature enhances performance by distributing AAA messages across servers, ensuring faster response times. It selects the RADIUS server with the fewest outstanding transactions, rather than using the previous First server or Round Robin methods, which did not account for server load. This results in a more efficient handling of authentication, authorization, and accounting tasks.
Geo Redundancy Support for AIO Control Plane Cluster	This feature provides higher service availability using Geographical Redundancy for cnBNG all-in-one (AIO) Control Plane clusters, reducing the risk of outages. CP-GR feature, previously available for 3-server and 4-server clusters, has been expanded to include AIO clusters.
RADIUS Accounting Message Handling	We have enhanced the system performance by preventing packet identifier (PID) exhaustion with the new Asynchronous mode for sending RADIUS Accounting messages. The cnBNG now releases PIDs after dispatching messages, rather than waiting for long time to receive server responses. This change allows for PID reuse, mitigating scale issues and improving KPIs.
Maintenance Operation Procedure (MOP) for cnBNG Node Scaling	This MOP outlines the steps to scale a cnBNG Control Plane deployment from Half-Rack to Full-Rack. The procedure includes adding new servers, scaling up Kubernetes (K8s) clusters, scaling up CDL, and scaling up services.

Related Documentation

For a complete list of documentation available for this release, go to:

<https://www.cisco.com/c/en/us/support/routers/cloud-native-broadband-network-gateway-bng/products-installation-and-configuration-guides-list.html>

Installation and Upgrade Notes

This Release Note does not contain general installation and upgrade instructions. Refer to the existing installation documentation for specific installation and upgrade considerations.

Software Integrity Verification

To verify the integrity of the software image you have from Cisco, you can validate the SHA512 checksum information against the checksum identified by Cisco for the software.

Image checksum information is available through **Cisco.com Software Download Details**. To find the checksum, hover the mouse pointer over the software image you have downloaded.

The following screenshot is an example of a cnBNG CP release posted in the Software Download page.

Cloud Native BNG Control Plane

Details

Description : Broadband Network Gateway Control Plane signature package
 Release : 2024.01.0
 Release Date : 31-Jan-2024
 FileName : bng.2024.01.0.SPA.tgz
 Size : 2664.99 MB (2794443492 bytes)
 MD5 Checksum : af244681cf3fa502aab065d685b4191b
 SHA512 Checksum : 2287123f561364a6abbf43f143294665 ...

BNG Release Notes Advisories

	Release Date	Size
signature package	31-Jan-2024	2664.99 MB

bng.2024.01.0.SPA.tgz
Advisories

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At the bottom you find the SHA512 checksum, if you do not see the whole checksum you can expand it by pressing the "..." at the end.

To validate the information, calculate a SHA512 checksum using the information in Table 1 and verify that it matches either the one provided on the software download page.

To calculate a SHA512 checksum on your local desktop, refer to the following table.

Table 1: Checksum Calculations per Operating System

Operating System	SHA512 checksum calculation command examples
Microsoft Windows	Open a command line window and type the following command: <code>> certutil.exe -hashfile filename.extension SHA512</code>
Apple MAC	Open a terminal window and type the following command: <code>\$ shasum -a 512 filename.extension</code>
Linux	Open a terminal window and type the following command: <code>\$ sha512sum filename.extension</code> Or <code>\$ shasum -a 512 filename.extension</code>
NOTES: <i>filename</i> is the name of the file. <i>extension</i> is the file extension (for example, .zip or .tgz).	

If the SHA512 checksum matches, you can be sure that no one has tampered with the software image or the image has not been corrupted during download.

If the SHA512 checksum does not match, we advise you to not attempt upgrading any systems with the corrupted software image. Download the software again and verify the SHA512 checksum again. If there is a constant mismatch, please open a case with the Cisco Technical Assistance Center.

Certificate Validation

cnBNG CP software images are signed via x509 certificates. View the .README file packaged with the software for information and instructions on how to validate the certificates..

Open Bugs for this Release

The following table lists the open bugs in this specific software release.



Note This software release may contain open bugs first identified in other releases. Additional information for all open bugs for this release are available in the [Cisco Bug Search Tool](#).

Bug ID	Headline
CSCwk83700	[SVI-CPGR-APRIL24] All UP associations got cleared post nm & cache pod restart
CSCwk83692	[SVI-CPGR-APRIL24] IPAM Churn allocation metric isn't populating as expected during MB-Churn

Operator Notes

Cloud Native Product Version Numbering System

The show helm list command displays detailed information about the version of the cloud native product currently deployed.

Versioning: Format & Field Description

YYYY.RN.MN[.TTN] [-dN] [-MR][.iBN]

Where,

YYYY → 4 Digit year.

- Mandatory Field.
- Starts with 2020.
- Incremented after the last planned release of year.

RN → Major Release Number.

- Mandatory Field.
- Starts with 1.
- Support preceding 0.
- Reset to 1 after the last planned release of a year(YYYY).

MN → Maintenance Number.

- Mandatory Field.
- Starts with 0.
- Does not support preceding 0.
- Reset to 0 at the beginning of every major release for that release.
- Incremented for every maintenance release.
- Preceded by "m" for bulbs from main branch.

TTN → Throttle of Throttle Number.

- Optional Field, Starts with 1.
- Precedes with "t" which represents the word "throttle or throttle".
- Applicable only in "Throttle of Throttle" cases.
- Reset to 1 at the beginning of every major release for that release.

DN → Dev branch Number

- Same as TTN except Used for DEV branches.
- Precedes with "d" which represents "dev branch".

MR → Major Release for TOT and DEV branches

- Only applicable for TOT and DEV Branches.
- Starts with 0 for every new TOT and DEV branch.

BN → Build Number

- Optional Field, Starts with 1.
- Precedes with "t" which represents the word "interim".
- Does not support preceding 0.
- Reset at the beginning of every major release for that release.
- Reset of every throttle of throttle.

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The appropriate version number field increments after a version has been released. The new version numbering format is a contiguous sequential number that represents incremental changes between releases. This format facilitates identifying the changes between releases when using Bug Search Tool to research software releases.

Release Package Descriptions

The following table provides descriptions for the packages that are available with this release.

Software Packages	Description
bng.<version>.SPA.tgz	The cnBNG CP offline release signature package. This package contains the cnBNG CP deployment software as well as the release signature, certificate, and verification information.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, refer to <https://www.cisco.com/c/en/us/support/index.html>.