



Release Notes for the Ultra Cloud Core Policy Control Function

Version 2023.02.0

First Published: April 24, 2023

Introduction

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

Release Lifecycle Milestones

Release Lifecycle Milestone	Milestone	Date
First Customer Ship	FCS	28-Apr-2023
End of Life	EoL	28-Apr-2023
End of Software Maintenance	EoSM	26-Oct-2024
End of Vulnerability and Security Support	EoVSS	26-Oct-2024
Last Date of Support	LDoS	31-Oct-2025

Release Package Version Information

Software Packages	Version
pcf.2023.02.0.SPA.tgz	2023.02.0
NED Package	ncs-5.6.1-pcf-nc-2023.02.0
NSO Version	5.6.1
SHA MD5SUM	ddb1fbb4e45d4362ff82fc396ce5bf65
SHA512SUM	a9d2ae2379b9b343c74a50a43ba0c163c2847a699d24c3e484ab1827cd005096562582a63989469a00f716a93e3bd504040abbfb572a39c0138e75496f67ab6a

Descriptions for the software packages provided with this release are available in the [Release Package Descriptions](#) section.

Verified Compatibility

Products	Version
Ultra Cloud Core SMI	2023.02.1.07

Products	Version
Ultra Cloud Core CDL	1.11.1

For information on the Ultra Cloud Core SMI release, refer to the corresponding SMI Release Notes available at:

<https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-subscriber-microservices-infrastructure/series.html>

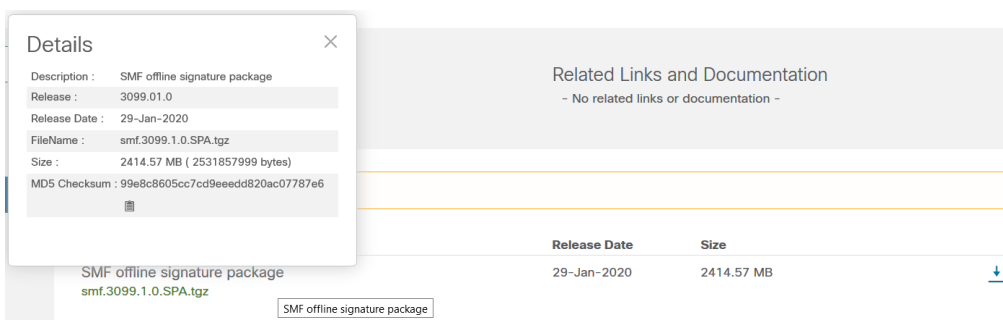
Installation and Upgrade Notes

This Release Notes 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.



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 please see the table below.

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 <pre>> certutil.exe -hashfile <filename>.<extension> SHA512</pre>
Apple MAC	Open a terminal window and type the following command <pre>\$ shasum -a 512 <filename>.<extension></pre>

Open Bugs for this Release

Linux	Open a terminal window and type the following command \$ sha512sum <filename>.<extension> Or \$ shasum -a 512 <filename>.<extension>
NOTES: <filename> is the name of the file. <extension> is the file extension (e.g. .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

PCF software images are signed via x509 certificates. For information and instructions on how to validate the certificates, refer to the .README file packaged with the software.

Open Bugs for this Release

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

Bug ID	Headline
CSCwe87529	mTLS Issue - Certificate Unknown.

Resolved Bugs for this Release

The following table lists the known bugs that are resolved in this specific software release.

NOTE: This software release may contain bug fixes first introduced in other releases. Additional information for all resolved bugs for this release are available in the [Cisco Bug Search Tool](#).

Bug ID	Headline	Behavior Change
CSCwe10852	PCF Container Base Image Upgrade to Ubuntu 20.04.	No
CSCwe32773	Spike in N7 create/update/delete traffic timeout.	No
CSCwe44196	log4j vulnerability issue for version 1.2.12.	No
CSCwe49323	NSO unable to upgrade to 5.6.8 as PCF NEDs are on 5.4.1.	No
CSCwe61027	Error for Prometheus query failure in logs.	No

Operator Notes

Bug ID	Headline	Behavior Change
CSCwe61059	Unable to install Smart License with Jan release.	No
CSCwe97652	N5_delete without http post body.	No

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.

TTN → Throttle of Throttle Number.

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

RN → Major Release Number.

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

DN → DEV branch Number.

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

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 builds from main 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 "i" which represents the word "interim".
- Does not support preceding 0.
- Reset at the beginning of every major release for that release.
- Reset for every throttle of throttle.

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

[Table 2](#) lists provide descriptions for the software packages that are available with this release.

Table 2 - Release Package Information

Software Packages	Description
pcf.<version>.SPA.tgz	The PCF offline release signature package. This package contains the PCF deployment software, NED package, as well as the release signature, certificate, and verification information.
ncs-<nso_version>-pcf-nc-<version>.tar.gz	The NETCONF NED package. This package includes all the yang files that are used for NF configuration. Note that NSO is used for the NED file creation.

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>.

Related Documentation

For the complete list of documentation available for this release, go to: <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-policy-control-function/tsd-products-support-series-home.html>

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