



Release Notes for the 5G Converged Core (SMF and cnSGWc), Version 2024.03.3

First Published: 2024-09-20

5G Converged Core Session Management Function

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	31-Jul-2024
End of Life	EoL	31-Jul-2024
End of Software Maintenance	EoSM	29-Jan-2026
End of Vulnerability and Security Support	EoVSS	29-Jan-2026
Last Date of Support	LDoS	31-Jan-2027

These milestones and the intervals between them are defined in the [Cisco Ultra Cloud Core \(UCC\) Software Release Lifecycle Product Bulletin](#) available on [cisco.com](#).

Release Package Version Information

Software Packages	Version
ccg-2024.03.3.SPA.tgz	2024.03.3
NED package	ncs-5.6.8-ccg-nc-2024.03.3 ncs-6.1-ccg-nc-2024.03.3
NSO	5.6.8 6.1.11

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

Verified Compatibility

Products	Version
Ultra Cloud Core SMI	2024.03.1.12
Ultra Cloud CDL	1.11.8.1
Ultra Cloud Core UPF	2024.03.0
Ultra Cloud cnSGWc	2024.03.3

For information on the Ultra Cloud Core products, refer to the documents for this release available at:

- <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-subscriber-microservices-infrastructure/products-installation-and-configuration-guides-list.html>
- <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-user-plane-function/products-installation-and-configuration-guides-list.html>
- <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-serving-gateway-function/products-installation-and-configuration-guides-list.html>

Related Documentation

For the complete list of documentation available for this release, see <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-session-management-function/products-installation-and-configuration-guides-list.html>.

What's New in This Release

Features and Enhancements

There are no feature or enhancements in this release.

Behavior Changes

This section covers a brief description of behavior changes introduced in this release.

Behavior Change	Description
Improved SMF Handling of Invalid N1 Message Type Requests	<p>Previous Behavior: SMF expected the N1 Message Type to be N1 Establishment Request in the N11 SM Context Create Request. When SMF received the N11 SM Context Create Request with N1 Message Type as Release Request, the SMF handled the invalid message type in the following way:</p> <ul style="list-style-type: none"> • SMF decoded and processed the unexpected Release Request as the N1 Establishment Request, which resulted in an incorrect interpretation of the message. • Despite the incorrect decoding, the SMF continued with the session establishment, leading to call setup failures. • The incorrect handling of the Release Request message type caused the SMF service pod to restart. This restart resulted in service interruptions momentarily for sessions which were anchored on the restarted service pod. <p>New Behavior: Now, SMF handles the invalid N1 Message Type in the following way:</p> <ul style="list-style-type: none"> • SMF checks for the correct N1 Message Type in the N11 SM Context Create Request. • SMF immediately rejects the invalid requests with N1 Message Type as Release Request. • SMF sends a "400 Bad-Request" response without NAS details to AMF. • By rejecting the invalid request, the SMF avoids the undefined behavior and restarts that happened with the old behavior. <p>This behavior ensures that the SMF handles unexpected message types, such as handling of invalid N1 Message Type requests, gracefully, preventing service disruptions and maintaining the reliability of the 5G network.</p>

Related Documentation

For the complete list of documentation available for this release, see <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-session-management-function/products-installation-and-configuration-guides-list.html>.

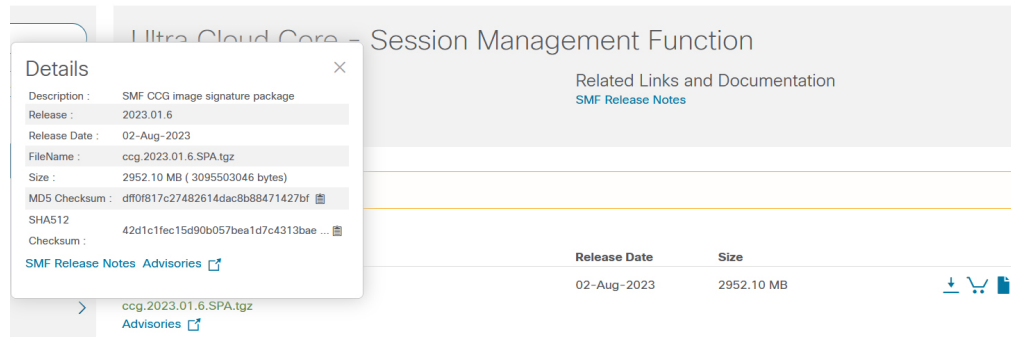
Installation and Upgrade Notes

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.



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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: Checksum Calculations per Operating System](#) 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 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>
Linux	Open a terminal window and type the following command: <pre>\$ sha512sum filename.extension</pre> <p>OR</p> <pre>\$ shasum -a 512 filename.extension</pre>
Note	filename is the name of the file. extension 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

SMF software images are signed via x509 certificates. Please view the .README file packaged with the software for information and instructions on how to validate the certificates.

Open Bugs for this Release

There are no open bugs in this specific software release.

Resolved Bugs for this Release

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

Bug ID	Headline	Behavior Change
CSCwm58741	SMF-Service pod Panic Message during Intial attach with - Release request	Yes

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.

Table 2: Release Package Information

Software Packages	Description
ccg.<version>.SPA.tgz	The SMF offline release signature package. This package contains the SMF deployment software, NED package, as well as the release signature, certificate, and verification information.
ncs-<nso_version>-ccg-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>.