



Release Notes for the Ultra Cloud Core Access and Mobility Management Function Version 2023.03.0

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Introduction

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

Release Lifecycle Milestones

Release Lifecycle Milestone	Milestone	Date
First Customer Ship	FCS	31-Jul-2023
End of Life	EoL	31-Jul-2023
End of Software Maintenance	EoSM	28-Jan-2025
End of Vulnerability and Security Support	EoVSS	28-Jan-2025
Last Date of Support	LDoS	31-Jan-2026

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
amf.2023.03.0.SPA.tgz	2023.03.0
cdl-1.11.4-amf-2023.03.0.SPA.tgz	1.11.4
NED package	ncs-6.1-amf-nc-2023.03.0
NSO	6.1

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	2023.03.1
Ultra-Cloud CDL	1.11.4

For information on the Ultra Cloud Core SMI release, refer to the SMI documents available at:

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

Feature and Behavior Changes

For a complete list of feature and behavior changes associated with this software release, see the [Release Change Reference](#) document.

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-access-mobility-management-function/products-installation-and-configuration-guides-list.html>.

Installation and Upgrade Notes

This Release Notes document 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 screenshot shows a 'Details' popup window for the 'AMF offline signature package'. The popup contains the following information:

- Description : AMF offline signature package
- Release : 2021.04.0
- Release Date : 29-Oct-2021
- FileName : amf.2021.04.0.SPA.tgz
- Size : 3570.75 MB (3744201907 bytes)
- MD5 Checksum : f59e1cb1321a633cee9d5f579d36e01f
- [AMF Release Notes](#)

In the background, a table lists software images with columns for Release Date and Size:

Release Date	Size
29-Oct-2021	3570.75 MB
29-Oct-2021	1419.21 MB

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 the one provided on the software download page.

To calculate a SHA512 checksum on your local desktop please see the table below.

Open Bugs for this Release

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

The 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.

NOTE: This software release may contain open bugs first identified in other releases. Additional information for all open bugs for this release is available in the Cisco Bug Search Tool.

Bug ID	Headline
CSCwe69418	PDCP integrity check failure for RRC Reconfiguration Complete during HO 5G to 4G after HO Command
CSCwe72384	Total event packets show much lesser count in AMF-LI stats as compared to LI-server stats
CSCwe80772	AMF to include correct Cause in UEContextRelCommand when error rsp is rx from peer NF during reg
CSCwe94799	ngap setup response not received from AMF(DUT) post SCTP VIP down
CSCwf69143	NGAP response not received from AMF after node 1 power off
CSCwf79433	Call model not recovered after sync successful for rolling upgrade from CM to AMF
CSCwf92261	After cdl upgrade, registration call model is impacted and not stable

Resolved Bugs for this Release

CSCwf93938	AMF upgrade from i138 April to i137 july, call model impacted
CSCwf94881	Security mode command does not include selected EPS NAS algorithms

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
CSCwf01720	N8 SDM subscription contains wrong format for monitoredResourceURI	No
CSCwf05074	AMF is not sending the pduSessionResourceSetup request to GNB during attach	No
CSCwf18984	UE is not working after going into idle mode, paging procedure is not completed	No
CSCwf23193	Wrong Criticality Set in DLTRANTransfer message by AMF towards gNB during N2HO IOT Testing	No
CSCwf23221	Wrong Criticality Set in HOPrepFail message by AMF towards gNB during N2HO IOT Testing	No
CSCwf28169	5G to 4G Handover procedure interrupted by source gNB Error Indication as reply to Handover Command	No
CSCwf29435	4gto5g HandoverFailure as AMF is unable to find the gNBID using peerkey	No
CSCwf30592	Intra AMF-N2HO is failing due to NewSecurityContextInd Optional IE set to True with No AMF Change	No

Cloud Native Product Version Numbering System

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

Release Package Descriptions

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 builds from main branch.

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.

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 "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 have 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](#) provides descriptions of the packages that are available with this release.

Table 2 – Release Package Information

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

Obtaining Documentation and Submitting a Service Request

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