UCC AMF Release Notes, Release 2025.01.0

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Ultra Cloud Core Access and Mobility 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-Jan-2025
End of Life	EoL	31-Jan-2025
End of Software Maintenance	EoSM	1-Aug-2026
End of Vulnerability and Security Support	EoVSS	1-Aug-2026
Last Date of Support	LDoS	31-Aug-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
amf.2025.01.0.SPA.tgz	2025.01.0
cdl-1.12.0-amf-2025.01.0.SPA.tgz	1.12.0
NED package	ncs-6.1-amf-nc-2025.01.0
NSO	6.1.14

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

Verified Compatibility

Products	Version
Ultra Cloud Core SMI	2025.01.1.14

Products	Version
Ultra Cloud CDL	1.12.0

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

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

What's New in this Release

Features and Enhancements

This section covers a brief description of the features and enhancements introduced in this release.

Feature	Description
AMF Compliance to 3GPP R16 Version	AMF 3GPP R16 support allows the AMF to handle and send additional information elements in existing supported messages. This feature is crucial for maintaining compatibility with the latest 3GPP standards, ensuring that the AMF can effectively communicate and manage mobility and session contexts in a 5G network.
Service Communication Proxy (SCP) Model-D for Peer Node Communication	SCP is the routing control point that mediates all signaling and control plane messages in the network core. SCP is responsible for optimizing routing of NF discovery requests to the Network Repository Function (NRF), load balancing, traffic prioritization, and message management. Command introduced: **nf-selection-model** *nf_model_priority* **[local | nrf-query | scp]** — Used for selection of NF model and its priority for NF peer communication. **Default Setting**: Disabled – Configuration required to enable.

Behavior Changes

There are no behavior changes in this release.

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.

Certificate Validation

AMF 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.

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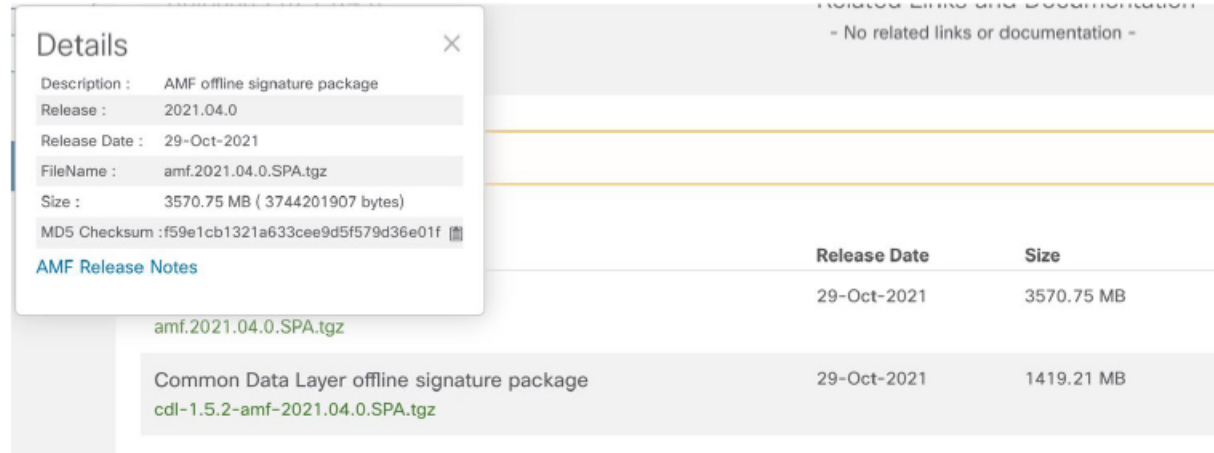
At the bottom, you will find the SHA512 checksum. If you do not see the whole checksum, you can expand it by pressing "..." at the end.

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 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: `> 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`

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.

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 is available in the Cisco Bug Search Tool.

Bug ID	Headline
CSCwn54254	Error log "Unique Key limit exceeded" osberved during frequent mobility registration updates for a subscriber.
CSCwn80975	LI events are not generating post LI pod kill.
CSCwn81408	AMF does not handle error indication received from gNB appropriately.

Resolved Bugs for this Release

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

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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
CSCwn53811	AMF does not send RINMR in SMC when NAS message container decoding fails.	No
CSCwn55233	Service pods heap memory increases if MTLR is triggered when context transfer guard timer is running.	No
CSCwn71522	AMF is initiatingNRPPa PDUtowards the gNBwith an additional length byte.	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.

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
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.