



UCC 5G RCM Release Notes, Release 2024.02.0

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Redundancy Configuration Manager

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	30-Apr-2024
End of Life	EoL	30-Apr-2024
End of Software Maintenance	EoSM	29-Oct-2025
End of Vulnerability and Security Support	EoVSS	31-Oct-2025
Last Date of Support	LDoS	31-Oct-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
rcm.2024.02.0.SPA.tgz	2024.02.0
NED package	ncs-6.1-rcm-nc-2024.02.0
NSO	6.1

Use this [link](#) to download the NED package associated with the software.

Verified Compatibility

Products	Version
Ultra Cloud Core SMI	2024.02.1.14
CDL	1.11.7

Products	Version
Ultra Cloud Core UPF	2024.02.0

What's New in this Release

Features and Enhancements

There are no features and enhancements in this release.

Behavior Changes

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

Behavior Change	Description
Range Values for Write Timeout CLI	<p>RCM supports a configurable I/O timeout for TCP socket from RCM CheckpointMgr to UPF.</p> <p>You can configure the write deadline timeout during switchover using the k8 smf profile rcm-config-ep write-timeout write_timeout_value CLI command.</p> <p>Previous Behavior: The write-timeout write_timeout_value command accepted any integer value.</p> <p>New Behavior: The range for the write-timeout write_timeout_value command is defined as 1 to 60000 milliseconds.</p> <p>The default value is 10000 milliseconds.</p>

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.

Rollback Procedure

To rollback RCM to a previous release from 2024.01.1 or 2024.02.0, use the following MOP:

1. Delete files containing the history of RCM switchover and other statistics from the following path:
*(cloud-user@rcm1-master-1)@rcm-controller-546dc48cf7-rtwlt:/\$ cd /controller/data; rm **
2. Shutdown RCM using **system mode shutdown** command for Ops-Center.
3. Downgrade the software build.
4. Restart RCM using **system mode running** command.

The following example shows the detailed steps for file deletion:

```

cloud-user@rcm1-master-1:/data/rcm-n-rcm1$ kubectl exec rcm-controller-546dc48cf7-rtwlt -n
rcm-n-rcm1 -it -- bash
groups: cannot find name for group ID 303
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace$
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace$ cd
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace$ cd controller/
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace/controller$ cd data/
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace/controller/data$ ls
pause_switchover  switchover_stats
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace/controller/data$ rm *
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace/controller/data$ ls
cloud-user@rcm1-master-1@rcm-controller-546dc48cf7-rtwlt:/opt/workspace/controller/data$

```

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 UPF release posted in the Software Download page.

Figure 1:

The screenshot shows the Cisco Software Download page for 'Ultra Cloud Core - User Plane Function', Release 2023.02.2.t1.0. A 'Details' pop-up window is open over a table of software packages. The pop-up window displays the following information:

- Description: VPC-SI binary software image signature package
- Release: 2023.02.2.t1.0
- Release Date: 11-Aug-2023
- FileName: qvpc-si-21.28.mt10.bin.SPA.tar.gz
- Size: 194.12 MB (203547769 bytes)
- MD5 Checksum: d86d3864378b16434d346c75e17e0bc6
- SHA512 Checksum: 1aa84d98d14e1cefad5d54266389d01e...

The table below shows the software packages available for download:

Package Name	Release Date	Size
qvpc-si-21.28.mt10.bin.SPA.tar.gz	11-Aug-2023	2.83 MB
qvpc-si-21.28.mt10.bin.SPA.tar.gz	11-Aug-2023	194.12 MB
VPC-SI qcow2 image signature package qvpc-si-21.28.mt10.qcow2.zip.SPA.tar.gz	11-Aug-2023	194.18 MB
Trusted VPC-SI binary software image signature package qvpc-si_T-21.28.mt10.bin.SPA.tar.gz	11-Aug-2023	188.31 MB
Trusted VPC-SI qcow2 image signature package qvpc-si_T-21.28.mt10.qcow2.zip.SPA.tar.gz	11-Aug-2023	188.38 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 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

RCM 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.

RCM Ops Center Logging Levels

It is recommended to use the following logging levels for RCM Ops Center to ensure that logs do not overflow.

```
logging level application debug
logging level transaction debug
logging level tracing off
```

```
logging name infra.dpd.core level application off
logging name infra.dpd.core level transaction off
logging name infra.dpd.core level tracing off
logging name infra.application.core level application off
logging name infra.application.core level transaction off
logging name infra.application.core level tracing off
```

```
logging name infra.etc_client.core level application warn
logging name infra.etc_client.core level transaction warn
logging name infra.etc_client.core level tracing off
logging name infra.dispatcher.core level application warn
logging name infra.dispatcher.core level transaction warn
logging name infra.dispatcher.core level tracing off
logging name infra.virtual_msg_queue.core level application warn
```

```

logging name infra.virtual_msg_queue.core level transaction warn
logging name infra.virtual_msg_queue.core level tracing off
logging name infra.edr.core level application warn
logging name infra.edr.core level transaction warn
logging name infra.edr.core level tracing off
logging name infra.ipcstream.core level application warn
logging name infra.ipcstream.core level transaction warn
logging name infra.ipcstream.core level tracing off
logging name infra.memory_cache.core level application warn
logging name infra.memory_cache.core level transaction warn
logging name infra.memory_cache.core level tracing off
logging name infra.topology_lease.core level application warn
logging name infra.topology_lease.core level transaction warn
logging name infra.topology_lease.core level tracing off
logging name infra.ipc_action.core level application warn
logging name infra.ipc_action.core level transaction warn
logging name infra.ipc_action.core level tracing off
logging name infra.vrf_etcd_update.core level application warn
logging name infra.vrf_etcd_update.core level transaction warn
logging name infra.vrf_etcd_update.core level tracing off
logging name infra.config.core level application warn
logging name infra.config.core level transaction warn
logging name infra.config.core level tracing off
logging name infra.heap_dump.core level application warn
logging name infra.heap_dump.core level transaction warn
logging name infra.heap_dump.core level tracing off
logging name infra.resource_monitor.core level application warn
logging name infra.resource_monitor.core level transaction warn
logging name infra.resource_monitor.core level tracing off
logging name infra.topology.core level application warn
logging name infra.topology.core level transaction warn
logging name infra.topology.core level tracing off
logging name infra.transaction.core level application warn
logging name infra.transaction.core level transaction warn
logging name infra.transaction.core level tracing off
logging name infra.diagnostics.core level application warn
logging name infra.diagnostics.core level transaction warn
logging name infra.diagnostics.core level tracing off

```

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
CSCwj31708	checkpointmgr restart @redmgrtcplocal.go:733

Resolved Bugs for this Release

There are no resolved bugs in this specific software release.

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
rcm.<version>.SPA.tgz	The RCM offline release signature package. This package contains the RCM deployment software, NED package, as well as the release signature, certificate, and verification information.
ncs-<nso_version>-rcm-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 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>.

