



Release Notes for UCC 5G UPF, Release 2026.03.h0



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Ultra Cloud Core - User Plane Function, Release 2026.03.h0

This Release Notes identifies changes and issues related to the release of 5G User Plane Function (UPF).

The key highlights of this release include:

- **Enhanced application performance and network efficiency:** This release introduces SCONE protocol support in the UPF, enabling network-aware throughput optimization for QUIC-based applications by providing explicit rate signals to endpoints.
- **Strengthened management-plane security:** StarOS now supports TLS-secured TACACS+ communication, facilitating encrypted AAA traffic and certificate-based trust validation between nodes and servers.
- **Improved visibility and granular troubleshooting:** The addition of stats profile to monitor per-QCI packet drop counters enables precise monitoring of traffic-specific packet loss across various consolidated categories, supporting better management of VoLTE and QoS-sensitive services.

For more information on UPF, see the [Related resources](#) section.

Release lifecycle milestones

The following table provides EoL milestones for Cisco UCC UPF software:

Table 1. EoL milestone information for UCC UPF, Release 2026.03.h0

Milestone	Date
First Customer Ship (FCS)	23-July-2026
End of Life (EoL)	23-July-2026
End of Software Maintenance (EoSM)	21-Jan-2028
End of Vulnerability and Security Support (EoVSS)	21-Jan-2028
Last Date of Support (LDoS)	31-Jan-2029

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.

New software features

This section provides a brief description of the new software features introduced in this release.

Table 2. New software features for UCC UPF, Release 2026.03.h0

Product impact	Feature	Description
Software Reliability	SCONE (Standard Communication with Network Elements) Support in UPF	This release introduces support for the SCONE protocol in the UPF, enabling network-aware throughput optimization for QUIC-based applications. SCONE allows the UPF to provide explicit throughput advice to SCONE-capable endpoints by updating a rate signal in QUIC SCONE packets,

Product impact	Feature	Description
		helping applications adapt to network-enforced bandwidth policies without excessive congestion probing.
Software Reliability	StarOS TACACS+ TLS Support	StarOS now supports TLS-secured TACACS+ communication, enabling encrypted AAA traffic and certificate-based trust validation between StarOS nodes and TACACS+ servers. This enhancement strengthens management-plane security while maintaining compatibility with existing TACACS+ deployments. TLS support must be enabled on both the StarOS node and the TACACS+ server to establish secure communication.
Ease of Use	Per-QCI Packet Drop Counters	This feature adds the support for per-QCI packet drop statistics in the UPF. To support this capability, this feature introduces configurable stats profiles, enhanced show commands, and reporting of packet drops across various consolidated drop categories. It enables improved visibility and troubleshooting of traffic-specific packet loss, including VoLTE and other QoS-sensitive services.

Changes in behavior

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

Table 3. Behavior changes for UCC UPF, Release 2026.03.0

Description	Behavior changes
Handling the limit of pending DNS records	Previous Behavior: When the UPF stores pending DNS records, it can free the records only when it receives the DNS Response for the DNS Request. When the UPF receives session idle timeout and tries to free the DNS session, it triggers EDR generation with cause ACS_DNS_EDR_TRANSACTION_COMPLETE_EVENT. As the amount of data stored in pending DNS record is very large, it causes the UPF to store the DNS-related field values beyond the allocated space and also writing some corrupted data. It is resulting in a system restart. New Behavior: This issue is fixed by introducing a CLI command in max-pending-dns-records <i><number-of-records></i>, under the Active Charging Services configuration mode. With this CLI, UPF stores limited number of DNS records in the system. When the configured threshold is reached, UPF clears the old DNS record (FIFO order). While purging the old record, UPF generates EDRs. It triggers EDR generation with cause ACS_DNS_EDR_TRANSACTION_COMPLETE_EVENT, without restart.

Resolved issues

This table lists the resolved issues in this specific software release.

Note: This software release may contain resolved bugs first identified in other releases. To see additional information, click the bug ID to access the [Cisco Bug Search Tool](#). To search for a documented Cisco product issue, type in the browser: <bug_number> site:[cisco.com](#)

Table 4. Resolved issues for UCC UPF, Release 2026.03.0

Bug ID	Description
CSCwm14072	Bulkstat CLI getting stuck with performance driven schema.
CSCwt30038	sessctl restart at Function: sessctrl_handle_mgr_notify_server_list_ipaddr_status_update().
CSCwt37394	Fatal Signal 6 Aborted uplane populate EDR field nssai sessmgr.
CSCwt70285	UPF Sends HTTP 302 Redirect After QER Gate Status Set to CLOSED.
CSCwt85465	TLS connection is not establishing with the LI-Server for X3 using 12 VPP worker thread.
CSCwt94724	Show crash info does not display the configuration.
CSCwu24188	Repeated non-fatal bulkstat signature snap.
CSCwu44945	UPF is incorrectly checksum with 0x0000 which is invalid per RFC 2460.
CSCwv60846	hd raid clear does not reliably clear HD RAID in hermes build, leading to HD RAID not-ready state after reload.

Open issues

This table lists the open issues in this specific software release.

Note: This software release may contain open bugs first identified in other releases. To see additional information, click the bug ID to access the [Cisco Bug Search Tool](#). To search for a documented Cisco product issue, type in the browser: <bug_number> site:[cisco.com](#)

Table 5. Open issues for UCC UPF, Release 2026.03.h0

Bug ID	Description
CSCws50373	The Sessmgr restart observed on UPF, memory allocation failed.
CSCwt93390	Seeing npumgr error logs ares_npumgr_vl_api_create_loopback_instance_t_callback.
CSCwv66623	QCI stats-profile does not increment for NAT Processing Failure drops.
CSCwv66631	QCI stats-profile SGACL drops categorized in Others bucket instead of dedicated SGACL Packet Drops
CSCwv66733	UPF stats-profile ACL Drop counters not incrementing for QCI-specific drop statistics.
CSCwv68410	Seen Segmentation fault at restarted at sn_anpusim_frag_input() on build 21.28.mh40.101104.

Known issues

There is no known issues that may occur during the upgrade of the UPF image.

Compatibility

This section lists compatibility information of the Cisco UCC software products that are verified to work with this version of the UCC UPF software.

Table 6. Compatibility information for UCC UPF, Release 2026.03.h0

Product	Supported Release
ADC Plugin	2.74.gh3.2817
RCM	2026.03.0
Ultra Cloud Core SMI	2026.03.1.08
Ultra Cloud SMF and cnSGWc	2026.03.0

Supported software packages

This section provides information about the release packages associated with UCC UPF software.

Table 7. Software packages for UCC UPF, Release 2026.03.h0

Software Package	Description	Release
companion-vpc-2026.03.h0.zip.SPA.tar.gz	Contains files pertaining to VPC, including SNMP MIBs, RADIUS dictionaries, ORBEM clients, etc. These files pertain to both trusted and non-trusted build variants. The VPC companion package also includes the release signature file, a verification script, the x.509 certificate, and a README file containing information on how to use the script to validate the certificate.	2026.03.h0 (21.28.mh40.101104)
qvpc-si-2026.03.h0.bin.SPA.tar.gz	The UPF release signature package. This package contains the VPC-SI deployment software for the UPF as well as the release signature, certificate, and verification information. Files within this package are nested under a top-level folder pertaining to the corresponding StarOS build.	2026.03.h0 (21.28.mh40.101104)
qvpc-si-2026.03.h0.qcow2.zip.SPA.tar.gz	The UPF release signature package. This package contains the VPC-SI deployment software for the UPF as well as the release signature, certificate, and verification information. Files within this package are nested under a top-level folder pertaining to the corresponding StarOS build.	2026.03.h0 (21.28.mh40.101104)
NED Package	The NETCONF NED package. This package includes all the yang files that are used for NF configuration.	ncs-6.4.8.2-cisco-staros-cli-5.59
NSO	Note that NSO is used for the NED file creation.	6.4.8

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

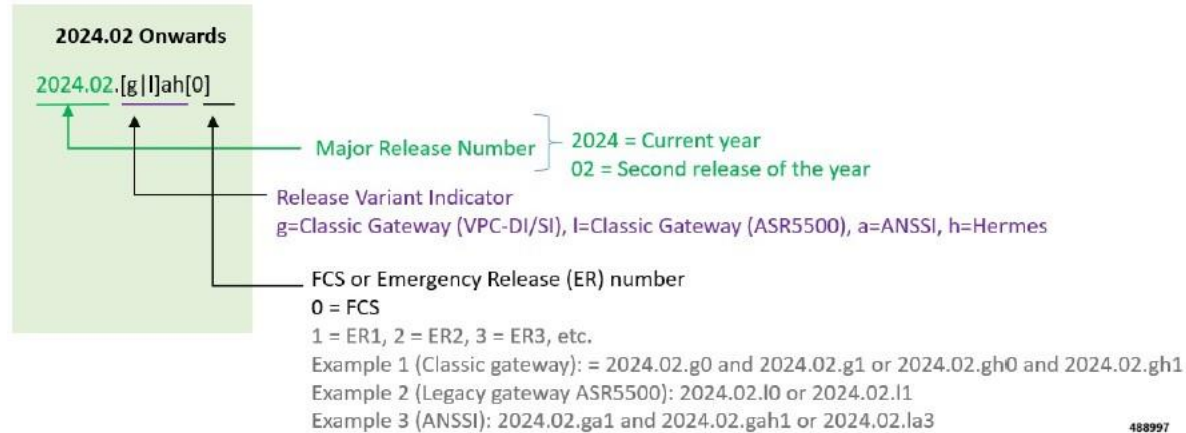
StarOS version numbering system

The output of the **show version** command displays detailed information about the version of StarOS currently running on the ASR 5500 or Cisco Virtualized Packet Core platform.

Note: Starting 2024.01.0 release (January 2024), Cisco is transitioning to a new release versioning scheme. The release version is based on the current year and product. Refer to the figure for more details.

During the transition phase, some file names will reflect the new versioning whereas others will refer to the 21.28.x- based naming convention. With the next release, StarOS-related packages will be completely migrated to the new versioning scheme.

Figure 1. StarOS version numbering system format

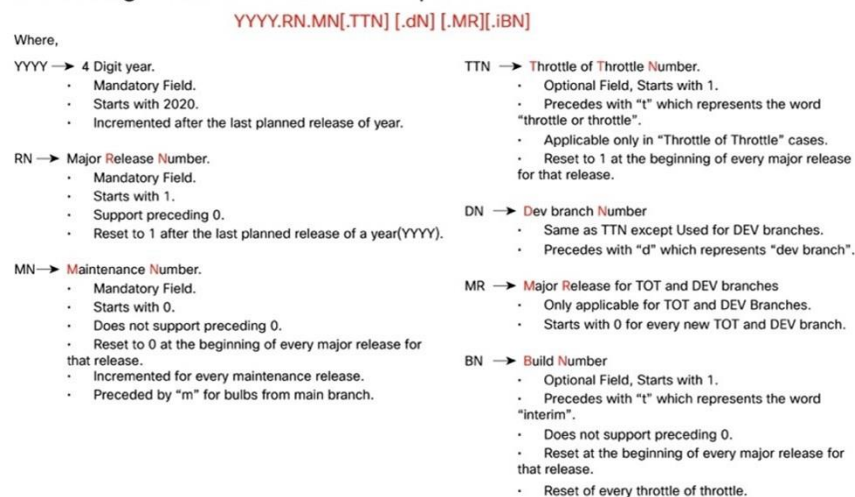


For any clarification, contact your Cisco account representative.

Cloud native product version numbering system

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

Figure 2. Cloud native product versioning format and description
Versioning: Format & Field Description



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

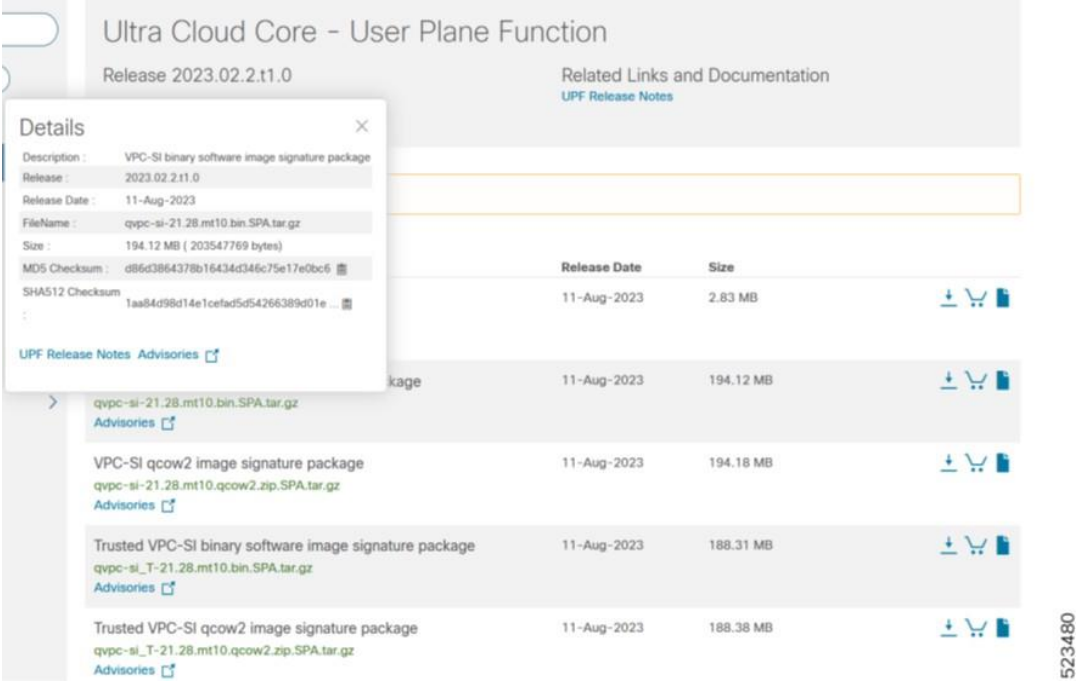
releases. This format facilitates identifying the changes between releases when using Bug Search Tool to research software releases.

Software integrity version

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.

Figure 3. Sample of UPF software image



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 the following table and verify that it matches the one provided on the software download page.

To calculate a SHA512 checksum on your local desktop, see this table.

Table 8. SHA512 checksum calculation commands by 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

Operating System	SHA512 checksum calculation command examples
	\$ shasum -a 512 <filename.extension>
Note: <filename> is the name of the file. <extension> is the file type 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 not to 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

UPF 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.

Related resources

Table 9. Related resources and additional information

Resources	Link
UPF documentation	User Plane Function
Ultra Cloud Core Subscriber Microservices Infrastructure	Subscriber Microservices Infrastructure
Ultra Cloud Core Session Management Function	Session Management Function
Ultra Cloud Core Serving Gateway Function	Ultra Cloud Core Serving Gateway Function
Service Request and Additional information	Cisco Support

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