



Release Notes for the Ultra Cloud Core User Plane Function

Version 2022.01.0

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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	9-Feb-2022
End of Life	EoL	9-Feb-2022
End of Software Maintenance	EoSM	10-Aug-2023
End of Vulnerability and Security Support	EoVSS	10-Aug-2023
Last Date of Support	LDoS	31-Aug-2024

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
companion-vpc-21.26.2.zip.SPA.tar.gz	21.26.2
qvpc-si-21.26.2.bin.SPA.tar.gz	21.26.2
qvpc-si-21.26.2.qcow2.zip.SPA.tar.gz	21.26.2
qvpc-si_T-21.26.2.bin.SPA.tar.gz	21.26.2
qvpc-si_T-21.26.2.qcow2.zip.SPA.tar.gz	21.26.2

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

Verified Compatibility

Products	Version
ADC Plugin	2.67.1.1496
RCM	2022.01.0.i6
Ultra Cloud Core SMI	2020.02.2.i47
Ultra Cloud Core SMF	2021.02.3

Related Documentation

For a complete list of documentation available for this release, go to: <https://www.cisco.com/c/en/us/support/wireless/ultra-cloud-core-user-plane-function/series.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.

The screenshot shows a 'Details' popup window on the left and a table of software images on the right. The popup contains the following information:

- Description: UPF VPC-SI binary software image signature package
- Release: 3099.01.0
- Release Date: 29-Jan-2020
- FileName: upf.3099.01.0.SPA.tgz
- Size: 169.69 MB (177935223 bytes)
- MD5 Checksum: 644adad53e397f7657f493e576bcd338

The table on the right, titled 'Related Links and Documentation', shows the following data:

	Release Date	Size	
UPF VPC-SI binary software image signature package upf.3099.01.0.SPA.tgz	29-Jan-2020	169.69 MB	↓
UPF trusted VPC-SI binary software image signature package upf_T.3099.01.0.SPA.tgz	29-Jan-2020	164.05 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 please see 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>
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 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.

MD5 Checksum Details

Software Packages	MD5 Checksum
companion-vpc-21.26.2.zip.SPA.tar.gz	461c768dd60c903452528de7b89698ef
qvpc-si-21.26.2.bin.SPA.tar.gz	f3cb754082403b26ea363888d0affe9a
qvpc-si-21.26.2.qcow2.zip.SPA.tar.gz	379beca3e86d1a097a28de! 1bfc1527d9
qvpc-si_T-21.26.2.bin.SPA.tar.gz	7ea6970649b7c397466d2b9ebc9eb385
qvpc-si_T-21.26.2.qcow2.zip.SPA.tar.gz	ea7fbd00fdce5d8c74c3d5bcf78bf768

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.

Open Bugs for this Release

The following table lists the known bugs that were found in this software release and which remain open.

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
CSCvz47574	[UPF SVI] :- PCF initiated Dedicated bearer creation is not working [EPSFB] on hSMF
CSCvz80896	[UPF]: Next-hop row is not created if next-hop cli is added in middle of the call
CSCvz92788	[UPF] SNMP traps have incorrect data types for IP address and timestamps
CSCwa49743	[UPF-VoN7] Static rules are not accounted for session level usage monitoring from PCF
CSCwa54770	[SMF-SVI] UPF crash at sessmgr_is_clp_disconnecting during SMF SVI BV run - 21.22.ua4.82735
CSCwa61527	show cdr statistics output not displayed on UPFs
CSCwa75121	[UPF-VoN7] UPF doesn't trigger Sx Session Report for Volume Threshold breach intermittently
CSCwa75370	[Combo-UPF] Uplink data is not getting offloaded after Converged to Non-Converged SGW Relocation
CSCwa79438	[F99512] UPF doesn't enable Monitoring time received from SMF for Tariff Time usage from CHF
CSCwa84748	[SVI-UPF]: No calls are recovered after RCM SW from standby to active UPF when then HA is shutdown
CSCwa84825	[F99512]Session Report for quota exhaust not triggered post sessmgr restart with tariff time expiry
CSCwa88187	[F99512]Session Report for online URR quota exhaust not triggered for dynamic PCC rules

Resolved Bugs for this Release

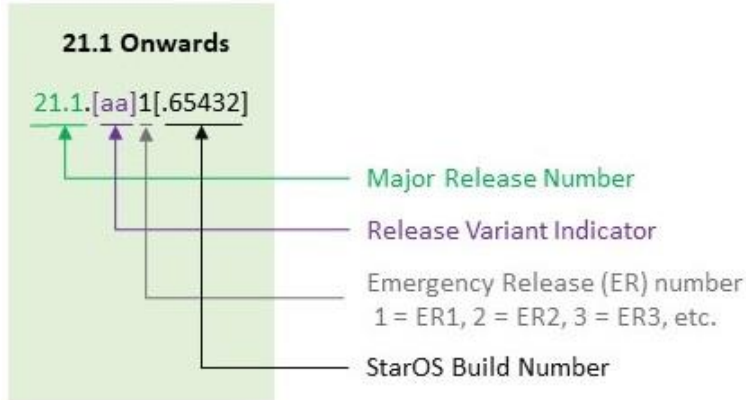
None in this release.

Operator Notes

StarOS Version Numbering System

The output of the **show version** command displays detailed information about the version of StarOS currently running on the ASR 5x00 or Cisco Virtualized Packet Core platform.

The Version Build Number for releases 21.1 and later include a major and emergency release number, for example, "21.1.1".

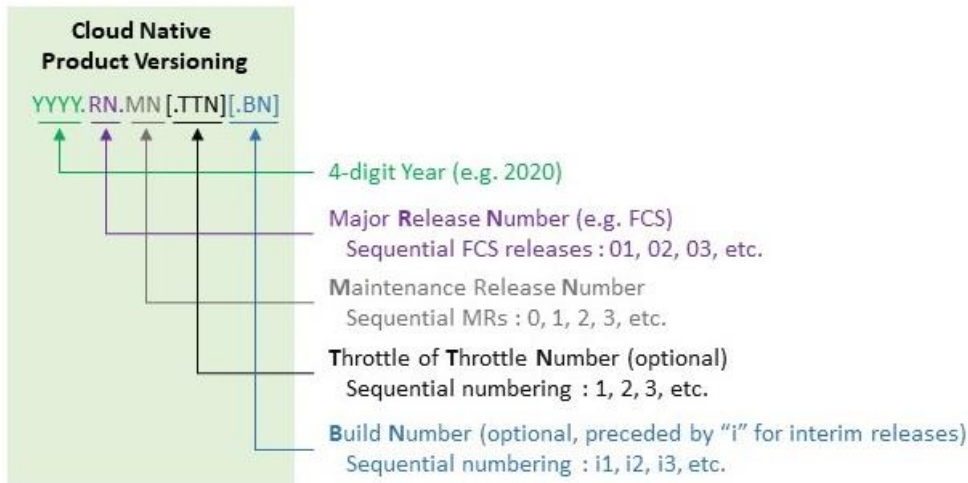


The appropriate version number field increments after a version has been released. The new version numbering format is a contiguous sequential number that represents incremental changes between releases. This format facilitates identifying the changes between releases when using Bug Search Tool to research software releases.

NOTE: The 5G UPF software is based on StarOS and implements the version numbering system described in this section. However, as a 5G network function (NF), it is posted to Cisco.com under the Cloud Native Product Numbering System as described in [Cloud Native Product Version Numbering System](#).

Cloud Native Product Version Numbering System

Though the packages that comprise the UPF use the StarOS version numbering system as described in the previous section, the UPF product leverages the cloud native version numbering system described below.



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

[Table 2](#) lists provides descriptions for the packages that are available with this release.

Table 2 - Release Package Information

Software Packages	Description
companion-vpc-<staros_version>.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.
qvpv-si-<staros_version>.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.
qvpv-si-<staros_version>.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.
qvpv-si_T-<staros_version>.bin.SPA.tar.gz	The trusted 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.
qvpv-si_T-<staros_version>.qcow2.zip.SPA.tar.gz	The trusted 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.

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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