



# Release Notes for the Ultra Cloud Core User Plane Function

## Version 2021.02.2

**First Published:** October 29, 2021

**Last Updated:** October 29, 2021

### Introduction

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

### Release Package Version Information

Software Packages	Version
companion-vpc-21.22.ua4.zip.SPA.tar.gz	21.22.ua4
qvpc-si-21.22.ua4.bin.SPA.tar.gz	21.22.ua4
qvpc-si-21.22.ua4.qcow2.zip.SPA.tar.gz	21.22.ua4
qvpc-si_T-21.22.ua4.bin.SPA.tar.gz	21.22.ua4
qvpc-si_T-21.22.ua4.qcow2.zip.SPA.tar.gz	21.22.ua4

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

### Verified Compatibility

Products	Version
RCM	rcm.2021.02.2.i27
Ultra Cloud Core SMI	2020.02.2.i41
Ultra Cloud Core SMF	2021.02.2.i398

### 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>

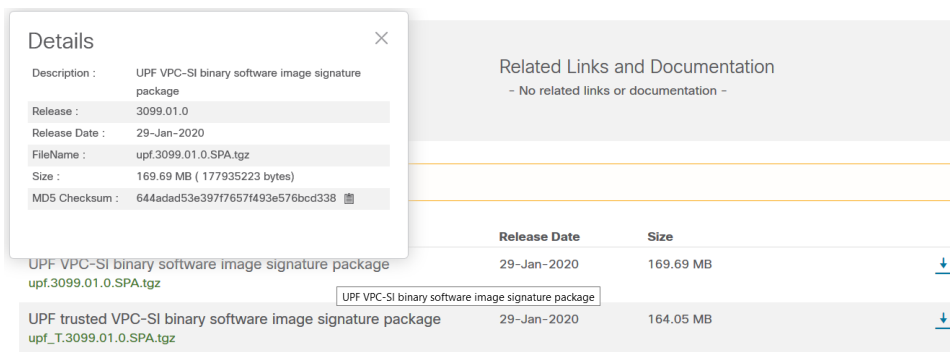
## Installation and Upgrade Notes

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.



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  <pre>&gt; certutil.exe -hashfile &lt;filename&gt;.&lt;extension&gt; SHA512</pre>
Apple MAC	Open a terminal window and type the following command  <pre>\$ shasum -a 512 &lt;filename&gt;.&lt;extension&gt;</pre>
Linux	Open a terminal window and type the following command  <pre>\$ sha512sum &lt;filename&gt;.&lt;extension&gt;</pre> <p>Or</p> <pre>\$ shasum -a 512 &lt;filename&gt;.&lt;extension&gt;</pre>

Operating System	SHA512 checksum calculation command examples
<b>NOTES:</b>  <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-21.22.ua4.zip.SPA.tar.gz	b2795a7c0ea06ebfa583552b80da5cfe
qvpc-si-21.22.ua4.bin.SPA.tar.gz	c8f0e0a33478def9cbc1d78dca13c32d
qvpc-si-21.22.ua4.qcow2.zip.SPA.tar.gz	18622d0bff9b33db16d700fd60be626
qvpc-si_T-21.22.ua4.bin.SPA.tar.gz	09a1da6c69f59ed48df2e4242e0074e7
qvpc-si_T-21.22.ua4.qcow2.zip.SPA.tar.gz	67d126f8302299de0850487fec7cde

## 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
<a href="#">CSCvw74614</a>	[Combo-UPF]: Peer ID is not displayed correctly in show sx peers cli
<a href="#">CSCvy83156</a>	UPF not detecting the path failure for one of the SMF peer in Multi SMF peer connectivity

## Resolved Bugs for this Release

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

Operator Notes

**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](#).

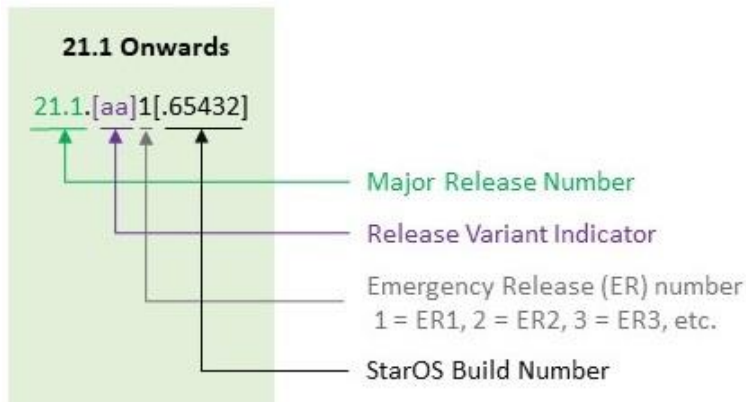
Bug ID	Headline	Product	Behavior Change
<a href="#">CSCvy50485</a>	[SVI-UPF]: vpp restarts at sn_assert_signal_handler()	UPF	No
<a href="#">CSCwa04293</a>	UPF : DNS re-addressing not happening in VPP	UPF	No

## 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".

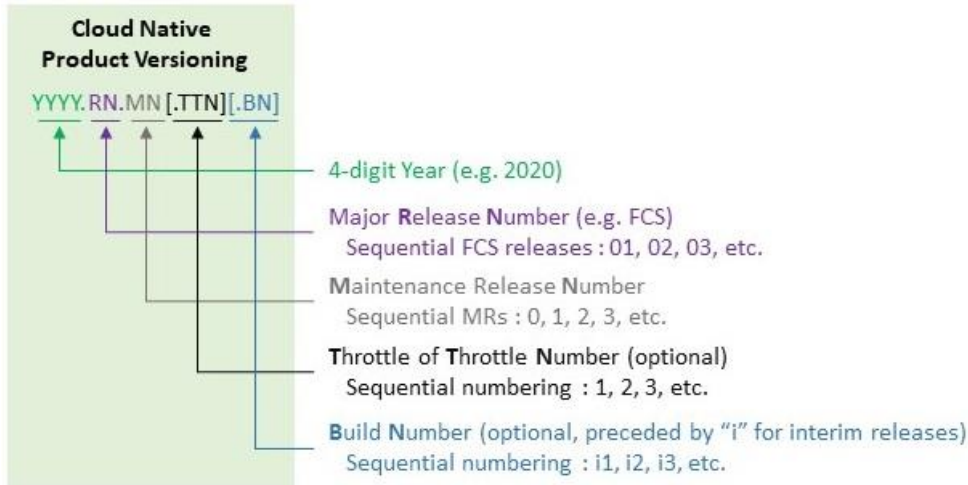


The appropriate version number field increments after a version has been released. The new version numbering format is a contiguous sequential number that represents incremental changes between releases. This format facilitates identifying the changes between releases when using Bug Search Tool to research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

## Obtaining Documentation and Submitting a Service Request

Software Packages	Description
qnpc-si_T-<staros_version>.qcow2.zip.SPA.tar.gz	<p>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.</p> <p>Files within this package are nested under a top-level folder pertaining to the corresponding StarOS build.</p>

## 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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