



Release Notes for the Ultra Cloud Core User Plane Function

Version 2020.03.0

First Published: September 22, 2020

Last Updated: September 22, 2020

Introduction

This Release Notes identifies changes and issues related to this software release. This release is the next major release for this product after 2020.02.0.

This UPF release corresponds to the 5G product release 2020.03.0.

Release Package Version Information

Software Packages	Version
qvpc-si-21.18.10.bin.SPA.tar.gz	21.18.10
qvpc-si_T-21.18.10.bin.SPA.tar.gz	21.18.10

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

Verified Compatibility

Products	Version
Ultra Cloud Core PCF	2020.03.0
Ultra Cloud Core SMI	2020.03.0
Ultra Cloud Core SMF	2020.03.0

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/tsd-products-support-series-home.html>

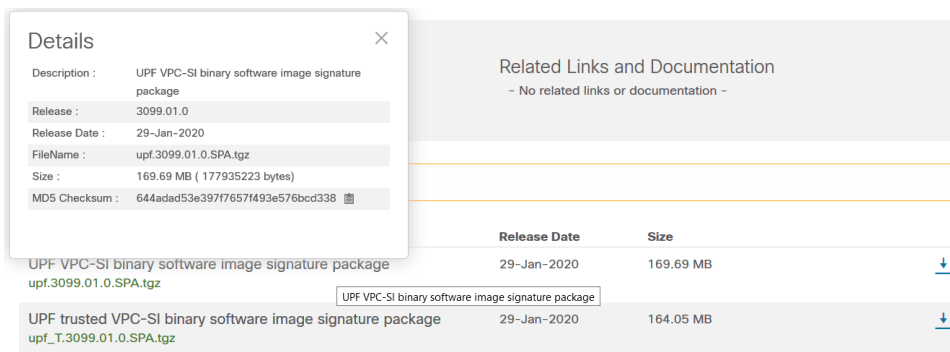
Installation and Upgrade Notes

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 > 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>

Operating System	SHA512 checksum calculation command examples
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.

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
CSCvt89111	[UPF-IVT] Message Priority IE is not show in PFCP msg header
CSCvu21615	Fatal signal at uplane_handle_itc_processing() after push config from CP
CSCvu23072	[SVI UPF] session modification req failure on FAR already present with FAR ID 0x N2HO
CSCvu23147	[SVI UPF] session modification req failure N4] QER cannot be removed as atleast one PDR still refer
CSCvu38266	[fapi 223801 error] fastpath_stream_delete(): Hash Delete, returned error 0x80005004
CSCvu55279	On removing CP Grp config from standby chassis, SxAssociationReq to release association is triggered
CSCvv29314	[UPF-IVT] UPF denies SessEstReq and reporting aaamgr memory limit exhausts

Resolved Bugs for this Release

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

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](#).

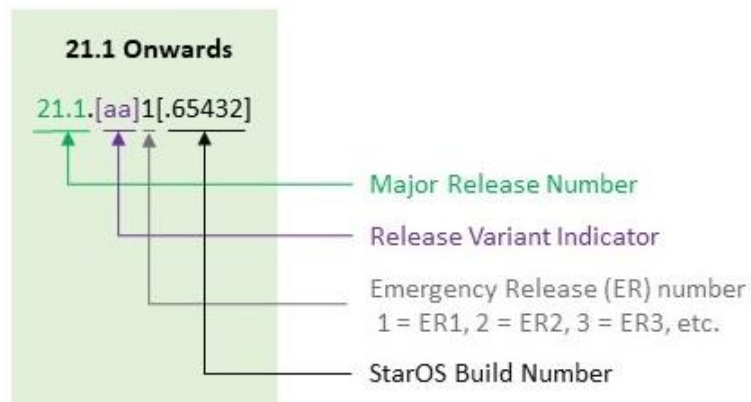
Bug ID	Headline
CSCvr05520	[BP-CUPS] sessmgr 10699/ sgw 140014 error- Get Peer Profile Request failed/Failure dispatching event
CSCvs30327	[BP-CUPS] invalid User-plane call-rcvry-info vpid:0
CSCvs40189	[BP-CUPS] vpnmgr over memory limits
CSCvt30501	Potential memory leak issue at function sessmgr_uplane_alloc_simple_buffer for TCP OOO

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
upf.<version>.SPA.tgz	<p>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.</p> <p>Files within this package are nested under a top-level folder pertaining to the corresponding StarOS build.</p>
upf_T.<version>.SPA.tgz	<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>.

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright ©1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <http://www.cisco.com/go/trademarks>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

© 2020 Cisco Systems, Inc. All rights reserved.