

Release Notes for StarOS[™] Software Version 21.19.n4

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Introduction

This Release Note identifies changes and issues related to this software release. This emergency release is based on release 21.19.n3. These release notes are applicable to the VPC-SI and VPC-DI platforms.

NOTE: This 21.19.n4 release is solely intended for customers pursuing ANSSI certification. Please contact your local Sales or Support representative for more information.

Release Package Version Information

Table 1 - Release Package Version Information

Software Packages	Version
StarOS packages	21.19.n4, build 77301

Descriptions for the various packages provided with this release are located in <u>Release Package Descriptions</u>.

Feature and Behavior Changes

The following features and/or behavior changes have been introduced in this emergency release.

Refer to the *Release Change Reference* for a complete list of feature and behavior changes associated with this software release.

Related Documentation

For a complete list of documentation available for this release, go to <u>http://www.cisco.com/c/en/us/support/wireless/asr-5000-</u> series/products-installation-and-configuration-guides-list.html.

Installation and Upgrade Notes

This Release Note does not contain installation and upgrade instructions. Refer to the existing installation documentation for specific installation and upgrade considerations.

Firmware Updates

There are no firmware upgrades required for this release.

Installation and Upgrade Notes

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 the following mechanisms:

 Cisco.com Software Download Details: To find the checksum, hover the mouse pointer over the software image you have downloaded.

File Information			Release Date 🔻	Size	
ASR System Softwa 21_2_3_ReleaseNotes			27-JUN-2017	0.46 MB	Download Add to cart
ASR System Softv asr5500-21.2.3.cksu	Details Description:	ASR System Software 21.2.3		В	Download Add to cart
ASR System Softv asr5500-21.2.3.zip	Release: Release Date: File Name:	21.2.3 27/Jun/2017 21_2_3_ReleaseNotes.pdf) MB	Download Add to cart
ASR System Softv asr5500_T-21.2.3.zi	Size: MD5 Checksum: SHA512 Checksur	0.45 MB (476054 bytes) 5cfb2b0c7c87c84d35acca8d54 n: c4eb836090a1867146d93d1ce		2 MB	Download Add to cart
ASR System Softv companion-21.2.3.tg	Security Advisory			В	Download Add to cart

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.

• .cksums file: A file containing software image checksum information is distributed with the image files. The naming convention for this file is:

<product>-<version>.cksums

Example: asr5500-21.4.0.cksums

To validate the information, calculate a SHA512 checksum using the information in <u>Table 2</u> 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 2 - Checksui	n Calculations per	Operating System
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Operating System	SHA512 checksum calculation command examples	
Microsoft Windows	Open a command line window and type the following command	
	<pre>> certutil.exe -hashfile <filename>. <extension> SHA512</extension></filename></pre>	
Apple MAC	Open a terminal window and type the following command	
	<pre>\$ shasum -a 512 <filename>.<extension></extension></filename></pre>	

Open Bugs in this Release

Operating System	SHA512 checksum calculation command examples	
Linux	Open a terminal window and type the following command	
	<pre>\$ sha512sum <filename>.<extension></extension></filename></pre>	
	Or	
	<pre>\$ shasum -a 512 <filename>. <extension></extension></filename></pre>	
NOTES:		
<filename> is the na</filename>	me of the file.	
<extension> is the f</extension>	<pre><extension> is the file extension (e.gzip or .tgz).</extension></pre>	

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

In 21.12.0 and later releases, software images for StarOS, VPC-DI, and VPC-SI, and the companion software packages for StarOS and VPC are signed via x509 certificates. In pre-21.12.0 releases, image signing is not supported for VPC-DI and VPC-SI images, and for StarOS and VPC companion software packages.

USP ISO images are signed with a GPG key.

For more information and instructions on how to validate the certificates, refer to the README file available with the respective software packages.

Open Bugs in this Release

The following table lists the known bugs that were found in, and/or that remain open in this 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 <u>Cisco Bug Search Tool</u>.

Bug ID	Headline	Product Found*
CSCvv03378	"[BP-CUPS]: 12241: sessmgr_ggsn_fill_sub_sess_recovery_info: sgsn gtpu addr NULL callid 99c0d4,"	cups-cp
CSCvu86949	[BP-CUPS]: sessmgr restart at acsmgr_allocate_far_id()	cups-cp
CSCvu19838	[BP-CUPS] Error Log SEID: Ê Non-zero Correlation id while sending Sx session report request	cups-up
CSCvt15619	[BP-CUPS] : Packet filter list at Uplane is getting corrupted resulting in incorrect rule match	cups-up
CSCvu14068	[BP_CUPS] : Incorrect i/p o/p data in "sh sub user-plan full all" after SR under specific condition	cups-up
CSCvt97779	"[BP_CUPS] CF: sessmgr recovery when done in a particular sequence, call gets dropped"	cups-up

Table 3 - Open Bugs in this Release

Resolved Bugs in this Release

Bug ID	Headline	Product Found*		
CSCvu19067	'clear crypto statistics' does not clear Combined Data Stats in 'show crypto statistics'	cups-up		
CSCvu01174	ipsecmgr crash while changing ipsec transform-set hmac config	cups-up		
CSCvu00150	[PLT-CUPS]: The p2p app-identifier tls-sni related CLIs failing at UP	cups-up		
CSCvu19385	[BP-CUPS] ICSR - Fatal Signal 11 uplane_sfw_nat_gr_handle_nat_realm_update	cups-up		
CSCvu35075	IPSec SA rekey happens only if 'keepalive' is also configured	cups-up		
CSCvv17717	[CUPS] UP rejecting calls cause Reporting Triggers not valid	cups-up		
CSCvu18163	Recovery mechanism is not working as expected for CIOT calls after session manager restart	mme		
CSCvu20041	Delete counter not incremented proeprly for Monte	mme		
CSCvu70861	[MONTE] RIR is not sent in case if eDRX activated not during Attach but in TAU	mme		
CSCvu19454	Wu19454 MME doesn't return the UE count in a geographical area when imsi-group is configured in hex-format			
CSCvu40373	MONTE: MME doesn't send "Supported-Services" AVP in ISDA S6a	mme		
CSCvu19517	Maximum-Response-Time AVP is not used as Active Time for PSM	mme		
CSCvu35147	MONTE: eDRX Device: MME is not sending RIR when UE becomes reachable	mme		
CSCvu70881	[MONTE] Missing AVP 3142 Monitoring-Event-Config-Status in IDA from MME mr			
CSCvu81405	Revert back CSCvr34106 mme			
CSCvu20206	Loss of connectivity report not triggered for PS to CS SRVCC scenario for Monte with IP PDN	mme		
CSCvu20626	[MONTE] bulkstats counter issue for num-of-ues-in-geographical-area	mme		
CSCvu35160	MONTE: MME sends RIR with a weird AVP User-Name value	mme		
CSCvt79109	"[MONTE]: On PDN Connectivity Status, RIA are not incrementing for detach on scef-service statistics"			
CSCvt47005	[BP-Legacy] Traffic allowed despite CCR failure with FHT continue discard traffic post recovery	pdn-gw		
CSCvu05306	"After rekey, IPSec SA Pkts count not reset with IKEv2 SA re-establishment triggered by peer"	staros		

Resolved Bugs in 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 <u>Cisco Bug Search Tool</u>.

Table 4 -	Resolved	Bugs in	this	Release
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Bug ID	Headline	Product Found*
CSCvt34356	BP-CUPS- sessmgr_pgw_handle_pcc_intf_evt_modify_rsp()	cups-cp
CSCvu20051	Fatal Signal 11: 11 PC: [0ce596da/X] sn_memblock_cache_block_flush()	cups-cp
CSCvu64755	Session manager restart at sn_memblock_cache_block_flush()	cups-cp
CSCvv10054	crash seen in active CP when apn configured wiht invalid pool name-associate to UP	cups-cp
CSCvv01586	[CUPS-UP] show boot initial-config displays "encrypted li errors" on UP	cups-up
CSCvv46291	[CUPS-UP] bgp restart at sn_npumgr_bia_allocate() after peer router reload	cups-up
CSCvt74168	UltraM / StarOs configuration was not fully loaded after chassis reloaded	staros
CSCvv21979	[VPC] sw-rss does not handle ipv4 packets correctly that introduces out of order packets	staros
CSCvv17391	vpp stat segment is not releasing lock on time leading to npumgr crash	staros

Operator Notes

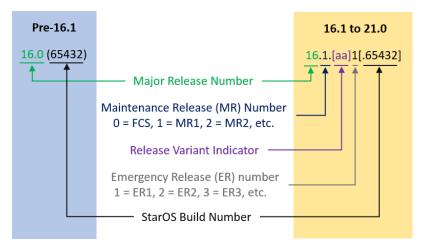
StarOS Version Numbering System

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.

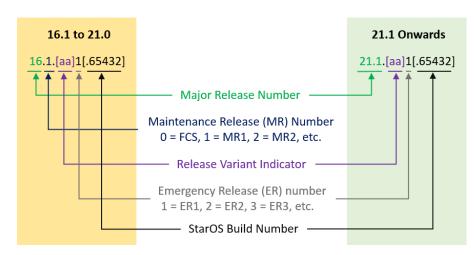
Prior to release 16.1, the *Image Version* field displayed a branch of software including the build number, for example "16.0 (55435)". Subsequent releases of software for the major release differed only in build number. Lab Quality/EFT releases versus deployment releases also differed only in build number.

From release 16.1 onwards, the output of the **show version** command, as well as the terminology used to describe the Build Version Number fields, has changed. Additionally, **show version** will display slightly different information depending on whether or not a build is suitable for deployment.

The Version Build Number for releases between 16.1 and 21.0 include a major, maintenance, and emergency release number, for example "16.1.2".



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



In either scenario, 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 will facilitate identifying the changes between releases when using Bug Search Tool to research software releases.

Release Package Descriptions

Table 5 provides descriptions for the packages that are available with this release.

In 21.12.0 and later Releases	In pre-21.12.0 Releases	Description
ASR 5500		
asr5500- <release>.zip</release>	asr5500- <release>.bin</release>	Contains the signed ASR 5500 software image, the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
asr5500_T- <release>.zip</release>	asr5500_T- <release>.bin</release>	Contains the signed, trusted ASR 5500 software image, the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
StarOS Companion Packa	ge	
companion- <release>.zip</release>	companion- <release>.tgz</release>	Contains numerous files pertaining to this version of the StarOS including SNMP MIBs, RADIUS dictionaries, ORBEM clients. These files pertain to both trusted and non-trusted build variants. In 21.12.0 and later releases, the StarOS companion package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
VPC-DI		
qvpc-di- <release>.bin.zip</release>	qvpc-di- <release>.bin</release>	Contains the VPC-DI binary software image that is used to replace a previously deployed image on the flash disk in existing installations. In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.

Table 5 - Release Package Information

In 21.12.0 and later	In pre-21.12.0 Releases	Description
Releases qvpc-di_T-	qvpc-di_T- <release>.bin</release>	Contains the trusted VPC-DI binary software image that is used to replace
<release>.bin.zip</release>		a previously deployed image on the flash disk in existing installations.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di- <release>.iso.zip</release>	qvpc-di- <release>.iso</release>	Contains the VPC-DI ISO used for new deployments, a new virtual machine is manually created and configured to boot from a CD image.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di_T- <release>.iso.zip</release>	qvpc-di_T- <release>.iso</release>	Contains the trusted VPC-DI ISO used for new deployments, a new virtual machine is manually created and configured to boot from a CD image.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di-template- vmware- <release>.zip</release>	qvpc-di-template- vmware- <release>.tgz</release>	Contains the VPC-DI binary software image that is used to on-board the software directly into VMware.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di-template- vmware_T- <release>.zip</release>	qvpc-di-template- vmware_T- <release>.tgz</release>	Contains the trusted VPC-DI binary software image that is used to on- board the software directly into VMware.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di-template-libvirt- kvm- <release>.zip</release>	qvpc-di-template-libvirt- kvm- <release>.tgz</release>	Contains the same VPC-DI ISO identified above and additional installation files for using it on KVM.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di-template-libvirt- kvm_T- <release>.zip</release>	qvpc-di-template-libvirt- kvm_T- <release>.tgz</release>	Contains the same trusted VPC-DI ISO identified above and additional installation files for using it on KVM.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-di- <release>.qcow2.zip</release>	qvpc-di- <release>.qcow2.tgz</release>	Contains the VPC-DI binary software image in a format that can be loaded directly with KVM using an XML definition file, or with OpenStack.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.

In 21.12.0 and later Releases	In pre-21.12.0 Releases	Description
qvpc-di_T- <release>.qcow2.zip</release>	qvpc-di_T- <release>.qcow2.tgz</release>	Contains the trusted VPC-DI binary software image in a format that can be loaded directly with KVM using an XML definition file, or with OpenStack.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
VPC-SI	1	
qvpc-si- <release>.bin.zip</release>	qvpc-si- <release>.bin</release>	Contains the VPC-SI binary software image that is used to replace a previously deployed image on the flash disk in existing installations.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-si_T- <release>.bin.zip</release>	qvpc-si_T- <release>.bin</release>	Contains the trusted VPC-SI binary software image that is used to replace a previously deployed image on the flash disk in existing installations.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-si- <release>.iso.zip</release>	qvpc-si- <release>.iso</release>	Contains the VPC-SI ISO used for new deployments, a new virtual machine is manually created and configured to boot from a CD image.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-si_T- <release>.iso.zip</release>	qvpc-si_T- <release>.iso</release>	Contains the trusted VPC-SI ISO used for new deployments a new virtual machine is manually created and configured to boot from a CD image.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-si-template- vmware- <release>.zip</release>	qvpc-si-template- vmware- <release>.ova</release>	Contains the VPC-SI binary software image that is used to on-board the software directly into VMware.
		In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-si-template- vmware_T- <release>.zip</release>	qvpc-si-template- vmware_T-	Contains the trusted VPC-SI binary software image that is used to on- board the software directly into VMware.
	<release>.ova</release>	In 21.12.0 and later releases, this package also includes the signature file, a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.

Obtaining Documentation and Submitting a Service Request

In 21.12.0 and later	In pre-21.12.0 Releases	Description
Releases		
qvpc-si-template-libvirt-	qvpc-si-template-libvirt-	Contains the same VPC-SI ISO identified above and additional installation
kvm- <release>.zip</release>	kvm- <release>.tgz</release>	files for using it on KVM.
		In 21.12.0 and later releases, this package also includes the signature file,
		a verification script, the x509 certificate, and a README file containing information on how to use the script to validate the certificate.
qvpc-si-template-libvirt- kvm_T- <release>.zip</release>	qvpc-si-template-libvirt- kvm_T- <release>.tgz</release>	Contains the same trusted VPC-SI ISO identified above and additional installation files for using it on KVM.
		In 21.12.0 and later releases, this package also includes the signature file,
		a verification script, the x509 certificate, and a README file containing
		information on how to use the script to validate the certificate.
qvpc-si-	qvpc-si-	Contains the VPC-SI binary software image in a format that can be loaded
<release>.qcow2.zip</release>	<release>.qcow2.gz</release>	directly with KVM using an XML definition file, or with OpenStack.
		In 21.12.0 and later releases, this package also includes the signature file,
		a verification script, the x509 certificate, and a README file containing
		information on how to use the script to validate the certificate.
qvpc-si_T-	qvpc-si_T-	Contains the trusted VPC-SI binary software image in a format that can
<release>.qcow2.zip</release>	<release>.qcow2.gz</release>	be loaded directly with KVM using an XML definition file, or with OpenStack.
		In 21.12.0 and later releases, this package also includes the signature file,
		a verification script, the x509 certificate, and a README file containing
		information on how to use the script to validate the certificate.
VPC Companion Package		
companion-vpc-	companion-vpc-	Contains numerous files pertaining to this version of the VPC including
<release>.zip</release>	<release>.tgz</release>	SNMP MIBs, RADIUS dictionaries, ORBEM clients. These files pertain to
		both VPC-DI and VPC-SI, and for trusted and non-trusted build variants.
		In 21.12.0 and later releases, the VPC companion package also includes the signature file, a verification script, the x509 certificate, and a
		README file containing information on how to use the script to validate
		the certificate.

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, see What's New in Cisco Product Documentation, at:

http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

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