StarOS™ Software Version 21.6.9 and Ultra Service Platform Software Version 5.1.13 Release Notes

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Introduction

These Release Notes identify a list of resolved/fixed and unresolved/open bugs that are related to 21.6.9 StarOs and 5.1.13 Ultra Service Platform (USP) Release.

Table 1 – Release Package Information

Package	Description	Version
StarOS packages		21.6.9, build 69705
usp-5_1_13.iso	The USP software package containing component RPMs (bundles). Refer to Table 2 for information on the specific bundles.	5_1_13-5122
ultram-manager-1.0.6-1.x86_64.rpm	The Ultra M Health bundle RPM containing images for the event management functionality. This RPM is also packaged in the USP ISO.	1.0.6-1
usp_rpm_verify_utils-5.1.13.tar	USP RPM Verification Utilities.	5.1.13

Table 2 – Bundles Comprising the USP ISO

USP Bundle Name	Description	Version
usp-em-bundle	The Element Manager (EM) Bundle RPM containing images and metadata for the Ultra Element Manager (UEM) module.	1.0.0, Epoch 2703
usp-ugp-bundle	The Ultra Gateway Platform (UGP) Bundle RPM containing images for Ultra Packet core (VPC-DI). This bundle contains non-trusted images.	StarOS 21.6.9, build 69705, Epoch 3279
usp-yang-bundle	The Yang Bundle RPM containing YANG data models including the VNFD and VNFR.	1.0.0, Epoch 3222
usp-uas-bundle	The Ultra Automation Services Bundle RPM containing AutoVNF, Ultra Web Services (UWS), and other automation packages.	1.0.1, Epoch 3258

USP Bundle Name	Description	Version
usp-auto-it-bundle	The bundle containing the AutoIT packages required to deploy the UAS.	1.1.0, Epoch 3428
usp-vnfm-bundle	The VNFM Bundle RPM containing an image and a boot-up script for ESC (Elastic Service Controller).	ESC 2.3.2.193, Epoch 1477
ultram-manager-1.0.6-1.x86_64.rpm	The Ultra M Manager bundle RPM containing images for the event management functionality. This RPM is also provided separately from the USP ISO.	1.0.6, Epoch 92

Feature and Behavior Changes

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

Related Documentation

For a complete list of available documentation related to this release, go to https://www.cisco.com/c/en/us/support/wireless/asr-5000-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.

Ultra M Hyper-Converged Model Component Versions

HW	SW	5.1.7	5.1.8	5.1.9	5.1.10	5.1.11	5.1.12	5.1.13
	StarOS	68066	68066	68677	68677	69468	69646	69705
	ESC	2.3.2.155	2.3.2.155	2.3.2.193	2.3.2.193	2.3.2.193	2.3.2.193	2.3.2.193
	RH Kernel	7.3	7.3	7.3	7.3	7.3	7.3	7.3
	OSP	10	10	10	10	10	10	10
UCS C240 M4S SFF (NFVI)	BIOS	3.0(3c)	3.0(3c)	3.0(3c)	3.0(3c)	3.0(3c)	3.0(3c)	3.0(3c)
	CIMC (BMC)	3.0(3e)	3.0(3e)	3.0(3e)	3.0(3e)	3.0(3e)	3.0(3e)	3.0(3e)
	MLOM	4.1(3a)	4.1(3a)	4.1(3a)	4.1(3a)	4.1(3a)	4.1(3a)	4.1(3a)
	Boot Loader	15.2(3r)E1	15.2(3r)E1	15.2(3r)E1	15.2(3r)E1	15.2(3r)E1	15.2(3r)E1	15.2(3r)E1

HW	SW	5.1.7	5.1.8	5.1.9	5.1.10	5.1.11	5.1.12	5.1.13
C2960XR-48TD-I (Management)	IOS	15.2.(2) E5	15.2.(2) E5	15.2.(2) E5	15.2.(2) E5	15.2.(2) E5	15.2.(2) E5	15.2.(2) E5
C3850-48T-S (Management)	Boot Loader	3.58	3.58	3.58	3.58	3.58	3.58	3.58
	IOS	03.06.06E	03.06.06E	03.06.06E	03.06.06E	03.06.06E	03.06.06E	03.06.06E
Nexus 93180-YC-EX (Leafs)	BIOS	7.59	7.59	7.59	7.59	7.59	7.59	7.59
	NX-OS	7.0(3)I5(2)	7.0(3)I5(2)	7.0(3)I5(2)	7.0(3)I7(3)	7.0(3)I7(3)	7.0(3)I7(3)	7.0(3)I7(3)
Nexus 9236C (Spines)	BIOS	7.59	7.59	7.59	7.59	7.59	7.59	7.59
	NX-OS	7.0(3)I5(2)	7.0(3)I5(2)	7.0(3)I5(2)	7.0(3)I7(3)	7.0(3)I7(3)	7.0(3)I7(3)	7.0(3)I7(3)

Accessing the VPC-DI Installation Files

The files required to deploy VPC-DI are distributed as part of an RPM bundle that could be used to deploy the Ultra Gateway Platform (UGP) Virtual Network Function (VNF) within the Ultra Services Platform (USP) architecture. The bundle is called "usp-ugp-bundle-21.6.9-1.x86_64.rpm" and it is distributed as part of the USP ISO image.

If you are looking to deploy just VPC-DI, you'll need to mount the ISO, extract the RPM, and extract the VPC-DI files.

To extract the files:

1. Mount the ISO:

   ```
   mkdir -p /tmp/iso; rm -rf /tmp/iso/*; mount -o loop <pointer to usp-5_1_13.iso> /tmp/iso
   ```

2. Change to the directory containing the rpm bundles:

   ```
   cd /tmp/iso/repo
   ```

3. View the contents of, and information about the bundle:

   ```
   rpm -qilp usp-ugp-bundle-21.6.9-1.x86_64.rpm
   Epoch      : 3279
   Version    : 21.6.9
   Release    : 1
   Architecture: x86_64
   Install Date: (not installed)
   Group      : (none)
   Size       : 1453731046
   License    :
   Signature  : RSA/SHA256, Thu Jun 21 23:11:37 2018, Key ID b18b00c39a28873a
   Source RPM : usp-ugp-bundle-21.6.9-1-src.rpm
   Build Date : Thu Jun 21 23:06:31 2018
   Build Host : nephbld1.mitg-bxb300.cisco.com
   Relocations : (not relocatable)
   Packager   : mitgblds
   Vendor     : Cisco Systems
   URL        :
   ```

```
Summary      : usp-ugp-bundle
Description :
USP Ultra Gateway Platform (UGP) Bundle - (e2050fc)
/opt/cisco/usp/bundles/ugp-bundle
/opt/cisco/usp/bundles/ugp-bundle/companion-21.6.9.tgz
/opt/cisco/usp/bundles/ugp-bundle/companion-21.6.9.tgz.md5
/opt/cisco/usp/bundles/ugp-bundle/companion-21.6.9.tgz.sha1
/opt/cisco/usp/bundles/ugp-bundle/companion-21.6.9.tgz.sha512
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin.md5
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin.sha1
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin.sha512
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.iso
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.iso.md5
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.iso.sha1
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.iso.sha512
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.qcow2.tgz
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.qcow2.tgz.md5
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.qcow2.tgz.sha1
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.qcow2.tgz.sha512
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-template-vmware-21.6.9.tgz
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-template-vmware-21.6.9.tgz.md5
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-template-vmware-21.6.9.tgz.sha1
/opt/cisco/usp/bundles/ugp-bundle/qvpc-di-template-vmware-21.6.9.tgz.sha512
/opt/cisco/usp/bundles/ugp-bundle/usp-build-info.json
/opt/cisco/usp/bundles/ugp-bundle/usp-bundle-manifest.yml
```

4. Extract the required artifacts from the bundle:

   a. Make a directory and ensure that it is empty:

   mkdir –p /tmp/artifacts; rm –rf /tmp/artifacts/*

   b. Navigate to the directory just created:

   cd /tmp/artifacts/

   c. Extract the desired the VPC-DI binary image file:

   rpm2cpio /tmp/iso/repo/usp-ugp-bundle-21.6.9-1.x86_64.rpm | cpio –idmv ./opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin
   `2839327 blocks`

   d. Ensure that the image has been extracted:

   ls -l ./opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin
   `-rw-r--r--. 1 mitgblds eng 160916992 Jun 21 22:22 ./opt/cisco/usp/bundles/ugp-bundle/qvpc-di-21.6.9.bin`

5. Repeat steps c and d for the "qvpc-di-21.6.9.qcow2.tgz" file that is part of the bundle.

6. Unmount the ISO:

   umount /tmp/iso

7. Use the information and instructions in the *VPC-DI System Administration Guide* for this release to complete the on-boarding process.

Firmware Updates

There are no firmware upgrades required for this release.

Open Bugs for This Release

The table below highlights the known bugs that remain open since USP 5.1.11 (non-StarOS) and StarOS 21.6.7.

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	Product Found*
CSCvh59780	Sessmgr restart in egtpc event handler path	mme
CSCvh67114	sessmgr restarts at function egtpc_validate_context_ack_rsp_evt	mme
CSCvh82217	sessmgr task restart during MME start Auth procedure.	mme
CSCvi06043	aaamgr restarted multiple times on srp switch-over	pdn-gw
CSCvg95957	Single instance of Bulkstat facility restart seen on active CISCO ASR5500	pdn-gw
CSCvh67681	20% SM CPU increase when Traffic Optim is enabled with 100% heavy session in single event perf test	pdn-gw
CSCvi06491	The default behaviour of diameter encode-supported-features has changed in 21.7	pdn-gw
CSCvh64982	Planned SRP switchover followed by switchover due to BGP failure - aaamgr restarts	sae-gw
CSCvf32599	osd-compute reboot leaves CF in booting state: EMCTRL_CARDTYPE_MISMATCH	staros
CSCvh54162	[ePDG] performing iftask restart is causing SF to restart on ultraM with servicemode as epdg	staros
CSCvh68111	The beakerd process has a memory leak	staros
CSCvi65014	Restart of vpnmgr task adversely affecting the connectivity.	staros
CSCvh84131	defaut mcdma latency is 0 leading to inefficiency	staros
CSCvh99381	SDR cli output shows all Enaled/Disabled command at all times.	staros
CSCvi44228	Incorrect time format for msg-format rfc5424	staros
CSCve78663	[UltraM] ESC and AutoVNF VMs are in shutdown state after UCS node reboot	usp-uas
CSCve69865	Auto-vnf is stuck in shutdown after UCS reboot on osd-compute	usp-uas
CSCve47802	Unable to assign specific floating IPs for Ultra-M VMs in Auto-deploy scrip	usp-uas
CSCvj51717	Bulkstats config is not loaded when VNF is loaded with day-N config on reload	staros
* Information in the "Product Found" column identifies the product in which the bug was initially identified.		

Resolved Bugs for This Release

The table below highlights the known bugs that are resolved in USP 5.1.13 (non-StarOS) and StarOS 21.6.9.

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 Found*
CSCvj37535	[MME-PERF-21.8] NPU degradation observed due to ciphering	staros
CSCvj98104	[VPC-DI]: VNF reload needed to mount /hd-raid on SFs	staros
* Information in the "Product Found" column identifies the product in which the bug was initially identified.		

Operator Notes

Elastic Services Controller

This version of the Cisco VPC has been validated for operation with Cisco Elastic Services Controller (ESC) version 2.3.2.193 ESC software can be downloaded here: https://software.cisco.com/download/navigator.html

Once on the page, navigate to the 2.3 software location by selecting **Cloud and Systems Management** > **Service Management and Orchestration** > **Elastic Services Controller** > **Elastic Services Controller 2.3** > **Elastic Services Controller Patches** > **All Releases** > **2.3.2**.

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".

Pre-16.1

16.0 (65432)

16.1 to 21.0

16.1.[aa]1[.65432]

Major Release Number

Maintenance Release (MR) Number
0 = FCS, 1 = MR1, 2 = MR2, etc.

Release Variant Indicator

Emergency Release (ER) number
1 = ER1, 2 = ER2, 3 = ER3, etc.

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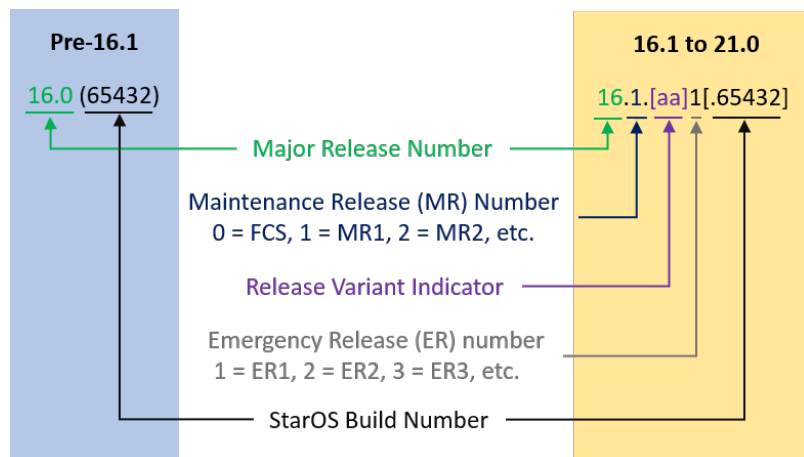
The Version Build Number for releases 21.1 and later include a major and emergency release number, for example, "21.1.1".

16.1 to 21.0

16.1.[aa]1[.65432]

21.1 Onwards

21.1.[aa]1[.65432]

Major Release Number

Maintenance Release (MR) Number
0 = FCS, 1 = MR1, 2 = MR2, etc.

Release Variant Indicator

Emergency Release (ER) number
1 = ER1, 2 = ER2, 3 = ER3, etc.

StarOS Build Number
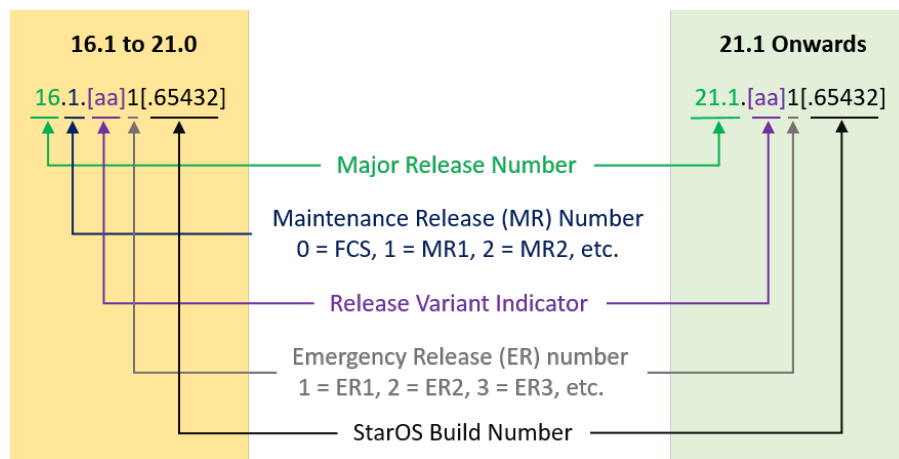
In either scenario, the appropriate version number field increments after a version has been released. The new version numbering format is a contiguous sequential number that represents incremental changes between releases. This format will facilitate identifying the changes between releases when using Bug Search Tool to research software releases.

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

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