Cisco Nexus 9000 Series NX-OS Release Notes, Release 9.3(12)

Introduction

This document describes the features, issues, and exceptions of Cisco NX-OS Release 9.3(12) software for use on Cisco Nexus 9000 Series switches.

Note: The documentation set for this product strives to use bias-free language. For the purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Date	Description
April 25, 2024	Added CSCwh50989 to Open Issues and CSCwe53655 to Resolved Issues.
July 01, 2023	Cisco NX-OS Release 9.3(12) became available.

New and Enhanced Software Features

There are no new or enhanced software and hardware features introduced in Cisco NX-OS Release 9.3(12).

Open Issues

Click the bug ID to access the Bug Search tool and see additional information about the bug.

Bug ID	Description
CSCwb63840	Headline: Using NXAPI to poll show processes cpu sometimes returns Invalid CLI output error. Symptoms: Using NXAPI to poll show processes cpu sometimes returns the following error: {'jsonrpc': '2.0', 'error': {'code': -32001, 'message': 'Invalid CLI output', 'data': {'msg': 'CLI output cannot be parsed by the server'}}, 'id': 3} Workarounds: This is a random issue. Hence, poll again until you succeed.
CSCwd68210	Headline: Cisco Nexus 9000 and Cisco Nexus 3000 Switch 100Gig Interface does not come up after upgrade of Cisco Nexus 9000. Symptoms: Interface does not come up after the upgrade of Cisco Nexus 9500 from Cisco NX-OS Release 9.3(4) to 9.3(8). The SFP used is QSFP-100G-CWDM4-S. Link between Cisco Nexus 9000 is N9K-X9736C-FX and leaf is N3K-C36180YC-R. Workarounds: None.

Bug ID	Description
CSCwe00551	Headline: Multicast first packet failed to create (S,G) entry on LHR. Symptoms: The following symptoms are seen: • Receiver comes online before sender sends packet • (*,G) entry is created on RP, LHR, and Intermediate routers • Sender first Multicast packet gets punted to CPU on FHR • (S,G) entry is created on RP • First packet does not reach the LHR and receiver • Second multicast packet reaches the LHR and then the (S,G) entry is created on LHR • No change noticed in spite of configuring ip routing multicast software-replicate on FHR Workarounds: None.
CSCwe01333	Headline: Object number in the Track list turns to 0 after upgrade from Cisco NX-OS Release 9.2(3) to 10.2(4). Symptoms: Upgrade the N9K-C93180YC-FX device from Cisco NX-OS Release 9.2(3) to 10.2(4) (disruptive upgrade). Post upgrade, the object value changes from original to 0 not. Workarounds: Re-deploy the missing part of the configuration.
CSCwe08697	Headline: 40G Links flap during ISSU from 9.3(10) to 9.3(11) on N9K-X9464PX. Symptoms: Failure of In-Service Software Upgrade (ISSU) when upgrading from Cisco NX-OS Release 9.3(10) to Cisco NX-OS Release 9.3(11) with FEX connection on N9K-X9564PX LC 40G interface. Workarounds: None.
CSCwf21483	Headline: Block the evpn multisite dci-tracking and evpn multisite fabric-tracking commands on BGW SVI. Symptoms: The evpn multisite dci-tracking and the evpn multisite fabric-tracking commands are placed on the SVI interface. The only supported uplinks in VXLAN are on physical interface, and this command should only exist on uplink ports. Fabric tracking should be on uplink ports in the site-internal network and the dci-tracking commands should be on the uplink ports between sites (site external). The ability to add this command to an SVI even when the ports may be disconnected or admin down, can lead the switch to presume that the ports are back to the site internal or site external or are active and working. The Border-Gateway's isolation mechanism functions by recognizing when the tracking ports are down and by bringing down the loopback for the NVE. With this behavior the NVE remains up. Workarounds: Do not configure BGW SVIs with DCI-tracking or fabric tracking configuration.
CSCwf36232	Headline: On Cisco Nexus 9000 Series switches, SUP rebooted due to 'licmgr hap reset' when installing license on EoR switches. Symptoms: Switch gets rebooted because of licmgr hap reset. Reason: Reset triggered due to HA policy of Reset Service: licmgr hap reset 2023 Apr 27 09:06:11 %SYSMGR-3-HEARTBEAT_FAILURE: Service " licmgr" sent SIGABRT for not setting heartbeat for last 6 periods. Last heartbeat 390.71 secs ago. 2023 Apr 27 09:06:12 %SYSMGR-2-SERVICE_CRASHED: Service " licmgr" (PID 28257) hasn't caught signal 6 (core will be saved). Workarounds: None.

Bug ID	Description
CSCwf37269	Headline: Nexus 9000 Cloud Scale switches with mix of static and dynamic queue-limit drops low-rate traffic. Symptoms: The symptoms are as follows: 1. Egress interface reports incrementing output discards despite a low rate of traffic destined for that interface. 2. Incrementing occupancy drops under PG-Drop pool (slot X show hardware internal tah buffer counter). 3. The queue depth remains at 0 byte for the affected Egress interface (show queuing interface), which means that there is no actual congestion for that interface. 4. When sufficiently reducing the static queue-limit configuration or the number of ports configured with static queue-limit, under the same traffic conditions, output discards for the affected interface stop. Workarounds: Use dynamic queue-limits.
CSCwf37901	Headline: VXLAN VLANs suspended by vPC consistency checker due to different replication mode and VNI type. Symptoms: VXLAN VLANs are suspended due to different replication mode, but configuration shows that the replication mode is the same on both vPC switches. Workarounds: Reload device shows the difference between replication status and configured replication.
CSCwf42887	Headline: On Cisco Nexus 9300-FX3 switches, VXLAN storm-control policer fabric bandwidth does not update after fabric link flap. Symptoms: On Cisco Nexus 9300-FX3 switches, VXLAN storm-control policer fabric bandwidth does not update after fabric link flap. Workarounds: Disable evpn storm-control. Note that shut/no-shut multi-site loopback resets the policer but does not stop the behavior.
CSCwf47425	Headline: Ports of N9K-C93600CD-GX with QSA (10G) do not forward traffic. Symptoms: 10G port with QSA adapter is in up state but does not forward traffic. Workarounds: None
CSCwf50018	Headline: Fibre Channel snmp trap configuration causes CLI to hang. Symptoms: CLI hangs after entering some snmp traps related to Fibre Channel. If command is aborted with Ctrl + C, the Failed to collect returned stimulus message is seen. Then, other configuration changes, not necessarily related to FC, also experience the same issue. Workarounds: Reloading the switch clears the issue; however, if snmp command is re-entered, the issue repeats.
CSCwf50508	Headline: Interfaces sometimes fail to acquire DHCP address if the same address is assigned after the upgrade. Symptoms: Interface that is configured to use DHCP fails to acquire an address if it is assigned the same IP address after the upgrade. When the DHCP client receives an IP address to use from a DHCP server, it applies the IP address through the CLI in the backend. However, the commands are not applied to the interface. When in this state, even a static application of the IP address fails to be programmed onto the interface. Workarounds: Shut down the interface and bring it up again or run the no ip address dhcp command so the interface acquires a DHCP address.
CSCwf53532	Headline: Power fluctuates after fan is removed from a Cisco Nexus 9000 series GX switch. Symptoms: When a fan is removed from a Cisco Nexus 9000 GX switch, the power fluctuates in the PSU. Workarounds: None.

Bug ID	Description
CSCwf58507	Headline: FEX 2348UPQ brings hosts link too fast after power-cycle causing traffic blackholing for around 1min.
	Symptoms: When FEX 2348TQ power-cycles all hosts using (GLC-T, GLC-T-C,SFP-H10GB-CU3M,SFP-H10GB-CU3M) SFPs will have link up while the FEX is down. After 5 seconds, links go up for around 1 minute, despite the fact that FEX from Cisco Nexus 9000 perspective and its FIs are down.
	Workarounds: Use LACP or any other SFP or upgrade the version.
CSCwh50989	Headline: Custom COPP causing transit traffic to be punted to the CPU on Nexus 9300-GX2
	Symptoms: When custom-COPP policy contains ACL rules which match on Layer 4 destination or source port, transit traffic also hits the COPP and the packets are copied to CPU. This causes duplication of traffic as CPU also routes the copied packets to the destination.
	Workarounds: Custom COPP policy using src/dst match mitigates punt for transit traffic.

Resolved Issues

Click the bug ID to access the Bug Search tool and see additional information about the bug.

Bug ID	Description
CSCvg06451	Headline: Remove CLI to configure Fill Pattern as only IDLE is supported.
	Symptoms: The switchport fill-pattern is not a supported configuration on Cisco Nexus 9000 switches, as only IDLE patterns are supported. Hence, configuration CLI is removed.
	Workarounds: None.
CSCvk54147	Headline: LC module goes to failure state while collecting show tech binary after ISSU.
	Symptoms: While collecting show tech binary, one or more LC modules in the system may reset due to a fln_que crash. A core file can be seen in show cores and an exceptionlog can be seen in show module internal exceptionlog.
	Workarounds: Avoid running show-tech binary and use regular show tech if possible.
CSCvx24733	Headline: snmp-server enable traps ospf 1 is removed from show run ospf after reloading the device.
	Symptoms: After the reload, the snmp-server enable traps ospf command does not show up in the output of the show run ospf command but is present in the show running-config command. Additionally, the command cannot be removed from the running-configuration.
	Workarounds: Write erase and reload the box.
CSCvy60055	Headline: When object does not exist, no track force is not showing any error message.
	Symptoms: NX-OS does not generate error message when removing a non-existent track object from the configuration. No error message is generated even when the object was removed by previous command as there is one more track object in the configuration. Removing track 2 and then removing the track object again from configuration results in NX-OS generating error message as there are no track objects left in the configuration.
	Workarounds: This is a cosmetic issue; however, configuration is removed properly.

Bug ID	Description
CSCwa46170	Headline: Multicast traffic drop after NVE process restart on BGW.
	Symptoms: The TRM Multicast source is from Site 1 and Receivers are on Site2. On a Cisco Nexus 9000 leaf in Site1, perform an NVE process restart by killing the process from bash. Multicast traffic originating from Site 1 to Site 2 and Site 3 start dropping 100% indefinitely.
	Workarounds: If the multisite IR configuration under the VNIs is applied after the bring-up of the NVE interface and the VNIs are completed, the discrepancy between the runtime state of NVE and the running-config does not arise.
CSCwb86366	Headline: ACLQoS crashes and system reboots when defaulting breakout ports that is a member of PO.
	Symptoms: Cisco NX-OS crashes due to aclqos hap reset on Cisco Nexus 9300-GX/GX2 switches. This issue is also seen after interface flap on a Cisco Nexus switch even when there is no change in configuration.
	Workarounds: None.
CSCwb90953	Headline: POAP does not list all the breakout options supported.
	Symptoms: During the POAP process, the supported breakout options are not listed, hence the POAP process stops as no ports are found for a particular speed, for example, 100G.
	Workarounds: None.
CSCwc72568	Headline: Generation of non-sysmgr_core while collecting pss dump of a corrupted db.
	Symptoms: When any application crashes, sysmgr triggers core collection for the application. The pss db dump for the application is also collected as part of core collection. During the process of core collection, if the pss db of the application is already corrupted (due to some memory corruption), then the collection utility (pss2dump utility) crashes. This leads to generation of a non-sysmgr core along with the application core.
	Workarounds: None
CSCwd01610	Headline: BGP AS does not update properly in NetFlow flow cache.
	Symptoms: The routes are showing as Src As and Dst AS 0 when they should be populating at least one of them with a BGP AS. The BGP AS values are shown as non-zero even though the current routes are non-BGP (like static or ospf).
	Workarounds: Reload the chassis.
CSCwd47632	Headline: Memory leak on acllog - acllog_net_l2_pkt_handle.
	Symptoms: Continuous memory leak observed with ACLLOG process when detailed logging is enabled (logging ip access-list detail), which eventually leads to ACLLOG process crash.
	Workarounds: Remove the logging ip access-list detail command from global configuration.
CSCwd55044	Headline: On Cisco Nexus N9K-C93360YC-FX2, fan speed does not match the expected speed.
	Symptoms: On Cisco Nexus C93360YC-FX2 switch running on impacted code, fan speed seems to be lower than the expected speed. The fan speed will be revised in the new fixed code version.
	Workarounds: None.
CSCwd82039	Headline: Unexpected Supervisor failover due to sys-mgr process crash in Cisco NX-OS.
	Symptoms: A Core File is generated due to a crash on the 'sysmgr' process, which causes the supervisor line card to reboot.
	Workarounds: None.

Bug ID	Description
CSCwd82487	Headline: On Cisco Nexus 9000 VXLAN, MAC Mobility Seq does not get incremented for MAC only BGP update. Symptoms: The following symptoms are seen: ● After moving host from one leaf to the other, mac mobility sequence does not get incremented for MAC only BGP update. ● For Mac-ip, MAC Mobility Sequence gets incremented. Workarounds: Run the clear mac address-table dynamic address <address> command.
CSCwd85017	Headline: Rx Pause enabled in h/w even when flow control is disabled in s/w causing pause frames to be honored. Symptoms: The following symptoms are seen: ● Rx Pause enabled in hardware even when flow-control is disabled in Software causing pause frames to be honored. ● As these pause frames are honored in the hardware, might cause packet drops/performance issues for both Unicast and Multicast Traffic. Workarounds: None.
CSCwd89402	Headline: BFD auth configuration is not displayed in the show run command output after upgrade to Cisco NX-OS Release 9.3(10), without any functional impact. Symptoms: BFD authentication configuration gets lost from running-config after upgrading to Cisco Nexus 9000 to 9.3(10). However, it is present in the startup-config, and sessions remain UP using authentication. Workarounds: Configure no BFD echo before the upgrade. This works as both preventive and reactive workaround.
CSCwd92065	Headline: The start time and end time exported in the NetFlow are showing incorrect values. Symptoms: Wrong timestamp is found in the NetFlow exported data, where the time is ahead of the actual time or the system uptime. Workarounds: None.
CSCwe02602	Headline: PIM-Process Crash. Symptoms: The PIM-process crash results in the following message: %SYSMGR-3-HEARTBEAT_FAILURE: Service "pim" sent SIGABRT for not setting heartbeat for last 7 periods. Last heartbeat 210.94 secs ago. Workarounds: None. PIM restarts after the crash.

Bug ID	Description

CSCwe07768	Headline: Cisco Nexus 9300-GX platform puts BFD in default Queue.
	
	Symptoms: When output discards are seen on a Cisco Nexus 9300-GX platform switch that are all a part of Queue 0, BFD flaps intermittently and goes down after the TAHUSD Buffer threshold messages kick off.
	
	Workarounds: Manually configure a QoS policy to set BFD packets to QoS group 7 (priority queue), for example,
	ip access-list MATCH_DSCP_48
	  permit udp 0.0.0.0/0 0.0.0.0/0 range 3784 3785
	
	class-map type qos match-all MATCH_BFD
	  match access-group name MATCH_DSCP_48
	
	policy-map type qos MATCH_BFD
	  class MATCH_BFD
	  set qos-group 7
	
	interface ethernet x/y
	  service-policy type qos input MATCH_BFD

CSCwe09300	Headline: Internal BGP routes are getting installed as External routes with an AD of 20 in the Routing Table. Symptoms: Nexus installs ECMP route with iBGP and eBGP next-hops, even though the maximum-paths eibgp command is not configured. Workarounds: Workaround is to re-initiate route installation in RIB. Examples of possible workarounds: 1. Re-announce affected network 2. Remove multipath command 3. Change bestpath selection algorithm "bestpath med non-determenestic" 4. Restart BGP process
CSCwe11348	Headline: Telemetry memory limit reached dropping collection. Symptoms: Telemetry stops working on N9K-C93180YC and N9508 Nexus switches report memory occupied exceeds the limit allowed and syslog "telemetry memory limit is reached" is generated. Workarounds: The workaround is as follows: 1. Remove telemetry feature configs. # no feature telemetry. 2. Wait for 3 mins for the process to gracefully exit. 3. Remove HTTP destination configs [?ip address ..? configs in below line] and reapply then reapply telemetry configs. The telemetry HTTP configs can be re-applied later once HTTP destination is stable. telemetry ... destination-group fluentd ip address x.x.x.x port 50001 protocol HTTP encoding JSON

Bug ID	Description
CSCwe14849	Headline: Unexpected Reload due to tahusd Segmentation Fault in Timer Code. Symptoms: A Cisco Nexus 9000 switch may reboot unexpectedly due to tahusd process crash resulting from a segmentation fault, and the following reset reason and error log are generated: `show system reset-reason` ----- reset reason for module 1 (from Supervisor in slot 1) --- 1) At 617205 usecs after Sun Jan 1 01:23:45 2023 Reason: Reset Requested due to Fatal Module Error Service: tahusd hap reset Version: 9.3(9) %SYSMGR-SLOT1-2-SERVICE_CRASHED: Service "tahusd" (PID XXXXX) hasn't caught signal 11 (core will be saved). Workarounds: None.
CSCwe25343	Headline: Cisco Nexus 9000 VXLAN virtual peer-link tunnel recovery failure. Symptoms: After a specific failure of the virtual peer-link the tunnel used to traverse CFS traffic may fail to recover after the virtual peer-link is brought back up. The virtual peer-link shows UP but no VLANs forwarding over the peer-link and CFS traffic does not make it through the tunnel. Workarounds: Flapping the uplinks that are used to build the virtual peer-link forces the virtual peer-link to re-initialize and should recover from this state. If flapping the uplinks does not recover the peer-link, a reload is required.
CSCwe30433	Headline: IP packets with IP option not routed after reload. Symptoms: Ping with IP option is not routed on configured Cisco Nexus 9500 series platform switches if the switch comes up just after reload. When packets are not routed, "Ingress ICMP Redirect processing drop" in "show ip traffic" is counted up. Workarounds: If you have standby supervisor, switchover the supervisor then issue will not be seen. Note that if switch comes up with no configuration, this issue will not be observed just after configuring switch for routing. Issue will be seen after reload with saved config.
CSCwe30786	Headline: First generation Cisco Nexus 9000 switch crashes due to "ipfib". Symptoms: HW: Cisco Nexus C9332PQ chassis A Nexus switch crashes due to ipfib hap reset Reset Reason for this card: Image Version : 9.3(8) Reset Reason (LCM): Unknown (0) at time Tue Jan 17 20:31:21 2023 Reset Reason (SW): Reset Requested due to Fatal Module Error (4) at time Tue Jan 17 20:29:20 2023 Service (Additional Info): ipfib hap reset Reset Reason (HW): Watchdog Timeout (32) at time Tue Jan 17 20:31:21 2023 Last log in OBFL was written at time Tue Jan 17 20:16:07 2023 VDC Module Instance Process-name PID --- ------ -------- --------------- -------- ------------------------- 1 1 1 ipfib 27446 Workarounds: None.

Bug ID	Description
CSCwe31550	Headline: LPM entry gets stuck after multiple bgp withdraws. Symptoms: In an ECMP environment where the BGP prefixes have constant withdraws, it is possible for the "single entries" (no ECMP) to get stuck in LPM table. As a consequence, the ECMP entry ends up installed at the end and deferred, because we honor the first one (older entry). show hardware internal tah l3 v4lpm prefix 20.20.48.0/24 table 1" **EPE label *Flags: CC=Copy To CPU, SR=SA Sup Redirect, DR=DA Sup Redirect, TD=Bypass TTL Dec, DC=SA Direct Connect,DE=Route Default Entry, LI=Route Learn Info,HR=Host as Route Idx | vrf | ip/len | mpath | num | base/l2ptr |cc|sr|dr|td|dc|de|li|hr| -----------|---------|------------------------------|-------|-------|------------|--|--|--|--|--|--|--|--| 13/711 | 1 | x.x.x./24 | 0 | 0 | 0x50005 | | | | | | | | | <<<<<<<< "No ECMP" path entry not cleared 7/799 | 1 | x.x.x.x/24 | 1 | 2 | 0x400004e1 | | | | | | | | |. <<<<< new ECPM entry Workarounds: The workaround is as follows: 1. Clearing the route works as a temporary workaround, as this forces NX-OS to put the ECMP entry at the top. However, if another withdraw occurs, the condition can repeat. clear ip route x.x.x.x/x 2. Clearing the LPM entry works as a better workaround. However, if the constant withdraws continue, the condition can repeat. Attach module 1 ; clear hardware internal tah l3 ipv4 tcam-bank z tcam-index y Idx | vrf | ip/len | mpath | num | base/l2ptr |cc|sr|dr|td|dc|de|li|hr| -----------|---------|------------------------------|-------|-------|------------|--|--|--|--|--|--|--|--| Z/Y | 1 | x.x.x.x/x | 1 | 2 | 0x------------ | | | | | | | | |
CSCwe31997	Headline: Cisco Nexus C93360YC-FX2 Fibre Channel interface randomly reset or the link is error disabled by peer switch. Symptoms: FC link throughput is degraded or the link is error disabled by the peer switch. This issue can be confirmed on the peer switch when it logs E_LINK_RXBUF_NOT_AVAIL events for the affected FC interface. These events trigger the peer to send Link Reset to reset the credits on the interface. Workarounds: None.
CSCwe34915	Headline: N9K-C92348GC consumes XF license instead of GF license. Symptoms: Cisco Nexus 92348GC platform should consume GF licenses; instead, it is consuming XF licenses, when respective features are enabled. Workarounds: None.
CSCwe35981	Headline: Unicast route create fails and Cisco Nexus 9000 tahusd crashes. Symptoms: Cisco Nexus 9000 switch running with "LPM-heavy mode" has Unicast route create failed logs. After 1 second, Service "tahusd" crashes. Workarounds: None.

Bug ID	Description
CSCwe41327	Headline: SYSMGR-3-CFGWRITE_FAILED: Configuration copy failed due to 100% usage of startup-cfg. Symptoms: Nexus switches may fail to save the config to startup config due to frequent changes to the ACL config with errors. The issue is seen only if config changes are done using config session/commit way. The issue is not seen if config changes are done without config session. Workarounds: To avoid growing usage of startup-cfg by making config changes without config session/commit, after the startup-cfg usage hits 100%, the config save to startup fails. To recover, reload the switch. The running config can be saved to bootflash if additional config is not saved to the bootflash.
CSCwe42043	Headline: BGP External-Fallover not working when TTL-Security is enabled eBGP non multihop sessions). Symptoms: When TTL-Security is enabled, BGP External-Fallover does not bring down the eBGP session as soon as the physical interface (Eth1/47) is down. Instead, BGP waits for the hold timer to expire. Workarounds: TTL-Security on eBGP sessions, which are non eBGP mulithop sessions, should be disabled.
CSCwe43450	Headline: Unexpected Kernel panic post ISSU from Cisco NX-OS Release 9.3(6) to 9.3(9). Symptoms: After ND-ISSU from Cisco NX-OS Release 9.3(6) to 9.3(9), an unexpected reload due to kernel panic is noticed in POE devices. This symptom can be verified by running either the sh logging onboard internal reset-reason command or the sh system reset-reason command. The output shows Reset Requested due to Fatal Module Error. Workarounds: Use disruptive/normal upgrade procedure.
CSCwe48938	Headline: Cisco Nexus 9000: "show spanning-tree internal info global" command output truncated "SWOVER Timeout". Symptoms: The following symptoms are seen: • The show spanning-tree internal info global command output does not show the full output • The output stops at this line: "SWOVER Timeout (sec)." • This issue recurs after the command is executed once and the issue occurs for the first time. Workarounds: None.
CSCwe51271	Headline: The show process memory command should be available for network-operator role. Symptoms: The show process memory command is not available for the network-operator role and the Permission denied for the role error is seen. Workarounds: None.
CSCwe52736	Headline: Cisco Nexus 9300 NBM-related syslog does not comply with standard NX-OS syslog format. Symptoms: NBM error message logged too frequently. Workarounds: None.
CSCwe53655	Headline: Revert reserved MAC blocking behavior for VRRP macs on SVIs Symptoms: User not able to configure VRRP VMAC on SVI interfaces. Workarounds: None.

Bug ID	Description
CSCwe55237	Headline: Configuring overlapping IPv6 address with different mask on L3 intf does not throw error.
	Symptoms: If two IPv6 addresses which would be part of the same logical subnet based on bits used on two different L3 interfaces on the same box using different subnet mask length are configured (an overlap of IPv6 address), no warning message is seen. However, this is not the case with IPv4.
	Workarounds: Use a subnet calculator to ensure that the addresses do not overlap.
CSCwe61944	Headline: On Cisco Nexus C93600CD-GX switch, vPC BGW peer reload might cause up to 20s of traffic Blackhole.
	Symptoms: On a multisite setup, reload of vPC BGW peer can cause up to 20s of packet loss, starting at the deletion of the RMAC on the surviving vPC peer and until the RMAC is updated on the remote BGW.
	Workarounds: Some setups improve when advertise-pip advertise virtual-rmac is configured.
CSCwe65091	Headline: The gnmic reply is missing key-value pairs due to PropertyName=<> is_set=0 and is_default_defined=0.
	Symptoms: The gnmic client call receives a reply but the payload is missing some key:value pairs that are reported by the show system internal dme running-config all command.
	Workarounds: None.
CSCwe67205	Headline: Credit Loss Recovery is not triggered for FC interface with no transmit credits.
	Symptoms: A Fibre Channel interface that stays at 0 transmit credits is not recovered by the Credit Loss Recovery agent. The show interface output shows the affected interface is up but with 0 transmit credits available. Some frames may have been transmitted. The output of slot 1 show logging onboard credit-loss does not contain any recovery events for the interface. This issue applies to all Nexus 9000 FC interfaces.
	Workarounds: If the interface has switchport ignore bit-errors configured then remove it with the no switchport ignore bit-errors interface configuration command.
CSCwe67953	Headline: Error or incorrect result when computing multiple file hashes simultaneously.
	Symptoms: The switch throws an error when multiple file hashes are being computed at the same time by multiple SSH sessions: ck.out Empty / cksum or md5sum or sha256sum or sha512 calculation Error.
	Alternately, the wrong hash can be reported for some of the files computed.
	Workarounds: Wait for File A to hash before starting the hash for File B.
CSCwe67996	Headline: Routes with BGP backup route do not get advertised to a BGP peer.
	Symptoms: BGP backup route does not get advertised to Peer.
	Workarounds: Clear ip route <>.
CSCwe72834	Headline: Cisco Nexus 9000 BGP peer session stuck in Closing with AF LU prefix-priority high.
	Symptoms: Cisco Nexus 9000 with BGP peer session may get stuck in Closing state.
	Workarounds: Restart the BGP Process or reload the device.
CSCwe79884	Headline: Stuck MDIO access with BV ports leads to missed HBs and USD kill.
	Symptoms: Tahusd process crashes resulting in box reload.
	Workarounds: None.

Bug ID	Description
CSCwe94284	Headline: OSPF Process is increasing memory utilization. Symptoms: Cisco Nexus switches are reporting memory errors continuously. "MemUsed" is very close to the "MemLimit" for the OSPF process. Workarounds: To avoid leaks avoid an SNMP walk for the OID 1.3.6.1.2.1.14.17 or any of its parents OIDs.
CSCwe95715	Headline: Cisco Nexus 9000: Install epld <image name> module all does not upgrade the system controller in slot 30. Symptoms: Executing the command "install epld bootflash: module all" does not upgrade the EPLD firmware version of the system controller in slot 30. Workarounds: Run the install command once again, specifically for the non-upgraded module resolves the issue: install epld bootflash: module 30.
CSCwf01120	Headline: Cisco Nexus 9300-FX3 VTEP does not perform VXLAN encapsulation when transmitting GRE packets. Symptoms: Cisco Nexus 9300-FX3 VTEP does not perform VXLAN encapsulation when transmitting GRE packets. The condition was that the Layer 3 GRE-facing interface was configured into default VRF, and then changed to tenant VRF. Same outer BD 11 was allocated to GRE-facing interface prior to being allocated to spine-facing/inter-DC interfaces. Workarounds: Reload the switch.
CSCwf03457	Headline: Auto-complete for VRF name can cause unexpected config changes. Symptoms: When the first letter of a VRF is typed and the enter key is pressed, if there is only one VRF starting with that letter, the switch may or may not try to auto-complete the VRF name depending on the command that is used. For commands such as "show run vrf" or "vrf member" the auto-complete feature does not work but for the command "no vrf context" the auto-complete feature works as expected. This means that the switch will delete the VRF starting with that letter instead of showing a message that the VRF doesn't exist, this behavior can lead customer to delete a VRF by mistake causing network disruptions. Workarounds: The workaround is as follows; 1. Write all VRF names while deleting a VRF. 2. Use TAB key to auto-complete, however, sometimes this is not possible, for example, when using scripts for automation.
CSCwf08533	Headline: NetFlow traffic gets dropped under Custom CoPP class-default. Symptoms: A Cisco N9K-C93108TC-FX3P switch running Cisco NX-OS Release 10.3(2)F, with a custom CoPP configuration may experience a condition where all NetFlow packets stop being classified by the hardware rate-limiter and become classified under the custom CoPP class-default class. Most of the NetFlow packets are dropped by the strict policer. Workarounds: Remove and reapply the custom CoPP policy as follows: control-plane no service-policy input copp-policy-strict-custom service-policy input copp-policy-strict-custom
CSCwf08661	Headline: The vsh.bin service crashes in Cisco Nexus 9000 switch. Symptoms: The vsh.bin service crashes with the following message: vsh.bin(non-sysmgr) crashed, core will be saved Workarounds: None.

Bug ID	Description
CSCwf18783	Headline: Deprecated OSPF Network Commands seen in the running-config after an upgrade. Symptoms: After upgrading from a previous version where OSPF network commands are supported, the network commands cease to function and OSPF neighborships associated with those networks are brought down until an equivalent interface configuration is applied on the switch. Even though it no longer works, the network command is still present in the running config and cannot be removed as all the commands for the OSPF network commands (including the negation of the command) has been removed. Workarounds: Delete and re-apply either the OSPF process or the feature itself. If the feature is removed, all OSPF configuration must be re-applied through interface configuration and any attempt to include the network statements under the routing process again will be denied.
CSCwf19968	Headline: vsh.bin fails after setting a SPAN capture with thousands of source VLANs in a single session. Symptoms: When configuring thousands of source VLANs the device becomes unresponsive, the switch hangs and closes the ssh session, then the vsh.bin process reloads unexpectedly. Workarounds: Avoid setting a higher amount of source VLANs as supported. The SPAN limit for the total source VLANs supported in a single session is 32 VLANs.
CSCwf21554	Headline: In Cisco NX-OS, special character ">" causing issues with clear-text key-string in key chain. Symptoms: Using a key-string with ">" character may cause the parser to not capture the string, resulting in an empty string and missing configuration. Workarounds: Avoid using the ">" character in a clear-text (pre encrypted) key-string configuration.
CSCwf27236	Headline: The show file nxos.9.3.10.bin md5sum NXAPI through curl causes further request to fail server busy. Symptoms: When show file nxos.9.3.10.bin md5sum is issued to the Cisco Nexus switches such as N9K-C93180YC-FX and N9K-C9336C-FX2 through a curl statement and if any further statement is sent, then the request fails with an error message. Workarounds: Access the Cisco Nexus switch using the feature bash as follows: config(switch)# feature bash config(switch)# run bash sudo su bash-4.3# echo 3 > /proc/sys/vm/drop_caches bash-4.3# echo 3 > /proc/sys/vm/drop_caches bash-4.3#
CSCwf32021	Headline: Debug message of PTP causes crash. Symptoms: When PTP feature is enabled and 8275.1 PTP profile is configured, PTP process crashes with backtrace. Workarounds: Disable PTP using the no feature ptp command.
CSCwf32297	Headline: md5sum verification error with Value too large for defined data type. Symptoms: When checking md5sum for any file > 2 GB while running an impacted 32-bit NXOS image, the md5sum validation fails with the following error: nexus# show file nxos64-cs.10.3.2.F.bin md5sum Error: /bootflash/nxos64-cs.10.3.2.F.bin: Value too large for defined data type Workarounds: None

Bug ID	Description
CSCwf32715	Headline: When a long username is used, Cisco Nexus 9000 switch crashes at @security_add_user.
	Symptoms: When long username (for example, lfcglhidkubctivfehvegcfucululdjrnknlibdtletlcjgdgnbgkhtvvirkcdcv) is used, an unexpected reload occurs on N9K-C93180YC-EX occurs and securityd core files are generated by the switch.
	Workarounds: Use short username.
CSCwf33807	Headline: Kernel logs are saved in the tmp_logs directory.
	Symptoms: After a crash in the FEX and after a reload, the kernel traces are not saved in the platform.
	Workarounds: None.
CSCwf34708	Headline: Cisco NX-OS installation with no-reload option can cause BFD down.
	Symptoms: BFD cannot go up after upgrading OS as follows: 1. Run the install all nxos [os image] no-reload command on all switches. 2. Reload one of the switches. 3. BFD neighbor is down and cannot come up until reload of the opposite switch. Besides, OSPF neighbor with BFD is still in full state even though BFD is down.
	Workarounds: Reload other switches.
CSCwf34746	Headline: Configuring track in role-interface mode can cause VSH crash.
	Symptoms: Configuring track in role-interface mode as below can cause VSH crash. switch# conf t switch(config)# role name eem-role switch(config-role)# interface policy deny switch(config-role-interface)# permit interface Ethernet1/8 switch(config-role-interface)# track 8 interface Ethernet1/8 line-protocol ->ssh crashed
	Workarounds: Configure track in global configuration mode.
CSCwf37914	Headline: Reduce severity of syslog when the mc-drop command is enabled.
	Symptoms: After enabling hardware qos pf mc-drop, a lot of sev2 messages, that are strictly informational, flood the logs.
	Workarounds: Change global logging level (not recommended) Logging discriminator.
CSCwf50388	Headline: tahusd crash due to InPhi retimer quad port dead lock.
	Symptoms: tahusd reloaded due to software mutex lock. Last reset at 22466 usecs after Sat May 20 11:29:29 2023 Reason: Reset Requested due to Fatal Module Error System version: 9.3(9) Service: tahusd hap reset
	Workarounds: None. The chassis reloads silently and recovers post reload. However, to reduce the recurrence of this issue, you can keep all unused links in the admin shut state.

Known Issues

Bug ID	Description
CSCwi99525	On Cisco Nexus N2K-C2348TQ HIFs fail to utilize redundant Port-Channel links, to NIF, during link failover events.

Device Hardware

The following tables list the Cisco Nexus 9000 Series hardware that Cisco NX-OS Release 9.3(12) supports. For additional information about the supported hardware, see the Hardware Installation Guide for your Cisco Nexus 9000 Series device.

Table 1.   Cisco Nexus 9500 Switches

Product ID	Description
N9K-C9504	7.1-RU modular switch with slots for up to 4 line cards in addition to two supervisors, 2 system controllers, 3 to 6 fabric modules, 3 fan trays, and up to 4 power supplies.
N9K-C9508	13-RU modular switch with slots for up to 8 line cards in addition to two supervisors, 2 system controllers, 3 to 6 fabric modules, 3 fan trays, and up to 8 power supplies.
N9K-C9516	21-RU modular switch with slots for up to 16 line cards in addition to two supervisors, 2 system controllers, 3 to 6 fabric modules, 3 fan trays, and up to 10 power supplies.

Table 2.   Cisco Nexus 9500 Cloud Scale Line Cards

| Product ID | Description | Maximum Quantity | | |
		Cisco Nexus 9504	Cisco Nexus 9508	Cisco Nexus 9516
N9K-X97160YC-EX	Cisco Nexus 9500 48-port 10/25-Gigabit Ethernet SFP28 and 4-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9732C-EX	Cisco Nexus 9500 32-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9732C-FX	Cisco Nexus 9500 32-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9736C-EX	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9736C-FX	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9788TC-FX	Cisco Nexus 9500 48-port 1/10-G BASE-T Ethernet and 4-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16

Table 3.   Cisco Nexus 9500 R-Series Line Cards

Product ID	Description	Maximum Quantity	
		Cisco Nexus 9504	Cisco Nexus 9508
N9K-X9636C-R	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8
N9K-X9636C-RX	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8
N9K-X9636Q-R	Cisco Nexus 9500 36-port 40 Gigabit Ethernet QSFP line card	4	8
N9K-X96136YC-R	Cisco Nexus 9500 16-port 1/10 Gigabit, 32-port 10/25 Gigabit, and 4-port 40/100 Gigabit Ethernet line card	4	8

Table 4.   Cisco Nexus 9500 Classic Line Cards

Product ID	Description	Maximum Quantity		
		Cisco Nexus 9504	Cisco Nexus 9508	Cisco Nexus 9516
N9K-X9408C-CFP2	Line card with 8 100 Gigabit CFP2 ports	4	8	16
N9K-X9432C-S	Cisco Nexus 9500 32-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	N/A
N9K-X9432PQ	Cisco Nexus 9500 32-port 40 Gigabit Ethernet QSFP+ line card	4	8	16
N9K-X9636PQ	Cisco Nexus 9500 36-port 40 Gigabit Ethernet QSFP+ line card	4	8	N/A
N9K-X9464PX	Cisco Nexus 9500 48 1/10-Gigabit SFP+ and 4-port 40-Gigabit Ethernet QSFP+ line card	4	8	16
N9K-X9464TX	Cisco Nexus 9500 48 port 1/10-Gigabit BASE-T Ethernet and 4-port 40-Gigabit Ethernet QSFP+ line card	4	8	16
N9K-X9464TX2	Cisco Nexus 9500 48 port 1/10-Gigabit BASE-T Ethernet and 4-port 40-Gigabit Ethernet QSFP+ line card	4	8	16
N9K-X9536PQ	Cisco Nexus 9500 36-port 40 Gigabit Ethernet QSFP+ line card	4	8	16
N9K-X9564PX	Cisco Nexus 9500 48 1/10-Gigabit SFP+ and 4 port 40-Gigabit Ethernet QSFP+ line card	4	8	16
N9K-X9564TX	Cisco Nexus 9500 48 port 1/10-Gigabit BASE-T Ethernet and 4 port 40-Gigabit Ethernet QSFP+ line card	4	8	16

Table 5.   Cisco Nexus 9500 Cloud Scale Fabric Modules

Product ID	Description	Minimum	Maximum
N9K-C9504-FM-E	Cisco Nexus 9504 100-Gigabit cloud scale fabric module	4	5
N9K-C9508-FM-E	Cisco Nexus 9508 100-Gigabit cloud scale fabric module	4	5
N9K-C9508-FM-E2	Cisco Nexus 9508 100-Gigabit cloud scale fabric module	4	5
N9K-C9516-FM-E	Cisco Nexus 9516 50-Gigabit cloud scale fabric module	4	5
N9K-C9516-FM-E2	Cisco Nexus 9516 100-Gigabit cloud scale fabric module	4	5

Table 6. Cisco Nexus 9500 R-Series Fabric Modules

Product ID	Description	Minimum	Maximum
N9K-C9504-FM-R	Cisco Nexus 9504 100-Gigabit R-Series fabric module	4	6
N9K-C9508-FM-R	Cisco Nexus 9508 100-Gigabit R-Series fabric module	4	6

Table 7. Cisco Nexus 9500 Fabric Modules

Product ID	Description	Minimum	Maximum
N9K-C9504-FM	Cisco Nexus 9504 40-Gigabit fabric module	3	6
N9K-C9508-FM	Cisco Nexus 9508 40-Gigabit fabric module	3	6
N9K-C9516-FM	Cisco Nexus 9516 40-Gigabit fabric module	3	6
N9K-C9504-FM-S	Cisco Nexus 9504 100-Gigabit fabric module	4	4
N9K-C9508-FM-S	Cisco Nexus 9508 100-Gigabit fabric module	4	4

Table 8. Cisco Nexus 9500 Fabric Module Blanks with Power Connector

Product ID	Description	Minimum	Maximum
N9K-C9508-FM-Z	Cisco Nexus 9508 Fabric blank with Fan Tray Power Connector module	N/A	2
N9K-C9516-FM-Z	Cisco Nexus 9516 Fabric blank with Fan Tray Power Connector module	N/A	2

Table 9. Cisco Nexus 9500 Supervisor Modules

Supervisor	Description	Quantity
N9K-SUP-A	1.8-GHz supervisor module with 4 cores, 4 threads, and 16 GB of memory	2

Supervisor	Description	Quantity
N9K-SUP-A+	1.8-GHz supervisor module with 4 cores, 8 threads, and 16 GB of memory	2
N9K-SUP-B	2.2-GHz supervisor module with 6 cores, 12 threads, and 24 GB of memory	2
N9K-SUP-B+	1.9-GHz supervisor module with 6 cores, 12 threads, and 32 GB of memory	2

Note: N9K-SUP-A and N9K-SUP-A+ are not supported on Cisco Nexus 9504 and 9508 switches with -R line cards.

Table 10.   Cisco Nexus 9500 System Controller

Product ID	Description	Quantity
N9K-SC-A	Cisco Nexus 9500 Platform System Controller Module	2

Table 11.   Cisco Nexus 9500 Fans and Fan Trays

Product ID	Description	Quantity
N9K-C9504-FAN	Fan tray for 4-slot modular chassis	3
N9K-C9508-FAN	Fan tray for 8-slot modular chassis	3
N9K-C9516-FAN	Fan tray for 16-slot modular chassis	3

Table 12.   Cisco Nexus 9500 Power Supplies

Product ID	Description	Quantity	Cisco Nexus Switches
N9K-PAC-3000W-B	3 KW AC power supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516
N9K-PDC-3000W-B	3 KW DC power supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516
N9K-PUV-3000W-B	3 KW Universal AC/DC power supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516
N9K-PUV2-3000W-B	3.15-KW Dual Input Universal AC/DC Power Supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516

Table 13.   Cisco Nexus 9200 and 9300 Fans and Fan Trays

Product ID	Description	Quantity	Cisco Nexus Switches
N9K-C9300-FAN2	Fan 2 module with port-side intake airflow (burgundy coloring)	3	93128TX

Product ID	Description	Quantity	Cisco Nexus Switches
N9K-C9300-FAN2-B	Fan 2 module with port-side exhaust airflow (blue coloring)	3	93128TX
N9K-C9300-FAN3	Fan 3 module with port-side intake airflow (burgundy coloring)	3	92304QC 9272Q[a] 93120TX
N9K-C9300-FAN3-B	Fan 3 module with port-side exhaust airflow (blue coloring)	3	92304QC 9272Q[a] 93120TX
NXA-FAN-160CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	9364C[a] 93360YC-FX2
NXA-FAN-160CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	3	9364C[a] 93360YC-FX2
NXA-FAN-160CFM2-PE	Fan module with port-side exhaust airflow (blue coloring)	4	9364C-GX
NXA-FAN-160CFM2-PI	Fan module with port-side intake airflow (burgundy coloring)	4	9364C-GX
NXA-FAN-30CFM-B	Fan module with port-side intake airflow (burgundy coloring)	3	92160YC-X 9236C[a] 93108TC-EX 93108TC-FX[a] 93180LC-EX[a] 93180YC-EX 93180YC-FX[a] 9332PQ 9348GC-FXP[a]
NXA-FAN-30CFM-F	Fan module with port-side exhaust airflow (blue coloring)	3	92160YC-X 9236C[a] 93108TC-EX 93108TC-FX[a] 93180LC-EX[a] 93180YC-EX 93180YC-FX[a] 9332PQ 9348GC-FXP
NXA-FAN-35CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	4	92300YC[a] 9332C[a] 93108TC-FX3P 93180YC-FX3S[b]
		6	9316D-GX 93600CD-GX
NXA-FAN-35CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	4	92300YC[a] 9332C[a] 93108TC-FX3P 93180YC-FX3S[b]
		6	9316D-GX 93600CD-GX
NXA-FAN-65CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	93240YC-FX2[a]

Product ID	Description	Quantity	Cisco Nexus Switches
			9336C-FX2[a]

[a] For specific fan speeds see the Overview section of the Hardware Installation Guide.

[b] This switch runs with +1 redundancy mode so that if one fan fails, the switch can sustain operation. But if a second fan fails, this switch is not designed to sustain operation. Hence before waiting for the major threshold temperature to be hit, the switch will power down due to entering the **fan policy trigger** command.

Table 14.   Cisco Nexus 9200 and 9300 Power Supplies

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-PAC-500W-PE	500-W AC power supply with port-side exhaust airflow (blue coloring)	2	93108TC-EX 93180LC-EX 93180YC-EX 93180YC-FX
NXA-PAC-500W-PI	500-W AC power supply with port-side intake airflow (burgundy coloring)	2	93108TC-EX 93180LC-EX 93180YC-EX 93180YC-FX
N9K-PAC-650W	650-W AC power supply with port-side intake (burgundy coloring)	2	9332PQ
N9K-PAC-650W-B	650-W AC power supply with port-side exhaust (blue coloring)	2	9332PQ
NXA-PAC-650W-PE	650-W power supply with port-side exhaust (blue coloring)	2	92160YC-X 9236C 92300YC 93180YC-FX3S 92304QC 93108TC-EX 93180YC-EX
NXA-PAC-650W-PI	650-W power supply with port-side intake (burgundy coloring)	2	92160YC-X 9236C 92300YC 93180YC-FX3S 92304QC 93108TC-EX 93180YC-EX
NXA-PAC-750W-PE	750-W AC power supply with port-side exhaust airflow (blue coloring) [1]	2	9336C-FX2 93240YC-FX2 9332C 9336C-FX2
NXA-PAC-750W-PI	750-W AC power supply with port-side exhaust airflow (burgundy coloring) [1]	2	9336C-FX2 93240YC-FX2 9332C 9336C-FX2
NXA-PAC-1100W-PE2	1100-W AC power supply with port-side exhaust airflow (blue coloring)	2	93240YC-FX2 9332C 9316D-GX 9336C-FX2 93600CD-GX

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-PAC-1100W-PI2	1100-W AC power supply with port-side intake airflow (burgundy coloring)	2	93240YC-FX2 9332C 9316D-GX 9336C-FX2 93600CD-GX
NXA-PAC-1100W-PI	Cisco Nexus 9000 PoE 1100W AC PS, port-side intake	2	93108TC-FX3P
NXA-PAC-1100W-PE	Cisco Nexus 9000 PoE 1100W AC PS, port-side exhaust	2	93108TC-FX3P
NXA-PAC-1900W-PI	Cisco Nexus 9000 PoE 1900W AC PS, port-side intake	2	93108TC-FX3P
N9K-PAC-1200W	1200-W AC power supply with port-side intake airflow (burgundy coloring)	2	93120TX
N9K-PAC-1200W-B	1200-W AC power supply with port-side exhaust airflow (blue coloring)	2	93120TX
NXA-PAC-1200W-PE	1200-W AC power supply with port-side exhaust airflow (blue coloring)	2	9272Q 93360YC-FX2 9364C
NXA-PAC-1200W-PI	1200-W AC power supply with port-side intake airflow (burgundy coloring)	2	9272Q 93360YC-FX2 9364C
N9K-PUV-1200W	1200-W Universal AC/DC power supply with bidirectional airflow (white coloring)	2	92160YC-X 9236C 92300YC 92304QC 9272Q[1] 93108TC-EX 93108TC-FX 93360YC-FX2 93180YC-FX3S 93120TX 93128TX 93180LC-EX 93180YC-EX 93180YC-FX 9364C
NXA-PDC-930W-PE	930-W DC power supply with port-side exhaust airflow (blue coloring)	2	9272Q 93108TC-EX 93180YC-EX 93360YC-FX2 93180YC-FX3S 93120TX 93180YC-FX 9364C 92160YC-X
NXA-PDC-930W-PI	930-W DC power supply with port-side intake airflow (burgundy coloring)	2	9272Q 93108TC-EX 93180YC-EX 93360YC-FX2 93180YC-FX3S 93120TX 93180YC-FX

Product ID	Description	Quantity	Cisco Nexus Switches
			9364C 92160YC-X
NXA-PDC-1100W-PE	1100-W DC power supply with port-side exhaust airflow (blue coloring)	2	93240YC-FX2 93600CD-GX 9316D-GX 9332C 9336C-FX2
NXA-PDC-1100W-PI	1100-W DC power supply with port-side intake airflow (burgundy coloring)	2	93240YC-FX2 93600CD-GX 9316D-GX 9332C 9336C-FX2
UCSC-PSU-930WDC	930-W DC power supply with port-side intake (green coloring)	2	92160YC-X 9236C 92304QC 9272Q 93108TC-EX 93120TX 93128TX 93180YC-EX 9332PQ
UCS-PSU-6332-DC	930-W DC power supply with port-side exhaust (gray coloring)	2	92160YC-X 9236C 92304QC 9272Q 93108TC-EX 93120TX 93128TX 93180YC-EX 9332PQ
NXA-PHV-1100W-PE	1100-W AC power supply with port-side exhaust airflow (blue coloring)	2	93240YC-FX2 9336C-FX2
NXA-PHV-1100W-PI	1100-W AC power supply with port-side intake airflow (burgundy coloring)	2	93240YC-FX2 9336C-FX2
NXA-PAC-2KW-PE	2000-W AC power supply with port-side exhaust airflow (blue coloring)	2	9364C-GX
NXA-PAC-2KW-PI	2000-W AC power supply with port-side intake airflow (burgundy coloring)	2	9364C-GX
NXA-PDC-2KW-PE	2000-W DC power supply with port-side exhaust airflow (blue coloring	2	9364C-GX
NXA-PDC-2KW-PI	2000-W DC power supply with port-side intake airflow (burgundy coloring)	2	9364C-GX
N2200-PAC-400W	400-W AC power supply with port-side exhaust airflow (blue coloring)	2	92348GC-X
N2200-PAC-400W-B	400-W AC power supply with port-side intake airflow (burgundy coloring)	2	92348GC-X

Product ID	Description	Quantity	Cisco Nexus Switches
N2200-PDC-350W-B	350-W DC power supply with port-side intake airflow	2	92348GC-X
N2200-PDC-400W	400-W DC power supply with port-side exhaust airflow (blue coloring)	2	92348GC-X

Table 15. Cisco Nexus 9200 and 9300 Switches

Product ID	Description
N9K-C92160YC-X	1-RU Top-of-Rack switch with 48 10-/25-Gigabit SFP+ ports and 6 40-Gigabit QSFP+ ports (4 of these ports support 100-Gigabit QSFP28 optics)
N9K-C92300YC	1.5-RU Top-of-Rack switch with 48 10-/25-Gigabit SFP28 ports and 18 fixed 40-/100-Gigabit QSFP28 ports
N9K-C92304QC	2-RU Top-of-Rack switch with 56 40-Gigabit Ethernet QSFP+ ports (16 of these ports support 4x10 breakout cables) and 8 100-Gigabit QSFP28 ports
N9K-C92348GC-X	The Cisco Nexus 92348GC-X switch (N9K-C92348GC-X) is a 1RU switch that supports 696 Gbps of bandwidth and over 250 mpps. The 1GBASE-T downlink ports on the 92348GC-X can be configured to work as 100-Mbps, 1-Gbps ports. The 4 ports of SFP28 can be configured as 1/10-25-Gbps and the 2 ports of QSFP28 can be configured as 40- and 100-Gbps ports. The Cisco Nexus 92348GC-X is ideal for big data customers that require a Gigabit Ethernet ToR switch with local switching.
N9K-C9236C	1-RU Top-of-Rack switch with 36 40-/100-Gigabit QSFP28 ports (144 10-/25-Gigabit ports when using breakout cables)
N9K-C93108TC-EX	1-RU Top-of-Rack switch with 48 10GBASE-T (copper) ports and 6 40-/100-Gigabit QSFP28 ports
N9K-C93108TC-EX-24	1-RU 24 1/10GBASE-T (copper) front panel ports and 6 40/100-Gigabit QSFP28 spine facing ports.
N9K-C93108TC-FX	1-RU Top-of-Rack switch with 48 100M/1/10GBASE-T (copper) ports and 6 40-/100-Gigabit QSFP28 ports
N9K-C93108TC-FX-24	1-RU 24 1/10GBASE-T (copper) front panel ports and 6 fixed 40/100-Gigabit Ethernet QSFP28 spine-facing ports.
N9K-C93108TC-FX3P	1-RU fixed-port switch with 48 100M/1/2.5/5/10GBASE-T ports and 6 40-/100-Gigabit QSFP28 ports
N9K-C93120TX	2-RU Top-of-Rack switch with 96 1/10GBASE-T (copper) ports and 6 40-Gigabit QSFP+ ports
N9K-C93128TX	3-RU Top-of-Rack switch with 96 1/10GBASE-T (copper) ports and an uplink module up to 8 40-Gigabit QSFP+ ports
N9K-C9316D-GX	1-RU switch with 16x400/100/40-Gbps ports
N9K-C93180LC-EX	1-RU Top-of-Rack switch with 24 40-/50-Gigabit QSFP+ downlink ports and 6 40/100-Gigabit uplink ports. You can configure 18 downlink ports as 100-Gigabit QSFP28 ports or as 10-Gigabit SFP+ ports (using breakout cables).
N9K-C93180YC-EX	1-RU Top-of-Rack switch with 48 10-/25-Gigabit SFP28 fiber ports and 6 40-/100-Gigabit

Product ID	Description
	QSFP28 ports
N9K-C93180YC-EX-24	1-RU 24 1/10/25-Gigabit front panel ports and 6-port 40/100 Gigabit QSFP28 spine-facing ports
N9K-C93180YC-FX	1-RU Top-of-Rack switch with 10-/25-/32-Gigabit Ethernet/FC ports and 6 40-/100-Gigabit QSFP28 ports. You can configure the 48 ports as 1/10/25-Gigabit Ethernet ports or as FCoE ports or as 8-/16-/32-Gigabit Fibre Channel ports
N9K-C93180YC-FX-24	1-RU 24 1/10/25-Gigabit Ethernet SFP28 front panel ports and 6 fixed 40/100-Gigabit Ethernet QSFP28 spine-facing ports. The SFP28 ports support 1-, 10-, and 25-Gigabit Ethernet connections and 8-, 16-, and 32-Gigabit Fibre Channel connections
N9K-C93180YC-FX3	48 1/10/25 Gigabit Ethernet SFP28 ports (ports 1-48)
N9K-C93180YC-FX3S	6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49-54)
N9K-C93216TC-FX2	48 1/10/25 Gigabit Ethernet SFP28 ports (ports 1-48)
N9K-C93240YC-FX2	6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49-54)
N9K-C9332C	1-RU fixed switch with 32 40/100-Gigabit QSFP28 ports and 2 fixed 1/10-Gigabit SFP+ ports
N9K-C9332PQ	1-RU switch with 32 40-Gigabit Ethernet QSFP+ ports (26 ports support 4x10 breakout cables and 6 ports support QSFP-to-SFP adapters)
N9K-C93360YC-FX2	2-RU switch with 96 10-/25-Gigabit SFP28 ports and 12 40/100-Gigabit QSFP28 ports
N9K-C9336C-FX2	1-RU switch with 36 40-/100-Gb Ethernet QSFP28 ports
N9K-C9348GC-FXP	Nexus 9300 with 48p 100M/1 G, 4p 10/25 G SFP+ and 2p 100 G QSFP
N9K-C93600CD-GX	1-RU fixed-port switch with 28 10/40/100-Gigabit QSFP28 ports (ports 1-28), 8 10/40/100/400-Gigabit QSFP-DD ports (ports 29-36)
N9K-C9364C	2-RU Top-of-Rack switch with 64 40-/100-Gigabit QSFP28 ports and 2 1-/10-Gigabit SFP+ ports - Ports 1 to 64 support 40/100-Gigabit speeds - Ports 49 to 64 support MACsec encryption - Ports 65 and 66 support 1/10 Gigabit speeds
N9K-C9364C-GX	2-RU fixed-port switch with 64 100-Gigabit SFP28 ports
N9K-9372PX-E	1RU switch with 48 x 1/10-Gbps SFP+ and 6 x 40-Gbps fixed QSFP+ ports
N9K-9372TX-E	1RU switch with 48 x 100M/1/10GBASE-T and 6 x 40-Gbps fixed QSFP+ ports

Optics

To determine which transceivers and cables are supported by a switch, see the Transceiver Module (TMG) Compatibility Matrix. To see the transceiver specifications and installation information, see the Install and Upgrade Guides.

Cisco Network Insights

Cisco NX-OS Release 9.3(12) supports the Cisco Network Insights Advisor (NIA) and Cisco Network Insights for Resources (NIR) on Cisco Nexus 9200, 9300-EX, and 9300-FX platform switches and 9500 platform switches with -EX/FX line cards. For more information, see the Cisco Network Insights documentation.

Upgrade and Downgrade

To perform a software upgrade or downgrade, follow the instructions in the Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3(x). For information about an In Service Software Upgrade (ISSU), see the Cisco NX-OS ISSU Support Matrix.

Exceptions

Cisco Nexus 9200, 9300-EX, and 9300-FX Platform Switches

The following features are not supported for the Cisco Nexus 9200, 9300-EX, and 9300-FX platform switches:

- 64-bit ALPM routing mode
- Cisco Nexus 9272PQ and Cisco Nexus 92160YC platforms do not support the PXE boot of the Cisco NX-OS image from the loader.
- ACL filters to span sub interface traffic on the parent interface
- Egress port ACLs
- Egress QoS policer (not supported for Cisco Nexus 9200 platform switches). The only policer action supported is drop. Remark action is not supported on the egress policer.
- FEX (not supported for Cisco Nexus 9200 platform switches)
- GRE v4 payload over v6 tunnels
- IP length-based matches
- IP-in-IP (not supported on the Cisco Nexus 92160 switch)
- Maximum Transmission Unit (MTU) checks for packets received with an MPLS header
- NetFlow (not supported on Cisco Nexus 9200 platform switches)
- Packet-based statistics for Traffic Storm Control (only byte-based statistics are supported)
- PVLANs (not supported on Cisco Nexus 9200 platform switches)
- PXE boot of the Cisco NX-OS image from the loader (not supported for Cisco Nexus 9272PQ and 92160YC switches)
- Q-in-VNI (not supported on Cisco Nexus 9200 platform switches)
- Q-in-Q for VXLAN (not supported on Cisco Nexus 9200 and 9300-EX platform switches)
- Q-in-VNI (not supported on Cisco Nexus 9200 platform switches)
- Resilient hashing for port channels

- Rx SPAN for multicast if the SPAN source and destination are on the same slice and no forwarding interface is on the slice

- SVI uplinks with Q-in-VNI (not supported for Cisco Nexus 9300-EX platform switches)

- Traffic Storm Control for copy-to-CPU packets

- Traffic Storm Control with unknown multicast traffic

- Tx SPAN for multicast, unknown multicast, and broadcast traffic

- VACL redirects for TAP aggregation

Cisco Nexus 9300-FX3 Platform Switches

The following features are not supported for the Cisco Nexus 9300-FX3 Platform switches:

- ACL with DSCP Wildcard Mask

- ARP Suppression with Reflective Relay

- Dynamic ACL - Named ACL support for applying blacklist/limited VLAN access for devices

- ECMP Hashing based on GRE Inner IP Header

- Enhanced ISSU

- Enhanced Policy-Based Routing (ePBR)

- ePBR Multi-Hop

- ePBR with Probes

- ePBR with User-Defined Probes

- IPv6 MIB support (IP-MIB)

- Multicast Service Reflection (Ingress, PIM-border, Egress)

- Multiple LLDP neighbors per physical interface

- Secure VXLAN EVPN Multi-Site using CloudSec

- Selective Q-in-VNI + Advertise PIP on a VTEP

- Selective Q-in-VNI + VXLAN VLAN on the same port

- Standard ISSU

- Symmetric Hashing - ECMP (Inner DA)

- Unidirectional Ethernet (UDE)

- VXLAN EVPN with downstream VNI

- VXLAN over parent interface that also carries sub-interfaces

Cisco Nexus 9300-GX Platform Switches

The following features are not supported for the Cisco Nexus 9300-GX platform switches:

- Asymmetric PFC

- Autonegotiation on all ports

- FC-FEC for Cisco Nexus 9316D-GX and 93600CD-GX switches is not supported on the second lane of the 50x2 breakout port.

- FEX

- Multicast over GRE

Cisco Nexus N9K-X9408PC-CFP2 Line Card and 9300 Platform Switches

The following features are not supported for Cisco Nexus 9500 platform switches with the N9K-X9408PC-CFP2 line card and Cisco Nexus 9300 platform switches with generic expansion modules (N9K-M4PC-CFP2):

- 802.3x

- Breakout ports

- FEX (supported on some Cisco Nexus 9300 platform switches)

- Flows other than 40G

- Multichassis EtherChannel Trunk (MCT)

- NetFlow

- Port-channel (No LACP)

- PFC/LLFC

- Precision Time Protocol (PTP)

- PVLAN (supported on Cisco Nexus 9300 platform switches)

- Shaping support on 100g port is limited

- SPAN destination/ERSPAN destination IP

- Traffic Storm Control

- vPC

- VXLAN access port

FEX Modules

The following features are not supported for FEX modules:

- Active-Active FEX and straight-through FEX are not supported on the Cisco Nexus 92348GC switch.

- For Cisco Nexus 9500 platform switches, 4x10-Gb breakout for FEX connectivity is not supported.

Cisco Nexus N9K-X96136YC-R Line Card

The following features are not supported for Cisco Nexus 9500 platform switches with the N9K-X96136YC-R line card:

- Breakout

- gPTP

   Note: One-step PTP is supported only on Cisco Nexus 9500-R series.

Cisco Nexus N9K-X9736C-FX Line Card

The following feature is not supported for Cisco Nexus 9500 platform switches with the N9K-X9736C-FX line card:

- Ports 29-36 do not support 1 Gbps speed.

Cisco Nexus 9500 Cloud Scale (EX/FX) Line Cards

The following features are not supported for Cisco Nexus 9500 platform switches with -EX/FX line cards:

- FEX
- IPv6 support for policy-based routing
- LPM dual-host mode
- SPAN port-channel destinations

Related Content

Cisco Nexus 9000 Series documentation: [Cisco Nexus 9000 Series Switches](#)

Cisco Nexus 9000 and 3000 Series NX-OS Switch License Navigator: [Cisco Nexus 9000 and 3000 Series NX-OS Switch License Navigator](#)

Cisco Nexus 9000 Series Software Upgrade and Downgrade Guide: [Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3(x)](#)

Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes: [Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes, Release 9.3(11)](#)

Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference: [Cisco Nexus NX-API Reference](#)

Cisco NX-OS Supported MIBs: ftp://ftp.cisco.com/pub/mibs/supportlists/nexus9000/Nexus9000MIBSupportList.html

Supported FEX modules: [Cisco Nexus 9000 Series Switch FEX Support Matrix](#)

Licensing Information: [Cisco NX-OS Licensing Guide](#)

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, send your comments to [nexus9k-docfeedback@cisco.com.](mailto:nexus9k-docfeedback@cisco.com) We appreciate your feedback.

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