Cisco Nexus 9000 Series NX-OS Release Notes, Release 9.3(3)

This document describes the features, issues, and exceptions of Cisco NX-OS Release 9.3(3) software for use on Cisco Nexus 9000 Series switches.

For more information, see Related Content.

Date	Description
May 8, 2020	Updated VXLAN for Static Tunnels feature description in New Software Features.
April 17, 2020	Added Licensing Support for Segment Routing v6 to New Software Features.
April 14, 2020	Added Cisco Nexus 9332C to the Standard ISSU Support feature.
April 10, 2020	Moved CSCvr58479 to Resolved Issues.
March 24, 2020	**Feature name "Unnumbered BGP with IPv6 Link-Local Peering (5549) for eBGP" updated to "BGP Interface Peering via IPv6 Link-Local for IPv4 and IPv6 Address Families" in** New Software Features.
March 4, 2020	Updated the Release Versioning Strategy section.
March 2, 2020	Added N9K-C9316D-GX to Table 15.
February 21, 2020	Update SVI and Sub-Interface Ingress/Egress Unicast Counters description in New Software Features.
February 20, 2020	**Update the NXA-PAC-750W-PE and NXA-PAC-750W-PI power supplies to include support for Cisco Nexus 93240YC-FX2, 9332C, and 9336C-FX2 switches.**
January 16, 2020	Removed Trigger-Based Event Log Auto-Collection from New Software Features.
January 9, 2020	Added CSCvc95008 to General Known Issues.
December 23, 2019	Cisco NX-OS Release 9.3(3) became available.

Contents

- New Software Features

- New Hardware Features

- Release Versioning Strategy

- Open Issues

- Resolved Issues

- Known Issues

- Device Hardware

- Cisco Network Insights for Data Center

- Upgrade and Downgrade

- Exceptions

- Related Content

- Legal Information

New Software Features

Feature	Description
2x50G and 4x25 Breakout	Support for 2x50 G and 4x25 G breakout on Cisco Nexus 3636C-R and Cisco Nexus 36180YC-R switches and Cisco Nexus 9636C-RX and 9636C-R line cards for PSM4 and AOC only For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
2-Rate, 3-Color Policer Support	2-Rate, 3-Color Policer is now supported on Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide, Release 9.3(x).
200K MAC Scale	Added support for Cisco Nexus C9316D-GX, C93600CD-GX, and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 9.3(x).
802.1x	Added support for 802.1X on Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x).
ACL – Consistency Checker	Added support for N9K-C9372PX, N9K-C9372PX-E, N9K-C9372TX, N9K-C9372TX-E, N9K-C9332PQ, N9K-C93128TX, N9K-C9396PX, N9K-C9396TX, N9K-X9632PC-QSFP100, N9K-X9432C-S and 9500-R platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Troubleshooting Guide, Release 9.3(x).
ARP Suppression	Support for ARP Suppression is added for VXLAN on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
ASIC Register Health Monitor Check	The ASICRegisterCheck has been added as a health monitor diagnostic on Cisco Nexus 9200, 9300-EX/FX/GX platform switches and Cisco Nexus 9500 platform switches with -EX and -FX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 9.3(x).
BFD	Added support for Cisco Nexus 9364C-GX, 9316D-GX, and 93600CD-GX platforms. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).

Feature	Description
BFD for BGP	Added BFD support for BGP IPv4 and IPv6 prefix peers for all Cisco Nexus 9000 Series switches. For more information, see the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 9.3(x)
BGP attribute filtering and enhanced error handling	Added the ability to configure the following BGP attribute features for all Cisco Nexus 9000 Series switches in order to provide an increased level of security: ■ Path attribute treat-as-withdraw: Allows you to treat-as-withdraw a BGP update from a specific neighbor if the update contains a specified attribute type. The prefixes contained in the update are removed from the routing table. ■ Path attribute discard: Allows you to remove specific path attributes in a BGP update from a specific neighbor. Enhanced attribute error handling: Prevents peer sessions from flapping due to a malformed update. For more information, see the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 9.3(x)
BGP Egress Peer Engineering (EPE) with Segment Routing (SR)	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
BGP graceful restart	Added graceful restart support and the ability to configure a timeout value for BGP prefix peers using the timers prefix-peer-timeout command. For more information, see the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 9.3(x)
BGP Interface Peering via IPv6 Link-Local for IPv4 and IPv6 Address Families	Introduced this feature for all Cisco Nexus 9000 Series switches. This feature enables you to set up BGP sessions using an interface name as a BGP peer (rather than IP addresses). For more information, see the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 9.3(x)
BGP PIC Edge	Introduced this feature for Cisco Nexus 9300-GX platform switches. The BGP prefix independent convergence (PIC) edge feature achieves faster convergence in the forwarding plane for BGP IP routes to a BGP backup path when there is a link failure. For more information, see the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 9.3(x)

Feature	Description
BGP Underlay	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
Block Mask	Added support for Cisco Nexus C9316D-GX, C93600CD-GX and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 9.3(x).
Cisco Nexus 9000v Platform Family	The Cisco Nexus 9000v virtual platform switch is now the Cisco Nexus 9000v Platform Family. The Cisco Nexus 9000v is a virtual platform family consists of two virtual platforms: Cisco Nexus 9300v, simulating a non-modular switch (the original N9000v), and Nexus 9500v, simulating a modular switch. For more information, see the Cisco Nexus 9000v (9300v/9500v) Guide, Release 9.3(x).
Cisco Nexus 9300-GX Switch Breakout	Added support for Cisco Nexus C9316D-GX, C93600CD-GX and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
CLI: advertise enable and advertise enable active	Added IPv6 support for the advertise enable and the advertise enable active commands. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
CLI: least-bit.	Added new CLI, least-bit, which enables the least-bit load-balance scheme. This scheme allows for a bucket generation mechanism that distributes fewer consecutive client IP prefixes to the same bucket. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
Combined Access Port Feature Set	Added support for Selective Q-in-Q including catch-all, vPC, PVLAN, Storm Control. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
Consistency Checker Enhancements	Consistency Checker Enhancements For more information, see the Cisco Nexus 9000 Series NX-OS Troubleshooting Guide, Release 9.3(x).
DAI	Added support for DAI on Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x).

Feature	Description
DHCP	■ Added support for DHCP snooping and DHCP relay on Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. ■ Added the ability for the DHCP smart relay to choose either the primary or the secondary subnet when the interface includes both these subnets. ■ Added the ability to disable the server identifier override option for DHCP Option 82 packets. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x)
DHCPv6 Option 79	Added support for DHCPv6 option 79 (client link-layer address) in DHCPv6-relayed packets for all Cisco Nexus 9000 Series switches. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x)
Direct Streaming from DME to Native YANG	Support added to verify YANG settings. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).
Dynamic Packet Prioritization (DPP) Support	DPP is now supported on Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide, Release 9.3(x)
ECMP Symmetric Hashing	Added support for ECMP symmetric hashing on Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
Extended Event Log Storage	Introduced support for extended on-switch and off-switch event logging file storage. For more information, see the Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 9.3(x).
Failaction Optimization	Added Failaction Optimization support for all ITD services to improve convergence in ITD after node failures have been identified. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
Flow Monitor for VRF Filtering	Added the ability to apply flow monitors or flow filters on a VRF for Cisco Nexus 9300-FX/FX2 platform switches and Cisco Nexus 9500 platform switches with N9K-X9700-FX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).

Feature	Description
Global IPv4 and IPv6 over SRv6	Introduced this feature for Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. For more information, see Cisco Nexus 9000 Series NX-OS SRv6 Configuration Guide, Release 9.3(x).
GRE Inner Header Hashing	Added support for GRE inner header hashing on Cisco Nexus 9316D-GX, 9364C-GX and 93600CD-GX Switches. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
GTP Tunnel Load Balancing	Added support for Cisco Nexus 9500 platform switches with 9700-EX and 9700-FX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
iCAM	Added support for Cisco Nexus 9300-GX platforms switches. For more information, see the Cisco Nexus 9000 Series NX-OS iCAM Configuration Guide, Release 9.3(x)
IGMP Snooping	Support for IGMP Snooping is added for VXLAN on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
Ingress and Egress SVI Stats with Stats Knob	Added support for SVI and subinterface unicast counters on Cisco Nexus 9300, 9300-EX, 9300-FX, 9300-FX2 platform switches and Cisco Nexus 9500 platform switches with 9700-EX and 9700-FX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x)
IP Load Sharing Enhancements	Added support for IP load sharing enhancements on Cisco Nexus 9300-GX platforms switches. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
IPv4 RACL	Added support to egress IPv4 RACL on Cisco Nexus 9500 platform switches with -R and -RX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x)
IPv4/IPv6 Multihop BFD	Added support for Cisco Nexus 9300-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).

Feature	Description
IPv6 ITD Enhancements	■ Added IPv6 support for node level probes and device groups. ■ Added IPv4 for Destination PAT ■ Multi-ACL for Include-ACL ■ ITD Scalability and device-group enhancements ■ IPv6 node level probe ■ Smart-channel into ITD-L2 service For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
IPv6 MLD Snooping	Added support on Cisco Nexus 9200, 9300-EX, 9300-FX, and 9300-FX2 switches with or without vPC. For more information, see the Cisco Nexus 9000 Series NX-OS Multicast Routing Configuration Guide, Release 9.3(x)
IS-IS Underlay	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
ITD-L2 Balancing.	Added support for Layer 2 load balancing. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
ITD Multi-ACL	Added support for Multi-ACL. You can configure up to eight access-lists under one ITD service, with the option to associate each with its own device-group. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
ITD Port Address Translation	Added Port Address Translation with Destination NAT. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
L3VPN over SRv6 for IPv4 and IPv6 VPN	Introduced this feature for Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. For more information, see Cisco Nexus 9000 Series NX-OS SRv6 Configuration Guide, Release 9.3(x).
Label Imposition	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)

Feature	Description
Layer 3 EVPN with all underlay	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
Layer 3 TRM	Layer 3 Tenant Routed Multicast (TRM) is added for the Cisco Nexus 9504-R, and Cisco Nexus 9508-R switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
Layer 3 VPN and Layer 3 EVPN Stitching for Segment Routing	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
Layer 3 VPN with all underlay	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
Licensing Support for Segment Routing v6	Added support for Segment Routing v6 to Essentials license package for the Cisco Nexus 9300-GX platform switches and Segment Routing v6 with EVPN to NX-OS Advantage license package for the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco NX-OS Licensing Guide.
MAC UDF	Ability to configure UDF-based MAC access lists (ACLs) for Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x).
MACsec	Added support for MACsec on Cisco Nexus 93360YC-FX2 and Cisco Nexus 93216TC-FX2 switches. For more information, see the Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 9.3(x)
Micro-Burst Monitoring Support	Microburst monitoring is now supported on Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide, Release 9.3(x)
MPLS ECMP/PC Load Share	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)

Feature	Description
MPLS Static	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
MTU Configuration on Interfaces in Switch Profiles	Introduced support for configuring MTU in a switch profile configuration. For more information, see the Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 9.3(x).
MTX Ephemeral	Support added to access high-volume ephemeral data. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).
Multicast Consistency Checker	Added support for Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Troubleshooting Guide, Release 9.3(x) .
Multicast Virtual Private Networks (MVPNs)	Introduced this feature for Cisco Nexus 9500 platform switches with -R/-RX line cards (except the N9K-X96136YC-R line card). For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
Multiple VRF Support on Tunnel Decap	Added support for multiple IP-in-IP/GRE tunnel interfaces on a same Cisco Nexus device that can be sourced from or destined to the same IP address across different VRFs. Number of max tunnels has been increased to 16. Support has been added to Cisco Nexus 9300-EX/9300-FX, and 9300-FX2 platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
NETCONF RFC 6241	Documented that NETCONF is compliant with RFC 6241. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).
Netflow Support	Netflow is now supported on Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 9.3(x).
NX-API Client Authentication	Support for client-initiated certificate-based authentication is added, in which both the NX-API client and server are authenticated through an X509 SSL certificate that is assigned through a valid certificate authority (CA). For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).

Feature	Description
NXOS-ES-XF2 and NXOS-AD-XF2 Licenses	Added support for the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco NX-OS Licensing Guide.
NXOS-SEC-XF license	Added support for the Cisco Nexus 93216TC-FX2 and 93360YC-FX2 platform switches. For more information, see the Cisco NX-OS Licensing Guide.
OSPF Underlay (adjacency SID)	Added support for the Cisco Nexus 9364C-GX, Cisco Nexus 9316D-GX, and Cisco Nexus 93600CD-GX switches: For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
PACL/QoS Label Split	PACL and QoS labels can be separated to all reduction in QoS TCAM utilization.
PIMv6 Support for SVI	Added support on Cisco Nexus 9200, 9300-EX, 9300-FX, 9300-FX2 platform switches with or without vPC. For more information, see the Cisco Nexus 9000 Series NX-OS Multicast Routing Configuration Guide, Release 9.3(x)
Port Security	Added support for Cisco Nexus C9316D-GX, C93600CD-GX and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 9.3(x).
PTP Support	The Cisco Nexus C93360YC-FX2 and C93216TC-FX2 switches now support the Precision Time Protocol (PTP). For more information, see the Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 9.3(x).
Policy Table TCAM	Policy Table (PT) Ternary Content Addressable Memory (TCAM) can be used to extend the scale for IPv4 and IPv6 ACLS. For more information, see the Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide, Release 9.3(x)
PV Translation	Port VLAN (PV) Translation is supported on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
Route Policy Manager	Added the mask option for IPv6 prefix lists for Cisco Nexus 9000 Series switches. For more information, see the Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 9.3(x)
SAN Switching	Added support for FC/FCoE switch modes on N9K-C93180YC-FX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS SAN Switching Configuration Guide, Release 9.3(x).

Feature	Description
Seamless Switchover	Added support for Seamless Switchover for preventing node assignment information. For more information, see the Cisco Nexus 9000 Series NX-OS Intelligent Traffic Director Configuration Guide, Release 9.3(x)
Segment Routing/MPLS	Added support for Segment Routing/MPLS on Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
Selective Q-in-Q	Added support for Cisco Nexus C9316D-GX, C93600CD-GX and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 9.3(x).
Selective Q-in-Q with Multiple Provider VLAN	Added support for Cisco Nexus C9316D-GX, C93600CD-GX and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 9.3(x).
Serviceability Enhancements	Added support for several counters to monitor and log fibre channel interfaces. The counters help identify and troubleshoot issues at FCMAC level. For more information, see the Cisco Nexus 9000 Series NX-OS Troubleshooting Guide, Release 9.3(x).
sFlow and SPAN Support	Cisco Nexus 9300-GX platform switches support both sFlow and SPAN together on the same interface. For more information, see the Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 9.3(x).
Slow Drain Detection and Congestion Isolation	Added support to show tech-support slowdrain command to troubleshoot congestion issues. For more information, see the Cisco Nexus 9000 Series NX-OS Troubleshooting Guide, Release 9.3(x).
Smart Software Licensing	Introduced smart licenses for all Cisco Nexus 9000 Series switches. Smart Software Licensing is a cloud-based licensing end-to-end platform that consists of tools and processes that authorize the usage and reporting of Cisco products. This feature captures order information and communicates with the Cisco Cloud License Service through the Smart Call Home transport media to complete product registration and authorization. In the Smart Software Licensing model, you can activate licensed products without the use of a special software key or upgrade license file. For more information, see the Cisco NX-OS Licensing Guide.
Software Telemetry	Added support for Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).

Feature	Description
SR and GRE Co-Existence	Added support for the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
SRTE ODN, Link Affinity, Disjoint, and Explicit Path	Added support for Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 9.3(x)
SRv6 OAM	Introduced this feature for Cisco Nexus 9300-GX platform switches. For more information, see Cisco Nexus 9000 Series NX-OS SRv6 Configuration Guide, Release 9.3(x).
Standard ISSU support for 9300-FX platforms:	Introduced standard ISSU support for Cisco Nexus 9300-FX, Cisco Nexus 9300-FX2 platform switches, and the Cisco Nexus 92348GC-X, 9332C, and 9364C switches. For more information, see the Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 9.3(x).
Streaming Syslog and Filtered Syslog	Support added for Streaming Syslog and Filtered Syslog in the NX-SDK, gNMI – gRPC Network Management Interface, and Model Driven Telemetry chapters. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).
Support Port-Channel Hash	Added support for the following on Cisco Nexus 9300-GX platform switches: ■ Hash load balancing support for unicast and multicast traffic ■ GTP Tunnel Load Balancing ■ Port-channel symmetric hashing ■ GRE inner headers For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
SVI Statistics on Layer 3	Added support to display SVI statistics on Layer 3 on Cisco Nexus 3100 platform switches and Cisco Nexus 9300-GX platform switches (ingress display only). For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
SVI and Sub-Interface Ingress/Egress Unicast Counters	Added support for SVI and sub-interface unicast counters on Cisco Nexus 9300-EX, 9300-FX/FX2 switches; and Cisco Nexus 9500 series switches with X9700-EX|X9700-FX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).

13

Feature	Description
Telemetry/gNMI OpenConfig	Subscribe supports the OpenConfig model. For more information, see the Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 9.3(x).
Tenant Routed Multicast with Multi-Site with External Connectivity on BGW	TRM with Multisite adds support for Border Gateway (BGW) connections to the external multicast network for Cisco Nexus 9200, 9300-EX, and 9300-FX platform switches with N9K-X9700-EX and N9K-X9700-FX line cards. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
Tunnels	Added support for Cisco Nexus 9300-GX platforms. For more information, see the Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 9.3(x).
vPC	Added support for Cisco Nexus C9316D-GX, C93600CD-GX and 9364C-GX switches. For more information, see the Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 9.3(x).
VXLAN and SRv6 Hand-off	Bidirectional handoff of VXLAN traffic to SRv6 L3VPN traffic, and from SRv6 L3VPN to VXLAN traffic is supported on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
VXLAN Cross-Connect	Support for CrossConnect (xConnect) is added for VXLAN on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
VXLAN OAM	Support for ngOAM is added for VXLAN on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
VXLAN QoS Default and Pipe Mode	Default (uniform) Mode and Pipe Mode QoS for VXLAN QoS is supported on the Cisco Nexus 9300-GX platform switches. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)
VXLAN for Static Tunnels	The Cisco Nexus 9364C, 9300-EX, 9300-FX, and 9300-FX2 platform switches support VXLAN connections to customer-provided software VTEPs over static, or customer-defined, tunnels. For more information, see the Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 9.3(x)

New Hardware Features

Feature	Description
Cisco Nexus 9316D-GX switch (N9K-C9316D-GX)	Cisco Nexus 9316D-GX switch (N9K-C9316D-GX) is a 1-RU, fixed-port switch designed for deployment in data centers. This switch has the following ports: ■ 16x400/100/40-Gbps ports ■ Two management ports (one RJ-45 port and one SFP port) ■ One console port ■ 1 USB port Fan modules (six) with the following airflow choices: ■ Port-side exhaust airflow with blue coloring (NXA-FAN-35CFM-PE) ■ Port-side intake airflow with red coloring (NXA-FAN-35CFM-PI) Power supply modules (two—One for operations and one for redundancy [1+1]) with the following choices: ■ 1100-W AC power supply with port-side exhaust airflow (blue coloring) (NXA-PAC-1100W-PE2) ■ 1100-W AC power supply with port-side intake airflow (burgundy coloring) (NXA-PAC-1100W-PI2) ■ 1100-W DC power supply with port-side exhaust airflow (blue coloring) (NXA-PDC-1100W-PE) ■ 1100-W DC power supply with port-side intake airflow (burgundy coloring) (NXA-PDC-1100W-PI)

Feature	Description
Cisco Nexus 9364C-GX switch (N9K-C9364C-GX)	The Cisco Nexus 9364C-GX switch (N9K-C9364C-GX) is a 2-rack unit (RU), fixed-port switch designed for deployment in data centers. This switch has the following ports: ■ 64x100/40 Gigabit ports ■ Two management ports (one RJ-45 port and one SFP port) ■ One console port ■ 1 USB port ■ Fan modules (four) with the following airflow choices: ■ Port-side exhaust fan module with blue coloring (NXA-FAN-160CFM2-PE) ■ Port-side intake fan module with burgundy coloring (NXA-FAN-160CFM2-PI) Power supply modules (two—One for operations and one for redundancy [1+1]) with the following choices: ■ 2000-W port-side exhaust AC power supply with blue coloring (NXA-PAC-2KW-PE) ■ 2000-W port-side intake AC power supply with burgundy coloring (NXA-PAC-2KW-PI) ■ 2000-W port-side exhaust DC power supply with blue coloring (NXA-PDC-2KW-PE) ■ 2000-W port-side intake DC power supply with burgundy coloring (NXA-PDC-2KW-PI)

Feature	Description
Cisco Nexus 93600CD-GX switch (N9K-C93600CD-GX)	The Cisco Nexus 93600CD-GX switch (N9K-C93600CD-GX) is a 1-rack unit (RU), fixed-port switch designed for deployment in data centers. This switch has the following ports: ■ 28x100/40-Gigabit QSFP28 ports (ports 1-28) ■ 8x400/100/40-Gigabit ports (ports 29-36) ■ Two management ports (one RJ-45 port and one SFP port) ■ One console port (RS-232) ■ 1 USB port ■ Fan modules (six) with the following airflow choices: ■ Port-side exhaust fan module with blue coloring (NXA-FAN-35CFM-PE) ■ Port-side intake fan module with burgundy coloring (NXA-FAN-35CFM-PI) Power supply modules (two—One for operations and one for redundancy [1+1]) with the following choices: ■ 1100-W port-side exhaust AC power supply with blue coloring (NXA-PAC-1100W-PE2) ■ 1100-W port-side intake AC power supply with burgundy coloring (NXA-PAC-1100W-PI2) ■ 1100-W port-side exhaust DC power supply with blue coloring (NXA-PDC-1100W-PE) ■ 1100-W port-side intake DC power supply with burgundy coloring (NXA-PDC-1100W-PI)

Release Versioning Strategy

Cisco Nexus 9000 Series switches and the Cisco Nexus 3000 Series switches, use same NX-OS binary image also called the "unified" image. The binary image covers the Cisco Nexus 9300 and 9500 and Cisco Nexus 3100, 3200, 3400-S, 3500, and 3600 platform switches. Cisco NX-OS Release 9.2(1) was the first release that adopted unified version numbering. With unified version numbering, the platform designator is obsolete.

Moving forward for the previously identified platforms, we will be adopting the simplified 3-letter versioning scheme. For example, a release with X.Y(Z) would mean:

X – Unified release major

Y – Major / Minor release

Z – Maintenance release (MR)

Where the Z = 1 is always the first FCS release of a Major/Minor release.

An example of a previous release number is: 7.0(3)I7(4). In this format, **the 'I'** is the platform designator.

Note: In order to accommodate upgrade compatibility from an older software version that is expecting a platform designator, when the install all command is entered or the show install all impact command is entered, the version string appears as 9.3(3)I9(1). The **"I9(1)" portion of the string** can be safely ignored. It will later appear as 9.3(3).

Note: The Cisco Nexus 34180YC and 3464C platform switches are not supported in Cisco NX-OS Release 9.3(3).

Open Issues

Bug ID	Description
CSCvf75978	Headline: Storm control counters do not work on Cisco Nexus 9500-R and Cisco Nexus 3600 platforms. Symptoms: On Cisco Nexus 9500-R and Nexus 3600 platform switches, storm control counters do not increment when the interface is flooded with broadcast traffic. This bug is applicable to the following hardware types: LCs: N9K-X96136YC-R N9K-X9636C-R/-X9636Q-R N9K-X9636C-RX ToRs: N3K-C36180YC-R N3K-C3636C-R Workaround: None
CSCvj63603	Headline: OC ACL: delete ipv4 ace with hop-limit configs fails Symptoms: When we have an ACE with hop-limit configs that were configured through the CLI and you try to delete it through NETCONF, it returns 'List delete failed' error, instead of deleting that entry from the configs. Workaround: Create ACE through netconf (or) Delete ACE through CLI
CSCvk14945	Headline: CRC errors seen with 40/100G and 40G BiDi Symptoms: With the N9K-X97160YC-EX line card, using a dual rate 40/100G BiDi optics to connect to a peer which uses 40G BiDi optics can in some rare cases lead to CRC errors on the link. Workaround: None

CSCvm11554	Headline: PTP High correction on slave when master have SVI which have IGMP Connected Group Membership
	Symptoms: When SVI on a PTP master switch receives an IGMP membership report and creates IGMP entries, PTP High correction issues occur.
	%PTP-2-PTP_HIGH_CORR: Slave port Eth1/X High correction -125750482(nsec)
	This issue is applicable only to Cisco Nexus 9500-R platforms.
	Workaround: A or B
	A. - remove PIM config from PTP VLAN SVI
	B. - use other VLAN to PTP instead of VLAN used for multicast
CSCvn07656	Headline: ACL Stats - Packet hitting an ACE entry with log option will be counted twice
	Symptoms: With ACL logging enabled on the ingress ACL, each packet hit is counted twice in TCAM stats. Once for the original packet and once for the SUP copy.
	Workaround: None
CSCvn22609	Headline: VLAN counters should display L3 counters info
	Symptoms: The show vlan counters **command doesn't** display L3 unicast counters. It currently displays the total of L2 and L3 packets.
	Workaround: NA
CSCvo30543	Headline: EOR/FX:FT latency max out issue is observed
	Symptoms: When an EoR switch is configured as a spine switch and is acting as the PTP master for the leaf switches, the EoR and the egress leaf reports FT latency as 0XFFFF which causes hop-by-hop latency and the end-end FT latency is broken on Tetration.
	Workaround: If PTP is configured on the dedicated layer 2 port on ToR/EoR , the egress leaf reports a meaningful FT latency value.
CSCvo32688	Headline: Generate error message for FHS policy when label is not available.
	Symptoms: FHS policy is not applied to the hardware and will not show in the configuration after a successful configuration attempt.
	Workaround: None
	Headline: Snmpbulkwalk/getnext periodic slowness seen in PFC-EXT-mibs.
	Symptoms: None
CSCvp02447	Workaround: None

CSCvp20546	Headline: Multiste EVPN Scale-after multiple flaps of NVE mac address is out of sync between BGP and L2RIB Symptoms: MAC table is pointing to incorrect NH after multiple NVE flaps Workaround: Clear ip arp force-delete or clear ipv6 nd force-delete (if v6 host) and clear MAC address table
CSCvp75031	Headline: Nexus 9300 - Block CLI to configure sub-interface with 40G uplink ports Symptoms: Sub-interfaces are not supported for 40G uplinks ports with 1st generation Cisco Nexus 9300 platform switches. BUM (broadcast, multicast, unknown unicast) traffic might not egress local ports after VXLAN decapsulation of such traffic. Not all traffic is impacted depending on internal load-balancing of traffic between internal ASICs. Workaround: Do not use sub-interfaces for 40G uplinks ports. You can have sub-interfaces on 10G downstream ports.
CSCvq15147	Headline: Interface BW not accounting unicast BW after SSO switchover Symptoms: After a switchover, the unicast fabric bandwidth does not get reserved on fabric links. Workaround: Flapping the fabric interface should fix it.
CSCvq33024	Headline: TRM Multisite: traffic drop on BGW after restarting ngmvpn Symptoms: TRM traffic loss for 1-2 seconds. Workaround: None
CSCvq36718	Headline: FCS error / link flap on N3K-C3636C-R with QSFP-100G-CU3M and QSFP-100G40G-BIDI in same BV Symptoms: 10 FCS error in a 12-hour period on the port with copper cable Workaround: Split cables across different port mappings
CSCvq44103	Headline: 25g AOC/LR/SR Cable type is shown as unknown Symptoms: Cable type is shown as "unknown" for 25G SFP- LR, SR, and AOC cables. However, for copper 25G cables 'cable type' is displayed as CA-L, CA-N and CA-S accordingly. Workaround: There is no workaround for this problem.
CSCvr58479	Headline: The host specific routes (IP-MAC) may stay in BGP after corresponding SVI removed Symptoms: Once SVI is down or removed, IP-MAC /32 route is stuck in BGP on remote VTEPs. Workaround: Entry can be cleared by removing member vni on nve interface.

CSCvr75903	Headline: Sequence timeout seen at reload with VXLAN PBR -- SVI flap optimizations needed. Symptoms: The system might experience a sequence timeout that might cause the L2alredirect loopback test to fail, rpm verification to fail, or a DHCP snoop hardware programming failure. When hit on the vPC secondary, this situation might result in vPC VLANs getting suspended on primary. Workaround: Once the issue is hit, you can shut/no-shut the MCT link in vPC primary or operational primary to bring up the suspended VLANS. Also, to avoid getting into this situation, you may use GIR (graceful insertion and removal) to isolate the 9500, upgrade the chassis, and after all modules are up, insert the switch in to the network.
CSCvr76803	Headline: Netstack core seen in non-destructive ISSU using FQDN for NTP Symptoms: FQDN for NTP server and ND ISSU on T2 ToR Workaround: Do not use FQDN for NTP Servers. Use IP Address.
CSCvs15713	Headline: FC 48 ports entitlement tag is consumed even with 16 or less ports are configured Symptoms: FC 48 ports entitlement tag is consumed irrespective of the number of FC ports acquired. Workaround: None. This will not impact the functionality of ports.
CSCvs28295	Headline: MPLS entries present after no feature-set mpls command Symptoms: After entering the "no feature-set mpls" command, the output of the "show for adjacency mpls stats" command is not empty. Workaround: Reload the box.
CSCvs31908	Headline: N9K-9364C-GX : CRCs with 100G-CU1M on Ports 17,40 connected to Cisco Nexus 9232C Port 8 and Port 12. Symptoms: CRC seen on 100G 1M CU xcvr connected to peer with multiple reload Workarounds: Flap the links to recover the port from low SNR.
CSCvs31908	Headline: Support 25G FEC rscons16 and rs-ieee on Cisco Nexus 9300-GX platform switches Symptoms: 9.3.3 software version does not support rscons16 and rs-ieee fec on 25G breakout links. Workarounds: No workarounds
CSCvs33409	Headline: N9K-9364C-GX: CRCs on Port 24 connected to Port 32 with 40G-AOC Symptoms: When the system is idle and when peer send out chopped packets in FCS error. Workarounds: Reload the switch

CSCvs41360	Headline: N9K-C93600CD-GX: Extra Flaps seen after Multiple reloads/flaps on different Optics on Gearbox Ports Symptoms: One Extra Flap seen after Multiple reloads/flaps on different Optics on ports 1-24 of N9K-C93600CD-GX. Similar extra flap seen after Multiple reloads/flaps on QSFP-100G-PSM4 and QSFP-100G-FR of N9K-9364C-GX. Workaround: None
CSCvs45642	Headline: N3K-C3408-S: Delayed linkup observed with 100g CR4 on Portflap/OiR Symptoms: CR4 copper 100G cables sometimes, may experience higher link up times when connected between N3K-C3408-S and N9K Switches. Link up time varies depending upon different Peers. This happens only when auto-negotiation is enabled. The issue may or may not be seen across all the ports. Workarounds: Disable auto-negotiation and apply force speed.
CSCvs49263	Headline: Traffic outage when switching 4x25G --> 2x50G --> 4x25G soft-breakout, control plane is fine Symptoms: PIXMC-SDB would be wrong Breakout third port LTL will be assigned 2nd port ifidx Workarounds: Reload module.
CSCvs50407	Headline: Multicast traffic drop due to NF flag set Symptoms: On T2-EoR that is part of a vPC pair, ND-ISSU (modular) is done from 7.0.(3)I4(0) to 9.3(3) and there is a loss of multicast traffic towards receivers on L3 interfaces. That is, non vPC-SVI OIF. Workarounds: Use an intermediate ISSU from 7.0(3)I4(0) to 9.3(2) on both vPC peers, and then an ISSU from 9.3(2) to 9.3(3).
CSCvs51005	Headline: SRv6: BGP VPNv4 - CNH with null IOD added to URIB upon removal of IPv6 address using intf range cmd Symptoms: Stale SRv6 VPNv4 routes will be seen in BGP and URIB databases after IPv6 address is removed on all of the core/spine facing interfaces using the interface range command. In SRv6-VXLAN Dual-GW environment, adding IPv6 address back to the interfaces might cause a Netstack crash Workarounds: Remove IPv6 address from one interface at a time
CSCvs51107	Headline: N9K-C93600CD-GX: CRC errors seen 40G AOC-3M on Port Eth1/6 when connected N9K-C9236C Re-Timer Port Symptoms: Seeing CRC on N9K-C93600CD-GX port 6 when connected to N9K-C9236C retimer port using 40G AOC3M cable. Workarounds: Don't use 40G AOC on N9K-C93600CD-GX port6.

	Headline: IPIP/GRE pkts coming in non-default VRF gets decap by matching tunnel where transport vrf is default
	Symptoms: IPIP/GRE encapsulated pkts coming on interface in non-default VRF say VRF-X getting decapsulated and egress on interface in default VRF.
	Workarounds: Below are some work-arounds
	1. Don't configure the GRE/IP-IP tunnel in default VRF
	2. If user needs to configure a GRE/IPIP tunnel in default VRF and a matching pkt can ingress in non-default VRF configure the Tunnel with matching tunnel src and tunnel destination in respective non default VRF also.
	For example, when a ipip pkt with outer dest-ip 132.127.101.1 ingress on interface with vrf member vrf-cust-1
	In the following example you should configure another Tunnel 102 in non-default VRF vrf-cust-1

	interface Tunnel101
	
	  tunnel mode ipip decapsulate-any ip
	
	  tunnel source 132.127.101.1
	
	  no shutdown
	
	interface Tunnel102
	
	  vrf member vrf-cust-1
	
	  tunnel mode ipip decapsulate-any ip
	
	  tunnel source 132.127.101.1
	
	  tunnel use-vrf vrf-cust-1

CSCvs51228	no shutdown
	Headline: N9K-C93600CD-GX Interop with N9K-C9236C is not supported in 9.3(3)
	Symptoms: N9K-C93600CD-GX connections to N9K-C9236C are not supported in the 9.3(3) release since it has not been fully qualified.
CSCvs55073	Workarounds: Use a peer switch other than N9K-C9236C.

Resolved Issues

Bug ID	Description

Bug ID	Description
CSCux65385	Headline: NXOS DATACORRUPTION-DATAINCONSISTENCY error in PIM process Symptoms: The following error is observed under PIM process – %LIBDCDI-2-DCDI_ERR: DATACORRUPTION-DATAINCONSISTENCY: copy error -Traceback= pim libmvpn.so+0x7ce94 libmvpn.so+0x7d0b5 libcli_common.so+0x2326a libcli_common.so+0x1ee47 librsw.so+0xc4e78 libpthread.so.0+0x612b libc.so.6+0xd64ce Workaround: Not available.
CSCuy67745	Headline: Physical interfaces - sub interface support range from 1-4096 Symptoms: In order to support a static breakout configuration, the sub-interface range is restricted to a number from 1-511. This enhancement request is to allow the user to configure any sub-interface number from 1-4094, but internally map the sub-interface to one of the values from 1-511, so that it makes migration of configurations from other platforms easier, and lets the user keep their dot1q VLAN and sub-interface number the same for configuration readability. Workaround: Use port-channel sub interfaces Use breakout ports for configuring sub-interfaces
CSCvb84849	Headline: Need support for DOM on FEX HIF ports Symptoms: When entering the "show interface ethxxx/y/z transceiver detail" command on a Cisco Nexus 9000 Series switch (FEX HIF), we see that DOM is not supported. This defect is an enhancement to support DOM on the Cisco Nexus 9000 FEX HIFs. Workaround: None
CSCvi91868	Headline: Increased CPU usage for nsusd process (25%) Symptoms: Increased CPU usage for nsusd process (25%) Workaround: None
CSCvj05813	Headline: ARP Does Not Respond For VRRPv3 VIP After Module Reload "Destination address is not local" Symptoms: ARP for VRRPv3 VIP on Master is not being responded to due to "non-local address" Workaround: Remove VRRPv3 configuration from impacted interface and reapply Shutdown of the interface (Not main interface in case of subif's or SVI's, user should shutdown the subif or SVI)
CSCvo55700	Headline: CRC errors occur on the neighbor devices when connects QSFP-100G-LR4-S on N3K-C36180YC-R Symptoms: On release 9.2.3, Oplink device will have CRC Error. Workarounds: Use other vendors: Finisar V02

Bug ID	Description
CSCvo72490	Headline: TCAM resource usage increase causes TCAM resource exhausted: BFD Symptoms: Log message:2019 Jan 17 05:32:20.225742 switch %ACLQOS-SLOT1-2-ACLQOS_OOTR: TCAM resource exhausted: BFD Seeing in instance 0x1 100% utilization for BFD: JHTWPADPB57# show system internal access-list resource utilization | in BFD Feature BFD 4 12 25.00 Feature BFD IPv4 1 6.25 Feature BFD IPv6 0 0.00 Feature BFD MAC 0 0.00 Feature BFD ALL 2 12.50 Feature BFD OTHER 0 0.00 Feature BFD 16 0 100.00 <<<<< Feature BFD IPv4 5 31.25 Feature BFD IPv6 8 50.00 Feature BFD MAC 0 0.00 Feature BFD ALL 2 12.50 Feature BFD OTHER 0 0.00JHTWPADPB57#? Workaround: Reload

CSCvp34985	Headline: "tahusd" process crash after enabling QSA/SFP(+) interface in the unsupported configuration
	
	Symptoms: N9K-C93180LC-EX might experience a crash in the "tahusd" process when physically inserting a third-party 10 Gbps SFP into a 40 Gbps or 100 Gbps QSFP breakout cable.
	
	Workaround:
	
	1) Use a Cisco-branded SFP in the QSFP
	
	2) If the "hardware profile port mode" configuration is also inappropriate, either:
	
	  2a) Remove / change the QSFP breakout cables to match the "hardware profile portmode" configuration seen via "show run | grep portmode"
	
	  2b) Change the "hardware profile portmode" configuration to match the number and type of QSFP breakout cables installed, and reload

CSCvp40959	Headline: N9k do not age out Snooping entry against vPC Peer link port after receipt of GSQ Symptoms: Snooping table points to peer link on both the switches for multicast groups Workaround: None
CSCvq05447	Headline: N9K NX-OS 9.2(3) SNMPd Crash / MTS Queue Congestion When Doing GETBULK on entPhysicalEntry Symptoms: A Cisco Nexus 9000 Series switch running Cisco NX-OS Release 9.2(3) might see crashes in the SNMPd process due to its MTS queue becoming congested. Workaround: Configure any NMS polling stations to stop doing GETBULK requests for entPhysicalEntry (1.3.6.1.2.1.47.1.1.1.1)

Bug ID	Description
CSCvq19551	Headline: TCP networking vulnerabilities in FreeBSD and Linux kernels(TCP_SACK) Symptoms: This bug has been filed to evaluate the product against the vulnerability released by Netflix on June 17th affecting FreeBSD and Linux kernels, identified by CVE IDs: CVE-2019-11477: SACK Panic CVE-2019-11478: SACK Slowness or Excess Resource Usage CVE-2019-11479: Excess Resource Consumption Due to Low MSS Values We reviewed this product and concluded that it is affected by this vulnerability as it contains a vulnerable version of the Linux Kernel. Workaround: Not currently available.
CSCvq63483	Headline: RMAC in L2RIB points to the wrong NH despite URIB has the correct information Symptoms: Router MAC used to route through L3VNI, points to the wrong next-hop in L2RIB, despite BGP having learned the correct route with the proper NH information. In contrast, URIB has the correct information (both L2RIB and URIB are getting the next hop from BGP). Depending on the topology, this might cause severe packet loss or total traffic blackhole. Workarounds: 1. Flap the L3 VLAN having the spurious RMAC. This will flush out the wrong entries from L2RIB. 2. If many such VLANs are affected, interface NVE can be flapped.
CSCvq92616	Headline: Selective advertisement not working in multisite Symptoms: If we have a couple Layer 2 VNIs, and only some VNIs are extended to another site. If we enable L3vni extended other site and all the L2 VNI mac addresses are advertised to other site. Workaround: None
CSCvq95342	Headline: Intermittent VNI in DOWN state due to vni-add-await-buffer Symptoms: VNI in down state due to vni-add-await-buffer. Workaround: Remove entry and recreate resolves the issue.

Bug ID	Description
CSCvr01970	Headline: "speed xxxx" under line console doesn't take effect Symptoms: "speed xxxx" under line console doesn't take effect (config-console)# speed 9600 (config-console)# show line console line Console: Speed: 38400 baud <<<<< Databits: 8 bits per byte Stopbits: 1 bit(s) Parity: none Modem In: Disable Modem Init-String - default : ATE0Q1&D2&C1S0=1\015 Statistics: tx:1652539 rx:0 Register Bits:RTS|DTR|05|c1|13|0b|60|00|aa| Workaround: None
CSCvr10698	Headline: MRIB process crash and switch in bootloop after upgrade from 9.2(2) to 9.3(1) Symptoms: Symptoms: + Upgrade attempted from Cisco NX-OS Release 9.2(2) to Cisco NX-OS Release 9.3(1) using ISSU. (Same issue seen even with cold boot) + Device goes into a boot loop infinitely and dumps mrib Cores (Need to break it at loader and load 9.2.2 to recover) + When we remove feature PIM and perform the upgrade from Cisco NX-OS Release 9.2(2) and Cisco NX-OS Release 9.3(1), we have no issues + As soon as we apply feature PIM on Cisco NX-OS Release 9.3(1), device reloads with a core. Workaround: Issue was not found to occur when u4route-mem + u6route-mem is <= 1 GB. 750MB is recommended as a safe upper limit.
CSCvr11055	Headline: GRE traffic with payload with wrong IP header is dropped Symptoms: GRE traffic with payload with wrong IP header is dropped Workaround: Downgrade to previous software version than 7.0(3)I7(6)
CSCvr18104	Headline: IP forwarding broken when "hardware access-list tcam label ing-racl 9" config Symptoms: After setting "hardware access-list tcam label ing-racl 9" and rebooting the system, IP/ARP/ND forwarding is broken. Can't ping directly connected interfaces. Workaround: No workaround available other than not using this knob: hardware access-list tcam label ing-racl 9 unconfigure and reload: no hardware access-list tcam label ing-racl 9

27

Bug ID	Description
CSCvr21052	Headline: DCHAL changes for QinQ, Selective QinQ and Multiple Provider VLAN Symptoms: QinQ , Selective QinQ changes porting to Irvine train from 9.2(2) release. Workarounds: Set the provider_bd flag for the provider_vlan in rwx_rwbdstatetable Example: switch(config)# slot 1 qu " debug hardware internal hom mod asic 0 slice 0 table tah_hom_rwx_rwbdstatetable 99 1 provider_bd=0x0000001" asic instance is 0 asic slice is 0 tbl name is tah_hom_rwx_rwbdstatetable start entry is 99 entry count is 1 field value is provider_bd=0x0000001 Block base address: 0x01800000 1st table entry address: 0x01e20318 switch(config)#
CSCvr30198	Headline: Congested SPAN traffic, causing drops to normal forwarding traffic Symptoms: Congested SPAN traffic, causing drops to normal forwarding traffic. Workaround: Make sure no congestion for the SPAN Destination port. Forwarding ports, and the SPAN destination port has same capacity or more for SPAN port.
CSCvr31693	Headline: N9k FX2 - MPLS transit forwarding affected through FX2 series switches Symptoms: Connectivity/forwarding is impacted when an MPLS labelled frame transits through a Cisco Nexus 9000 FX2 Series switches. - QinQ switched frames with an MPLS label will miss one of the Dot1q tags. - MPLS labeled frames will not be VXLAN encap'd by the ingress VTEP. They are incorrectly forwarded by the VTEP without a VXLAN header. Workaround: No workaround available.

Bug ID	Description
CSCvr36806	Headline: VXLAN: BUM traffic dropped on DCI/BL devices working as Bud node

Symptoms: If the Cisco Nexus 9000 Series switches in a VXLAN multi-pod setup that were used to interconnect the DCI were previously configured as BUD nodes (transit box + VTEP with VNI configured), you might experience drops in BUM traffic. Note that the VNI configured previously must have been using the same mcast group as the one used for transit traffic.

Workaround: - Reload the switch

- Create the VNIs configuration for the VNIs present in the transit traffic (VLAN/VNI mapping and VNI config under NVE interface). Note that the same mcast group must be used. |
| CSCvr37533 | Headline: "show hardware capacity forwarding" does not have complete output in JSON

Symptoms: "show hardware capacity forwarding" not completely JSONized

Workaround: None |
| CSCvr37911 | Headline: ISIS Hellos not forwarded on N3K-C36180YC-R

Symptoms: ISIS hellos are not being forwarded on 9500-R switches.

Cu has ISIS on ASRs. Adjacency came up fine when customer replaced N3K with WS-C3850-12XS-E (same configuration).

Workaround: None |
| CSCvr39312 | Headline: N9K-C92160YC-X // BGP - Some routes are forwarded via incorrect interface

Symptoms: Several N9K-C92160YC-X switches running Cisco NX-OS Release 7.0(3)I7(4) code and placed in similar scenarios suffered the same hardware mis-programming.

Workaround: Use LPM heavy mode |
| CSCvr40964 | Headline: Community deletion leads to Assertion 'tmp_com == del_com' failed.

Symptoms: %BGP-3-ASSERT: bgp-[29078] ../routing-sw/routing/bgp/bgp_pcl_cache.c:662: Assertion 'tmp_com == del_com' failed.
%BGP-3-ASSERT: bgp [29078] -Traceback: bgp=0x100d2000 0x10349973 0x1048852e 0x10379c16 0x1037a135 0x1037aeaa 0x102365f9 0x1023d6ae 0x10240ee5 0x1024633 librsw_kstack.so=0xf3ec6000 librsw_kstack.so+0xac5cd libpthread.so.0=0xf362b000 libpthread.so.0+0*

Workaround: If we are using: set comm-list comlist delete problem is not occurring

Not applicable in some scenarios. |
| CSCvr43781 | Headline: After upgrading(disruptive) N9K to I7(6) control plane is stuck.

Symptoms: After upgrade or reload of a Cisco Nexus 9500 platform switch with -S LC/FM might experience control plane traffic issues

Workaround: None as additional reloads may retrigger issue. |

Bug ID	Description
CSCvr45163	Headline: KIM Process MTS Buffers Stuck Symptoms: KIM Process MTS buffers stuckcopy r s may also fail due to deadlock with KIM process. Workaround: Reload the switch clears stuck MTS buffers.
CSCvr54760	Headline: Packets looping on internal ports of LC and FM after replacing N9K-X97160YC-EX with N9K-X9736C-FX Symptoms: High bandwidth utilization on internal module ports with minimal traffic on front-facing ports Might impact traffic on ports that use the affected linecard module as internal ports are almost saturated: Workaround: FM reload fixes the issue. We can reload FMs one by one so that traffic will not be impacted.
CSCvr58479	Headline: The host specific routes (IP-MAC) may stay in BGP after corresponding SVI removed Symptoms: Once SVI is down or removed, IP-MAC /32 route is stuck in BGP on remote VTEPs. Workaround: Entry can be cleared by removing member vni on nve interface.
CSCvr59554	Headline: N9K-C92160YC-X // Routing and forwarding issue -no FIB Hardware entry for prefix Symptoms: Several N9K-C92160YC-X switches running Cisco NX-OS Release 7.0(3)I7(4) code and placed in similar scenarios suffered the same hardware mis-programming (no entry in FIB Hardware). Workaround: Using `clear ip route vrf <vrf_name> <ip_prefix>` may help in correcting the issue.
CSCvr63838	Headline: SNMP walk using OID 1.3.6.1.2.1.1 returns NULL [Expert Info (Note/Response): endOfMibView] Symptoms: N9508/N9504 Running 9.2.3 in vPC Workaround: Work around is to remove the community string and the mib view command and add them back.
CSCvr67397	Headline: Netflow / destination command is broken in rollback/patch Symptoms: The destination subcommand in Netflow configuration may not be interpreted properly by the Nexus parser when entered. Workaround: None
CSCvr68876	Headline: N9K-X9736C-FX // debounce time Unexpected Behaviour Symptoms: N9k // N9K-X9736C-FX // DWDM Interface Flap when DWDM link protection is triggered Workaround: N/A
CSCvr69670	Headline: Dynamic NAT configuration on the N9k causes L2 forwarding issues. Symptoms: L2 traffic destined to a MAC not belonging to the Cisco Nexus 9000 Series switch is software switched (CPU punt) and dropped, which should not be the case. Workaround: disable NAT

Bug ID	Description
CSCvr70702	Headline: Unable to configure user defined MAC after a failure condition. Symptoms: User-defined MAC not able to be applied to an L3 interface following programming failure Workaround: Remove the MAC and re-add to the impacted interface.
CSCvr71424	Headline: August CPU Side-Channel Information Disclosure Vulnerabilities -- issue with some hardware Symptoms: Few switches were seeing PCI error during bringup. Workaround: It's not a workaround. There was some code which was creating PCI errors. That code was not needed for Spectre issue.
CSCvr73261	Headline: Copy run start fails on Nexus 3500 switch due to service "confelem" failure Symptoms: On a Cisco Nexus 3500 platform switch, you might be unable to copy running-configuration to startup-configuration due to the confelem process failing to store its configuration. Workaround:None
CSCvr79758	Headline: receive-only path overwrites BRIB path in ephemeral DME database Symptoms: When querying rest API, some BGP paths are missing Workaround: remove "always" keyword from "soft-reconfiguration inbound "
CSCvr87436	Headline: Wrong output of 'show snapshots compare' command with multiple VRFs Symptoms: The output of `show snapshots compare snap_before_maintenance snap_after_maintenance` is incorrect then having multiple VRFs configured on the Nexus device. Workaround: None
CSCvr87724	Headline: Unable to apply ACL to remote SNMP user Symptoms: Configuration of an ACL to a remote SNMP user via the global configuration command 'snmp-server user <snmp_user> use-ipv4acl <access_list>' fails, where *snmp_user* is a remote user (that is, a username not configured locally) and *access_list* is an ACL to define permissions. Workaround: Configure the user locally if an ACL is needed or downgrade to a 7.0(3)I7(x) release.
CSCvr97047	Headline: Debounce is not working for N9K-C9364C using LR4 transceiver and link flaps Symptoms: For the N9K-C9364C switch, after configuring debounce to max value we do see link flap and time for link to come up is high + Issue is noticed for LR4 transceiver + Issue is not noticed for other optics (ex SR4) Workaround: Use SR4 optics

Bug ID	Description
CSCvr98425	Headline: Nexus 3500 BGP-3-ASSERT syslog in IPv4 Multicast AF with Ext. Communities Symptoms: A Cisco Nexus 3500 platform switch configured as a BGP speaker that receives a prefix in the IPv4 multicast address-family with an Extended Communities attribute might produce a " BGP-3-ASSERT" syslog. The specific syslog will vary depending upon the NX-OS software release that the device is running. This symptom is observed regardless of whether the device is configured to perform inter-VRF leaking or not. No impact is observed to the device's ability to forward traffic, and the relevant prefix is installed in the BGP table in the VRF where it is received without issue. Workaround: No workaround is known for this issue at this time.
CSCvr99094	Headline: Storm control gets triggered even when threshold is not reached Symptoms: Storm control gets triggered when ESXi doing vmotion or reload even when threshold is not reached. Workaround: None
CSCvs00052	Headline: vpcm process memory leak @ libnve.so and libvlan_mgr_mcec.so Symptoms: Command `show vpc consistency-parameters global` or `show vpc consistency-parameters vlans` on the vPC VTEP (VXLAN setup) might cause a slow memory leak in libnve.so library, which in the long term perspective can cause the vPC process to be unresponsive or crash. You may also experience this issue by running `show run`: N9k# sh run The following SAPs did not respond within the expected timeframe Pending SAPS:450 Printing Ascii configuration for remaining SAPs Workaround: In the unlikely event of hitting this issue, please contact Cisco Support Ceter for further verification. Alternatively, you can consider chassis reload.
CSCvs00187	Headline: vsh.bin process crash Symptoms: The vsh.bin process might crash when attempting to access the Cisco Nexus switch via SSH and the MTS payload of the authentication packets is corrupted. This will be reported in the log as follows: `show logging nvram` 2019 Sep 11 21:51:44.634 %DAEMON-2-SYSTEM_MSG: fatal: PAM: pam_setcred(): Authentication failure - dcos_sshd[11625] 2019 Sep 17 22:45:01.610 %SYSMGR-2-LAST_CORE_BASIC_TRACE: : PID 5631 with message vsh.bin(non-sysmgr) crashed, core will be saved . Workaround: None

Bug ID	Description
CSCvs00775	Headline: PTP Packets punted when feature ptp is enabled/disabled Symptoms: PTP packets punted to CPU Transit PTP packets on a Cisco Nexus 9000 Series switch are dropped. Workaround:Configure feature ptp reload of the N9k box DONOT attempt to reload active FM which will not resolve this issue.
CSCvs00971	Headline: An interface may forward disallowed VLAN traffic over a trunk Symptoms: Port forwards VLAN traffic which is removed from trunk port Workaround: Remove "lacp vpc-convergence"
CSCvs12578	Headline: Security: service NTP SIGABRT due to heartbeat failure Symptoms: NTP process gets busy at times, while processing older version NTP packets and may miss sending heartbeat messages. The NTP process gets restarted and continues as before. This doesn't impact the time synchronization functionality of NTP in any manner. Workarounds: None
CSCvs18478	Headline: Pre-check of ND ISSU failed on LACP but show lacp issu-impact print nothing Symptoms: show lacp issu-impact will show nothing even though there is ISSU impact because of LACP. Workarounds: Try Non disruptive ISSU and check for any LACP related failures.
CSCvs19550	Headline: N9K: high CPU on ipfib and system lockup after frequent IPv6 update/flap/removal Symptoms: High number of add/delete events of a large number of IPv6 routes might cause high CPU due to an IPFIB process, inband instability (BFD flap, OSPF flap), MGMT instability (SSH, TACACS, slow responses to CLI and in some instances a crash of the IPFIB process. Workaround: - Reload Nexus switch to recover - Reduce IPv6 scope to number lower than 250k
CSCvs23562	Headline: MALLOC_FAILED: mcastfwd [27776] m_copyin failed in mfwd_ip_main() Symptoms: 2019 Nov 18 22:12:11 N9300 mcastfwd[1983]: m_copyback: m_get() fails. 2019 Nov 18 22:12:10 N9300 %MCASTFWD-3-MALLOC_FAILED: mcastfwd [1983] m_copyin failed in mfwd_ip_main() 2019 Nov 18 22:12:11 N9300 mcastfwd[1983]: m_copyback: m_get() fails. 2019 Nov 18 22:12:20 N9300 %MCASTFWD-4-SYSLOG_SL_MSG_WARNING: MCASTFWD-3-MALLOC_FAILED: message repeated 1 time in last 377 sec Workaround: Restart mcastfwd process.

Bug ID	Description
CSCvs23623	Headline: Using GRE, inner DSCP value is not copied to the outer DSCP on N9K. Symptoms: Using GRE, inner DSCP value is not copied to the outer DSCP on N9K. Workaround: NA
CSCvs25533	Headline: Multicast Storm-control not working for N9K. Symptoms: Storm-control not working properly for multicast traffic. Workaround: no ip igmp snooping
CSCvs35347	Headline: N9K-C9396 // OID Return Wrong Values Symptoms: On, N9K-C9396 while queuing for a DOM values via SNMP walk, sometimes the OID returns as "No Such Instance" randomly and reads fine after some time. Workaround: Depends on the number of ports on the setup. The rate of the error can be reduced by matching the SNMP query frequency with the DOM read back timer callback frequency. Configure SNMP query at a rate matching the DOM read back timer: (PC_FCOT_POLL_TIME/2) / (num_ports) ; Where: PC_FCOT_POLL_TIME = 10 minutes num_ports = total number of Physical ports supported by the switch PORT_POLL_DDM_INCREMENT = 4 For example, On an N9K-C9396, which is a 48 port switch SNMP poll interval can be set to not less than and multiple of: (10x60/2) / (48) seconds = 6.25 seconds per port NOTE: This workaround applies only if the SNMP query is done for all ports linearly. Not guaranteed to work for random port queries.
CSCvs45092	Headline: PBR routing failure after micro-flap on egress interface. Symptoms: PBR routed traffic may stop getting forwarded after experiencing a micro-flap on the egress interface. Workarounds: + Disable debounce timer to produce a complete flap of the interface, avoiding any ASIC mis-programming + If the traffic is getting black-holed due to a micro-flap, flapping the egress interface should re-program the ASIC correctly

Bug ID	Description
CSCvs49363	Headline: QinVNI BUM traffic to vPC peer is dropped Symptoms: QinVNI BUM traffic is received on a leaf, and decapped successfully and flooded. However, the PIP tunnel copy is dropped by the vPC peer. Workarounds: There is no work around for this packet drop.
CSCvs50455	Headline: Egress QoS policing not working when applied on the egress VTEP Symptoms: Egress QoS policing not working when applied on the egress VTEP Using traffic generator, 1 Gbps of traffic is generated. During the working scenario the traffic is rate limited as per the policy. During the non-working scenario, traffic is not rate limited. Workarounds: Issue is resolved when the service policy is reconfigured.
CSCvs51172	Headline: Cisco Nexus N9K-X9788TC-FX continuously aging out MAC addresses Symptoms: Partial MAC address will be aged out and deleted with each hit of aging time and is quickly relearned. Workarounds: None

Known Issues

Behavior Changes for Cisco Nexus 9504 and 9508 Switches with -R Line Cards

Bug ID	Description
N/A	Interface: The output format for the exec command CLI show vpc orphan-ports has changed from the 7.0(3)F3(4) release to the 9.3(3) release.
N/A	FEX: MTU 9216 is the default value for FEX fabric ports-channels.
N/A	FEX: MTU 9216 is the only allowed value to be configured on FEX fabric port-channels. Configuring any other value will throw an error.
CSCvp87914	FEX: If the MTU value on a FEX fabric port-channel was set to 9216 before upgrading to Cisco NX-OS Release 9.3(3), the show running config command will not display the MTU config as it is the new default in Cisco NX-OS Release 9.3(3). Due to this, the show running-config diff command displays the difference which is expected.
N/A	Programmability: Release 9.3(3) brings in a new kernel and new processes.
N/A	Programmability: Interface counter statistics are grouped together in the XML/JSON output. The output for the show interface-counters command in JSON format has changed.
N/A	Programmability: NX-API does not support insecure HTTP by default.
N/A	Programmability: NX-API does not support weak TLSv1 protocol by default.

Bug ID	Description
N/A	Security: Stronger ciphers are used in this release.
N/A	Security: A new command, no service password-recovery is supported.
N/A	Security: Only one version out of v4 and v6 versions of the uRPF command can be configured on an interface. If one version is configured, all the mode changes must be done by the same version. The other version is blocked on that interface. Cisco Nexus 9300-EX, 9300-FX, and 9300-FX2 platform switches do not have this limitation and you can configure v4 and v6 version of urpf cmd individually.

General Known Issues

Bug ID	Description
CSCvc95008	**On Cisco Nexus 9300-EX,** 9348GC-FXP, 93108TC-FX, 93180YC-FX, 9336C-FX2, 93216TC-FX2, 93360YC-FX2, 93240YC-FX2, 92348GC-X, C93108TC-EX-24, C93108TC-FX-24, C93180YC-EX-24, C93180YC-FX-24, 9316D-GX, 9364C-GX, and 93600CD-GX **switches, when 802.1q EtherType has changed on an interface, the EtherType of all interfaces on the same slice will be changed to the configured value. This change is not persistent after a reload of the switch and will revert to the EtherType value of the last port on the slice.**
CSCvr92708	CoPP violations can be seen under class-map copp-system-p-class-l2-default and access-group copp-system-p-acl-mac-undesirable in an MVPN setup on a PE device. This can cause an impact to MVPN control plane functionality for packets such as MSDP and PIM register messages, in case of a large number of MVPN PE devices and MDT groups. You can create a custom CoPP policy with an increased "cir" value until no CoPP violation is seen for that class.
CSCvr95514	Per-VRF Configuration of MDT MTU size is not supported on MVPN PE devices on N9K-X9636C-R/RX, N3K-C36180YC-R, N3K-C3636C-R platforms. While, Tunnel MTU size is not configurable interface MTU for the core facing interface can be configured to control port-level MTU. MDT tunnel is capable of carrying up to jumbo MTU size of 9192 (excluding tunnel header), provided interface MTU for the core-facing interface also supports jumbo MTU.
CSCvr92710	CMIS standards prescribe delays at each state as mentioned by the QSFP-DD firmware on those optics. If you are using those optics with delays, you will see a higher link-up time.
CSCvr14625	CMIS standards prescribe delays at each state as mentioned by the QSFP-DD firmware on those optics. If you are using those optics with delays, you will see a higher link-up time.
CSCvr13930	The Cisco Nexus 9300-GX ASIC does not support FC-FEC on the second lane of 50x2 breakout port. This is due to an ASIC limitation. The second link cannot come up when 50x2 breakout is done. Workaround: You must configure RS-FEC with 50x2 breakout.
CSCvr11900	Multicast routes used by Data MDT are not deleted immediately on MVPN PE (where Encapsulation takes place) after all the customer (VRF) traffic stops which use the same Data MDT. They may stay up for 15 minutes and then get deleted.

Bug ID	Description
N/A	When large files, for example NX-OS, images are copied to USB, the following message is printed: ``` 2019 Jul 2 15:49:47 Molti_A %$ VDC-1 %$ Jul 2 15:49:46 %KERN-3-SYSTEM_MSG: [8032.291555] INFO: task vsh.bin:9418 blocked for more than 120 seconds. – kernel 2019 Jul 2 15:49:47 Molti_A %$ VDC-1 %$ Jul 2 15:49:46 %KERN-3-SYSTEM_MSG: [8032.291560] Tainted: P O 4.1.21-WR8.0.0.28-standard #1 – kernel 2019 Jul 2 15:49:47 Molti_A %$ VDC-1 %$ Jul 2 15:49:46 %KERN-3-SYSTEM_MSG: [8032.291561] "echo 0 > /proc/sys/kernel/hung_task_timeout_secs" disables this message. – kernel ``` As long as these messages correspond to a copy operation to USB, this message can be ignored.
N/A	In the NX-API sandbox, whenever XML or JSON output is generated for the show run command or the show startup command, the output contains additional characters. For example, </nf:source> <============nf: is extra <namespace> : extra characters are seen with XML and JSON from NX-API.
N/A	When you upgrade a Cisco Nexus 9000 device to Cisco NX-OS Release 9.3(3), if a QSFP port is configured with the manual breakout command and is using a QSA, the configuration of the interface Ethernet 1/50/1 is no longer supported and will need to be removed. To restore the configuration, you must manually configure the interface Ethernet 1/50 on the device.
N/A	Due to the design of airflow, back-to-front fans requires fan speed to be run at full speed all the time. You might also see fan speeds increase from 40% to 70% post-upgrade. This applies to the following PIDs: N9K-C9272Q, N9K-C9236C, N9K-C93180YC-FX, N9K-C93180TC-FX, N9K-C9364C, N3K-C36180YC-R, N9K-C9336C-FX2, N9K-C9332C. This change is made as of cisco NX-OS Release 7.0(3)I7(3). If your PID is not listed, please contact Cisco TAC for additional verification.
N/A	PTP is not supported on the 96136YC-R line card or for line cards on the Cisco Nexus 9504 switch.
N/A	The following features are not supported on the Cisco Nexus 3464C and 9364C switches. ■ 100 G port cannot support breakout (HW limitation) ■ FEX ■ ISSU ■ Segment routing ■ Tetration (HW limitation)
N/A	■ The following feature is not supported on the Cisco Nexus 9332C: ○ uRPF

Bug ID	Description
N/A	Only the following switches support QSFP+ with the QSFP to SFP/SFP+ adapter (40 Gb to 10 Gb): ■ N9K-C93120TX ■ N9K-C93128TX ■ N9K-C9332PQ ■ N9K-C9372PX ■ N9K-C9372PX-E ■ N9K-C9372TX ■ N9K-C9396PX ■ N9K-C93108TC-EX ■ N9K-C93108TC-FX ■ N9K-C93180YC-EX ■ N9K-C93180YC-FX
N/A	The Cisco Nexus 9300 platforms support for the QSFP+ breakout has the following limitations: ■ 1 Gb and 10 Gb can be supported using the QSFP-to-SFP Adapter on 40-Gb uplink ports on Cisco Nexus 9300 platform switches in NX-OS. ■ For the Cisco Nexus 9332PQ switch, all ports except 13-14 and 27-32 can support breakout.

Bug ID	Description
N/A	The following switches support the breakout cable (40 Gb ports to 4x10-Gb ports): ■ N9K-C9332PQ ■ N9K-X9436PQ ■ N9K-X9536PQ ■ N9K-C93180LC-EX—last four ports are breakout capable (10x4, 24x4, 50x2) ■ N9K-C93180YC-EX ■ N9K-C93108TC-EX ■ N9K-X9732C-EX line card ■ N9K-X9732C-FX line card ■ N9K-X97160YC-EX ■ N9K-C93180YC-EX ■ N9K-C93108TC-EX ■ N9K-C93180YC-FX ■ N9K-C93108TC-FX ■ N9K-C9348GC-FXP
N/A	Limitations for ALE (Application Link Engine) uplink ports are listed at the following location: [Limitations for ALE 40G Uplink Ports on Cisco Nexus 9000 Series Switches](#)

Device Hardware

The following tables list the Cisco Nexus 9000 Series hardware that Cisco NX-OS Release 9.3(3) 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-X9736C-FX	Cisco Nexus 9500 36-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-X9732C-EX	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-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
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

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	4	8

	line card		
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
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-FAN1	Fan 1 module with port-side intake airflow (burgundy coloring)	3	9396PX (early versions)	
N9K-C9300-FAN1-B	Fan 1 module with port-side exhaust airflow (blue coloring)	3	9396PX (early versions)	
N9K-C9300-FAN2	Fan 2 module with port-side intake airflow (burgundy coloring)	3	93128TX	9396PX 9396TX
N9K-C9300-FAN2-B	Fan 2 module with port-side exhaust airflow (blue coloring)	3	93128TX	9396PX 9396TX
N9K-C9300-FAN3	Fan 3 module with port-side intake airflow (burgundy coloring)	3	92304QC 9272Q[1]	93120TX
N9K-C9300-FAN3-B	Fan 3 module with port-side exhaust airflow (blue coloring)	3	92304QC 9272Q[1]	93120TX

Product ID	Description	Quantity	Cisco Nexus Switches	
NXA-FAN-160CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	9364C[1]	93360YC-FX2
NXA-FAN-160CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	3	9364C[1]	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[1] 93108TC-EX 93108TC-FX[1] 93180LC-EX[1] 93180YC-EX 93180YC-FX[1]	9332PQ 9372PX 9372PX-E 9372TX 9372TX-E 9348GC-FXP[1]
NXA-FAN-30CFM-F	Fan module with port-side exhaust airflow (blue coloring)	3	92160YC-X 9236C[1] 93108TC-EX 93108TC-FX[1] 93180LC-EX[1] 93180YC-EX 93180YC-FX[1]	9332PQ 9372PX 9372PX-E 9372TX 9372TX-E 9348GC-FXP
NXA-FAN-35CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	4	92300YC[1] 9232C[1]	9332C[1]
		6	9316D-GX	93600CD-GX
NXA-FAN-35CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	4	92300YC[1] 9232C[1]	9332C[1]
		6	9316D-GX	93600CD-GX

Product ID	Description	Quantity	Cisco Nexus Switches	
NXA-FAN-65CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	93240YC-FX2[1]	9336C-FX2[1]
NXA-FAN-65CFM-PI	Fan module with port-side exhaust airflow (burgundy coloring)	3	93240YC-FX2[1]	9336C-FX2[1]

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

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 9372PX 9372PX-E 9372TX	9372TX-E 9396PX 9396TX
N9K-PAC-650W-B	650-W AC power supply with port-side exhaust (blue coloring)	2	9332PQ 9372PX 9372PX-E 9372TX	9372TX-E 9396PX 9396TX
NXA-PAC-650W-PE	650-W power supply with port-side exhaust (blue coloring)	2	92160YC-X 9236C 92300YC	92304QC 93108TC-EX 93180YC-EX
NXA-PAC-650W-PI	650-W power supply with port-side intake (burgundy coloring)	2	92160YC-X 9236C 92300YC	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-	9332C

Product ID	Description	Quantity	Cisco Nexus Switches	
			FX2	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
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
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	3000-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	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-FX 93180LC-EX 93360YC-FX2	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-FX 93180LC-EX 93360YC-FX2	93120TX 93180YC-FX 9364C 92160YC-X

Product ID	Description	Quantity	Cisco Nexus Switches	
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 9372PX 9372PX-E 9372TX 9372TX-E 9396PX 9396TX
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 9372PX 9372PX-E 9372TX 9372TX-E 9396PX 9396TX
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	

[1] Compatible with Cisco NX-OS Release 9.3(3) and later.

Table 15 Cisco Nexus 9200 and 9300 Switches

Cisco Nexus Switch	Description
N9K-C9336C-FX2	1-RU switch with 36 40-/100-Gb Ethernet QSFP28 ports.
N9K-C93216TC-FX2	2-RU switch with 96 100M/1G/10G RJ45 ports, 12 40/100-Gigabit QSFP28 ports, 2 management ports (one RJ-45 and one SFP port, 1 console, port, and 1 USB port.
N9K-C93240YC-FX2	1.2-RU Top-of-Rack switch with 48 10-/25-Gigabit SFP28 fiber ports and 12 40-/100-Gigabit Ethernet QSFP28 ports.
N9K-C93360YC-FX2	2-RU switch with 96 10-/25-Gigabit SFP28 ports and 12 40/100-Gigabit QSFP28 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-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-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-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 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-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.

Cisco Nexus Switch	Description
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-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-C9272Q	2-RU Top-of-Rack switch with 72 40-Gigabit Ethernet QSFP+ ports (35 of these ports also support 4x10 breakout cables for 140 10-Gigabit ports)
N9K-C9316D-GX	1-RU switch with 16x400/100/40-Gbps ports.
N9K-C9332C	1-RU fixed switch with 32 40/100-Gigabit QSFP28 ports and 2 fixed 1/10-Gigabit SFP+ ports.
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-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-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-C9348GC-FXP	Nexus 9300 with 48p 100M/1 G, 4p 10/25 G SFP+ and 2p 100 G QSFP
N9K-C9372PX	1-RU Top-of-Rack switch with 48 1-/10-Gigabit SFP+ ports and 6 40-Gigabit QSFP+ ports
N9K-C9372PX-E	An enhanced version of the Cisco Nexus 9372PX-E switch.
N9K-C9372TX	1-RU Top-of-Rack switch with 48 1-/10GBASE-T (copper) ports and 6 40-Gigabit QSFP+ ports
N9K-C9372TX-E	An enhanced version of the Cisco Nexus 9372TX-E switch.
N9K-C9396PX	2-RU Top-of-Rack switch with 48 1-/10-Gigabit Ethernet SFP+ ports and an uplink module with up to 12 40-Gigabit QSFP+ ports
N9K-C9396TX	2-RU Top-of-Rack switch with 48 1/10GBASE-T (copper) ports and an uplink module with up to 12 40-Gigabit QSFP+ ports

Cisco Nexus Switch	Description
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)

Table 16 Cisco Nexus 9000 Series Uplink Modules

Product ID	Description
N9K-M4PC-CFP2	Cisco Nexus 9300 uplink module with 4 100-Gigabit Ethernet CFP2 ports. For the Cisco Nexus 93128TX switch, only two of the ports are active. For the Cisco Nexus 9396PX and 9396TX switches, all four ports are active.
N9K-M6PQ	Cisco Nexus 9300 uplink module with 6 40-Gigabit Ethernet QSFP+ ports for the Cisco Nexus 9396PX, 9396TX, and 93128TX switches.
N9K-M6PQ-E	An enhanced version of the Cisco Nexus N9K-M6PQ uplink module.
N9K-M12PQ	Cisco Nexus 9300 uplink module with 12 40-Gigabit Ethernet QSPF+ ports.

Optics

To determine which transceivers and cables are supported by this switch, see the Transceiver Module (TMG) Compatibility Matrix.

To see the transceiver specifications and installation information, see Install and Upgrade Guides.

FEX Modules

Straight-through FEX module support has been added for the following switches:

■ N9K-C93360YC-FX2

For more information, see the Cisco Nexus 9000 Series Switch FEX Support page.

Note the following:

■ Beginning with Cisco NX-OS Release 9.2(1), dual-homed FEX support is added to Cisco Nexus 93180YC-FX, and 93108TC-FX switches in addition to straight-through FEX support.

■ Beginning with Cisco NX-OS Release 9.2(1), straight-through FEX support is added to Cisco Nexus 93240YC-FX2 and 9336C-FX2 switches.

■ Beginning with Cisco NX-OS Release 9.3(1), straight-through FEX support is added to Cisco Nexus 93360YC-FX2.

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

■ For FEX HIF port channels, enable the STP port type edge using the spanning tree port type edge [trunk] command.

- The Cisco Nexus 2248PQ, 2348TQ, 2348TQ-E, and 2348UPQ FEXs support connections to the Cisco Nexus 9300 or 9500 platform switches by using supported breakout cables to connect a QSFP+ uplink on the FEX and an SFP+ link on the parent switch (4x10 G links).

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

Cisco Network Insights for Data Center

- Cisco NX-OS Release 9.3(3) supports the Cisco Network Insights Advisor (NIA) and Cisco Network Insights for Resources (NIR) on Cisco Nexus 9500 platform switches with 9700-EX and 9700-FX line cards. Also, Cisco Nexus 9200, 9300-EX and 9300-FX platform switches.

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](#) application.

Exceptions

- [Cisco Nexus 9316D-GX, 9364C-GX and 93600D-GX Switches](#)

- [Cisco Nexus 9200, 9300-EX, and 9300-FX Platform Switches](#)

- [Cisco Nexus 9500 Platform N9K-X9408PC-CFP2 Line Card and 9300 Platform Switches](#)

- [N9K-X96136YC-R Line Card](#)

- [N9K-X9736C-FX Line Card](#)

- [Nexus 9500 Cloud Scale](#)

Cisco Nexus 9316D-GX, 9364C-GX and 93600D-GX Switches

The following features are not supported for the Cisco Nexus 9316D-GX, 9364C-GX, and 93600D-GX switches:

- 50x2 Breakout - Cisco Nexus 9364C-GX

- 802.1x with VXLAN

- Asymmetric PFC

- Autonegotiation on all ports

- DCI Handoff (VXLAN to SR MPLS and MPLS to VXLAN)

- ERSPAN destination on Cisco Nexus 9200 and 9300-EX platform switches

- ERSPAN Termination

- EVPN Multisite

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

- FEX

- Flex Link

- FTE

- IP Load Sharing New Options

- IPv6 FHS

- IPv6 Flow Label Hashing

- IPv6 MLD Snooping

- IPv6 Underlay, TRM + Multi-Site

- IPSG

- ISSU for Cisco Nexus 9316D-GX, 9364C-GX and 93600CD-GX

- ITD

- ITD with NAT

- ITD with VXLAN

- MPLS Strip

- MPLS/SR feature of L2 EVPN

- MTU Truncation

- Multi Auth with COA

- Multicast NLB

- Multicast over GRE

- Multiple VRF support on Tunnel Decap

- Multi-Site Scale (25 sites), 6 Border Gateways per site

- NAT

- PACL Redirect / Multicast (Tap Agg)

- PBR

- PFC WD

- PIM on SVI

- PMN

- PTP/TTAG

- PVLAN

- QinVNI

- RTP Monitoring

- Selective QinQ with multiple provider for VLANs

- Selective QinVNI with multiple provider for VLANs

- SR QoS

- SSX

- SVI Unnumbered

- TRM

- TRM + Multi-Site

- VMCT

- VRF Aware FT

- VXLAN F&L

- VXLAN – PBR

- VXLAN Static Route

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

The following features are not supported for the Cisco Nexus 9200 platform switches and the Cisco Nexus 93108TC-EX and 93180YC-EX 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 is supported on the Cisco Nexus 9300-EX and 9300-FX platform switches. It is not supported on the Cisco Nexus 9200 platform switch. The only policer action supported is drop. Remark action is not supported on egress policer.

- FEX (supported for Cisco Nexus 9300-EX platform switches but not for Cisco Nexus 9200 platform switches.)

- GRE v4 payload over v6 tunnels

- IP length-based matches

- IP-in-IP on Cisco Nexus 92160 switch

- ISSU enhanced is not supported on the Cisco Nexus 9300-FX, and Cisco Nexus 9300-FX2 platform switches and the Cisco Nexus 9364C switch.

- Maximum Transmission Unit (MTU) checks for packets received with an MPLS header

- NetFlow is not supported on Cisco Nexus 9200 platform switches.

- Packet-based statistics for traffic storm control (only byte-based statistics are supported)

- PVLANs (supported on Cisco Nexus 9300 and 9300-EX platform switches but not on Cisco Nexus 9200 platform switches)

- Q-in-VNI is not supported on Cisco Nexus 9200 platform switches. Beginning with Cisco NX-OS Release 7.0(3)I5(1), Q-in-VNI is supported on Cisco Nexus 9300-EX platform switches.

- Q-in-Q for VXLAN is not supported on Cisco Nexus 9200 and 9300-EX platform switches

- Q-in-VNI is not supported on Cisco Nexus 9200 platform switches (supported on Cisco Nexus 9300-EX platform switches)

- Resilient hashing for port-channel

- 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 are not supported with 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 9500 Platform N9K-X9408PC-CFP2 Line Card and 9300 Platform Switches

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

- 802.3x

- Breakout ports

- FEX (this applies to the N9K-X9408PC-CFP2 and –EX switches, not all Cisco Nexus 9300 platform switches)

- MCT (Multichassis EtherChannel Trunk)

- NetFlow

- Only support 40G flows

- Port-channel (No LACP)

- PFC/LLFC

- PTP (Precision Time Protocol)

- PVLAN (supported on Cisco Nexus 9300 platform switches)

- Shaping support on 100g port is limited

- SPAN destination/ERSPAN destination IP

- Storm Control

- vPC

- VXLAN access port.

N9K-X96136YC-R Line Card

The following features are not supported for the N9K-X96136YC-R line card:

- Breakout is not supported.

- PTP and gPTP are not supported.

N9K-X9736C-FX Line Card

The following feature is not supported for the N9K-X9736C-FX line card:

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

Nexus 9500 Cloud Scale (EX/FX) Line Cards

The following features are not supported for Cisco Nexus 9500 cloud scale (EX/FX) line cards:

- FEXs

- IPv6 support for policy-based routing

- LPM dual-host mode

- SPAN port-channel destinations

Related Content

See the Cisco Nexus 9000 Series Switches page for the documentation.

The Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference is available at the following location: Cisco Nexus NX-API Reference

The Cisco NX-OS Supported MIBs URL:

ftp://ftp.cisco.com/pub/mibs/supportlists/nexus9000/Nexus9000MIBSupportList.html

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

The Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes, Release 9.3(3) is available at the following location:

Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes, Release 9.3(3)

When you downgrade from Cisco NX-OS Release 9.3(3) to an earlier release, the features that use the ACI+NX-OS Essentials, Advantage, and add-on licenses or the Hardware Streaming Telemetry license continue to work in honor mode in the downgraded version. In addition, the output of the show license usage command continues to include entries for these unsupported licenses.

For more information, see the Cisco NX-OS Licensing Guide.

Cisco Nexus 9000 Series NX-OS FC-NPV and FCoE-NPV Configuration Guide, Release 9.3(x)

- ■ This is a new configuration guide, as of the Cisco NX-OS Release 9.3(3), which is a consolidation of the Cisco Nexus 9000 Series NX-OS FC NPV and Cisco Nexus 9000 FCoE NPV Configuration Guide, Release 9.3(x).

Cisco Nexus 9000 Series NX-OS SAN Switching Configuration Guide, Release 9.3(x)

- ■ This is a new configuration guide as of the Cisco NX-OS Release 9.3(3).

Cisco Nexus 9000 Series NX-OS SRv6 Configuration Guide, Release 9.3(x).

- ■ This is a new configuration guide as of the Cisco NX-OS Release 9.3(3).

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to nexus9k-docfeedback@cisco.com. We appreciate your feedback.

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