



Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 13.0(2)

This document describes the features, bugs, and limitations for Cisco NX-OS software that runs on Cisco Nexus 9000 Series Application Centric Infrastructure (ACI) switches. Use this document in combination with the *Cisco Application Policy Infrastructure Controller, 3.0(2), Release Notes*, which you can view at the following location:

<https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>

Additional product documentation is listed in the "Related Documentation" section.

Release notes are sometimes updated with new information about restrictions and bugs. See the following website for the most recent version of the *Cisco NX-OS Release 13.0(2) Release Notes for Cisco Nexus 9000 Series ACI-Mode Switches*:

<https://www.cisco.com/c/en/us/support/switches/nexus-9000-series-switches/products-release-notes-list.html>

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

Table 1 shows the online change history for this document.

Table 1 Online History Change

Date	Description
July 6, 2021	In the Supported Hardware section, added the NXA-PAC-500W-PI and NXA-PAC-500W-PE PSUs.
June 24, 2021	Added open issue CSCvu07844.
January 19, 2021	In the Known Behaviors section, changed the following sentence: The Cisco Nexus 9508 ACI-mode switch supports warm (stateless) standby where the state is not synched between the active and the standby supervisor modules. To: The modular chassis Cisco ACI spine nodes, such as the Cisco Nexus 9508, support warm (stateless) standby where the state is not synched between the active and the standby supervisor modules.
March 13, 2020	13.0(2h): In the Resolved Bugs section, added bug CSCvr98827.

Date	Description
September 20, 2019	<p>In the Usage Guidelines section, added the following bullet:</p> <ul style="list-style-type: none"> ■ A 25G link that is using the IEEE-RS-FEC mode can communicate with a link that is using the CL16-RS-FEC mode. There will not be a FEC mismatch and the link will not be impacted.
September 11, 2019	<p>In the Supported Hardware section, for the N9K-C9348GC-FXP, N9K-C93108TC-FX, and N9K-C93180YC-FX switches, added the following note:</p> <p>Note: Incoming FCOE packets are redirected by the supervisor module. The data plane-forwarded packets are dropped and are counted as forward drops instead of as supervisor module drops.</p>
August 14, 2019	13.0(2h): In the Open Bugs section, added bug CSCvp92269.
July 31, 2019	<p>In the Compatibility Information section, added the following bullet:</p> <ul style="list-style-type: none"> ■ On Cisco ACI platforms, 25G copper optics do not honor auto-negotiation, and therefore auto-negotiation on the peer device (ESX or standalone) must be disabled to bring up the links.
June 5, 2019	<p>In the Supported Hardware section, for the N9K-C9364C switch, removed the following erroneous sentence:</p> <p>The last 16 of the QSFP28 ports are colored green to indicate that they support wire-rate MACsec encryption.</p>
January 30, 2019	13.0(2h): In the Open Bugs section, added bug CSCvn69340.
June 7, 2018	13.0(2h): In the Open Bugs section, added bug CSCvg35892.
April 24, 2018	13.0(2h): In the Open Bugs section, added bug CSCvi57920.
March 5, 2018	13.0(2h): In the Open Bugs section, added bug CSCvg35224.
February 15, 2018	In the New Hardware Features section and Supported Hardware section, removed references to N9K-C9516-FM-E2. This fabric module is not supported.
January 11, 2018	<p>In the Supported Hardware section, for the N9K-C9364C spine switch, added the following note:</p> <p>A 930W-DC PSU (NXA-PDC-930W-PE or NXA-PDC-930W-PI) is supported in redundancy mode if 3.5W QSFP+ modules or passive QSFP cables are used and the system is used in 40C ambient temperature or less; for other optics or a higher ambient temperature, a 930W-DC PSU is supported only with 2 PSUs in non-redundancy mode.</p>
January 10, 2018	In the Supported Hardware section, for the N9K-X9736C-FX switch description, changed an erroneous mention of N9K-X9364C-FX to N9K-X9736C-FX.
January 8, 2018	13.0(2n): Release 13.0(2n) became available. Added the resolved bugs for this release.
December 6, 2017	13.0(2h): In the Know Behaviors section, added bug CSCvd63567.

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Date	Description
November 27, 2017	In the Usage Guidelines section, added the following bullet: <ul style="list-style-type: none"><li data-bbox="467 310 1471 338">■ Link-level flow control is not supported on leaf switches that are running in ACI mode.
November 7, 2017	13.0(2k): Release 13.0(2k) became available. Added the resolved bugs for this release.
October 10, 2017	13.0(2h): Updated the Known Behaviors section.
October 9, 2017	13.0(2h): Release 13.0(2h) became available.

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Cisco Nexus 9000 Series ACI-Mode

Cisco NX-OS Software for the Cisco Nexus 9000 Series is a data center, purpose-built, operating system designed with performance, resiliency, scalability, manageability, and programmability at its foundation. It provides a robust and comprehensive feature set that meets the requirements of virtualization and automation in data centers

Cisco NX-OS Release 13.0 works only on Cisco Nexus 9000 Series switches in ACI Mode.

See [Table 2](#) for a list of modules that are supported on Cisco Nexus 9000 Series switches in ACI Mode.

Supported Hardware

The table below lists the hardware that the Cisco Nexus 9000 Series ACI Mode switches support.

Table 2 Cisco Nexus 9000 Series Hardware

Hardware Type	Product ID	Description
Chassis	N9K-C9504	Cisco Nexus 9504 chassis with 4 I/O slots
Chassis	N9K-C9508	Cisco Nexus 9508 chassis with 8 I/O slots
Chassis component	N9K-C9508-FAN	Fan tray
Chassis component	N9k-PAC-3000W-B	Cisco Nexus 9500 3000W AC power supply, port side intake
Pluggable module (GEM)	N9K-M12PQ	12-port or 8-port
Pluggable module (GEM)	N9K-M6PQ	6-port
Pluggable module (GEM)	N9K-M6PQ-E	6-port, 40 Gigabit Ethernet expansion module
Spine switch	N9K-C9336PQ	Cisco Nexus 9336PQ switch, 36-port 40 Gigabit Ethernet QSFP

Supported Hardware

Hardware Type	Product ID	Description
Spine switch	N9K-C9364C	<p>Cisco Nexus 9364C switch is a 2-rack unit (RU), fixed-port switch designed for spine-leaf-APIC deployment in data centers. This switch supports 64 40/100-Gigabit QSFP28 ports and two 1/10-Gigabit SFP+ ports.</p> <p>The following PSUs are supported for N9K-C9364C:</p> <p>NXA-PAC-1200W-PE</p> <p>NXA-PAC-1200W-PI</p> <p>N9K-PUV-1200W</p> <p>NXA-PDC-930W-PE</p> <p>NXA-PDC-930W-PI</p> <p>Note: A 930W-DC PSU (NXA-PDC-930W-PE or NXA-PDC-930W-PI) is supported in redundancy mode if 3.5W QSFP+ modules or passive QSFP cables are used and the system is used in 40C ambient temperature or less; for other optics or a higher ambient temperature, a 930W-DC PSU is supported only with 2 PSUs in non-redundancy mode.</p>
Spine switch	N9K-C9508-B1	Cisco Nexus 9508 chassis bundle with 1 supervisor module, 3 power supplies, 2 system controllers, 3 fan trays, and 3 fabric modules
Spine switch	N9K-C9508-B2	Cisco Nexus 9508 chassis bundle with 1 supervisor module, 3 power supplies, 2 system controllers, 3 fan trays, and 6 fabric modules
Spine switch	N9K-C9516	Cisco Nexus 9516 switch with 16 line card slots
Spine switch fan	N9K-C9300-FAN3	Port side intake fan
Spine switch fan	N9K-C9300-FAN3-B	Port side exhaust fan
Spine switch module	N9K-C9504-FM	Cisco Nexus 9504 fabric module supporting 40 Gigabit line cards
Spine switch module	N9K-C9504-FM-E	Cisco Nexus 9504 fabric module supporting 100 Gigabit line cards
Spine switch module	N9K-C9508-FM	Cisco Nexus 9508 fabric module supporting 40 Gigabit line cards

Supported Hardware

Hardware Type	Product ID	Description
Spine switch module	N9K-C9508-FM-E	Cisco Nexus 9508 Fabric module supporting 100 Gigabit line cards
Spine switch module	N9K-C9508-FM-E2	Cisco Nexus 9508 Fabric module supporting 100 Gigabit line cards
Spine switch module	N9K-X9732C-EX	Cisco Nexus 9500 32-port, 40/100 Gigabit Ethernet QSFP28 aggregation module
Spine switch module	N9K-X9736C-FX	The N9K-X9736C-FX line card has 36 100-Gigabit QSFP28 ports and is supported in the Cisco Nexus 9504 and 9508 modular switches with four N9K-C9504-FM-E, N9K-C9508-FM-E, or N9K-C9508-FM-E2 fabric modules.
Spine switch module	N9K-X9736PQ	Cisco Nexus 9500 36-port, 40 Gigabit Ethernet QSFP aggregation module
Switch module	N9K-SC-A	Cisco Nexus 9500 Series system controller
Switch module	N9K-SUP-A	Cisco Nexus 9500 Series supervisor module
Switch module	N9K-SUP-A+	Cisco Nexus 9500 Series supervisor module
Switch module	N9K-SUP-B	Cisco Nexus 9500 Series supervisor module
Switch module	N9K-SUP-B+	Cisco Nexus 9500 Series supervisor module
Top-of-rack (ToR) leaf switch	N9K-C93108TC-EX	Cisco Nexus 9300 platform switch with 48 1/10GBASE-T (copper) front panel ports and 6 40/100-Gigabit QSFP28 spine facing ports.
Top-of-rack (ToR) leaf switch	N9K-C93108TC-FX	Cisco Nexus 9300 platform switch with 48 1/10GBASE-T (copper) front panel ports and 6 fixed 40/100-Gigabit Ethernet QSFP28 spine-facing ports. Note: Incoming FCOE packets are redirected by the supervisor module. The data plane-forwarded packets are dropped and are counted as forward drops instead of as supervisor module drops.
Top-of-rack (ToR) leaf switch	N9K-C93120TX	Cisco Nexus 9300 platform switch with 96 1/10GBASE-T (copper) front panel ports and 6-port 40-Gigabit Ethernet QSFP spine-facing ports
Top-of-rack (ToR) leaf switch	N9K-C93128TX	Cisco Nexus 9300 platform switch with 96 1/10GBASE-T (copper) front panel ports and 6 or 8 40-Gigabit Ethernet QSFP spine-facing ports

Supported Hardware

Hardware Type	Product ID	Description
Top-of-rack (ToR) leaf switch	N9K-C93180LC-EX	<p>Cisco Nexus 9300 platform switch with 24 40-Gigabit front panel ports and 6 40/100-Gigabit QSFP28 spine-facing ports</p> <p>The switch can be used either 24 40G ports or 12 100G ports. If 100G is connected the Port1, Port 2 will be HW disabled.</p> <p>This switch has the following limitations:</p> <p>This release does not support 1 Gbps for QSA.</p> <p>The top and bottom ports must use the same speed. If there is a speed mismatch, the top port takes precedence and bottom port will be error disabled. Both ports both must be used in either the 40 Gbps or 10 Gbps mode.</p> <p>Ports 26 and 28 are hardware disabled.</p> <p>This release supports 40 and 100 Gbps for the front panel ports. The uplink ports can be used at the 100 Gbps speed.</p>
Top-of-rack (ToR) leaf switch	N9K-C93180YC-EX	Cisco Nexus 9300 platform switch with 48 1/10/25-Gigabit front panel ports and 6-port 40/100 Gigabit QSFP28 spine-facing ports
Top-of-rack (ToR) leaf switch	N9K-C93180YC-FX	<p>Cisco Nexus 9300 platform switch with 48 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.</p> <p>Note: Incoming FCOE packets are redirected by the supervisor module. The data plane-forwarded packets are dropped and are counted as forward drops instead of as supervisor module drops.</p>
Top-of-rack (ToR) leaf switch	N9K-C9332PQ	Cisco Nexus 9332PQ Top-of-rack (ToR) Layer 3 switch with 26 APIC-facing ports and 6 fixed-Gigabit spine facing ports.

Supported Hardware

Hardware Type	Product ID	Description
Top-of-rack (ToR) leaf switch	N9K-C9348GC-FXP	<p>The Cisco Nexus 9348GC-FXP switch (N9K-C9348GC-FXP) is a 1-RU fixed-port, L2/L3 switch, designed for ACI deployments. This switch has 48 100/1000-Megabit 1GBASE-T host ports, 4 10-/25-Gigabit SFP28 host ports, and 2 40-/100-Gigabit QSFP28 uplink ports.</p> <p>NXA-PAC-350W-PI</p> <p>NXA-PAC-350W-PE</p> <p>Note: The fabric ports (53 and 54) do not support 1 Gigabit nor 10 Gigabit speeds.</p> <p>Incoming FCOE packets are redirected by the supervisor module. The data plane-forwarded packets are dropped and are counted as forward drops instead of as supervisor module drops.</p> <p>When a Cisco N9K-C9348GC-FXP switch has only one PSU inserted and connected, the PSU status for the empty PSU slot will be displayed as "shut" instead of "absent" due to a hardware limitation.</p>
Top-of-rack (ToR) leaf switch	N9K-C9372PX	<p>Cisco Nexus 9372PX Top-of-rack (ToR) Layer 3 switch with 48 Port 1/10-Gigabit APIC-facing ports Ethernet SFP+ front panel ports and 6 40-Gbps Ethernet QSFP+ spine-facing ports</p> <p>Note: Only the downlink ports 1-16 and 33-48 are capable of supporting SFP1-10G-ZR SFP+.</p>
Top-of-rack (ToR) leaf switch	N9K-C9372PX-E	<p>Cisco Nexus 9372PX-E Top-of-rack (ToR) Layer 3 switch with 48 Port 1/10-Gigabit APIC-facing ports Ethernet SFP+ front panel ports and 6 40-Gbps Ethernet QSFP+ spine-facing ports</p> <p>Note: Only the downlink ports 1-16 and 33-48 are capable of supporting SFP1-10G-ZR SFP+.</p>
Top-of-rack (ToR) leaf switch	N9K-C9372TX	<p>Cisco Nexus 9372TX Top-of-rack (ToR) Layer 3 switch with 48 1/10GBASE-T (copper) front panel ports and 6 40-Gbps Ethernet QSFP spine-facing ports</p>
Top-of-rack (ToR) leaf switch	N9K-C9372TX-E	<p>Cisco Nexus 9372TX-E Top-of-rack (ToR) Layer 3 switch with 48 10GBASE-T (copper) front panel ports and 6 40-Gbps Ethernet QSFP+ spine-facing ports</p>
Top-of-rack (ToR) leaf switch	N9K-C9396PX	<p>Cisco Nexus 9300 platform switch with 48 1/10-Gigabit SFP+ front panel ports and 6 or 12 40-Gigabit Ethernet QSFP spine-facing ports</p>

Supported Hardware

Hardware Type	Product ID	Description
Top-of-rack (ToR) leaf switch	N9K-C9396TX	Cisco Nexus 9300 platform switch with 48 1/10GBASE-T (copper) front panel ports and 6 or 12 40-Gigabit Ethernet QSFP spine-facing ports
Top-of-rack (ToR) leaf switch fan	NXA-FAN-30CFM-B	Red port side intake fan
Top-of-rack (ToR) leaf switch fan	NXA-FAN-30CFM-F	Blue port side exhaust fan
Top-of-rack (ToR) leaf switch power supply unit	N9K-PAC-1200W	1200W AC Power supply, port side intake pluggable <i>Note:</i> This power supply is supported only by the Cisco Nexus 93120TX, 93128TX, and 9336PQ ACI-mode switches
Top-of-rack (ToR) leaf switch power supply unit	N9K-PAC-1200W-B	1200W AC Power supply, port side exhaust pluggable <i>Note:</i> This power supply is supported only by the Cisco Nexus 93120TX, 93128TX, and 9336PQ ACI-mode switches
Top-of-rack (ToR) leaf switch power supply unit	N9K-PAC-650W	650W AC Power supply, port side intake pluggable
Top-of-rack (ToR) leaf switch power supply unit	N9K-PAC-650W-B	650W AC Power supply, port side exhaust pluggable
Top-of-rack (ToR) leaf switch power supply unit	N9K-PUV-1200W	1200W HVAC/HVDC dual-direction airflow power supply <i>Note:</i> This power supply is supported only by the Cisco Nexus 93120TX, 93128TX, and 9336PQ ACI-mode switches
Top-of-rack (ToR) leaf switch power supply unit	N9K-PUV-3000W-B	3000W AC Power supply, port side exhaust pluggable
Top-of-rack (ToR) leaf switch power supply unit	NXA-PAC-1200W-PE	1200W AC Power supply, port side exhaust pluggable, with higher fan speeds for NEBS compliance <i>Note:</i> This power supply is supported only by the Cisco Nexus 93120TX, 93128TX, and 9336PQ ACI-mode switches.

Supported FEX Models

Hardware Type	Product ID	Description
Top-of-rack (ToR) leaf switch power supply unit	NXA-PAC-1200W-PI	1200W AC Power supply, port side intake pluggable, with higher fan speeds for NEBS compliance <i>Note:</i> This power supply is supported only by the Cisco Nexus 93120TX, 93128TX, and 9336PQ ACI-mode switches.
Top-of-rack (ToR) leaf switch power supply unit	NXA-PAC-500W-PE	500W AC Power supply, port side exhaust pluggable
Top-of-rack (ToR) leaf switch power supply unit	NXA-PAC-500W-PI	500W AC Power supply, port side intake pluggable
Top-of-rack (ToR) leaf switch power supply unit	UCSC-PSU-930WDC V01	Port side exhaust DC power supply compatible with all ToR leaf switches
Top-of-rack (ToR) leaf switch power supply unit	UCS-PSU-6332-DC	930W DC power supply, reversed airflow (port side exhaust)

Supported FEX Models

The table below lists the FEX models that the Cisco Nexus 9000 Series ACI Mode switches support. For more information on the FEX models, see the *Cisco Nexus 2000 Series Fabric Extenders Data Sheet* at the following location:

<https://www.cisco.com/c/en/us/products/switches/nexus-2000-series-fabric-extenders/datasheet-listing.html>

Table 3 Supported FEX Models

Product ID	Description
N2K-B22DELL-P	B22 FEX for Dell
N2K-B22HP-P	B22 FEX for HP
N2K-B22IBM-P	B22 FEX for IBM
N2K-C2248PQ-10GE	Cisco Nexus 2248PQ 10GE Fabric Extender, 2PS, 4 Fan Module, 48x1/10GE (req SFP/SFP+) + 4x40G QSFP+(req QSFP+), choice of airflow and power supply
N2K-C2248TP-1GE	Cisco Nexus 2248TP Series 1GE Fabric Extender, 2 AC PS, 1 Fan Module (Standard Airflow/port side exhaust), 48x100/1000Base-T + 4x10GE (req SFP+), same as N2K-C2248TP

Product ID	Description
N2K-C2248TP-E-1GE	Cisco Nexus 2248TP-E Series 1GE Fabric Extender, 2PS, 1 Fan Module, 48x100/1000Base-T + 4x10GE (req SFP+), 32MB buffer, choice of airflow and power supply
N2K-C2332TQ	Cisco Nexus 2332TQ 10G BASE T Fabric Extender, 2PS, 3 Fan Module, 48x100M/1/10GE + 4x40G QSFP+(req QSFP+), choice of airflow and power supply
N2K-C2348TQ	Cisco Nexus 2348TQ 10G BASE T Fabric Extender, 2PS, 3 Fan Module, 48x100M/1/10GE + 6x40G QSFP+(req QSFP+), choice of airflow and power supply
N2K-C2348UPO	48 100M /1/10 Gigabit Ethernet and Unified Port host interfaces (SFP+) and up to 6 QSFP+ 10/40 Gigabit Ethernet fabric interfaces
N2K-C2232PP-10GE	Cisco Nexus 2232PP Series 10GE Fabric Extender, 2 AC PS, 1 Fan Module (Standard Airflow/port side exhaust), 32x1/10GE (req SFP/SFP+) + 8x10GE (req SFP+), same as N2K-C2232PP
N2K-C2232TM-E-10GE	Cisco Nexus 2232TM-E Series 10GBASE-T Fabric Extender, 2PS, 1 Fan Module, 32x1/10GBase-T + 8x10GE Module (req SFP+), choice of airflow and power supply

New and Changed Information

This section lists the new and changed features in this release.

- New Hardware Features
- New Software Features

New Hardware Features

There are no new hardware features in this release.

New Software Features

For new software features, see the *Cisco APIC 3.0(2) Release Notes* at the following location:

<https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>

Installation Notes

The following procedure installs a Gigabit Ethernet module (GEM) in a top-of-rack switch:

1. Clear **the switch's** current configuration by using the setup-clean-config command.
2. Power off the switch by disconnecting the power.
3. Replace the current GEM card with the new GEM card.
4. Power on the switch.

For other installation instructions, see the *Cisco ACI Fabric Hardware Installation Guide* at the following location:

<https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>

Compatibility Information

- For the supported optics per device, see the [Cisco Optics-to-Device Compatibility Matrix](#).
- This release supports the hardware and software listed on the ACI Ecosystem Compatibility List, and supports the Cisco AVS, Release 5.2(1)SV3(3.11).
- Link level flow control is not supported on ACI-mode switches.
- To connect the N2348UPO to ACI leaf switches, the following options are available:
 - Directly connect the 40G FEX ports on the N2348UPO to the 40G switch ports on the ACI leaf switches
 - Break out the 40G FEX ports on the N2348UPO to 4x10G ports and connect to the 10G ports on all other ACI leaf switches

Note: A fabric uplink port cannot be used as a FEX fabric port.

- To connect the APIC (the controller cluster) to the ACI fabric, it is required to have a 10G interface on the ACI leaf. You cannot connect the APIC directly to the N9332PQ ACI leaf switch.
- On Cisco ACI platforms, 25G copper optics do not honor auto-negotiation, and therefore auto-negotiation on the peer device (ESX or standalone) must be disabled to bring up the links.

Usage Guidelines

- The current list of protocols that are allowed (and cannot be blocked through contracts) include the following. Some of the protocols have SrcPort/DstPort distinction.

Note: See the APIC release notes for policy information: <https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>

- UDP DestPort 161: SNMP. These cannot be blocked through contracts. Creating an SNMP ClientGroup with a list of Client-IP Addresses restricts SNMP access to only those configured Client-IP Addresses. If no Client-IP address is configured, SNMP packets are allowed from anywhere.
- TCP SrcPort 179: BGP
- TCP DstPort 179: BGP
- OSPF
- UDP DstPort 67: BOOTP/DHCP
- UDP DstPort 68: BOOTP/DHCP
- IGMP
- PIM

Bugs

- UDP SrcPort 53: DNS replies
- TCP SrcPort 25: SMTP replies
- TCP DstPort 443: HTTPS
- UDP SrcPort 123: NTP
- UDP DstPort 123: NTP
- The Cisco APIC GUI incorrectly reports more memory used than is actually used. To calculate the appropriate amount of memory used, run the "show system internal kernel meminfo | egrep "MemT|MemA" " command on the desired switch. Divide MemAvailable by MemTotal, multiply that number by 100, then subtract that number from 100.
 - Example: $10680000 / 24499856 = 0.436 \times 100 = 43.6\%$ Free, $100\% - 43.6\% = 56.4\%$ Used
- Leaf and spine switches from two different fabrics cannot be connected regardless of whether the links are administratively kept down.
- Link-level flow control is not supported on leaf switches that are running in ACI mode.
- A 25G link that is using the IEEE-RS-FEC mode can communicate with a link that is using the CL16-RS-FEC mode. There will not be a FEC mismatch and the link will not be impacted.

Bugs

This section contains lists of open and resolved bugs and known behaviors.

- [Known Limitations](#)
- [Open Bugs](#)
- [Resolved Bugs](#)
- [Known Behaviors](#)

Known Limitations

The following list describes IpEpg (IpCkt) known limitations in this release:

- An IP/MAC Ckt endpoint configuration is not supported in combination with static endpoint configurations.
- An IP/MAC Ckt endpoint configuration is not supported with Layer 2-only bridge domains. Such a configuration will not be blocked, but the configuration will not take effect as there is no Layer 3 learning in these bridge domains.
- An IP/MAC Ckt endpoint configuration is not supported with external and Infra bridge domains because there is no Layer 3 learning in these bridge domains.
- An IP/MAC Ckt endpoint configuration is not supported with a shared services provider configuration. The same or overlapping prefix cannot be used for a shared services provider and IP Ckt endpoint. However, this configuration can be applied in bridge domains having shared services consumer endpoint groups.
- An IP/MAC Ckt endpoint configuration is not supported with dynamic endpoint groups. Only static endpoint groups are supported.

Bugs

- No fault will be raised if the IP/MAC Ckt endpoint prefix configured is outside of the bridge domain subnet range. This is because a user can configure bridge domain subnet and IP/MAC Ckt endpoint in any order and so this is not error condition. If the final configuration is such that a configured IP/MAC Ckt endpoint prefix is outside all bridge domain subnets, the configuration has no impact and is not an error condition.
- Dynamic deployment of contracts based on instrImmedcy set to onDemand/lazy not supported; only immediate mode is supported.

The following list describes direct server return (DSR) known limitations in this release:

- When a server and load balancer are on the same endpoint group, make sure that the Server does not generate ARP/GARP/ND request/response/solicits. This will lead to learning of LB virtual IP (VIP) towards the Server and defeat the purpose of DSR support
- Load balancers and servers must be Layer 2 adjacent. Layer 3 direct server return is not supported. If a load balancer and servers are Layer 3 adjacent, then they have to be placed behind the Layer 3 out, which works without a specific direct server return virtual IP address configuration.
- Direct server return is not supported for shared services. Direct server return endpoints cannot be spread around different virtual routing and forwarding (VRF) contexts.
- Configurations for a virtual IP address can only be /32 or /128 prefix.
- Client to virtual IP address (load balancer) traffic always will go through proxy-spine because fabric data-path learning of a virtual IP address does not occur.
- GARP learning of a virtual IP address must be explicitly enabled. A load balancer can send GARP when it switches over from active-to-standby (MAC changes).
- Learning through GARP will work only in ARP Flood Mode.

Open Bugs

This section lists the open bugs. Click the bug ID to access the Bug Search tool and see additional information about the bug. The "Exists In" column of the table specifies the 13.0(2) releases in which the bug exists. A bug might also exist in releases other than the 13.0(2) releases.

Table 4 Open Bugs in This Release

Bug ID	Description	Exists In
CSCwd29346	An ACI switch's console may continuously output messages similar to: svc_ifc_eventmg (****) Ran 7911 msec in last 7924 msec	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCwb08081	<p>A route profile that matches on community list and sets the local pref and community is not working post upgrade to 5.2.x release.</p> <pre>route-map imp-l3out-L3OUT_WAN-peer-2359297, permit, sequence 4201</pre> <p>Match clauses:</p> <pre>community (community-list filter): peer16389-2359297-exc-ext-in-L3OUT_WAN_COMMUNITY-rgcom</pre> <p>Set clauses:</p> <pre>local-preference 200</pre> <pre>community xxxxx:101 xxxxx:500 xxxxx:601 xxxxy:4 additive</pre> <p>The match clause works as expected, but the set clause is ignored.</p>	13.0(2h) and later
CSCvu07844	When a Cisco N9K-C93180LC-EX, N9K-93180YC-EX, or N9K-C93108TC-EX leaf switch receives control, data, or BUM traffic from the front panel ports with the storm policer configured for BUM traffic, the storm policer will not get enforced. As such, the switch will let all such traffic through the system.	13.0(2h) and later
CSCvu01639	There are faults for failed contract rules and prefixes on switches prior to the -EX switches. Furthermore, traffic that is destined to an L3Out gets dropped because the compute leaf switches do not have the external prefix programmed in ns shim GST-TCAM. You might also see that leaf switches prior to the -EX switches do not have all contracts programmed correctly in the hardware.	13.0(2h) and later
CSCvt82388	A switch SSD fails in less than two years and needs replacement. The /mnt/pss/ssd_log_amp.log file shows daily P/E cycles increasing by 10 or more each day, and fault " F3525: High SSD usage" is observed. ARP/ICMPv6 adjacency updates can also contribute to many SSD writes.	13.0(2h) and later
CSCvs76848	A switch SSD fails in less than two years and needs replacement. The /mnt/pss/ssd_log_amp.log file shows daily P/E cycles increasing by 10 or more each day, and fault " F3525: High SSD usage" is observed. Check the switch activity and contact Cisco Technical Support if the " High SSD usage" fault is raised on the switch.	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCvs18150	<p>After a certain set of steps, it is observed that the deny-external-tag route-map used for transit routing loop prevention gets set back to the default tag 4294967295. Since routes arriving in Cisco ACI with this tag are denied from being installed in the routing table, if the VRF table that has the route-tag policy is providing transit for another VRF table in Cisco ACI (for instance and inside and outside vrf with a fw connecting them) and the non-transit VRF table has the default route-tag policy, routes from the non-transit VRF table would not be installed in the transit VRF table.</p> <p>This bug is also particularly impactful in scenarios where transit routing is being used and OSPF or EIGRP is used on a vPC border leaf switch pair. vPC border leaf switches peer with each other, so if member A gets a transit route from BGP, redistributes into OSPF, and then advertises to member B (since they are peers)...without a loop prevention mechanism, member B would install the route through OSPF since it has a better admin distance and would then advertise back into BGP. This VRF tag is set on redistribution of BGP > OSPF and then as a table map in OSPF that blocks routes with the tag from getting installed in the routing table. When hitting this bug, the route-map used for redistributing into OSPF still sets the tag to the correct value. However, the table map no longer matches the correct tag. Rather, it matches the default tag. As a result, member A (could be B) would install the route through OSPF pointing to B. It would then redistribute it back into BGP with the med set to 1. The rest of the fabric (including member B) would install the BGP route pointing to member A since its med is better than the original route's med.</p>	13.0(2h) and later
CSCvr98827	Some of the control plane packets are incorrectly classified as the user class and are reported as dropped in single chip spine switches. The statistics are incorrect because the packets are not actually dropped.	13.0(2h) and later
CSCvq25729	Traffic is dropped when it is destined to a pervasive route and when the endpoint is not learned. This issue can be also seen on a border leaf switch when "disable remote EP learning" is set.	13.0(2h) and later
CSCvp92269	Running a Qualys security scan results in the following message: CWE - 693 Protection Mechanism Failure - "HTTP Security Header Not Detected"	13.0(2h) and later
CSCvp50075	A leaf switch experiences an unexpected reload due to a HAP reset.	13.0(2h) and later
CSCvn69340 -	The BFD session does not get instantiated under some circumstances in one of the VPC legs for static routes.	13.0(2h) and later
CSCvj50973	When the MTU settings for OSPF neighboring router interfaces do not match, the routers will be stuck in the Exstart/Exchange state. This behavior is expected. This bug is an enhancement to raise a fault to the APIC so that the routers' stuck state can be easily detected by the administrator.	13.0(2h) and later
CSCvi57920	A UCS 1225 vNIC goes down after changing the peer Cisco ACI leaf node name.	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCvg62867	Traffic gets lost when the direct server return virtual IP address is moved across pods and the configuration for the virtual IP address is deleted and added.	13.0(2k) and later
CSCvg35892	There is a delay in internal process communication of over a minute due to a timeout (timeout period is 60 seconds). This can manifest itself in different ways. In one way, the Policy Element sent a delete/create request for a VLAN to the VLAN manager, but the VLAN manager did not process the request until the initial request timed out. This resulted in an outage that lasted a little over a minute while changing a BD from Unknown Unicast Flood to Hardware Proxy.	13.0(2h) and later
CSCvg35224	While both top and bottom ports are up, if some down event occurs on the bottom port and the bottom port has a copper SFP (admin down or otherwise), the corresponding top port will also go down with it. It will show as the "link down not-connected" behavior for the top port: Ethernet1/15 is down (notconnect) admin state is up, Dedicated Interface This occurs even though the QSFP is still inserted and was otherwise previously up and functional.	13.0(2h) and later
CSCvg11665	If a /32 static route EP is configured behind a pervasive Next Hop, and the Next Hop is removed, there might be a proxy entry for the route.	13.0(2h) and later
CSCvf59533	When static route is added over the Layer 3 Out physical interface, it might not appear in the in HAL layer on the leaf switch, although the route is present in NX-OS components, which are IPMGR and URIB.	13.0(2h) and later
CSCvf29335	On reload of all spines, for switches connected to the vPC, some of these interfaces go to vpc-no-response-from-peer state.	13.0(2h) and later
CSCvf27669	1 gigabit Fibre Channel links might not appear on (uplink) ports 49-52 on Cisco Nexus N9K-C9348GC-FXP.	13.0(2h) and later
CSCvf19125	After configuring virtual IP addresses, changing the VRF mode to EGRESS causes a fault to be raised. This is expected. If you instead delete the virtual IP addresses, all the virtual IP addresses get deleted in the Policy Manager in the Cisco APIC. However, in the leaf switch, only the last virtual IP address gets deleted. This issue is seen if there is more than one virtual IP address.	13.0(2h) and later
CSCvf14458	Maintenance mode is not supported on border leaf nodes with vPC.	13.0(2h) and later
CSCvf09313	In the 12.2(2i) release, the BPDU filter only prevents interfaces from sending BPDUs, but does not prevent interfaces from receiving BPDUs.	13.0(2h) and later
CSCve06334	MAC and IP endpoints are not learned on the local vPC pair.	13.0(2h) and later

Bugs

Resolved Bugs

This section lists the resolved bugs. Click the bug ID to access the Bug Search tool and see additional information about the bug. The "Fixed In" column of the table specifies whether the bug was resolved in the base release or a patch release.

Table 5 Resolved Bugs in This Release

Bug ID	Description	Fixed In
CSCvf24154	F1800 error (fltActrlStatsPreFixProgFailed) is raised and is observed.	13.0(2h)
CSCvf45197	When the sclass or pcTag of a bridge domain changes, all NX-OS processes might not update correctly. As a result, flood traffic for that bridge domain might be dropped.	13.0(2h)
CSCvf47054	After clearing particular health stats, the capacity dashboard might display incorrect values for end points, routes, policy, and multicast.	13.0(2h)
CSCvf66463	Using a non-/16 TEP pool in a multipod scenario might lead to unexpected packet drops, such as an OSPF session not coming up between a spine switch and an Inter-Pod Network (IPN). This bug is a duplicate of CSCvg27552.	13.0(2h)
CSCvg11261	When manually bringing down a vPC port, some entries might still exist in the endpoint learning table.	13.0(2h)
CSCvg27552	Using a non-/16 TEP pool in a multipod scenario might lead to unexpected packet drops, such as an OSPF session not coming up between a spine switch and an Inter-Pod Network (IPN). This bug is a duplicate of CSCvf66463.	13.0(2h)
CSCvg38918	The DHCP process crashes after a certain period of time.	13.0(2k)
CSCvg38922	There is a continuous memory leak in the aclqos process on fabric cards. This issue is observed on the following spine switches: N9K-C92304QC, N9K-C9236C, N9K-C92300YC, N9K-C9272Q, and N9K-C9364C.	13.0(2k)
CSCvg16076	When the direct server return virtual IP address is learned on a VPC pair of leaf switches, upon failover, EPMC does not create the bounce entry for the virtual IP address.	13.0(2k)
CSCvg16267	A dynamic tunnel is needed for inter-pod traffic does not get set up when the stream that is sent is subjected to a PBR redirect policy.	13.0(2n)
CSCvg37106	PTP dumps a core at if_index_get_slot on a modular spine chassis when PTP is enabled.	13.0(2n)
CSCvg62392	External OSPFv3 sessions become stuck in the EXSTART state.	13.0(2n)

Known Behaviors

This section lists bugs that describe known behaviors. Click the Bug ID to access the Bug Search Tool and see additional information about the bug. The "Exists In" column of the table specifies the 13.0(2) releases in which the known behavior exists. A bug might also exist in releases other than the 13.0(2) releases.

Bugs

Table 6 Known Behaviors in This Release

Bug ID	Description	Exists In
CSCuo37016	When configuring the output span on a FEX Hif interface, all the layer 3 switched packets going out of that FEX Hif interface are not spanned. Only layer 2 switched packets going out of that FEX Hif are spanned.	13.0(2h) and later
CSCuo50533	When output span is enabled on a port where the filter is VLAN, multicast traffic in the VLAN that goes out of that port is not spanned.	13.0(2h) and later
CSCup65586	The show interface command shows the tunnel's Rx/Tx counters as 0.	13.0(2h) and later
CSCup82908	The show vpc brief command displays the wire-encap VLAN IDs and the show interface .. trunk command displays the internal/hardware VLAN IDs. Both VLAN IDs are allocated and used differently, so there is no correlation between them.	13.0(2h) and later
CSCup92534	Continuous "threshold exceeded" messages are generated from the fabric.	13.0(2h) and later
CSCuq39829	Switch rescue user ("admin") can log into fabric switches even when TACACS is selected as the default login realm.	13.0(2h) and later
CSCuq46369	An extra 4 bytes is added to the untagged packet with Egress local and remote SPAN.	13.0(2h) and later
CSCuq77095	When the command show ip ospf vrf <vrf_name> is run from bash on the border leaf, the checksum field in the output always shows a zero value.	13.0(2h) and later
CSCuq83910	When an IP address moves from one MAC behind one ToR to another MAC behind another ToR, even though the VM sends a GARP packet, in ARP unicast mode, this GARP packet is not flooded. As a result, any other host with the original MAC to IP binding sending an L2 packet will send to the original ToR where the IP was in the beginning (based on MAC lookup), and the packet will be sent out on the old port (location). Without flooding the GARP packet in the network, all hosts will not update the MAC-to-IP binding.	13.0(2h) and later
CSCuq92447	When modifying the L2Unknown Unicast parameter on a Bridge Domain (BD), interfaces on externally connected devices may bounce. Additionally, the endpoint cache for the BD is flushed and all endpoints will have to be re-learned.	13.0(2h) and later
CSCuq93389	If an endpoint has multiple IPs, the endpoint will not be aged until all IPs go silent. If one of the IP addresses is reassigned to another server/host, the fabric detects it as an IP address move and forwarding will work as expected.	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCur01336	The power supply will not be detected after performing a PSU online insertion and removal (OIR).	13.0(2h) and later
CSCur81822	The access-port operational status is always "trunk" .	13.0(2h) and later
CSCus18541	An MSTP topology change notification (TCN) on a flood domain (FD) VLAN may not flush endpoints learned as remote where the FD is not deployed.	13.0(2h) and later
CSCus29623	The transceiver type for some Cisco AOC (active optical) cables is displayed as ACU (active copper).	13.0(2h) and later
CSCus43167	Any TCAM that is full, or nearly full, will raise the usage threshold fault. Because the faults for all TCAMs on leaf switches are grouped together, the fault will appear even on those with low usage. Workaround: Review the leaf switch scale and reduce the TCAM usage. Contact TAC to isolate further which TCAM is full.	13.0(2h) and later
CSCus54135	The default route is not leaked by BGP when the scope is set to context. The scope should be set to Outside for default route leaking.	13.0(2h) and later
CSCus61748	If the TOR 1RU system is configured with the RED fan (the reverse airflow), the air will flow from front to back. The temperature sensor in the back will be defined as an inlet temperature sensor, and the temperature sensor in the front will be defined as an outlet temperature sensor. If the TOR 1RU system is configured with the BLUE fan (normal airflow), the air will flow from back to front. The temperature sensor in the front will be defined as an inlet temperature sensor, and the temperature sensor in the back will be defined as outlet temperature sensor. From the airflow perspective, the inlet sensor reading should always be less than the outlet sensor reading. However, in the TOR 1RU family, the front panel temperature sensor has some inaccurate readings due to the front panel utilization and configuration, which causes the inlet temperature sensor reading to be very close, equal, or even greater than the outlet temperature reading.	13.0(2h) and later
CSCut59020	If Backbone and NSSA areas are on the same leaf, and default route leak is enabled, Type-5 LSAs cannot be redistributed to the Backbone area.	13.0(2h) and later
CSCuu11347	Traffic from the orphan port to the vPC pair is not recorded against the tunnel stats. Traffic from the vPC pair to the orphan port is recorded against the tunnel stats.	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCuu11351	Traffic from the orphan port to the vPC pair is only updated on the destination node, so the traffic count shows as excess.	13.0(2h) and later
CSCuu66310	If a bridge domain "Multi Destination Flood" mode is configured as "Drop", the ISIS PDU from the tenant space will get dropped in the fabric.	13.0(2h) and later
CSCuv57302	Atomic counters on the border leaf do not increment for traffic from an endpoint group going to the Layer 3 out interface.	13.0(2h) and later
CSCuv57315	Atomic counters on the border leaf do not increment for traffic from the Layer 3 out interface to an internal remote endpoint group.	13.0(2h) and later
CSCuv57316	TEP counters from the border leaf to remote leaf nodes do not increment.	13.0(2h) and later
CSCuw09389	For direct server return operations, if the client is behind the Layer 3 out, the server-to-client response will not be forwarded through the fabric.	13.0(2h) and later
CSCux97329	With the common pervasive gateway, only the packet destination to the virtual MAC is being properly Layer 3 forwarded. The packet destination to the bridge domain custom MAC fails to be forwarded. This is causing issues with certain appliances that rely on the incoming packets' source MAC to set the return packet destination MAC.	13.0(2h) and later
CSCuy00084	BCM does not have a stats option for yellow packets/bytes, and so BCM does not show in the switch or APIC GUI stats/observer.	13.0(2h) and later
CSCuy02543	Bidirectional Forwarding Detection (BFD) echo mode is not supported on IPv6 BFD sessions carrying link-local as the source and destination IP address. BFD echo mode also is not supported on IPv4 BFD sessions over multihop or VPC peer links.	13.0(2h) and later
CSCuy06749	Traffic is dropped between two isolated EPGs.	13.0(2h) and later
CSCuy22288	The iping command's replies get dropped by the QOS ingress policer.	13.0(2h) and later
CSCuy25780	An overlapping or duplicate prefix/subnet could cause the valid prefixes not to be installed because of batching behavior on a switch. This can happen during an upgrade to the 1.2(2) release.	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCuy47634	EPG statistics only count total bytes and packets. The breakdown of statistics into multicast/unicast/broadcast is not available on new hardware.	13.0(2h) and later
CSCuy56975	You must configure different router MACs for SVI on each border leaf if L3out is deployed over port-channels/ports with STP and OSPF/OSPFv3/eBGP protocols are used. There is no need to configure different router MACs if you use VPC.	13.0(2h) and later
CSCuy61018	The default minimum bandwidth is used if the BW parameter is set to "0", and so traffic will still flow.	13.0(2h) and later
CSCuy96912	The debounce timer is not supported on 25G links.	13.0(2h) and later
CSCuz12913	An ACI leaf switch sends ARP to a device (such as a router or host) that belongs to directly connected subnets for an L3Out. After ARP is resolved, devices in directly connected subnets on two different L3Outs can talk each other without any contracts.	13.0(2h) and later
CSCuz13529	With the N9K-C93180YC-EX switch, drop packets, such as MTU or storm control drops, are not accounted for in the input rate calculation.	13.0(2h) and later
CSCuz13614	For traffic coming out of an L3out to an internal EPG, stats for the actIRule will not increment.	13.0(2h) and later
CSCuz13810	When subnet check is enabled, a ToR does not learn IP addresses locally that are outside of the bridge domain subnets. However, the packet itself is not dropped and will be forwarded to the fabric. This will result in such IP addresses getting learned as remote endpoints on other ToRs.	13.0(2h) and later
CSCuz47058	SAN boot over a virtual Port Channel or traditional Port Channel does not work.	13.0(2h) and later
CSCuz65221	A policy-based redirect (PBR) policy to redirect IP traffic also redirects IPv6 neighbor solicitation and neighbor advertisement packets.	13.0(2h) and later
CSCva98767	The front port of the QSA and GLC-T 1G module has a 10 to 15-second delay as it comes up from the insertion process.	13.0(2h) and later
CSCvb36823	If you have only one spine switch that is part of the infra WAN and you reload that switch, there can be drops in traffic. You should deploy the infra WAN on more than one spine switch to avoid this issue.	13.0(2h) and later

Bugs

Bug ID	Description	Exists In
CSCvb39965	Slow drain is not supported on FEX Host Interface (HIF) ports.	13.0(2h) and later
CSCvb49451	In the case of endpoints in two different TOR pairs across a spine switch that are trying to communicate, an endpoint does not get relearned after being deleted on the local TOR pair. However, the endpoint still has its entries on the remote TOR pair.	13.0(2h) and later
CSCvd11146	Bridge domain subnet routes advertised out of the Cisco ACI fabric through an OSPF L3Out can be relearned in another node belonging to another OSPF L3Out on a different area.	13.0(2h) and later
CSCvd63567	After upgrading a switch, Layer 2 multicast traffic flowing across PODs gets affected for some of the bridge domain Global IP Outsides.	13.0(2h) and later

- IPN should preserve the CoS and DSCP values of a packet that enters IPN from the ACI spine switches. If there is a default policy on these nodes that change the CoS value based on the DSCP value or by any other mechanism, you must apply a policy to prevent the CoS value from being changed. At the minimum, the remarked CoS value should not be 4, 5, 6 or 7. If CoS is changed in the IPN, you must configure a multipod QoS policy in the ACI for the multipod that translates queuing class information of the packet into the DSCP value in the outer header of the iVXLAN packet.
- The following properties within a QoS class under "Global QoS Class policies," should not be changed from its default value and is only used for debugging purposes:
 - MTU (default - 9216 bytes)
 - Queue Control Method (default - Dynamic)
 - Queue Limit (default - 1522 bytes)
 - Minimum Buffers (default - 0)
- The modular chassis Cisco ACI spine nodes, such as the Cisco Nexus 9508, support warm (stateless) standby where the state is not synched between the active and the standby supervisor modules. For an online insertion and removal (OIR) or reload of the active supervisor module, the standby supervisor module becomes active, but all modules in the switch are reset because the switchover is stateless. In the output of the show system redundancy status command, warm standby indicates stateless mode.
- When a recommissioned APIC controller rejoins the cluster, GUI and CLI commands can time out while the cluster expands to include the recommissioned APIC controller.
- If connectivity to the APIC cluster is lost while a switch is being decommissioned, the decommissioned switch may not complete a clean reboot. In this case, the fabric administrator should manually complete a clean reboot of the decommissioned switch.

Related Documentation

- Before expanding the APIC cluster with a recommissioned controller, remove any decommissioned switches from the fabric by powering down and disconnecting them. Doing so will ensure that the recommissioned APIC controller will not attempt to discover and recommission the switch.

IGMP Snooping Known Behaviors:

- Multicast router functionality is not supported when IGMP queries are received with VxLAN encapsulation.
- IGMP Querier election across multiple Endpoint Groups (EPGs) or Layer 2 outsiders (External Bridged Network) in a given bridge domain is not supported. Only one EPG or Layer 2 outside for a given bridge domain should be extended to multiple multicast routers if any.
- The rate of the number of IGMP reports sent to a leaf switch should be limited to 1000 reports per second.
- Unknown IP multicast packets are flooded on ingress leaf switches and border leaf switches, unless "unknown multicast flooding" is set to "Optimized Flood" in a bridge domain. This knob can be set to "Optimized Flood" only for a maximum of 50 bridge domains per leaf.

If "Optimized Flood" is enabled for more than the supported number of bridge domains on a leaf, follow these configuration steps to recover:

- Set "unknown multicast flooding" to "Flood" for all bridge domains mapped to a leaf.
- Set "unknown multicast flooding" to "Optimized Flood" on needed bridge domains.
- Traffic destined to Static Route EP VIPs sourced from N9000 switches (switches with names that end in -EX) might not function properly because proxy route is not programmed.
- An iVXLAN header of 50 bytes is added for traffic ingressing into the fabric. A bandwidth allowance of (50/50 + ingress_packet_size) needs to be made to prevent oversubscription from happening. If the allowance is not made, oversubscription might happen resulting in buffer drops.

Related Documentation

The Cisco Application Policy Infrastructure Controller (APIC) documentation can be accessed from the following website:

<https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>

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